DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	1	223

(2) LITTLE RACCOON CREEK - COVE PRONG CREEK (S)

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

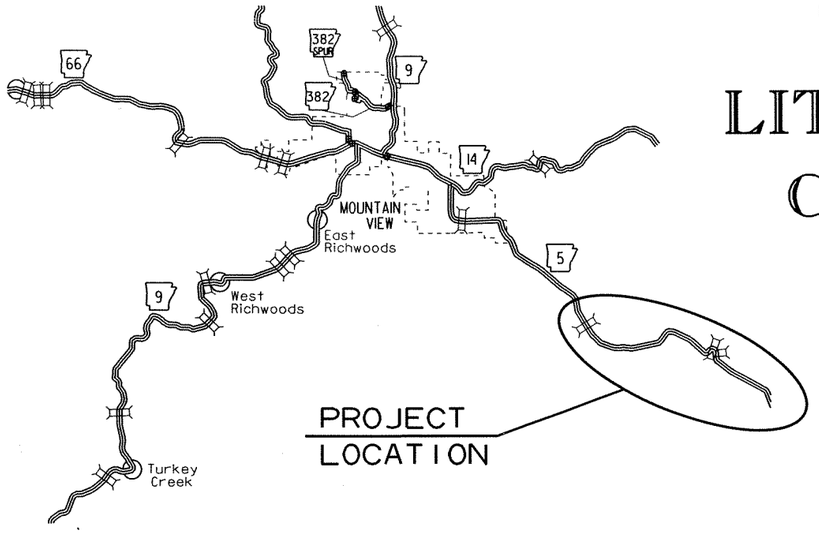
LITTLE RACCOON CREEK - COVE PRONG CREEK (S)

STONE COUNTY

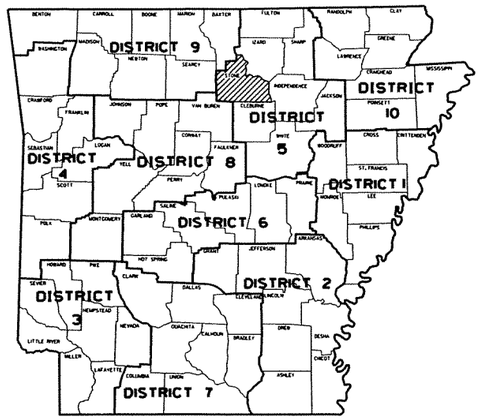
ROUTE 5 SECTION 16

JOB R50116

FED. AID PROJ. STP-0069(13)



VICINITY MAP

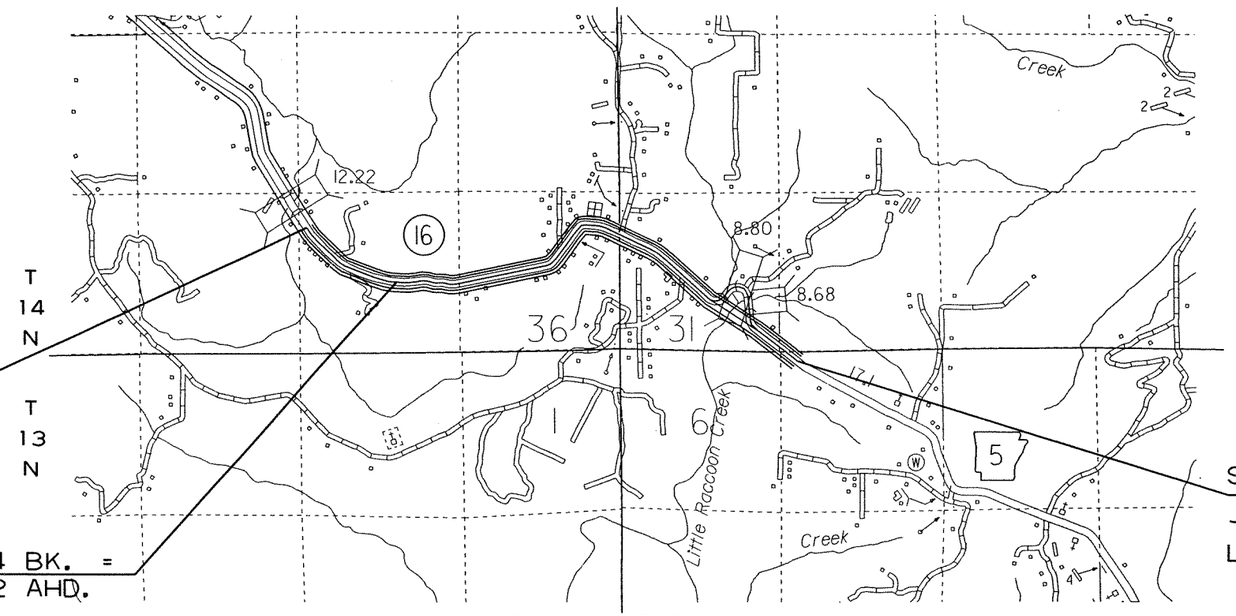


ARK. HWY. DIST. NO. 5

0 1 2 MILE

BAR SCALE

R 10 W R 9 W



R 10 W R 9 W

• DESIGN TRAFFIC DATA •

DESIGN YEAR	2032
2012 ADT	1900
2032 ADT	2400
2032 DHV	264
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	10%
DESIGN SPEED	40 MPH



BRIDGE CONSTRUCTION DATA

STA. 540+26.92 BRIDGE END
BRIDGE NO. 07231
250'-0", 389'-0" AND 250'-0"
CONTINUOUS COMPOSITE
PLATE GIRDER UNIT
40' CLEAR ROADWAY
891'-2" BRIDGE LENGTH
STA. 549+18.08 BRIDGE END
CONSTRUCT BRIDGE

STA. 713+03.09 - END
JOB R50116
LOG MILE 12.14

EQUATION:
673+26.04 BK. =
673+19.72 AHD.

BEGIN PROJECT
LAT. = N 35°47'25"
LONG. = W 91°58'11"

MID-POINT OF PROJECT
LAT. = N 35°48'08"
LONG. = W 92°00'07"

END PROJECT
LAT. = N 35°48'26"
LONG. = W 92°01'46"

STA. 500+00.00 - BEGIN
JOB R50116
L.M. 7.91

GROSS LENGTH OF PROJECT	21309.41	FEET	OR	4.036	MILES	
NET " " ROADWAY	20418.25	"	"	3.867	"	
NET " " BRIDGES	891.16	"	"	0.169	"	
NET " " PROJECT	21309.41	"	"	4.036	"	

P.E. R50116
NON-PART.

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3917
FRANK VOZEL

7/9/12

DEPUTY DIRECTOR
AND CHIEF ENGINEER

rr50116.dgn 11/11/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-23-2012				6	ARK.			
8-29-2012				JOB NO.		R50116	2	223

(2) INDEX, GOVERN. SPECS., AND GENERAL NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13605
MICHAEL D. FUGETT
8/31/12

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1	TITLE SHEET			
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES			
3-7	TYPICAL SECTIONS OF IMPROVEMENT			
8-10	SPECIAL DETAILS			
11-26A	TEMPORARY EROSION CONTROL DETAILS			
27-44	MAINTENANCE OF TRAFFIC DETAILS			
45	PERMANENT PAVEMENT MARKING DETAILS			
46-51	QUANTITY SHEETS			
52	SCHEDULE OF BRIDGE QUANTITIES	07231	52424	
53	SUMMARY OF QUANTITIES AND REVISIONS			
54-63	SURVEY CONTROL DETAILS			
64-79	PLAN AND PROFILE SHEETS			
80	LAYOUT OF BRIDGE OVER RACCOON CREEK - SHEET 1 OF 2	07231	52425	
81	LAYOUT OF BRIDGE OVER RACCOON CREEK - SHEET 2 OF 2	07231	52426	
82	SOIL BORINGS	07231	52427	
83	DETAILS OF BENT 1 - SHEET 1 OF 2	07231	52428	
84	DETAILS OF BENT 1 - SHEET 2 OF 2	07231	52429	
85	DETAILS OF BENTS 2 & 7 - SHEET 1 OF 2	07231	52430	
86	DETAILS OF BENTS 2 & 7 - SHEET 2 OF 2	07231	52431	
87	DETAILS OF BENT 3 - SHEET 1 OF 2	07231	52432	
88	DETAILS OF BENT 3 - SHEET 2 OF 2	07231	52433	
89	DETAILS OF BENT 4 - SHEET 1 OF 2	07231	52434	
90	DETAILS OF BENT 4 - SHEET 2 OF 2	07231	52435	
91	DETAILS OF BENT 5 - SHEET 1 OF 2	07231	52436	
92	DETAILS OF BENT 5 - SHEET 2 OF 2	07231	52437	
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94	DETAILS OF BENT 6 - SHEET 2 OF 2	07231	52439	
95	DETAILS OF BENT 8 - SHEET 1 OF 2	07231	52440	
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97	DETAILS OF 250' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 1 OF 6	07231	52442	
98	DETAILS OF 250' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 2 OF 6	07231	52443	
99	DETAILS OF 250' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 3 OF 6	07231	52444	
100	DETAILS OF 250' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 4 OF 6	07231	52445	
101	DETAILS OF 250' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 5 OF 6	07231	52446	
102	DETAILS OF 250' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 6 OF 6	07231	52447	
103	DETAILS OF 389' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 1 OF 5	07231	52448	
104	DETAILS OF 389' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 2 OF 5	07231	52449	
105	DETAILS OF 389' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 3 OF 5	07231	52450	
106	DETAILS OF 389' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 4 OF 5	07231	52451	
107	DETAILS OF 389' CONTINUOUS COMPOSITE PLATE GIRDER UNIT - SHEET 5 OF 5	07231	52452	
108	DETAILS OF FINGER JOINTS	07231	52453	
109	DETAILS OF ELASTOMERIC BEARINGS	07231	52454	
110	DETAILS OF TYPE 1 AND 2 SPECIAL APPROACH GUTTERS	07231	52455	
111	EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS		1888A	4-10-03
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114	DETAILS OF STANDARD TYPE D BRIDGE NAME PLATES		2387	9-08-11
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116	DETAILS OF CONCRETE RIPRAP AND MISCELLANEOUS DETAILS OF STEEL PILING		14995A	4-10-03
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118	FLARED END SECTION		FES-1	10-18-96
119	FLARED END SECTION		FES-2	10-18-96
119 A	GUARD RAIL DETAILS (TYPE C) STREET/ROAD BARRICADE OR TEMPORARY		GR-7	7-14-10
120	GUARD RAIL DETAILS		GR-8	7-14-10
121	GUARD RAIL DETAILS		GR-9	4-17-08
122	GUARD RAIL DETAILS		GR-9A	4-17-08
123	GUARD RAIL DETAILS		GR-10	7-14-10
124	GUARD RAIL DETAILS		GR-10A	7-14-10
125	GUARD RAIL DETAILS		GRT-1	7-14-10
126	MAILBOX DETAILS		MB-1	11-18-04
127	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING		PCC-1	12-15-11
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128 A	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)		PCP-1	12-15-11
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129	PAVEMENT MARKING DETAILS		PM-1	11-17-10
130	DETAILS OF PIPE UNDERDRAINS		PU-1	4-10-03
131	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC		SE-2	10-18-96
132	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-1	12-15-11
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136	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER		TC-5	10-15-09
137	TEMPORARY EROSION CONTROL DEVICES		TEC-1	12-15-11
138	TEMPORARY EROSION CONTROL DEVICES		TEC-2	6-02-94
139	TEMPORARY EROSION CONTROL DEVICES		TEC-3	11-03-94
140	WIRE FENCE WATER GAPS		WF-2	4-20-79
141	CHAIN LINK FENCE		WF-3	11-17-10
142	WIRE FENCE TYPE C AND D		WF-4	8-22-02
143-223	CROSS SECTIONS			

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

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, 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 R50116
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
102-1	BIDDING REQUIREMENTS AND CONDITIONS
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
105-3	CONTROL OF WORK
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
404-2	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-2	INSPECTION OF TRAFFIC CONTROL DEVICES IN CONSTRUSTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
606-2	PIPE CULVERTS
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
804-1	INSTALLATION OF DOWEL BARS AND TIE BARS
JOB R50116	APPROACH SLABS AND GUTTERS
JOB R50116	ARMORED JOINT WITH NEOPRENE STRIP SEAL
JOB R50116	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB R50116	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB R50116	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB R50116	HIGH PERFORMANCE PAVEMENT MARKING
JOB R50116	INTERNET BIDDING
JOB R50116	NESTING SITES OF MIGRATORY BIRDS
JOB R50116	PARTNERING REQUIREMENTS
JOB R50116	PLASTIC PIPE
JOB R50116	ROCK FILL
JOB R50116	SECTION 404 NATIONWIDE 14 PERMIT REQUIREMENTS
JOB R50116	SOIL STABILIZATION
JOB R50116	STORM WATER POLLUTION PREVENTION PLAN
JOB R50116	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB R50116	UTILITY ADJUSTMENTS
JOB R50116	USE OF TYPE II CEMENT
JOB R50116	VALUE ENGINEERING
JOB R50116	WARM MIX ASPHALT

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 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
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN
6. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
7. 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.
8. 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
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 UNCLASSIFIED EXCAVATION.

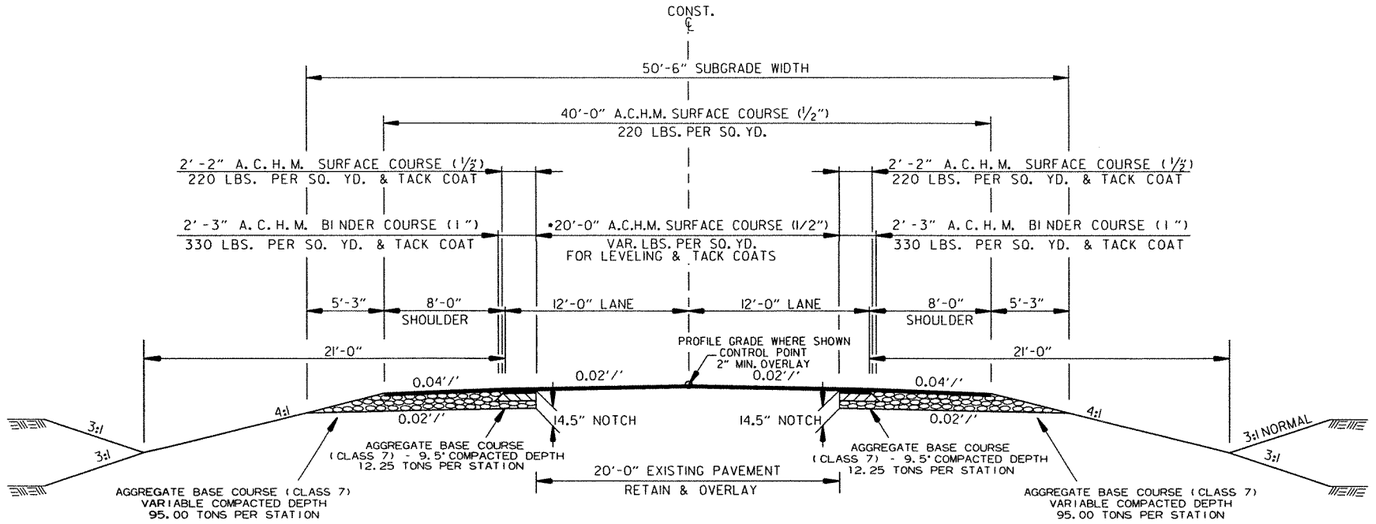
08/29/2012

RR50116.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	3	223

(2) TYPICAL SECTIONS OF IMPROVEMENT

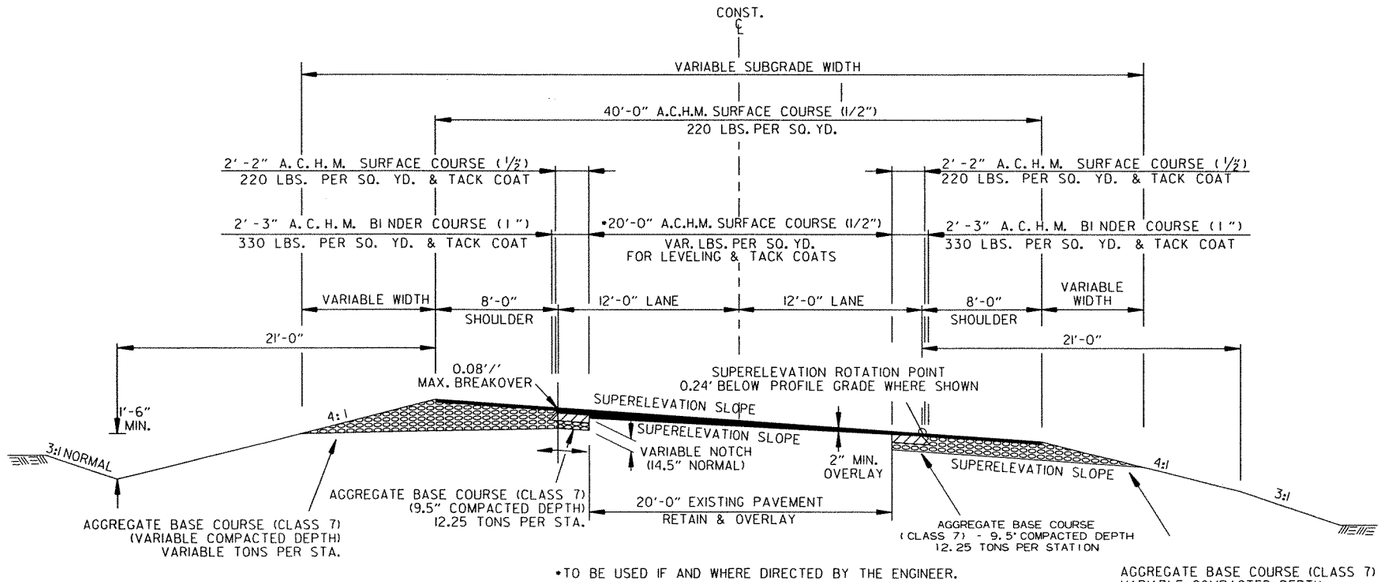
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12



*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
TANGENT SECTION - TWO LANES

STA. 500+00.00 TO STA. 535+00.00
STA. 551+46.00 TO STA. 565+36.00
STA. 609+66.00 TO STA. 613+40.00
STA. 613+40.00 TRANS. FROM 2 LANE TO CLIMBING LANE STA. 620+00.00
STA. 707+00.00 TO STA. 713+03.09



*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION SECTION - TWO LANES

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 TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

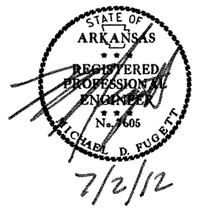
WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

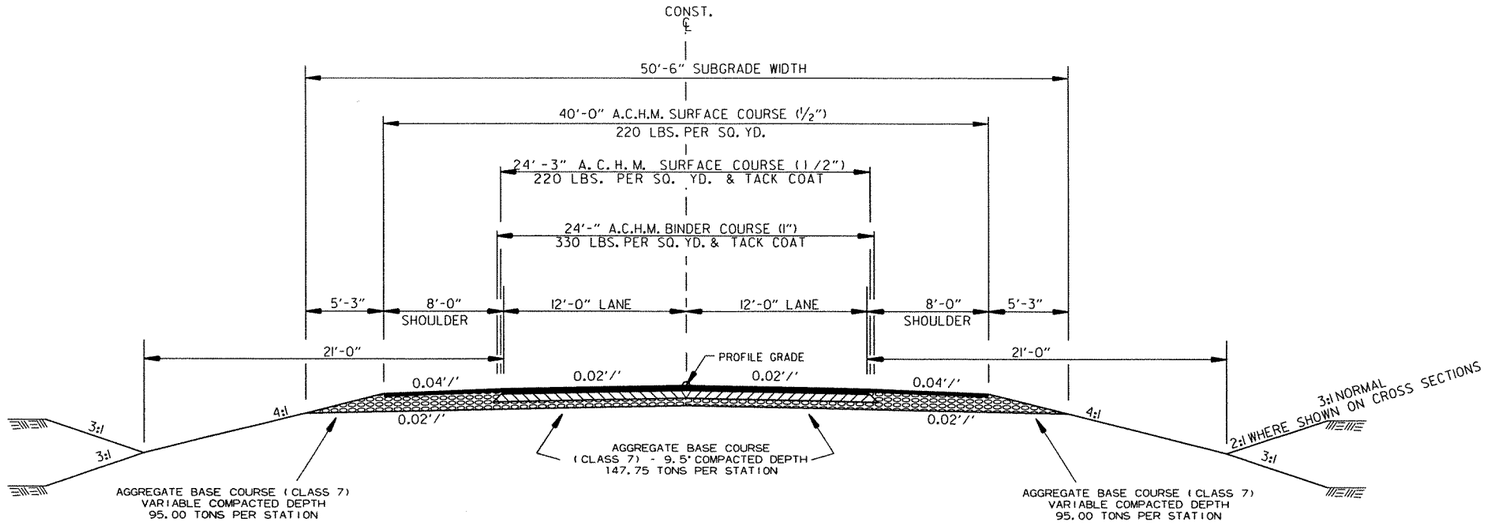
RR50116.DGN 9/5/2011

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	4	223

(2) TYPICAL SECTIONS OF IMPROVEMENT





TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH
TANGENT SECTION - TWO LANES

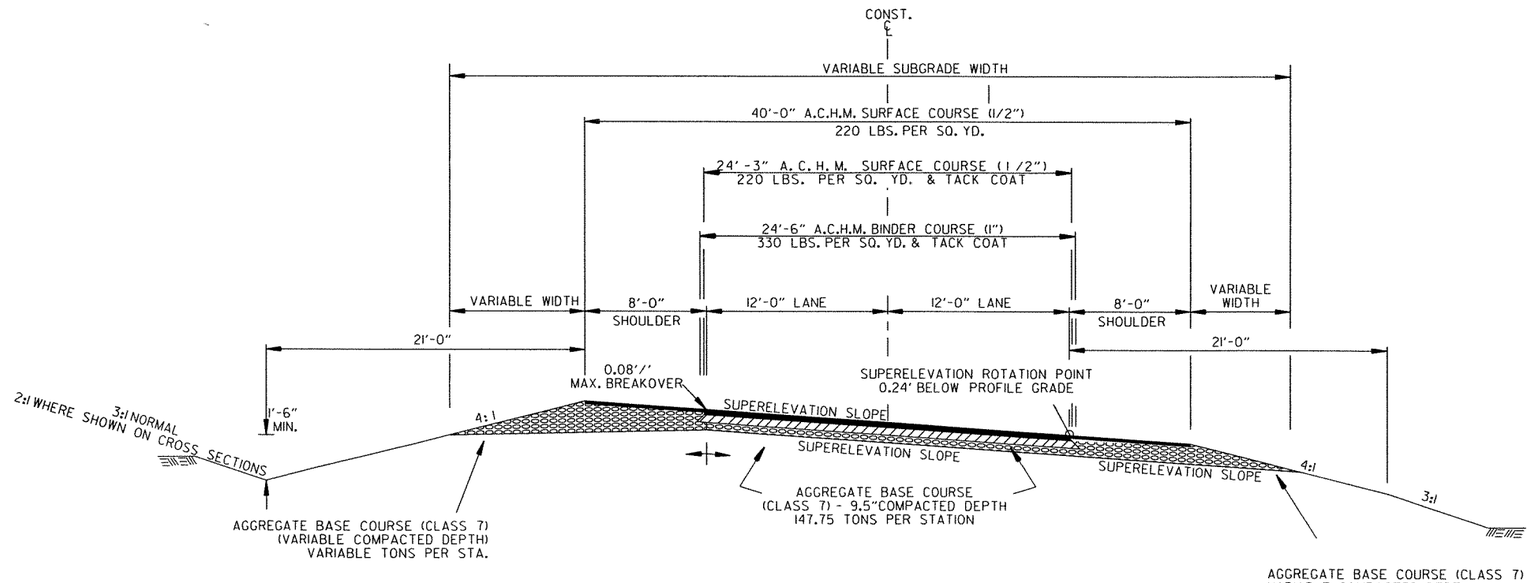
STA. 535+00.00 TO STA. 540+26.92
STA. 549+18.08 TO STA. 551+46.00
STA. 565+36.00 TO STA. 609+66.00

NOTES:
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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 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.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH
SUPERELEVATION SECTION - TWO LANES

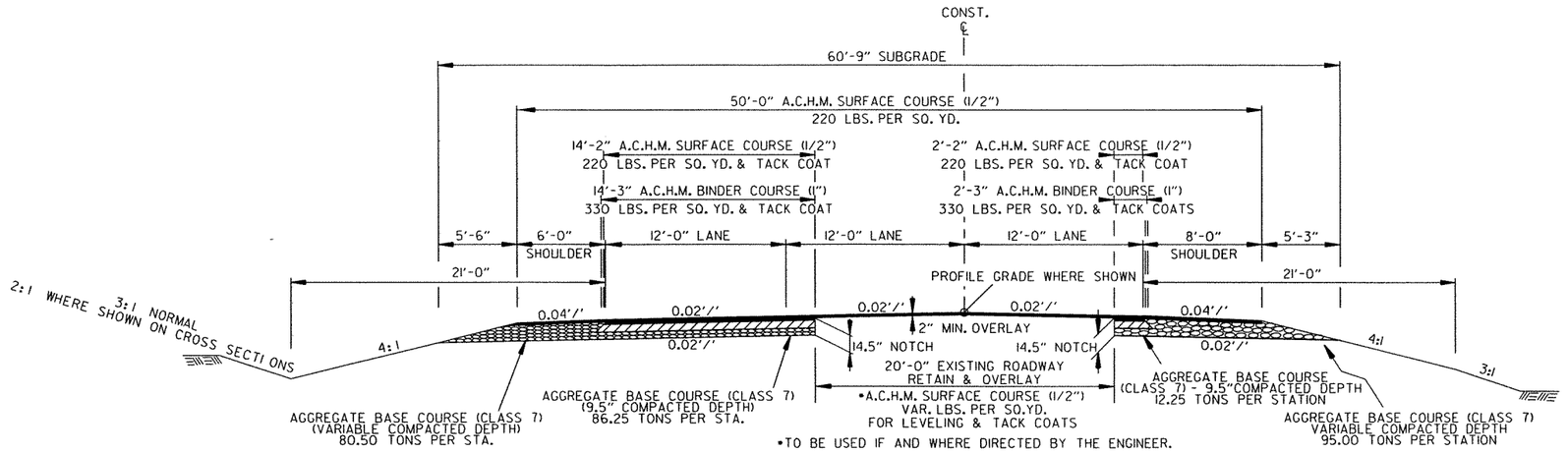
RR50116.DGN 9/5/2011

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	5	223

(2) TYPICAL SECTIONS OF IMPROVEMENT

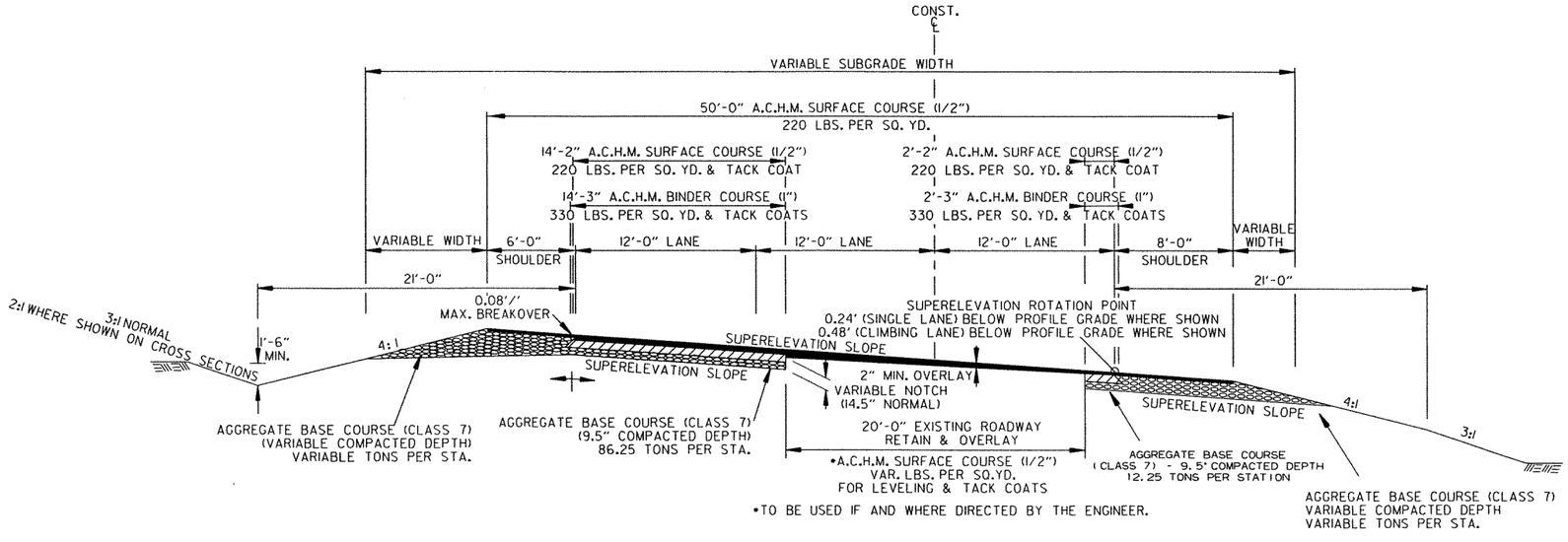
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12



•TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
TANGENT SECTION-CLIMBING LANE

STA. 620+00.00 - STA. 650+06.00
STA. 676+13.00 TO STA. 688+50.00
STA. 698+00.00 TO STA. 705+00.00
STA. 705+00.00 TRANS. FROM CLIMBING LANE TO 2 LANE STA. 707+00.00



•TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION SECTION-CLIMBING LANE

NOTES:
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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 TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

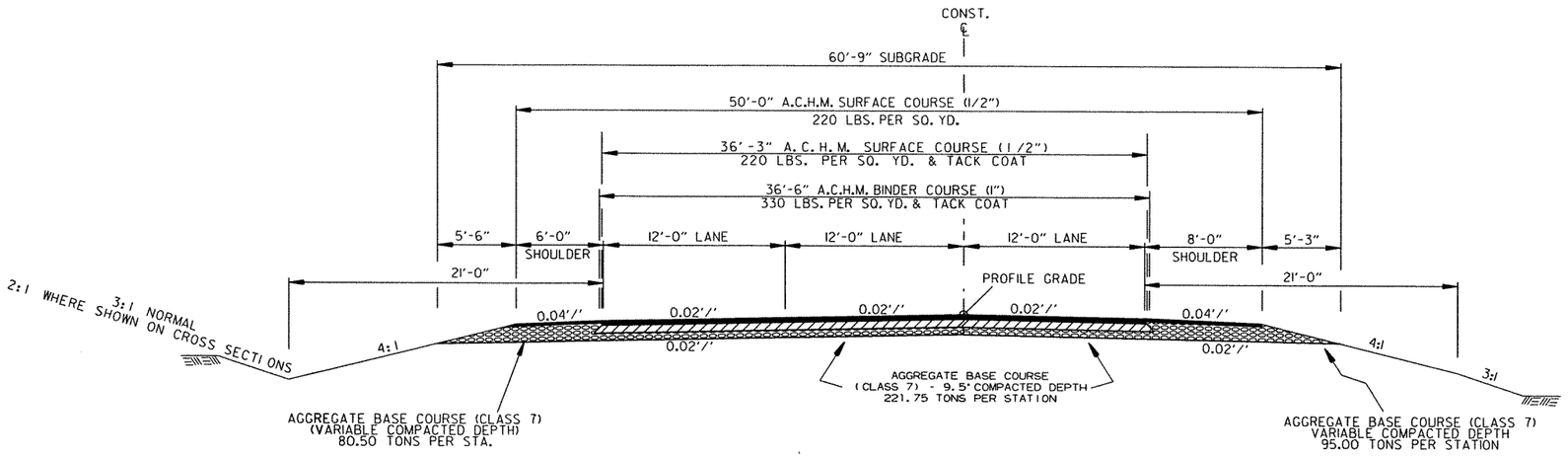
TYPICAL SECTIONS OF IMPROVEMENT

RR50116.DGN 9/5/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	6	223

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/2/12



TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH
TANGENT SECTION-CLIMBING LANE

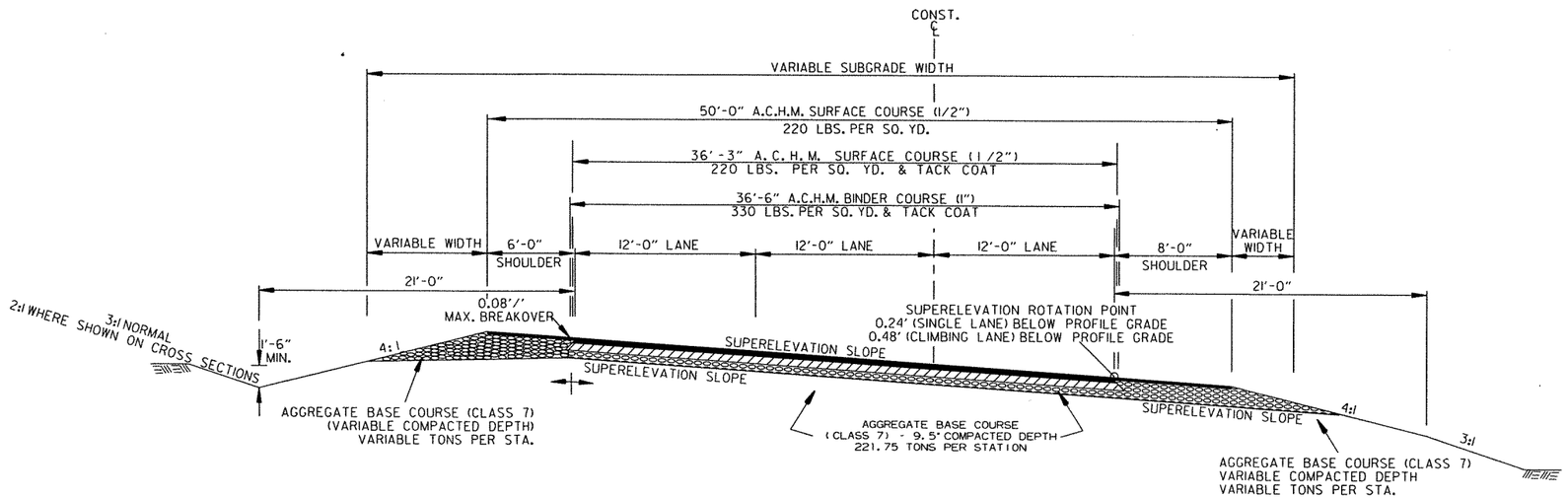
STA. 650+06.00 - STA. 676+13.00
STA. 688+50.00 TO STA. 698+00.00

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 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 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.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



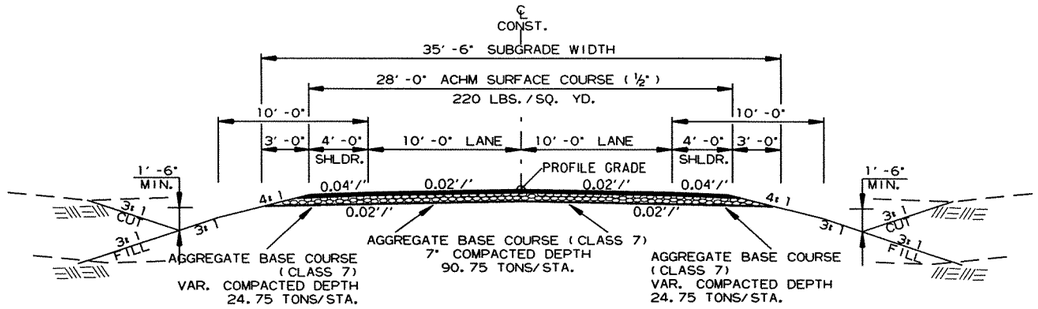
TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH
SUPERELEVATION SECTION-CLIMBING LANE

RR50116.DGN 9/5/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	7	223

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12



TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH
EXISITNG HWY. 5

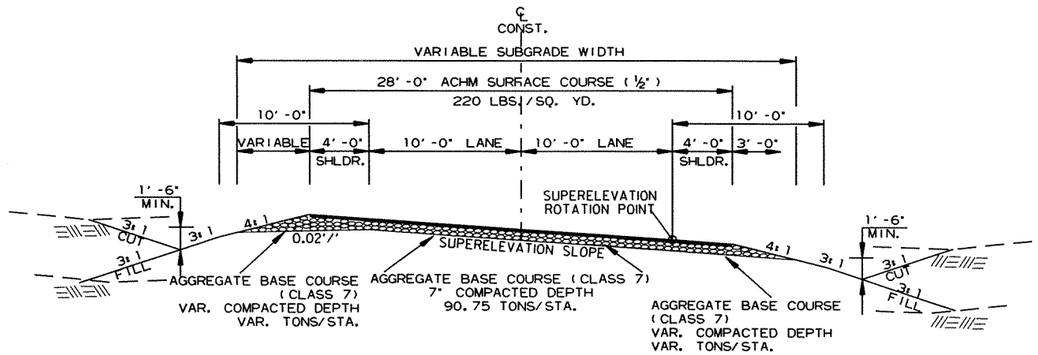
STA. 900+12.25 - STA. 904+04.43

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 TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

AFTER PLACING FINAL 2" OF SURFACE COURSE, THE EXISTING SLOPE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS CONTRACT ITEMS.



TYPICAL SECTION OF IMPROVEMENT
FULL DEPTH
EXISITNG HWY. 5

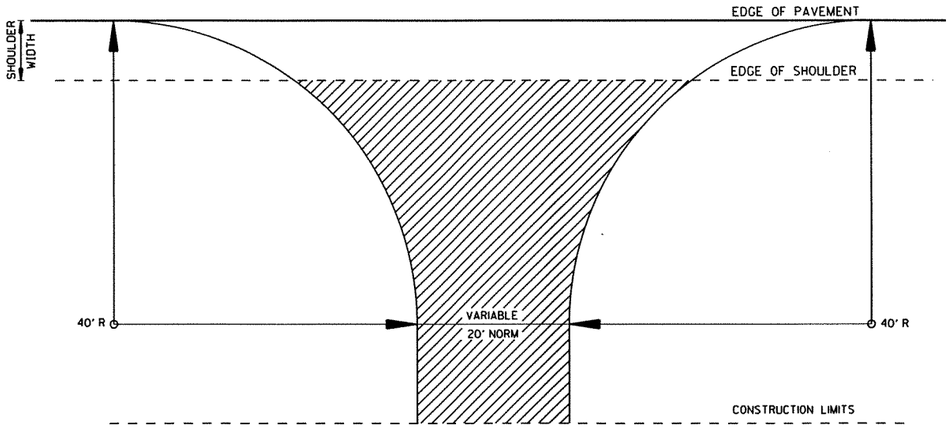
STA. 900+12.25 - STA. 904+04.43

RR50116.DGN 9/5/2011

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-29-2012				6	ARK.			
				JOB NO.		R50116	8	223

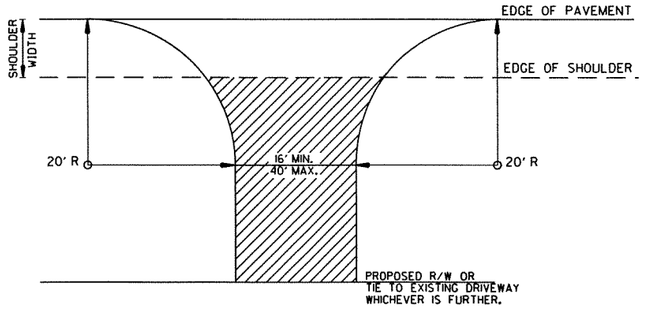
(2) SPECIAL DETAILS



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

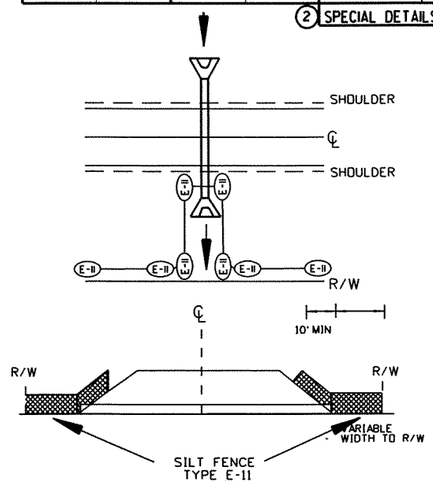
NOTE:
REFER TO PLAN SHEETS FOR WIDTHS OF COUNTY ROADS.

DETAIL FOR COUNTY ROAD TURNOUT



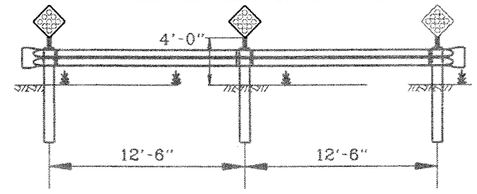
A.C.H.M. SURFACE COURSE (1/2")
(220 LBS./SQ. YD.) & AGGREGATE BASE COURSE (CLASS 7) (7" COMPACTED DEPTH)
IF ASPHALT DRIVE EXISTS OR 6" CONCRETE IF CONCRETE DRIVE EXISTS.

DETAIL FOR DRIVEWAY TURNOUTS



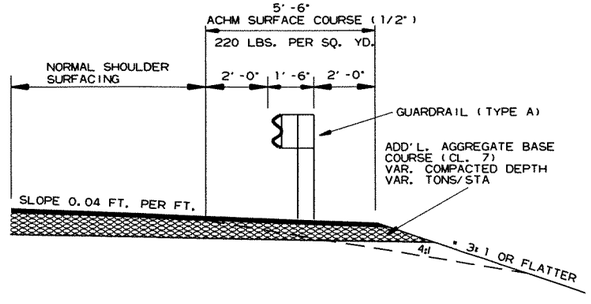
DETAILS OF SILT FENCE AT CROSS DRAINS

CONSTRUCT
25 LIN. FT. GUARDRAIL (TYPE C)
WITH 3 RED DIAMOND REFLECTORS (OM4-1)
MOUNTED ON U-CHANNEL POSTS
DIRECTLY BEHIND THE GUARDRAIL
AT A HEIGHT OF 4'-0" (MEASURED FROM
PAVEMENT SURFACE TO BOTTOM OF SIGN).



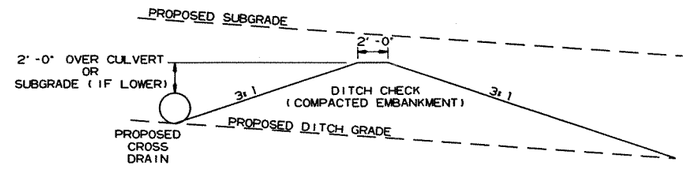
DETAIL FOR PERMANENT ROAD CLOSURE

TO BE USED WHERE EXISTING
ROADS WILL BE PERMANENTLY CLOSED.
SEE PLAN SHEETS FOR LOCATIONS
SEE STD. DWG. GR-7 FOR
MORE DETAILS.

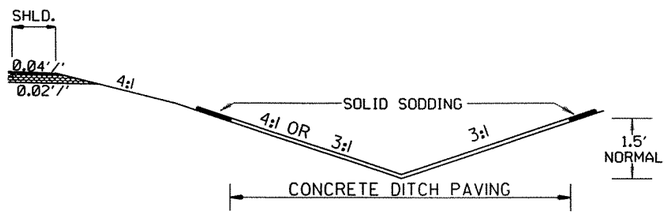


DETAIL FOR WIDENING FOR GUARDRAIL

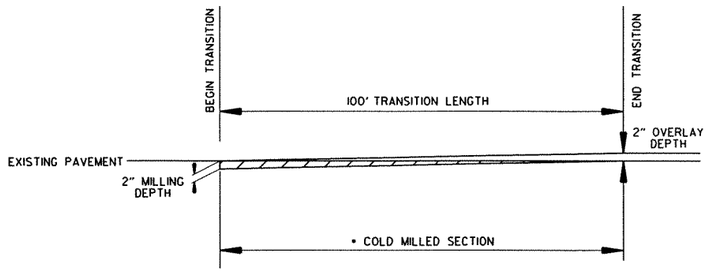
* REFER TO STD. DWG. GR-9A FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL.



DETAIL OF DITCH CHECK

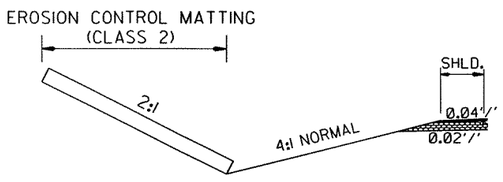


DITCH LINING DETAILS



DETAIL SHOWING TRANSITION TO EXISTING PAVEMENT

* TO BE USED AS DIRECTED BY THE ENGINEER



EROSION CONTROL MATTING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
8/31/12

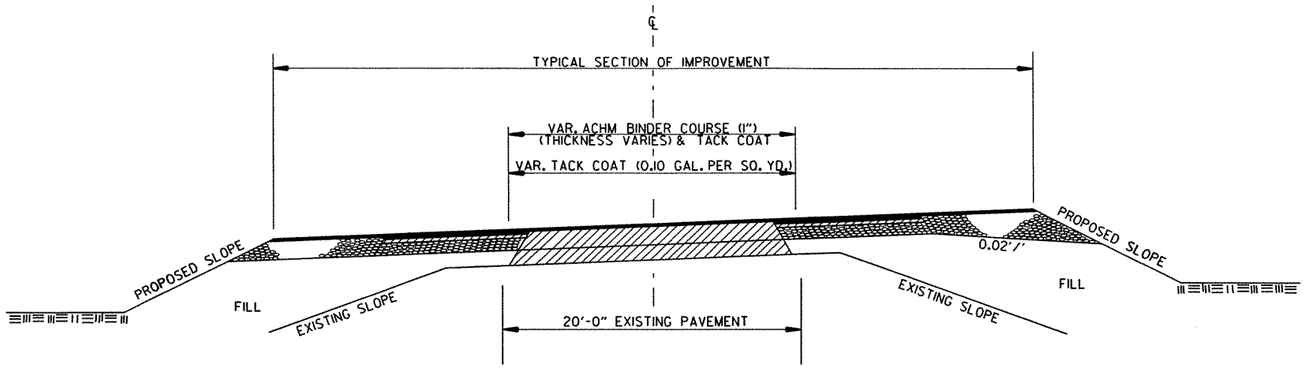
RR50116.DGN 9/5/2011

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	9	223

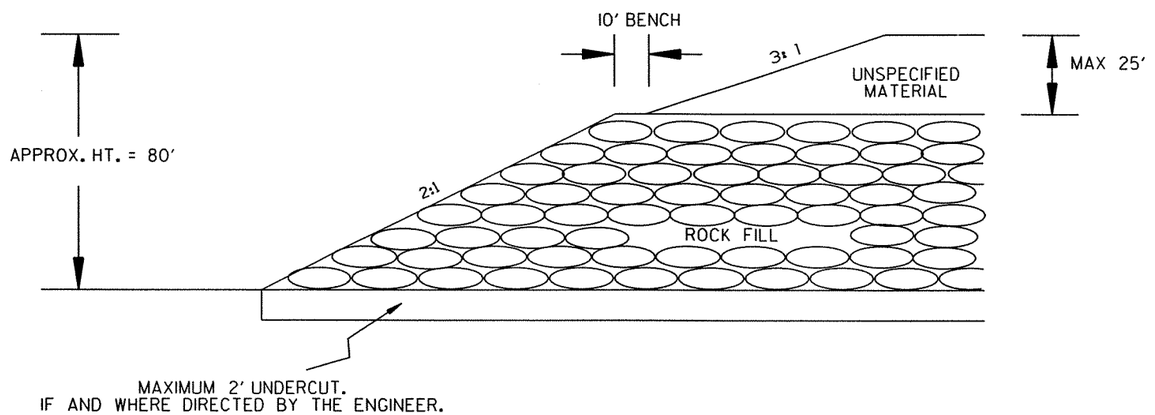
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
2/2/12



DETAIL OF METHOD OF RAISING GRADE

NOTES:
(1) THIS DETAIL TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.
(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003.



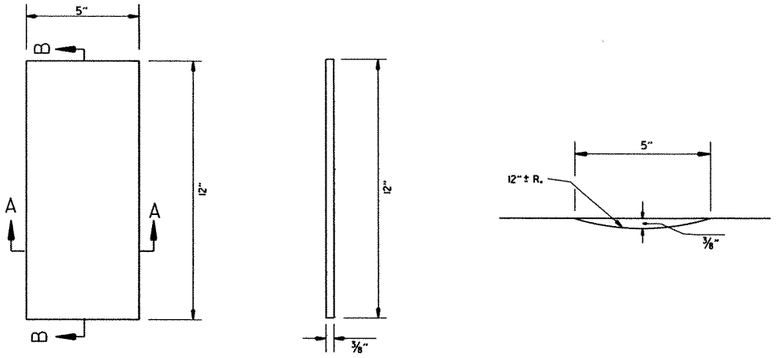
DETAIL OF ROCK FILL

STA. 539+00.00 - STA. 540+26.92

RR50116.DGN 9/5/2011

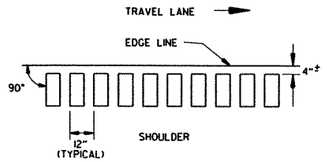
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	10	223
				(2)	SPECIAL DETAILS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. FUGETT
7/2/12

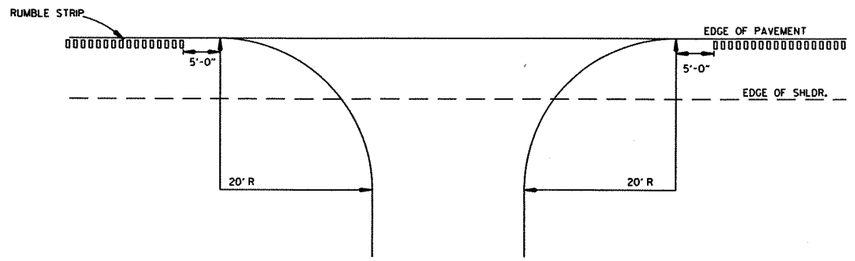


PLAN SECTION B-B SECTION A-A

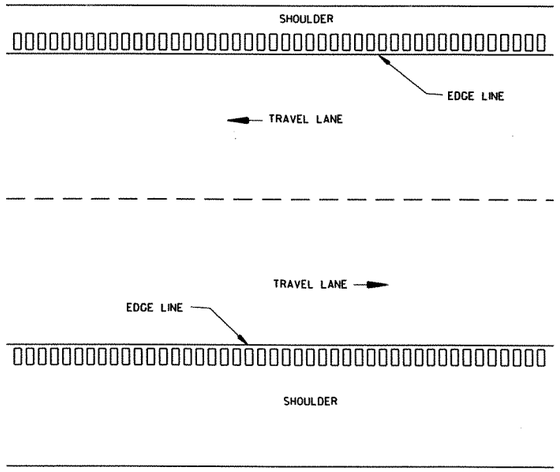
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



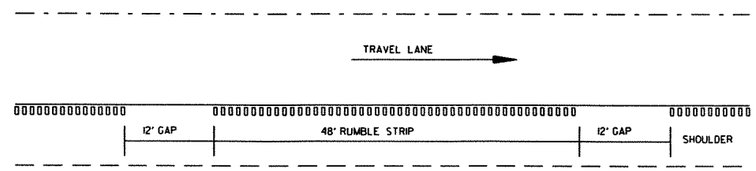
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. THE 4" OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.
4. RUMBLE STRIPS SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.
5. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 12" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.



DETAIL FOR GAP PATTERN RUMBLE STRIP

NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.

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				6	ARK.			
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(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7905
MICHAEL D. FUGETT
7/2/12

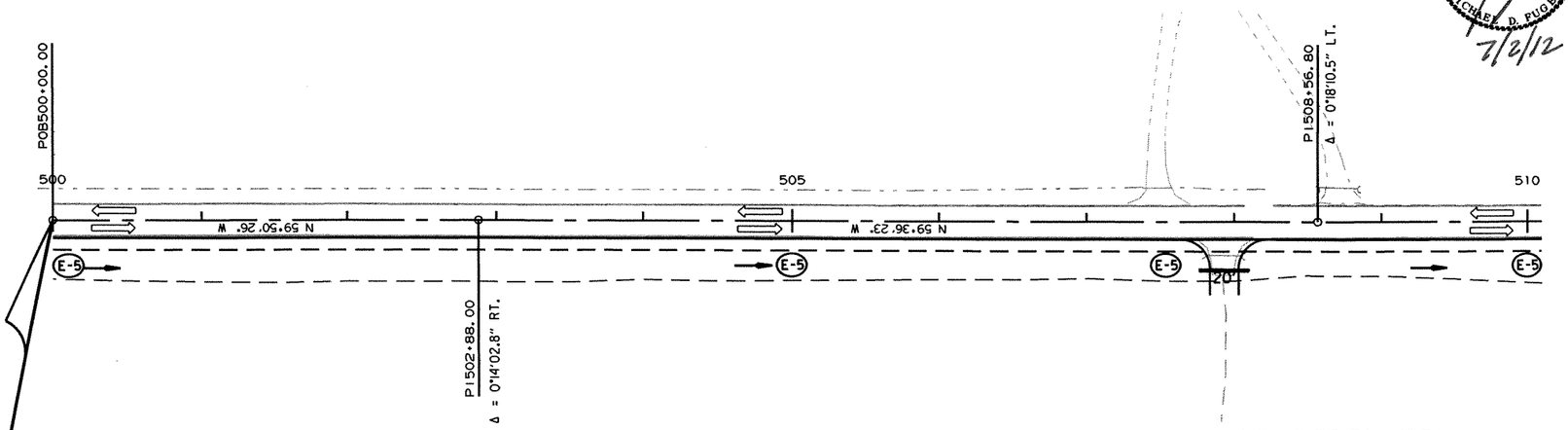
SAND BAG DITCH CHECKS (E-5)

				BAG
STA. 500+00	RT.	1	INSTALLATION	20
STA. 505+00	RT.	1	INSTALLATION	20
STA. 507+50	RT.	1	INSTALLATION	20
STA. 510+00	RT.	1	INSTALLATION	20
STA. 514+00	RT.	1	INSTALLATION	20
STA. 518+50	RT.	1	INSTALLATION	20
STA. 525+00	RT.	1	INSTALLATION	20

SILT FENCE (E-11)

STA. 519+23	LT.	200 LIN. FT.
STA. 519+23	RT.	163 LIN. FT.

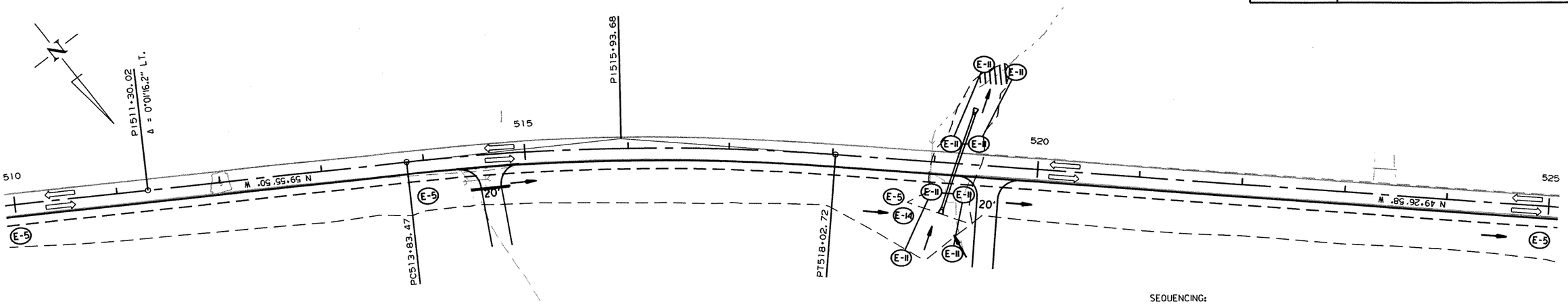
SEDIMENT BASIN (E-14)			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 518+75	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.



STA 500+00.00 - BEGIN
JOB R50116
L.M. 8.10

REVISION BOX

DATE	REVISION



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

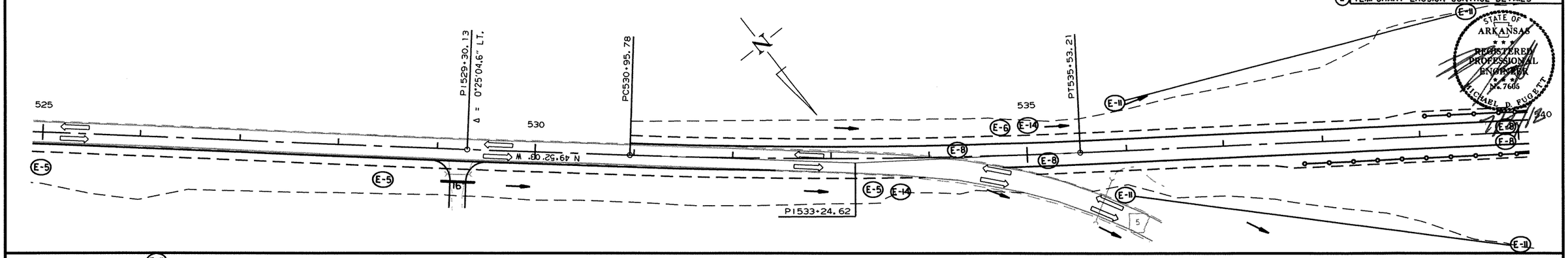
STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TEMPORARY EROSION CONTROL DETAILS
STAGE 1

R50116.DGN 8-8-2011

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				6	ARK.			
				JOB NO.		R50116	12	223

(2) TEMPORARY EROSION CONTROL DETAILS



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT

SAND BAG DITCH CHECKS (E-5)			BAG
STA. 528+50	RT.	1 INSTALLATION	20
STA. 533+50	RT.	1 INSTALLATION	20

ROCK DITCH CHECKS (E-6)			CU. YD.
STA. 534+75	LT.	1 INSTALLATION	2.1
STA. 904+00	LT.	1 INSTALLATION	2.1
STA. 904+00	RT.	1 INSTALLATION	2.1
STA. 901+25	LT.	1 INSTALLATION	2.1
STA. 900+25	LT.	1 INSTALLATION	2.1
STA. 550+25	LT.	1 INSTALLATION	2.1
STA. 552+00	RT.	1 INSTALLATION	2.1
STA. 555+00	RT.	1 INSTALLATION	2.1

SILT FENCE (E-11)			
STA. 536+00 - STA. 540+00	LT. & RT.	778	LIN. FT.
STA. 540+00 - STA. 541+15	LT. & RT.	558	LIN. FT.
STA. 548+60 - STA. 550+00	LT. & RT.	410	LIN. FT.

SEDIMENT BASIN (E-14)			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 533+50	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 535+00	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 541+00	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 541+00	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 548+50	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 548+50	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 551+50	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.

DIVERSION DITCH (E-8)			
STA. 534+25 - STA. 540+00	LT.	575	LIN. FT.
STA. 535+25 - STA. 540+00	RT.	475	LIN. FT.
STA. 549+20 - STA. 551+50	LT.	231	LIN. FT.
STA. 549+20 - STA. 551+00	RT.	180	LIN. FT.
STA. 900+30 - STA. 902+20	RT.	190	LIN. FT.
STA. 900+30 - STA. 901+80	LT.	150	LIN. FT.
STA. 552+25 - STA. 555+00	RT.	275	LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)			DUMPED RIPRAP
STA. 540+00	LT.	124 LIN. FT.	1 CU. YD.
STA. 540+00	RT.	110 LIN. FT.	1 CU. YD.
STA. 551+50	LT.	12 LIN. FT.	1 CU. YD.
STA. 551+50	RT.	14 LIN. FT.	1 CU. YD.
STA. 552+25	RT.	18 LIN. FT.	1 CU. YD.
STA. 902+20	RT.	6 LIN. FT.	1 CU. YD.
STA. 901+80	LT.	7 LIN. FT.	1 CU. YD.

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

REVISION BOX

DATE	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 1

R50116.DGN 8-8-2011

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				6	ARK.			
				JOB NO.		R50116	13	223

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. RUGGETT
7/2/12

SAND BAG DITCH CHECKS (E-5)

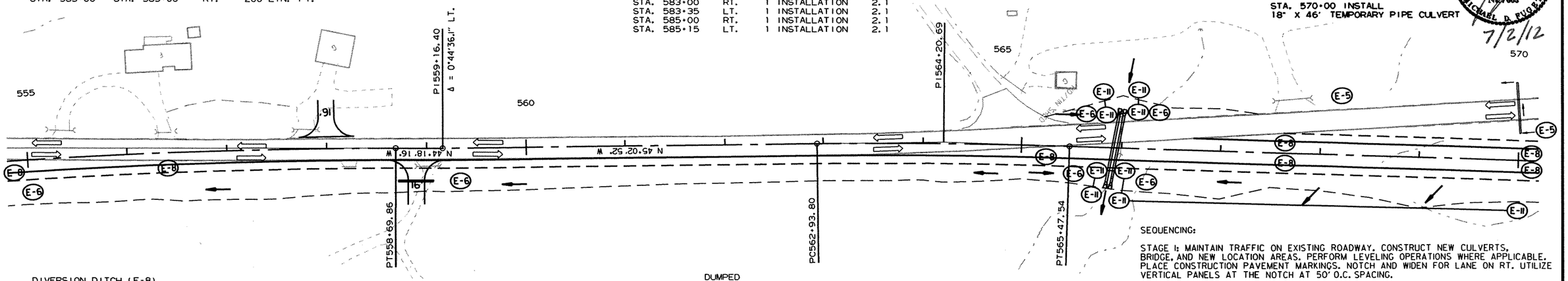
				BAG
STA. 568+30	LT.	1	INSTALLATION	20
STA. 570+30	RT.	1	INSTALLATION	20

SILT FENCE (E-11)

STA. 565+75 - STA. 566+25	LT.	66 LIN. FT.
STA. 565+75 - STA. 571+00	RT.	500 LIN. FT.
STA. 583+00 - STA. 585+00	RT.	200 LIN. FT.

ROCK DITCH CHECKS (E-6)

				CU. YD.
STA. 559+35	RT.	1	INSTALLATION	2.1
STA. 565+50	RT.	1	INSTALLATION	2.1
STA. 565+70	LT.	1	INSTALLATION	2.1
STA. 566+25	RT.	1	INSTALLATION	2.1
STA. 566+40	LT.	1	INSTALLATION	2.1
STA. 571+50	LT.	1	INSTALLATION	2.1
STA. 571+80	RT.	1	INSTALLATION	2.1
STA. 575+05	RT.	1	INSTALLATION	2.1
STA. 575+20	LT.	1	INSTALLATION	2.1
STA. 577+80	LT.	1	INSTALLATION	2.1
STA. 580+15	RT.	1	INSTALLATION	2.1
STA. 580+20	LT.	1	INSTALLATION	2.1
STA. 581+50	RT.	1	INSTALLATION	2.1
STA. 583+00	RT.	1	INSTALLATION	2.1
STA. 583+35	LT.	1	INSTALLATION	2.1
STA. 585+00	RT.	1	INSTALLATION	2.1
STA. 585+15	LT.	1	INSTALLATION	2.1



STA. 570+00 INSTALL
18" X 46' TEMPORARY PIPE CULVERT

DIVERSION DITCH (E-8)

STA. 555+00 - STA. 556+50	RT.	150	LIN. FT.
STA. 565+00 - STA. 570+00	RT.	500	LIN. FT.
STA. 567+00 - STA. 570+00	LT.	300	LIN. FT.
STA. 570+00 - STA. 585+00	LT.	1500	LIN. FT.
STA. 570+00 - STA. 585+00	RT.	1500	LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

				DUMPED RIPRAP
STA. 555+00	RT.	13	LIN. FT.	1 CU. YD.
STA. 570+00	RT.	24	LIN. FT.	1 CU. YD.
STA. 567+00	LT.	18	LIN. FT.	1 CU. YD.
STA. 570+00	LT.	13	LIN. FT.	1 CU. YD.
STA. 570+00	RT.	24	LIN. FT.	1 CU. YD.

REVISION BOX

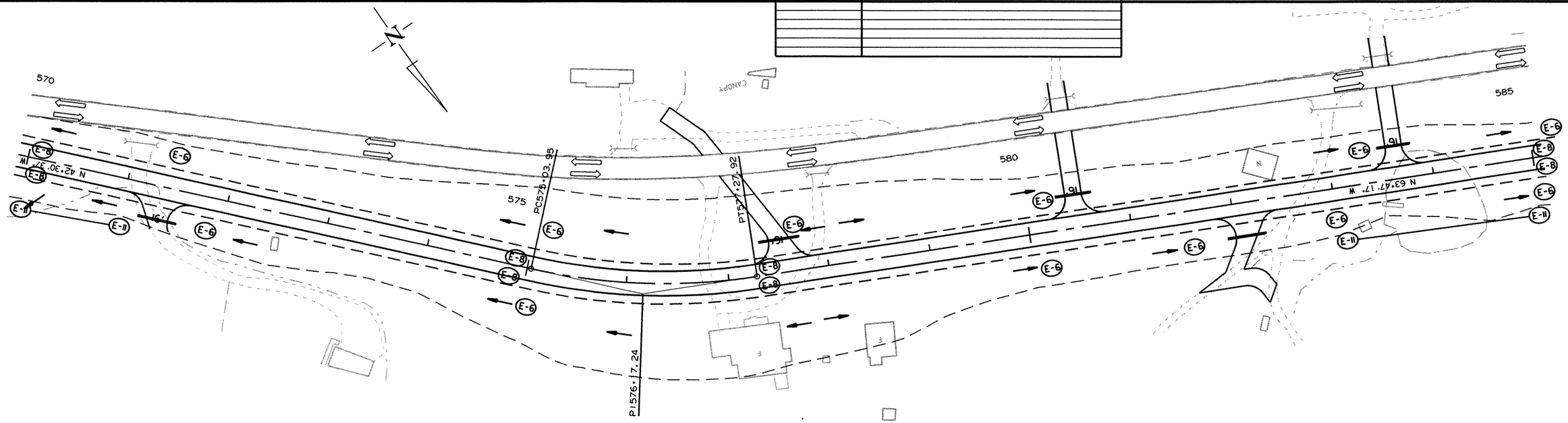
DATE	REVISION

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.



TEMPORARY EROSION CONTROL DETAILS
STAGE 1

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	14	223

(2) TEMPORARY EROSION CONTROL DETAILS

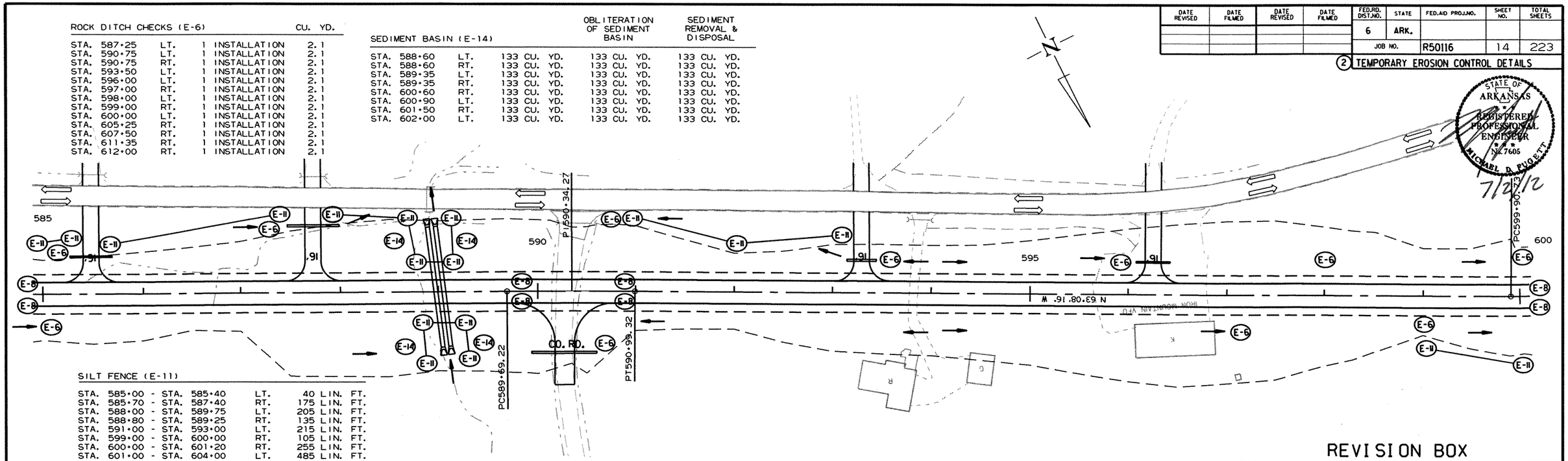
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/27/12

ROCK DITCH CHECKS (E-6)

				CU. YD.
STA. 587+25	LT.	1	INSTALLATION	2.1
STA. 590+75	LT.	1	INSTALLATION	2.1
STA. 590+75	RT.	1	INSTALLATION	2.1
STA. 593+50	LT.	1	INSTALLATION	2.1
STA. 596+00	LT.	1	INSTALLATION	2.1
STA. 597+00	RT.	1	INSTALLATION	2.1
STA. 598+00	LT.	1	INSTALLATION	2.1
STA. 599+00	RT.	1	INSTALLATION	2.1
STA. 600+00	LT.	1	INSTALLATION	2.1
STA. 605+25	RT.	1	INSTALLATION	2.1
STA. 607+50	RT.	1	INSTALLATION	2.1
STA. 611+35	RT.	1	INSTALLATION	2.1
STA. 612+00	RT.	1	INSTALLATION	2.1

SEDIMENT BASIN (E-14)

			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 588+60	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 588+60	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 589+35	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 589+35	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 600+60	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 600+90	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 601+50	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 602+00	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.



SILT FENCE (E-11)

STA. 585+00 - STA. 585+40	LT.	40	LIN. FT.
STA. 585+70 - STA. 587+40	RT.	175	LIN. FT.
STA. 588+00 - STA. 589+75	LT.	205	LIN. FT.
STA. 588+80 - STA. 589+25	RT.	135	LIN. FT.
STA. 591+00 - STA. 593+00	LT.	215	LIN. FT.
STA. 599+00 - STA. 600+00	RT.	105	LIN. FT.
STA. 600+00 - STA. 601+20	RT.	255	LIN. FT.
STA. 601+00 - STA. 604+00	LT.	485	LIN. FT.
STA. 601+20 - STA. 604+30	RT.	465	LIN. FT.
STA. 611+60 - STA. 612+10	LT.	115	LIN. FT.
STA. 611+60 - STA. 612+10	RT.	120	LIN. FT.

REVISION BOX

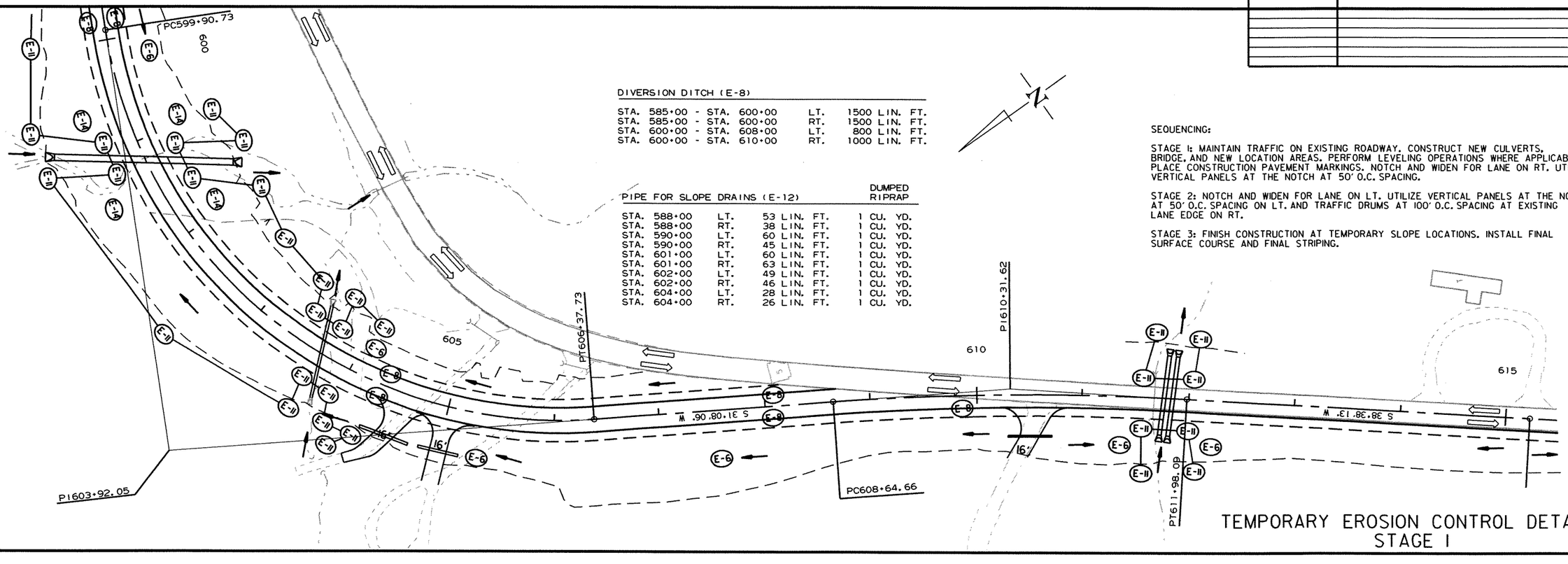
DATE	REVISION

DIVERSION DITCH (E-8)

STA. 585+00 - STA. 600+00	LT.	1500	LIN. FT.
STA. 585+00 - STA. 600+00	RT.	1500	LIN. FT.
STA. 600+00 - STA. 608+00	LT.	800	LIN. FT.
STA. 600+00 - STA. 610+00	RT.	1000	LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

				DUMPED RIPRAP
STA. 588+00	LT.	53	LIN. FT.	1 CU. YD.
STA. 588+00	RT.	38	LIN. FT.	1 CU. YD.
STA. 590+00	LT.	60	LIN. FT.	1 CU. YD.
STA. 590+00	RT.	45	LIN. FT.	1 CU. YD.
STA. 601+00	LT.	60	LIN. FT.	1 CU. YD.
STA. 601+00	RT.	63	LIN. FT.	1 CU. YD.
STA. 602+00	LT.	49	LIN. FT.	1 CU. YD.
STA. 602+00	RT.	46	LIN. FT.	1 CU. YD.
STA. 604+00	LT.	28	LIN. FT.	1 CU. YD.
STA. 604+00	RT.	26	LIN. FT.	1 CU. YD.



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TEMPORARY EROSION CONTROL DETAILS STAGE 1

R50116.DGN 8-8-2011

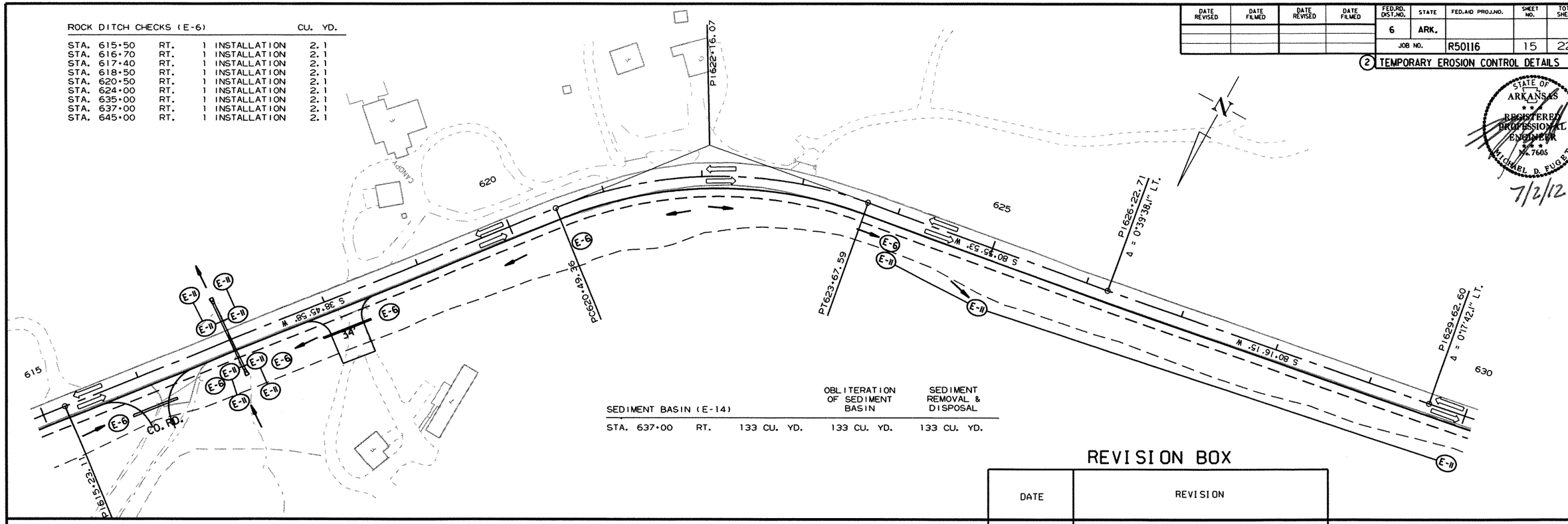
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	15	223

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12

ROCK DITCH CHECKS (E-6)

				CU. YD.
STA. 615+50	RT.	1	INSTALLATION	2.1
STA. 616+70	RT.	1	INSTALLATION	2.1
STA. 617+40	RT.	1	INSTALLATION	2.1
STA. 618+50	RT.	1	INSTALLATION	2.1
STA. 620+50	RT.	1	INSTALLATION	2.1
STA. 624+00	RT.	1	INSTALLATION	2.1
STA. 635+00	RT.	1	INSTALLATION	2.1
STA. 637+00	RT.	1	INSTALLATION	2.1
STA. 645+00	RT.	1	INSTALLATION	2.1



SEDIMENT BASIN (E-14)			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 637+00	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.

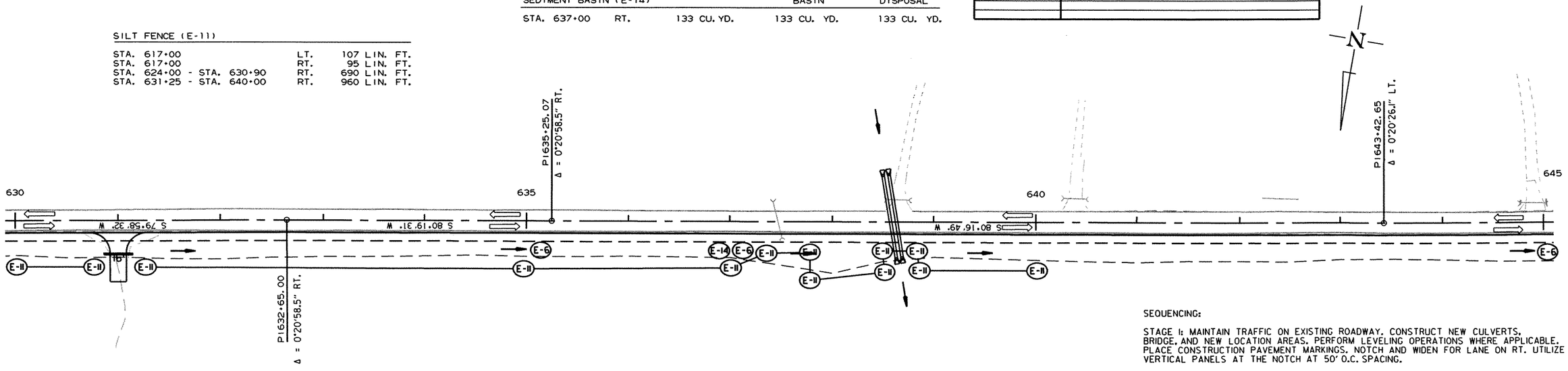
REVISION BOX

DATE	REVISION

SEDIMENT BASIN (E-14)			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 637+00	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.

SILT FENCE (E-11)

STA. 617+00		LT.	107 LIN. FT.
STA. 617+00		RT.	95 LIN. FT.
STA. 624+00 - STA. 630+90		RT.	690 LIN. FT.
STA. 631+25 - STA. 640+00		RT.	960 LIN. FT.



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TEMPORARY EROSION CONTROL DETAILS STAGE 1

R50116.DGN 8-8-2011

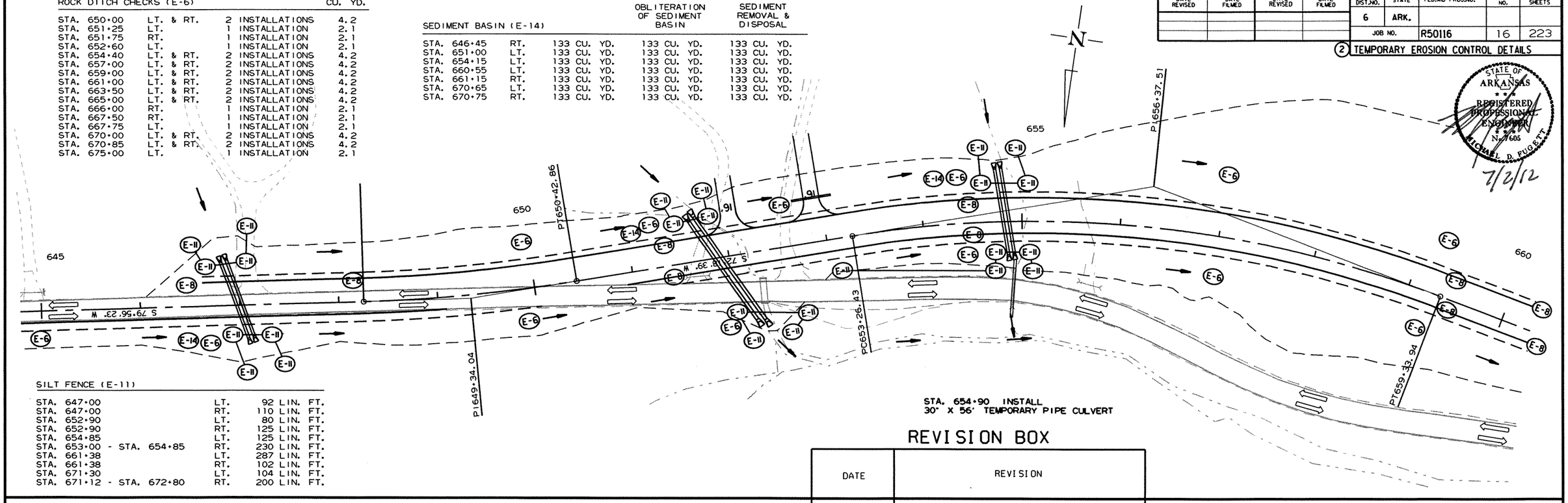
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	16	223

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12

ROCK DITCH CHECKS (E-6)			CU. YD.
STA. 650+00	LT. & RT.	2 INSTALLATIONS	4.2
STA. 651+25	LT.	1 INSTALLATION	2.1
STA. 651+75	RT.	1 INSTALLATION	2.1
STA. 652+60	LT.	1 INSTALLATION	2.1
STA. 654+40	LT. & RT.	2 INSTALLATIONS	4.2
STA. 657+00	LT. & RT.	2 INSTALLATIONS	4.2
STA. 659+00	LT. & RT.	2 INSTALLATIONS	4.2
STA. 661+00	LT. & RT.	2 INSTALLATIONS	4.2
STA. 663+50	LT. & RT.	2 INSTALLATIONS	4.2
STA. 665+00	LT. & RT.	2 INSTALLATIONS	4.2
STA. 666+00	RT.	1 INSTALLATION	2.1
STA. 667+50	RT.	1 INSTALLATION	2.1
STA. 667+75	LT.	1 INSTALLATION	2.1
STA. 670+00	LT. & RT.	2 INSTALLATIONS	4.2
STA. 670+85	LT. & RT.	2 INSTALLATIONS	4.2
STA. 675+00	LT.	1 INSTALLATION	2.1

SEDIMENT BASIN (E-14)			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 646+45	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 651+00	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 654+15	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 660+55	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 661+15	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 670+65	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 670+75	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.



SILT FENCE (E-11)			
STA. 647+00		LT.	92 LIN. FT.
STA. 647+00		RT.	110 LIN. FT.
STA. 652+90		LT.	80 LIN. FT.
STA. 652+90		RT.	125 LIN. FT.
STA. 654+85		LT.	125 LIN. FT.
STA. 653+00 - STA.	654+85	RT.	230 LIN. FT.
STA. 661+38		LT.	287 LIN. FT.
STA. 661+38		RT.	102 LIN. FT.
STA. 671+30		LT.	104 LIN. FT.
STA. 671+12 - STA.	672+80	RT.	200 LIN. FT.

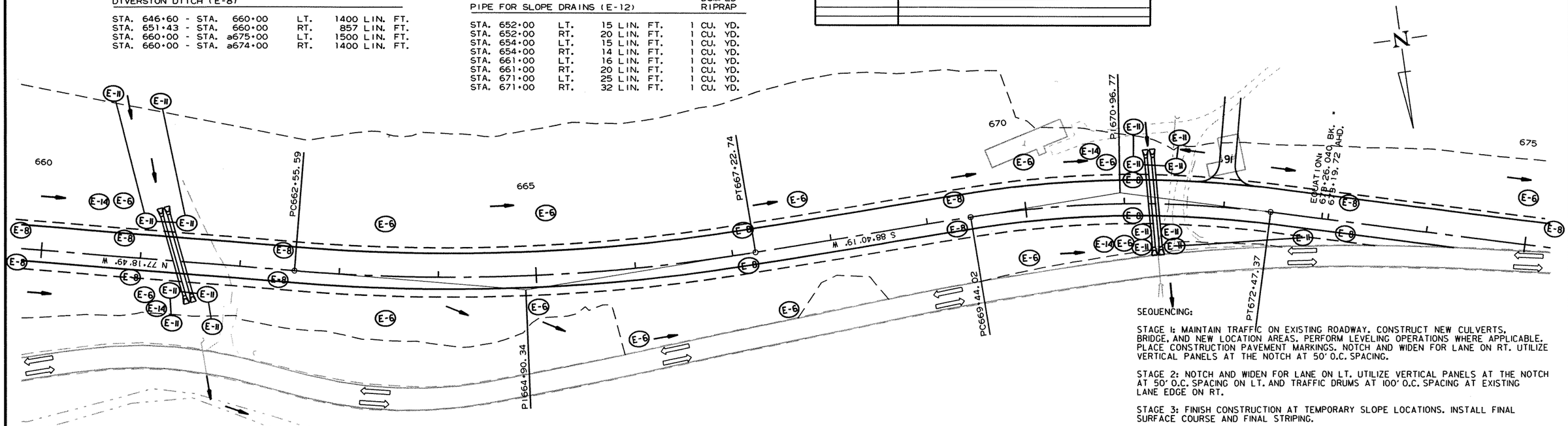
STA. 654+90 INSTALL
30" X 56' TEMPORARY PIPE CULVERT

REVISION BOX

DATE	REVISION

DIVERSION DITCH (E-8)			
STA. 646+60 - STA.	660+00	LT.	1400 LIN. FT.
STA. 651+43 - STA.	660+00	RT.	857 LIN. FT.
STA. 660+00 - STA.	a675+00	LT.	1500 LIN. FT.
STA. 660+00 - STA.	a674+00	RT.	1400 LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)			DUMPED RIPRAP
STA. 652+00	LT.	15 LIN. FT.	1 CU. YD.
STA. 652+00	RT.	20 LIN. FT.	1 CU. YD.
STA. 654+00	LT.	15 LIN. FT.	1 CU. YD.
STA. 654+00	RT.	14 LIN. FT.	1 CU. YD.
STA. 661+00	LT.	16 LIN. FT.	1 CU. YD.
STA. 661+00	RT.	20 LIN. FT.	1 CU. YD.
STA. 671+00	LT.	25 LIN. FT.	1 CU. YD.
STA. 671+00	RT.	32 LIN. FT.	1 CU. YD.



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TEMPORARY EROSION CONTROL DETAILS STAGE 1

8-8-2011

R50116.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	17	223

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7606
MICHAEL D. PUGETT
7/2/12

DIVERSION DITCH (E-8)

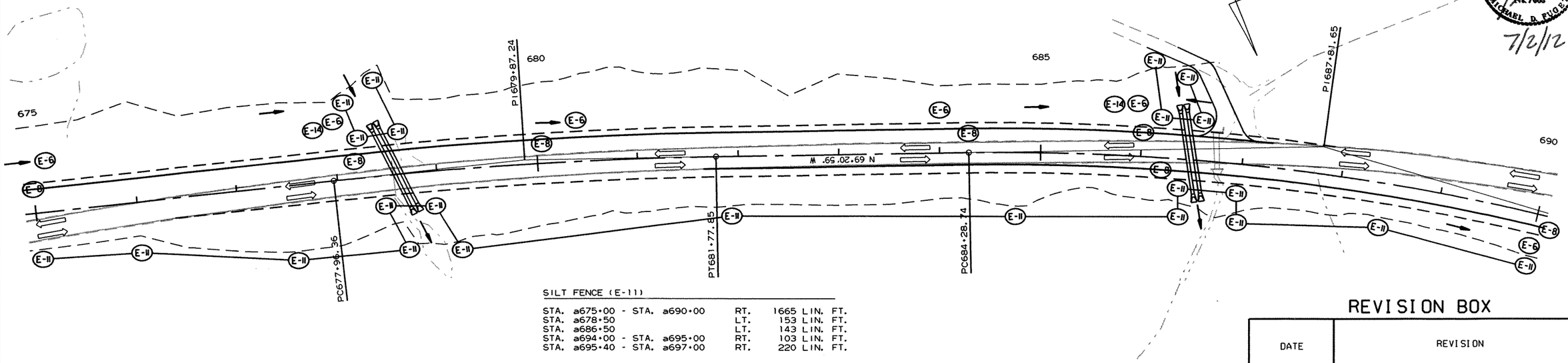
STA. a675+00 - STA. a686+00	LT.	1100	LIN. FT.
STA. a675+00 - STA. a690+00	RT.	1500	LIN. FT.
STA. a690+00 - STA. a705+00	RT.	1500	LIN. FT.
STA. a691+00 - STA. a697+00	LT.	600	LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)

				DUMPED RIPRAP
STA. a678+00	LT.	25	LIN. FT.	1 CU. YD.
STA. a678+00	RT.	50	LIN. FT.	1 CU. YD.
STA. a686+00	LT.	25	LIN. FT.	1 CU. YD.
STA. a686+00	RT.	25	LIN. FT.	1 CU. YD.
STA. a696+00	LT.	30	LIN. FT.	1 CU. YD.
STA. a696+00	RT.	15	LIN. FT.	1 CU. YD.

ROCK DITCH CHECKS (E-6)

				CU. YD.
STA. a678+00	LT.	1	INSTALLATION	2.1
STA. a680+40	LT.	1	INSTALLATION	2.1
STA. a684+00	LT.	1	INSTALLATION	2.1
STA. a686+00	LT.	1	INSTALLATION	2.1
STA. a690+00	RT.	1	INSTALLATION	2.1
STA. a692+00	RT.	1	INSTALLATION	2.1
STA. a694+00	RT.	1	INSTALLATION	2.1
STA. a696+60	RT.	1	INSTALLATION	2.1
STA. a699+75	RT.	1	INSTALLATION	2.1
STA. a705+00	RT.	1	INSTALLATION	2.1



SILT FENCE (E-11)

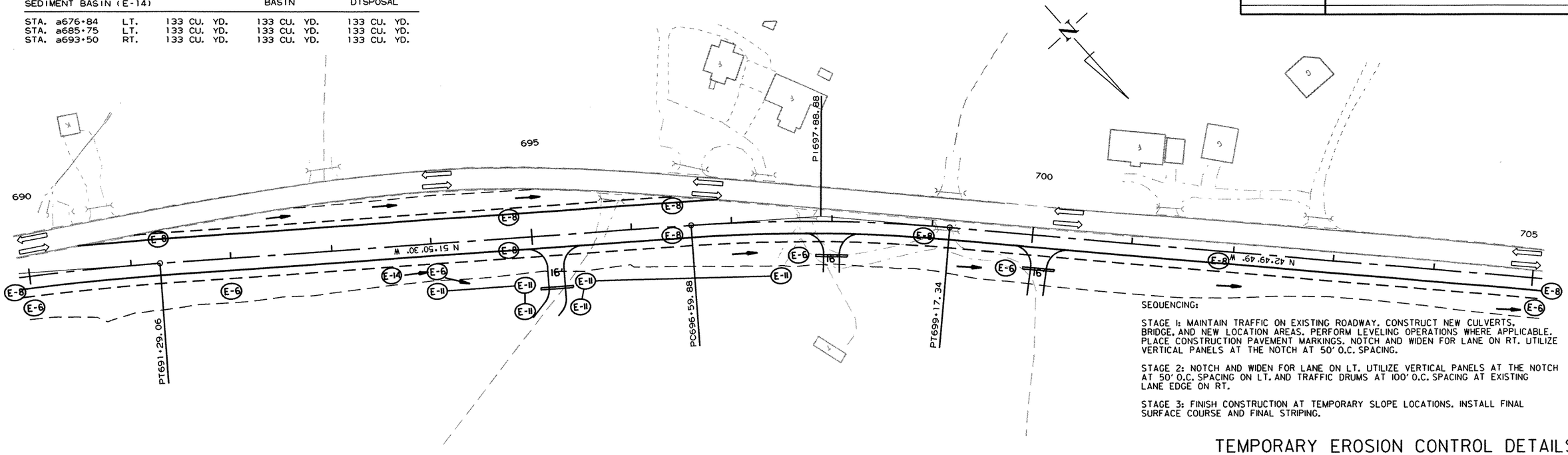
STA. a675+00 - STA. a690+00	RT.	1665	LIN. FT.
STA. a678+50	LT.	153	LIN. FT.
STA. a686+50	LT.	143	LIN. FT.
STA. a694+00 - STA. a695+00	RT.	103	LIN. FT.
STA. a695+40 - STA. a697+00	RT.	220	LIN. FT.

REVISION BOX

DATE	REVISION

SEDIMENT BASIN (E-14)

			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. a676+84	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. a685+75	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. a693+50	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

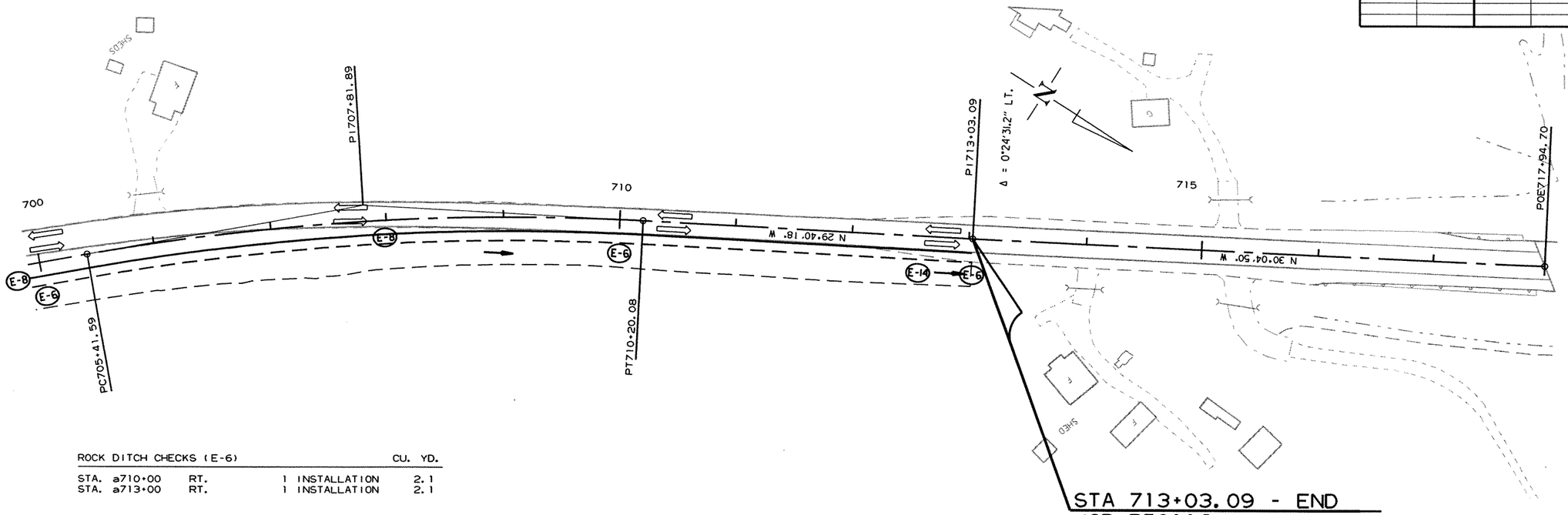
TEMPORARY EROSION CONTROL DETAILS STAGE 1

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	18	223

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12



ROCK DITCH CHECKS (E-6)			CU. YD.
STA. a710+00	RT.	1 INSTALLATION	2.1
STA. a713+00	RT.	1 INSTALLATION	2.1

SEDIMENT BASIN (E-14)			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. a712+60	RT.	133 CU. YD.	133 CU. YD.	133 CU. YD.

DIVERSION DITCH (E-8)		
STA. a700+00 - STA. a708+00	RT.	800 LIN. FT.

PIPE FOR SLOPE DRAINS (E-12)			DUMPED RIPRAP
STA. a708+00	RT.	14 LIN. FT.	1 CU. YD.

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

REVISION BOX

DATE	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 1

R50116.DGN 8-8-2011

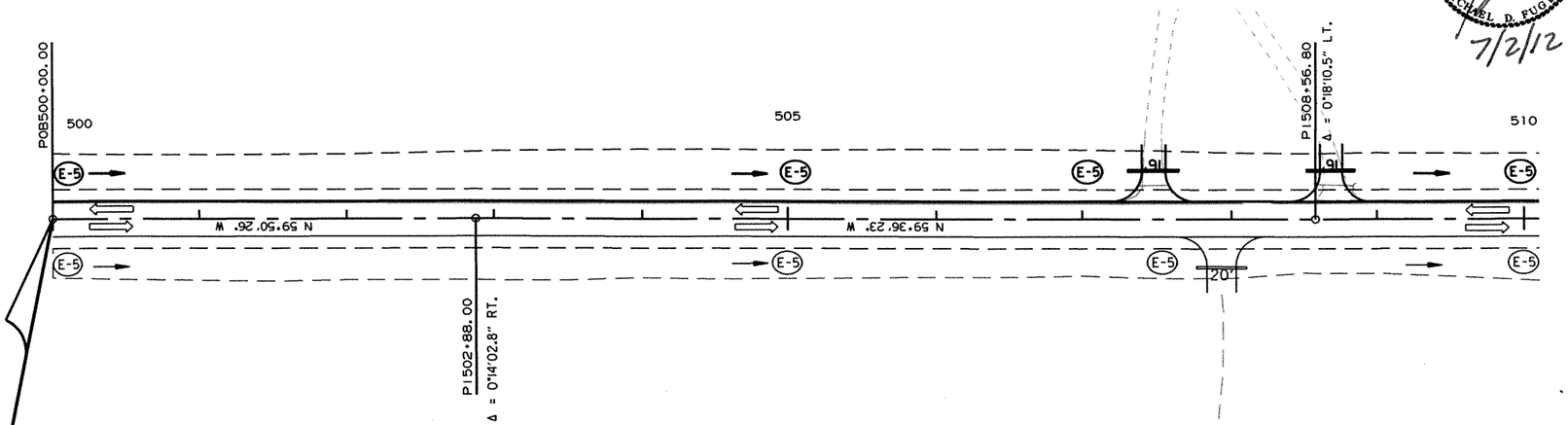
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				6	ARK.			
				JOB NO.		R50116	19	223

(2) TEMPORARY EROSION CONTROL DETAILS

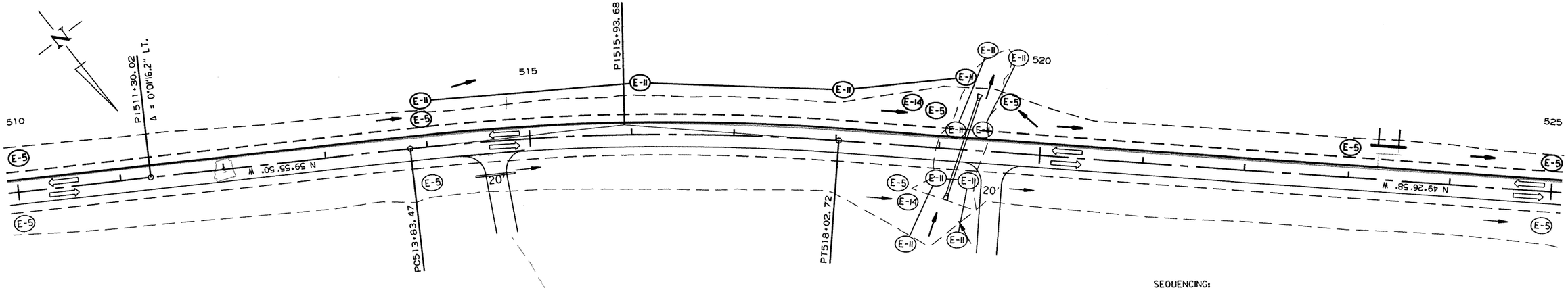
SAND BAG DITCH CHECKS (E-5)			BAG
STA. 500+00	RT.	1 INSTALLATION	RETAIN
STA. 505+00	RT.	1 INSTALLATION	RETAIN
STA. 507+50	RT.	1 INSTALLATION	RETAIN
STA. 510+00	RT.	1 INSTALLATION	RETAIN
STA. 514+00	RT.	1 INSTALLATION	RETAIN
STA. 518+50	RT.	1 INSTALLATION	RETAIN
STA. 525+00	RT.	1 INSTALLATION	RETAIN
STA. 500+00	LT.	1 INSTALLATION	20
STA. 505+00	LT.	1 INSTALLATION	20
STA. 507+00	LT.	1 INSTALLATION	20
STA. 510+00	LT.	1 INSTALLATION	20
STA. 514+00	LT.	1 INSTALLATION	20
STA. 519+00	LT.	1 INSTALLATION	20
STA. 519+75	LT.	1 INSTALLATION	20
STA. 523+00	LT.	1 INSTALLATION	20
STA. 525+00	LT.	1 INSTALLATION	20

SILT FENCE (E-11)		
STA. 519+23	LT.	RETAIN
STA. 519+23	RT.	RETAIN
STA. 514+00 - STA. 519+25	LT.	122 LIN. FT.

SEDIMENT BASIN (E-14)			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 518+75	RT.	RETAIN	RETAIN	RETAIN
STA. 518+75	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.



STA 500+00.00 - BEGIN
JOB R50116
L.M. 8.10



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
14605
MICHAEL D. FUGETT
7/2/12

REVISION BOX

DATE	REVISION

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

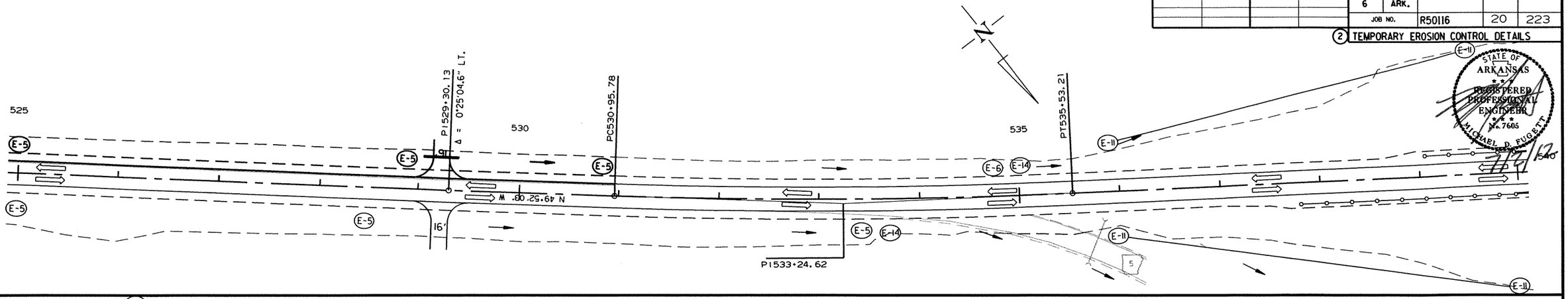
STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

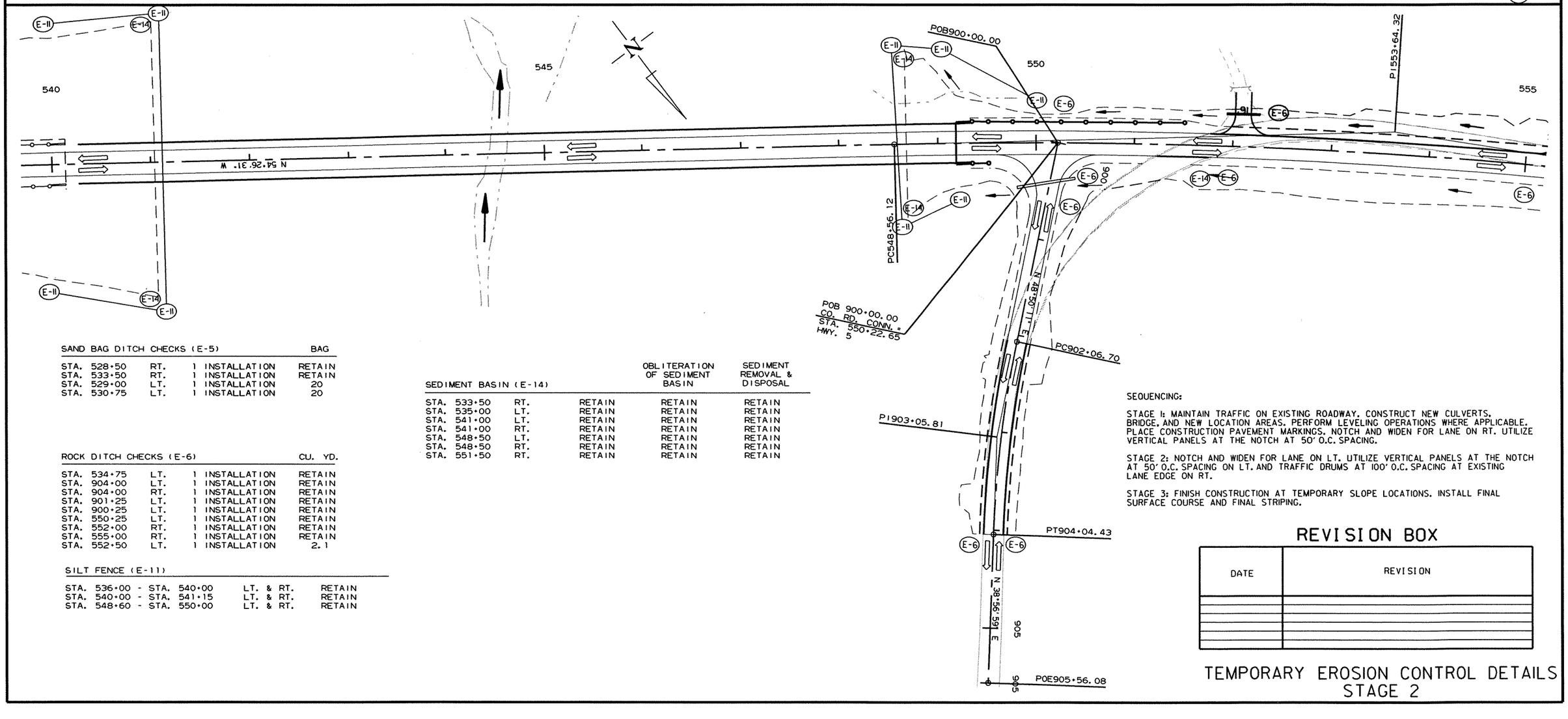
TEMPORARY EROSION CONTROL DETAILS STAGE 2

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	20	223

(2) TEMPORARY EROSION CONTROL DETAILS





SAND BAG DITCH CHECKS (E-5)

			BAG
STA. 528+50	RT.	1 INSTALLATION	RETAIN
STA. 533+50	RT.	1 INSTALLATION	RETAIN
STA. 529+00	LT.	1 INSTALLATION	20
STA. 530+75	LT.	1 INSTALLATION	20

ROCK DITCH CHECKS (E-6)

			CU. YD.
STA. 534+75	LT.	1 INSTALLATION	RETAIN
STA. 904+00	LT.	1 INSTALLATION	RETAIN
STA. 904+00	RT.	1 INSTALLATION	RETAIN
STA. 901+25	LT.	1 INSTALLATION	RETAIN
STA. 900+25	LT.	1 INSTALLATION	RETAIN
STA. 550+25	LT.	1 INSTALLATION	RETAIN
STA. 552+00	RT.	1 INSTALLATION	RETAIN
STA. 555+00	RT.	1 INSTALLATION	RETAIN
STA. 552+50	LT.	1 INSTALLATION	2.1

SILT FENCE (E-11)

STA. 536+00 - STA. 540+00	LT. & RT.	RETAIN
STA. 540+00 - STA. 541+15	LT. & RT.	RETAIN
STA. 548+60 - STA. 550+00	LT. & RT.	RETAIN

SEDIMENT BASIN (E-14)

			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 533+50	RT.	RETAIN	RETAIN	RETAIN
STA. 535+00	LT.	RETAIN	RETAIN	RETAIN
STA. 541+00	LT.	RETAIN	RETAIN	RETAIN
STA. 541+00	RT.	RETAIN	RETAIN	RETAIN
STA. 548+50	LT.	RETAIN	RETAIN	RETAIN
STA. 548+50	RT.	RETAIN	RETAIN	RETAIN
STA. 551+50	RT.	RETAIN	RETAIN	RETAIN

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
11/7/12

REVISION BOX

DATE	REVISION

TEMPORARY EROSION CONTROL DETAILS STAGE 2

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	21	223

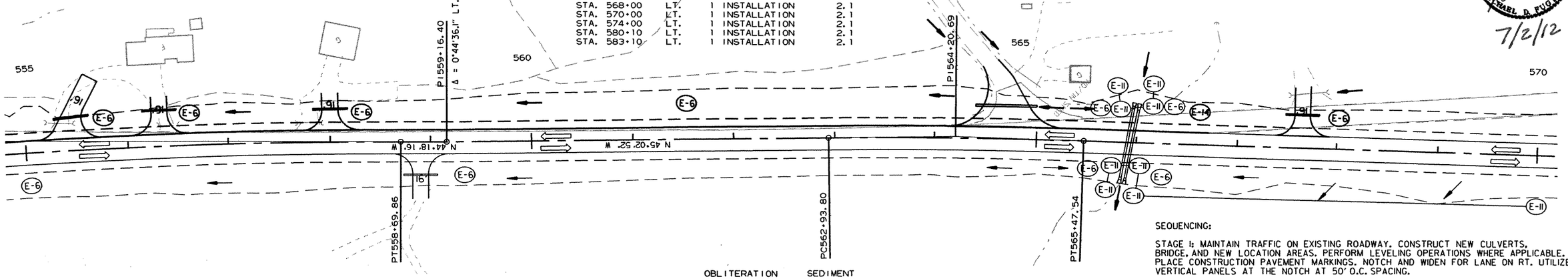
(2) TEMPORARY EROSION CONTROL DETAILS

SILT FENCE (E-11)

STA. 565+75 - STA. 566+25	LT.	RETAIN
STA. 565+75 - STA. 571+00	RT.	RETAIN
STA. 583+00 - STA. 585+00	RT.	RETAIN

ROCK DITCH CHECKS (E-6)

				CU. YD.
STA. 559+35	RT.	1	INSTALLATION	RETAIN
STA. 565+50	RT.	1	INSTALLATION	RETAIN
STA. 565+70	LT.	1	INSTALLATION	RETAIN
STA. 566+25	RT.	1	INSTALLATION	RETAIN
STA. 566+40	LT.	1	INSTALLATION	RETAIN
STA. 571+80	RT.	1	INSTALLATION	RETAIN
STA. 575+05	RT.	1	INSTALLATION	RETAIN
STA. 580+15	RT.	1	INSTALLATION	RETAIN
STA. 581+50	RT.	1	INSTALLATION	RETAIN
STA. 583+00	RT.	1	INSTALLATION	RETAIN
STA. 585+00	RT.	1	INSTALLATION	RETAIN
STA. 555+75	RT.	1	INSTALLATION	2.1
STA. 556+70	LT.	1	INSTALLATION	2.1
STA. 558+50	LT.	1	INSTALLATION	2.1
STA. 561+50	LT.	1	INSTALLATION	2.1
STA. 568+00	LT.	1	INSTALLATION	2.1
STA. 570+00	LT.	1	INSTALLATION	2.1
STA. 574+00	LT.	1	INSTALLATION	2.1
STA. 580+10	LT.	1	INSTALLATION	2.1
STA. 583+10	LT.	1	INSTALLATION	2.1



SEDIMENT BASIN (E-14)

			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 566+50	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

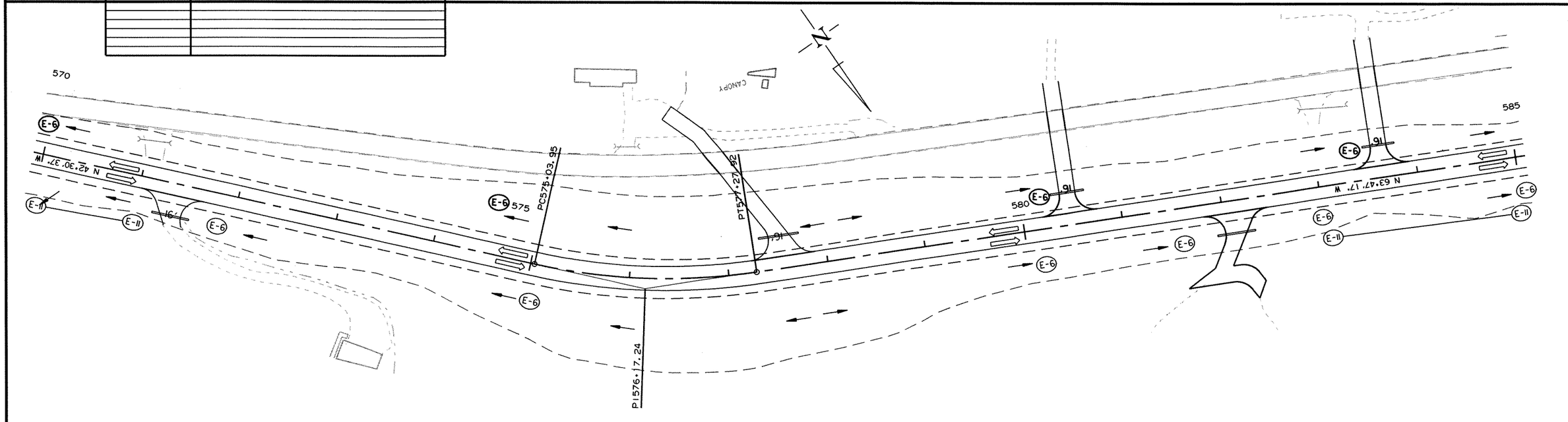
STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. RUGETT
7/2/12

REVISION BOX

DATE	REVISION



TEMPORARY EROSION CONTROL DETAILS
STAGE 2

R50116.DGN 8-8-2011

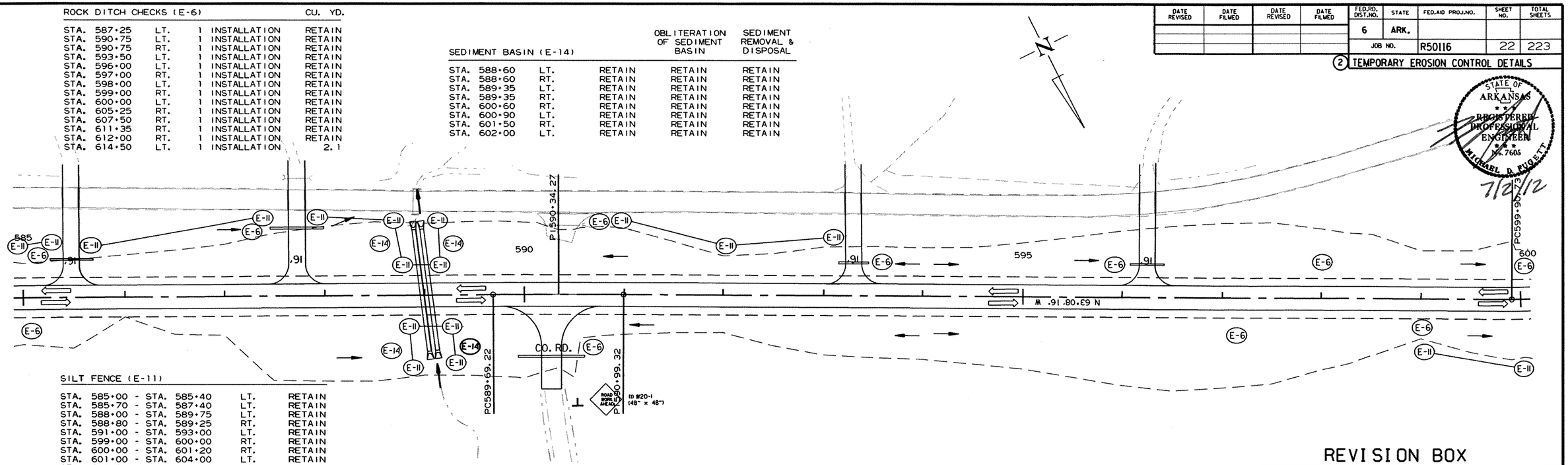
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				6	ARK.			
				JOB NO.		R50116	22	223

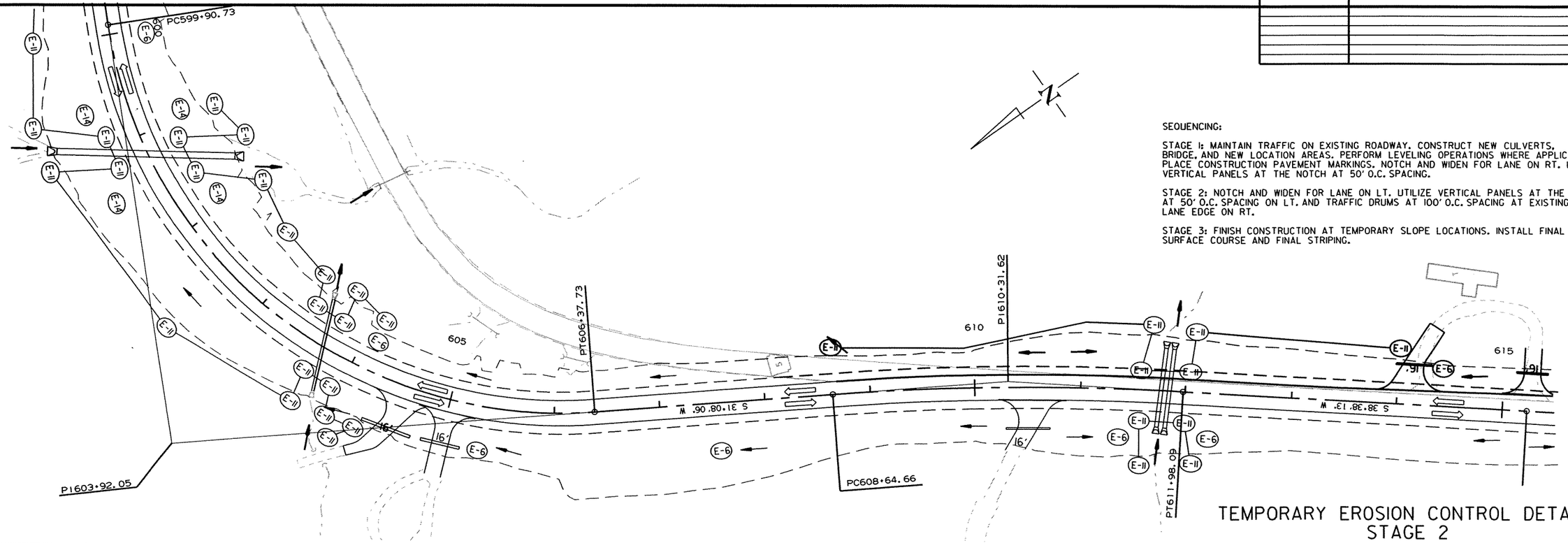
(2) TEMPORARY EROSION CONTROL DETAILS

ROCK DITCH CHECKS (E-6)			CU. YD.
STA. 587+25	LT.	1 INSTALLATION	RETAIN
STA. 590+75	LT.	1 INSTALLATION	RETAIN
STA. 590+75	RT.	1 INSTALLATION	RETAIN
STA. 593+50	LT.	1 INSTALLATION	RETAIN
STA. 596+00	LT.	1 INSTALLATION	RETAIN
STA. 597+00	RT.	1 INSTALLATION	RETAIN
STA. 598+00	LT.	1 INSTALLATION	RETAIN
STA. 599+00	RT.	1 INSTALLATION	RETAIN
STA. 600+00	LT.	1 INSTALLATION	RETAIN
STA. 605+25	RT.	1 INSTALLATION	RETAIN
STA. 607+50	RT.	1 INSTALLATION	RETAIN
STA. 611+35	RT.	1 INSTALLATION	RETAIN
STA. 612+00	RT.	1 INSTALLATION	RETAIN
STA. 614+50	LT.	1 INSTALLATION	2.1

SEDIMENT BASIN (E-14)			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 588+60	LT.	RETAIN	RETAIN	RETAIN
STA. 588+60	RT.	RETAIN	RETAIN	RETAIN
STA. 589+35	LT.	RETAIN	RETAIN	RETAIN
STA. 589+35	RT.	RETAIN	RETAIN	RETAIN
STA. 600+60	RT.	RETAIN	RETAIN	RETAIN
STA. 600+90	LT.	RETAIN	RETAIN	RETAIN
STA. 601+50	RT.	RETAIN	RETAIN	RETAIN
STA. 602+00	LT.	RETAIN	RETAIN	RETAIN

SILT FENCE (E-11)			
STA. 585+00	- STA. 585+40	LT.	RETAIN
STA. 585+70	- STA. 587+40	LT.	RETAIN
STA. 588+00	- STA. 589+75	LT.	RETAIN
STA. 588+80	- STA. 589+25	RT.	RETAIN
STA. 591+00	- STA. 593+00	LT.	RETAIN
STA. 599+00	- STA. 600+00	RT.	RETAIN
STA. 600+00	- STA. 601+20	RT.	RETAIN
STA. 601+00	- STA. 604+00	LT.	RETAIN
STA. 601+20	- STA. 604+30	RT.	RETAIN
STA. 611+60	- STA. 612+10	LT.	RETAIN
STA. 611+60	- STA. 612+10	RT.	RETAIN
STA. 608+50	- STA. 611+60	LT.	310 LIN. FT.
STA. 612+10	- STA. 614+00	LT.	190 LIN. FT.





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12

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DATE	REVISION

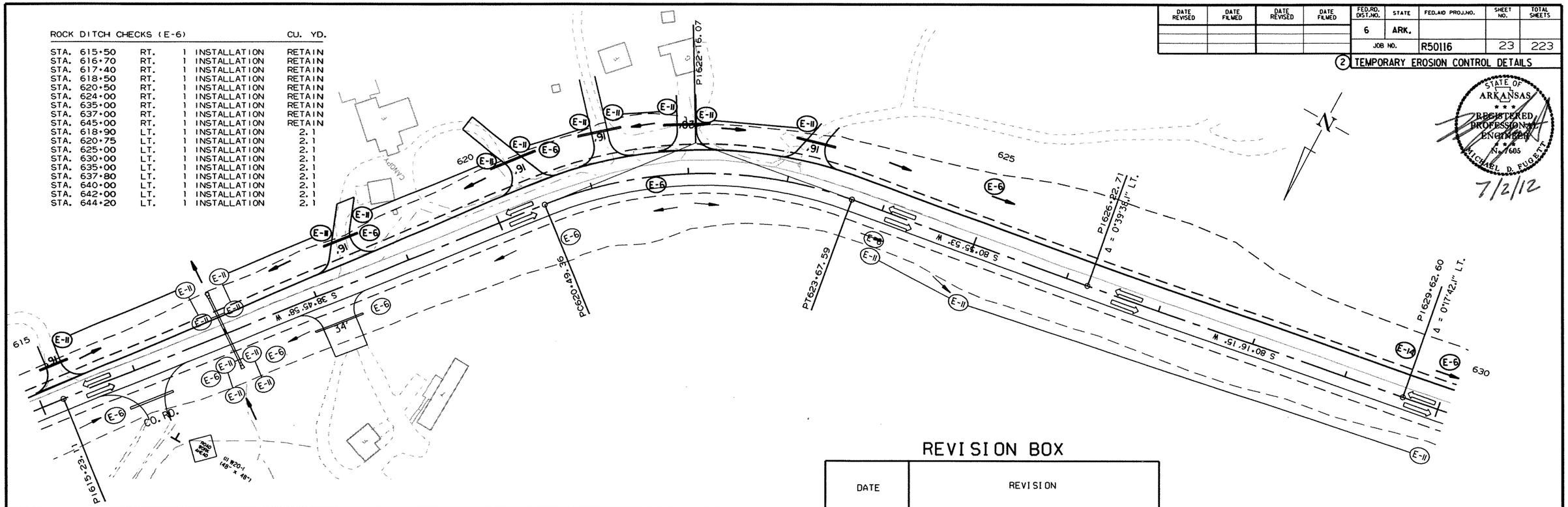
TEMPORARY EROSION CONTROL DETAILS
STAGE 2

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	23	223

(2) TEMPORARY EROSION CONTROL DETAILS

ROCK DITCH CHECKS (E-6)				CU. YD.
STA. 615+50	RT.	1	INSTALLATION	RETAIN
STA. 616+70	RT.	1	INSTALLATION	RETAIN
STA. 617+40	RT.	1	INSTALLATION	RETAIN
STA. 618+50	RT.	1	INSTALLATION	RETAIN
STA. 620+50	RT.	1	INSTALLATION	RETAIN
STA. 624+00	RT.	1	INSTALLATION	RETAIN
STA. 635+00	RT.	1	INSTALLATION	RETAIN
STA. 637+00	RT.	1	INSTALLATION	RETAIN
STA. 645+00	RT.	1	INSTALLATION	RETAIN
STA. 618+90	LT.	1	INSTALLATION	2.1
STA. 620+75	LT.	1	INSTALLATION	2.1
STA. 625+00	LT.	1	INSTALLATION	2.1
STA. 630+00	LT.	1	INSTALLATION	2.1
STA. 635+00	LT.	1	INSTALLATION	2.1
STA. 637+80	LT.	1	INSTALLATION	2.1
STA. 640+00	LT.	1	INSTALLATION	2.1
STA. 642+00	LT.	1	INSTALLATION	2.1
STA. 644+20	LT.	1	INSTALLATION	2.1

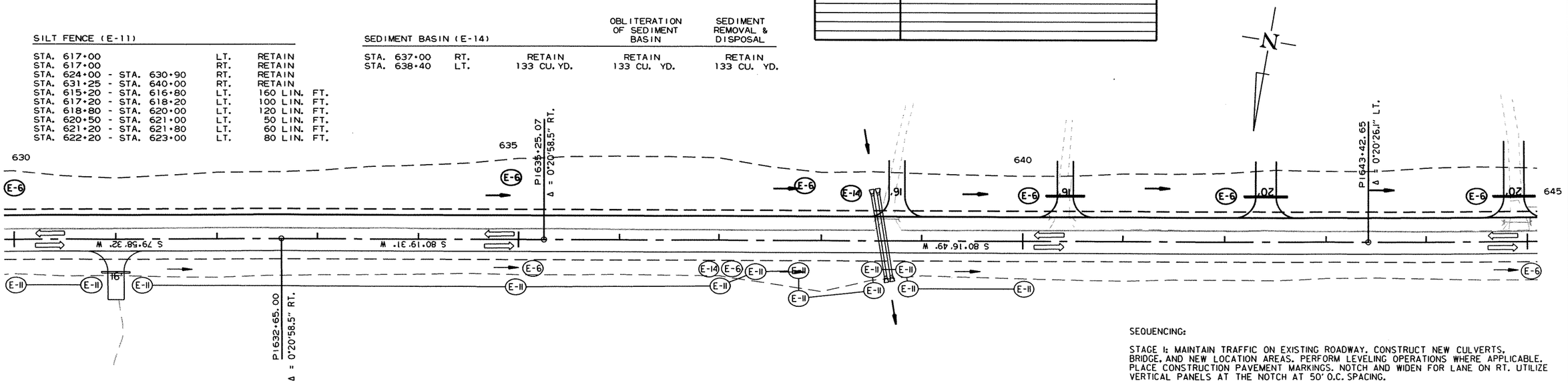


REVISION BOX

DATE	REVISION

SILT FENCE (E-11)			
STA. 617+00	LT.	RETAIN	
STA. 617+00	RT.	RETAIN	
STA. 624+00 - STA. 630+90	RT.	RETAIN	
STA. 631+25 - STA. 640+00	RT.	RETAIN	
STA. 615+20 - STA. 616+80	LT.	160	LIN. FT.
STA. 617+20 - STA. 618+20	LT.	100	LIN. FT.
STA. 618+80 - STA. 620+00	LT.	120	LIN. FT.
STA. 620+50 - STA. 621+00	LT.	50	LIN. FT.
STA. 621+20 - STA. 621+80	LT.	60	LIN. FT.
STA. 622+20 - STA. 623+00	LT.	80	LIN. FT.

SEDIMENT BASIN (E-14)			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 637+00	RT.	RETAIN	RETAIN	RETAIN
STA. 638+40	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TEMPORARY EROSION CONTROL DETAILS STAGE 2

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	24	223

(2) TEMPORARY EROSION CONTROL DETAILS

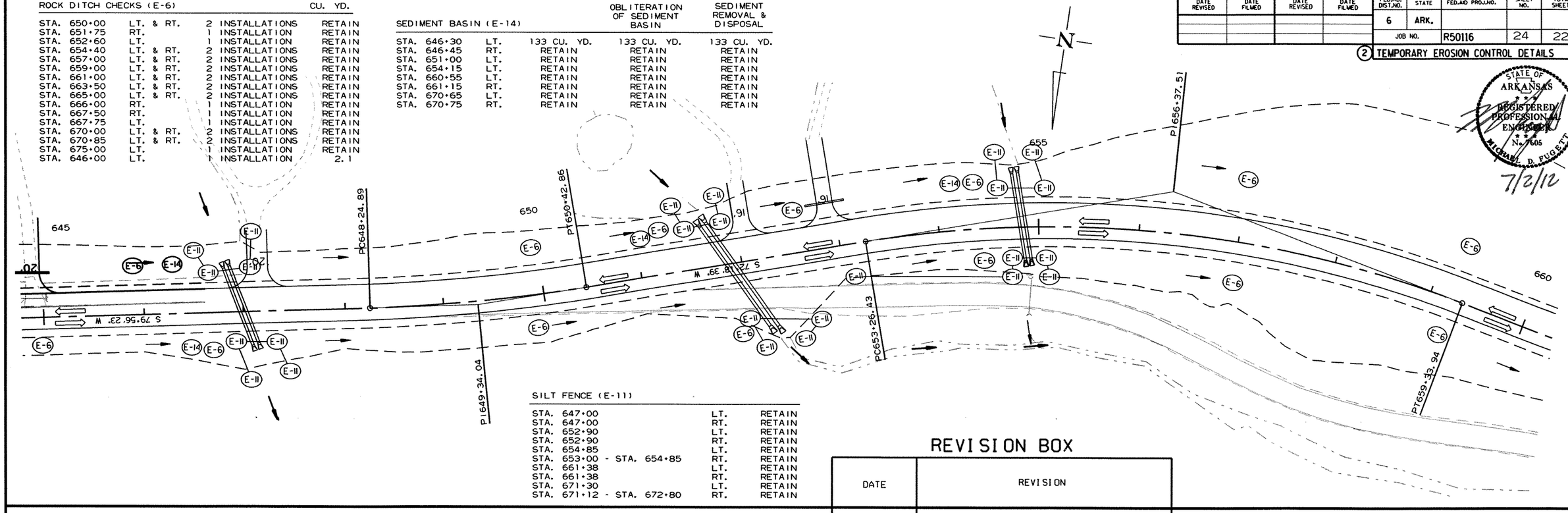
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGSLEY
7/2/12

ROCK DITCH CHECKS (E-6)

				CU. YD.
STA. 650+00	LT. & RT.	2	INSTALLATIONS	RETAIN
STA. 651+75	RT.	1	INSTALLATION	RETAIN
STA. 652+60	LT.	1	INSTALLATION	RETAIN
STA. 654+40	LT. & RT.	2	INSTALLATIONS	RETAIN
STA. 657+00	LT. & RT.	2	INSTALLATIONS	RETAIN
STA. 659+00	LT. & RT.	2	INSTALLATIONS	RETAIN
STA. 661+00	LT. & RT.	2	INSTALLATIONS	RETAIN
STA. 663+50	LT. & RT.	2	INSTALLATIONS	RETAIN
STA. 665+00	LT. & RT.	2	INSTALLATIONS	RETAIN
STA. 666+00	RT.	1	INSTALLATION	RETAIN
STA. 667+50	RT.	1	INSTALLATION	RETAIN
STA. 667+75	LT.	1	INSTALLATION	RETAIN
STA. 670+00	LT. & RT.	2	INSTALLATIONS	RETAIN
STA. 670+85	LT. & RT.	2	INSTALLATIONS	RETAIN
STA. 675+00	LT.	1	INSTALLATION	RETAIN
STA. 646+00	LT.	1	INSTALLATION	2.1

SEDIMENT BASIN (E-14)

			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. 646+30	LT.	133 CU. YD.	133 CU. YD.	133 CU. YD.
STA. 646+45	RT.	RETAIN	RETAIN	RETAIN
STA. 651+00	LT.	RETAIN	RETAIN	RETAIN
STA. 654+15	LT.	RETAIN	RETAIN	RETAIN
STA. 660+55	LT.	RETAIN	RETAIN	RETAIN
STA. 661+15	RT.	RETAIN	RETAIN	RETAIN
STA. 670+65	LT.	RETAIN	RETAIN	RETAIN
STA. 670+75	RT.	RETAIN	RETAIN	RETAIN

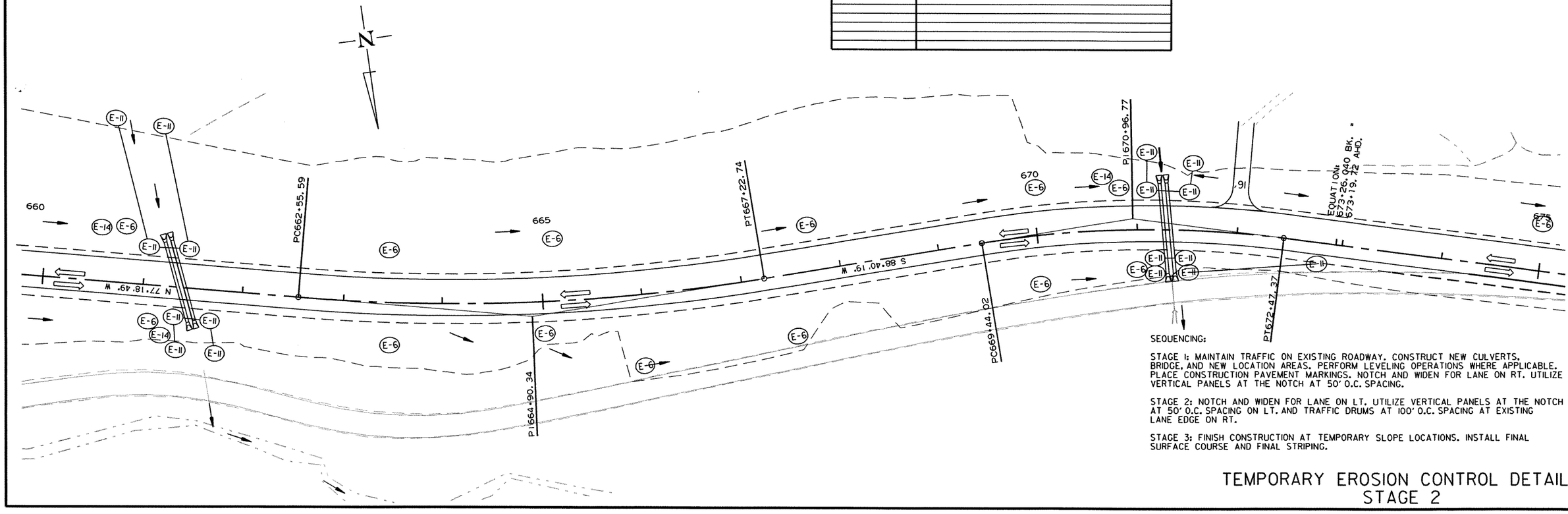


SILT FENCE (E-11)

STA. 647+00	LT.	RETAIN
STA. 647+00	RT.	RETAIN
STA. 652+90	LT.	RETAIN
STA. 652+90	RT.	RETAIN
STA. 654+85	LT.	RETAIN
STA. 653+00 - STA. 654+85	RT.	RETAIN
STA. 661+38	LT.	RETAIN
STA. 661+38	RT.	RETAIN
STA. 671+30	LT.	RETAIN
STA. 671+12 - STA. 672+80	RT.	RETAIN

REVISION BOX

DATE	REVISION



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TEMPORARY EROSION CONTROL DETAILS STAGE 2

R50116.DGN 8-8-2011

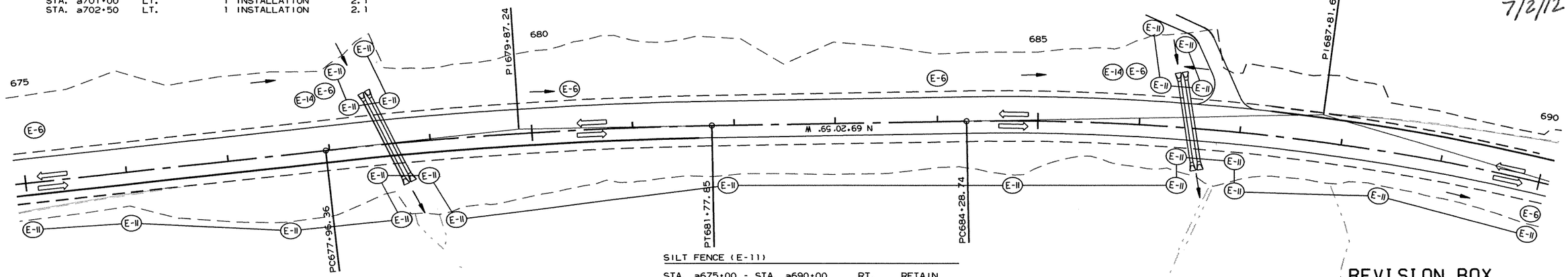
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	25	223

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/2/12

ROCK DITCH CHECKS (E-6)

				CU. YD.
STA. a678+00	LT.	1	INSTALLATION	RETAIN
STA. a680+40	LT.	1	INSTALLATION	RETAIN
STA. a684+00	LT.	1	INSTALLATION	RETAIN
STA. a686+00	LT.	1	INSTALLATION	RETAIN
STA. a690+00	RT.	1	INSTALLATION	RETAIN
STA. a692+00	RT.	1	INSTALLATION	RETAIN
STA. a694+00	RT.	1	INSTALLATION	RETAIN
STA. a696+60	RT.	1	INSTALLATION	RETAIN
STA. a699+75	RT.	1	INSTALLATION	RETAIN
STA. a705+00	RT.	1	INSTALLATION	RETAIN
STA. a690+50	LT.	1	INSTALLATION	2.1
STA. a692+50	LT.	1	INSTALLATION	2.1
STA. a696+50	LT.	1	INSTALLATION	2.1
STA. a698+40	LT.	1	INSTALLATION	2.1
STA. a701+00	LT.	1	INSTALLATION	2.1
STA. a702+50	LT.	1	INSTALLATION	2.1



SILT FENCE (E-11)

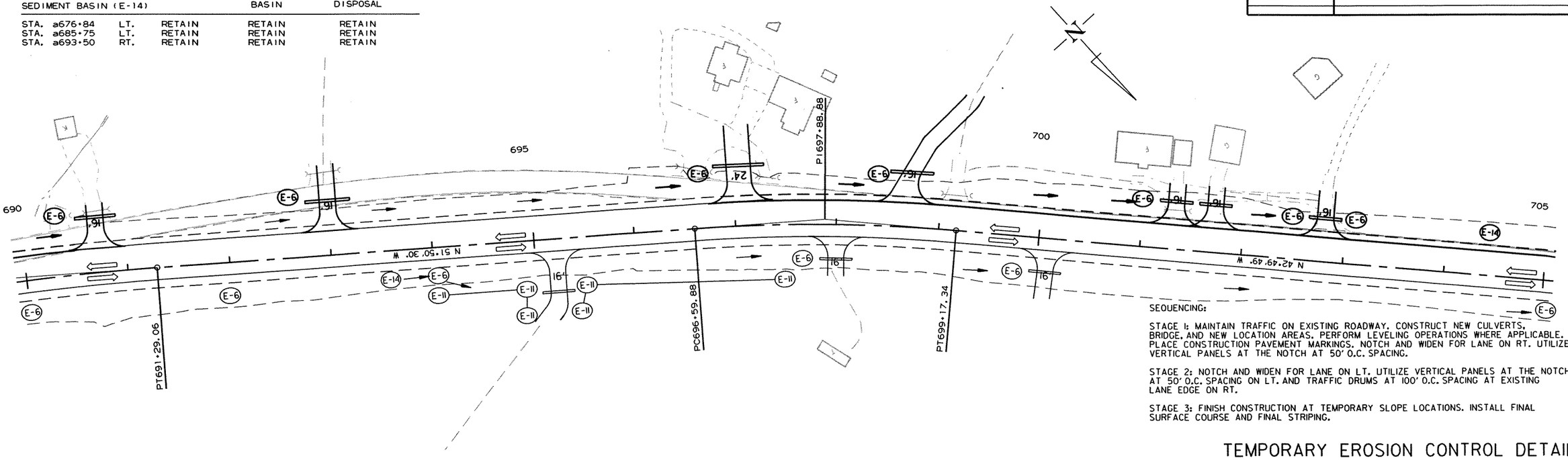
STA. a675+00 - STA. a690+00	RT.	RETAIN
STA. a678+50	LT.	RETAIN
STA. a686+50	LT.	RETAIN
STA. a694+00 - STA. a695+00	RT.	RETAIN
STA. a695+40 - STA. a697+00	RT.	RETAIN

REVISION BOX

DATE	REVISION

SEDIMENT BASIN (E-14)

			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. a676+84	LT.	RETAIN	RETAIN	RETAIN
STA. a685+75	LT.	RETAIN	RETAIN	RETAIN
STA. a693+50	RT.	RETAIN	RETAIN	RETAIN



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

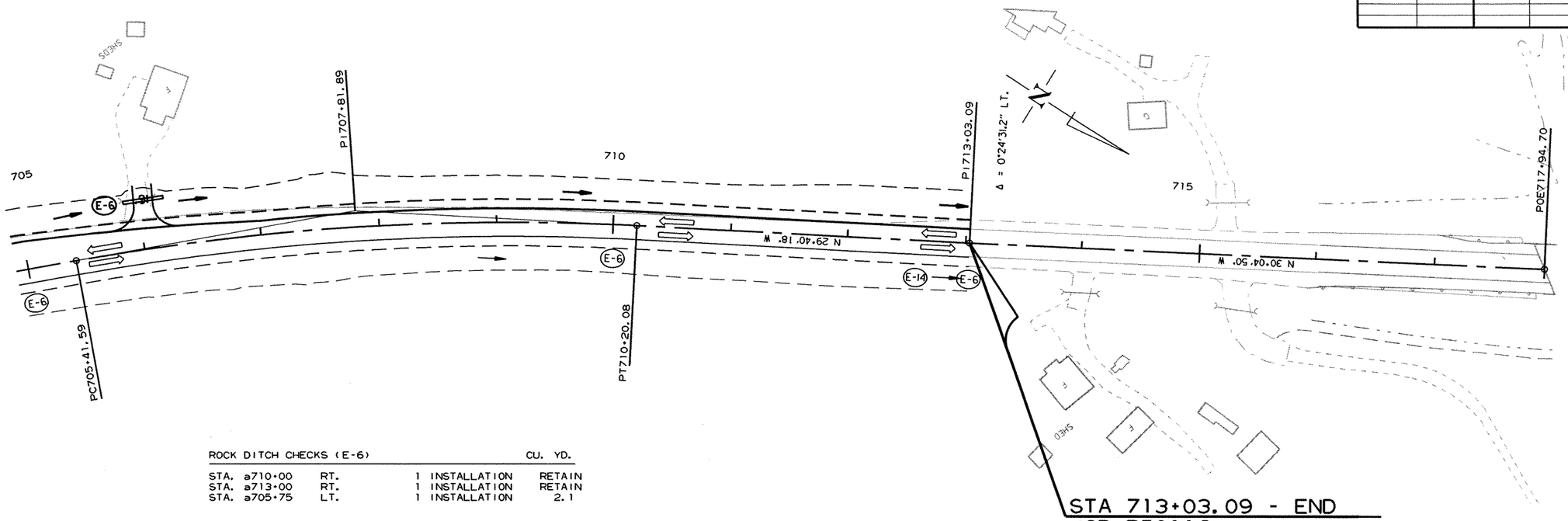
TEMPORARY EROSION CONTROL DETAILS STAGE 2

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	26	223

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. RUGETT
7/2/12



ROCK DITCH CHECKS (E-6)			CU. YD.
STA. a710+00	RT.	1 INSTALLATION	RETAIN
STA. a713+00	RT.	1 INSTALLATION	RETAIN
STA. a705+75	LT.	1 INSTALLATION	2.1

SEDIMENT BASIN (E-14)			OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
STA. a712+60	RT.	RETAIN	RETAIN	RETAIN

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

REVISION BOX

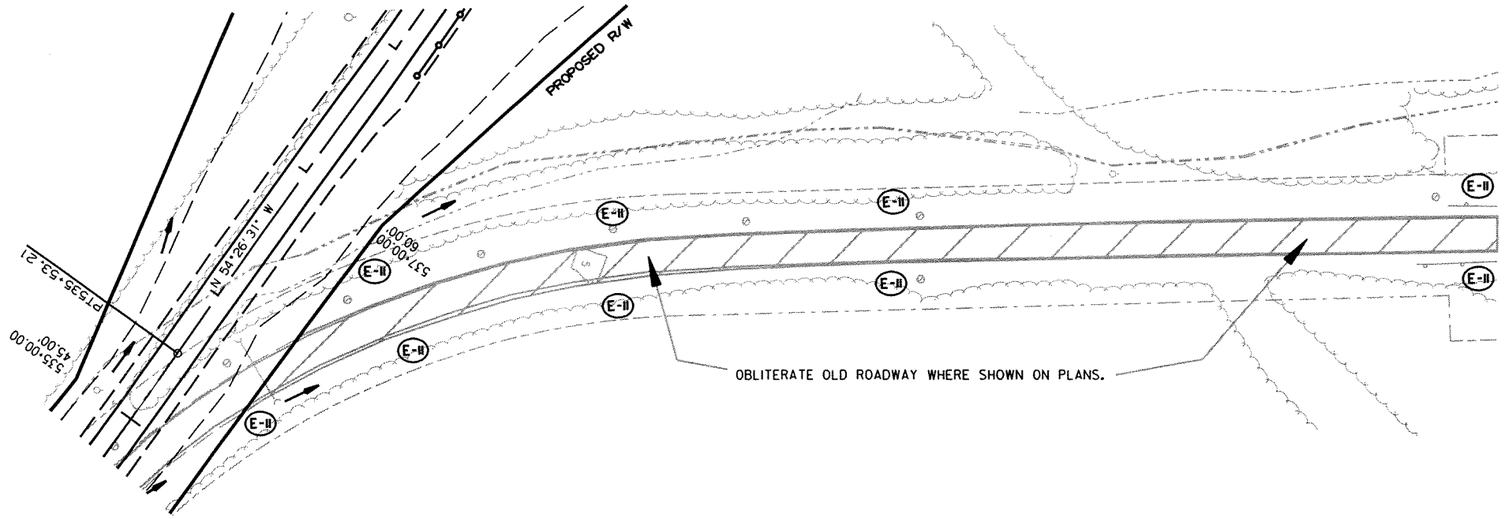
DATE	REVISION

TEMPORARY EROSION CONTROL DETAILS
STAGE 2

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-29-202				6	ARK.			
				JOB NO.		R50116	26A	223

(2) TEMPORARY EROSION CONTROL DETAILS



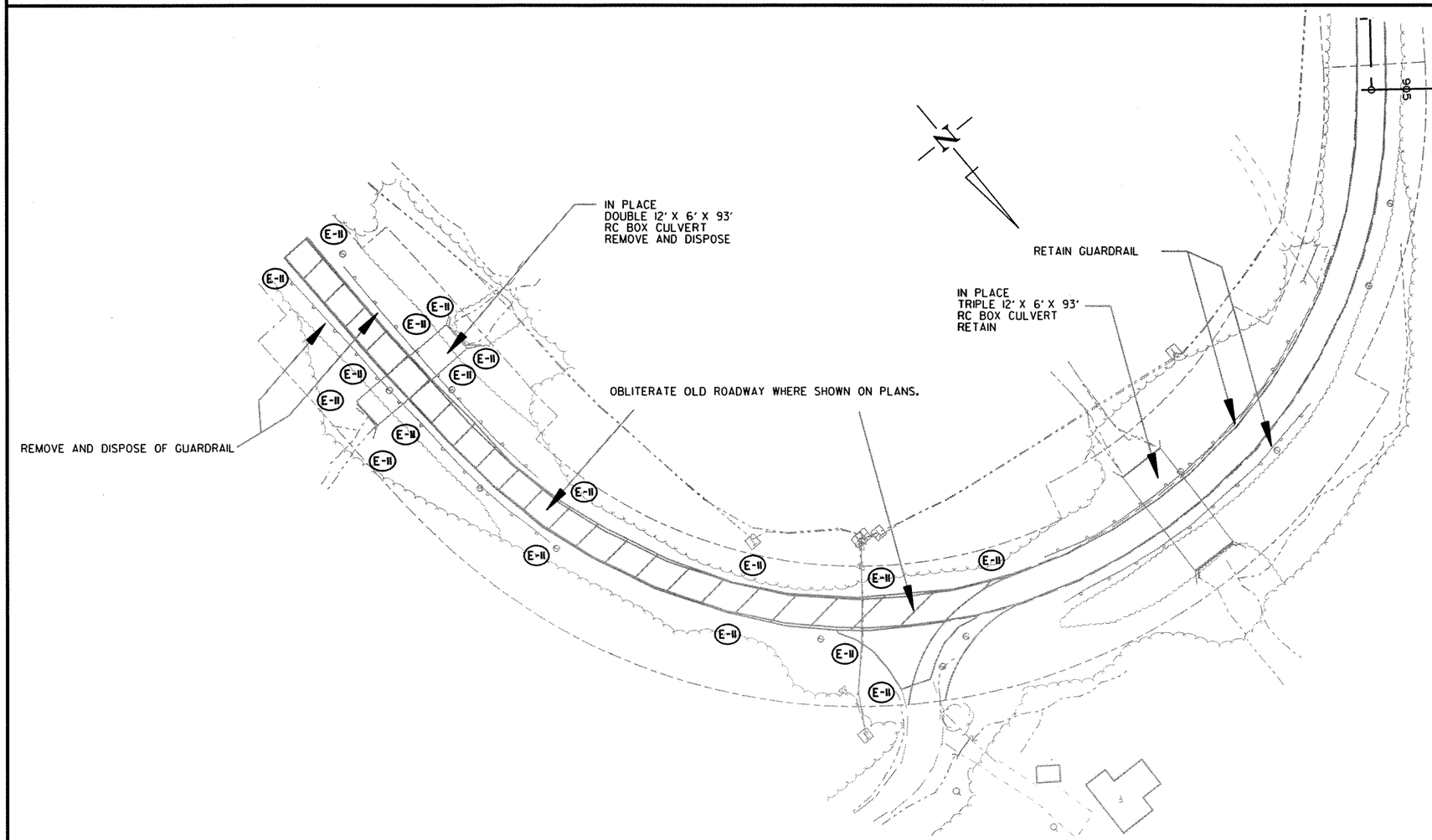
SILT FENCE (E-11)

STA. 535+00 - STA. 541+50	RT.	817 LIN. FT.
STA. 537+00 - STA. 541+50	LT.	720 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
RICHARD D. FUGETT
8/31/12

REVISION BOX

DATE	REVISION



SILT FENCE (E-11)

STA. 541+50 - STA. 545+50	RT.	600 LIN. FT.
STA. 541+50 - STA. 545+50	LT.	568 LIN. FT.

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING. OBLITERATE OLD ROADWAY WHERE SHOWN ON PLANS.

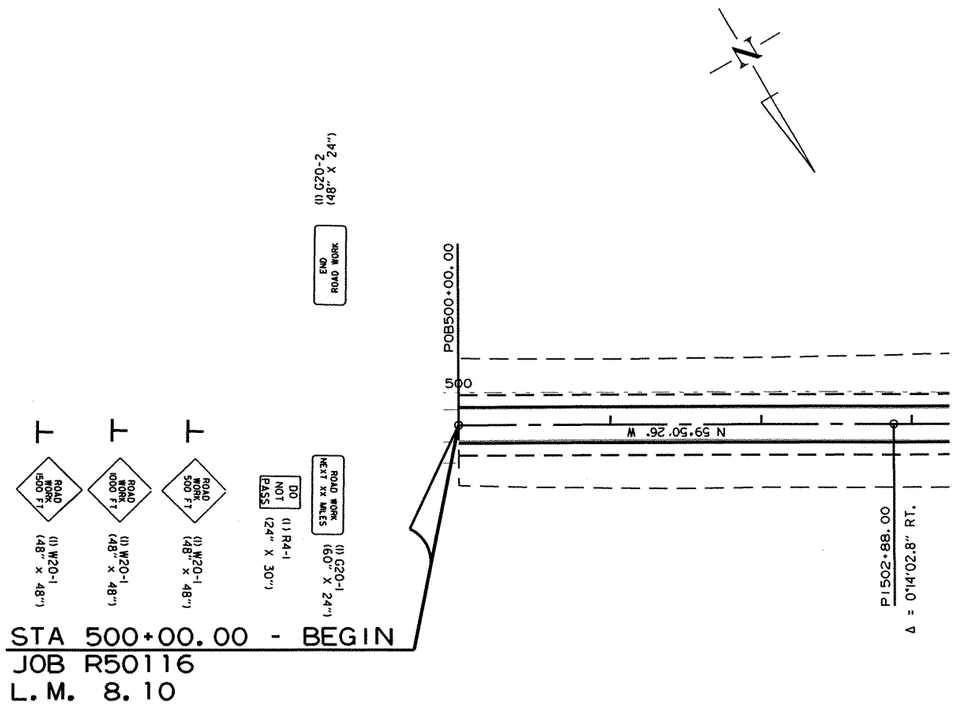
R50116.DGN 8-29-2012

TEMPORARY EROSION CONTROL DETAILS STAGE 3

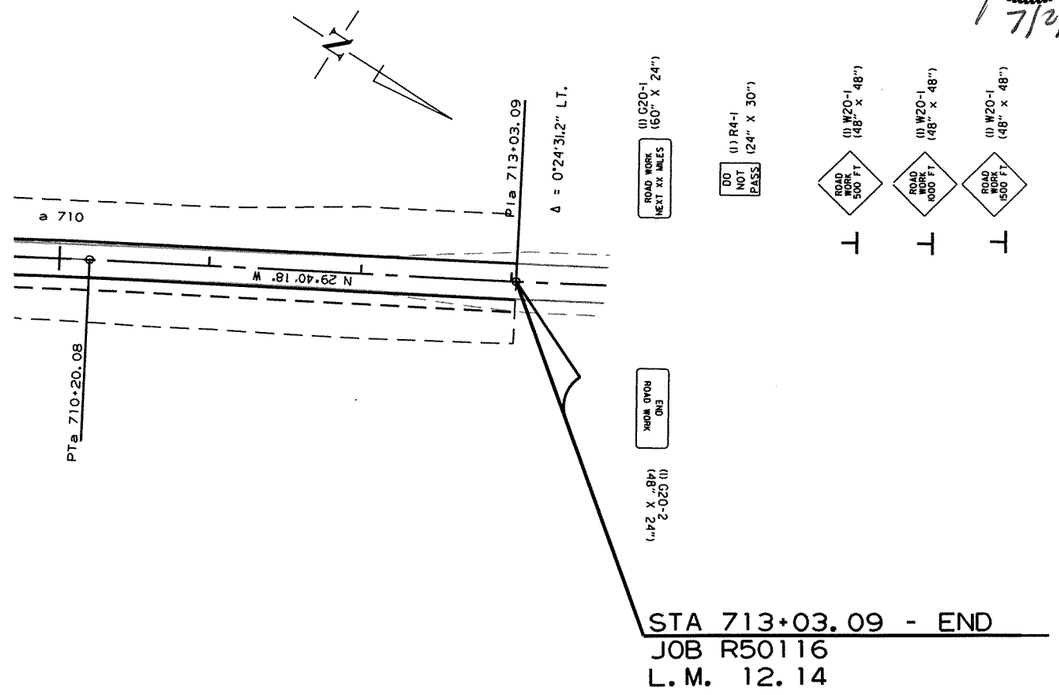
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	27	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12



STA 500+00.00 - BEGIN
JOB R50116
L.M. 8.10



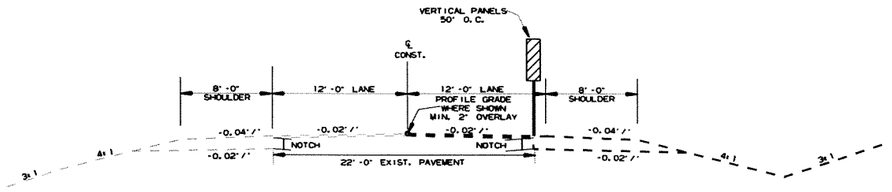
STA 713+03.09 - END
JOB R50116
L.M. 12.14

R50116.DGN 8-8-2011

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS

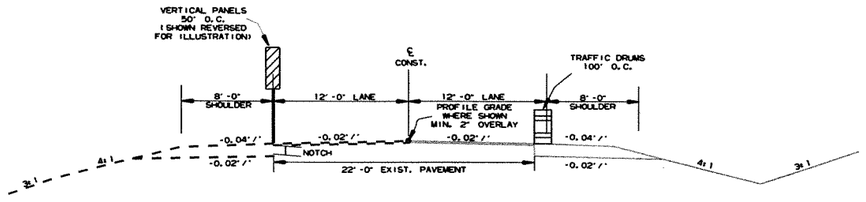
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	28	223

(2) MAINTENANCE OF TRAFFIC DETAILS



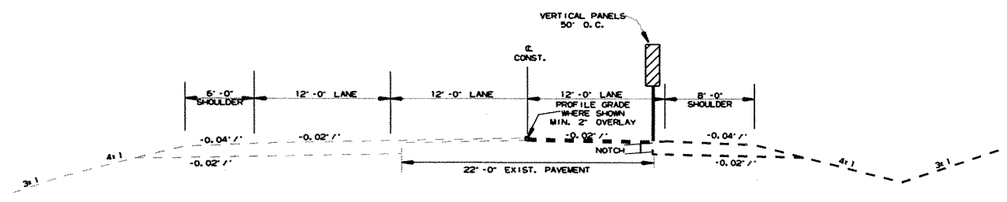
OVERLAY TANGENT - TWO LANE (RIGHT SIDE) WIDENING

STA. 500+00.00 - STA. 534+00.00
STA. 552+00.00 - STA. 568+00.00
STA. 608+00.00 - STA. 620+00.00
STA. 705+00.00 - STA. 713+03.09



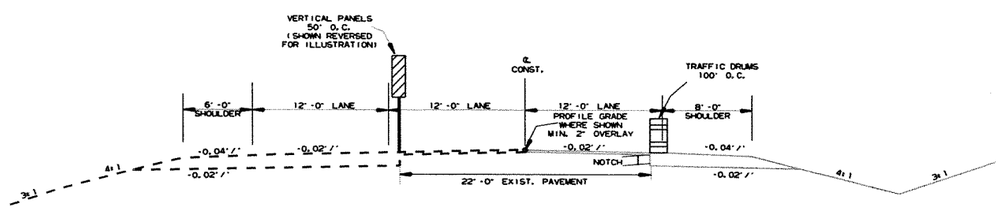
OVERLAY TANGENT - TWO LANE (LEFT SIDE) WIDENING

STA. 500+00.00 - STA. 534+00.00
STA. 552+00.00 - STA. 568+00.00
STA. 608+00.00 - STA. 620+00.00
STA. 705+00.00 - STA. 713+03.09



OVERLAY TANGENT - CLIMBING LANE (RIGHT SIDE) WIDENING

STA. 620+00.00 - STA. 652+00.00
STA. 674+00.00 - STA. 691+50.00
STA. 698+00.00 - STA. 705+00.00



OVERLAY TANGENT - CLIMBING LANE (LEFT SIDE) WIDENING

STA. 620+00.00 - STA. 652+00.00
STA. 674+00.00 - STA. 691+50.00
STA. 698+00.00 - STA. 705+00.00

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

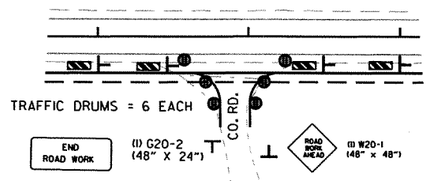
STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

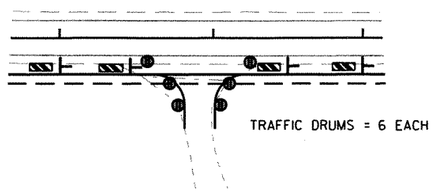
CONSTRUCTION PAVEMENT MARKINGS:

AS DIRECTED BY THE ENGINEER OVER LEVELING COURSE:
RT. AND LT. EDGE LINES = 42820 LIN. FT.
DBL. CENTERLINE = 42820 LIN. FT.

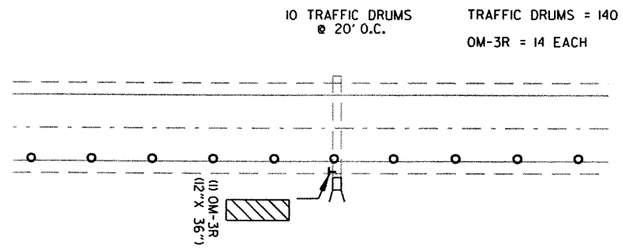
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12



COUNTY ROAD TRAFFIC DRUM AND ADVANCE SIGN WARNING DETAIL



DRIVEWAY TRAFFIC DRUM DETAIL



TRAFFIC DRUMS AND SIGNS ON EXISTING SHOULDER FOR EXTENDING/CONSTRUCTING PIPE CULVERTS LT. AND RT.

STA. 519+22	STA. 565+93	STA. 589+00	
STA. 611+81	STA. 638+61	STA. 647+00	STA. 652+09
	STA. 671+30	STA. 678+61	STA. 686+50

8-8-2011

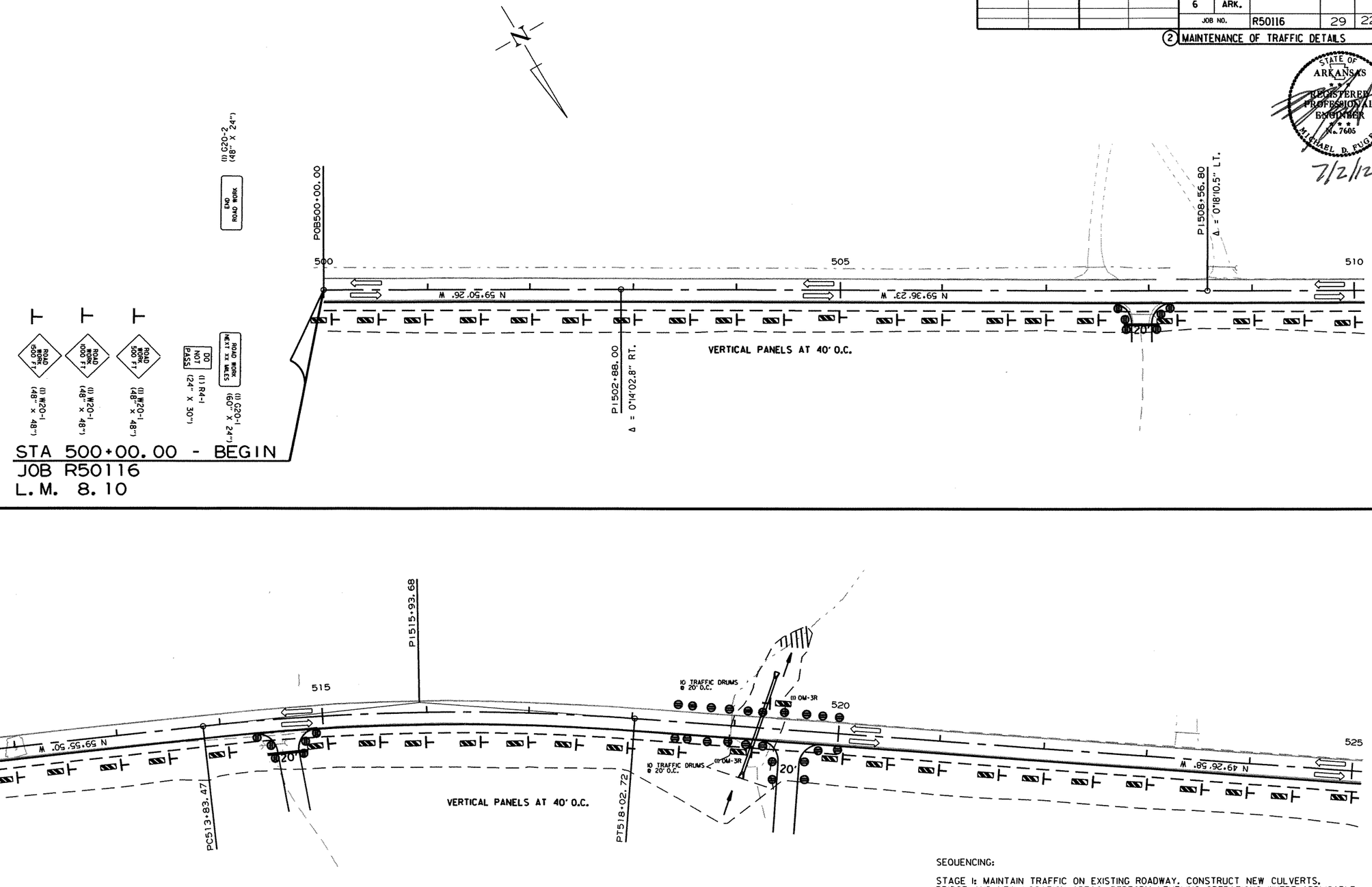
R50116.DGN

MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	29	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

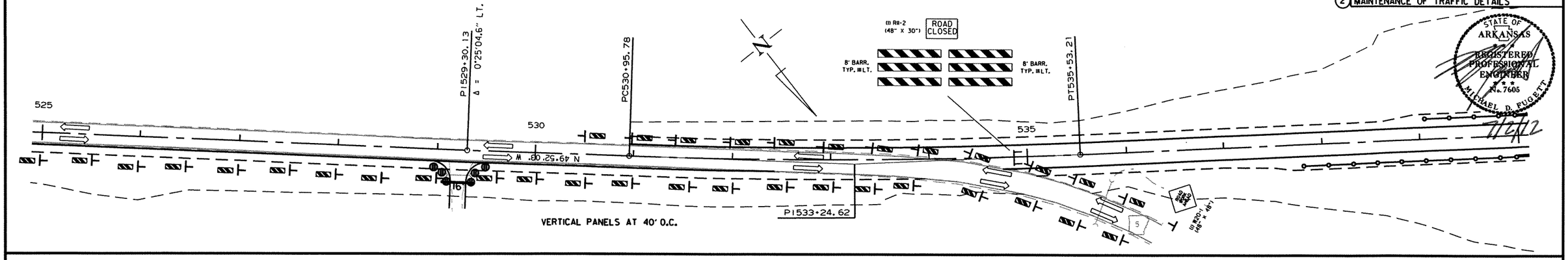
MAINTENANCE OF TRAFFIC DETAILS
STAGE 1

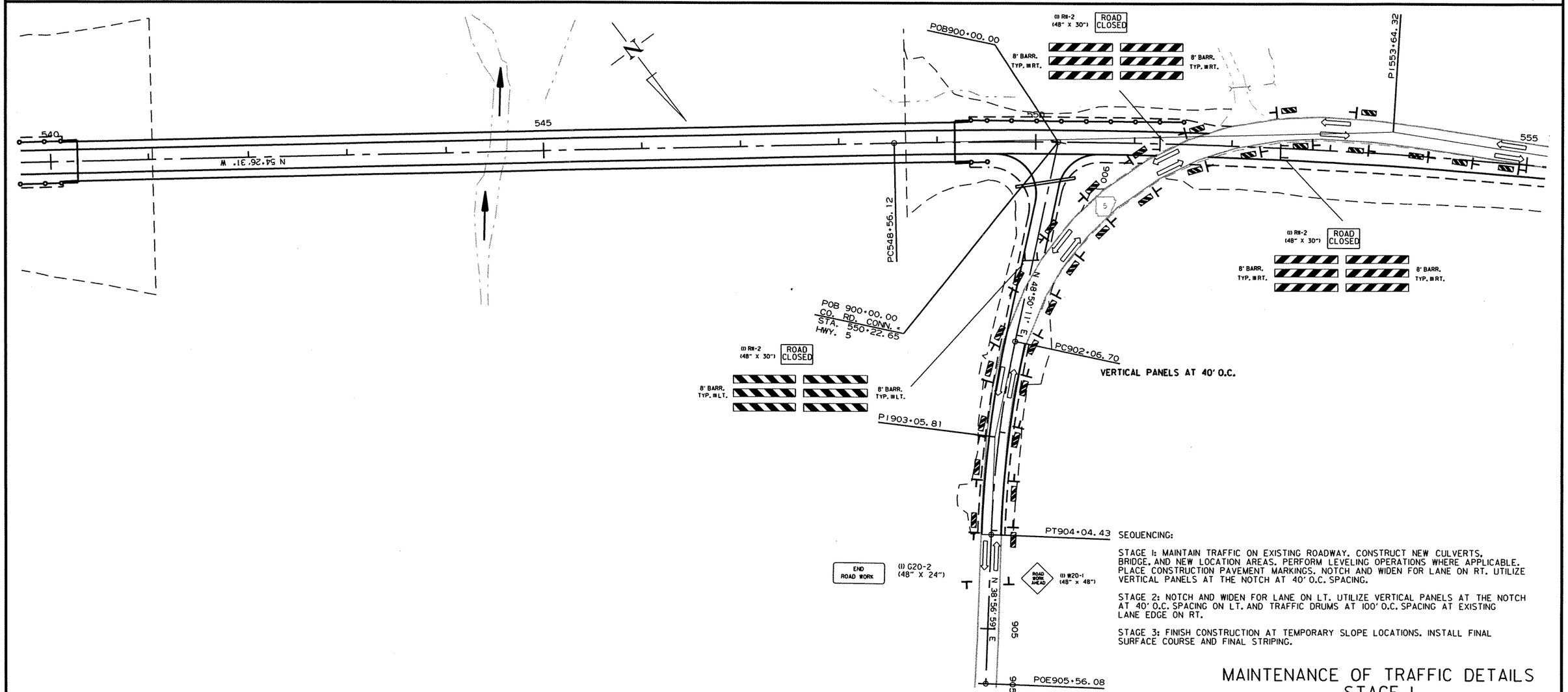
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	30	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/6/12





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

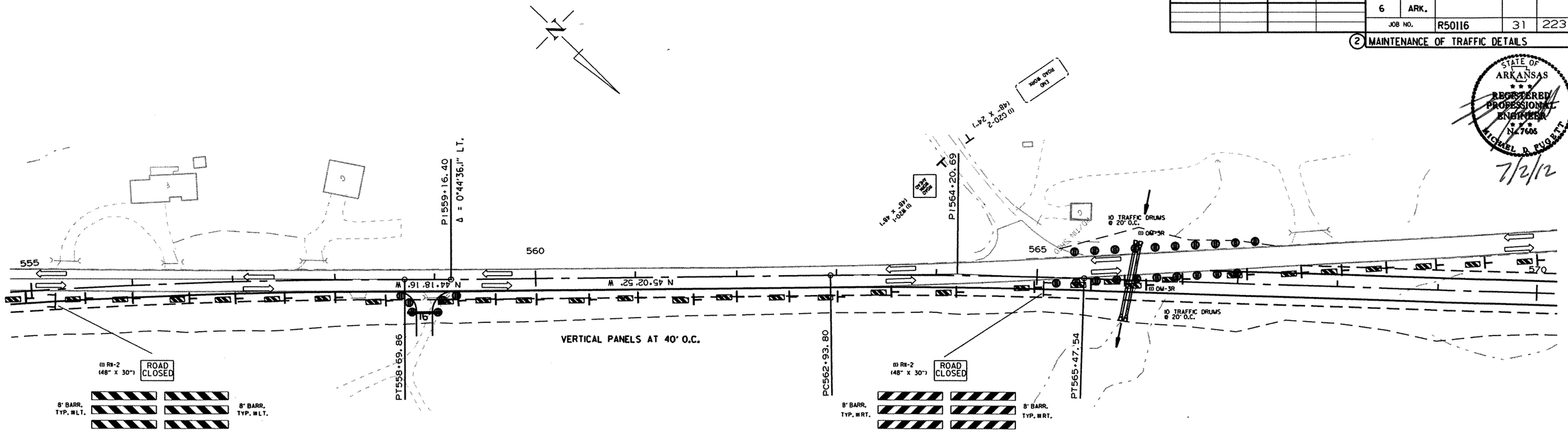
MAINTENANCE OF TRAFFIC DETAILS STAGE 1

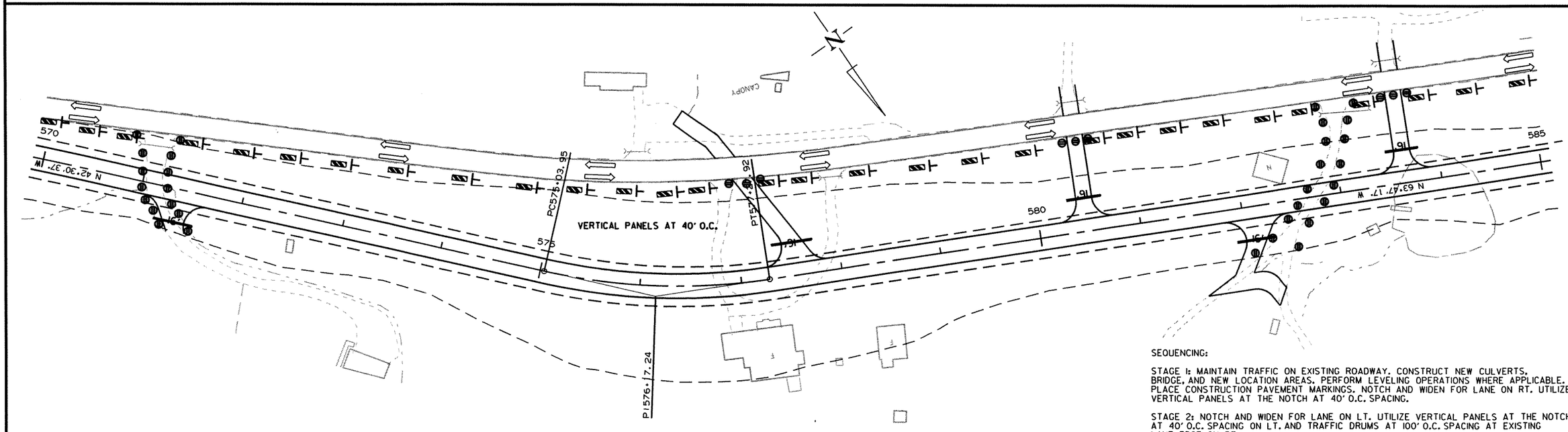
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	31	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/2/12





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

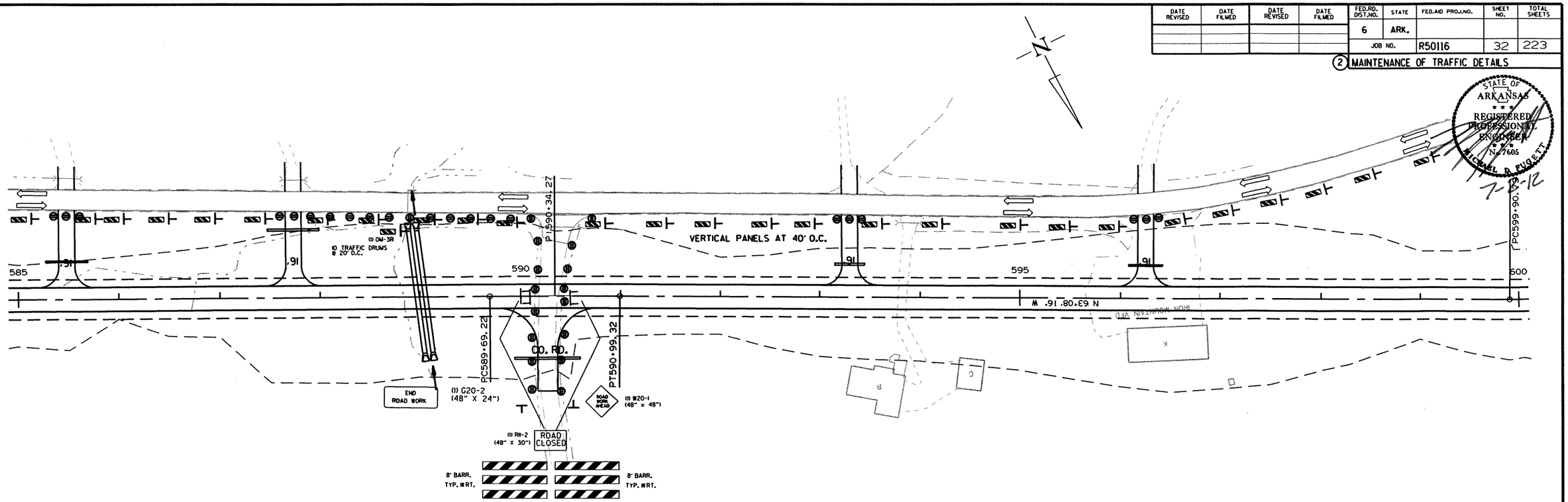
STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

MAINTENANCE OF TRAFFIC DETAILS STAGE 1

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	32	223

(2) MAINTENANCE OF TRAFFIC DETAILS



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

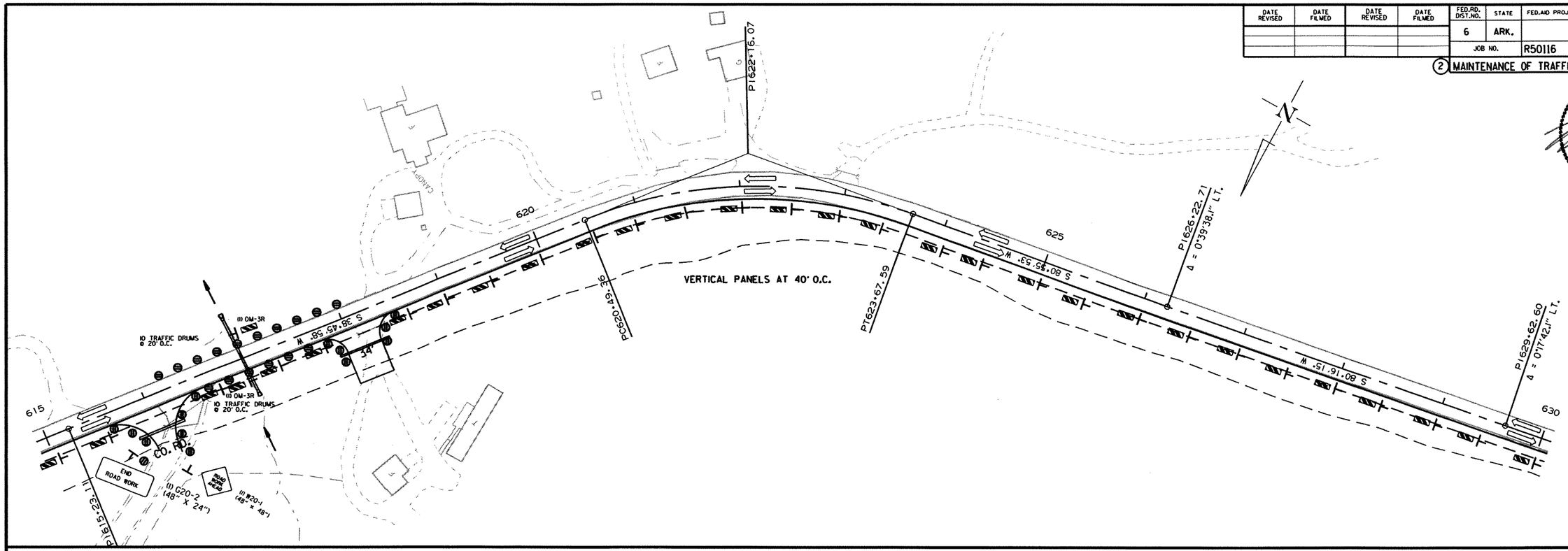
MAINTENANCE OF TRAFFIC DETAILS STAGE 1

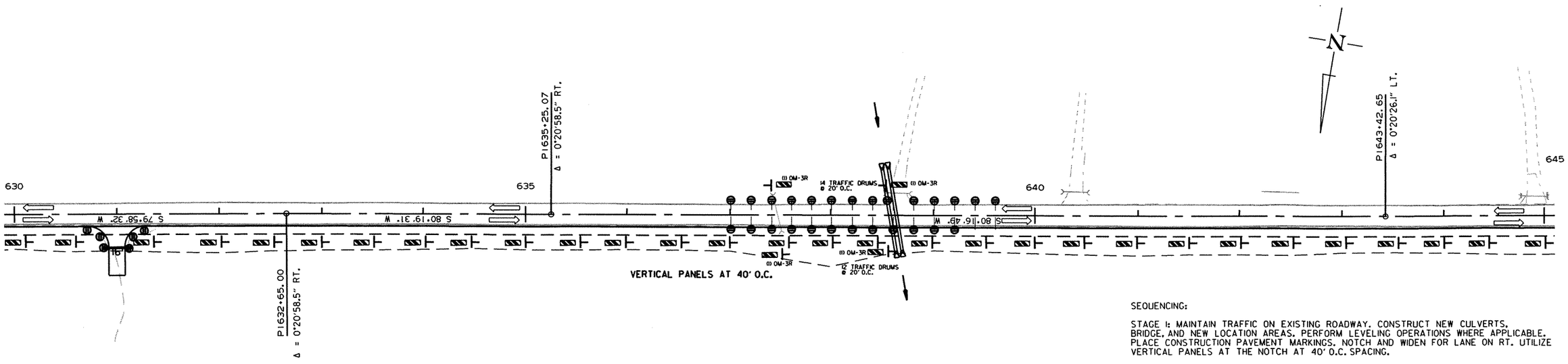
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	33	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

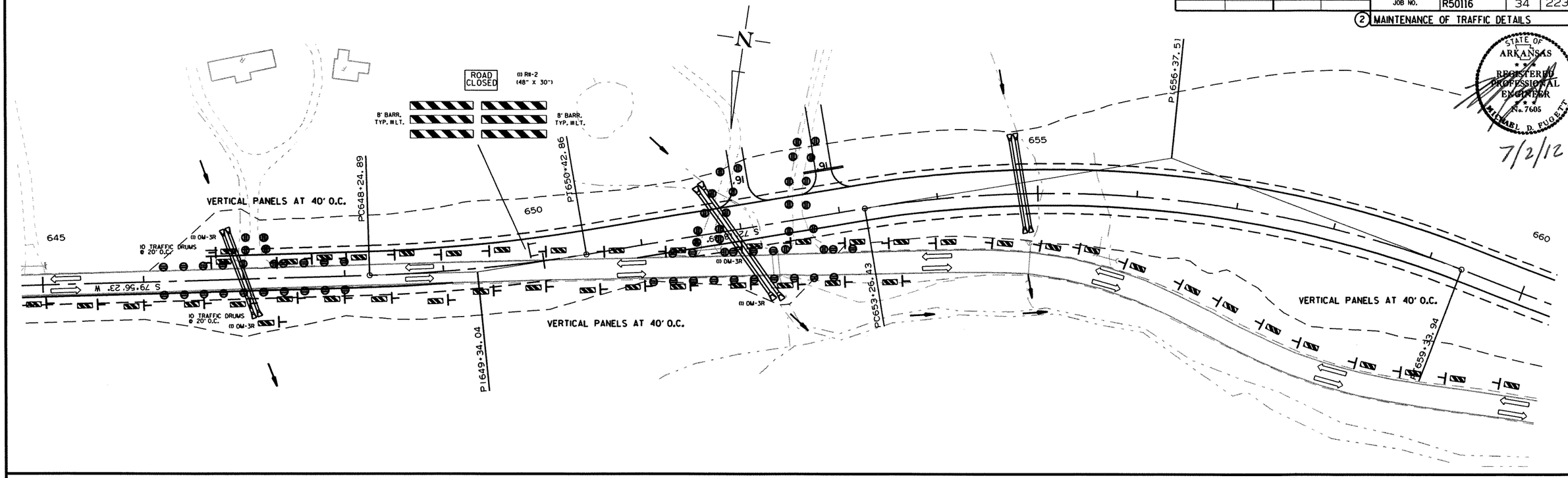
MAINTENANCE OF TRAFFIC DETAILS STAGE 1

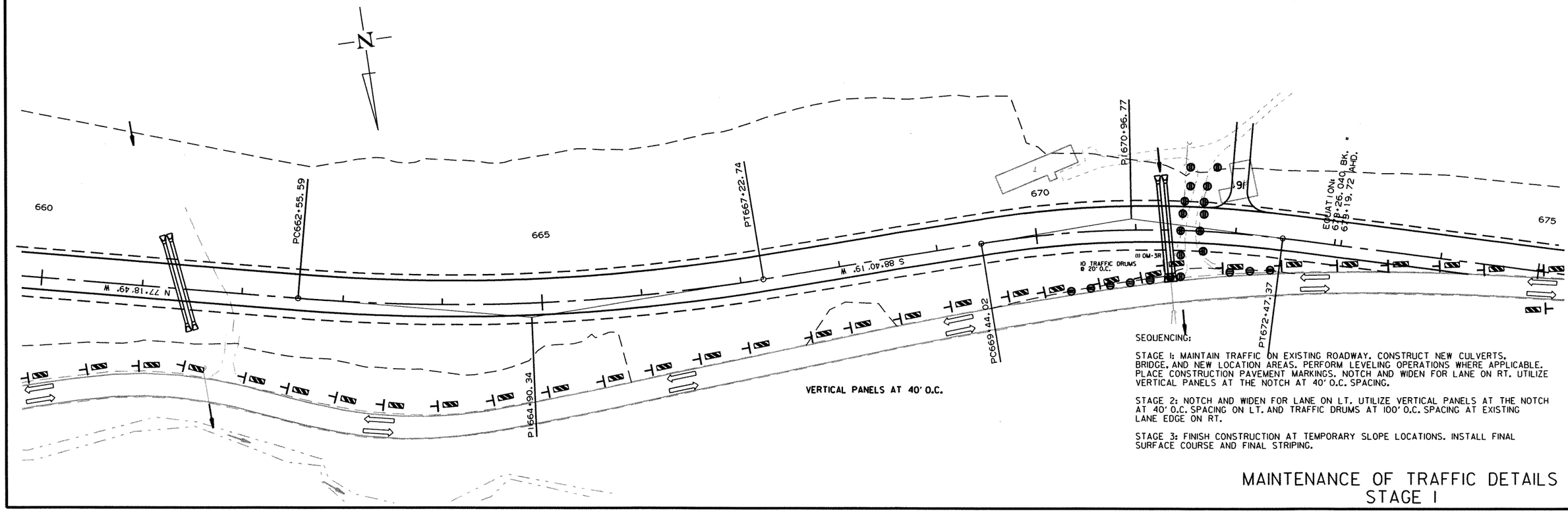
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	34	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

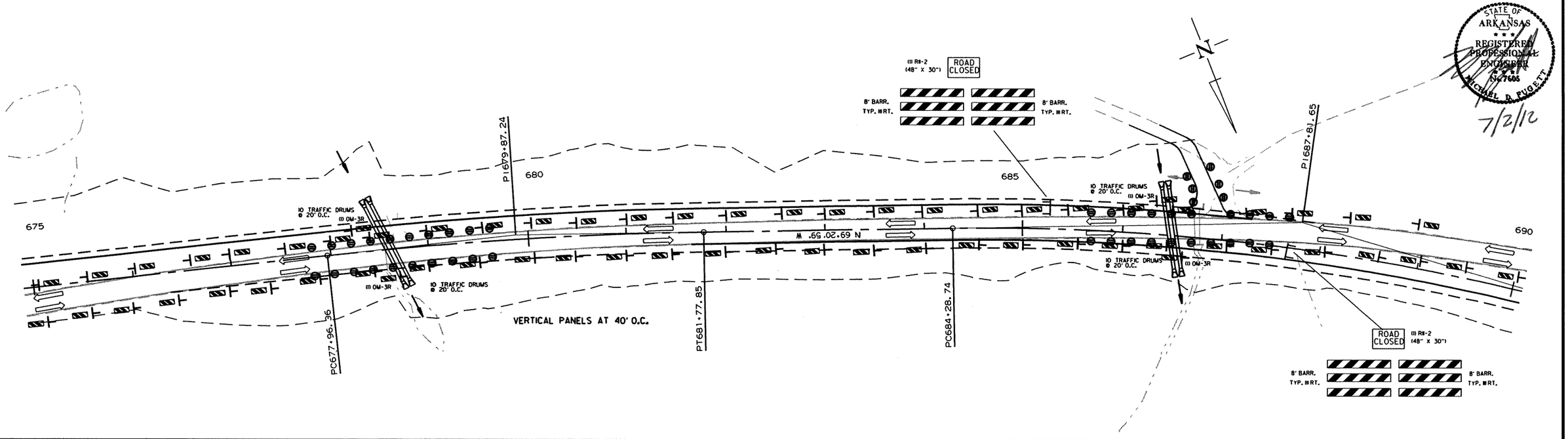
MAINTENANCE OF TRAFFIC DETAILS STAGE 1

8-8-2011

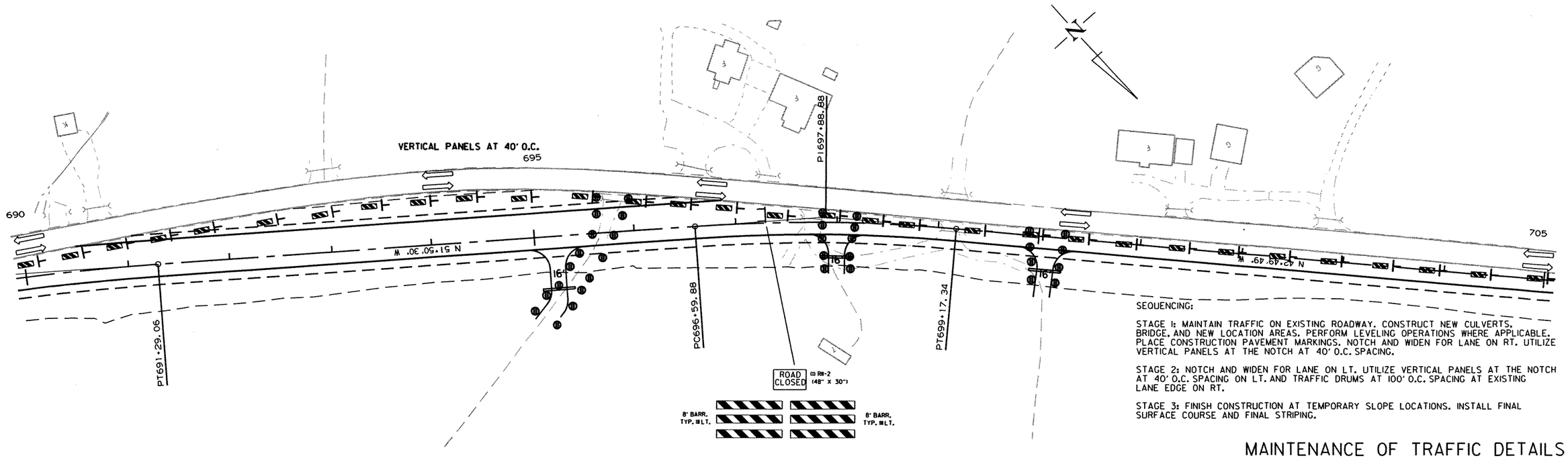
R50116.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	35	223

(2) MAINTENANCE OF TRAFFIC DETAILS



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17605
MICHAEL D. FUGETT
7/2/12



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

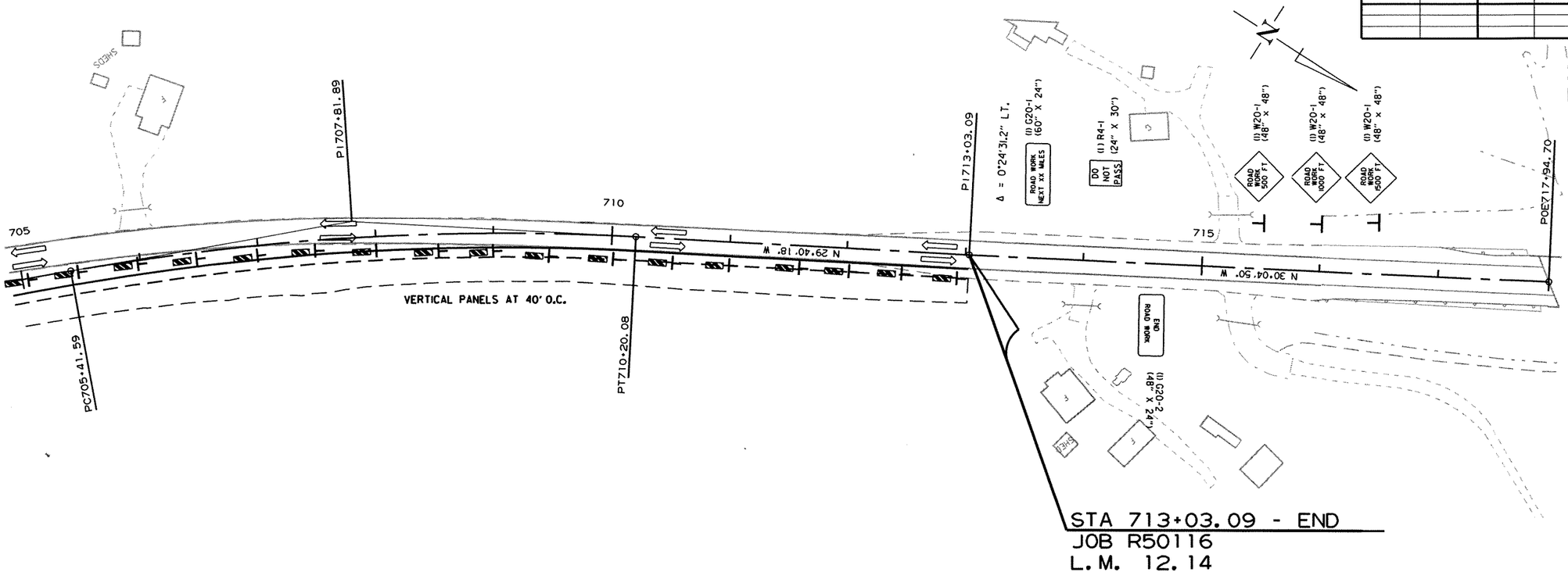
MAINTENANCE OF TRAFFIC DETAILS STAGE 1

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	36	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
RICHARD R. PUGATT
7/2/12



STA 713+03.09 - END
JOB R50116
L.M. 12.14

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

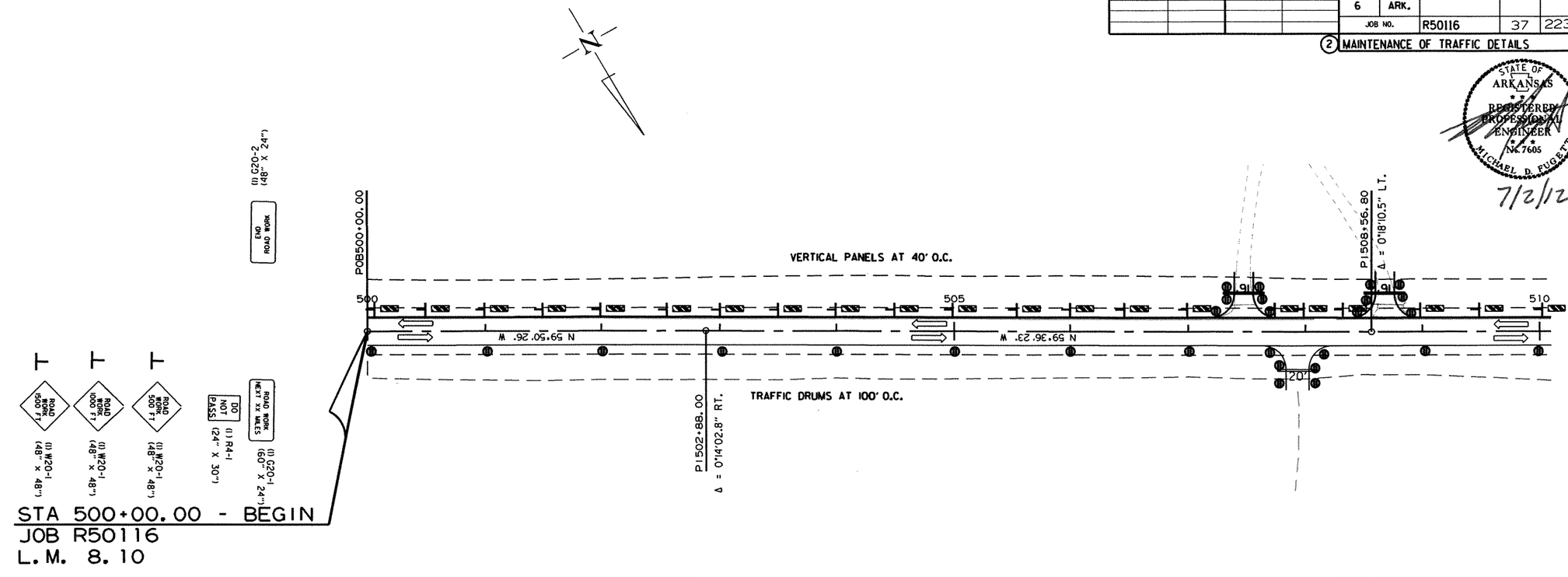
MAINTENANCE OF TRAFFIC DETAILS
STAGE 1

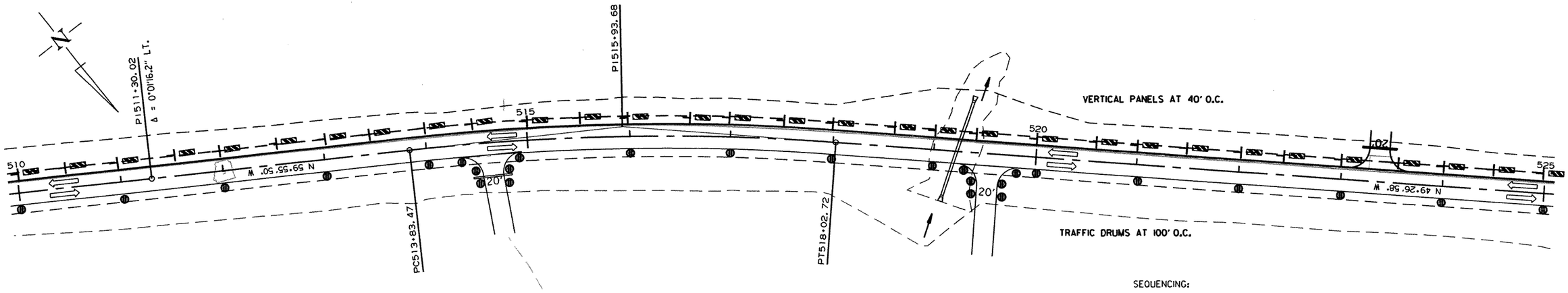
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	37	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

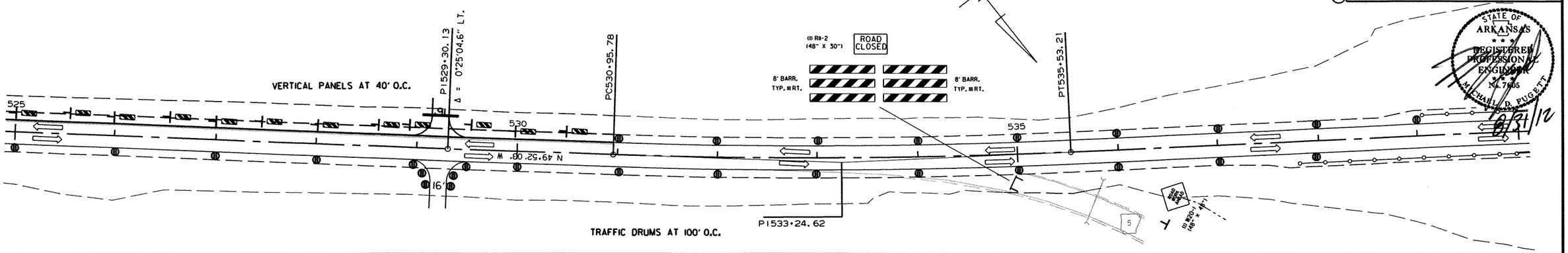
MAINTENANCE OF TRAFFIC DETAILS STAGE 2

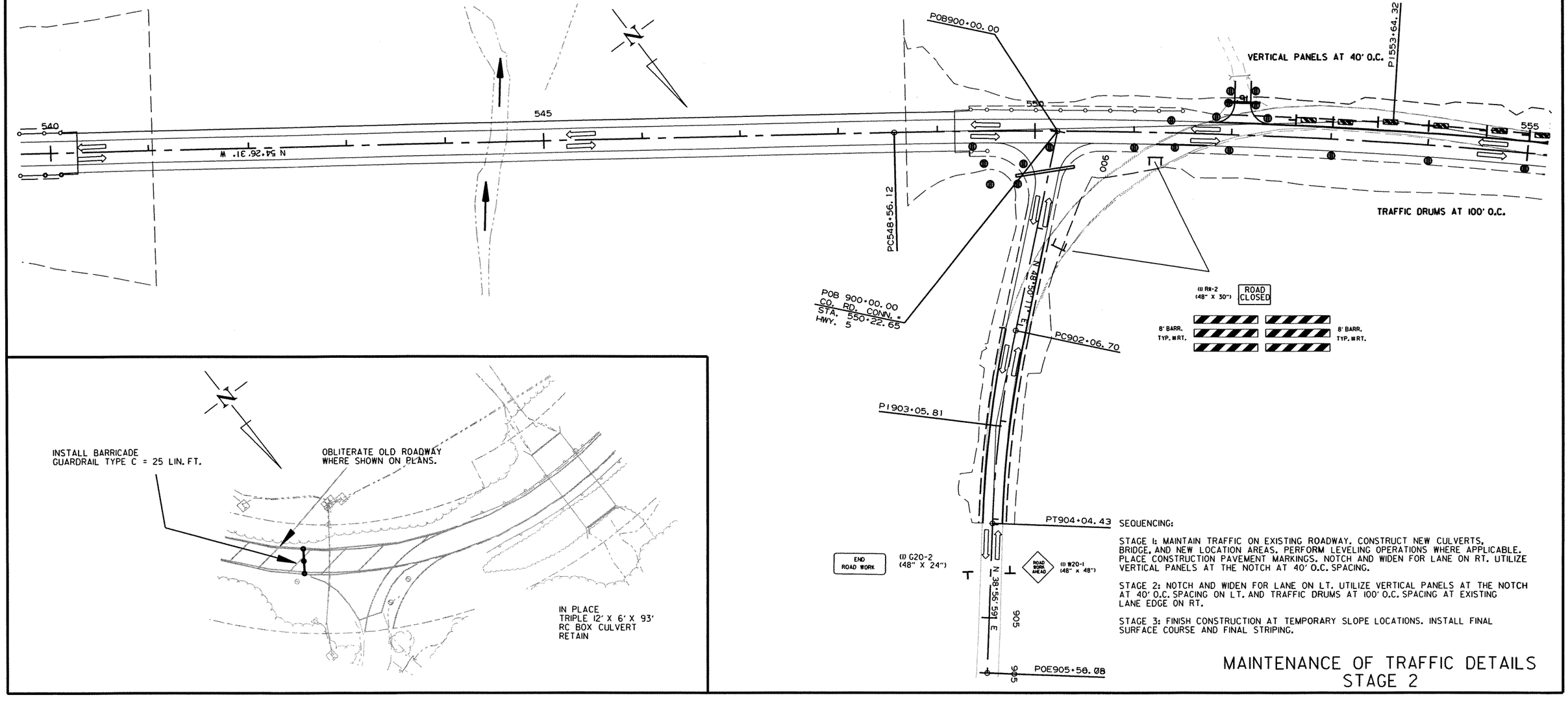
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-29-2012				6	ARK.			
				JOB NO.		R50116	38	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
14,760
MICHAEL D. PUGETT
8/31/12





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

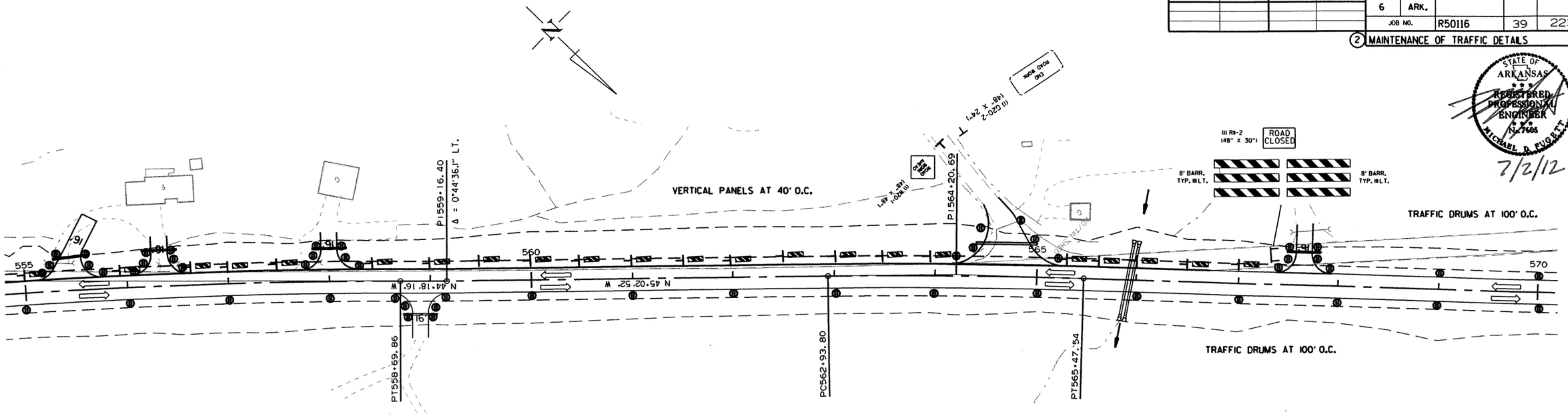
MAINTENANCE OF TRAFFIC DETAILS STAGE 2

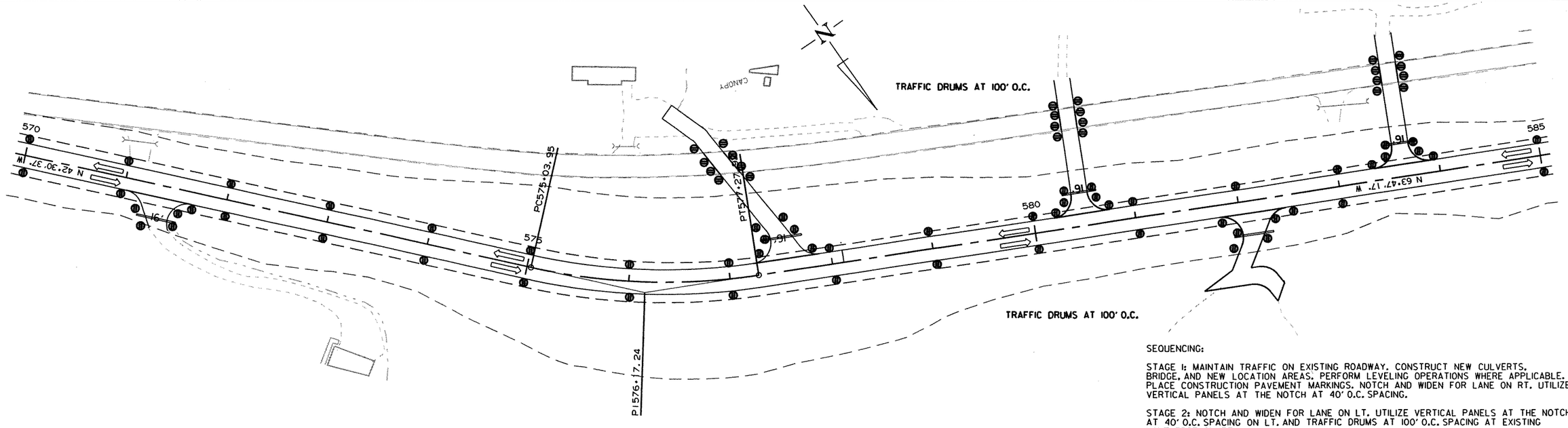
R50116.DGN 8-29-2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	39	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

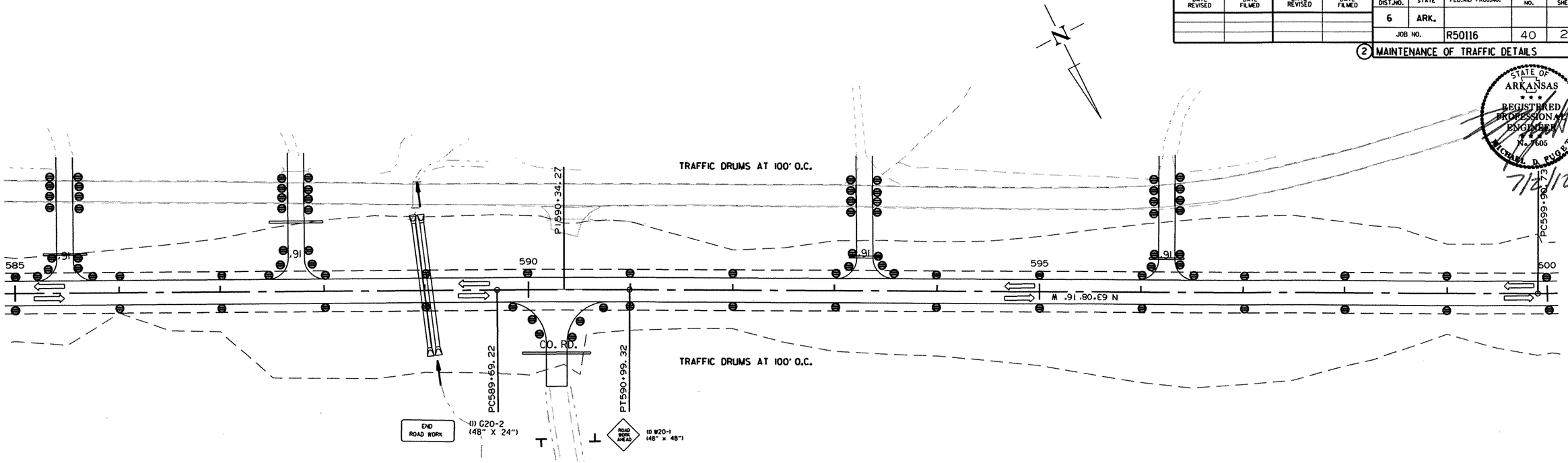
MAINTENANCE OF TRAFFIC DETAILS STAGE 2

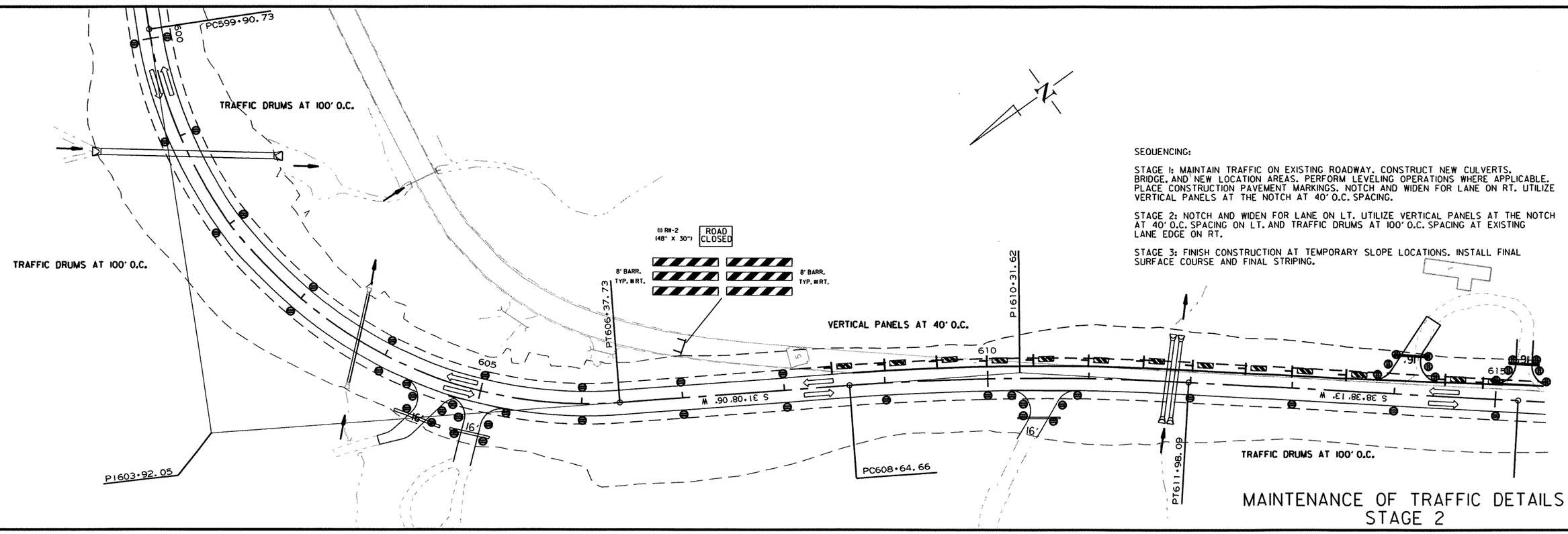
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	40	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL R. FUGETT
7/12/12





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

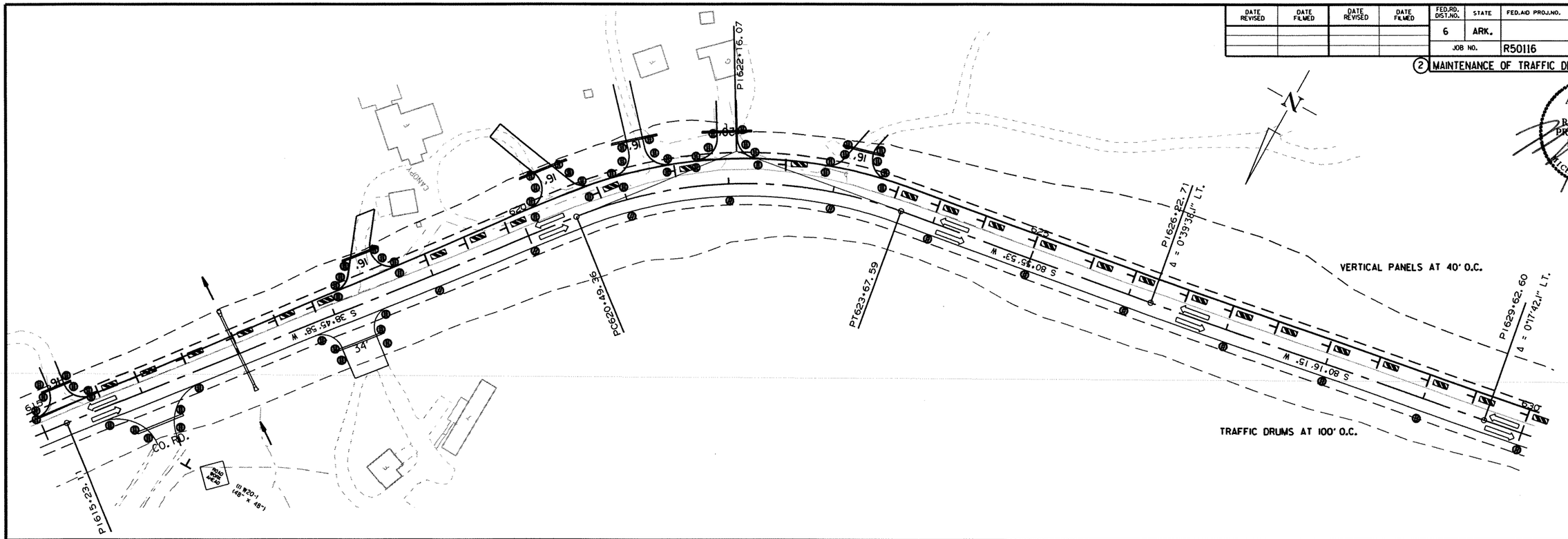
MAINTENANCE OF TRAFFIC DETAILS STAGE 2

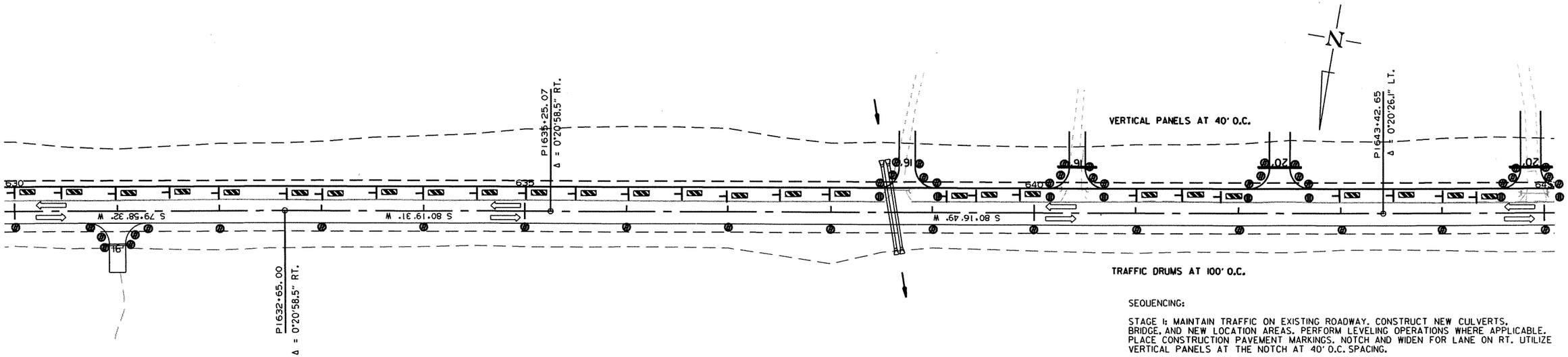
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	41	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

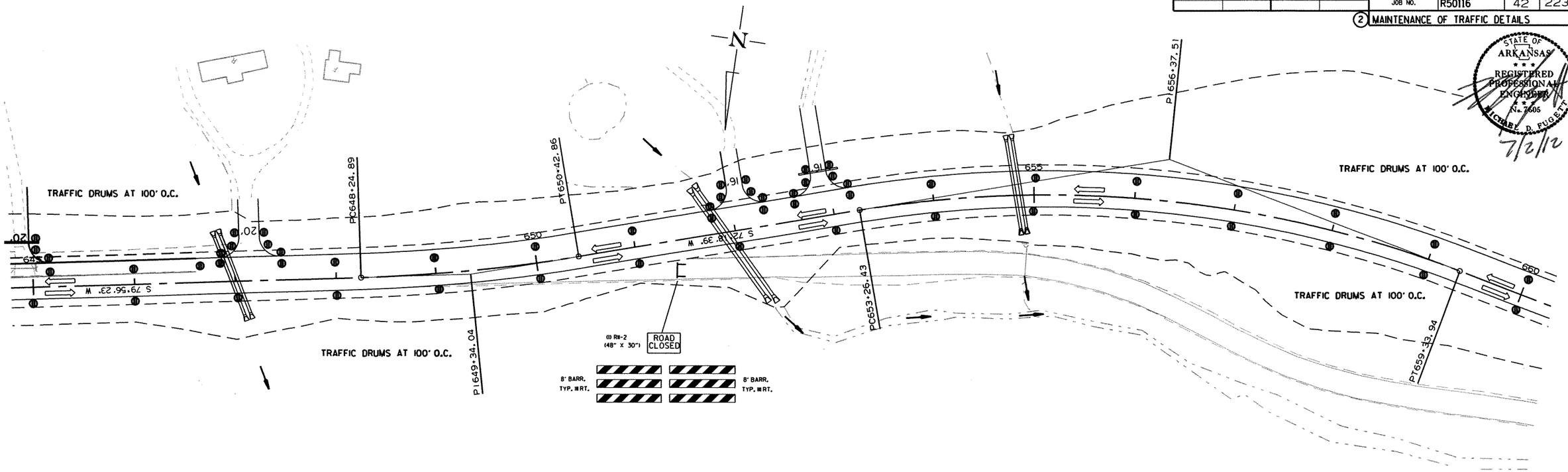
MAINTENANCE OF TRAFFIC DETAILS STAGE 2

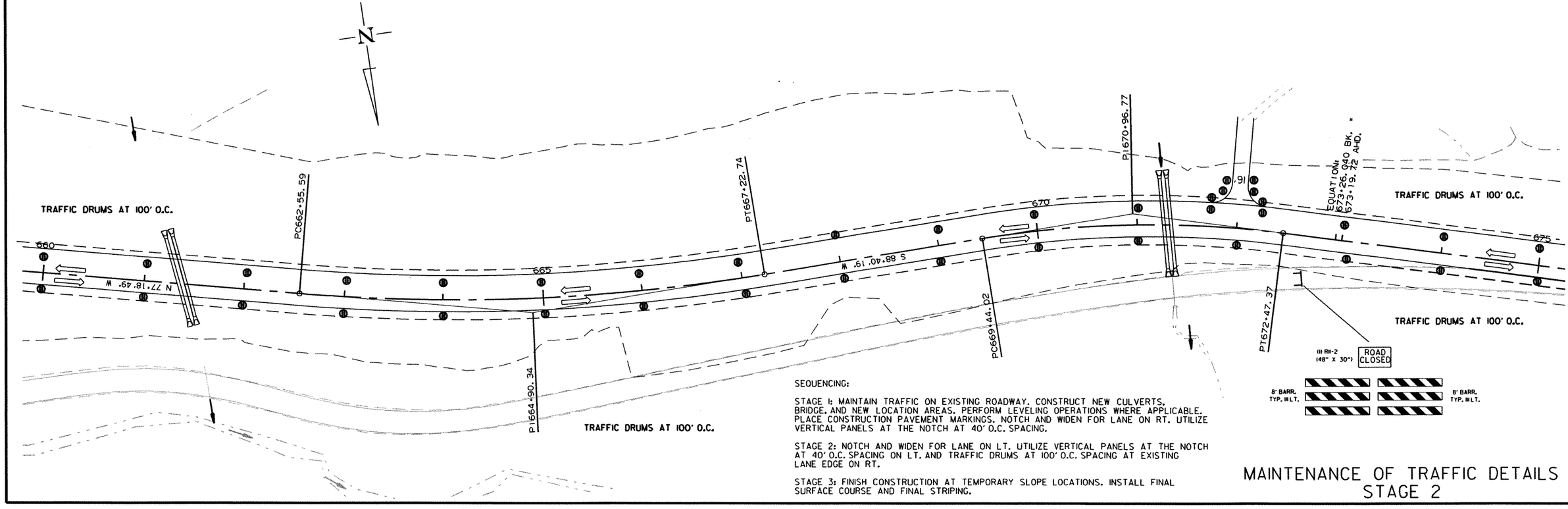
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	42	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/2/12





SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

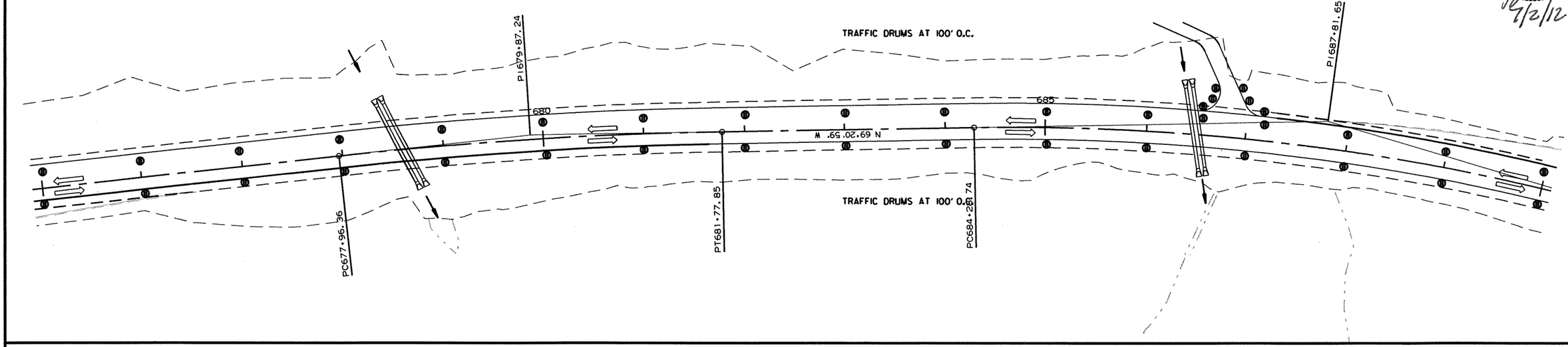
MAINTENANCE OF TRAFFIC DETAILS STAGE 2

R50116.DGN 8-8-2011

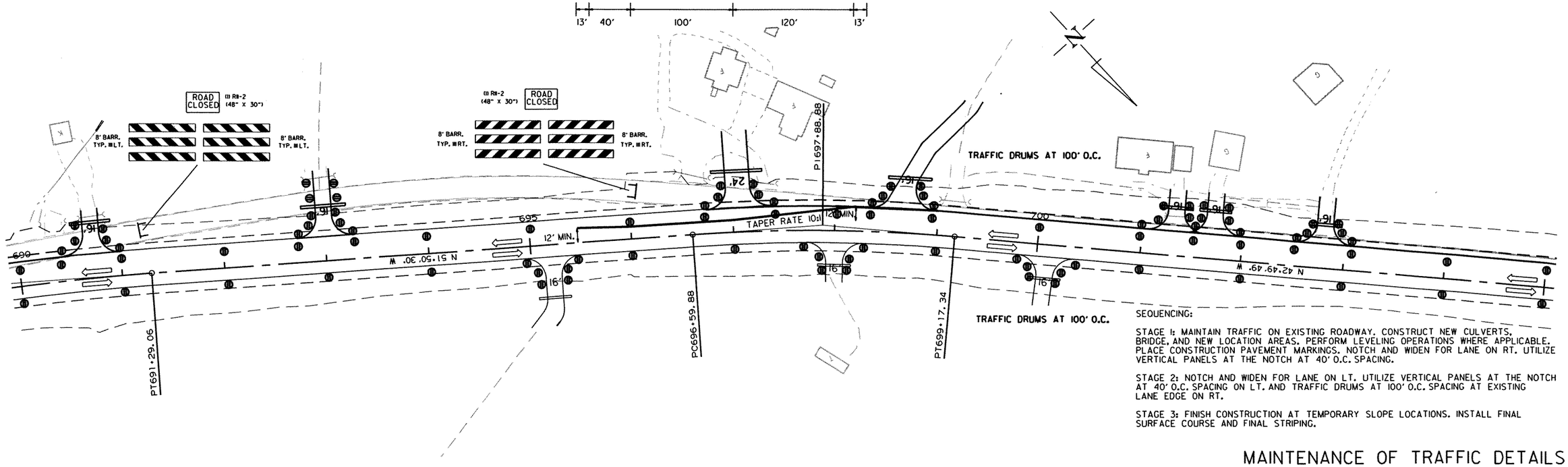
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	43	223

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8608
MICHAEL D. PUGETT
6/2/12



STA. 697+89 - STA. 698+10 - FURNISHING AND INSTALLING TEMPORARY PRECAST CONCRETE BARRIER WITH TWO (13') SPECIAL END UNITS = 286 LIN. FT.



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

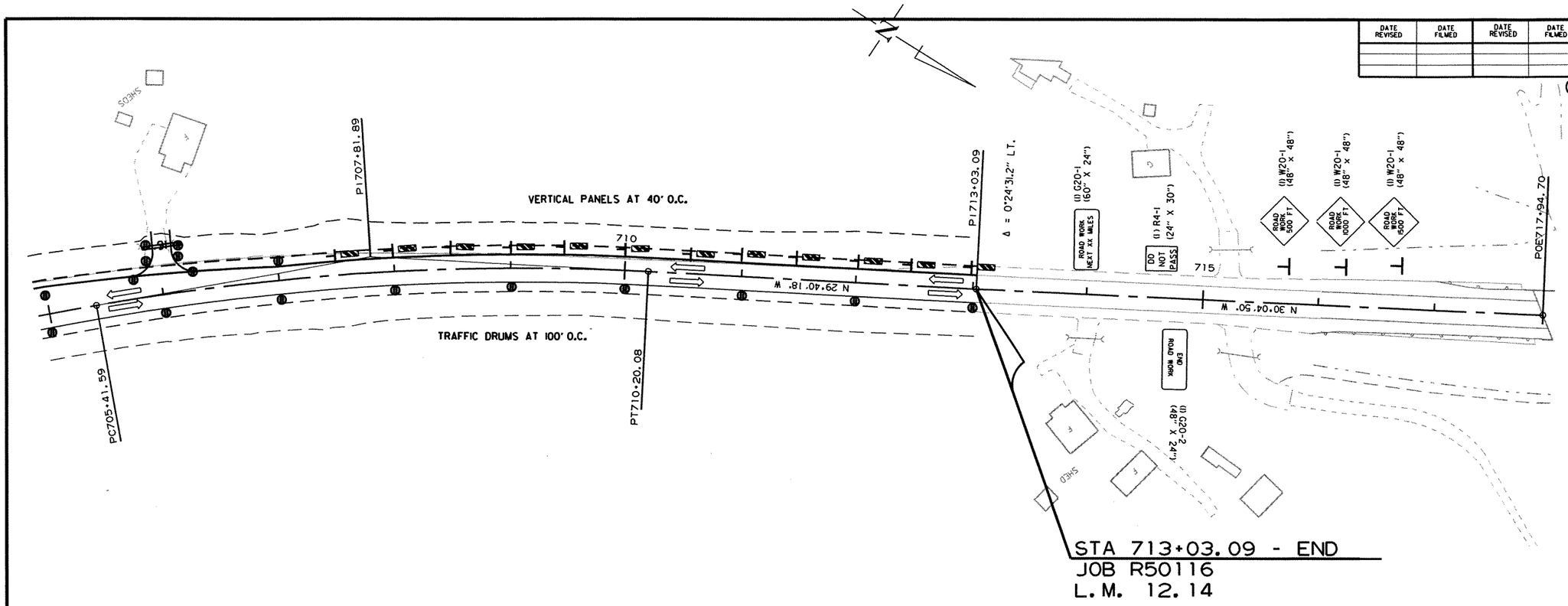
STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

MAINTENANCE OF TRAFFIC DETAILS STAGE 2

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	44	223

(2) MAINTENANCE OF TRAFFIC DETAILS



STA 713+03.09 - END
JOB R50116
L.M. 12.14

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
M. CHARL D. RUGETT
7/2/12

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT NEW CULVERTS, BRIDGE, AND NEW LOCATION AREAS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING.

STAGE 2: NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 40' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

STAGE 3: FINISH CONSTRUCTION AT TEMPORARY SLOPE LOCATIONS. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

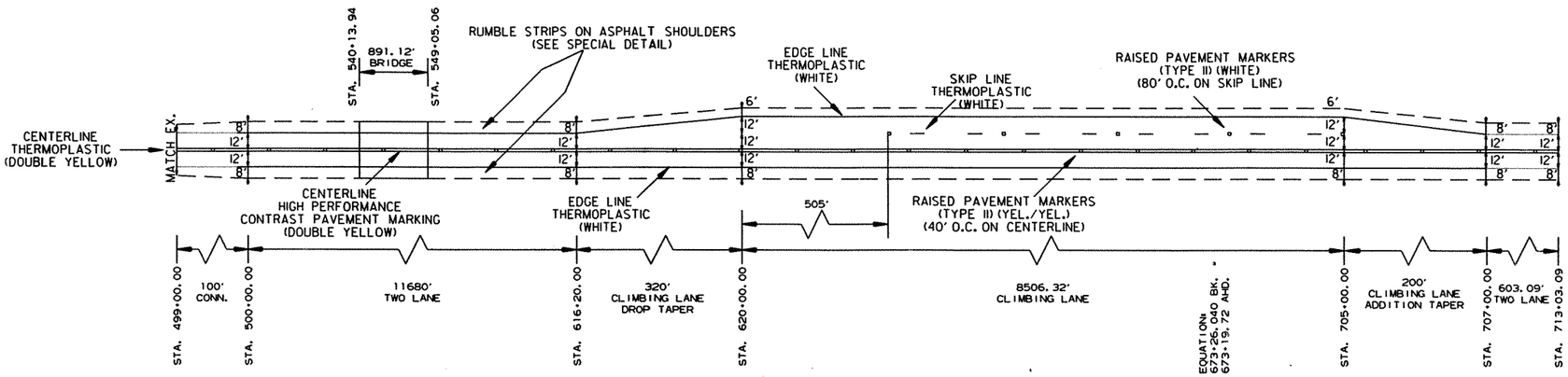
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	45	223

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12



PERMANENT PAVEMENT MARKING DETAILS:

THERMOPLASTIC PAVEMENT MARKINGS:
RT. AND LT. EDGE LINES = 42820 LIN. FT. WHITE
DBL. CENTERLINE = 41037 LIN. FT. YELLOW
SKIP LINE = 2001 LIN. FT. WHITE
EDGE LINES ON COUNTY ROADS = 1334 LIN. FT. WHITE

HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS:
DBL. CENTERLINE = 1784 LIN. FT. YELLOW

RAISED PAVEMENT MARKERS:
TYPE II (YEL./YEL.) 40' O.C. ON CENTERLINE = 1071 EACH
TYPE II (WHITE) 40' O.C. ON SKIP LINE = 100 EACH

R50116.DGN 8-8-2011

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	46	223

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
14768
MICHAEL D. FUGETT
7/2/12

ADVANCE WARNING SIGNS AND DEVICES, CONSTRUCTION PAVEMENT MARKINGS, AND PERMANENT PAVEMENT MARKINGS

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	RAISED PAVEMENT MARKERS		CONSTRUCTION PAVEMENT MARKINGS	THERMOPLASTIC PAVEMENT MARKINGS		HIGH PERFORMANCE CONTRAST PAVEMENT MARKING
												RIGHT	LEFT		(TYPE II; (WHITE)	(TYPE II) (YEL/YEL)		4" WHITE	4" YELLOW	YELLOW
			SQ. FT.-LIN. FT.-EACH					NO	SQ. FT.	EACH	EACH	LIN. FT.		LIN. FT.	EACH		LIN. FT.			
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2				2	32.0											
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2				2	32.0											
W20-1	ROAD WORK 500 FT.	48"x48"	2	2				2	32.0											
W20-1	ROAD WORK AHEAD	48"x48"	4	4				4	64.0											
G20-2	END ROAD WORK	48"x24"	6	6				6	48.0											
G20-1	ROAD WORK NEXT xx MILES	60"x24"	2	2				2	20.0											
R11-2	ROAD CLOSED	48"x30"	11	8				11	110.0											
OM-3R	OBJECT MARKER	12"x36"	20	20				20	60.0											
R4-1	DO NOT PASS	24"x30"	2	2				2	10.0											
	VERTICAL PANELS RT.		456	165			456	456		570										
	TRAFFIC DRUMS		457	690			690	690			690									
	TYPE III BARRICADE-RT. (8')		96	96			96	96				768								
	TYPE III BARRICADE-LT. (8')		96	48			96	96					768							
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		286				286							286						
	CONSTRUCTION PAVEMENT MARKINGS		8564				8564										85640			
	RAISED PAVEMENT MARKERS (TYPE II) (WHITE)		100				100								100					
	RAISED PAVEMENT MARKERS (TYPE II) (YEL/YEL)		1071				1071									1071				
	THERMOPLASTIC PAVEMENT MARKING WHITE (4")		46155				46155											46155		
	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")		41037				41037												41037	
	HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4")		1784				1784													1784
TOTALS:								408.0	570	690	768	768	286	100	1071	85640	46155	41037	1784	

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
NOTE: NO TRAFFIC CONTROL PLAN HAVING A SIGNIFICANT IMPACT ON TRAFFIC (FOR EXAMPLE: DETOURS, LANE CLOSURES , LANE WIDTH REDUCTIONS, SHOULDER CLOSURES, ETC.) SHALL BE PLACED IN OPERATION MORE THAN 72 HOURS BEFORE THE WORKS REQUIRING THE TRAFFIC CONTROL CHANGES BEGIN. IF A TRAFFIC CONTROL PLAN IS PLACED IN OPERATION AND WORK DOES NOT BEGIN WITHIN 72 HOURS, OR WORK BEGINS BUT, IS SUBSEQUENTLY HALTED, THE ORIGINAL TRAFFIC OPERATIONS MUST BE RETORED IF CONDITIONS ALLOW. RESTORATION(S) OF THE ORIGINAL TRAFFIC OPERATIONS WILL BE AT NO COST TO THE DEPARTMENT.

RR50116.DGN 9/6/2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-29-2012				6	ARK.			
				JOB NO.		R50116	47	223

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9605
MICHAEL D. PUGETT
8/31/12

CLEARING AND GRUBBING

STATION	STATION	CLEARING	GRUBBING
		STATION	
500+00	501+00	1	1
514+50	713+04	199	199
TOTALS:		**200**	**200**

REMOVAL AND DISPOSAL OF STRUCTURES

STATION	DESCRIPTION	REMOVAL AND DISPOSAL OF PIPE CULVERTS	REMOVAL AND DISPOSAL OF BOX CULVERTS	REMOVAL AND DISPOSAL OF GUARDRAIL
		EACH	EACH	LIN. FT.
507+50	21" X 15" X 20' ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
508+68	21" X 15" X 26' ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
507+93	21" X 15" X 26' ARCH CM PIPE CULVERT RT. SIDE DRAIN	1		
514+64	21" X 15" X 26' ARCH CM PIPE CULVERT RT. SIDE DRAIN	1		
518+97	30" X 39' C.M. PIPE CULVERT CROSS DRAIN	1		
523+37	18" X 36' PLASTIC PIPE CULVERT LT. SIDE DRAIN	1		
529+22	24" X 25' PLASTIC PIPE CULVERT RT. SIDE DRAIN	1		
535+75	30" X 44' CM PIPE CULVERT CROSS DRAIN	1		
552+10	18" X 20' ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
555+43	24" X 12" X 24' ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
558+23	24" X 12" X 15' ARCH CM PIPE CULVERT RT. SIDE DRAIN	1		
556+32	18" X 18" CM PIPE CULVERT LT. SIDE DRAIN	1		
558+00	23" X 14" X 24' ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
564+08	18" X 25' CM PIPE CULVERT LT. SIDE DRAIN	1		
564+91	18" X 40' CM PIPE CULVERT LT. SIDE DRAIN	1		
567+65	18" X 36' CM PIPE CULVERT LT. SIDE DRAIN	1		
565+99	24" X 37' R.C. PIPE CULVERT CROSS DRAIN	1		
558+90	24" X 12"" X 24' ARCH CM PIPE CULVERT RT. SIDE DRAIN	1		
571+06	30" X 31' CM PIPE CULVERT LT. SIDE DRAIN	1		
575+86	18" X 20' CM PIPE CULVERT LT. SIDE DRAIN	1		
578+04	18" X 21' CM PIPE CULVERT LT. SIDE DRAIN	1		
583+16	21" X 15" X 48' ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
585+48	18" X 24' CM PIPE CULVERT LT. SIDE DRAIN	1		
587+73	18" X 24' CM PIPE CULVERT LT. SIDE DRAIN	1		
588+92	6' X 3' 26' CONC. BOX CROSS DRAIN	1		
590+27	24" X 35' CM PIPE CULVERT LT. SIDE DRAIN	1		
593+89	12" X 21' RC PIPE CULVERT LT. SIDE DRAIN	1		
603+26	48" X 38' C.M. PIPE CULVERT CROSS DRAIN	1		
605+19	18" X 29' CM PIPE CULVERT LT. SIDE DRAIN	1		
606+22	18" X 24' CM PIPE CULVERT LT. SIDE DRAIN	1		
611+68	24" X 42' R.C. PIPE CULVERT CROSS DRAIN	1		
616+05	27" X 19" X 48' ARCH CM PIPE CULVERT RT. SIDE DRAIN	1		
617+00	24" X 37' R.C. PIPE CULVERT CROSS DRAIN	1		
621+20	18" X 24' CM PIPE CULVERT LT. SIDE DRAIN	1		
618+11	18" X 24' CM PIPE CULVERT RT. SIDE DRAIN	1		
623+17	21" X 15" X 24" ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
638+75	18" X 24' CM PIPE CULVERT LT. SIDE DRAIN	1		
640+42	18" X 24' RC PIPE CULVERT LT. SIDE DRAIN	1		
642+40	18" X 27' CM PIPE CULVERT LT. SIDE DRAIN	1		
637+47	24" X 27' R.C. PIPE CULVERT CROSS DRAIN	1		
644+87	18" X 27' CM PIPE CULVERT LT. SIDE DRAIN	1		
647+02	24" X 37' R.C. PIPE CULVERT CROSS DRAIN	1		
651+66	18"X 25' CM PIPE CULVERT RT. SIDE DRAIN	1		
651+87	18"X 14' CM PIPE CULVERT LT. SIDE DRAIN	1		
652+29	6' X 3' X 26' ROCK BOX CULVERT CROSS DRAIN	1		
654+90	24" X 36' R.C. PIPE CULVERT CROSS DRAIN	1		
661+50	24" X 44' R.C. PIPE CULVERT CROSS DRAIN	1		
671+37	24" X 36' R.C. PIPE CULVERT CROSS DRAIN	1		
678+56	24" X 37' R.C. PIPE CULVERT CROSS DRAIN	1		
686+74	DBL. 24" X 37' R.C. PIPE CULVERT CROSS DRAIN	2		
696+63	18" X 32' RC PIPE CULVERT LT. SIDE DRAIN	1		
697+32	18" X 18' RC PIPE CULVERT LT. SIDE DRAIN	1		
699+15	18"X 25' CM PIPE CULVERT LT. SIDE DRAIN	1		
690+72	30" X 24' CM PIPE CULVERT LT. SIDE DRAIN	1		
693+00	30" X 30' CM PIPE CULVERT LT. SIDE DRAIN	1		
695+21	30" X 19" X 24' ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
698+00	18" X 20' CM PIPE CULVERT LT. SIDE DRAIN	1		
700+09	30" X 19" X 24' ARCH CM PIPE CULVERT RT. SIDE DRAIN	1		
701+33	24" X 15" X 24' ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
702+80	24" X 15" X 24' ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
706+03	36" X 24" X 18' ARCH CM PIPE CULVERT LT. SIDE DRAIN	1		
541+63	DOUBLE 12' X 6' X 93' RC BOX CULVERT ON ABANDONED SECTION OF HWY. 5		1	525
TOTALS:		**62**	**1**	**525**

FENCING

STATION	STATION	SIDE	REMOVAL AND DISPOSAL OF FENCE	WIRE FENCE (TYPE C)	WIRE FENCE (TYPE D)	(TYPE D-1)	6' CHAIN LINK	16' GATES
			LIN. FT.					EACH
500+00	507+24	LT	724	724				
500+00	507+82	RT	782	782				
508+00	514+55	RT	655	655				1
509+67	513+18	LT	351	351				1
513+18	523+27	LT	1009	1009				1
517+17	519+16	RT	199	199				
519+16	519+32	RT	16	16				1
519+32	525+61	RT	629	629				
523+47	524+04	LT	57	57				
560+80	564+45	LT	365				365	
583+15	588+22	LT	507					
579+70	581+87	RT			217			1
582+05	590+05	RT			800			
671+71	678+94	LT	723					
672+08	678+71	LT				663		
695+40	702+19	RT	679			679		
702+19	710+97	RT	878			878		
710+97	711+81	RT	84			84		
TOTALS:			7658	4422	1017	2304	365	5

BENCH MARKS

STATION	DESCRIPTION	BENCH MARK
		EACH
540+27	BRIDGE END	1
TOTAL:		**1**

NOTE: SHOWN FOR INFORMATION PURPOSES ONLY. BENCH MARKS TO BE FURNISHED, PLACED, AND RECORDED BY STATE FORCES.

4" PIPE UNDERDRAIN

LOCATIONS	4" PIPE UNDERDRAIN	UNDERDRAIN OUTLET PROTECTORS
	LIN.FT.	EACH
ENTIRE PROJECT	1000	8
IF AND WHERE DIRECTED BY THE ENGINEER		
TOTALS:	**1000**	**8**

NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)	MAILBOX SUPPORTS (DOUBLE)
	EACH		
ENTIRE PROJECT	27	23	2
TOTALS:	**27**	**23**	**2**

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	ASPHALT CONCRETE PATCHING FOR M.O.T.	TACK COAT
	TON	GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	125	250
TOTALS:	**125**	**250**

NOTE: QUANTITY IS ESTIMATED.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

ACHM PATCHING OF EXISTING ROADWAY

LOCATION	ACHM PATCHING OF EXISTING ROADWAY	TACK COAT
	TON	GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	100	200
TOTALS:	**100**	**200**

NOTE: QUANTITY IS ESTIMATED.
SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

RR50116.DGN 8-29-2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	48	223

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7806
MICHAEL D. FUGETT
7/2/12

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER.	125
TOTAL:	**125**

NOTE: QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIC

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	CONCRETE DITCH PAVING (TYPE B) (W=4'-0")	SOLID SODDING	WATER
			SQ.YD.		M.GAL.
518+00	519+50	LT.	67	67	0.8
518+00	519+35	RT.	60	60	0.8
548+68	551+94	LT.	145	145	1.8
548+68	549+41	RT.	32	32	0.4
635+00	638+47	LT.	154	154	1.9
645+08	646+78	LT.	76	76	1.0
647+25	651+60	LT.	193	193	2.4
652+15	652+71	LT.	25	25	0.3
653+11	661+13	LT.	356	356	4.5
655+00	661+59	RT.	293	293	3.7
661+45	671+19	LT.	433	433	5.5
662+00	666+00	RT.	178	178	2.2
672+08	678+34	LT.	278	278	3.5
678+58	686+32	LT.	344	344	4.3
686+90	690+53	LT.	161	161	2.0
690+92	692+78	LT.	83	83	1.0
693+22	696+81	LT.	160	160	2.0
697+29	698+51	LT.	54	54	0.7
698+91	701+16	LT.	100	100	1.3
701+49	701+55	LT.	3	3	0.1
701+87	702+64	LT.	34	34	0.4
702+96	705+89	LT.	130	130	1.6
706+21	713+11	LT.	307	307	3.9
* ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	500	175	2.2
TOTALS:			**4166**	**3841**	**48.3**

* QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
NOTE: EXPANSION JOINTS TO BE PLACED 45' ON CENTERS.

PAVEMENT REPAIR OVER CULVERTS

STATION	DESCRIPTION	ASPHALT	CONCRETE
		SQ.YD.	CU.YD.
570+00	18" X 46' TEMPORARY PIPE CULVERT	11	
654+90	30" X 56' TEMPORARY PIPE CULVERT	21	
519+22	CROSS DRAIN		4.5
565+93	CROSS DRAIN		9.0
611+81	CROSS DRAIN		10.6
617+00	CROSS DRAIN		4.1
638+61	CROSS DRAIN		9.0
647+00	CROSS DRAIN		9.0
651+88	CROSS DRAIN		9.8
678+61	CROSS DRAIN		9.8
686+50	CROSS DRAIN		9.8
TOTALS:		**32**	**75.6**

QUANTITIES ESTIMATED. TO BE USED AS DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

SOIL STABILIZATION

STATION	LOCATION	SOIL STABILIZATION
		TON
ENTIRE PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.	250
TOTAL:		**250**

NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

EARTHWORK

STATION	STATION	LOCATION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	ROCK FILL
			CU. YD.		
500+00.00	541+04.00	MAIN LANES	10248	38386	
548+68.00	673+26.04	MAIN LANES	328429	56595	
673+19.72	713+03.09	MAIN LANES	28686	11574	
539+00.00	549+00.00	ROCK FILL AND UNDERCUT	3185		16874
900+12.00	904+00.00	CO. RD. CONNECTION	1549	146	
		OBLITERATE OLD ROADWAY	16940		
		DRIVEWAYS	2114	4893	
TOTALS:			**391151**	**111594**	**16874**

STRUCTURES - PIPE CULVERTS

STATION	DESCRIPTION	R.C. PIPE CULVERT CLASS								FLARED END SECTION FOR R.C. PIPE CULVERT						SOLID SODDING	WATER	DUMPED RIPRAP	FILTER BLANKET	TEMPORARY PIPE CULVERT		STD. DWG. NOS.
		CLASS III		CLASS IV					CLASS V													
		24"	30"	30"	36"	42"	48"	72"	36"	24"	30"	36"	42"	48"	72"					18"	30"	
		LIN. FT.								EACH						SQ. YD.	M. GAL.	CU. YD.	SQ. YD.	LIN. FT.		
519+22	CONSTRUCT 30" X 96' R.C. PIPE CULVERT (CLASS III) WITH FES LT. AND RT.		96								2					26	0.3					PCC-1, FES-1, FES-2
565+93	CONSTRUCT DBL. 24" X 70' R.C. PIPE CULVERT (CLASS III) WITH FES LT. AND RT.	140								4						18	0.2					PCC-1, FES-1, FES-2
589+00	CONSTRUCT DBL. 48" X 124' R.C. PIPE CULVERT (CLASS IV) WITH FES LT. AND RT.						248							4		62	0.8					PCC-1, FES-1, FES-2
601+19	CONSTRUCT 72" X 170' R.C. PIPE CULVERT (CLASS IV) WITH FES LT. AND RT.							170							2	128	1.6					PCC-1, FES-1, FES-2
603+78	CONSTRUCT 30" X 78' R.C. PIPE CULVERT (CLASS III) WITH FES LT. AND RT		78								2					26	0.3					PCC-1, FES-1, FES-2
611+81	CONSTRUCT DBL. 42" X 76' R.C. PIPE CULVERT (CLASS IV) WITH FES LT. AND RT.					152							2			46	0.6					PCC-1, FES-1, FES-2
617+00	CONSTRUCT 24" X 76' R.C. PIPE CULVERT (CLASS III) WITH FES LT. AND RT.	76									2					26	0.3					PCC-1, FES-1, FES-2
638+61	CONSTRUCT DBL. 30" X 82' R.C. PIPE CULVERT (CLASS IV) WITH FES LT. AND RT.			164							4					28	0.4	50	50			PCC-1, FES-1, FES-2
647+00	CONSTRUCT DBL. 30" X 84' R.C. PIPE CULVERT (CLASS IV) WITH FES LT. AND RT.			168							4					28	0.4	50	50			PCC-1, FES-1, FES-2
651+88	CONSTRUCT DBL. 36" X 128' R.C. PIPE CULVERT (CLASS IV) WITH FES LT. AND RT.				256							4				36	0.5	120	120			PCC-1, FES-1, FES-2
654+84	CONSTRUCT DBL. 30" X 88' R.C. PIPE CULVERT (CLASS IV) WITH FES LT. AND RT.			176							4					28	0.4					PCC-1, FES-1, FES-2
661+38	CONSTRUCT DBL. 36" X 84' R.C. PIPE CULVERT (CLASS V) WITH FES LT. AND RT.								168			4				36	0.5	50	50			PCC-1, FES-1, FES-2
671+30	CONSTRUCT DBL. 36" X 92' R.C. PIPE CULVERT (CLASS IV) WITH FES LT. AND RT.				184							4				36	0.5	150	150			PCC-1, FES-1, FES-2
678+61	CONSTRUCT DBL. 36" X 84' R.C. PIPE CULVERT (CLASS IV) WITH FES LT. AND RT.				168							4				36	0.5	50	50			PCC-1, FES-1, FES-2
686+50	CONSTRUCT DBL. 36" X 82' R.C. PIPE CULVERT (CLASS IV) WITH FES LT. AND RT.				164							4				36	0.5	85	85			PCC-1, FES-1, FES-2
570+00	INSTALL 18" X 46' TEMPORARY PIPE CULVERT																			46		PCC-1, PCM-1
654+90	INSTALL 30" X 56' TEMPORARY PIPE CULVERT																				56	PCC-1, PCM-1
TOTALS :		**216**	**174**	**508**	**772**	**152**	**248**	**170**	**168**	**4**	**18**	**20**	**2**	**4**	**2**	**596**	**7.8**	**555**	**555**	**46**	**56**	

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

9/6/2011
RR50116.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-29-2012				6	ARK.			
				JOB NO.		R50116	49	223

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL R. PUGETT
8/31/12

DRIVEWAYS & TURNOUTS - BASE & SURFACING

STATION	SIDE	DESCRIPTION	WIDTH	ADD'L. LENGTH	ACHM		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS	SIDE DRAINS	SIDE DRAINS
					SQ.YD.	ACHM SURFACE COURSE (1/2") PG 64-22		18"	24"	30"
			FEET			TON		LIN. FT.	LIN. FT.	LIN. FT.
507+50	LT	INSTALL 18" X 34' SIDE DRAIN	16	19	59	6	3	34		
507+93	RT	INSTALL 18" X 32' SIDE DRAIN	20	18	70	8	3	32		
508+68	LT	INSTALL 18" X 32' SIDE DRAIN	16	19	59	6	3	32		
514+64	RT	INSTALL 18" X 38' SIDE DRAIN	20	58	159	17	7	38		
519+56	RT		20	68	181	20	8			
523+37	LT	INSTALL 18" X 28' SIDE DRAIN	16	18	57	6	3	28		
529+22	LT	INSTALL 24" X 28' SIDE DRAIN	16	18	57	6	3		28	
529+22	RT	INSTALL 24" X 32' SIDE DRAIN	16	28	75	8	3		32	
552+10	LT	INSTALL 18" X 28' SIDE DRAIN	16	24	67	7	3	28		
555+43	LT	INSTALL 24" X 44' SIDE DRAIN	16	45	105	12	5		44	
556+32	LT	INSTALL 18" X 32' SIDE DRAIN	16	18	57	6	3	32		
558+00	LT	INSTALL 18" X 30' SIDE DRAIN	16	17	55	6	2	30		
558+90	RT	INSTALL 24" X 30' SIDE DRAIN	16	25	69	8	3		30	
564+70	LT	INSTALL 24" X 60' SIDE DRAIN	20	57	157	17	7		60	
567+65	LT	INSTALL 18" X 32' SIDE DRAIN	16	28	75	8	3	32		
571+34	RT	INSTALL 18" X 38' SIDE DRAIN	16	25	69	8	3	38		
577+56	LT	INSTALL 18" X 40' SIDE DRAIN	16	188	359	39	16	40		
580+48	LT	INSTALL 18" X 34' SIDE DRAIN	16	114	227	25	10	34		
582+12	RT	INSTALL 18" X 38' SIDE DRAIN	16	71	151	17	7	38		
583+65	LT	INSTALL 18" X 32' SIDE DRAIN	16	110	220	24	10	32		
585+48	LT	INSTALL 18" X 42' SIDE DRAIN	16	101	204	22	9	42		
587+73	LT	INSTALL 24" X 68' SIDE DRAIN	16	104	210	23	10		68	
590+27	RT	INSTALL 24" X 70' SIDE DRAIN	20	42	123	14	6		70	
593+30	LT	INSTALL 24" X 30' SIDE DRAIN	16	100	203	22	9		30	
596+25	LT	INSTALL 18" X 34' SIDE DRAIN	16	101	204	22	9	34		
604+57	RT	INSTALL 30" X 46' SIDE DRAIN	16	78	163	18	7			46
605+00	RT	INSTALL 30" X 48' SIDE DRAIN	16	42	99	11	4			48
610+54	RT	INSTALL 18" X 48' SIDE DRAIN	16	43	101	11	5	48		
614+09	LT	INSTALL 18" X 30' SIDE DRAIN	16	64	139	15	6	30		
615+23	LT	INSTALL 18" X 30' SIDE DRAIN	16	20	60	7	3	30		
616+05	RT	INSTALL 24" X 38' SIDE DRAIN	20	10	52	6	2		38	
618+11	RT	INSTALL 24" X 50' SIDE DRAIN	34	32	170	19	8		50	
618+41	LT	INSTALL 18" X 32' SIDE DRAIN	16	57	126	14	6	32		
620+42	LT	INSTALL 18" X 46' SIDE DRAIN	16	66	142	16	6	46		
621+20	LT	INSTALL 18" X 44' SIDE DRAIN	16	66	148	16	7	44		
622+00	LT	INSTALL 18" X 44' SIDE DRAIN	20	36	117	13	5	44		
623+17	LT	INSTALL 18" X 36' SIDE DRAIN	16	37	96	11	4	36		
631+00	RT	INSTALL 18" X 28' SIDE DRAIN	16	28	75	8	3	28		
638+75	LT		16	36	94	10	4			
640+42	LT	INSTALL 18" X 38' SIDE DRAIN	16	36	94	10	4	38		
642+40	LT	INSTALL 18" X 42' SIDE DRAIN	20	36	117	13	5	42		
644+87	LT	INSTALL 18" X 42' SIDE DRAIN	20	56	161	18	7	42		
647+13	LT		20	38	121	13	5			
652+03	LT		16	37	96	11	4			
652+91	LT	INSTALL 18" X 40' SIDE DRAIN	16	66	148	16	7	40		
672+00	LT		16	68	151	17	7			
686+83	LT		16	103	214	24	10			
690+72	LT	INSTALL 30" X 40' SIDE DRAIN	16	24	73	8	3			40
693+00	LT	INSTALL 30" X 44' SIDE DRAIN	16	46	112	12	5			44
695+21	RT	INSTALL 24" X 32' SIDE DRAIN	16	52	117	13	5		32	
697+00	LT	INSTALL 30" X 50' SIDE DRAIN	24	56	192	21	9			50
698+00	RT	INSTALL 24" X 32' SIDE DRAIN	16	19	59	6	3		32	
698+66	LT	INSTALL 30" X 40' SIDE DRAIN	16	121	246	27	11			40
700+09	RT	INSTALL 24" X 32' SIDE DRAIN	16	29	76	8	3		32	
701+33	LT	INSTALL 30" X 32' SIDE DRAIN	16	21	68	7	3			32
701+70	LT	INSTALL 30" X 32' SIDE DRAIN	16	21	68	7	3			32
702+80	LT	INSTALL 30" X 28' SIDE DRAIN	16	26	77	8	3			28
706+03	LT	INSTALL 30" X 34' SIDE DRAIN	16	18	62	7	3			34
ENTIRE	PROJECT	TEMPORARY DRIVES					500			
TOTALS:					**7106**	**778**	**818**	**1044**	**546**	**394**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER (PG 64-22)
MAXIMUM NUMBER OF GYRATIONS = 115
FOR C.M. PIPE CULVERT INSTALLATIONS, USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

COLD MILLING

STATION	STATION	LOCATION	COLD MILLING ASPHALT PAVEMENT
			SQ. YD.
499+00.00	500+00.00	BEGIN JOB	244
712+03.09	713+03.09	END JOB	244
TOTAL:			**488**

AVG. 1" DEPTH

GUARDRAIL

STATION	STATION	SIDE	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)	BRIDGE END TERMINAL	GUARDRAIL (TYPE C)
			LIN. FT.	EACH			LIN. FT.
537+80.79	539+99.54	RT.	200	1	1		
539+05.79	539+99.54	LT.	75	1	1		
549+19.46	549+36.54	RT.				1	
549+19.46	544+29.19	LT.	200	1	1		
541+63		RT.					25
TOTALS:			**475**	**3**	**3**	**1**	**25**

APPROACH GUTTERS

STATION	APPROACH GUTTER (TYPE 1 SPECIAL) (W=8')	APPROACH GUTTER (TYPE 2 SPECIAL) (W=8')	REINFORCING STEEL-ROADWAY (GRADE 60)
	CU. YD.	CU. YD.	POUND
540+26.92	19.60		1760
549+18.08		16.00	1450
TOTALS:	19.60	16.00	3210

SOIL LOG

STATION	LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO SOIL CLASS	COLOR
510+73	0	0-2.8	24	9	A-4(5)	RD/BR
518+69	47' LT.	0-1.5	25	10	A-4(2)	BROWN
526+69	4' LT.	0-5	25	12	A-6(4)	BROWN
534+70	16' LT.	0-5	21	7	A-4(1)	RED
550+68	43' LT.	0-5	19	3	A-4(0)	RED
558+63	17' LT.	0-5	24	12	A-6(3)	RD/GR
558+63	2' LT.	0-5	25	10	A-4(3)	RD/GR
566+62	51' LT.	0-5	19	3	A-4(0)	RD/GR
547+61	83' LT.	0-2.8	21	5	A-4(2)	BR/GR
582+83	48' LT.	0-5	21	8	A-4(0)	RD/BR
590+58	37' LT.	0-5	43	26	A-7-6(20)	GR/BR
596+83	36' LT.	0-5.9	ND	NP	A-2-4(0)	RED
615+70	10' RT.	0-2.7	18	5	A-4(0)	RD/BR
615+70	5' LT.	0-2.0	ND	NP	A-4(0)	RD/BR
615+70	85' RT.	0-2.20	ND	NP	A-4(0)	RED
623+79	18' RT.	0-5	ND	NP	A-4(0)	RD/BR
631+78	26' LT.	0-5	ND	NP	A-4(0)	RED
639+77	27' LT.	0-5	19	3	A-4(0)	RED
647+77	32' LT.	0-5	43	25	A-7-6(19)	RD/GR
655+83	42' RT.	0-1.5	ND	NP	A-4(0)	BROWN
671+98	30' RT.	0-5	56	37	A-7-6(32)	RED
679+90	33' LT.	0-5	25	13	A-6(3)	RED
687+85	32' LT.	0-5	25	8	A-4(1)	RED
687+83	57' LT.	0-2.0	21	8	A-4(1)	RED
695+71	38' LT.	0-5	ND	NP	A-4(0)	RED
695+77	95' LT.	0-5	ND	NP	A-4(0)	RED
703+65	65' LT.	0-4.0	24	10	A-4(3)	RD/BR
711+57	7' LT.	0-1.8	ND	NP	A-2-4(0)	BROWN

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

RR50116.DGN 8-29-2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
8-29-2012				6	ARK.			
				JOB NO.		R50116	50	223

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
8/31/12

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL												
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SILT FENCE (E-11)	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DIVERSION DITCH (E-8)	PIPE FOR SLOPE DRAIN (E-12)	DUMPED RIPRAP	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN (E-14)	*SEDIMENT REMOVAL & DISPOSAL	*EROSION CONTROL MATTING (CLASS 2)
			ACRE	TON	ACRE	M. GAL.	ACRE	ACRE	ACRE	M. GAL.	LIN. FT.	BAG	CU. YD.	LIN. FT.	LIN. FT.	CU. YD.	CU. YD.	CU. YD.	CU. YD.	SQ. YD.
500+00.00	713+03.09	MAIN LANES	34.16	68	34.16	3484.3	34.16	34.16	34.16	696.9										7333
500+00.00	713+03.09	MAIN LANES (STAGE 1)									10581	220	176	21483	1964	37	3724	3724	3724	
500+00.00	713+03.09	MAIN LANES (STAGE 2)									1192	220	56				399	399	399	
ENTIRE	PROJECT	OBLITERATE OLD ROADWAY (STAGE 3)	4.20	8	4.20	428.4	4.20	4.20	4.20	85.7	2705									
TOTALS:			**38.36**	**76**	**38.36**	**3912.7**	**38.36**	**38.36**	**38.36**	**782.6**	**14478**	**440**	**232**	**21483**	**1964**	**37**	**4123**	**4123**	**4123**	**7333**

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING.
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING.
SAND BAG DITCH CHECKS.....20 BAGS / LOCATION

NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

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

RR50116.DGN 8-29-2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	51	223

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7608
MICHAEL D. FUGETT
7/2/12

MAIN LANE BASE AND SURFACING

10581.91	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT						GALLON	ACHM BINDER COURSE (1") (PG 64-22)				ACHM SURFACE COURSE (1/2") (PG 64-22)							
						LEVELING			BETWEEN COURSES				COURSES			TON	LEVELING				COURSES			TON
			FEET	TON / STATION	TON	TOTAL WID. FEET	SQ.YD.	GAL / SQ. YD.	TOTAL WID. FEET	SQ.YD.	GAL / SQ. YD.		AVG. WID. FEET	SQ.YD.	POUND / SQ. YD.		AVG. WID. FEET	SQ.YD.	POUND / SQ. YD.	TON	AVG. WID. FEET	SQ.YD.	POUND / SQ. YD.	
499+00.00	500+00.00	MAIN LANE TRANSITION-TWO LANE	100.00	108.00	108				4.42	49	0.03	1	2.25	25	330	4					12.17	135	220	15
500+00.00	535+00.00	MAIN LANES NOTCH AND WIDEN-TWO LANE	3500.00	214.50	7508	20.00	7778	0.10	8.83	3434	0.03	881	4.50	1750	330	289	20.00	7778	330	1283	44.33	17239	220	1896
551+46.00	565+36.00	MAIN LANES NOTCH AND WIDEN-TWO LANE	1390.00	214.50	2982	20.00	3089	0.10	8.83	1364	0.03	350	4.50	695	330	115	20.00	3089	440	680	44.33	6847	220	753
609+66.00	616+80.00	MAIN LANES NOTCH AND WIDEN-TWO LANE	714.00	214.50	1532	20.00	1587	0.10	8.83	701	0.03	180	4.50	357	330	59	20.00	1587	330	262	44.33	3517	220	387
707+00.00	713+03.09	MAIN LANES NOTCH AND WIDEN-TWO LANE	603.09	214.50	1294	20.00	1340	0.10	8.83	592	0.03	152	4.50	302	330	50	20.00	1340	330	221	44.33	2971	220	327
553+00.00	558+00.00	MAIN LANES ADDITIONAL LEVELING	500.00						146.67	8148	0.03	244	20.00	1111	2420	1344								
565+00.00	567+00.00	MAIN LANES ADDITIONAL LEVELING	200.00						134.00	2978	0.03	89	15.00	333	2948	491								
608+00.00	614+00.00	MAIN LANES ADDITIONAL LEVELING	600.00						120.00	8000	0.03	240	20.00	1333	1980	1320								
615+00.00	626+00.00	MAIN LANES ADDITIONAL LEVELING	1100.00						72.00	8800	0.03	264	10.00	1222	2376	1452								
647+00.00	652+00.00	MAIN LANES ADDITIONAL LEVELING	500.00						43.33	2407	0.03	72	10.00	556	1430	398								
674+00.00	686+00.00	MAIN LANES ADDITIONAL LEVELING	1200.00						96.00	12800	0.03	384	20.00	2667	1584	2112								
686+00.00	692+00.00	MAIN LANES ADDITIONAL LEVELING	600.00						40.00	2667	0.03	80	10.00	667	1320	440								
698+00.00	701+00.00	MAIN LANES ADDITIONAL LEVELING	300.00						120.00	4000	0.03	120	20.00	667	1980	660								
535+00.00	540+26.92	MAIN LANE FULL DEPTH-TWO LANE	526.92	337.75	1780				48.42	2835	0.03	85	24.25	1420	330	234					64.17	3757	220	413
549+18.08	551+46.00	MAIN LANE FULL DEPTH-TWO LANE	227.92	337.75	770				48.42	1226	0.03	37	24.25	614	330	101					64.17	1625	220	179
565+36.00	609+66.00	MAIN LANE FULL DEPTH-TWO LANE	4430.00	337.75	14962				48.42	23833	0.03	715	24.25	11936	330	1969					64.17	31586	220	3474
620+00.00	650+06.00	MAIN LANES NOTCH AND WIDEN-CLIMBING LANE	3006.00	274.00	8236	20.00	6680	0.10	32.83	10965	0.03	997	16.50	5511	330	909	20.00	6680	330	1102	66.33	22154	220	2437
676+13.00	688+50.00	MAIN LANES NOTCH AND WIDEN-CLIMBING LANE	1237.00	274.00	3389	20.00	2749	0.10	32.83	4512	0.03	410	16.50	2268	330	374	20.00	2749	330	454	66.33	9117	220	1003
698+00.00	705+00.00	MAIN LANES NOTCH AND WIDEN-CLIMBING LANE	700.00	274.00	1918	20.00	1556	0.10	32.83	2553	0.03	232	16.50	1283	330	212	20.00	1556	330	257	66.33	5159	220	567
650+06.00	676+13.00	MAIN LANE FULL DEPTH-CLIMBING LANE	2607.00	397.25	10356				72.42	20978	0.03	629	36.25	10500	330	1733					86.17	24961	220	2746
688+50.00	698+00.00	MAIN LANE FULL DEPTH-CLIMBING LANE	950.00	397.25	3774				72.42	7644	0.03	229	36.25	3826	330	631					86.17	9096	220	1001
616+80.00	620+00.00	TRANS. FROM TWO LANE TO CLIMBING LANE N&W	320.00	244.25	782	20.00	711	0.10	20.83	741	0.03	93	10.50	373	330	62	20.00	711	330	117	55.33	1967	220	216
705+00.00	707+00.00	TRANS. FROM CLIMBING LANE N&W TO TWO LANE	200.00	244.25	489	20.00	444	0.10	20.83	463	0.03	58	10.50	233	330	38	20.00	444	330	73	55.33	1230	220	135
537+50.77	540+26.92	ADDITIONAL FOR GUARDRAIL WIDENING	276.15	27.75	77																5.50	169	220	19
538+75.77	540+26.92	ADDITIONAL FOR GUARDRAIL WIDENING	151.15	27.75	42																5.50	92	220	10
549+18.08	550+69.23	ADDITIONAL FOR GUARDRAIL WIDENING	151.15	27.75	42																5.50	92	220	10
549+18.08	551+94.23	ADDITIONAL FOR GUARDRAIL WIDENING	276.15	27.75	77																5.50	169	220	19
549+18.08	551+94.23	ADDITIONAL FOR SUPERELEVATION			3898																			
900+12.25	904+04.43	MAIN LANE FULL DEPTH-EXISTING HWY. 5	392.18	140.25	550																28.17	1228	220	135
TOTALS:					**64566**		**25934**			**131690**		**6542**		**49649**		**14997**		**25934**		**4449**		**143111**		**15742**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER (PG 64-22)
ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER (PG 64-22)

MAXIMUM NUMBER OF GYRATIONS = 115

RUMBLE STRIPS IN ASPHALT SHOULDERS

LOCATION	RUMBLE STRIPS IN ASPHALT SHOULDERS
	LIN. FT.
ENTIRE PROJECT IF AND WHERE DIRECTED BY THE ENGINEER.	36762
TOTAL:	**36762**

NOTE: QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

RR50116.DGN 9/6/2011

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.		R50116	52	223
① 07231		QUANTITIES		52424

SCHEDULE OF BRIDGE QUANTITIES - JOB R50116

BRIDGE NO.	CODE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	801	SP & 802	802	803	SS§804	SS§804	805	805	805	807	808	812	816	816	SP JOB R50116
				ITEM	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE-BRIDGE	CLASS S(AE) CONCRETE-BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL-BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	① STEEL ③ PILING (HP 12X53)	② STEEL ③ PILING (HP 12X63)	PREBORING	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GRADE 50W)	ELASTOMERIC BEARINGS	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP	ARMORED JOINT WITH NEOPRENE STRIP SEAL
				UNIT	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	LB.	CU. IN.	EACH	SQ. YD.	CU. YD.	LIN. FT.
07231	X071	LITTLE RACCOON CREEK	END BENT 1			55.55		0.5	7,350			556		980		1	804	420	42
			INT. BENT 2		329	357.90			54,131		532		266						
			INT. BENT 3		344	439.80			75,247		648								
			INT. BENT 4		444	559.80			97,462		450		360						
			INT. BENT 5		436	521.75			87,835		855								
			INT. BENT 6		352	402.65			69,681		864								
			INT. BENT 7		341	357.90			54,130		1,026								
			END BENT 8		237	150.75		0.4	12,124		30			980			303	167	42
			2-250' CONT. COMP. PLATE GIRDER UNIT				665.80	52.2		153,484				673,260	17,280.0				
			389' CONT. COMP. PLATE GIRDER UNIT				514.30	40.7		120,956				537,540	13,537.6				
			TOTALS FOR JOB NO. R50116		④ 2,483	2,846.10	1,180.10	93.8	457,960	274,440	4,405	556	626	1,212,760	30,817.6	1	1,107	587	84

JIM TRIBO
DESIGN SECTION SUPERVISOR

① THESE STEEL PILES ARE REQUIRED TO HAVE APPROVED DRIVING POINTS WHICH WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO THE ITEM "STEEL PILING (HP 12X53)"

② THESE STEEL PILES ARE REQUIRED TO HAVE APPROVED DRIVING POINTS WHICH WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO THE ITEM "STEEL PILING (HP 12X63)"

③ ALL PILING TO BE AASHTO M270, GR 50.

④ INCLUDES 443 CU. YD. OF ROCK EXCAVATION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. FUSELIER

BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
BRIDGE OVER LITTLE RACCOON CREEK
LITTLE RACCOON CREEK - COVE PRONG CREEK (S)
STONE COUNTY
ROUTE 5 SEC. 16
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 8/29/11 FILENAME: BR50116_qt.DGN
CHECKED BY: TMG DATE: 8/29/11 SCALE: NO SCALE
DESIGNED BY: — DATE: —
BRIDGE NO. 07231 DRAWING NO. 52424

SUMMARY OF QUANTITIES

	ITEM NUMBER	ITEM	QUANTITY	UNIT
	201	CLEARING	200	STATION
	201	GRUBBING	200	STATION
	202	REMOVAL AND DISPOSAL OF FENCE	7658	LIN. FT.
	202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	62	EACH
	202	REMOVAL AND DISPOSAL OF BOX CULVERTS	1	EACH
	202	REMOVAL AND DISPOSAL OF GUARDRAIL	525	LIN. FT.
	210	UNCLASSIFIED EXCAVATION	391151	CU. YD.
	210	COMPACTED EMBANKMENT	111594	CU. YD.
	SP	ROCK FILL	16874	CU. YD.
	SP & 210	SOIL STABILIZATION	250	TON
	SS & 303	AGGREGATE BASE COURSE (CLASS 7)	65384	TON
	401	TACK COAT	6992	GALLON
	SP,SS & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	14352	TON
	SP,SS & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	645	TON
	SP,SS & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	19858	TON
	SP,SS & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	1111	TON
	412	COLD MILLING ASPHALT PAVEMENT	488	SQ. YD.
	SP,SS & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	125	TON
	SP,SS & 415	ACHM PATCHING OF EXISTING ROADWAY	100	TON
	SP & 504	APPROACH GUTTERS	35.60	CU. YD.
	601	MOBILIZATION	1.00	LUMP SUM
	SP & 602	FURNISHING FIELD OFFICE	1	EACH
	SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
	603	18" TEMPORARY CULVERT	46	LIN. FT.
	603	30" TEMPORARY CULVERT	56	LIN. FT.
	SS & 604	SIGNS	408	SQ. FT.
	SS & 604	BARRICADES	1536	LIN. FT.
	SS & 604	TRAFFIC DRUMS	690	EACH
	SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	286	LIN. FT.
	SS & 604	CONSTRUCTION PAVEMENT MARKINGS	85640	LIN. FT.
	SS & 604	VERTICAL PANELS	570	EACH
	605	CONCRETE DITCH PAVING (TYPE B)	4166	SQ. YD.
	SS& 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	216	LIN. FT.
	SS& 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	174	LIN. FT.
	SS& 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	508	LIN. FT.
	SS& 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	772	LIN. FT.
	SS& 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	152	LIN. FT.
	SS& 606	48" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	248	LIN. FT.
	SS& 606	72" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	170	LIN. FT.
	SS& 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	168	LIN. FT.
	SP,SS & 606	18" SIDE DRAIN	1044	LIN. FT.
	SP,SS & 606	24" SIDE DRAIN	546	LIN. FT.
	SP,SS & 606	30" SIDE DRAIN	394	LIN. FT.
	606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	4	EACH
	606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	18	EACH
	606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	20	EACH
	606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
	606	48" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	4	EACH
	606	72" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
	606	SELECTED PIPE BEDDING	125	CU. YD.
	611	UNDERDRAIN OUTLET PROTECTORS	8	EACH
	611	4" PIPE UNDERDRAIN	1000	LIN. FT.
	615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)	75.6	CU. YD.
	615	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)	32	TON
	SS & 617	GUARDRAIL (TYPE A)	475	LIN. FT.
	SS & 617	GUARDRAIL (TYPE C)	25	LIN. FT.
	SS & 617	TERMINAL ANCHOR POST (TYPE 1)	3	EACH
	SS & 617	THRIE BEAM GUARDRAIL TERMINAL	3	EACH
	619	WIRE FENCE (TYPE C)	4422	LIN. FT.
	619	WIRE FENCE (TYPE D)	1017	LIN. FT.
	619	WIRE FENCE (TYPE D-1)	2304	LIN. FT.
*	619	6' STEEL CHAIN LINK FENCE (ALTERNATE NO. 1)	365	LIN. FT.
*	619	6' ALUMINUM CHAIN LINK FENCE (ALTERNATE NO. 2)	365	LIN. FT.
*	619	16' STEEL GATES (ALTERNATE NO. 1)	5	EACH
*	619	16' ALUMINUM GATES (ALTERNATE NO. 2)	5	EACH
	620	LIME	76	TON
	620	SEEDING	38.36	ACRE
	620	MULCH COVER	76.72	ACRE
	SS & 620	WATER	4751.4	M.GAL.
	621	TEMPORARY SEEDING	38.36	ACRE
	621	SILT FENCE	14478	LIN. FT.
	621	SAND BAG DITCH CHECKS	440	BAG
	621	DIVERSION DITCH	21483	LIN. FT.
	621	PIPE FOR SLOPE DRAINS	1964	LIN. FT.
	621	OBLITERATION OF SEDIMENT BASIN	4123	CU. YD.
	621	SEDIMENT BASIN	4123	CU.YD.
	621	SEDIMENT REMOVAL AND DISPOSAL	4123	CU. YD.
	621	ROCK DITCH CHECKS	232	CU. YD.
	623	SECOND SEEDING APPLICATION	38.36	ACRE
	624	SOLID SODDING	4437	SQ. YD.
	626	EROSION CONTROL MATTING (CLASS 2)	7333	SQ. YD.
	635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
	637	MAILBOXES	27	EACH
	637	MAILBOX SUPPORTS (SINGLE)	23	EACH
	637	MAILBOX SUPPORTS (DOUBLE)	2	EACH
	642	RUMBLE STRIPS IN ASPHALT SHOULDERS	36762	LIN. FT.
	SS & 719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	46155	LIN. FT.
	SS & 719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	41037	LIN. FT.
*	SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING YELLOW (4") (ALTERNATE NO. 1)	1784	LIN. FT.
*	SP	HIGH PERFORMANCE CONTRAST MARKING TAPE YELLOW (4") (ALTERNATE NO. 2)	1784	LIN. FT.
	721	RAISED PAVEMENT MARKERS (TYPE II)	1171	EACH
	SS & 734	BRIDGE END TERMINAL	1	EACH
	SS & 804	REINFORCING STEEL - ROADWAY (GRADE 60)	3210	POUND
	816	FILTER BLANKET	555	SQ.YD.
	816	DUMPED RIPRAP	592	CU.YD.
		STRUCTURES OVER 20'-0" SPAN		
	636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
	801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	2483	CU. YD.
	SP & 802	CLASS S CONCRETE-BRIDGE	2846.10	CU. YD.
	802	CLASS S(AE) CONCRETE-BRIDGE	1180.10	CU. YD.
	803	CLASS 1 PROTECTIVE SURFACE TREATMENT	93.8	GALLON
	SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	457960	POUND
	SS & 804	EPOXY COATED REINFORCIING STEEL (GRADE 60)	274440	POUND
	805	STEEL PILING (HP 12X53)	4405	LIN. FT.
	805	STEEL PILING (HP 12X63)	556	LIN. FT.
	805	PREBORING	626	LIN. FT.
	807	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270-GR50W)	1212760	POUND
	808	ELASTOMERIC BEARINGS	30817.6	CU. IN.
	SP	ARMORED JOINT WITH NEOPRENE STRIP SEAL	84	LIN. FT.
	812	BRIDGE NAME PLATE (TYPE D)	1	EACH
	816	FILTER BLANKET	1107	SQ. YD.
	816	DUMPED RIPRAP	587	CU.YD.

* DENOTES ALTERNATE BID ITEM.

REVISIONS

DATE	REVISION	SHEET NUMBER(S)
8/23/2012	ADDED NESTING SITES OF MIGRATORY BIRDS SP AND SECTION 404 NATIONWIDE 14 PERMIT REQUIREMENTS SP	2, 53
8/29/2012	ADDED STD. DWG. GR-7. INCREASED SILT FENCE QUANTITY. ADDED GUARDRAIL TY. C, R&D BOX CULVERTS. R&D GUARDRAIL QUANTITIES. REVISED MOT AND TEC DETAILS.	2, 8, 26A, 38, 47, 49, 50, 53, 119A

STATE OF ARKANSAS
JEFFREY D. PUGETT
REGISTERED PROFESSIONAL ENGINEER
No. 17605
8/31/12

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
8-23-2012			
8-29-2012			

(2) SUMMARY OF QUANTITIES AND REVISIONS

FED.RD DIST.NO.	STATE	JOB NO.	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	R50116		53	223

SURVEY CONTROL COORDINATES

Project Name: sr50116
Date: 6/29/2010
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL,
PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	531447.4801	1319617.8784	1196.59	CTL	*5/8" REBAR W/2" ALUMINUM CAP
2	531967.2843	1319020.0296	1161.45	CTL	*5/8" REBAR W/2" ALUMINUM CAP
3	532532.6953	1318495.0479	1115.11	CTL	*5/8" REBAR W/2" ALUMINUM CAP
4	533581.6430	1318420.1184	1041.70	CTL	*5/8" REBAR W/2" ALUMINUM CAP
5	533745.3031	1318305.6074	1043.00	CTL	*CPS, 36.5'N/E CL HWY 77'N OF WATER X
6	533726.5890	1317790.5267	1062.13	CTL	*5/8" REBAR W/2" ALUMINUM CAP
7	533330.5724	1317438.1967	1118.06	CTL	*5/8" REBAR W/2" ALUMINUM CAP
8	533364.9068	1317138.1621	1130.03	CTL	*5/8" REBAR W/2" ALUMINUM CAP
9	533978.3892	1316572.1121	1173.36	CTL	*5/8" REBAR W/2" ALUMINUM CAP
10	534411.1641	1316066.1459	1195.37	CTL	*5/8" REBAR W/2" ALUMINUM CAP
11	534978.4637	1315441.9032	1279.77	CTL	*CPS, IN C/L OF HWY 33'N OF S/E END O
12	535126.3308	1315207.8064	1271.93	CTL	*5/8" REBAR W/2" ALUMINUM CAP
13	535396.7494	1314608.0479	1223.61	CTL	*5/8" REBAR W/2" ALUMINUM CAP
14	535922.0238	1313572.1648	1245.01	CTL	*CPS IN C/L OF HWY
15	536029.7288	1312964.1195	1187.25	CTL	*24"X3/4"REBAR1.5"ALUM CAP
16	535729.3800	1312656.2672	1210.21	CTL	*5/8" REBAR W/2" ALUMINUM CAP
17	535297.5418	1312365.7713	1219.32	CTL	*5/8" REBAR W/2" ALUMINUM CAP
18	534739.9220	1311859.5610	1238.07	CTL	*CPS IN C/L OF HWY
19	534630.6010	1311261.5613	1214.56	CTL	*5/8" REBAR W/2" ALUMINUM CAP
20	534410.3688	1310262.1530	1153.50	CTL	*5/8" REBAR W/2" ALUMINUM CAP
21	534267.6021	1309436.7442	1103.21	CTL	*5/8" REBAR W/2" ALUMINUM CAP
22	534149.8781	1308797.2473	1061.24	CTL	*5/8" REBAR W/2" ALUMINUM CAP
23	534187.2512	1308552.0714	1044.90	CTL	*5/8" REBAR W/2" ALUMINUM CAP
24	534248.1896	1308328.1404	1032.80	CTL	*5/8" REBAR W/2" ALUMINUM CAP
25	534247.9772	1307970.0941	992.54	CTL	*5/8" REBAR W/2" ALUMINUM CAP
26	534340.5542	1307768.5333	968.21	CTL	*5/8" REBAR W/2" ALUMINUM CAP
27	534277.0423	1307011.6863	914.62	CTL	*5/8" REBAR W/2" ALUMINUM CAP
29	534488.5947	1306065.3192	852.76	CTL	*5/8" REBAR W/2" ALUMINUM CAP
30	534711.6521	1305518.6884	809.63	CTL	*CPS IN C/L OF HWY
31	535199.8305	1304720.6442	729.81	GPS	*5/8" REBAR W/2" ALUMINUM CAP
32	536055.1438	1303987.7242	682.30	CTL	*5/8" REBAR W/2" ALUMINUM CAP
33	537231.8523	1303290.4025	677.78	CLT	*CPS IN PAVEMENT
100	530422.8835	1321337.3441	1245.26	GPS	*AHTD GPS 690001A
101	531060.5718	1320247.2334	1217.95	GPS	*AHTD GPS 690001
102	537108.2411	1303412.3028	676.68	GPS	*AHTD GPS 690002
108	535898.0713	1313701.4939	1247.39	GPS	*AHTD GPS 690007
109	535021.2962	1315339.9863	1278.28	GPS	*AHTD GPS 690007A
110	538574.0675	1302585.0863	664.31	GPS	*AHTD GPS 690008
903	533008.9799	1318421.1858	1074.37	TBM	*CPS, 43.6'W OF HWY 225'S OF S END OF
908	535034.2615	1315302.7293	1279.09	TBM	*CPS IN BASE OF12" HICKORY
909	535623.8887	1314156.8150	1219.14	TBM	*CPS IN BASE OF 10" OAK
910	535887.9005	1313612.0899	1248.07	TBM	*CPS IN BASE OF12" PINE
911	535907.0326	1312868.0454	1190.95	TBM	*CPS IN BASE OF16" OAK
912	534750.0404	1311817.9800	1237.13	TBM	*CPS IN BASE OF 6" OAK
915	534277.6664	1307518.5862	949.12	TBM	*CPS IN BASE OF PP
916	534397.5434	1306269.0631	870.84	TBM	*CPS IN BASE OF PP
917	534713.1028	1305423.2202	807.88	TBM	*CPS IN BASE OF PP
918	535356.0705	1304580.8631	720.75	TBM	*CPS IN BASE OF PP
920	537078.2005	1303379.2435	677.40	TBM	*CHISELED SQR IN CONC
942	536951.1093	1303452.6317	677.52	BM	*AHTD DISK S/W CORNER OF

*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 0.9998929864 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME. sr50116gi.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
AT A SPECIFIC POINT.

REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL
IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.
REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 690001 - 690001A, 690002 - 690008, 690007 - 690007A
CONVERGENCE ANGLE: 0-00-19.312 RIGHT AT LT: 35-48-11 LG: 091-59-24
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	54	223

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12

CONSTRUCTION CONTROL COORDINATES

HORIZONTAL ALIGNMENT-CONST:

POINT	NUMBER		STATION	NORTHING	EASTING
POB(	8000)		50000.00	530332.7598	1321418.5108
PI (	8001)		50288.00	530477.4538	1321169.4956
PI (	8001)		50288.00	530477.4538	1321169.4956
PI (	8002)		50856.80	530765.2291	1320678.8666
PI (	8002)		50856.80	530765.2291	1320678.8666
PI (	8003)		51130.02	530902.2129	1320442.4675
PI (	8003)		51130.02	530902.2129	1320442.4675
PC (	8004)		51383.47	531029.2054	1320223.1240
PT (	8005)		51802.72	531271.1909	1319881.4816
PT (	8005)		51802.72	531271.1909	1319881.4816
PI (	8006)		52930.13	532004.1417	1319024.8369
PC (	8007)		53095.78	532110.9106	1318898.1910
PT (	8008)		53553.21	532391.4895	1318537.0618
PC (	8009)		54856.12	533149.1685	1317477.1137
PT (	8010)		55869.86	533808.3815	1316708.7261
PI (	8011)		55916.40	533841.6863	1316676.2203
PC (	8012)		56293.80	534108.3253	1316409.1357
PT (	8013)		56547.54	534291.5153	1316233.5910
PC (	8014)		57503.95	534996.5366	1315587.3222
PT (	8015)		57727.92	535130.0917	1315409.1245
PC (	8016)		58969.22	535678.3625	1314295.4733
PT (	8017)		59099.32	535736.4873	1314179.0819
PC (	8018)		59990.73	536139.2713	1313383.8568
PT (	8019)		60637.73	535977.0960	1312818.3361
PC (	8020)		60864.66	535782.8534	1312701.0002
PT (	8021)		61198.09	535509.5419	1312510.4353
PI (	8022)		61523.11	535255.6636	1312307.4987
PC (	8023)		62049.36	534845.3405	1311977.9905
PT (	8024)		62367.59	534689.0817	1311708.9856
PI (	8025)		62622.71	534648.8705	1311457.0579
PI (	8026)		62962.60	534591.4306	1311122.0519
PI (	8027)		63265.00	534538.7929	1310824.2680
PI (	8028)		63525.07	534495.0872	1310567.8986
PI (	8029)		64342.65	534357.0545	1309762.0524
PC (	8030)		64824.89	534272.8137	1309287.2266
PT (	8031)		65042.86	534220.5844	1309075.7784
PC (	8032)		65326.43	534134.4190	1308805.6097
PT (	8033)		65933.94	534108.2147	1308205.7599
PC (	8034)		66255.59	534178.8533	1307891.9653
PT (	8035)		66722.74	534224.9664	1307428.2631
PC (	8036)		66944.02	534219.8374	1307207.0454
PT (	8037)		67247.37	534256.7479	1306907.0327
Eqn (	BACK)		67326.04	534277.5816	1306831.1678
Eqn (	AHEAD)	a	67319.72	534277.5816	1306831.1678
PC (	8038)	a	67796.36	534403.8012	1306371.5467
PT (	8039)	a	68177.85	534521.6678	1306008.8571
PC (	8040)	a	68428.74	534610.1462	1305774.0906
PT (	8041)	a	69129.06	534952.6481	1305166.3564
PC (	8042)	a	69659.88	535280.6055	1304748.9740
PT (	8043)	a	69917.34	535454.9108	1304559.8436
PC (	8044)	a	70541.59	535912.7167	1304135.4617
PT (	8045)	a	71020.08	536297.7393	1303853.1411
PI (	8046)	a	71303.09	536543.6354	1303713.0449
POE(	8047)	a	71794.70	536969.0423	1303466.6391

HORIZONTAL ALIGNMENT-N CONN:

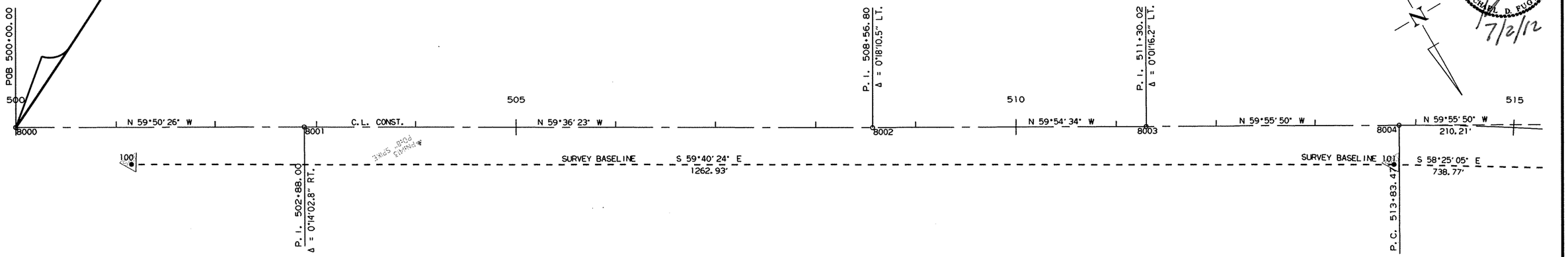
POINT	NUMBER	STATION	NORTHING	EASTING
POB(	8048)	90000.00	533215.9434	1317384.7046
POE(	8049)	90550.75	533644.2632	1317730.9291

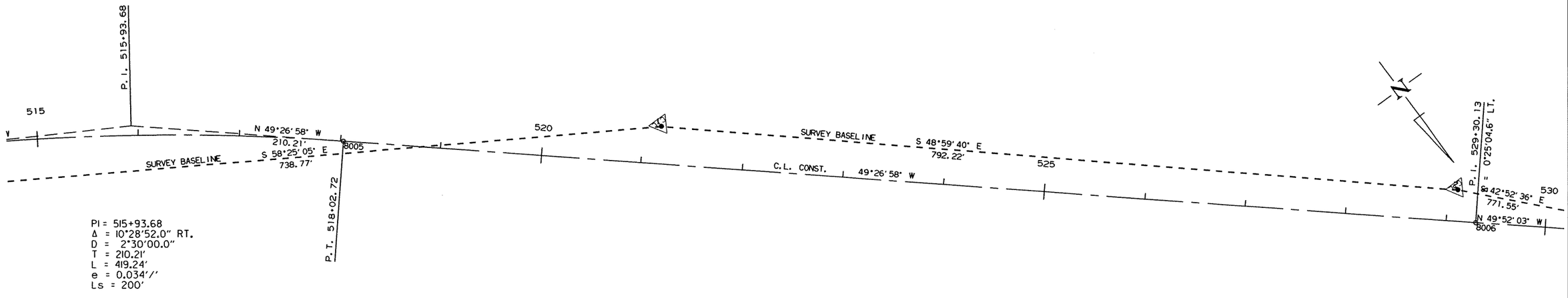
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	55	223

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7603
MICHAEL D. FUGETT
7/2/12





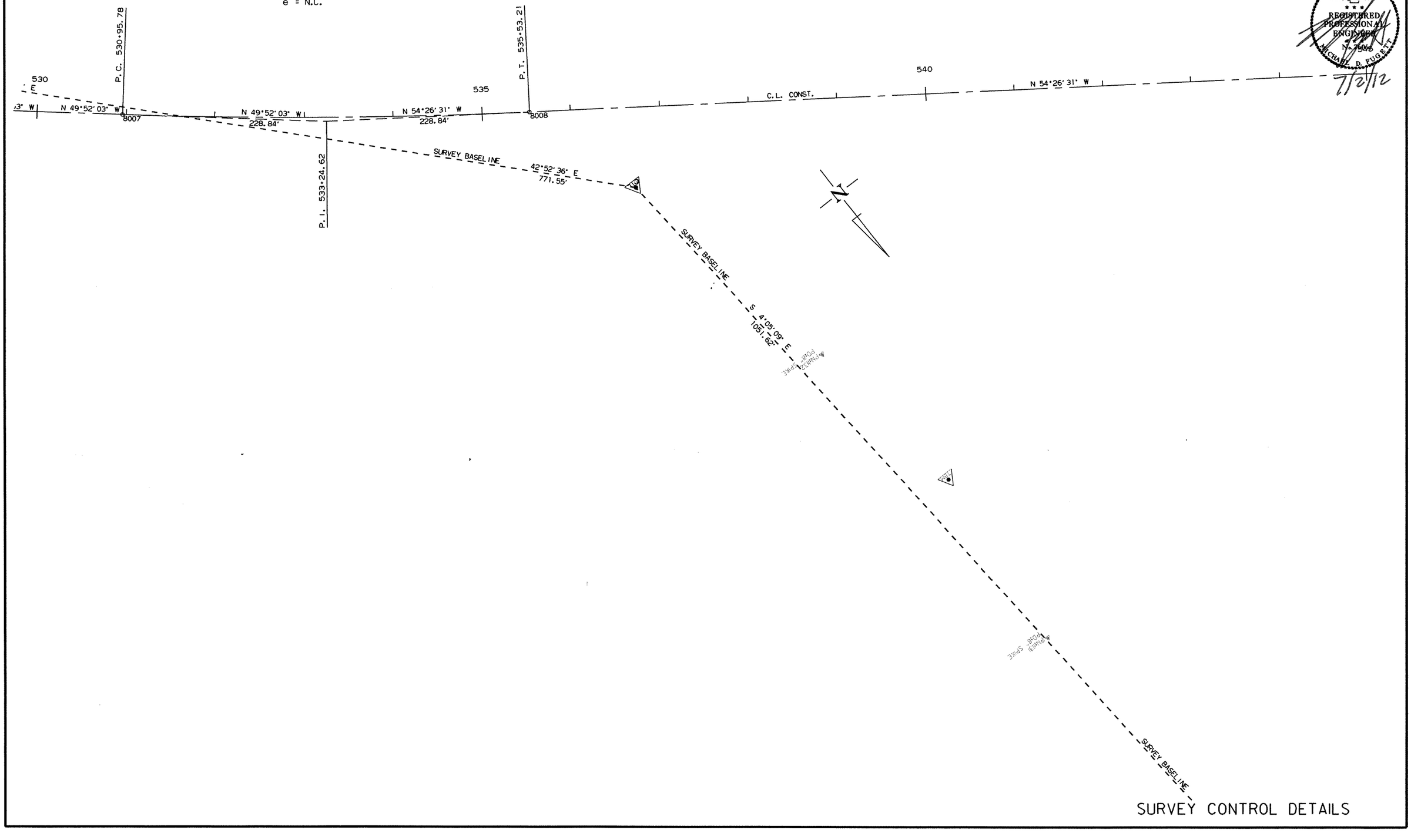
SURVEY CONTROL DETAILS

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	56	223

(2) SURVEY CONTROL DETAILS

PI = 533+24.62
Δ = 4°34'27.8" LT.
D = 1°00'00.0"
T = 228.84'
L = 457.44'
e = N.C.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7956
MICHAEL D. RUGETT
7/2/12

R50116.DGN 8-8-2011

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	57	223

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
CRAIG D. RUDETT
7/2/12

STA 900+12.25 - BEGIN
CO. RD. CONN.

545

C.L. CONST. N 54°26'31" W

P.C. 548+56.12

900

N 54°26'30" W
508.19'

550

C.L. NORTH CONNECTING SURVEY BASELINE

POB900+00.00

S 83°28'18" E
301.99'

PI = 553+64.32
Δ = 10°08'14.5" RT.
D = 1°00'00.0"
T = 508.19'
L = 1013.74'
e = N.C.

PC902+06.70

P1903+05.81

N 41°32'32" E
530.06'

PT904+04.43

C.L. NORTH CONNECTING SURVEY BASELINE

905

906

POE905+56.08

N 87°55'09" E
515.42'

SURVEY BASELINE

S 34°58'48" E
199.74'

SURVEY BASELINE

S 4°05'09" E
105.62'

SURVEY BASELINE

STA 904+04.43 - END
CO. RD. CONN.

PENN35
POB+ SPIKE

PENN33
POB+ SPIKE

PENN34
POB+ SPIKE

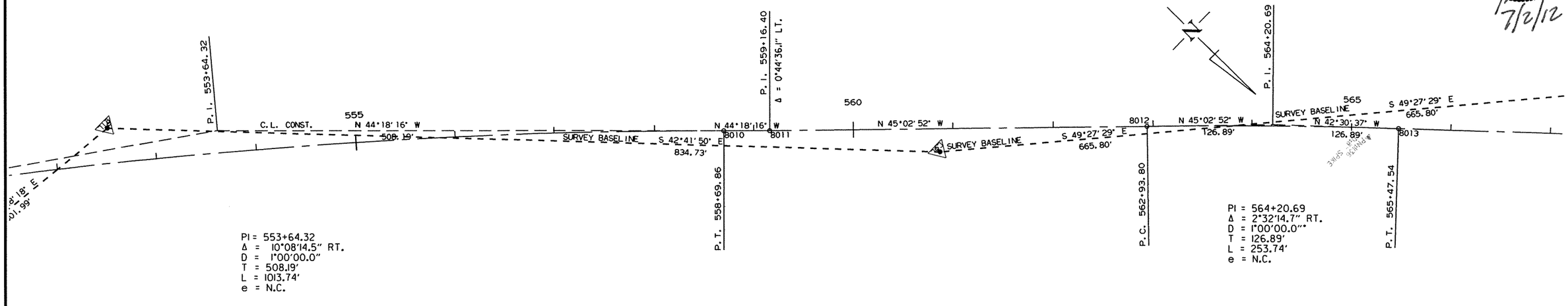
R50116.DGN 8-8-2011

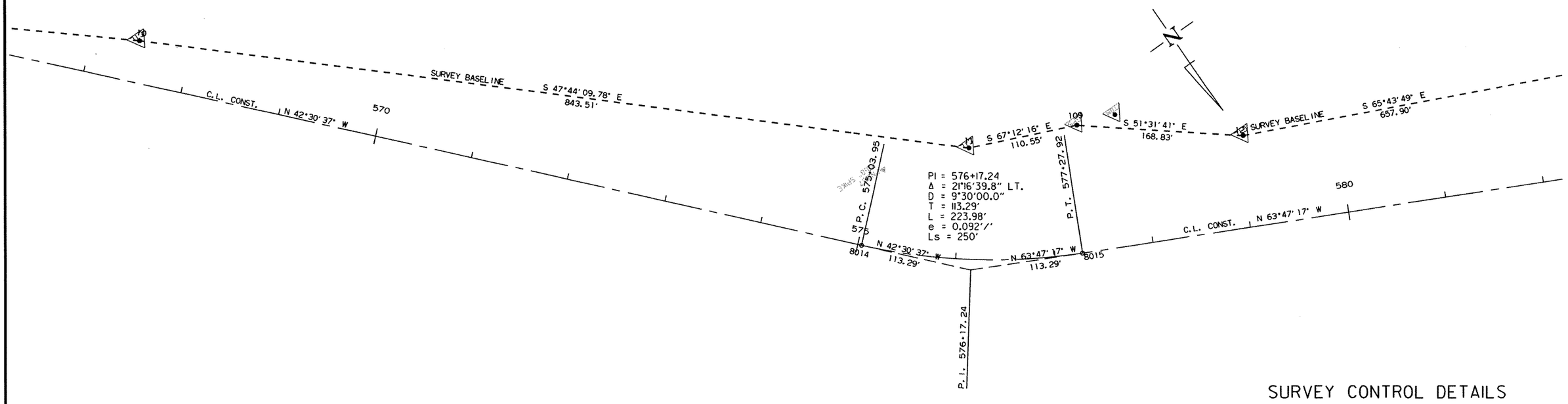
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	58	223

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
CHARLES A. PUGETT
7/2/12





SURVEY CONTROL DETAILS

R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	59	223

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9605
CHAD D. PUGETT
7/2/12

SURVEY BASELINE S 65°43' 49" E 657.90'
SURVEY BASELINE S 61°03' 27.09" E 1035.94'
S 79°30' 27" E 131.53'
585
590
595
C.L. CONST. N 63°47' 17" W
N 63°47' 17" W
N 63°08' 16" W
65.05'
65.05'
8016
8017
P.I. 590+34.27
P.C. 589+69.22
P.T. 590+99.32
PI = 590+34.27
Δ = 0°39'01.8" RT.
D = 0°30'00.0"
T = 65.05'
L = 130.10'
e = N.C.
108
127.53' E
C.L. CONST.
SURVEY BASELINE S 79°57' 19" E 617.51'
P.C. 599+90.73
600
8018
P.I. 603+92.05
N 63°08' 16" W 401.32'
S 31°08' 05.53" W 401.32'
PI = 603+92.05
Δ = 85°43'39.0" LT.
D = 13°15'00.0"
T = 401.32'
L = 647.00'
e = 0.100'/'
Ls = 250'
605
15
8019
P.I. 606+37.73
SURVEY BASELINE N 45°42' 25" E 430.10'
C.L. CONST. S 31°08' 06" W
8020
610
S 31°08' 06" W 166.95'
S 38°38' 13" W 166.95'
16
8021
P.I. 610+31.62
60 99+64.66 P.C.
60 86+19.67 P.T.
PI = 610+31.62
Δ = 7°30'07.5" RT.
D = 2°15'00.0"
T = 166.95'
L = 333.43'
e = 0.031'/'
Ls = 200'

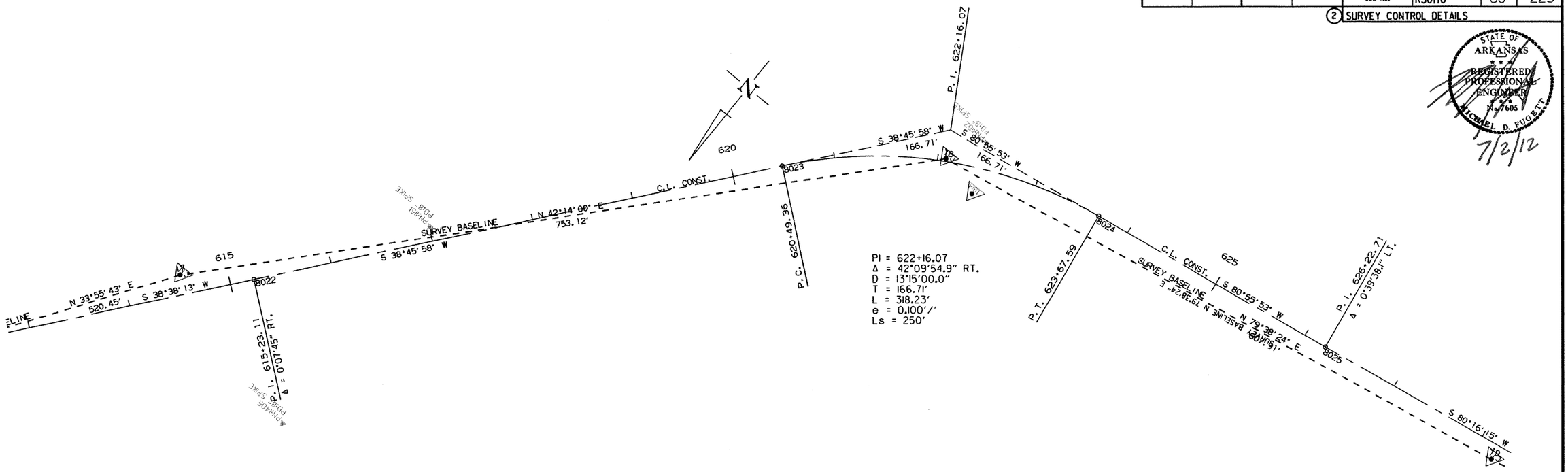
SURVEY CONTROL DETAILS

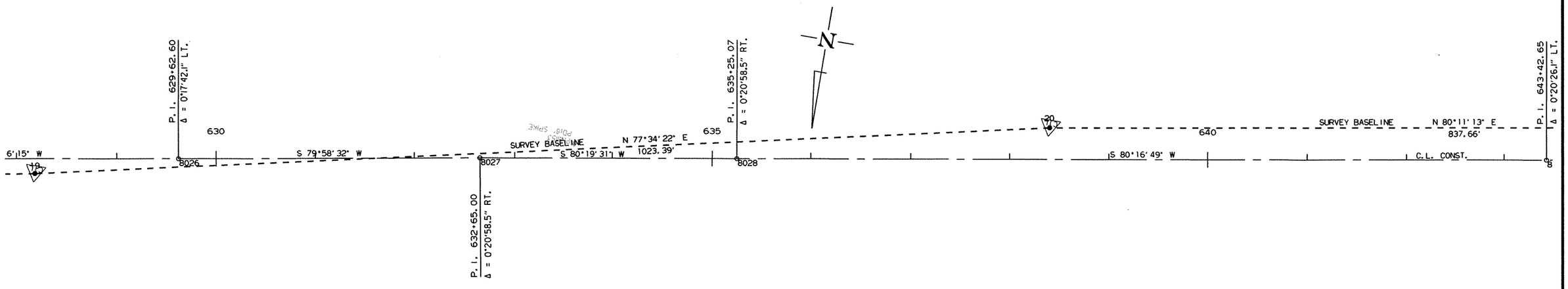
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	60	223

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12





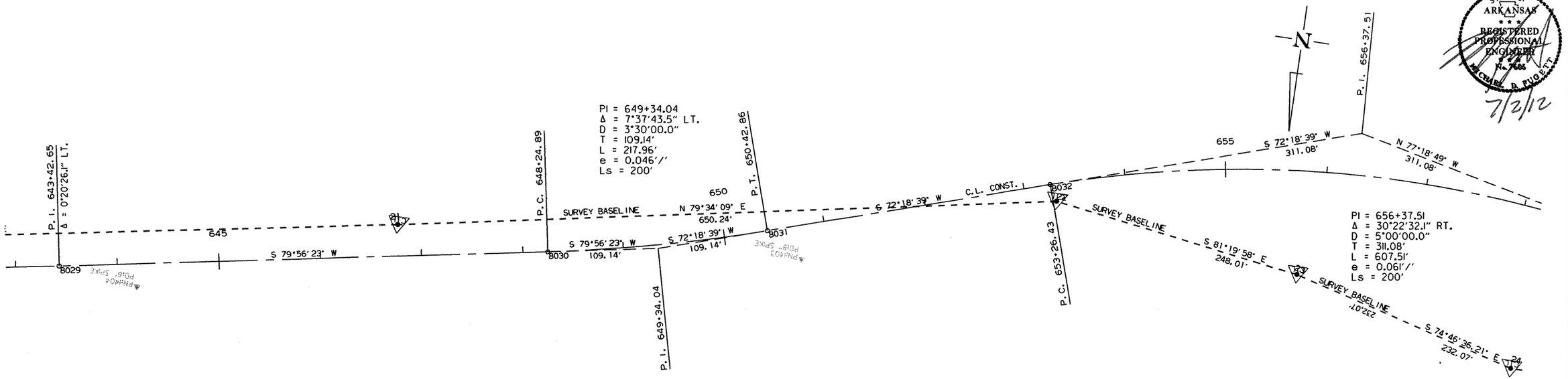
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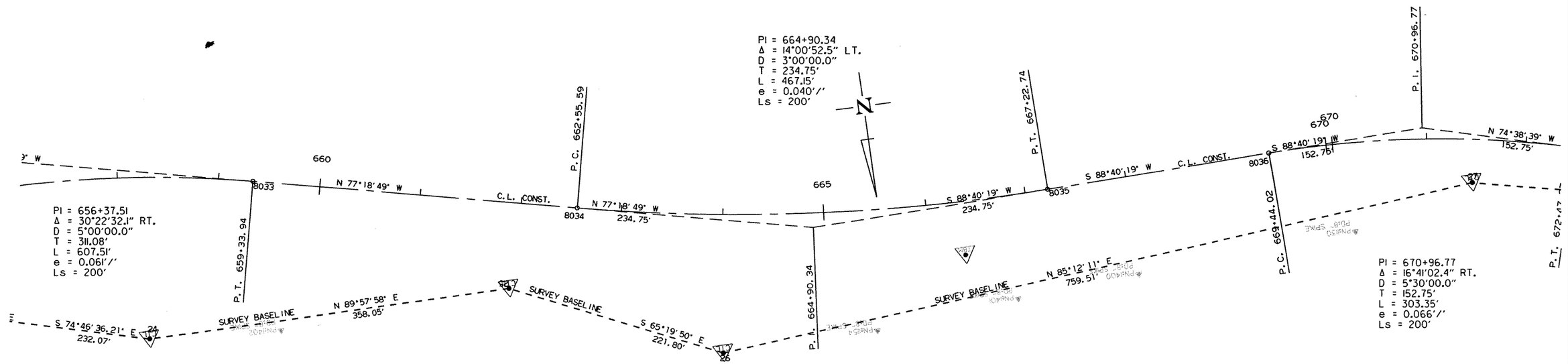
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	61	223

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
CHARLES D. FUGETT
7/2/12





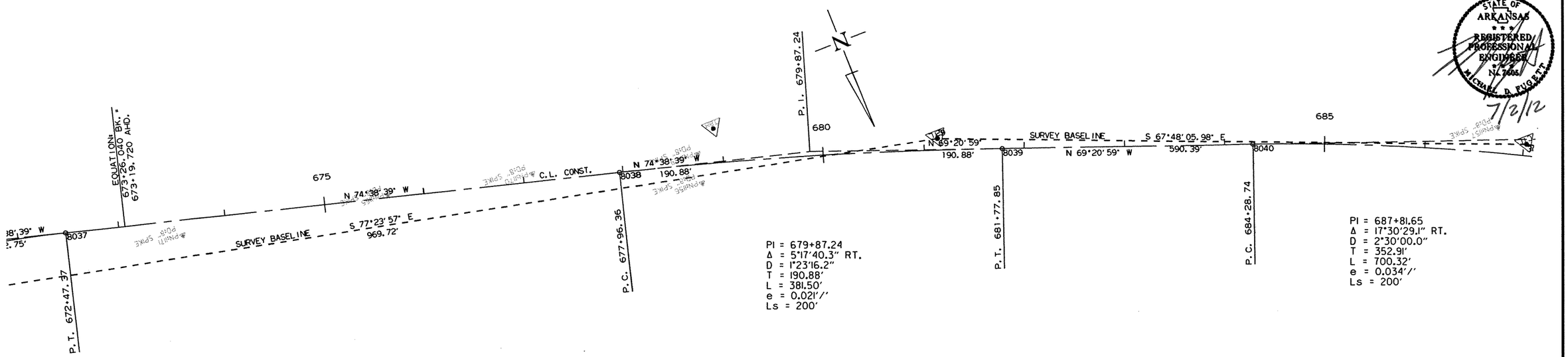
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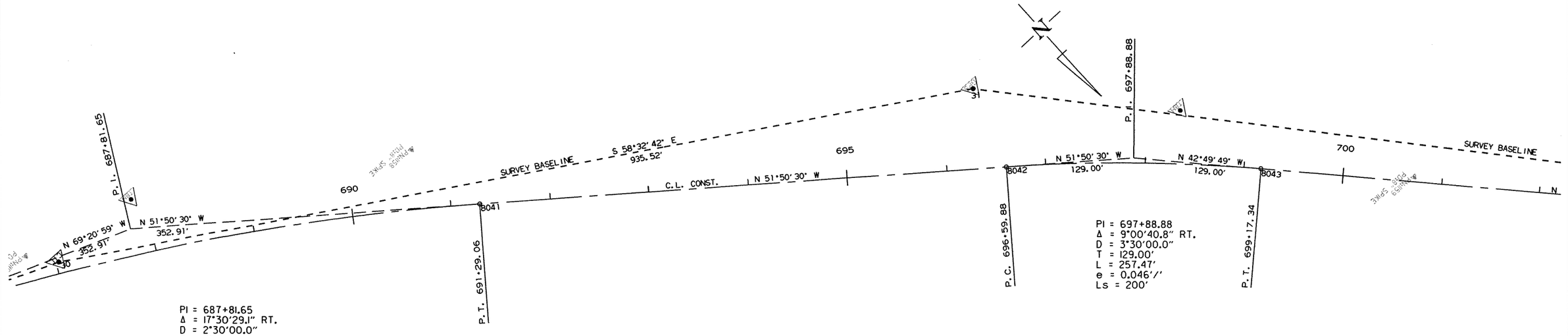
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	62	223

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. RUGETT
7/2/12





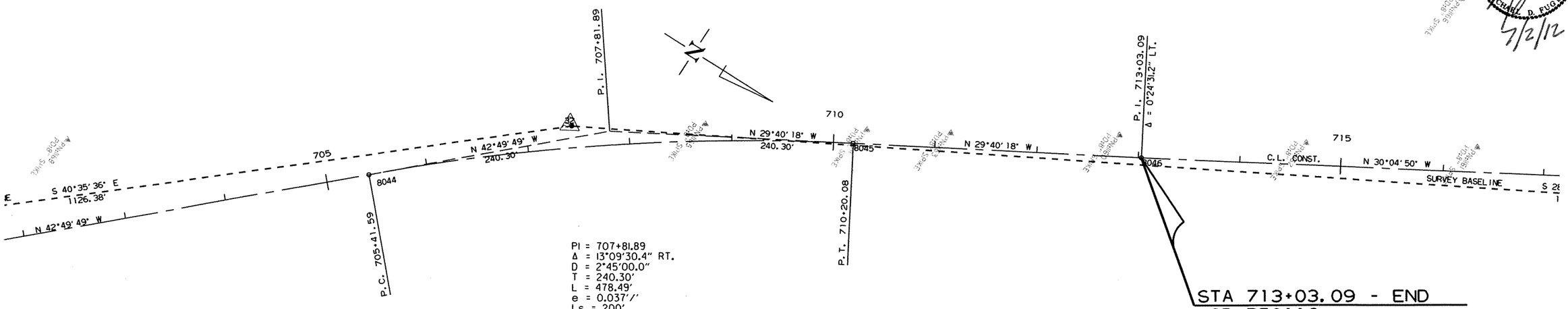
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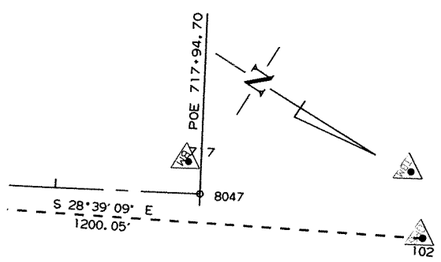
R50116.DGN 8-8-2011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	63	223

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7606
CHARLES D. FUGETT
7/2/12





R50116.DGN 8-8-2011

SURVEY CONTROL DETAILS

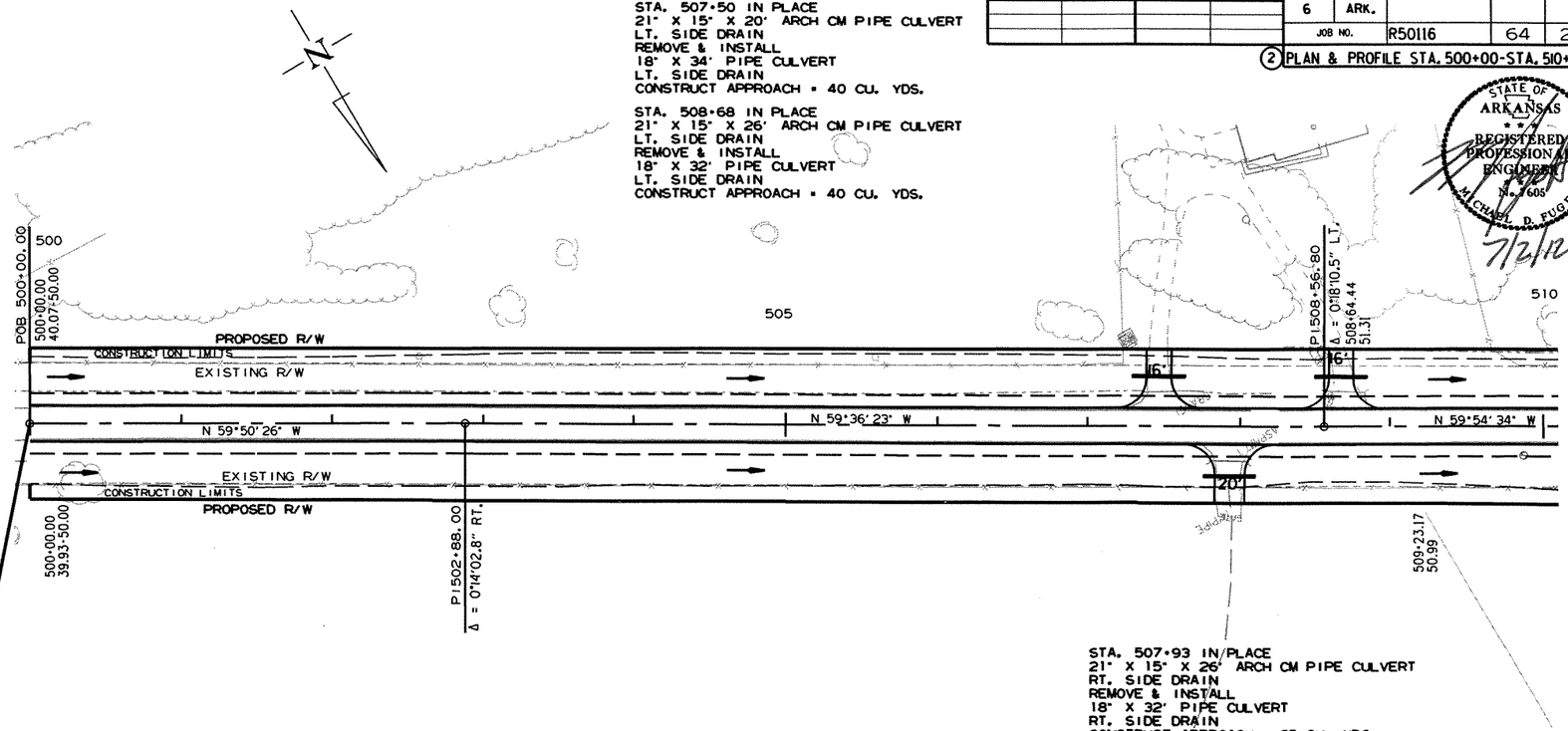
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	64	223

(2) PLAN & PROFILE STA. 500+00-STA. 510+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12

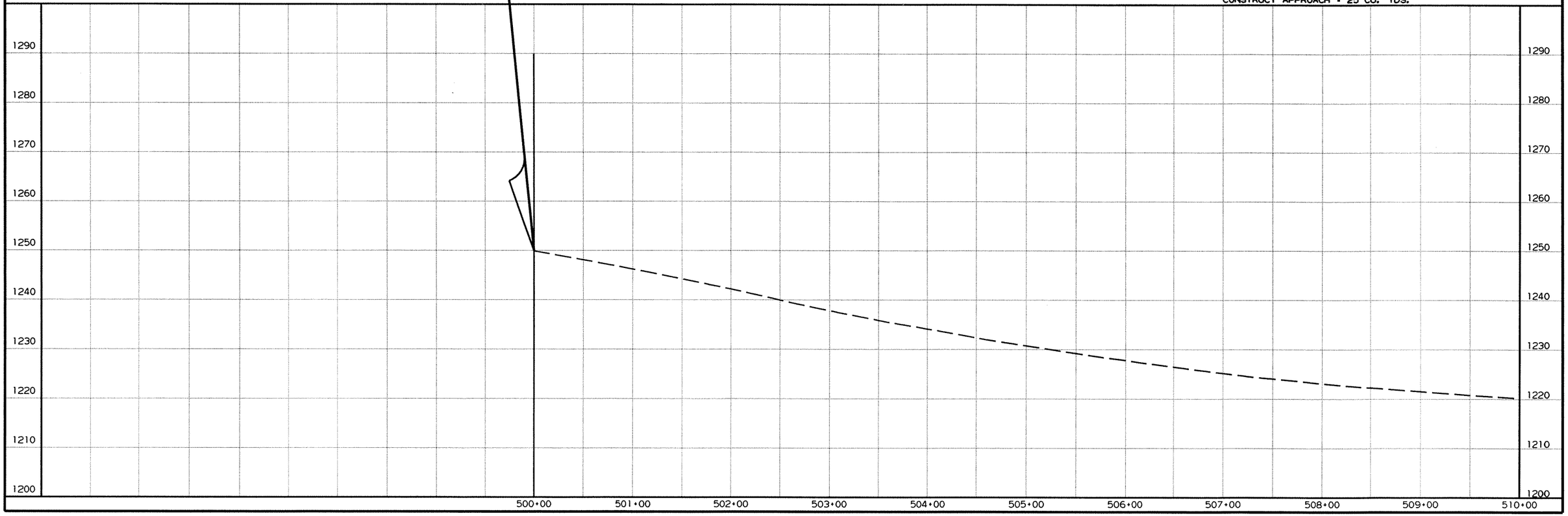
STA. 507+50 IN PLACE
21" X 15" X 20' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 508+68 IN PLACE
21" X 15" X 26' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.



STA. 507+93 IN/PLACE
21" X 15" X 26' ARCH CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

STA 500+00.00 - BEGIN
JOB R50116
L.M. 7.91



r50116.dgn 4-06-11

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	65	223

(2) PLAN & PROFILE STA. 510+00-STA. 525+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/2/12

CHANNEL EXCAVATION = 25 CU. YDS.

STA. 523+37 IN PLACE
18" X 36' PLASTIC PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 514+64 IN PLACE
21" X 15" X 26' ARCH CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

PI = 515+93.68
Δ = 10°28'52.0" RT.
D = 2°30'00"
T = 210.21'
L = 419.24'
e = 0.034'/'
Ls = 200'

STA. 518+97 IN PLACE
30" X 39" C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 519+22 CONSTRUCT
30" X 96' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 49 C.F.S. D.A. = 14 ACRES

STA. 519+56 RT.
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 512+33.47 BEGIN SUPERELEVATION
STA. 514+33.47 MAX. SUPERELEVATION (0.034 FT./FT.)
STA. 517+52.72 MAX. SUPERELEVATION (0.034 FT./FT.)
STA. 519+52.72 END SUPERELEVATION

LT. DITCH GRADE -0.84%
LT. DITCH GRADE -0.55%

F.L. INLET RT. = 1196.30
F.L. OUTLET LT. = 1195.00

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r50116.dgn

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				6	ARK.			
				JOB NO.		R50116	66	223

(2) PLAN & PROFILE STA. 525+00-STA. 540+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
4/2/12

STA. 529+22 INSTALL
24" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

PI = 533+24.62
Δ = 4°34'27.8" LT.
D = 1°00'00"
T = 228.84'
L = 457.44'
e = N.C.

525
50.00
PROPOSED R/W
EXISTING R/W
CONSTRUCTION LIMITS
525+62.48
75.00
PROPOSED R/W
EXISTING R/W
CONSTRUCTION LIMITS
PROPOSED R/W
529+00.00
60.00
PI 529+30.13
Δ = 0°25'04.6" LT.
16'
16'
530
530+00.00
50.00
PC 530+95.78
N 49°52' 03" W
P.I. 533+24.62
533+25.00
60.00
535
535+00.00
45.00
PT 535+53.21
N 54°26' 31" W
537+00.00
60.00
539+00.00
130.00
PROPOSED R/W
PROPOSED R/W

STA. 529+22 IN PLACE
24" X 25' PLASTIC PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
24" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 535+75 IN PLACE
30" X 44' CM PIPE CULVERT
CROSS DRAIN
REMOVE

NO SUPER

525+00.00
1178.20
RT. DITCH
GRADE -5.70%
526+00.00
1172.50
P.I. 534+01.17
ELEV. 1135.37
-6.95%
P.I. 534+50.00
ELEV. 1131.98
-6.58%
P.V.C. 537+14.57
ELEV. 1114.56
-6.58%
K=87.68
VC=1000'
e=14.26'

1190 1180 1170 1160 1150 1140 1130 1120 1110 1100
1140 1130 1120 1110 1100 1090 1080 1070 1060 1050
525+00 526+00 527+00 528+00 529+00 530+00 531+00 532+00 533+00 534+00 535+00 536+00 537+00 538+00 539+00 540+00

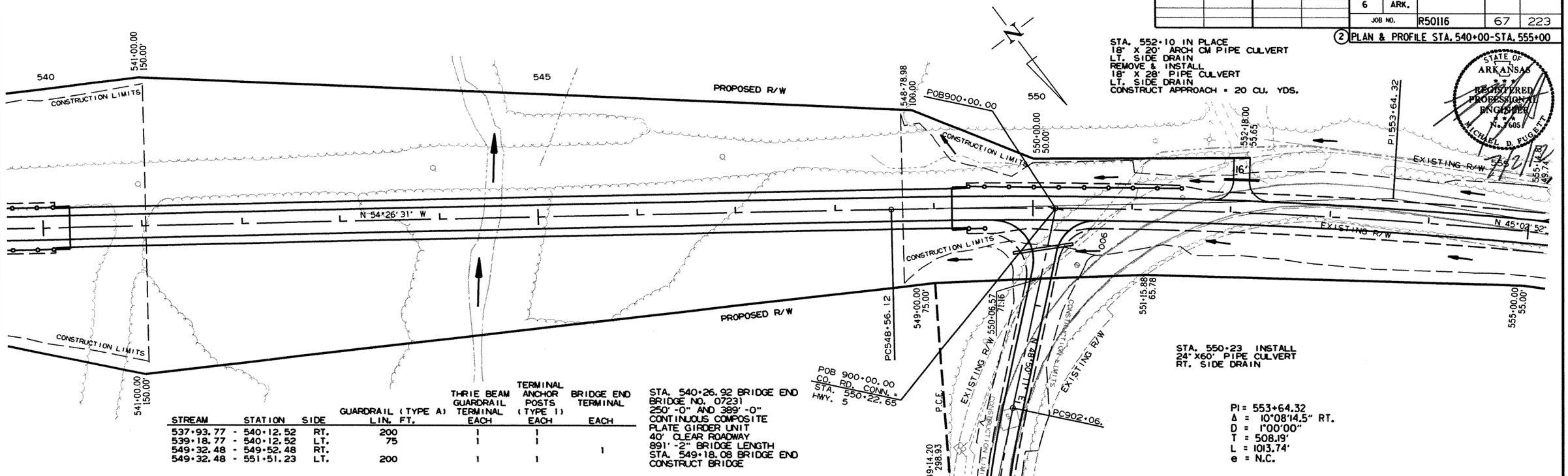
r50116.dgn 4-06-11

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	67	223

(2) PLAN & PROFILE STA. 540+00-STA. 555+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
4/21/11

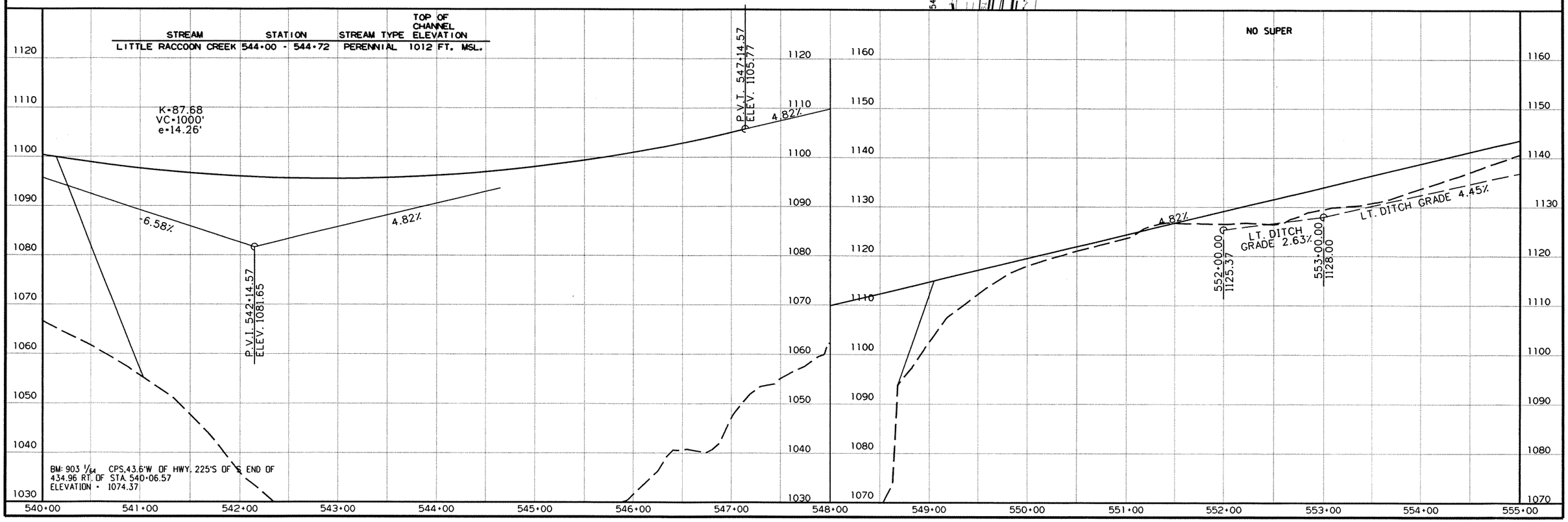
STA. 552+10 IN PLACE
18" X 20' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.



STREAM	STATION	SIDE	GUARDRAIL (TYPE A) LIN. FT.	THRIE BEAM GUARDRAIL TERMINAL EACH	TERMINAL ANCHOR POSTS (TYPE I) EACH	BRIDGE END TERMINAL EACH
537+93.77 -	540+12.52	RT.	200	1	1	
539+18.77 -	540+12.52	LT.	75	1	1	
549+32.48 -	549+52.48	RT.				1
549+32.48 -	551+51.23	LT.	200	1	1	

STA. 540+26.92 BRIDGE END
BRIDGE NO. 07231
250'-0" AND 389'-0"
CONTINUOUS COMPOSITE
PLATE GIRDER UNIT
40' CLEAR ROADWAY
891'-2" BRIDGE LENGTH
STA. 549+18.08 BRIDGE END
CONSTRUCT BRIDGE

PI = 553+64.32
Δ = 10°08'14.5" RT.
D = 1°00'00"
T = 508.19'
L = 1013.74'
e = N.C.



4-06-11
r50116.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		68	223
				JOB NO.		R50116		

(2) PLAN & PROFILE STA. 555+00-STA. 570+00

STA. 555+43 IN PLACE
24" X 12" X 24' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 556+32 IN PLACE
18" X 18" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 558+00 IN PLACE
23" X 14" X 24' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

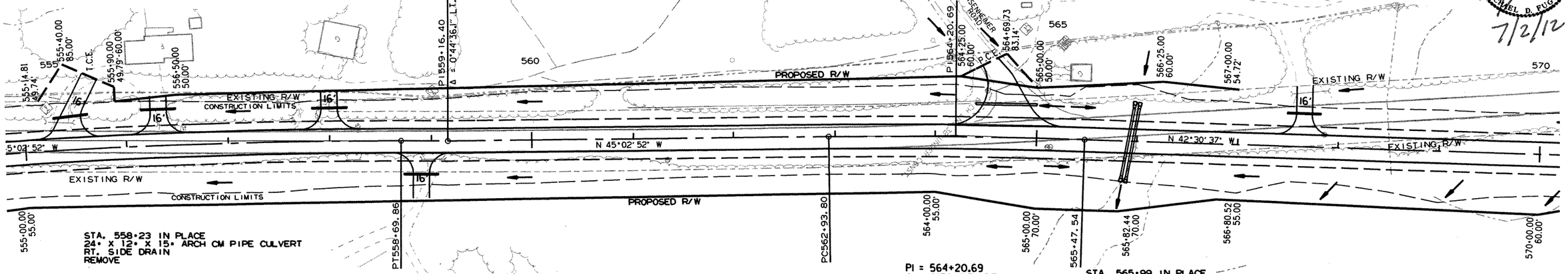
STA. 564+08 IN PLACE
18" X 25" CM PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 564+70 INSTALL
24" X 60' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT CO. RD. TURNOUT = 35 CU. YDS.

STA. 564+91 IN PLACE
18" X 40" CM PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 567+65 IN PLACE
18" X 36' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 7605
MICHAEL D. PUGETT
7/2/12



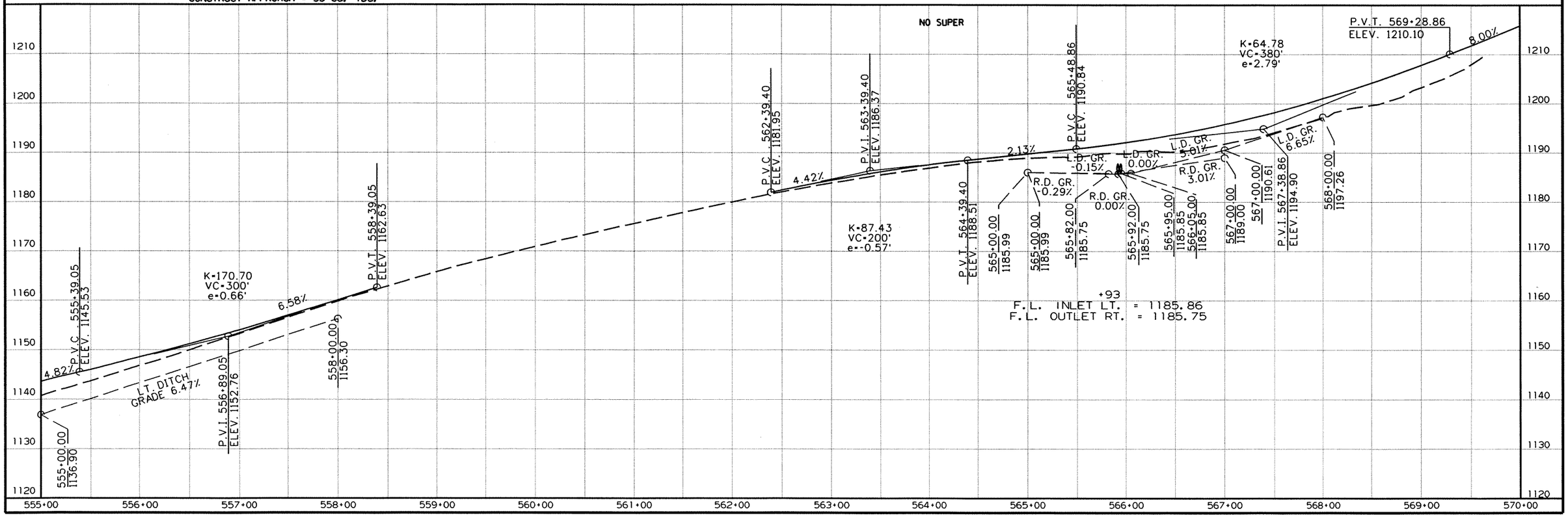
STA. 558+23 IN PLACE
24" X 12" X 15" ARCH CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 558+90 IN PLACE
24" X 12" X 24' ARCH CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
24" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

PI = 564+20.69
Δ = 2°32'14.7" RT.
D = 1°00'00"
T = 126.89'
L = 253.74'
e = N.C.

STA. 565+99 IN PLACE
24" X 37" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 565+93 CONSTRUCT
DBL. 24" X 70' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 51 C.F.S. D.A. = 12 ACRES



4-06-11

r50116.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		R50116	69	223

(2) PLAN & PROFILE STA. 570+00-STA. 585+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12

STA. 571+06 IN PLACE
30" X 31" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 575+86 IN PLACE
18" X 20" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 577+56 INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH:
COMP. EMB. = 45 CU. YDS.
UNC. EXC. = 1305 CU. YDS.

STA. 578+04 IN PLACE
18" X 21" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 583+16 IN PLACE
21" X 15" X 48" ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 580+50 IN PLACE
18" X 24" CM PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 583+63 IN PLACE
18" X 26" CM PIPE CULVERT
LT. SIDE DRAIN
RETAIN

PI = 576+17.24
Δ = 21°16'39.8" LT.
D = 9°30'00"
T = 113.29'
L = 223.98'
e = 0.092'/'
Ls = 250'

STA. 580+48 INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH:
COMP. EMB. = 50 CU. YDS.
UNC. EXC. = 75 CU. YDS.

STA. 583+65 INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH:
COMP. EMB. = 70 CU. YDS.
UNC. EXC. = 20 CU. YDS.

570 575 580 585

EXISTING R/W

CONSTRUCTION LIMITS

N 42°30'37" W

N 63°47'17" W

PC575+03.95

PT577+27.92

PI576+17.24

16'

570+00.00 60.00'

571+00.00 40.00'

573+00.00 60.00'

574+50.00 65.00'

575+50.00 110.00'

576+95.08 120.00'

578+00.00 120.00'

580+50.00 60.00'

581+50.00 60.00'-85.00'

582+40.00 60.00'-110.00'

585+00.00 90.00'

PROPOSED R/W

T.C.E.

576+25.00 151.81'-180.00'

577+50.00 149.82'-120.00'

STA. 571+34 INSTALL
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 582+12 INSTALL
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH:
COMP. EMB. = 40 CU. YDS.
UNC. EXC. = 5 CU. YDS.

STA. 573+16.45 BEGIN SUPERELEVATION
STA. 575+66.45 MAX. SUPERELEVATION (0.092 FT./FT.)
STA. 576+65.42 MAX. SUPERELEVATION (0.092 FT./FT.)
STA. 579+15.42 END SUPERELEVATION

P.V.C. 574+04.33
ELEV. 1248.14

P.V.I. 577+59.33
ELEV. 1276.54

P.V.T. 583+39.33
ELEV. 1234.07

P.V.I. 582+26.83
ELEV. 1239.14

P.V.C. 584+30.63
ELEV. 1229.97

8.00%

-8.00%

-4.50%

R.D. GR. 9.11%

R.D. GR. 5.83%

R.D. GR. 7.71%

R.D. GR. 3.24%

R.D. GR. 1.03%

R.D. GR. -2.51%

L.D. GR. 6.62%

L.D. GR. 4.23%

L.D. GR. 2.73%

L.D. GR. 0.76%

573+00.00 1235.98

574+00.00 1245.09

574+00.00 1243.98

575+00.00 1250.92

575+00.00 1250.60

575+66.45 1256.05

576+00.00 1254.83

576+64.80 1259.23

577+00.00 1257.56

577+59.33 1260.21

578+00.00 1258.32

579+00.00 1256.68

K-44.37
VC-710'
e=-14.20'

K 64.29
VC-225'
e-0.98'

K-64.44
VC-580'
e-6.52'

BM: 908 1/64 CPS IN BASE OF 12" HICKORY
132.97 LT. OF STA. 577+81.05
ELEVATION = 1279.09

1290 1280 1270 1260 1250 1240 1230 1220 1210 1200

570+00 571+00 572+00 573+00 574+00 575+00 576+00 577+00 578+00 579+00 580+00 581+00 582+00 583+00 584+00 585+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	70	223

(2) PLAN & PROFILE STA. 585+00-STA. 600+00

STA. 585+48 IN PLACE
18" X 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 225 CU. YDS.

STA. 587+73 IN PLACE
18" X 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
24" X 68' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 670 CU. YDS.

STA. 593+30 INSTALL
24" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH=
COMP. EMB. = 35 CU. YDS.
UNC. EXC. = 90 CU. YDS.

STA. 596+25 INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH=
COMP. EMB. = 35 CU. YDS.
UNC. EXC. = 550 CU. YDS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/27/12

585
590
595
P1590+34.27
EXISTING R/W
CONSTRUCTION LIMITS
16'
N 63°47'17" W
N 63°08'16" W
CO. RD.
PC599+96.70

585+00.00
90.00'

PROPOSED R/W

STA. 588+92 IN PLACE
6' X 3' 26° CONC. BOX
CROSS DRAIN
REMOVE

STA. 589+00 CONSTRUCT
DBL. 48" X 124' R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 93 C.F.S. D.A. = 64 ACRES

PC589+69.22
590+05.06
98.90'

PI = 590+34.27
Δ = 0°39'01.8" RT.
D = 0°30'00"
T = 65.05'
L = 130.10'
e = N.C.

PT590+99.32
591+17.99
100.00'

STA. 590+27 IN PLACE
24" X 35' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
24" X 66' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT CO. RD. TURNOUT = 400 CU. YDS.

593+00.00
125.00'

594+00.00
125.00'

STA. 593+89 IN PLACE
12" X 21" RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE

596+00.00
130.00'

PROPOSED R/W

NO SUPER

1270
1260
1250
1240
1230
1220
1210
1200
1190
1180

K-64.44
VC-580'
e-6.52'

-4.50%
4.50%
R.D. GR. -1.19%
L.D. GR. 3.29%
L.D. GR. 0.00%
R.D. GR. 0.00%
R.D. GR. 5.51%
L.D. GR. 5.79%
4.50%

587+00.00
1213.45
P.V.I. 587+20.63
ELEV. 1216.92

588+00.00
1207.84

588+84.00
1205.08

589+00.00
1205.08

589+01.00
1211.07

589+17.00
1211.07

590+00.00
1210.87

590+50.00
1218.40

P.V.T. 590+10.63
ELEV. 1229.97

P.V.C. 591+38.48
ELEV. 1235.72

P.V.I. 594+13.48
ELEV. 1248.09

K-51.62
VC-550'
e--7.33'

P.V.T. 596+88.48
ELEV. 1231.17

-6.15%

599+00.00
1214.34

L.D. GR. -13.92%

+00
F.L. INLET RT. = 1211.07
F.L. OUTLET LT. = 1205.08

BM: 909 1/64 CPS IN BASE OF 10" OAK
110.55 LT. OF STA. 590+68.60
ELEVATION = 1219.14

BM: 910 1/64 CPS IN BASE OF 12" PINE
121.12 LT. OF STA. 596+73.55
ELEVATION = 1248.07

585+00 586+00 587+00 588+00 589+00 590+00 591+00 592+00 593+00 594+00 595+00 596+00 597+00 598+00 599+00 600+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	71	223

(2) PLAN & PROFILE STA. 600+00-STA. 615+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL P. FUGETT
7/2/12

PC599+90.73

600+50.00 130.00'

N 63°08'16" W

EXISTING R/W

605

PT606+37.73

EXISTING R/W

CONSTRUCTION LIMITS

S 31°08'06" W

602+70.00 95.00'

PROPOSED R/W

604+10.00 70.00' T.C.E.

604+45.00 100.00'

604+75.00 75.00'

T.C.E.

605+25.00 75.00'

606+25.00 90.00'

CONSTRUCTION LIMITS

PC608+64.66

608+00.00 85.00'

610

P1610+31.62

T.C.E.

610+05.00 50.52-100.00'

610+80.00 100.00'

611+50.00 60.00'

612+50.00 60.00'

PROPOSED R/W

613+50.00 45.00'

613+85.00 44.99'

614+20.00 85.00'

T.C.E.

614+50.00 85.00'

615

615+00.00 60.00'

T.C.E.

S 38°38'13" W

PROPOSED R/W

610+00.00 80.00'

PI = 610+31.62
Δ = 7°30'07.5" RT.
D = 2°15'00"
T = 166.95'
L = 333.43'
e = 0.031'/'
Ls = 200'

PT611+98.09

612+00.00 75.00'

615+00.00 60.00'

P

STA. 601+19 CONSTRUCT
72" X 170' R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 253 C.F.S. D.A. = 124 ACRES

STA. 605+19 IN PLACE
18" X 29" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 603+78 CONSTRUCT
30" X 78' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 15 C.F.S. D.A. = 5 ACRES

STA. 604+57 INSTALL
30" X 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 165 CU. YDS.

P1603+92.05

STA. 605+00 INSTALL
30" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 150 CU. YDS.

STA. 610+54 INSTALL
18" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH=
COMP. EMB. = 120 CU. YDS.
UNC. EXC. = 5 CU. YDS.

STA. 603+26 IN PLACE
48" X 38" C.M. PIPE CULVERT
CROSS DRAIN
REMOVE

PI = 603+92.05
Δ = 85°43'39.0" LT.
D = 13°15'00"
T = 401.32'
L = 647.00'
e = 0.100'/'
Ls = 250'

STA. 606+22 IN PLACE
18" X 24" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 610+50 LT.
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 611+68 IN PLACE
24" X 42" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 614+09 INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 611+81 CONSTRUCT
DBL. 42" X 76' R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 52 C.F.S. D.A. = 14 ACRES

STA. 598+03.23 BEGIN SUPERELEVATION
STA. 600+53.23 MAX. SUPERELEVATION (0.100 FT./FT.)
STA. 605+01.20 MAX. SUPERELEVATION (0.100 FT./FT.)
STA. 607+51.20 END SUPERELEVATION

STA. 607+51.20 BEGIN SUPERELEVATION
STA. 609+51.20 MAX. SUPERELEVATION (0.031 FT./FT.)
STA. 611+48.09 MAX. SUPERELEVATION (0.031 FT./FT.)
STA. 613+48.09 END SUPERELEVATION

1250 1240 1230 1220 1210 1200 1190 1180 1170 1160

-6.15% L.D. GR. -3.94%

P.V.C. 600+65.54 ELEV. 1207.96

600+80.00 1190.15

R.D. GR. 0.00%

600+87.00 1190.15

L.D. GR. 0.00%

601+10.00 1185.00

+19

F.L. INLET RT. = 1190.31
F.L. OUTLET LT. = 1185.00

602+00.00 1185.00

R.D. GR. 0.49%

L.D. GR. 0.00%

K=64.21
VC=740'
e=10.66'

604+85.00 1192.10

L.D. GR. 1.00%

+78

F.L. INLET RT. = 1191.58
F.L. OUTLET LT. = 1186.78

P.V.I. 604+35.54 ELEV. 1185.19

605+00.00 1188.00

R.D. GR. 2.28%

L.D. GR. 3.50%

607+00.00 1197.00

607+00.00 1195.00

R.D. GR. 3.95%

L.D. GR. 6.41%

P.V.T. 608+05.54 ELEV. 1205.06

608+00.00 1201.41

608+00.00 1200.95

5.37%

P.V.C. 608+97.50 ELEV. 1210.00

P.V.I. 610+00.00 ELEV. 1215.50

610+00.00 1211.63

610+00.00 1210.51

K=44.47
VC=205'
e=-1.18'

P.V.T. 611+02.50 ELEV. 1216.28

L.D. GR. -1.84%

611+70.00 1208.87

-0.96%

RT. DITCH GRADE

0.76%

P.V.C. 612+00.00 ELEV. 1217.02

R.D. GR. 0.00%

611+77.00 1208.38

L.D. GR. 0.00%

611+86.00 1208.87

R.D. GR. 4.88%

611+92.00 1208.38

+81

F.L. INLET RT. = 1208.90
F.L. OUTLET LT. = 1208.27

K=109.58
VC=200'
e=0.46'

P.V.I. 613+00.00 ELEV. 1217.78

613+00.00 1214.43

L.D. GR. 3.18%

2.54%

P.V.T. 614+00.00 ELEV. 1220.37

614+00.00 1215.00

BM: 911 1/64 CPS IN BASE OF 16" OAK
78.78 LT. OF STA. 606+72.00
ELEVATION = 1190.95

600+00 601+00 602+00 603+00 604+00 605+00 606+00 607+00 608+00 609+00 610+00 611+00 612+00 613+00 614+00 615+00

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				6	ARK.			
				JOB NO.		R50116	72	223

(2) PLAN & PROFILE STA. 615+00-STA. 630+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/2/12

STA. 615+23 INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

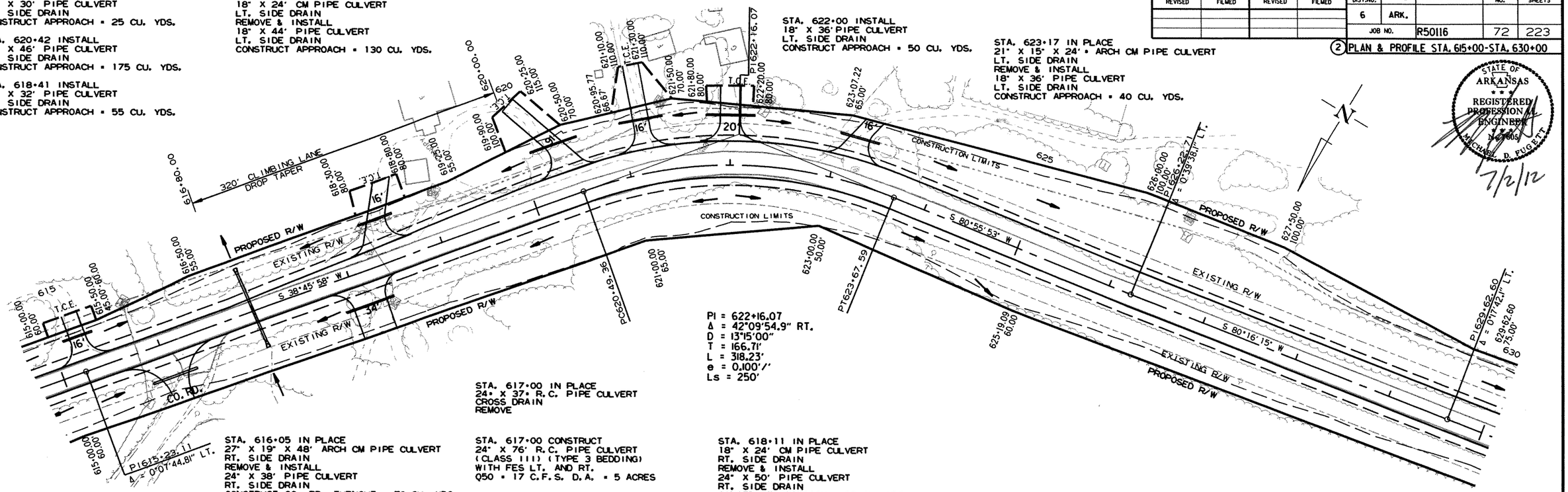
STA. 620+42 INSTALL
18" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 175 CU. YDS.

STA. 618+41 INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 621+20 IN PLACE
18" X 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 130 CU. YDS.

STA. 622+00 INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 623+17 IN PLACE
21" X 15" X 24' = ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 36" PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.



PI = 622+16.07
Δ = 42°09'54.9" RT.
D = 13°15'00"
T = 166.71'
L = 318.23'
e = 0.100'/'
Ls = 250'

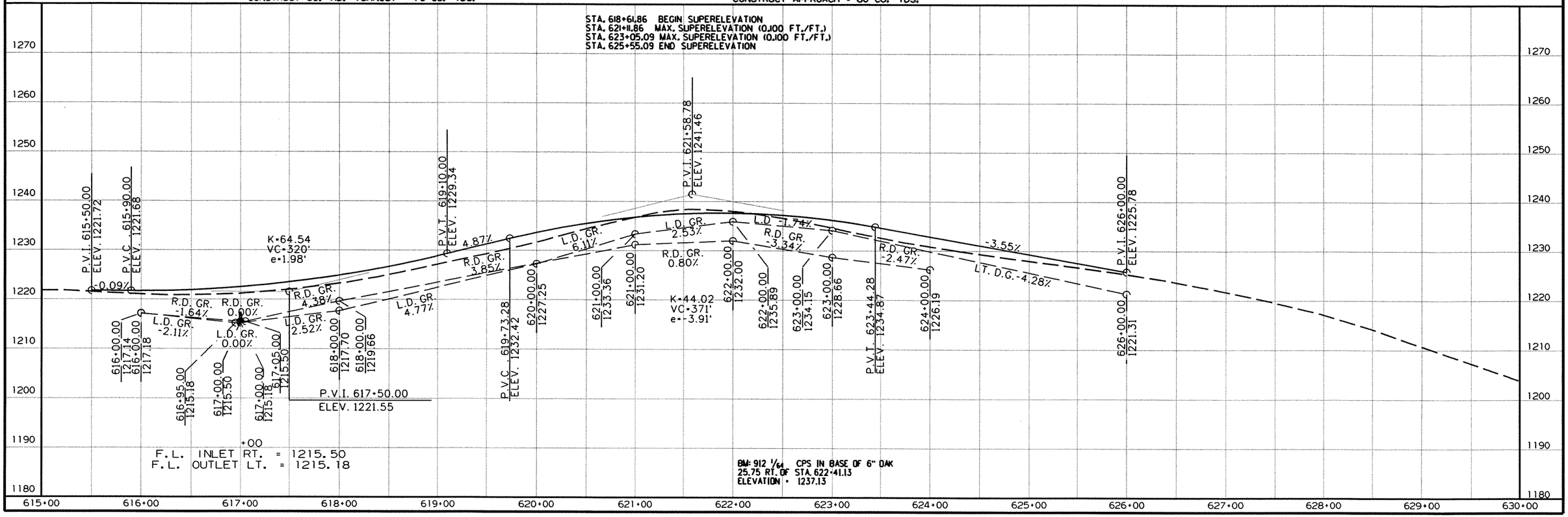
STA. 617+00 IN PLACE
24" X 37" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 616+05 IN PLACE
27" X 19" X 48' ARCH CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
24" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT CO. RD. TURNOUT = 70 CU. YDS.

STA. 617+00 CONSTRUCT
24" X 76' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 17 C.F.S. D.A. = 5 ACRES

STA. 618+11 IN PLACE
18" X 24' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
24" X 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 80 CU. YDS.

STA. 618+61.86 BEGIN SUPERELEVATION
STA. 621+11.86 MAX. SUPERELEVATION (0.100 FT./FT.)
STA. 623+05.09 MAX. SUPERELEVATION (0.100 FT./FT.)
STA. 625+55.09 END SUPERELEVATION



BM: 912 1/64 CPS IN BASE OF 6" OAK
25.75 RT. OF STA. 622+41.13
ELEVATION = 1237.13

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		R50116	73	223

(2) PLAN & PROFILE STA. 630+00-STA. 645+00

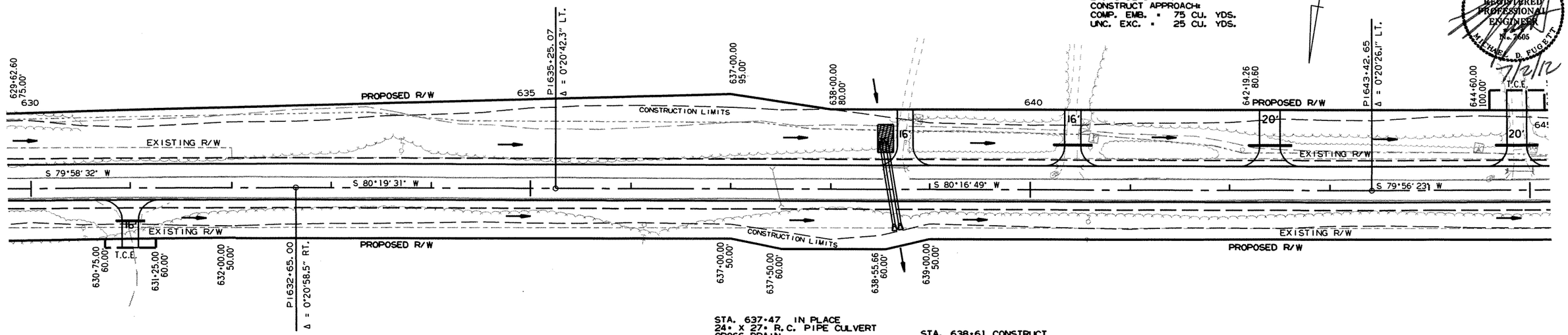
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7405
MICHAEL D. FUGETT
7/12/12

STA. 638+75 IN PLACE
18" X 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE
CONSTRUCT APPROACH = 150 CU. YDS.

STA. 640+42 IN PLACE
18" X 24' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH=
COMP. EMB. = 65 CU. YDS.
UNC. EXC. = 5 CU. YDS.

STA. 642+40 IN PLACE
18" X 27' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH=
COMP. EMB. = 75 CU. YDS.
UNC. EXC. = 10 CU. YDS.

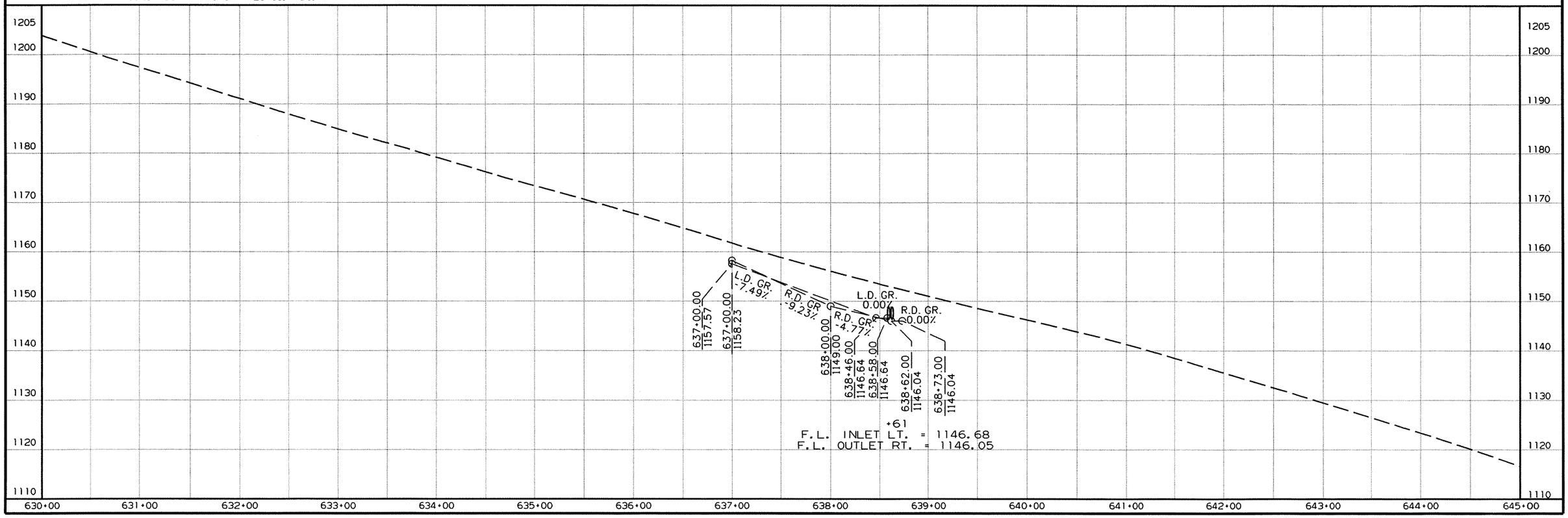
STA. 644+87 IN PLACE
18" X 27' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH=
COMP. EMB. = 75 CU. YDS.
UNC. EXC. = 25 CU. YDS.



STA. 631+00 INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 637+47 IN PLACE
24" X 27" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 638+61 CONSTRUCT
DBL. 30" X 82" R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
PLACE DUMPED RIPRAP AT INLET = 50 CU. YD.
Q50 = 62 C.F.S. D.A. = 16 ACRES



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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	74	223

(2) PLAN & PROFILE STA. 645+00-STA. 660+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
MITCHEL D. FUGETT
No. 7605
4/2/12

STA. 647+13 LT.
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 651+66 IN PLACE
18"X 25" CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 651+87 IN PLACE
18"X 14" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 652+91 INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 65 CU. YDS.

PI = 649+34.04
Δ = 7°37'43.5" LT.
D = 3°30'00"
T = 109.14'
L = 217.96'
e = 0.046'/'
Ls = 200'

STA. 652+03 LT.
CONSTRUCT APPROACH:
COMP. EMB. = 65 CU. YDS.
UNC. EXC. = 5 CU. YDS.

N

STA. 652+29 IN PLACE
6" X 3" X 26" ROCK BOX CULVERT
CROSS DRAIN
REMOVE

STA. 654+90 IN PLACE
24" X 36" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

658+00.00
200.00'

PROPOSED R/W

CONSTRUCTION LIMITS

P1656+37.51

PI = 656+37.51
Δ = 30°22'32.1" RT.
D = 5°00'00"
T = 311.08'
L = 607.51'
e = 0.061'/'
Ls = 200'

645+15.00
80.00'-100.00'

PC648+24.89

650+00.00
75.00'

PT650+42.86

651+50.00
80.00'

653+50.09
80.93'-652+60.90
111.00'

T.C.E.

653+20.00
110.00'

655

20'

16'

16'

645

650

66

PROPOSED R/W

EXISTING R/W

S 79°56'23" W

S 72°18'39" W

N 77°18'49" W

CONSTRUCTION LIMITS

PT659+33.94

EXISTING R/W

PC653+26.43

645+50.00
50.00'

646+50.00
70.00'

647+50.00
70.00'

PROPOSED R/W

P.I. 649+34.04

648+50.00
60.00'

650+00.00
60.00'

651+00.00
63.88

STA. 647+02 IN PLACE
24" X 37" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 647+90 CONSTRUCT
DBL. 30" X 84' R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
PLACE DUMPED RIPRAP AT INLET = 50 CU. YD.
Q50 = 69 C.F.S. D.A. = 18 ACRES

STA. 651+88 CONSTRUCT
DBL. 36" X 128" R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
PLACE DUMPED RIPRAP AT INLET = 120 CU. YD.
Q50 = 67 C.F.S. D.A. = 18 ACRES

STA. 654+84 CONSTRUCT
DBL. 30" X 88' R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 69 C.F.S. D.A. = 18 ACRES

STA. 654+90 INSTALL
30" X 56' TEMPORARY PIPE CULVERT

STA. 646+74.89 BEGIN SUPERELEVATION
STA. 648+74.89 MAX. SUPERELEVATION (0.046 FT./FT.)
STA. 649+84.65 MAX. SUPERELEVATION (0.046 FT./FT.)
STA. 651+84.65 END SUPERELEVATION

STA. 651+84.65 BEGIN SUPERELEVATION
STA. 653+84.65 MAX. SUPERELEVATION (0.061FT./FT.)
STA. 658+83.94 MAX. SUPERELEVATION (0.061FT./FT.)
STA. 660+83.94 END SUPERELEVATION

P.V.I. 650+05.42
ELEV. 1080.71

646+00.00
1105.19

646+00.00
1105.85

646+77.00
1097.00

646+88.00
1097.00

647+00.00
1096.45

647+19.00
1096.45

648+00.00
1093.77

R.D. GR. -9.40%
L.D. GR. -10.64%
R.D. GR. 0.00%
L.D. GR. 0.00%
R.D. GR. -3.31%
R.D. GR. -8.13%

+00
F.L. INLET LT. = 1097.02
F.L. OUTLET LT. = 1096.45

650+00.00
1077.50

651+00.00
1069.46

651+00.00
1071.00

651+15.92
ELEV. 1072.78

P.V.C.

R.D. GR. -7.17%
R.D. GR. -6.50%
L.D. GR. -12.77%
R.D. GR. -10.04%

651+63.00
1061.44

L.D. GR. 0.00%

651+75.00
1061.44

P.V.I. 652+15.92
ELEV. 1065.61

652+29.00
1058.05

652+41.00
1058.05

R.D. GR. 0.00%

+88
F.L. INLET LT. = 1061.41
F.L. OUTLET RT. = 1058.05

P.V.T. 653+15.92
ELEV. 1060.84

K-83.64
VC-200'
e-0.60'

R.D. GR. -4.78%

654+00.00
1055.39

654+00.00
1052.75

654+20.00
1047.55

654+82.00
1047.55

654+83.00
1045.48

654+96.00
1045.48

P.V.C. 654+26.42
ELEV. 1055.56

R.D. GR. -8.76%
L.D. GR. -11.20%
R.D. GR. 0.00%
R.D. GR. -4.55%

+84
F.L. INLET LT. = 1047.55
F.L. OUTLET RT. = 1045.48

K 62.10
VC-200'
e--0.81'

P.V.I. 655+26.42
ELEV. 1050.78

656+00.00
1040.75

P.V.T. 656+26.42
ELEV. 1042.78

R.D. GR. -8.00%
R.D. GR. -7.94%

660+00.00
1009.00

1110 1100 1090 1080 1070 1060 1050 1040 1030 1020

1090 1080 1070 1050 1040 1030 1020 1010 1000

645+00 646+00 647+00 648+00 649+00 650+00 651+00 652+00 653+00 654+00 655+00 656+00 657+00 658+00 659+00 660+00

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		R50116	75	223

(2) PLAN & PROFILE STA. 660+00-STA. 675+00

STA. 672+00 CONSTRUCT APPROACH:
COMP. EMB. = 85 CU. YDS.
UNC. EXC. = 20 CU. YDS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT
7/2/12

STA. 661+50 IN PLACE
24" x 44" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

PI = 664+90.34
Δ = 14°00'52.5" LT.
D = 3°00'00"
T = 234.75'
L = 467.15'
e = 0.040'/'
Ls = 200'

660+50.00
200.00'

662+50.00
150.00'

670+00.00
170.00'

671+70.00
115.00'

672+30.00
80.00'-115.00'

PROPOSED R/W

CONSTRUCTION LIMITS

660

665

670

675

P1670+96.77

PC662+55.59

PT667+22.74

EQUATION:
673+26.040 BK.
673+19.72 AHD.

N 77°18'49" W

S 88°40'19" W

N 74°38'39" W

CONSTRUCTION LIMITS

EXISTING R/W

EXISTING R/W

P1664+90.34

PC669+44.02

PT672+47.37

674+00.00
54.66'

STA. 671+37 IN PLACE
24" x 36" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

PI = 670+96.77
Δ = 16°41'02.4" RT.
D = 5°30'00"
T = 152.75'
L = 303.35'
e = 0.066'/'
Ls = 200'

STA. 671+30 CONSTRUCT
DBL. 36" X 92" R.C. PIPE CULVERT
(CLASS V) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
CONSTRUCT DITCH CHECK ON LT.
PLACE DUMPED RIPRAP AT INLET = 150 CU. YD.
Q50 = 107 C.F.S. D.A. = 18 ACRES

STA. 661+38 CONSTRUCT
DBL. 36" X 84" R.C. PIPE CULVERT
(CLASS V) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
CONSTRUCT DITCH CHECK ON LT.
PLACE DUMPED RIPRAP AT INLET = 50 CU. YD.
Q50 = 109 C.F.S. D.A. = 18 ACRES

STA. 661+05.59 BEGIN SUPERELEVATION
STA. 663+05.59 MAX. SUPERELEVATION (0.040 FT./FT.)
STA. 666+33.38 MAX. SUPERELEVATION (0.040 FT./FT.)
STA. 668+33.38 END SUPERELEVATION

STA. 668+33.38 BEGIN SUPERELEVATION
STA. 670+33.38 MAX. SUPERELEVATION (0.066 FT./FT.)
STA. 671+97.37 MAX. SUPERELEVATION (0.066 FT./FT.)
STA. 673+91.05 END SUPERELEVATION

R.D. GR. -9.94%
L.D. GR. -11.86%
L.D. GR. 0.00%
R.D. GR. 0.00%
R.D. GR. -7.66%
-8.00%
L.D. GR. -10.64%
L.D. GR. 0.00%
-8.00%

660+00.00 1009.99
660+00.00 1009.00
661+12.00 996.71
661+25.00 996.71
661+46.00 994.49
661+59.00 994.49
662+00.00 993.90
665+00.00 970.91
670+00.00 931.26
671+18.00 918.70
671+31.00 918.70

+38
F.L. INLET LT. = 996.86
F.L. OUTLET RT. = 994.33

+30
F.L. INLET LT. = 918.70
F.L. OUTLET RT. = 913.97

EQUATION:
673+26.04 BK. =
673+19.72 AHD.

BM: 915 1/64 CPS IN BASE OF PP
52.73 RT. OF STA. 666+33.65
ELEVATION = 949.12

1030 1020 1010 1000 990 980 970 960 950 940

960 950 940 930 920 910 900 890 880 870

660+00 661+00 662+00 663+00 664+00 665+00 666+00 667+00 668+00 669+00 670+00 671+00 672+00 673+00 674+00 675+00

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		R50116	76	223

(2) PLAN & PROFILE STA. 675+00-STA. 690+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12

STA. 686+83 LT.
CONSTRUCT APPROACH:
COMP. EMB. = 60 CU. YDS.
UNC. EXC. = 10 CU. YDS.

PROPOSED R/W
CONSTRUCTION LIMITS
EXISTING R/W
N 74°38' 39" W
N 69°20' 59" W
N 51°50' 30" W
678+70.88 125.00
P1679+87.24
686+75.00 115.00
P1687+81.65
689+00.00 56.23'
685+00.00 60.00'
PC677+96.36
678+00.00 75.00'
PT681+77.85
PC684+28.74

STA. 678+56 IN PLACE
24" X 37" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

PI = 679+87.24
Δ = 5°17'40.3" RT.
D = 1°23'16"
T = 190.88'
L = 381.50'
e = 0.021'/'
Ls = 200'

STA. 678+61 CONSTRUCT
DBL. 36" X 84" R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
CONSTRUCT DITCH CHECK ON LT.
PLACE DUMPED RIPRAP AT INLET = 50 CU. YD.
Q50 = 105 C.F.S. D.A. = 18 ACRES

STA. 686+74 IN PLACE
DBL. 24" X 37" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

STA. 686+50 CONSTRUCT
DBL. 36" X 82" R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
PLACE DUMPED RIPRAP AT INLET = 85 CU. YD.
Q50 = 119 C.F.S. D.A. = 23 ACRES

PI = 687+81.65
Δ = 17°30'29.1" RT.
D = 2°30'00"
T = 352.91'
L = 700.32'
e = 0.034'/'
Ls = 200'

STA. 676+46.36 BEGIN SUPERELEVATION
STA. 678+46.36 MAX. SUPERELEVATION (0.021FT./FT.)
STA. 681+55.21 MAX. SUPERELEVATION (0.021FT./FT.)
STA. 683+55.21 MAX.. SUPERELEVATION (0.021FT./FT.)

STA. 683+55.21 TRANS. SUPERELEVATION (0.021FT./FT.)
STA. 684+78.74 MAX. SUPERELEVATION (0.034 FT./FT.)
STA. 690+79.06 MAX. SUPERELEVATION (0.034 FT./FT.)
STA. 692+79.06 END SUPERELEVATION

P.V.C. 675+71.11 ELEV. 886.77
P.V.I. 676+12.91 ELEV. 883.42
P.V.I. 676+71.11 ELEV. 878.77
677+00.00 873.01
P.V.T. 677+71.11 ELEV. 873.41
678+26.68 863.00
678+39.68 863.00
+61
F.L. INLET LT. = 863.00
F.L. OUTLET RT. = 859.53
680+00.00 857.69
P.V.C. 679+69.18 ELEV. 862.79
P.V.I. 680+69.18 ELEV. 857.43
681+00.00 851.54
P.V.T. 681+69.18 ELEV. 850.01
682+00.00 843.87
K-75.85 VC-200' e-0.66'
K-97.18 VC-200' e--0.51'
K-343.63 VC-200' e--0.15'
-8.00%
L.D. GR. -7.90%
L.D. GR. 0.00%
-5.36%
L.D. GR. -6.15%
L.D. GR. -7.67%
-7.42%
L.D. GR. -7.55%
L.D. GR. -10.04%
P.V.C. 685+87.73 ELEV. 818.97
684+00.00 828.77
685+00.00 821.22
P.V.I. 686+87.73 ELEV. 811.55
L.D. GR. 0.00%
L.D. GR. -10.04%
686+24.68 808.70
686+36.68 808.70
+50
F.L. INLET LT. = 808.70
F.L. OUTLET RT. = 805.75
687+00.00 806.82
L.D. GR. -7.00%
688+00.00 799.82
P.V.T. 687+87.73 ELEV. 803.55
-8.00%

BM: 916 1/64 CPS IN BASE OF PP
34.31 LT. OF STA. 678+92.73
ELEVATION = 870.84

BM: 917 1/64 CPS IN BASE OF PP
55.89 LT. OF STA. 687+86.14
ELEVATION = 807.88

675+00 676+00 677+00 678+00 679+00 680+00 681+00 682+00 683+00 684+00 685+00 686+00 687+00 688+00 689+00 690+00

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				6	ARK.			
				JOB NO.		R50116	77	223

(2) PLAN & PROFILE STA. 690+00-STA. 705+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. PUGETT

STA. 690+62 IN PLACE
30" x 77" CM PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 690+72 IN PLACE
30" x 24" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
30" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.

STA. 693+00 IN PLACE
30" X 30" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
30" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

STA. 696+63 IN PLACE
18" x 32" RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 697+32 IN PLACE
18" x 18" RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 697+00 INSTALL
30" x 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 185 CU. YDS.

STA. 698+56 INSTALL
30" x 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 130 CU. YDS.

STA. 699+15 IN PLACE
18" x 25" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 701+33 IN PLACE
24" x 15" x 24' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
30" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 701+70 INSTALL
30" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 702+80 IN PLACE
24" X 15" X 24' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
30" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 695+21 IN PLACE
30" X 19" X 24' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
24" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 115 CU. YDS.

STA. 698+00 IN PLACE
18" X 20' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
24" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 700+09 IN PLACE
30" X 19" X 24' ARCH CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
24" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH=
COMP. EMB. = 45 CU. YDS.
UNC. EXC. = 5 CU. YDS.

PI = 697+88.88
Δ = 9°00'40.8" RT.
D = 3°30'00"
T = 129.00'
L = 257.47'
e = 0.046'/'
Ls = 200'

STA. 695+09.88 BEGIN SUPERELEVATION
STA. 697+09.88 MAX. SUPERELEVATION (0.046 FT./FT.)
STA. 698+67.34 MAX. SUPERELEVATION (0.046 FT./FT.)
STA. 700+67.34 END SUPERELEVATION

BM: 918 1/64 CPS IN BASE OF PP
54.01 LT. OF STA. 698+33.30
ELEVATION = 720.75

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6	ARK.			
JOB NO.		R50116	78	223

(2) PLAN&PROFILE STA. 705+00-STA. 713+03.09

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGATT
7/2/12

STA. 706+03 IN PLACE
36" X 24" X 18' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
30" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

705+00
200' CLIMBING LANE ADDITION TAPER
706+90.34 51.63'
707+00
707+60.00 50.00'
PI 707+81.89
710
PROPOSED R/W
EXISTING R/W
CONSTRUCTION LIMITS
705
SHEDS
N 42°49' 49" W
N 29°40' 18" W
EXISTING R/W
PROPOSED R/W
CONSTRUCTION LIMITS
707+00.00 50.00'
PC 705+41.59 705+41.59 50.00'
PT 710+20.08 710+20.08 50.00'
PI 713+03.09 Δ = 0°24'31.2" LT. 713+10.75 54.99'
713+10.23 49.93'
715
EXISTING R/W
N 30°04' 50" W
EXISTING R/W
POE 717+94.70
SHED
MAILBOX
LEGEND

PI = 707+81.89
Δ = 13°09'30.4" RT.
D = 2°45'00"
T = 240.30'
L = 478.49'
e = 0.037'/'
Ls = 200'

STA 713+03.09 - END
JOB R50116
L.M. 12.14

STA. 703+91.59 BEGIN SUPERELEVATION
STA. 705+91.59 MAX. SUPERELEVATION (0.037 FT./FT.)
STA. 709+70.08 MAX. SUPERELEVATION (0.037 FT./FT.)
STA. 711+70.08 END SUPERELEVATION

740 730 720 710 700 690 680 670 660 650

-3.00%
L.D. GR. -2.50%
R.D. GR. -2.50%
L.D. GR. -2.05%
R.D. GR. -2.35%
R.D. GR. -2.47%
R.D. GR. -2.13%
L.D. GR. -2.33%

P.V.I. 706+97.91
ELEV. 683.41

705+00.00 685.00
706+00.00 681.95
707+00.00 680.00
707+00.00 679.45
708+00.00 677.10
709+00.00 675.90
709+00.00 674.63
710+00.00 672.50
711+00.00 671.24

BM: 942 1/54 AHTD DISK S/W CORNER OF 21.11 LT. OF STA. 717+86.21
ELEVATION = 677.52

705+00 706+00 707+00 708+00 709+00 710+00 711+00 712+00 713+00 714+00 715+00 716+00 717+00 718+00 719+00 720+00

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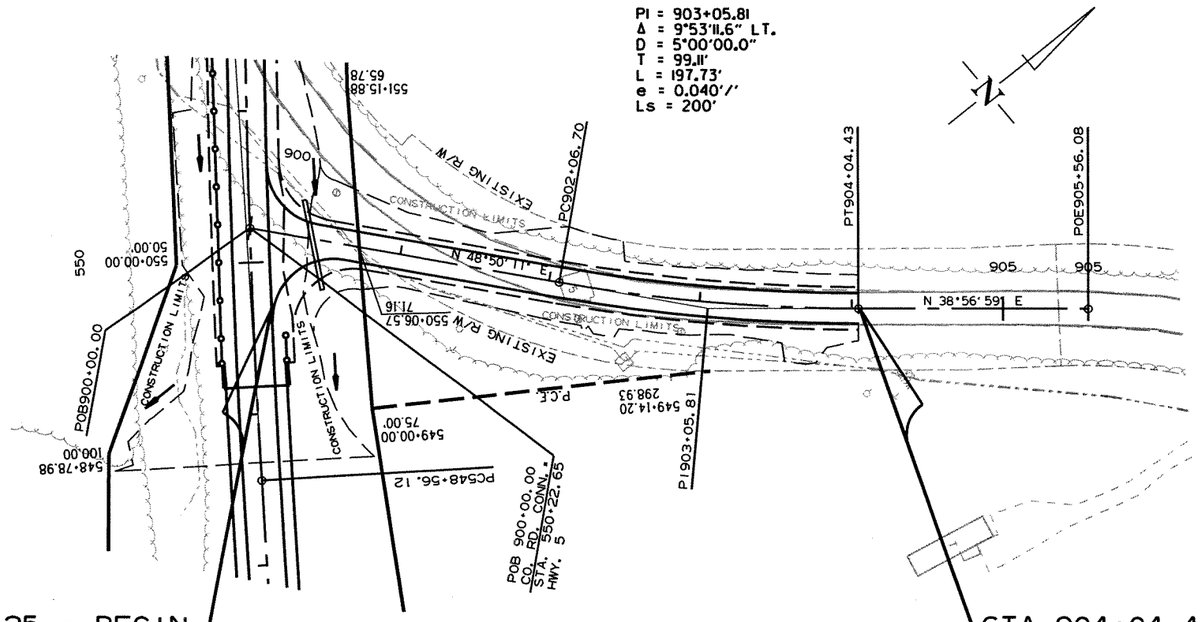
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		R50116	79	223

(2) PLAN & PROFILE STA. 900+12-STA. 904+04

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7605
MICHAEL D. FUGETT
7/2/12

PI = 903+05.81
Δ = 9°53'11.6" LT.
D = 5°00'00.0"
T = 99.11'
L = 197.73'
e = 0.040'/'
Ls = 200'

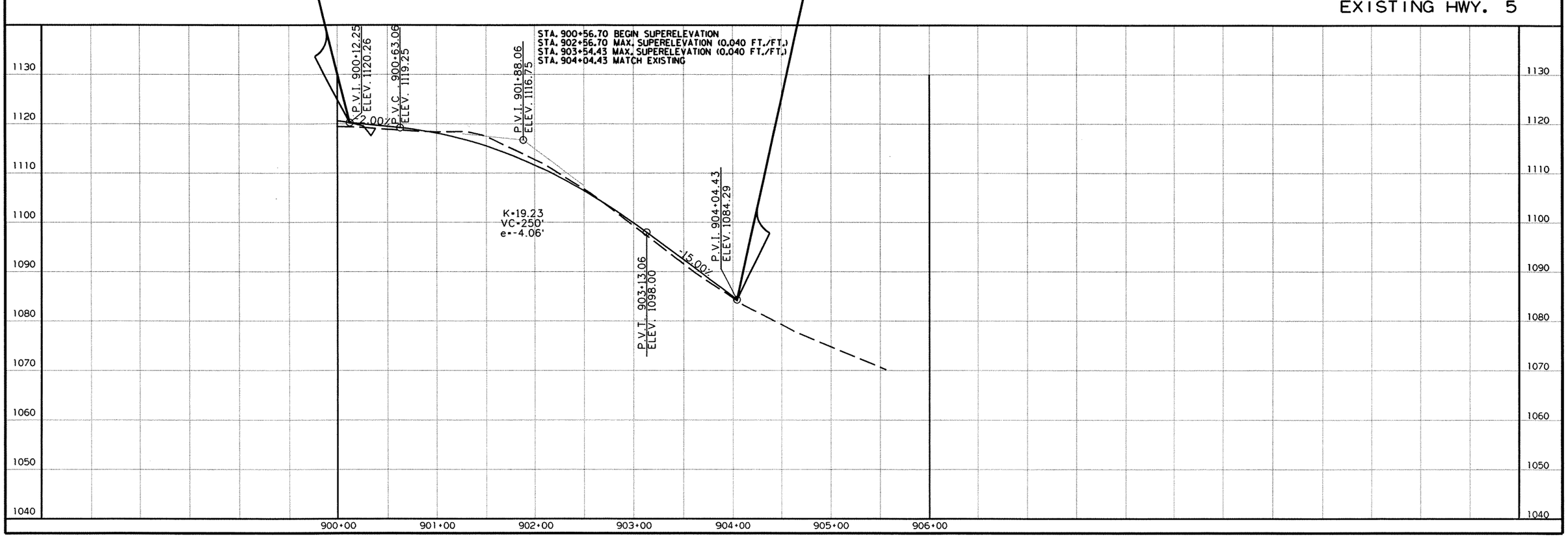


STA 900+12.25 - BEGIN
EXISTING HWY. 5

STA. 550+23 INSTALL
24"X60' PIPE CULVERT
RT. SIDE DRAIN

STA 904+04.43 - END
EXISTING HWY. 5

EXISTING HWY. 5



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				6	ARK.			
				JOB NO.		R50116	80223	
				① 07231		LAYOUT		52425

Note: For R/W Data and Guard Rail Details, see Roadway Plans

Note: Type Special I Approach Gutters (W = 8'-0") will be used at Beginning of Bridge.

Toe of Fill

Place 1'-6" Dumped Riprap on Filter Blanket. Top of Riprap to be Elev. 1090.0.

0.020 Ft./Ft.

8.80 Miles to Cleburne County Line

Tangent Distance = 473.71'

C.L. Bridge & C.L. Construction

N. 54° 26' 31" W.

Finished Crown 40'-0" | 8'-0" Shldr. | 24'-0" Pavement | 8'-0" Shldr.

1'-5" Parapet Rail | 40'-0" Clear Roadway | 1'-5" Parapet Rail

22° Slope

43'-2" Out-to-Out

10'-0" (Typ.)

Berm

Little Raccoon Creek

MATCHLINE - SEE SHEET 2 OF 2

PLAN

Total Length of Bridge = 891'-2"

1'-1" | 250'-0" Continuous Composite Plate Girder Unit (125'-125') | 389'-0" Continuous Composite Plate Girder Unit (125'-139'-125')

C.L. 2½" Neoprene Strip Seal W/4" Movement Rating

4" Finger Joint

Slope Intercept Sta. 540+02.00 Elevation 1100.36

Begin Bridge Sta. 540+26.92 Elevation 1099.57

Concrete Parapet Rail

C.L. Bent Sta. 541+53.00 Elevation 1096.67

C.L. Deck to Low Seat of Cap=6'-4½"

C.L. Bent Sta. 542+78.00 Elevation 1095.58

C.L. Deck to Low Seat of Cap=6'-6⅛"

C.L. Deck to Low Steel=6'-0⅝"

C.L. Bent Sta. 544+03.00 Elevation 1096.27

C.L. Deck to Low Seat of Cap=6'-6⅞"

C.L. Bent Sta. 545+42.00 Elevation 1099.14

Proposed Grade Line @ C.L. Construction

Existing Ground Line @ C.L. Construction

Exp. | Fix. | Exp. | Exp. | Fix. | ② Fix.

52'-0" | 75'-6" | ① Low Steel to Design H.W.=13.78' | 86'-0" | 76'-6"

74' Piles | 68' Piles | Elev. 1038.29 | 14' Piles | Elev. 1013.55 | 18' Piles | Design H.W. 1050.1 Elev. 1015.81 | Elev. 1003.74 | 10' Piles | Elev. 1016.10 | 19' Piles

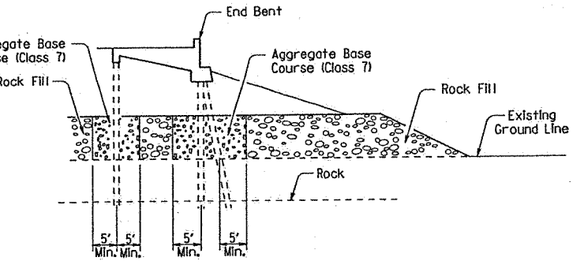
Note: Stations and elevations are shown along C.L. Bridge. Elevations shown are at working point.

Bent No. 1 | 2 | 3 | 4 | 5

ELEVATION

① Low Steel Elevation @ Sta. 543+30

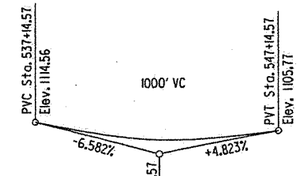
② Single Fixed Bearing at Matchline



Where rock fill is used for embankment construction, aggregate base course (Class 7), in accordance with section 303.02, shall be placed as shown in areas where piling will be located. Aggregate base course (Class 7) shall be paid for as "Compacted Embankment".

At the Contractor's option preboring or other methods as approved by the Engineer may be used to facilitate pile installation thru the aggregate base course (Class 7) material at these locations. Preboring or other methods used for installation of piles where rock fill is used for embankment construction will not be paid for separately but shall be included in Item "Steel Piling HP 12x63."

DETAIL A
No Scale



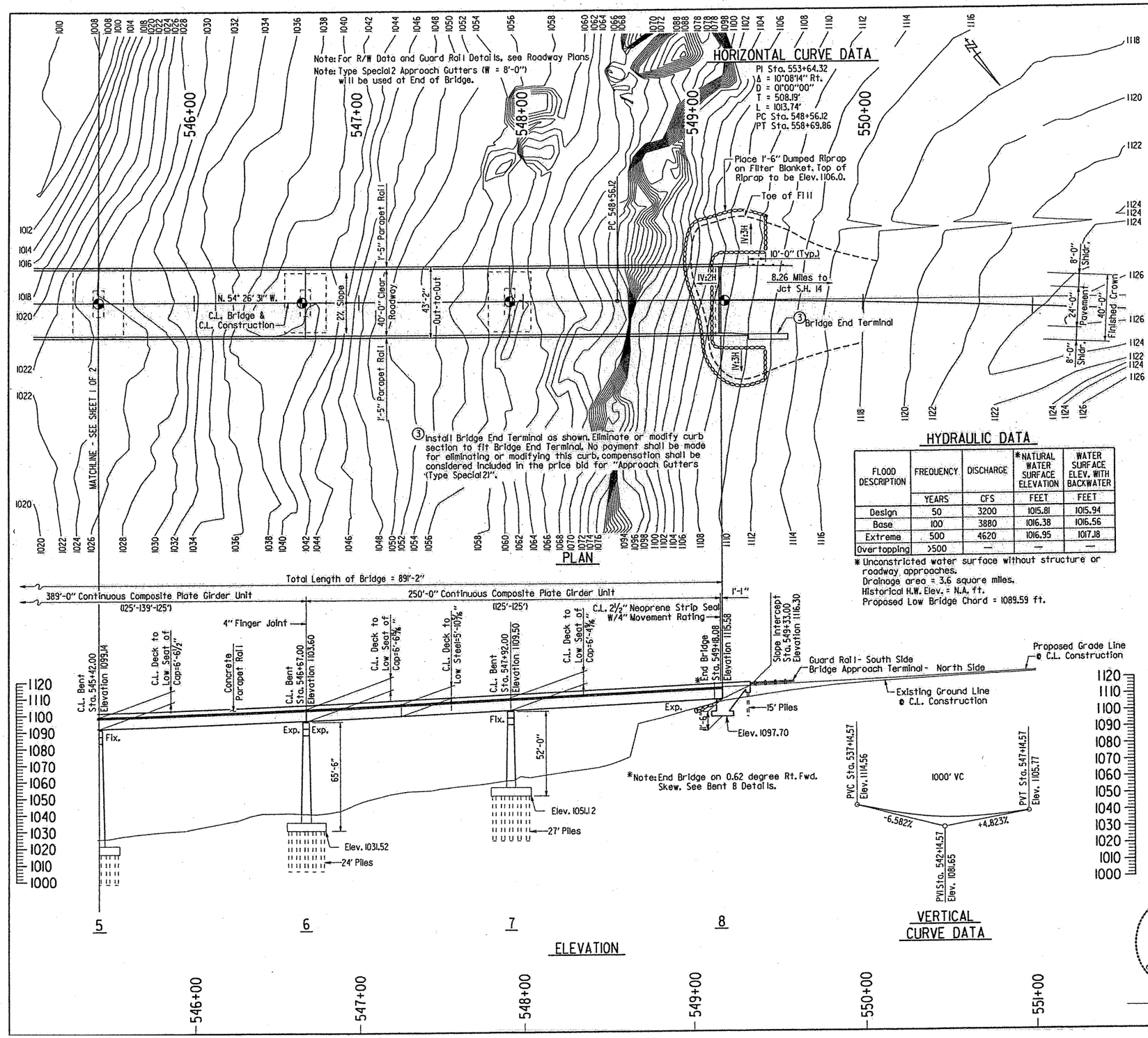
VERTICAL CURVE DATA

STATE OF ARKANSAS
Carl J. Puselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. PUSELIER
BRIDGE ENGINEER

SHEET 1 OF 2
LAYOUT OF BRIDGE OVER
LITTLE RACCOON CREEK
LITTLE RACCOON CREEK-COVE PRONG CREEK (S)
STONE COUNTY
ROUTE 5 SEC. 16
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MJT/LJB DATE: 09/1/11 FILENAME: BR50116X1_LL.DGN
CHECKED BY: JGT DATE: 8/26/11 SCALE: 1" = 30'-0"
DESIGNED BY: DBS DATE: 06/11
BRIDGE NO. 07231 DRAWING NO. 52425

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.		R50116	81	223
				① 07231		LAYOUT		52426



FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	*NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	50	3200	1015.81	1015.94
Base	100	3880	1016.38	1016.56
Extreme	500	4620	1016.95	1017.18
Overtopping	>500	—	—	—

* Unconstricted water surface without structure or roadway approaches.
Drainage area = 3.6 square miles.
Historical H.W. Elev. = N.A. ft.
Proposed Low Bridge Chord = 1089.59 ft.

GENERAL NOTES

BENCH MARK: BM 903, CPS, 434.96 Rt. of Sta. 540+06.57, Elev. 1074.37

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2003 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 Fifth Edition (2010) with 2010 interim specifications.

LIVE LOADING: HL-93

SEISMIC ZONE: 1

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

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

PILING: Piling in Bent 1 shall be HP12 X 63 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 115 tons per pile after embankment to bottom of cap is in place. Piling in Bent 8 shall be HP12 X 53 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 70 tons per pile after embankment to bottom of cap is in place. Piling in Bents 2 through 7 shall be HP12 X 53 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 70 tons per pile. All Piling shall be driven into the material designated as Shale or Sandstone on the boring legend and piling in Bents 2 thru 7 shall have a minimum penetration of 8' below bottom of footings. Lengths shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the specifications. On all piles the Contractor shall use steel H-Pile driving points. Test Piles are not required but may be driven for the Contractor's information in accordance with subsection 805.08(g).

PREBORING: All Piling in Bents 2 and 4 shall be prebored a minimum of 3 ft. into shale or sandstone or a maximum of 8' below bottom of footings if rock is not encountered. After driving, prebored holes in rock shall be backfilled with Class S Concrete to top of rock. All remaining void spaces shall be backfilled as specified in Subsection 805.08. Prebored holes shall have a minimum diameter of 18". The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling, which may require the use of temporary casings or other methods. Preboring, backfill, and any required casings shall be considered included in the Item "Preboring".

FOOTINGS: Footings shall be set at or below the elevations shown on the Plans and as directed by the Engineer. Bent 8 footing shall be set a minimum of 2 feet into material designated as Sandstone on the boring legend. The top of all footings shall be set a minimum of 2 feet below natural or excavated ground line. Foundations for footings shall be prepared in accordance with subsection 801.04. Rock excavations shall be made to neat lines of the concrete footings. Care shall be exercised to avoid shattering of the rock faces by excessive blasting. Concrete in footings shall be poured directly against excavated surfaces of rock. Excavations shall be backfilled to the level of surrounding ground in accordance with Subsection 801.08.

BRIDGE DECKS: The concrete bridge decks shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish..

DETAIL DRAWINGS:

End Bents	52428, 52429 & 52440, 52441
Intermediate Bents	52430-52439
250'-0" Cont. Comp. Plate Girder Unit	52442-52447
389'-0" Cont. Comp. Plate Girder Unit	52448-52452
Elastomeric Bearings	52454
Steel Piling	14995A
Type 1 & 2 Special Approach Gutters	52455

EXISTING STRUCTURES: Structure No. X0332 (Log Mile 8.68) is a double barrel concrete box culvert approximately 25' long and 93' wide. Structure No. X0333 (Log Mile 8.80) is a triple barrel concrete box culvert approximately 38' long and 93' wide. Both structures are located approximately 930' upstream from the proposed bridge.

REMOVAL AND SALVAGE: After the new bridge is open to traffic, existing Structures X0332 (Site. No. 1) and X0333 (Site No. 2) shall be removed in accordance with Section 202. See Roadway Plans.

MAINTENANCE OF TRAFFIC: For details of maintenance of traffic, see Roadway Plans.

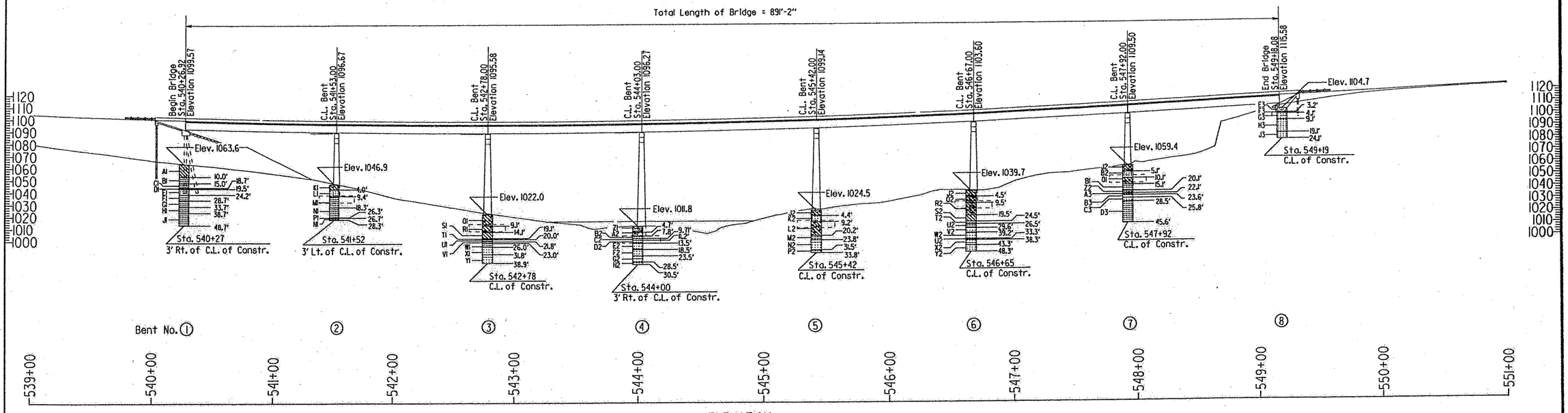
STATE OF ARKANSAS
Carl L. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL L. FUSELIER
BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF BRIDGE OVER LITTLE RACCOON CREEK
LITTLE RACCOON CREEK-COVE PRONG CREEK (S)
STONE COUNTY
ROUTE 5 SEC. 16

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MJT/LJB DATE: 09/1/11 FILENAME: BR50116X1_LL.DGN
CHECKED BY: JCV DATE: 8/26/11 SCALE: 1" = 30'-0"
DESIGNED BY: DBS DATE: 06/11
BRIDGE NO. 07231 DRAWING NO. 52426

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.		R50116	82	223
				07231		BORINGS		52427



ELEVATION

BORING LEGEND

AI-Moist, Hard, Reddish Brown and Gray Clay with Highly Weathered Shale
BI-SHALE - Brown and Gray, Highly Weathered, Soft
CI-SHALE - Gray, Highly Weathered, Soft
DI-SANDSTONE - Light Gray, Poorly-Cemented
EI-SANDSTONE - Light Gray, Thick Bedded, Slightly Weathered, Well-Cemented, with Slight Dip and Vertically Fractured Seams
FI-SHALE - Dark Gray, Laminated, Highly Weathered, Soft, with Slight Dip
GI-SHALE WITH WEATHERED SHALE LAYERS - Dark Gray, Laminated, Soft, with Slight Dip and some Vertically Fractured Seams
HI-SHALE WITH WEATHERED SHALE LAYERS - Dark Gray, Laminated, Soft, with Slight Dip
JI-SHALE WITH WEATHERED SHALE LAYERS - Dark Gray, Laminated, Medium Hard, with Slight Dip
KI-Moist, Very Stiff, Brown Clay with Gravel (Sandstone Fragments), Cobbles and Boulders
LI-SANDSTONE - Brown and Gray, Very Thick Bedded, Slightly Weathered, Cemented, with Slight Dip
MI-SHALE - Dark Gray, Laminated, Highly Weathered, Soft, with Slight Dip
NI-SHALE - Dark Gray, Laminated, Weathered, Soft, with Slight Dip
PI-SANDSTONE - Gray, Medium Bedded, Slightly Weathered, Cemented, with Slight Dip
QI-Moist, Very Stiff, Reddish Brown Clay with Gravel (Sandstone Fragments)
RI-Moist, Stiff, Brown and Gray Clay with Gravel (Sandstone Fragments)
SI-Moist, Very Stiff, Brown and Gray Clay with Highly Weathered Shale
TI-SHALE - Dark Gray, Highly Weathered, Medium Hard
UI-SHALE - Dark Gray, Laminated, Highly Weathered, Medium Hard, with Slight Dip
VI-SANDSTONE - Gray, Medium Bedded, Calcareous, Slightly Weathered, Well-Cemented, with Slight Dip
WI-SHALE WITH GRAY CALCAREOUS SANDSTONE LAYERS - Dark Gray, Laminated, Weathered, Medium Hard, with Slight Dip
XI-SANDSTONE WITH DARK GRAY SHALE SEAMS AND LAYERS - Gray, Medium Bedded, Calcareous, Slightly Weathered, Well-Cemented, with Slight Dip
YI-SANDSTONE WITH DARK GRAY SHALE SEAMS - Light Gray, Thick Bedded, Slightly Weathered, Well-Cemented, with Slight Dip
ZI-Moist, Dense, Light Brown Sand with Gravel (Sandstone Fragments), Cobbles and Boulders
A2-Moist, Dense, Light Brown Sand with Gravel (Sandstone Fragments)
B2-SANDSTONE - Brown, Cemented
C2-SANDSTONE - Brown and Gray, Thin Bedded, Slightly Weathered, Calcareous, Cemented, with Slight Dip
D2-SHALE WITH GRAY CALCAREOUS SANDSTONE SEAMS - Dark Gray, Laminated, Weathered, Medium Hard, with Slight Dip
E2-SANDSTONE WITH DARK GRAY SHALE LAYERS - Gray, Thick Bedded, Slightly Weathered, Slightly Calcareous, Cemented, with Slight Dip
F2-SANDSTONE WITH DARK GRAY SHALE LAYERS - Gray, Medium Bedded, Slightly Weathered, Calcareous, Cemented, with Slight Dip and Vertically Fractured Seams
G2-SANDSTONE WITH DARK GRAY WEATHERED SHALE LAYERS - Gray, Thick Bedded, Slightly Weathered, Calcareous, Cemented, with Slight Dip
H2-SANDSTONE - Gray, Medium Bedded, Slightly Weathered, Cemented, with Slight Dip and a Vertically Fractured Layer
J2-Moist, Very Stiff, Brown Clay with Sand, Gravel (Sandstone Fragments), Cobbles and Boulders
K2-SANDSTONE - Brown and Gray, Medium Bedded, Slightly Weathered, Well Cemented, with Slight Dip
L2-Moist, Stiff, Brown Clay with Sandstone Layers*
M2-WEATHERED SHALE WITH CALCAREOUS SANDSTONE SEAMS AND LAYERS - Dark Gray, Laminated, Medium Hard, with Slight Dip
N2-SANDSTONE WITH SHALE SEAMS - Gray, Medium Bedded, Slightly Weathered, Calcareous, Well-Cemented, with Slight Dip and Fractured Layers
P2-SHALE WITH WEATHERED SHALE SEAMS - Dark Gray, Laminated, Medium Hard, with Slight Dip
Q2-Moist, Very Hard, Reddish Brown Sandy Clay with Gravel (Sandstone Fragments)
R2-Moist, Very Stiff, Reddish Brown and Gray Sandy Clay with Gravel (Sandstone Fragments)
S2-Moist, Very Stiff, Gray Clay with Highly Weathered Shale
T2-SHALE - Dark Gray, Weathered, Soft to Medium Hard
U2-SHALE - Dark Gray, Laminated, Weathered, Medium Hard, with Slight Dip
V2-SANDSTONE WITH DARK GRAY SHALE SEAMS - Gray, Medium Bedded, Slightly Weathered, Calcareous, Well-Cemented, with Slight Dip
W2-SANDSTONE WITH DARK GRAY SHALE LAYERS - Gray, Thin Bedded, Slightly Weathered, Calcareous, Well-Cemented, with Slight Dip
X2-SANDSTONE WITH DARK GRAY SHALE LAYERS - Gray, Medium Bedded, Slightly Weathered, Calcareous, Well-Cemented, with Slight Dip
Y2-SANDSTONE - Gray, Very Thick Bedded, Slightly Weathered, Slightly Calcareous, Well-Cemented, with Slight Dip
Z2-SHALE - Dark Gray, Weathered, Soft
A3-SHALE - Dark Gray, Laminated, Highly Weathered, Calcareous, Medium Hard, with Slight Dip
B3-SANDSTONE WITH DARK GRAY SHALE SEAMS AND LAYERS - Gray, Medium Bedded, Slightly Weathered, Well-Cemented, with Slight Dip
C3-CONGLOMERATIC, CALCAREOUS SANDSTONE - Gray, Thin Bedded, Well-Cemented, with Slight Dip
D3-SHALE WITH WEATHERED SHALE SEAMS - Dark Gray, Laminated, Calcareous, Medium Hard, with Slight Dip
E3-Moist, Medium Dense, Brown Sand
F3-SANDSTONE - Light Gray and Brown, Medium Bedded, Slightly Weathered, Cemented, with Slight Dip
G3-SANDSTONE - Reddish Brown and Gray, Medium Bedded, Slightly Weathered, Cemented, with Slight Dip
H3-SANDSTONE - Reddish Brown and Gray, Thick Bedded, Slightly Weathered, Cemented, with Slight Dip
J3-SANDSTONE - Gray and Reddish Brown , Thick Bedded, Slightly Weathered, Cemented, with Slight Dip and Vertically Fractured Layers

"N" VALUES

Sta. 540+27 - 3' Rt. of C.L. of Constr.
5.5- 6.5, N=32
10.5- 11.5, N=40
15.5- 16.5, N=56

Sta. 541+52 - 3' Lt. of C.L. of Constr.

Sta. 542+78 - C.L. of Constr.
4.6- 5.6, N=18
9.6- 10.6, N=12
14.6- 15.6, N=26
19.6- 20.0, N=55(5")

Sta. 544+00 - 3' Rt. of C.L. of Constr.
5.2- 6.2, N=31
9.7- 9.7, N=12(.01")

Sta. 545+42 - C.L. of Constr.

Sta. 546+65 - C.L. of Constr.
5.0- 5.8, N=80(10")
10.0- 11.0, N=28
15.0- 16.0, N=19
20.0- 21.0, N=25
25.0- 25.7, N=47(8")

Sta. 547+92 - C.L. of Constr.
5.1- 5.1, N=10(.01")
10.6- 11.6, N=17
15.6- 16.6, N=28
20.6- 20.7, N=25(1")

Sta. 549+19 - C.L. of Constr.

STATE OF ARKANSAS
Carl J. Puselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. PUSELIER

BRIDGE ENGINEER

SOIL BORINGS
LITTLE RACCOON CREEK
LITTLE RACCOON CREEK-COVE PRONG CREEK (S)
STONE COUNTY
ROUTE 5 SEC. 16
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 08/31/11 FILENAME: BR50116XI_LLDGN
CHECKED BY: JCG DATE: 8/31/11 SCALE: 1" = 40'
DESIGNED BY: DJS DATE: 06/11

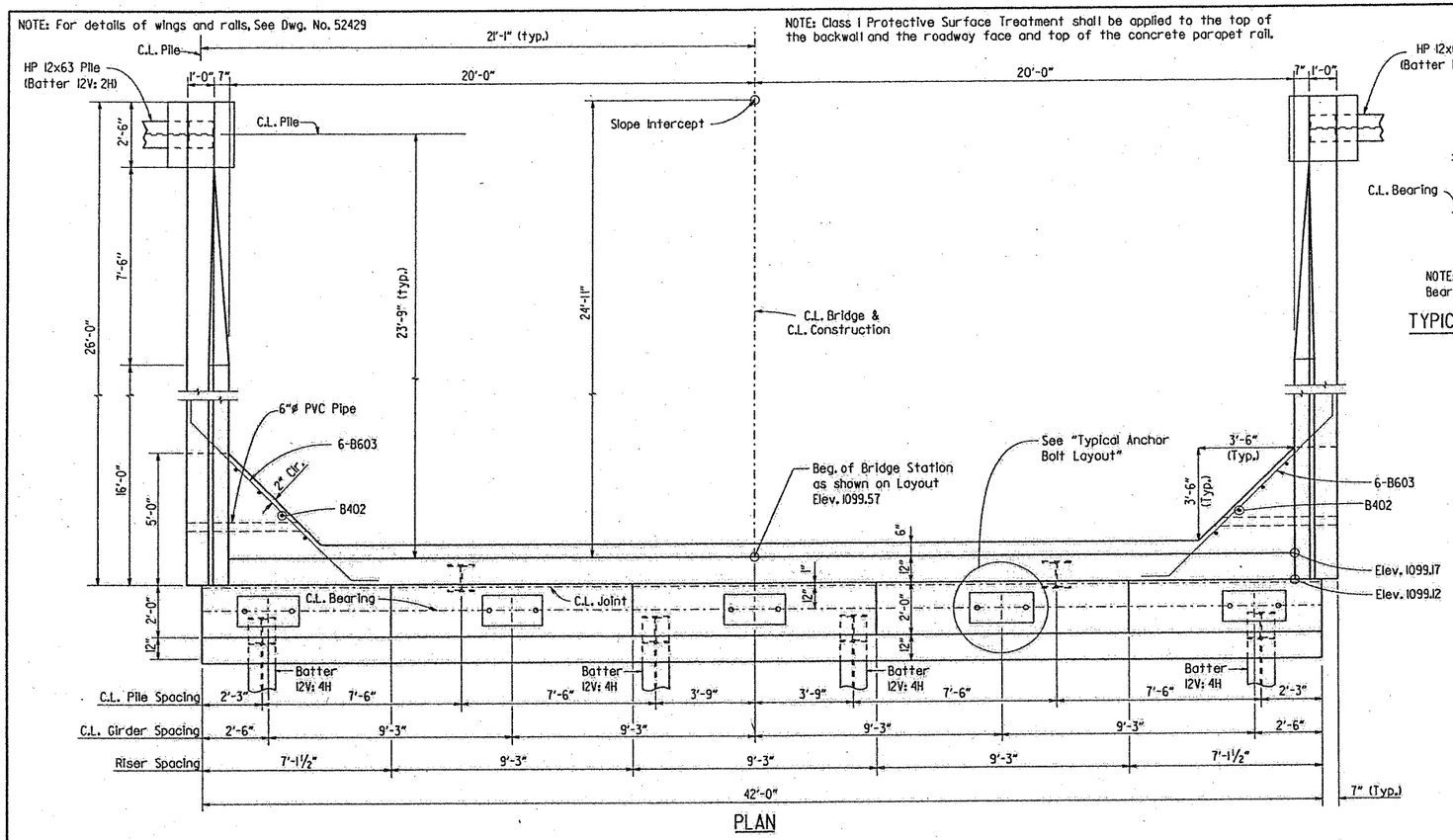
BRIDGE NO. 07231 DRAWING NO. 52427

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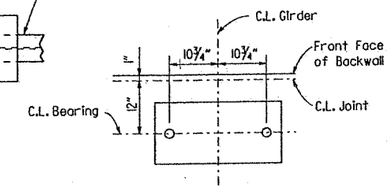
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		R50116	83223	
07231		END BENT DETAIL	52428	

NOTE: For details of wings and rails, See Dwg. No. 52429

NOTE: Class I Protective Surface Treatment shall be applied to the top of the backwall and the roadway face and top of the concrete parapet rail.



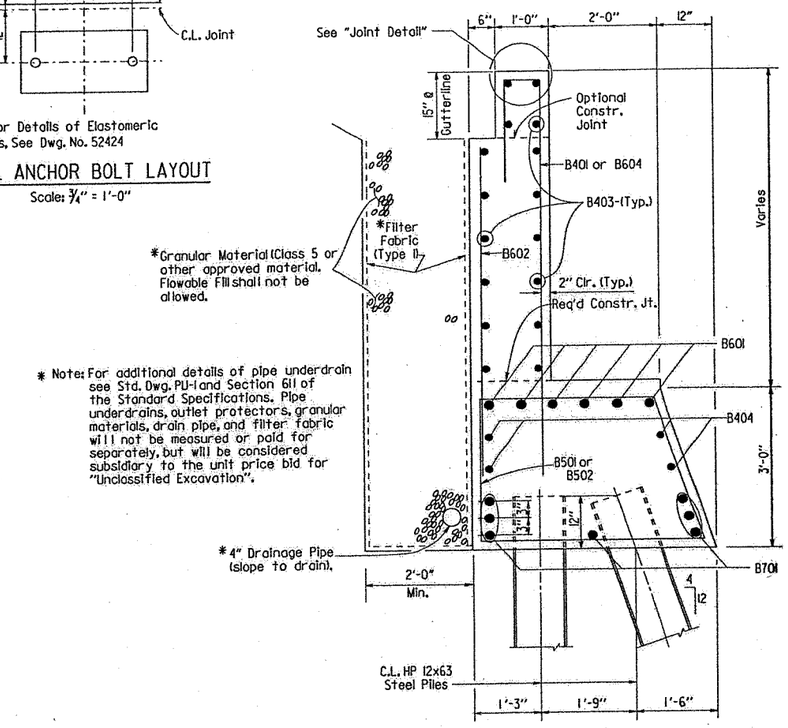
PLAN



NOTE: For Details of Elastomeric Bearings, See Dwg. No. 52424

TYPICAL ANCHOR BOLT LAYOUT

Scale: ¾" = 1'-0"

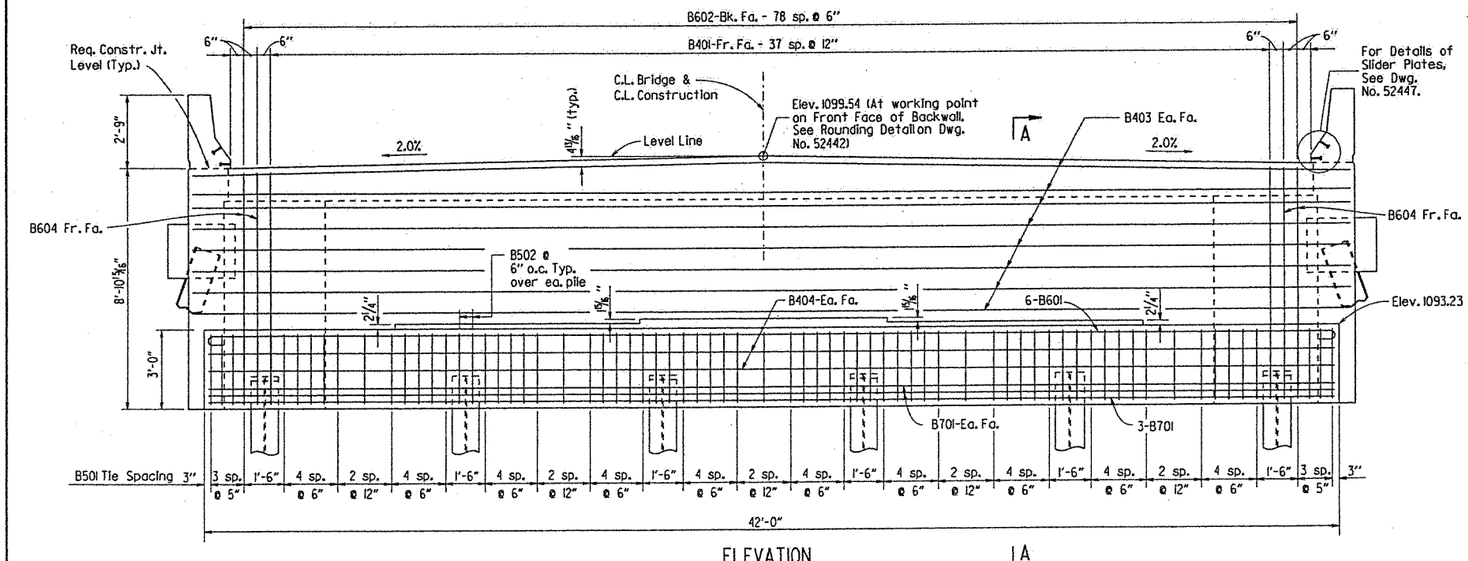


*Granular Material (Class 5 or other approved material. Flowable Fill shall not be allowed.

* Note: For additional details of pipe underdrain see Std. Dwg. PU-1 and Section 611 of the Standard Specifications. Pipe underdrains, outlet protectors, granular materials, drain pipe, and filter fabric will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation".

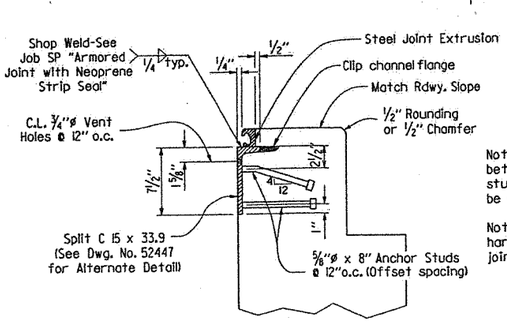
SECTION A-A

Scale: ¾" = 1'-0"



ELEVATION

Looking Back



Note: Transverse spacing between bent anchor studs and vent holes shall be 6".

Note: Concrete shall be hand packed under the joint armor.

Note: For additional joint details, see Dwg. No. 52447.

DETAIL Z

No Scale

STATE OF ARKANSAS
Carl J. Fuselier
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No. 7510
9/11/11
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENT 1
LITTLE RACCOON CREEK

ROUTE 5 SEC. 16

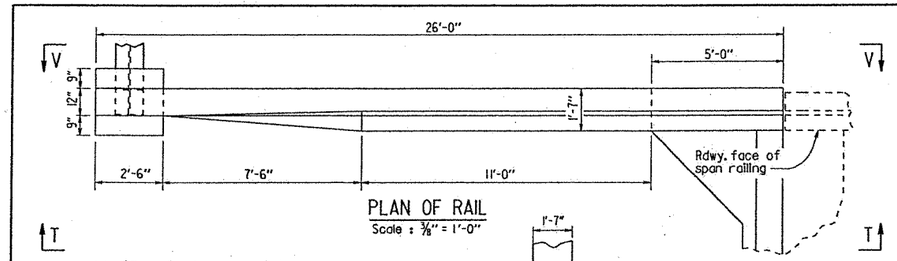
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 08/04/11
CHECKED BY: TMG DATE: 8/29/11
DESIGNED BY: BEF DATE: 8/11
FILENAME: BR50116X1_B1.DGN
SCALE: ⅜"=1'-0" OR AS NOTED

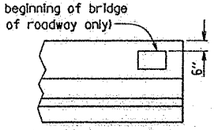
BRIDGE NO. 07231 DRAWING NO. 52428

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.		R50116	84	223
				1	07231	END BENT DETAIL		52429

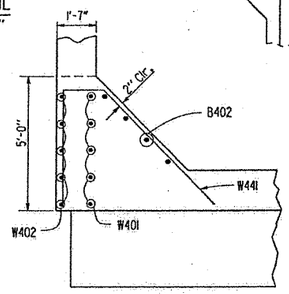


PLAN OF RAIL
Scale : 3/8" = 1'-0"

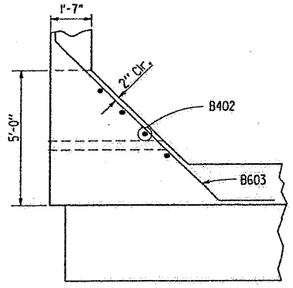
Place Type D Bridge Name Plate on front face of wing rail approx. 2'-0" from beginning of bridge (Right side of roadway only)



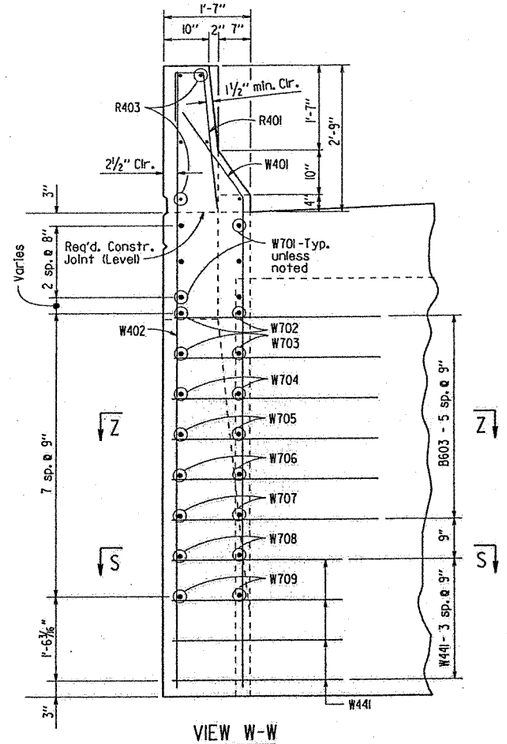
NAME PLATE DETAIL
No Scale



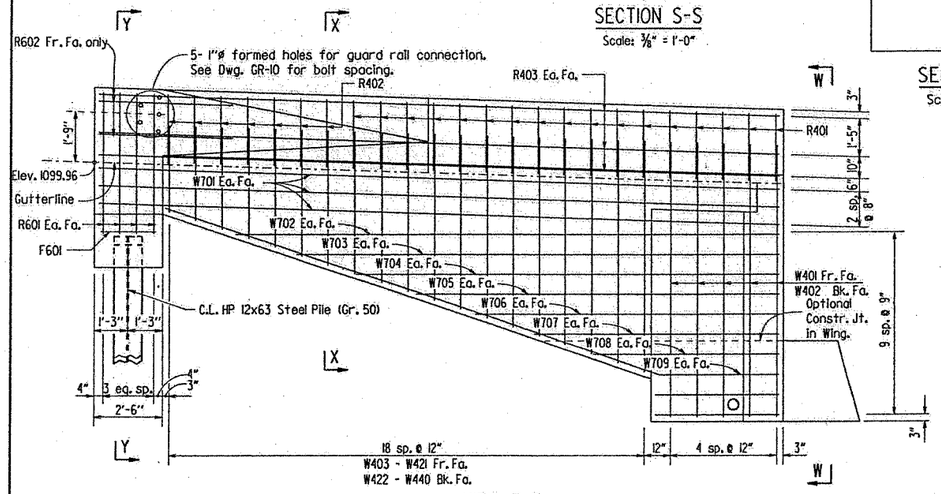
SECTION S-S
Scale: 3/8" = 1'-0"



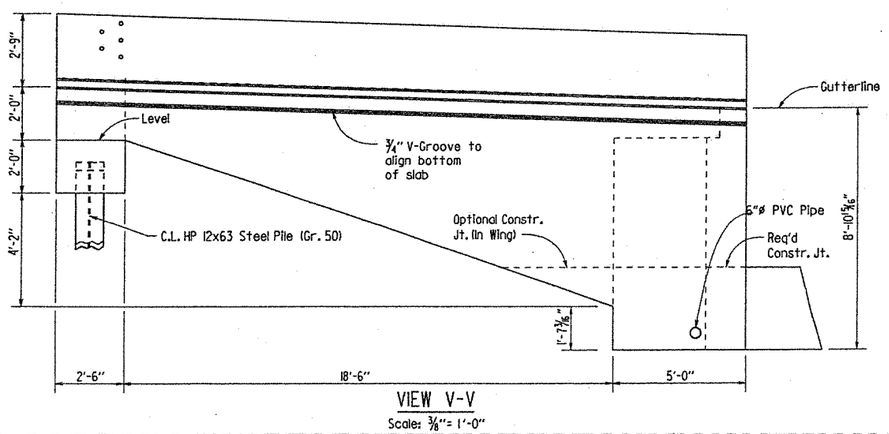
SECTION Z-Z
Scale: 3/8" = 1'-0"



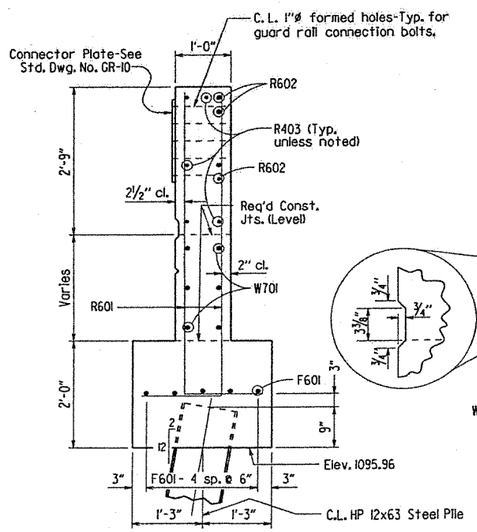
VIEW W-W
Scale: 3/4" = 1'-0"



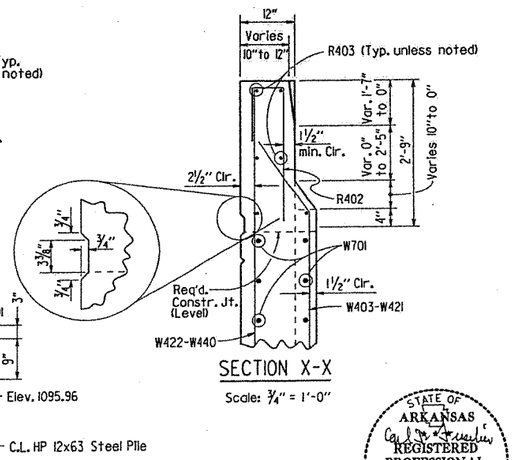
VIEW T-T
Scale: 3/8"= 1'-0"



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



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

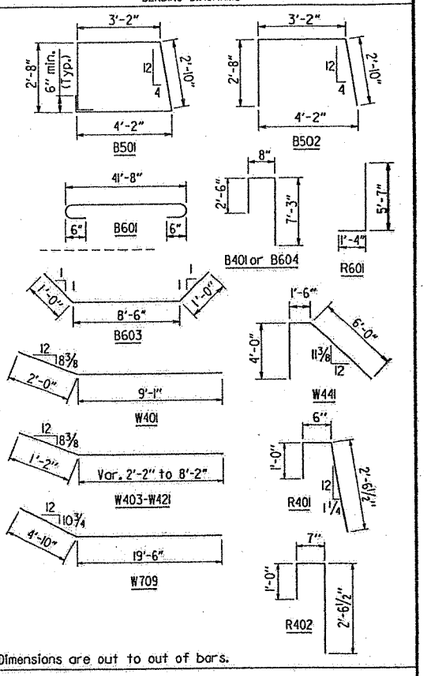


SECTION X-X
Scale: 3/4" = 1'-0"

BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B501	63	13'-4"	2½"
B502	12	8'-6"	2½"
B401	38	10'-3"	2"
B402	8	7'-3"	Str.
B403	16	42'-10"	Str.
B404	4	41'-8"	Str.
B601	6	43'-0"	4½"
B602	79	6'-1"	Str.
B603	12	10'-6"	4½"
B604	4	10'-3"	4½"
B701	7	41'-8"	Str.
R401	34	3'-11"	2"
R402	14	4'-0"	2"
R403	12	25'-8"	Str.
R601	16	6'-9"	4½"
R602	6	5'-0"	Str.
F601	10	2'-2"	Str.
W401	10	11'-1"	2"
W402	10	11'-5"	Str.
W403-W421	2 each	Var. 3'-4" 9'-4"	2"
W422-W440	2 each	Var. 4'-5" to 10'-5"	Str.
W441	8	11'-5"	2"
W701	12	25'-8"	Str.
W702-W708	4 each	Var. 7'-1" to 20'-7"	Str.
W709	4	24'-4"	5¼"

BENDING DIAGRAMS



Dimensions are out to out of bars.

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (Yield Strength = 60,000 psi.).

All structural steel shall be AASHTO M270, Gr. 50W. Structural steel in backwall shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

No portion of the backwall shall be poured before girders are in place. The portion of the backwall above the optional construction joint at the paving bracket shall not be placed until the deck pour has been made. Refer to the "Expansion Device Installation" note, see Dwg. 52447.

Concrete shall be hand packed under the joint armor.

For additional information see Layout.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. PUSELLER
BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF BENT 1
LITTLE RACCOON CREEK

ROUTE 5 SEC. 16

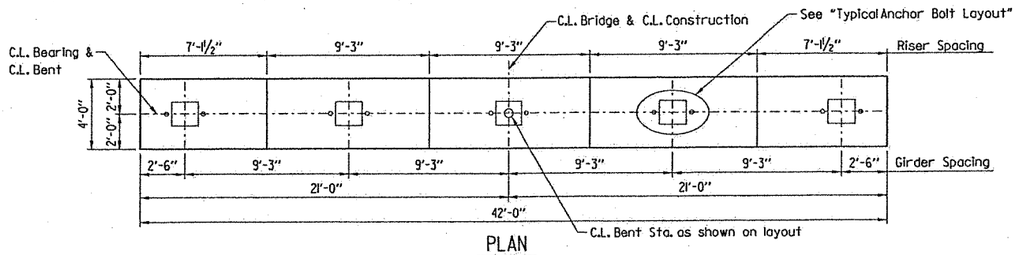
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

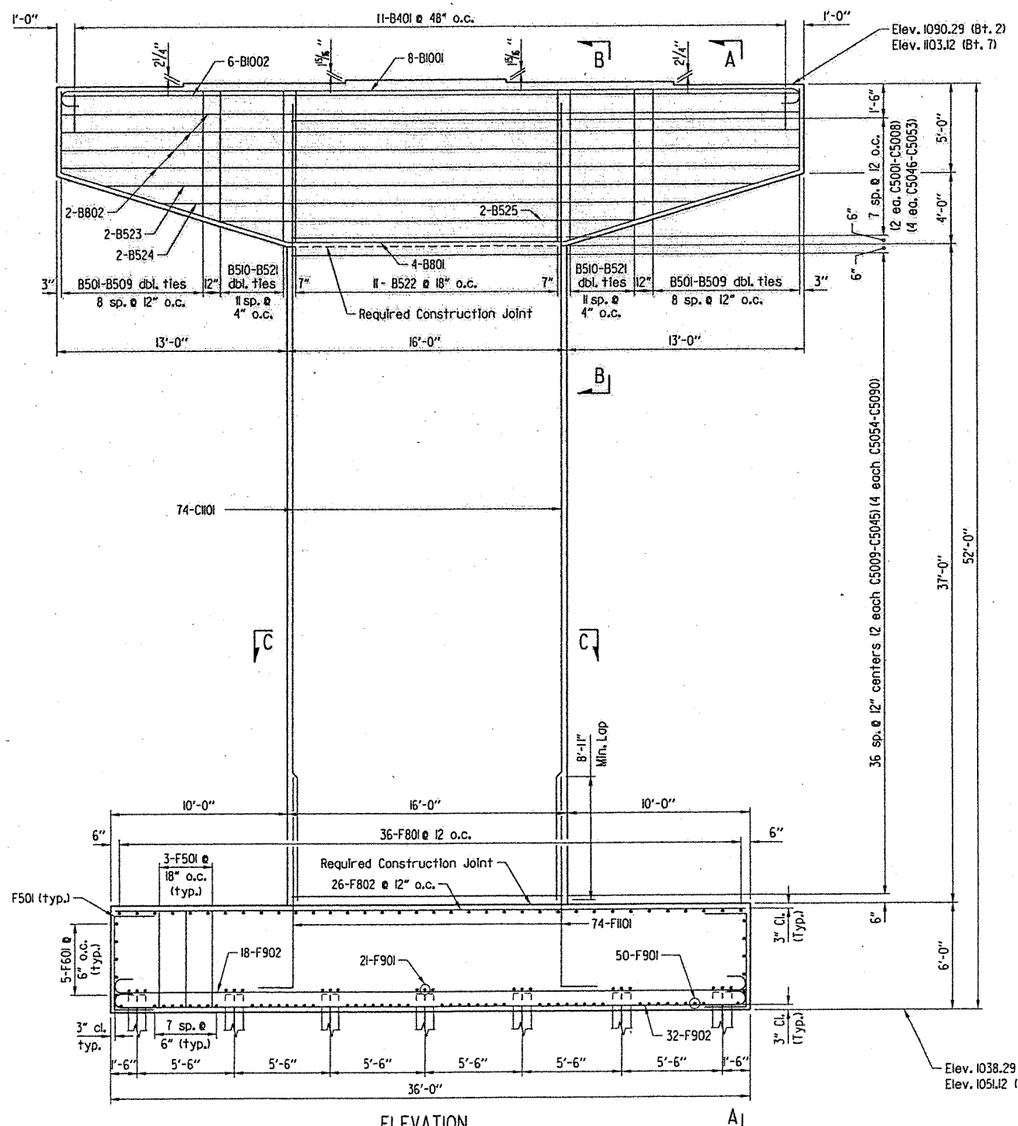
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CHECKED BY: TMG DATE: 8/29/11 SCALE: AS SHOWN
DESIGNED BY: BEF DATE: 8/11

BRIDGE NO. 07231 DRAWING NO. 52429

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.		R50116	85	223
				1 07231		Bents 2 & 7		52430



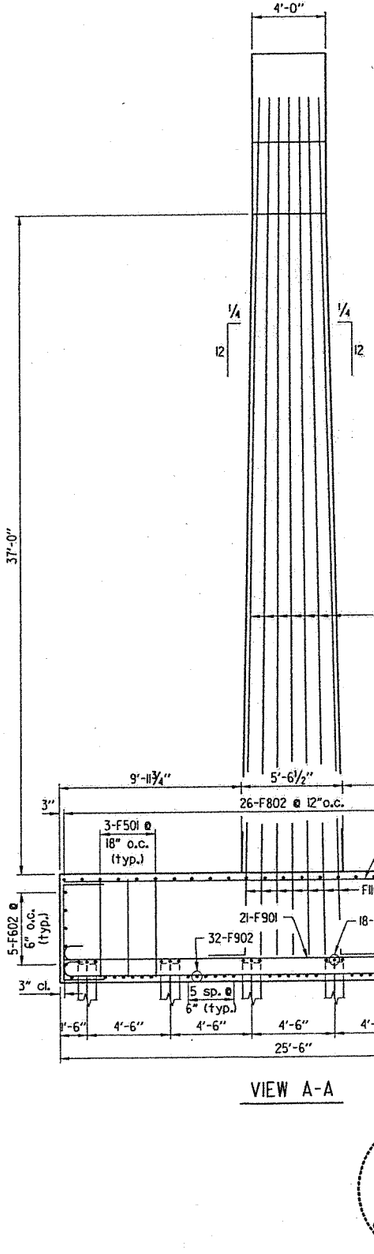
PLAN



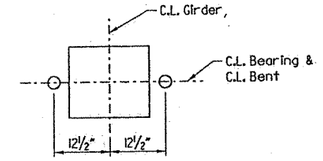
ELEVATION

Looking Fwd.

NOTE: For Sections B-B and C-C, see dwg. no. 52431



VIEW A-A



NOTE: For details of Elastomeric bearing, see dwg. no. 52454

TYPICAL ANCHOR BOLT LAYOUT

¾" = 1'-0"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL PUSELIER
9/1/11

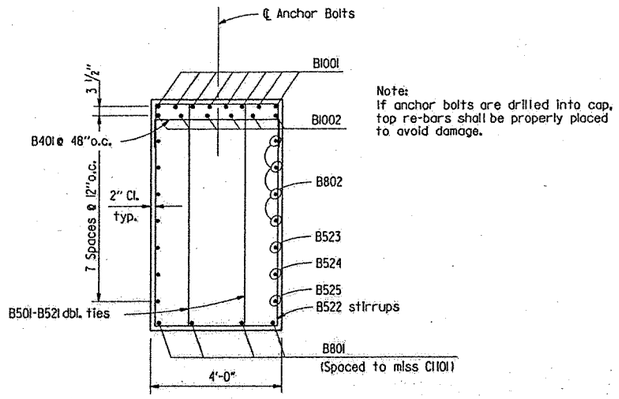
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENTS 2 & 7
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DBS DATE: 08/24/2011
CHECKED BY: JGT DATE: 8/31/11
DESIGNED BY: DBS DATE: 08/11
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SCALE: ¼" = 1'-0"

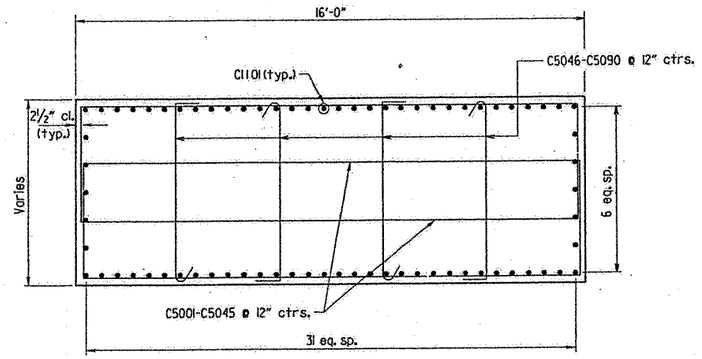
BRIDGE NO. 07231 DRAWING NO. 52430

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				6	ARK.			
				JOB NO.		R50116	80	223
				① 07231		Bents 2 & 7		52431



Note:
If anchor bolts are drilled into cap, top re-bars shall be properly placed to avoid damage.

SECTION B-B
N.T.S.

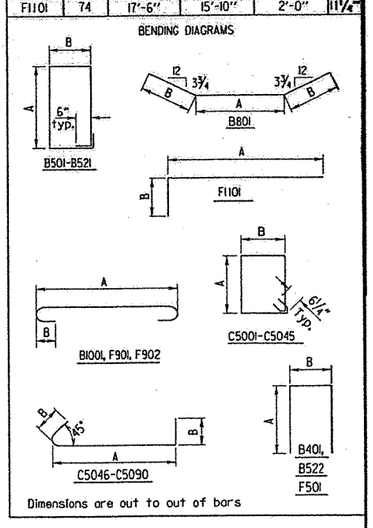


SECTION C-C
N.T.S.

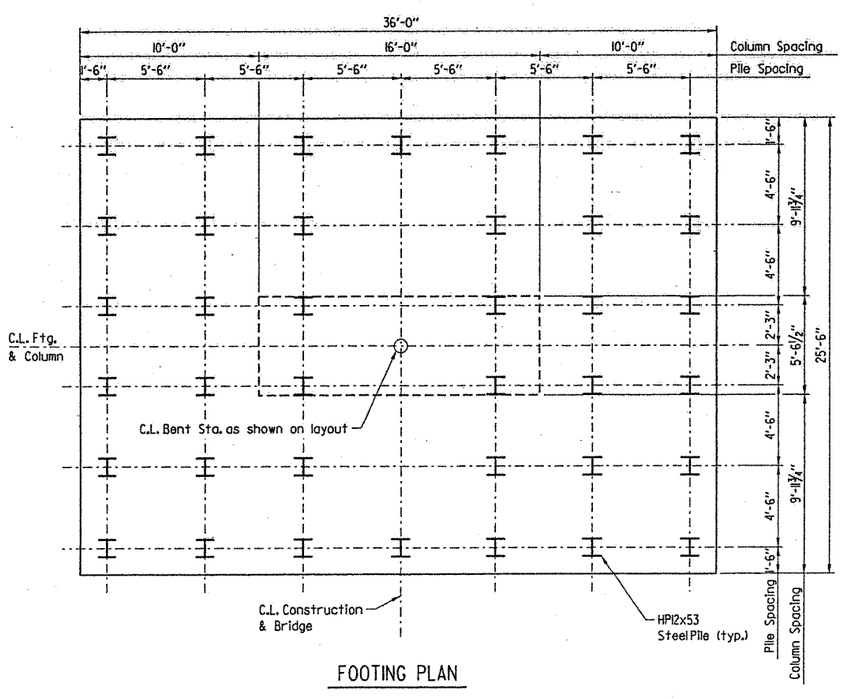
BAR LIST - PER BENT

MK	No. Req'd.	Length	A	B	Pin Dia.
B401	11	5'-6"	12"	3'-8"	2"
B501-B509	4 Ea.	16'-0" to 21'-0"	4'-9" to 7'-3"	3'-0"	2½"
B510-B521	4 Ea.	21'-6" to 23'-7"	7'-6" to 8'-6½"	3'-0"	2½"
B522	11	20'-10"	8'-8"	3'-8"	2½"
B523	2	36'-8"			Str.
B524	2	30'-0"			Str.
B525	2	23'-6"			Str.
B801	4	42'-8"	15'-10"	13'-5"	6"
B802	8	41'-8"			Str.
B1001	8	44'-6"	41'-8"	11½"	10"
B1002	6	41'-8"			Str.
C5001-C5008	2 Ea.	36'-10" to 37'-11½"	2'-6" to 2'-7¾"	15'-7"	3¾"
C5009-C5045	2 Ea.	37'-2" to 38'-6"	2'-8" to 3'-4"	15'-7"	3¾"
C5046-C5053	4 Ea.	4'-9" to 5'-0½"	3'-3½" to 3'-7"	10"	3¾"
C5054-C5090	4 Ea.	5'-1" to 6'-7"	3'-7½" to 5'-1½"	10"	3¾"
C1101	74	44'-9"			Str.
F501	66	9'-8"	2'-2"	5'-6"	2½"
F601	10	25'-0"			Str.
F602	10	35'-6"			Str.
F801	36	25'-0"			Str.
F802	26	35'-6"			Str.
F901	71	27'-6"	25'-0"	10"	9"
F902	50	38'-0"	35'-6"	10"	9"
F1101	74	17'-6"	15'-10"	2'-0"	11¼"

BENDING DIAGRAMS



Dimensions are out to out of bars



FOOTING PLAN

GENERAL NOTES

Concrete in caps and columns shall be Class S with a minimum 28 day compressive strength of f'c =3500 psi. Type II(MH) cement shall be used in the footings. See Special Provision Job No. R50116, "Use of Type II Cement". Concrete shall be poured in the dry and all corners shall be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.)

For additional notes, see bridge layout.

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF BENTS 2 & 7
LITTLE RACCOON CREEK

ROUTE SEC.

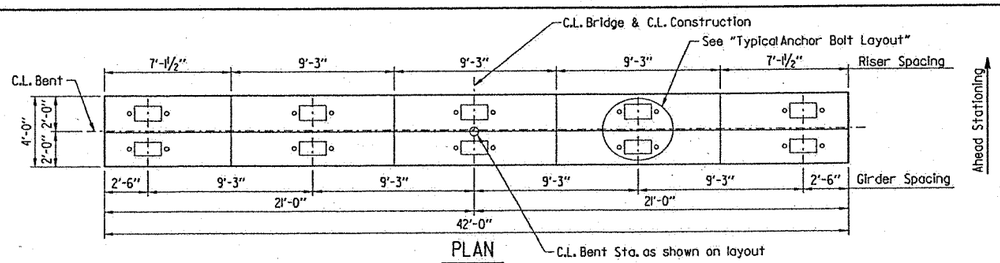
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

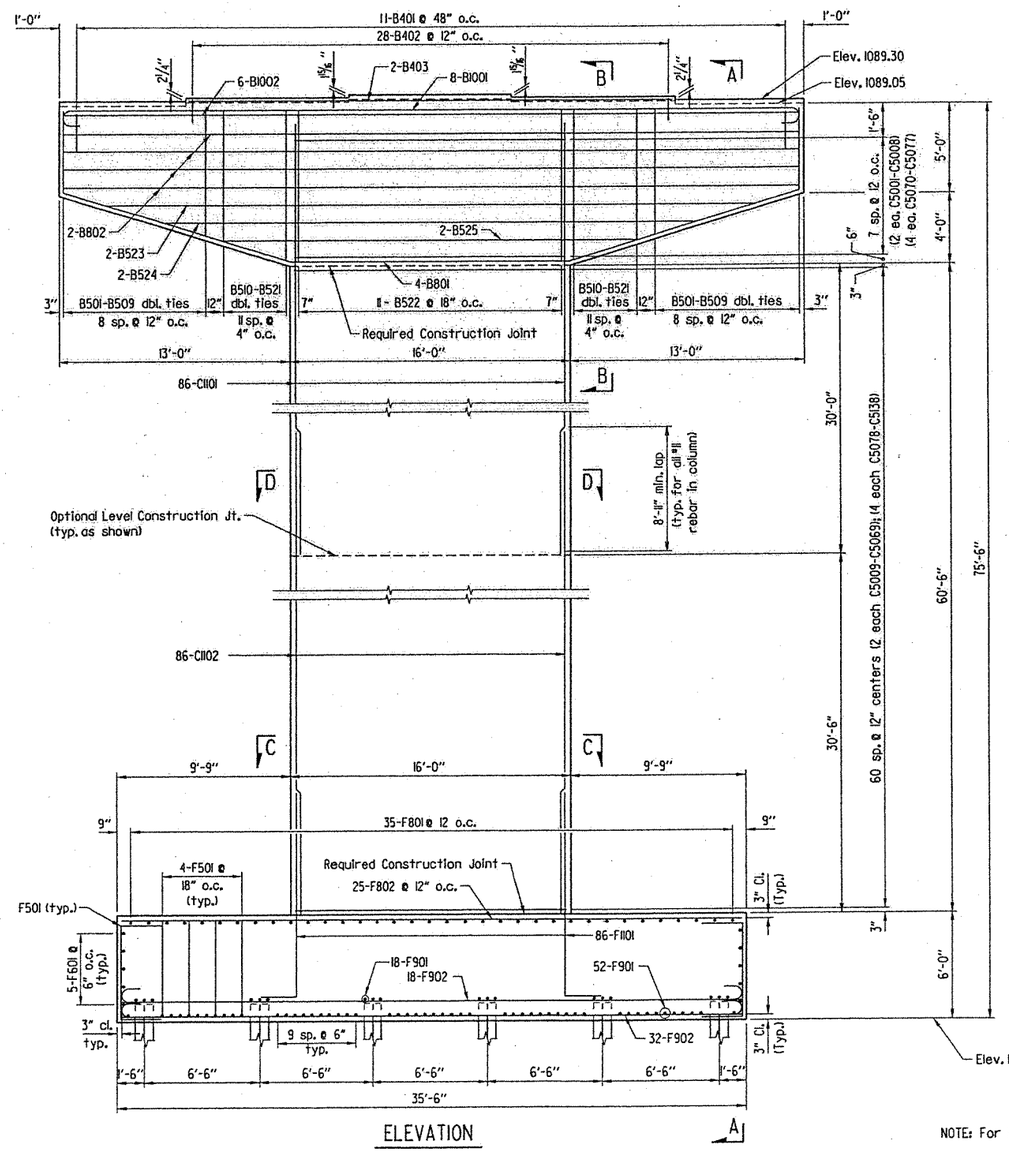
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DESIGNED BY: DBS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52431

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.		R50116	87	223
				07231		Bent 3		52432

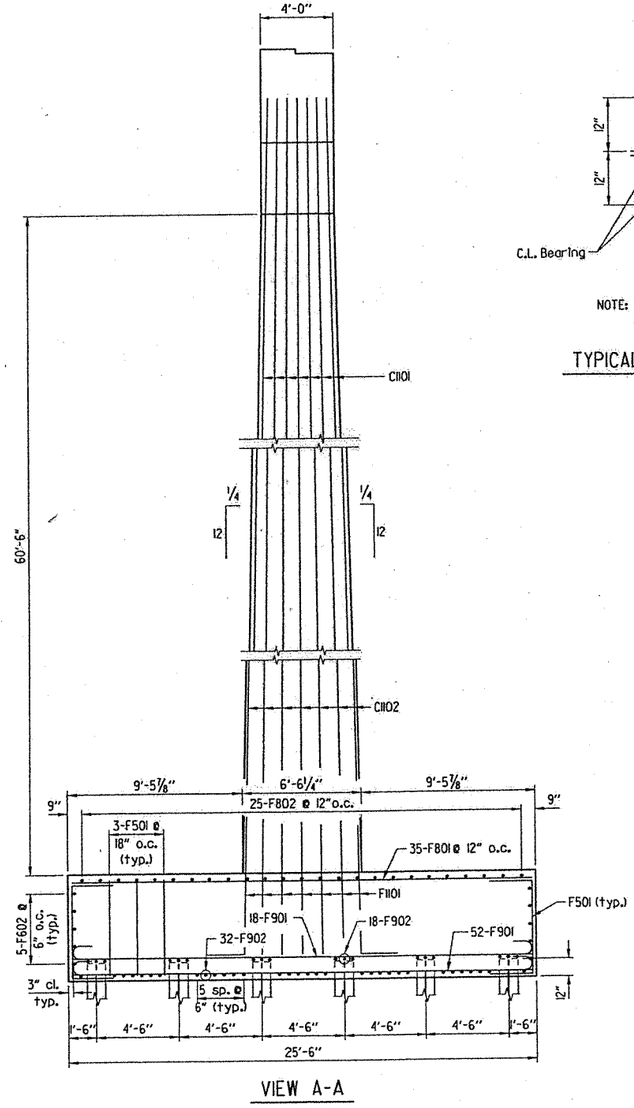


PLAN

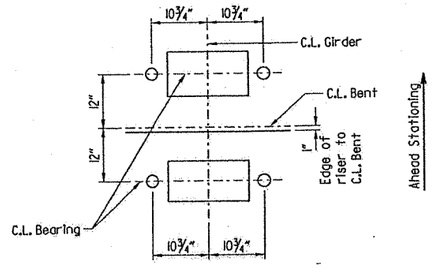


ELEVATION

Looking Fwd.



VIEW A-A



NOTE: For details of Elastomeric bearing, see dwg. no. 52454

TYPICAL ANCHOR BOLT LAYOUT

¾" = 1'-0"

NOTE: For Sections B-B, C-C, and D-D, see dwg. no. 52433

STATE OF ARKANSAS
Carl J. Fuselier
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No. 7510
9/1/11
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENT 3
LITTLE RACCOON CREEK
ROUTE SEC.

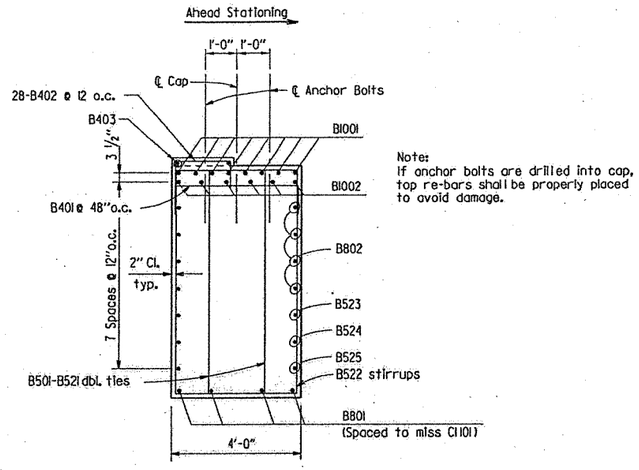
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DBS DATE: 08/24/2011
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DESIGNED BY: DBS DATE: 08/11

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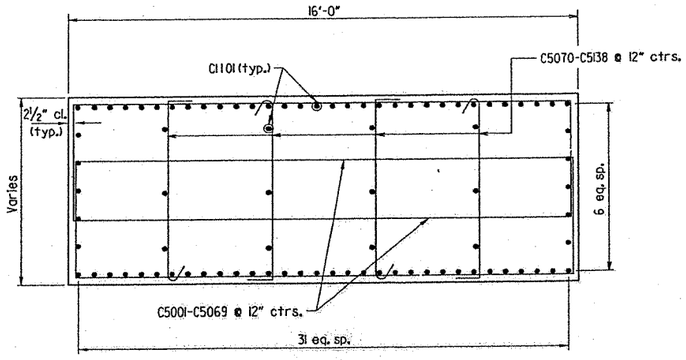
BRIDGE NO. 07231 DRAWING NO. 52432

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				JOB NO.		R50116	88	223
				(1) 07231		Bent 3		52433

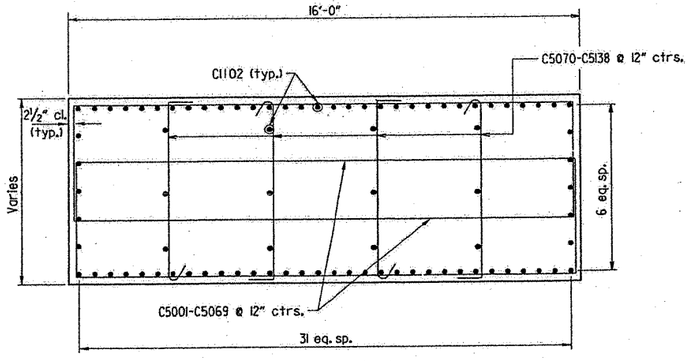


Note:
If anchor bolts are drilled into cap, top re-bars shall be properly placed to avoid damage.

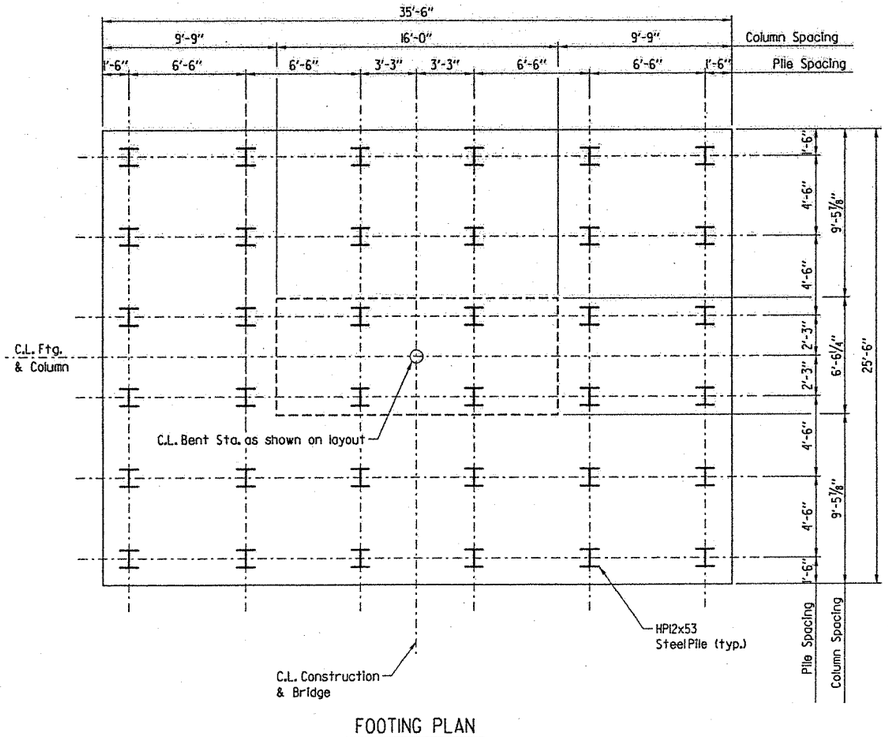
SECTION B-B
N.T.S.



SECTION D-D
N.T.S.



SECTION C-C
N.T.S.



FOOTING PLAN

GENERAL NOTES

Concrete in caps and columns shall be Class S with a minimum 28 day compressive strength of f'c =3500 psi. Type II(MH) cement shall be used in the footings. See Special Provision Job No. R50116, "Use of Type II Cement". Concrete shall be poured in the dry and all corners shall be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.)

For additional notes, see bridge layout.

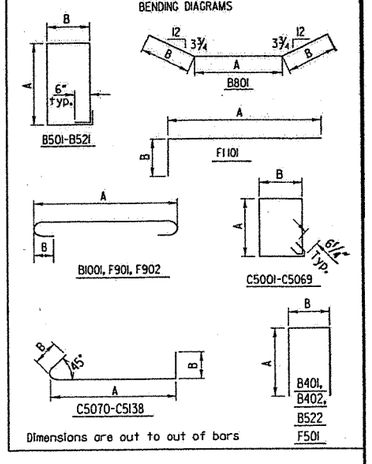
STATE OF ARKANSAS
Carl J. Puseller
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. PUSELLER

BRIDGE ENGINEER

BAR LIST

MK	No. Req'd.	Length	A	B	Pin Dia.
B401	11	5'-6"	12"	3'-8"	2"
B402	28	5'-5"	24"	1'-7"	2"
B403	2	27'-3"			Str.
B501-B509	4 Ea.	16'-0" to 21'-0"	4'-9" to 7'-3"	3'-0"	2½"
B510-B521	4 Ea.	21'-6" to 23'-7"	7'-6" to 8'-6½"	3'-0"	2½"
B522	11	20'-10"	8'-8"	3'-8"	2½"
B523	2	36'-8"			Str.
B524	2	30'-0"			Str.
B525	2	23'-6"			Str.
B801	4	42'-8"	15'-10"	13'-5"	6"
B802	8	41'-8"			Str.
B1001	8	44'-6"	41'-8"	11½"	10"
B1002	6	41'-8"			Str.
C5001-C5008	2 Ea.	36'-10" to 37'-1½"	2'-6" to 2'-7¾"	15'-7"	3¾"
C5009-C5069	2 Ea.	37'-2" to 39'-8"	2'-8" to 3'-1"	15'-7"	3¾"
C5070-C5077	4 Ea.	4'-9" to 5'-0½"	3'-3½" to 3'-7"	10"	3¾"
C5078-C5138	4 Ea.	5'-1" to 7'-7"	3'-7½" to 6'-1½"	10"	3¾"
C1101	86	37'-9"			Str.
C1102	86	39'-6"			Str.
F501	70	9'-8"	2'-2"	5'-6"	2½"
F601	10	25'-0"			Str.
F602	10	35'-0"			Str.
F801	35	25'-0"			Str.
F802	25	35'-0"			Str.
F901	70	27'-6"	25'-0"	10"	9"
F902	50	37'-6"	35'-0"	10"	9"
F1101	86	17'-6"	15'-10"	2'-0"	11¼"

BENDING DIAGRAMS



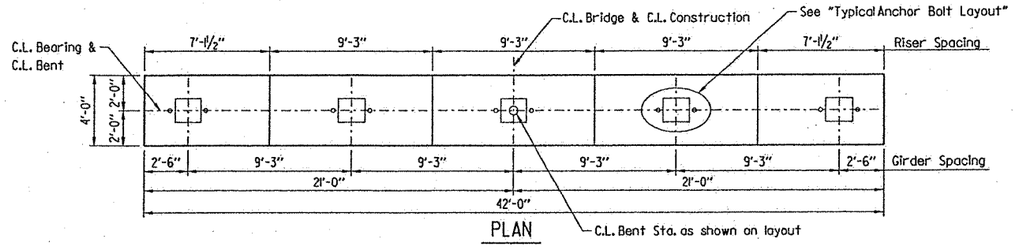
Dimensions are out to out of bars

SHEET 2 OF 2
DETAILS OF BENT 3
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

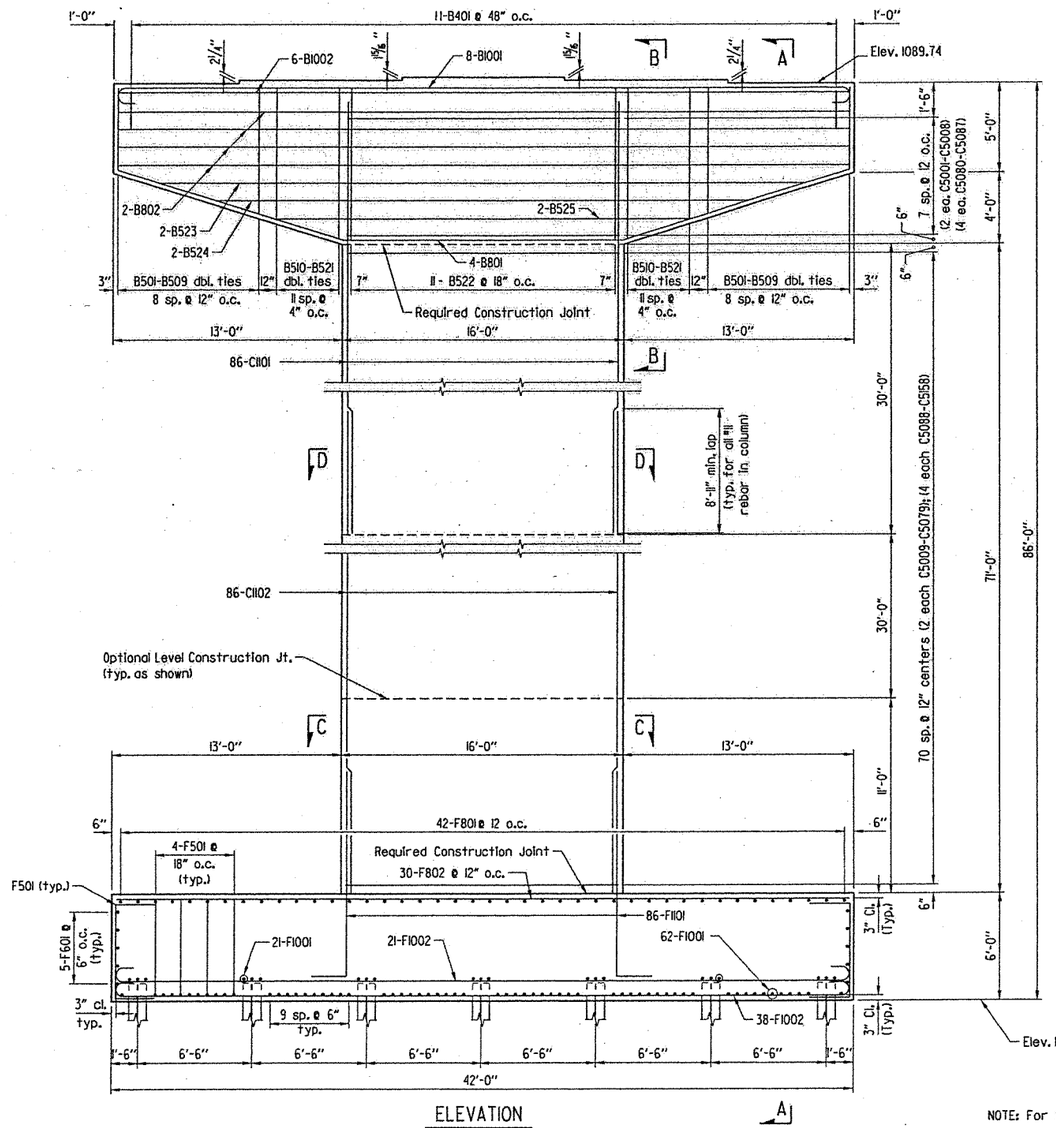
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CHECKED BY: JCT DATE: 8/31/11 SCALE: 1/4" = 1'-0"
DESIGNED BY: DBS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52433

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.		R50116	891223	
				1	07231	Bent 4		52434

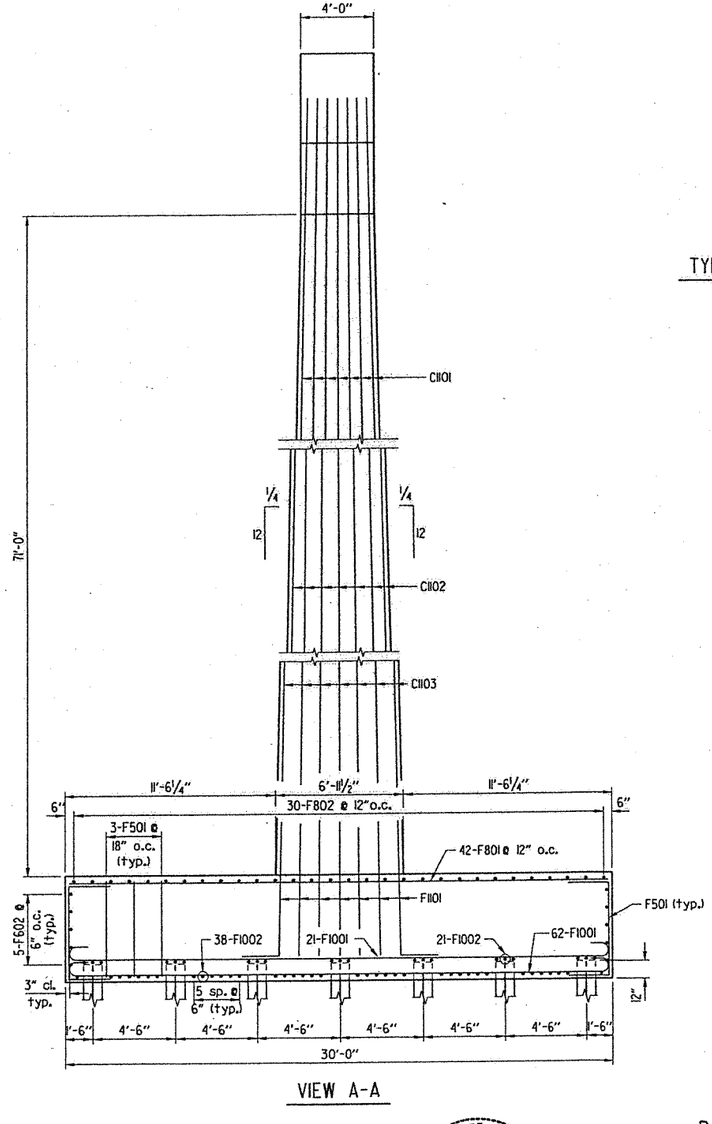


PLAN

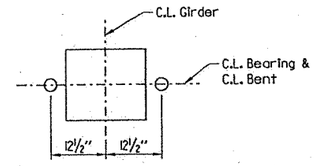


ELEVATION

Looking Fwd.



VIEW A-A



NOTE: For details of Elastomeric bearing, see dwg. no. 52454

TYPICAL ANCHOR BOLT LAYOUT

¾" = 1'-0"

NOTE: For Sections B-B, C-C, and D-D, see dwg. no. 52435

STATE OF ARKANSAS
Carl P. Fuselier
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No. 7510
9/1/11
CARL P. FUSELIER

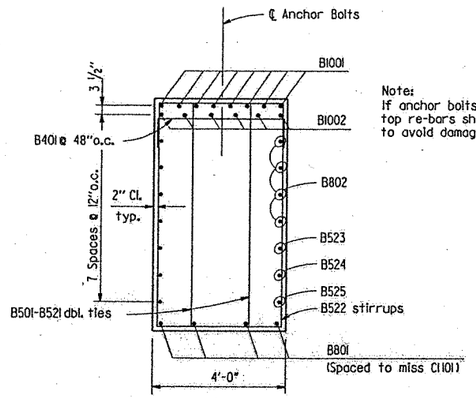
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENT 4
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DBS DATE: 08/24/2011 FILENAME: BR50116XL_B2.dgn
CHECKED BY: JGT DATE: 9/1/11 SCALE: ¼" = 1'-0"
DESIGNED BY: DBS DATE: 08/11

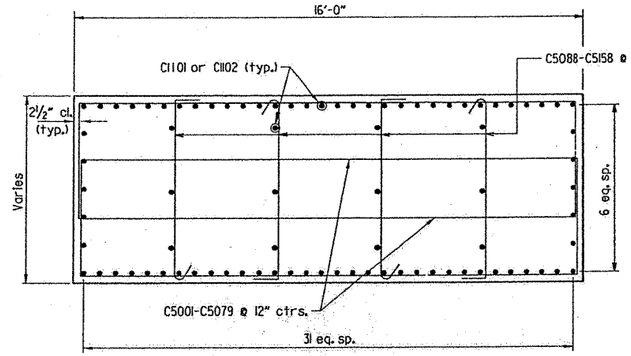
BRIDGE NO. 07231 DRAWING NO. 52434

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.		R50116	90	223
				07231		Bent 4		52435

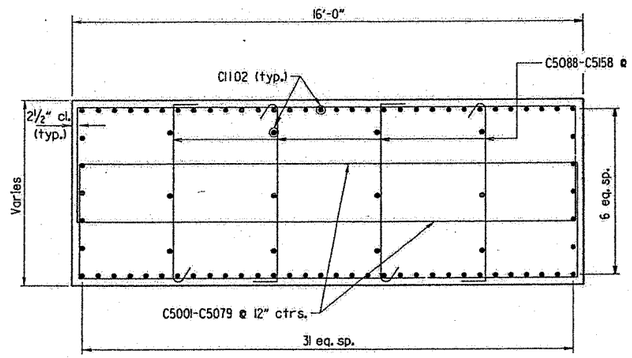


Note:
If anchor bolts are drilled into cap, top re-bars shall be properly placed to avoid damage.

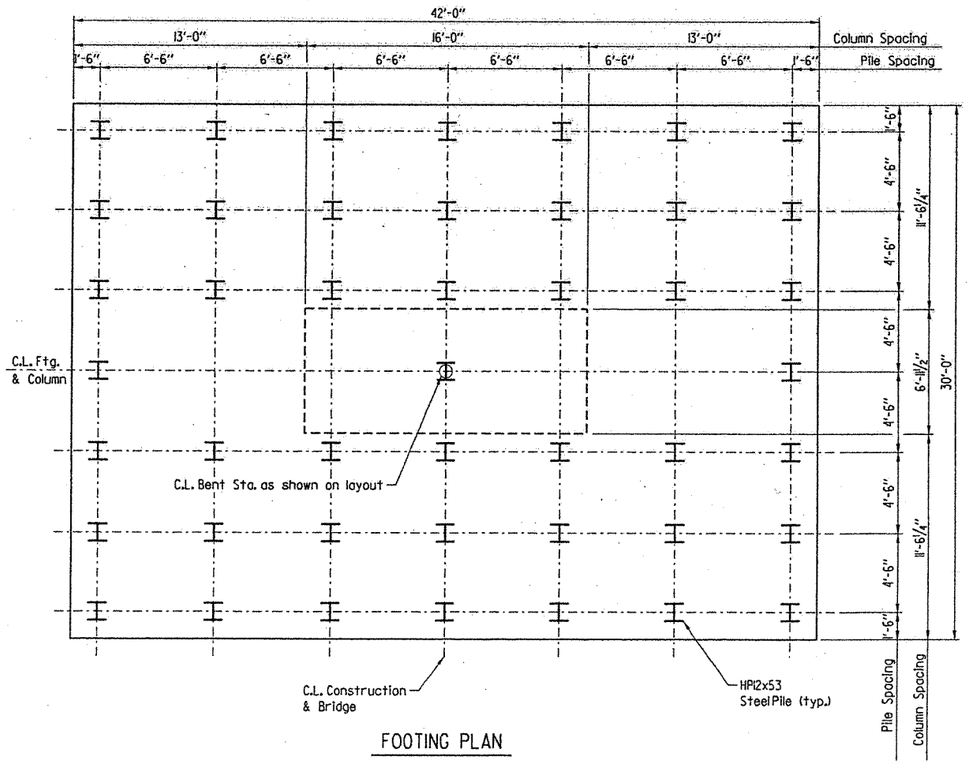
SECTION B-B
N.T.S.



SECTION D-D
N.T.S.



SECTION C-C
N.T.S.



FOOTING PLAN

GENERAL NOTES

Concrete in caps and columns shall be Class S with a minimum 28 day compressive strength of f'c =3500 psi. Type II(MH) cement shall be used in the footings. See Special Provision Job No. R50116, "Use of Type II Cement". Concrete shall be poured in the dry and all corners shall be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.)

For additional notes, see bridge layout.

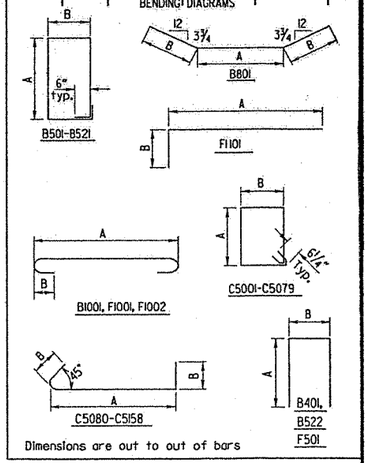
STATE OF ARKANSAS
Carl J. Puseller
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. PUSELLER

BRIDGE ENGINEER

BAR LIST

MK	No. Req'd.	Length	A	B	Pin Dia.
B401	11	5'-6"	12"	3'-8"	2"
B501-B509	4 Ea.	16'-0" to 21'-0"	4'-9" to 7'-3"	3'-0"	2½"
B510-B521	4 Ea.	21'-6" to 23'-7"	7'-6" to 8'-6½"	3'-0"	2½"
B522	11	20'-10"	8'-8"	3'-8"	2½"
B523	2	36'-8"			Str.
B524	2	30'-0"			Str.
B525	2	23'-6"			Str.
B801	4	42'-8"	15'-10"	13'-5"	6"
B802	8	41'-8"			Str.
B1001	8	44'-6"	41'-8"	11½"	10"
B1002	6	41'-8"			Str.
C5001-C5008	2 Ea.	36'-10" to 37'-1½"	2'-6" to 2'-7¾"	15'-7"	3¾"
C5009-C5079	2 Ea.	37'-2" to 40'-1"	2'-8" to 4'-1½"	15'-7"	3¾"
C5080-C5087	4 Ea.	4'-9" to 5'-0½"	3'-3½" to 3'-7"	10"	3¾"
C5088-C5158	4 Ea.	5'-1" to 8'-0"	3'-7½" to 6'-6½"	10"	3¾"
C1101	86	37'-9"			Str.
C1102	86	50'-0"			Str.
F501	84	9'-8"	2'-2"	5'-6"	2½"
F601	10	29'-6"			Str.
F602	10	41'-6"			Str.
F801	42	29'-6"			Str.
F802	30	41'-6"			Str.
F1001	83	32'-4"	29'-6"	11½"	10"
F1002	59	44'-4"	41'-6"	11½"	10"
F1101	86	17'-6"	15'-10"	2'-0"	11¼"

BENDING DIAGRAMS



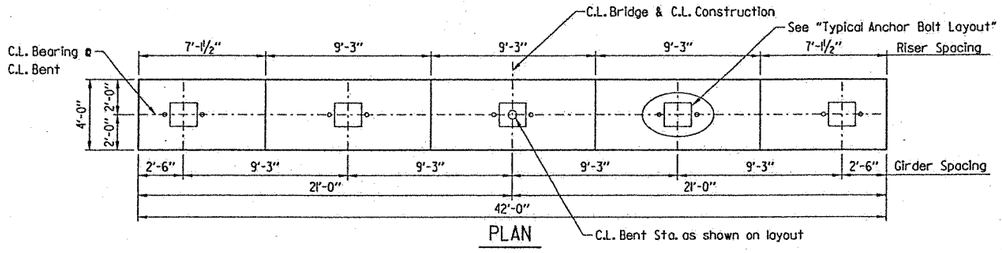
Dimensions are out to out of bars

SHEET 2 OF 2
DETAILS OF BENT 4
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

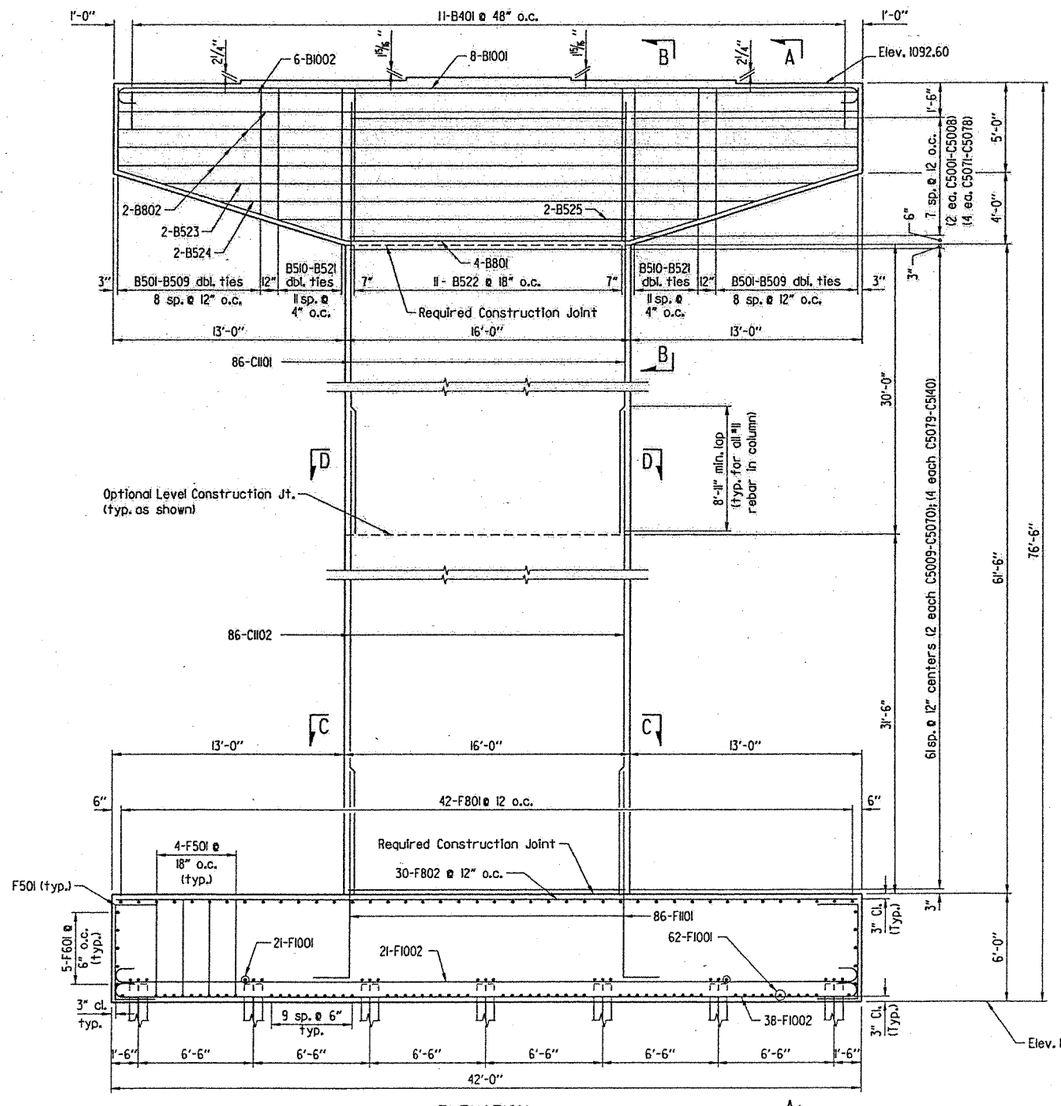
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CHECKED BY: JGT DATE: 8/26/11 SCALE: 1/4" = 1'-0"
DESIGNED BY: DBS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52435

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.		R50116	91	223
				07231		Bent 5		52436

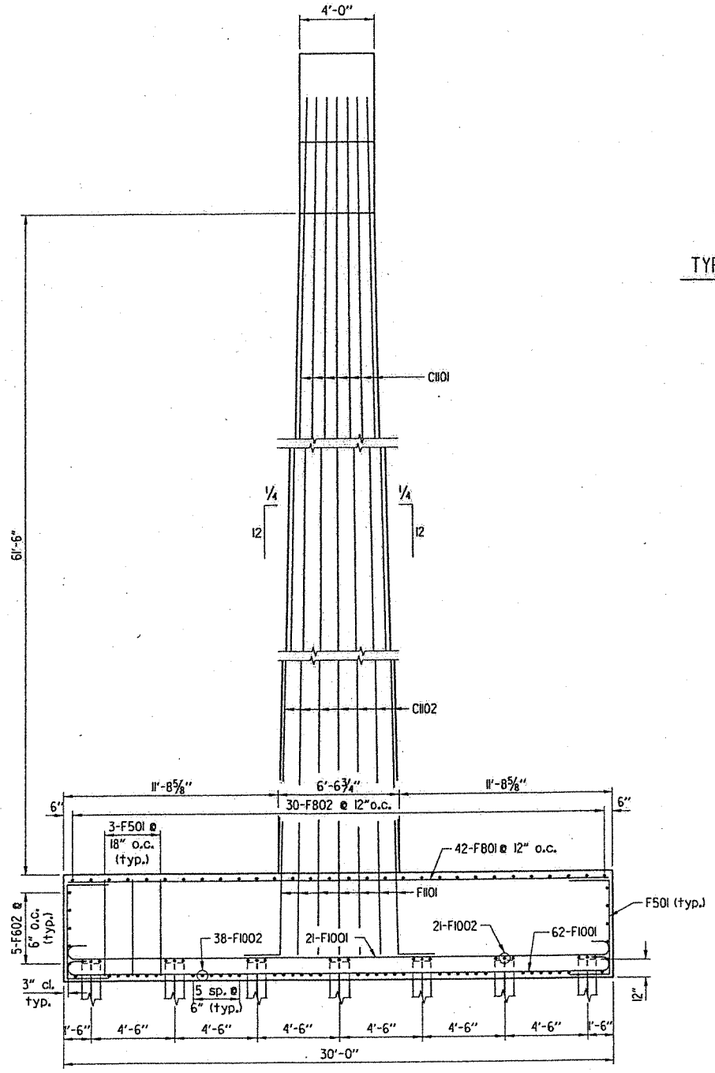


PLAN

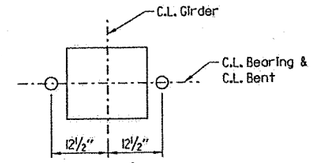


ELEVATION

Looking Fwd.



VIEW A-A



NOTE: For details of Elastomeric bearing, see dwg. no. 52454

TYPICAL ANCHOR BOLT LAYOUT

¾" = 1'-0"

NOTE: For Sections B-B, C-C, and D-D, see dwg. no. 52437

STATE OF ARKANSAS
CARL L. PUSELLIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11

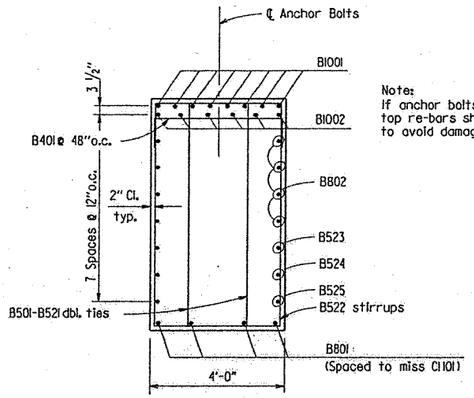
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENT 5
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DBS DATE: 08/24/2011 FILENAME: BR50116XI_B2.dgn
CHECKED BY: JGT DATE: 8/26/11 SCALE: ¼" = 1'-0"
DESIGNED BY: DBS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52436

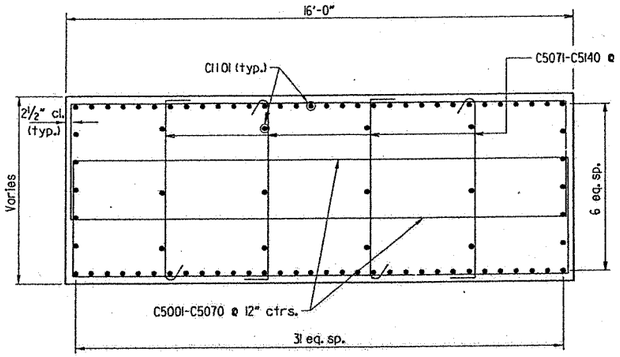
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				6	ARK.			
				JOB NO.		R50116	42223	
				07231		Bent 5		52437



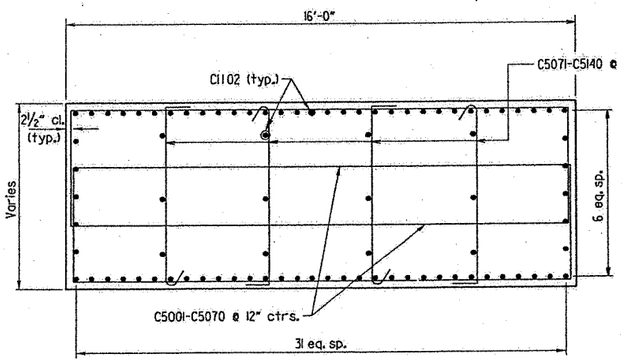
Note:
If anchor bolts are drilled into cap, top re-bars shall be properly placed to avoid damage.

SECTION B-B
N.T.S.

FOOTING PLAN



SECTION D-D
N.T.S.



SECTION C-C
N.T.S.

GENERAL NOTES

Concrete in caps and columns shall be Class S with a minimum 28 day compressive strength of f'c =3500 psi. Type II(MH) cement shall be used in the footings. See Special Provision Job No. R50116, "Use of Type II Cement". Concrete shall be poured in the dry and all corners shall be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.)

For additional notes, see bridge layout.

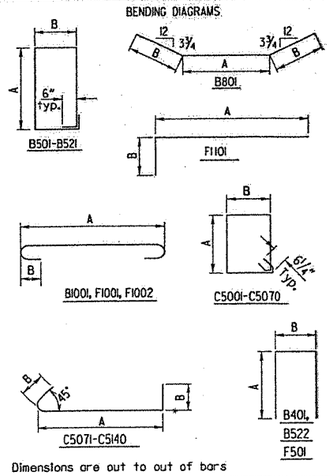
STATE OF ARKANSAS
Carl J. Fusselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. FUSSELIER

BRIDGE ENGINEER

BAR LIST

MK	No. Req'd.	Length	A	B	Pin Dia.
B401	11	5'-6"	12"	3'-8"	2"
B501-B509	4 Ea.	16'-0" to 21'-0"	4'-9" to 7'-3"	3'-0"	2½"
B510-B521	4 Ea.	21'-6" to 23'-7"	7'-6" to 8'-6½"	3'-0"	2½"
B522	11	20'-10"	8'-8"	3'-8"	2½"
B523	2	36'-8"			Str.
B524	2	30'-0"			Str.
B525	2	23'-6"			Str.
B801	4	42'-8"	15'-10"	13'-5"	6"
B802	8	41'-8"			Str.
B1001	8	44'-6"	41'-8"	11½"	10"
B1002	6	41'-8"			Str.
C5001-C5008	2 Ea.	36'-10" to 37'-1½"	2'-6" to 2'-7¾"	15'-7"	3¾"
C5009-C5070	2 Ea.	37'-2" to 39'-9"	2'-8" to 3'-11½"	15'-7"	3¾"
C5071-C5078	4 Ea.	4'-9" to 5'-0½"	3'-3½" to 3'-7"	10"	3¾"
C5079-C5140	4 Ea.	5'-1" to 7'-8"	3'-7½" to 6'-2"	10"	3¾"
C1101	86	37'-9"			Str.
C1102	86	40'-6"			Str.
F501	84	9'-8"	2'-2"	5'-6"	2½"
F601	10	29'-6"			Str.
F602	10	41'-6"			Str.
F801	42	29'-6"			Str.
F802	30	41'-6"			Str.
F1001	83	32'-4"	29'-6"	11½"	10"
F1002	59	44'-4"	41'-6"	11½"	10"
F1101	86	17'-6"	15'-10"	2'-0"	11¾"

BENDING DIAGRAMS



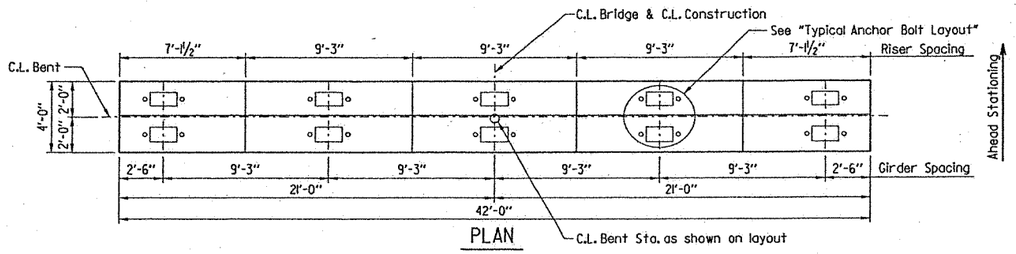
Dimensions are out to out of bars

SHEET 2 OF 2
DETAILS OF BENT 5
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

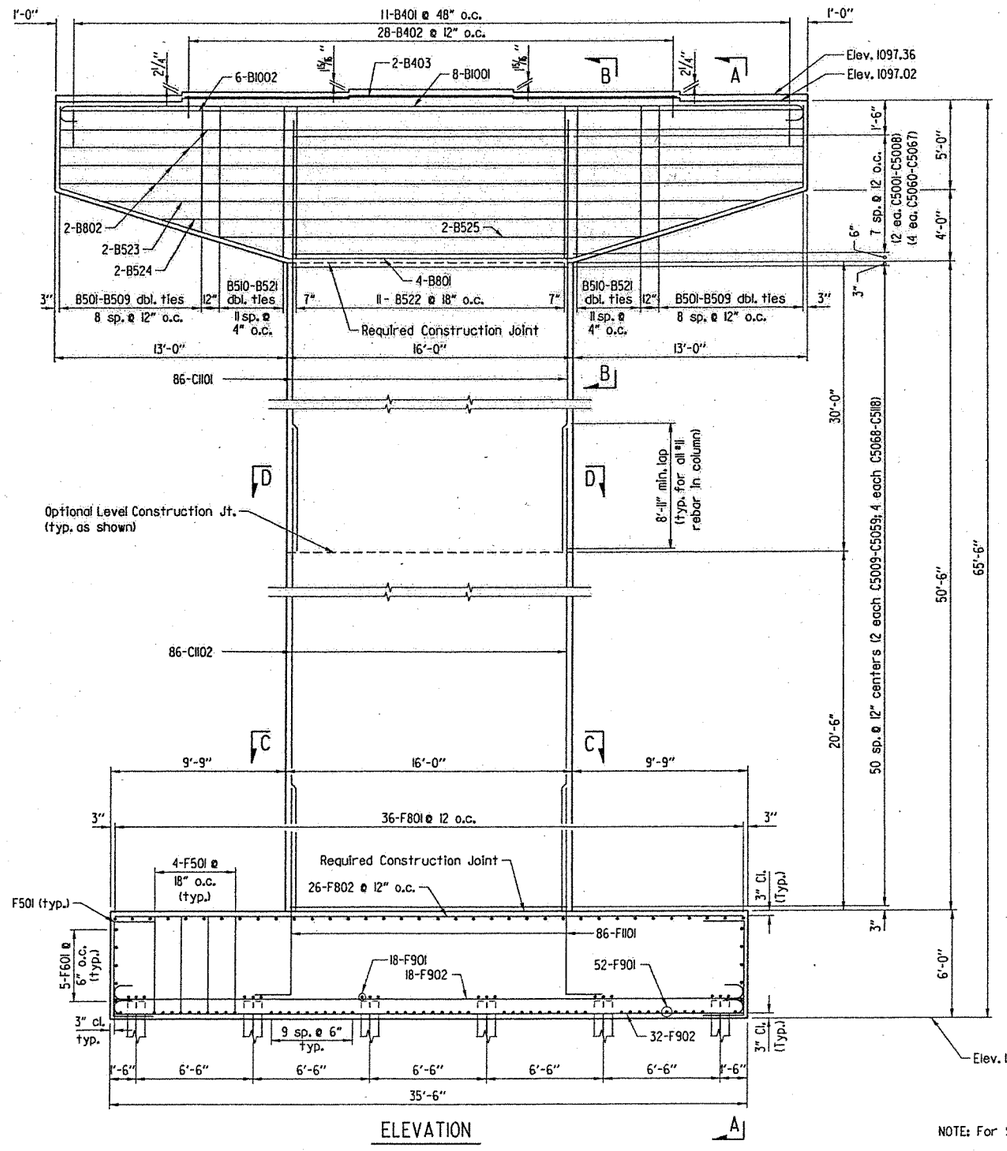
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CHECKED BY: JGT DATE: 8/31/11 SCALE: 1/4" = 1'-0"
DESIGNED BY: DBS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52437

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.		R50116	93	223
				07231		Bent 6		52438

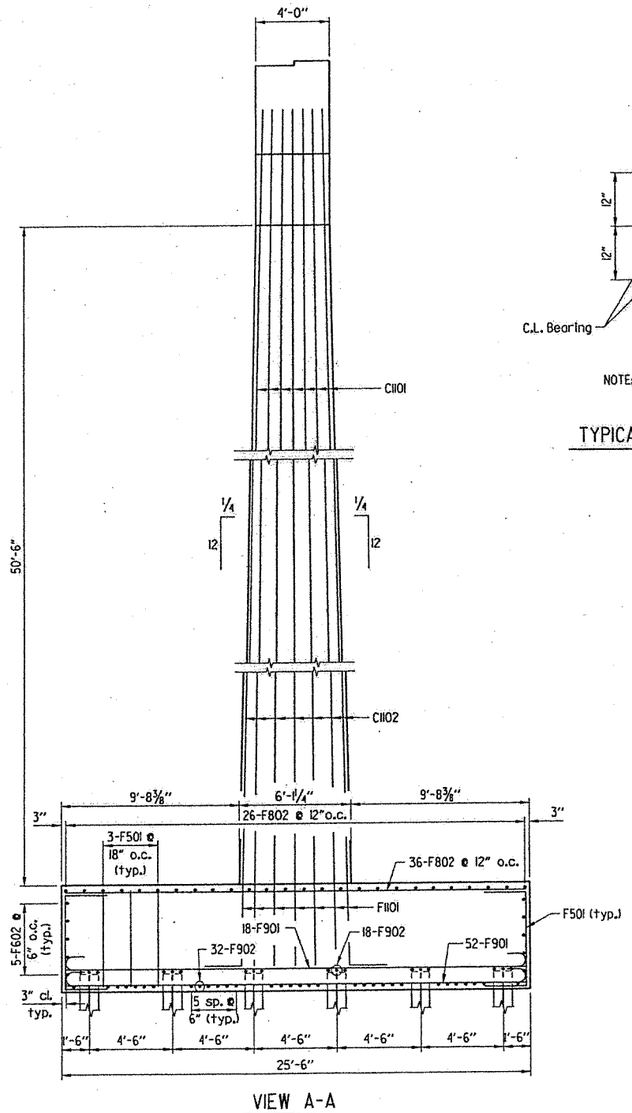


PLAN

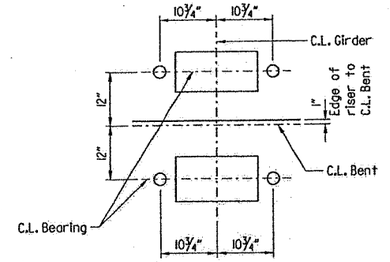


ELEVATION

Looking Fwd.



VIEW A-A



NOTE: For details of Elastomeric bearing, see dwg. no. 52454

TYPICAL ANCHOR BOLT LAYOUT

¾" = 1'-0"

NOTE: For Sections B-B, C-C, and D-D, see dwg. no. 52439

STATE OF ARKANSAS
Carl Puseller
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL PUSELLER

BRIDGE ENGINEER

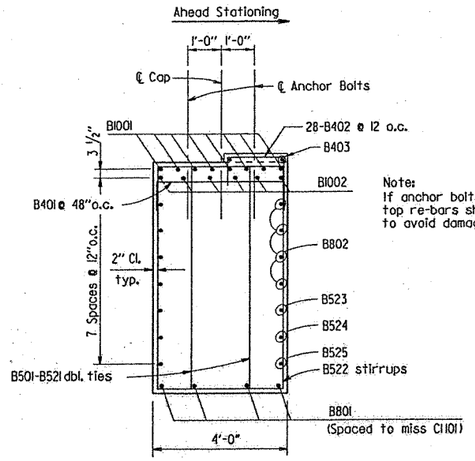
SHEET 1 OF 2
DETAILS OF BENT 6
LITTLE RACCOON CREEK
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	DBS	DATE:	08/24/2011	FILENAME:	BR50116X1_B2.dgn
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DESIGNED BY:	DBS	DATE:	08/11		

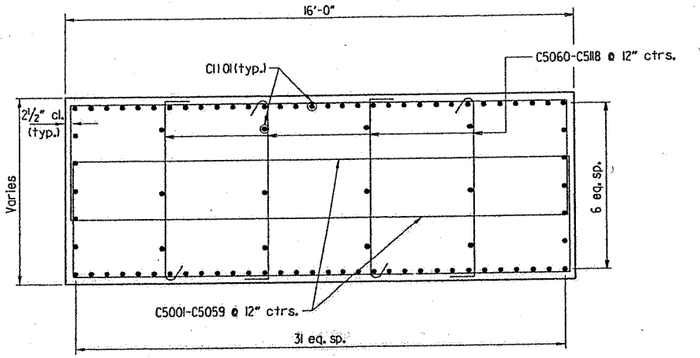
BRIDGE NO. 07231 DRAWING NO. 52438

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.		R50116	94	223
				1	07231	Bent 6		52439

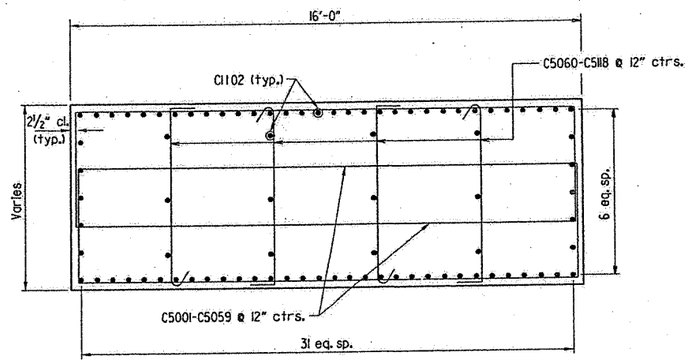


Note:
If anchor bolts are drilled into cap, top re-bars shall be properly placed to avoid damage.

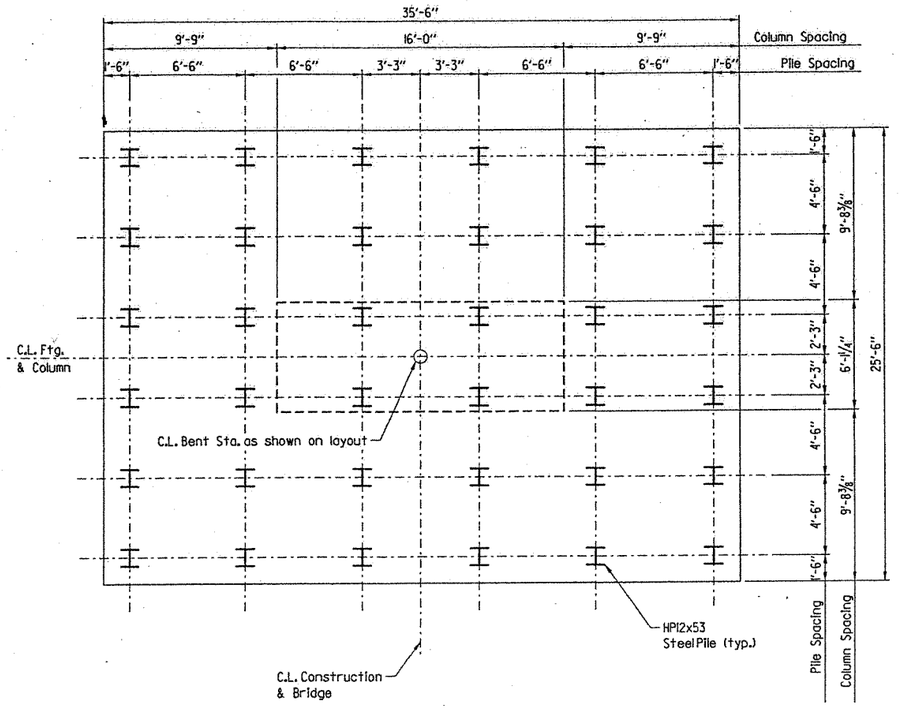
SECTION B-B
N.T.S.



SECTION D-D
N.T.S.



SECTION C-C
N.T.S.



FOOTING PLAN

GENERAL NOTES

Concrete in caps and columns shall be Class S with a minimum 28 day compressive strength of f'c =3500 psi. Type II(MH) cement shall be used in the footings. See Special Provision Job No. R50116, "Use of Type II Cement". Concrete shall be poured in the dry and all corners shall be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.)

For additional notes, see bridge layout.

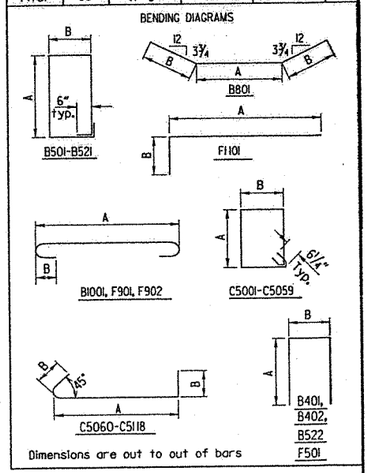
STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. FUSELIER

BRIDGE ENGINEER

BAR LIST

MK	No. Req'd.	Length	A	B	Pin Dia.
B401	11	5'-6"	12"	3'-8"	2"
B402	28	5'-5"	24"	1'-7"	2"
B403	2	27'-3"			Str.
B501-B509	4 Ea.	16'-0" to 21'-0"	4'-9" to 7'-3"	3'-0"	2½"
B510-B521	4 Ea.	21'-6" to 23'-7"	7'-6" to 8'-6½"	3'-0"	2½"
B522	11	20'-10"	8'-8"	3'-8"	2½"
B523	2	36'-8"			Str.
B524	2	30'-0"			Str.
B525	2	23'-6"			Str.
B801	4	42'-8"	15'-10"	13'-5"	6"
B802	8	41'-8"			Str.
B1001	8	44'-6"	41'-8"	11½"	10"
B1002	6	41'-8"			Str.
C5001-C5008	2 Ea.	36'-10" to 37'-1½"	2'-6" to 2'-7¾"	15'-7"	3¾"
C5009-C5059	2 Ea.	37'-2" to 39'-3"	2'-8" to 3'-8½"	15'-7"	3¾"
C5060-C5067	4 Ea.	4'-9" to 5'-0½"	3'-3½" to 3'-7"	10"	3¾"
C5068-C5118	4 Ea.	5'-1" to 7'-2"	3'-7½" to 5'-8½"	10"	3¾"
C1101	86	37'-9"			Str.
C1102	86	29'-6"			Str.
F501	70	9'-8"	2'-2"	5'-6"	2½"
F601	10	25'-0"			Str.
F602	10	35'-0"			Str.
F801	36	25'-0"			Str.
F802	26	35'-0"			Str.
F901	70	27'-6"	25'-0"	10"	9"
F902	50	37'-6"	35'-0"	10"	9"
F1101	86	17'-6"	15'-10"	2'-0"	11¼"

BENDING DIAGRAMS



Dimensions are out to out of bars

SHEET 2 OF 2
DETAILS OF BENT 6
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DBS DATE: 08/24/2011 FILENAME: BR50116XL_B2.dgn
CHECKED BY: JGT DATE: 8/31/11 SCALE: 1/4" = 1'-0"
DESIGNED BY: DBS DATE: 08/11

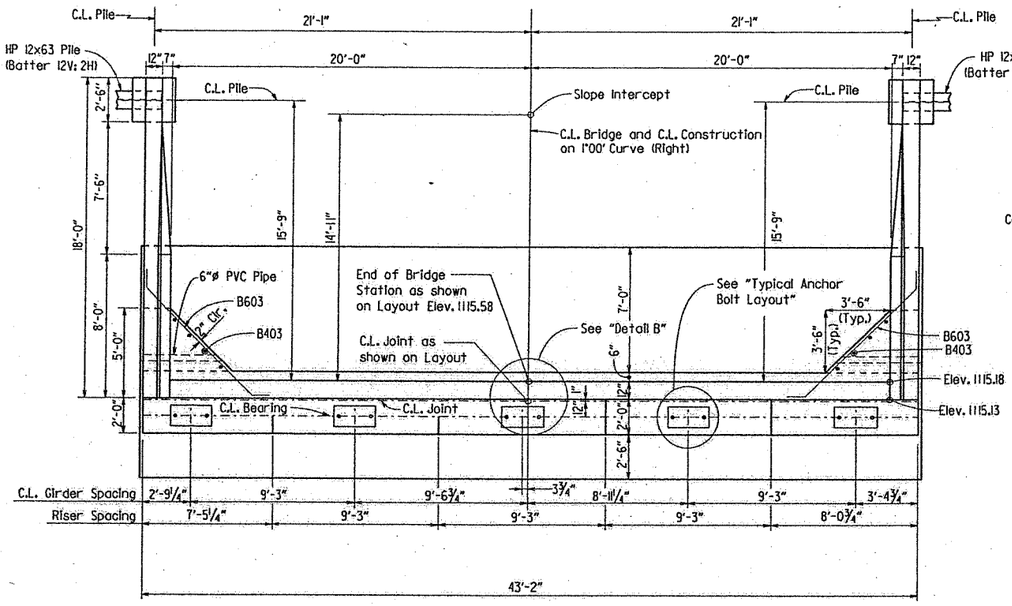
BRIDGE NO. 07231 DRAWING NO. 52439

NOTE: For details of wings and rails, See Dwg. No. 52441

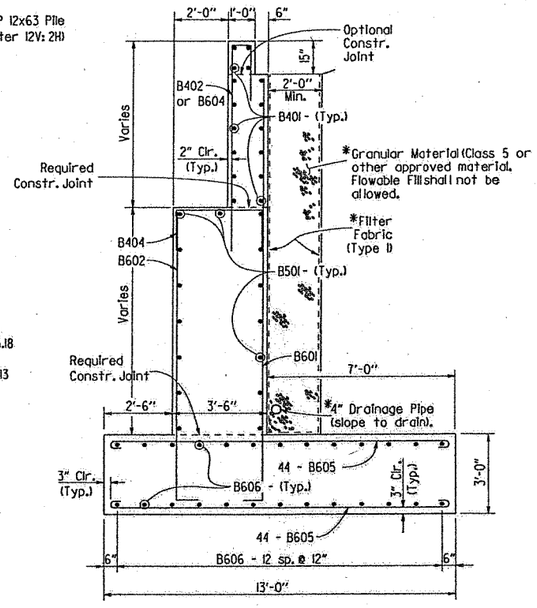
NOTE: Class I Protective Surface Treatment shall be applied to the top of the backwall and the roadway face and top of the concrete parapet rail.

*Note: For additional details of pipe underdrain see Std. Dwg. PU-1 and Section 611 of the Standard Specifications. Pipe underdrains, outlet protectors, granular materials, drain pipe, and filter fabric will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation".

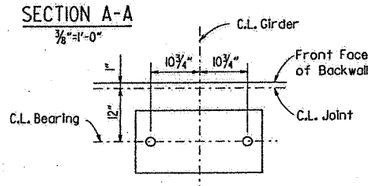
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				6	ARK.			
				JOB NO.		R5011G	95	223
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PLAN
Looking Ahead

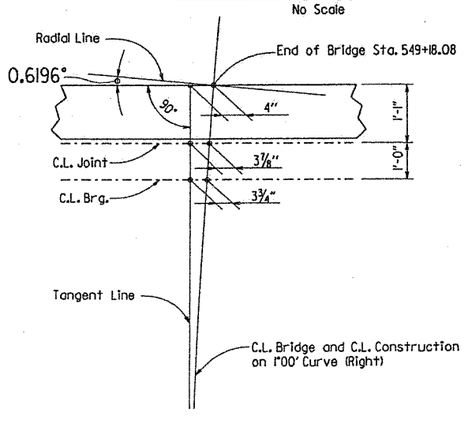


SECTION A-A



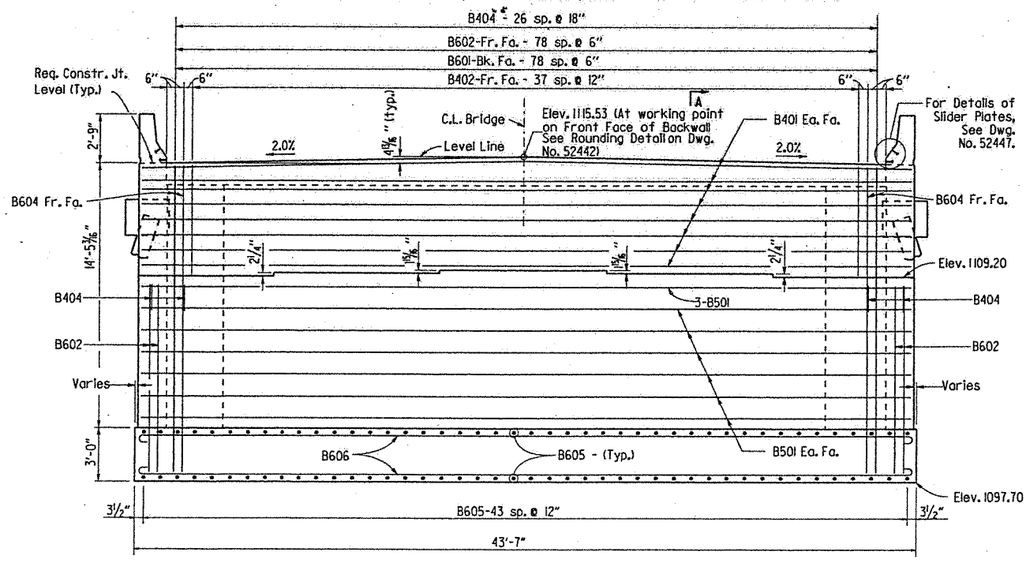
NOTE: For Details of Elastomeric Bearings, See Dwg. No. 52454

TYPICAL ANCHOR BOLT LAYOUT
No Scale



DETAIL B
No Scale

NOTE: For Wing Walls and Rails, all longitudinal lines and longitudinal reinforcing steel shall be placed concentric to C.L. Construction.

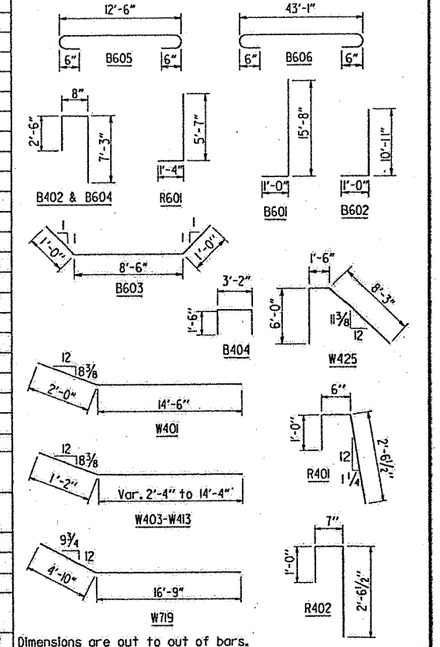


ELEVATION
Looking Ahead

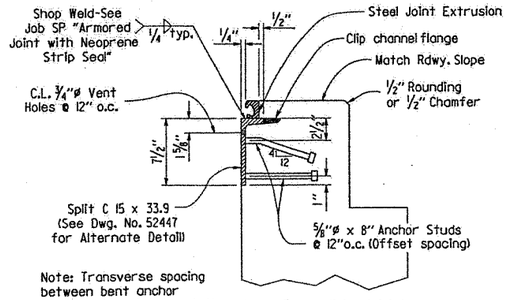
BAR LIST

MARK	NO. REQ'D.	LENGTH	P.D.
B401	16	42'-10"	Str.
B402	38	10'-3"	2"
B403	8	13'-0"	Str.
B404	29	6'-0"	2"
B501	15	42'-10"	Str.
B601	79	16'-6"	4½"
B602	83	11'-9"	4½"
B603	14	10'-6"	4½"
B604	4	10'-1"	4½"
B605	88	13'-10"	4½"
B606	26	44'-5"	4½"
R401	18	3'-11"	2"
R402	14	4'-0"	2"
R403	12	17'-8"	Str.
R601	16	6'-9"	4½"
R602	6	5'-0"	Str.
F401	28	3'-0"	Str.
F601	10	2'-2"	Str.
W401	10	16'-9"	2"
W402	10	17'-0"	Str.
W403-W413	2 each	Var. 4'-5" to 16'-5"	2"
W414-W424	2 each	Var. 4'-8" to 16'-8"	Str.
W425	22	15'-8"	2"
W701	12	17'-8"	Str.
W702-W718	4 each	Var. 5'-0" to 14'-8"	Str.
W719	4	21'-7"	5¼"

BENDING DIAGRAMS



Dimensions are out to out of bars.



Note: Transverse spacing between bent anchor studs and vent holes shall be 6".

Note: Concrete shall be hand packed under the joint armor.

Note: For additional joint details, see Dwg. No. 52447.

DETAIL Z
No Scale

STATE OF ARKANSAS
Carl J. Puseliер
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. PUSELIER

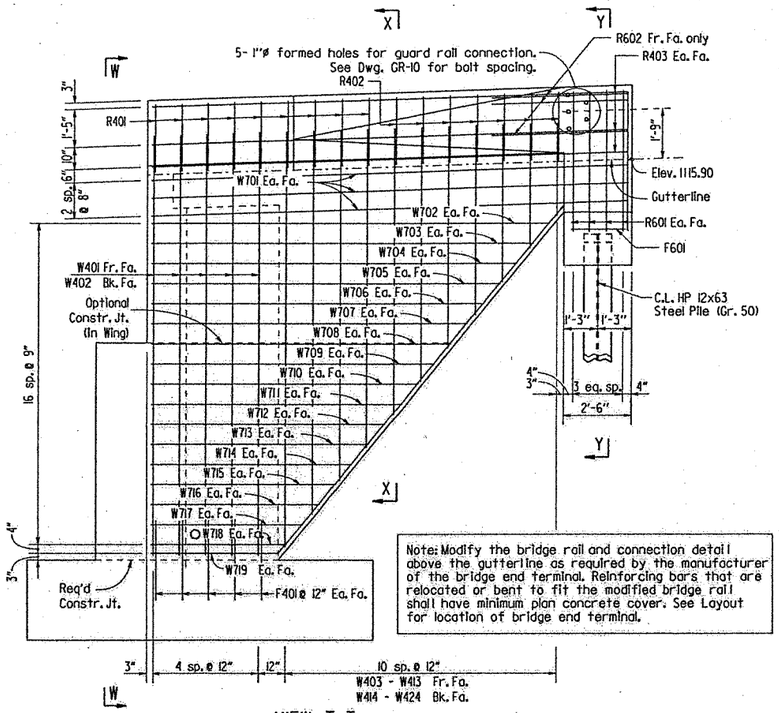
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENT 8
LITTLE RACCOON CREEK
ROUTE 5 SEC. 16
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CMW DATE: 08/10/11 FILENAME: BR5011GX1_B1.DGN
CHECKED BY: TMG DATE: 8/29/11 SCALE: 1/4" = 1'-0"
DESIGNED BY: DBS DATE: 08/11 OR AS NOTED

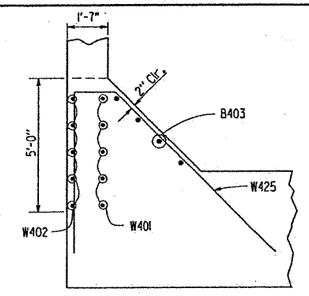
BRIDGE NO. 07231 DRAWING NO. 52440

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.		R50116	96	223
				07231		END BENT DETAIL		52441

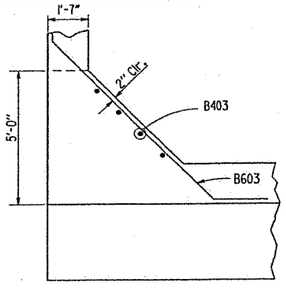


Note: Modify the bridge rail and connection detail above the gutterline as required by the manufacturer of the bridge end terminal. Reinforcing bars that are relocated or bent to fit the modified bridge rail shall have minimum plan concrete cover. See Layout for location of bridge end terminal.

VIEW T-T
Scale: 3/8"= 1'-0"

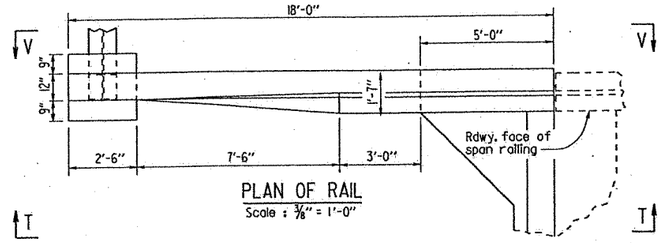


SECTION S-S
Scale: 3/8" = 1'-0"

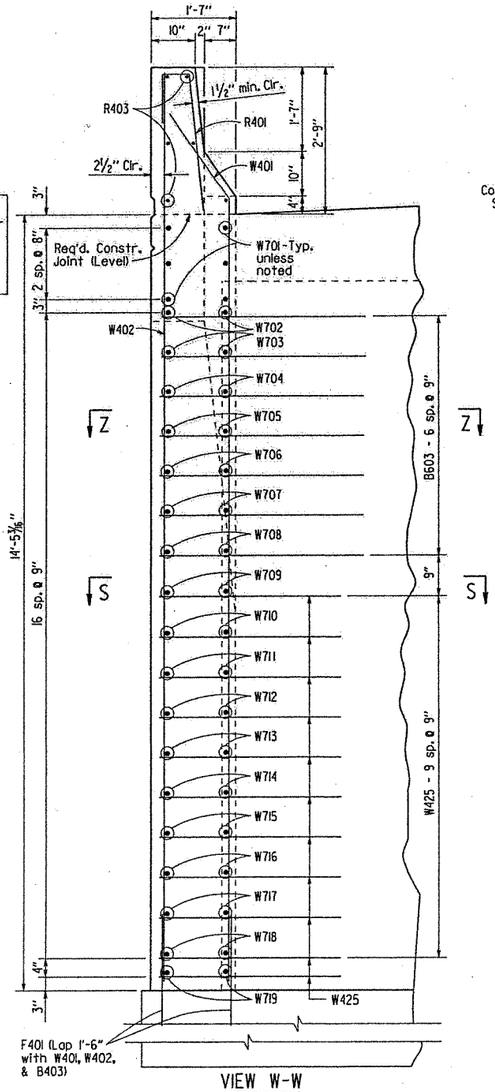


SECTION Z-Z
Scale: 3/8" = 1'-0"

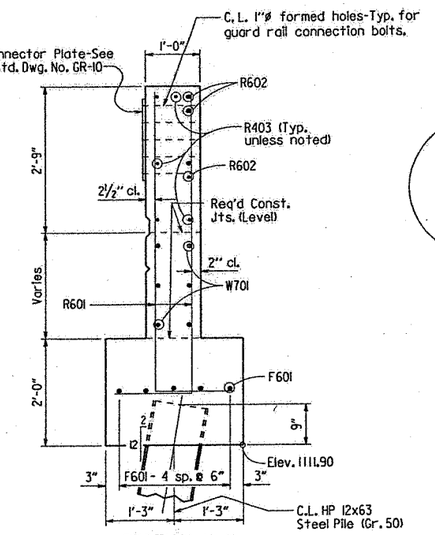
NOTE: For Wing Walls and Rails, all longitudinal lines and longitudinal reinforcing steel shall be placed concentric to C.L. Construction.



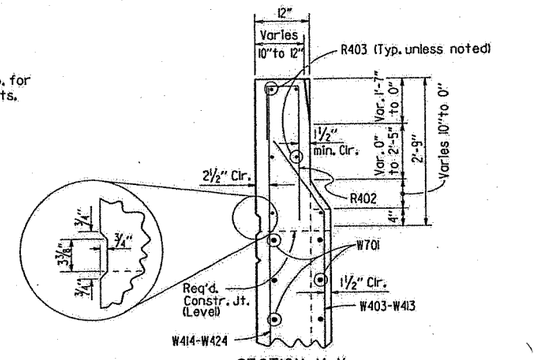
PLAN OF RAIL
Scale : 3/8" = 1'-0"



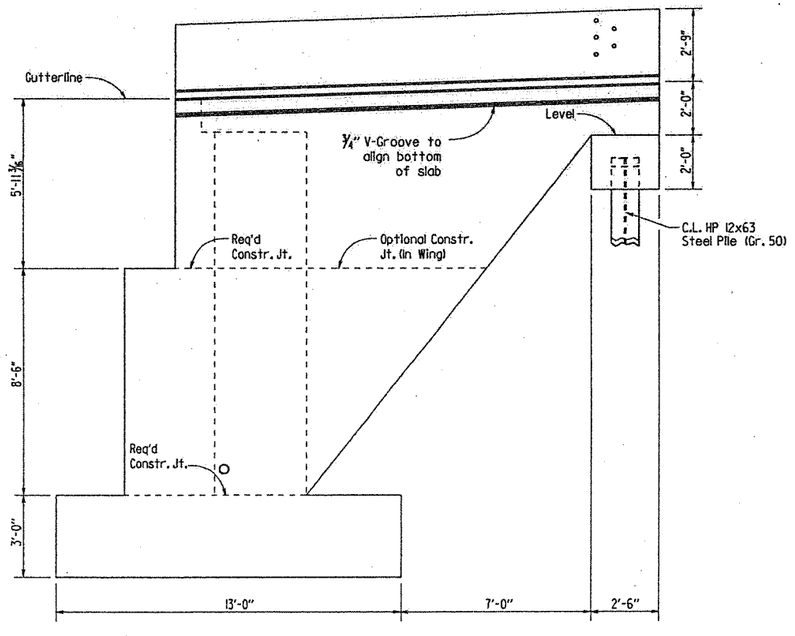
VIEW W-W
Scale: 3/4" = 1'-0"



SECTION Y-Y
¾" = 1'-0"



SECTION X-X
Scale: ¾" = 1'-0"



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

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (Yield Strength = 60,000 psi.).

All structural steel shall be AASHTO M270, Gr. 50W. Structural steel in backwall shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

No portion of the backwall shall be poured before girders are in place. The portion of the backwall above the optional construction joint at the paving bracket shall not be placed until the deck pour has been made. Refer to the "Expansion Device Installation" note, see Dwg. 52447.

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

For additional information see Layout.

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9/1/11
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SHEET 2 OF 2
DETAILS OF BENT 8
LITTLE RACCOON CREEK
ROUTE 5 SEC. 16
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

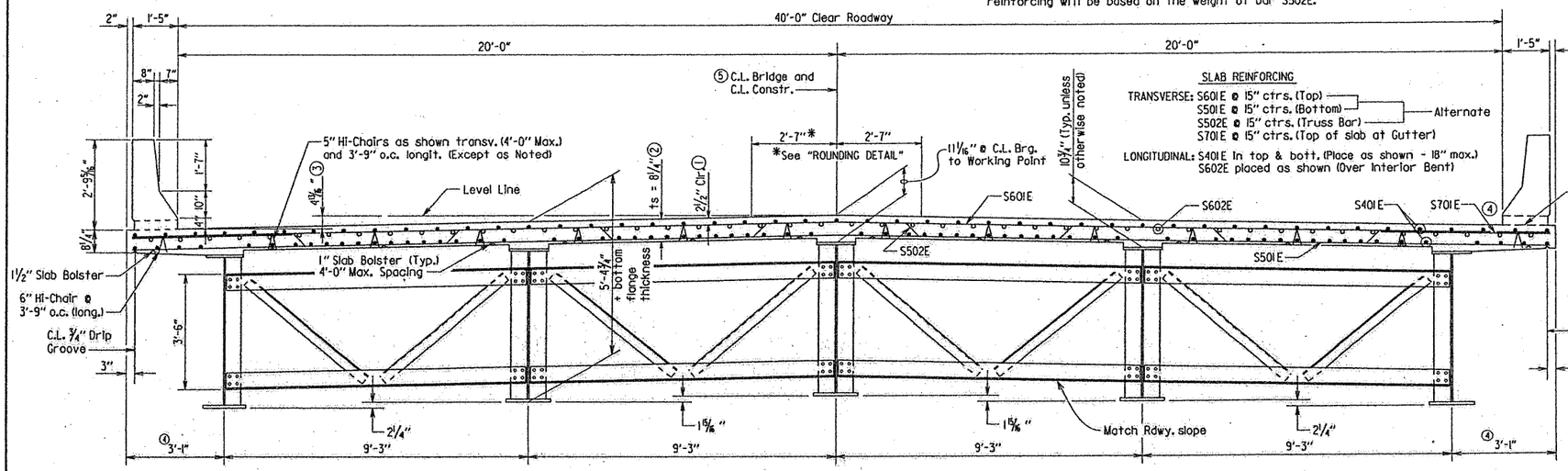
DRAWN BY: CMW DATE: 08/12/11 FILENAME: BR50116X1_BI.DGN
CHECKED BY: TMG DATE: 8/24/11 SCALE: AS SHOWN
DESIGNED BY: DBS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52441

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.		R50116	97223	
				(1)	07231	SUPERSTRUCTURE DETAILS		52442

NOTE: Class I Protective Surface Treatment shall be applied to the Roadway Surface and the Face and Top of Concrete Parapet Rail.

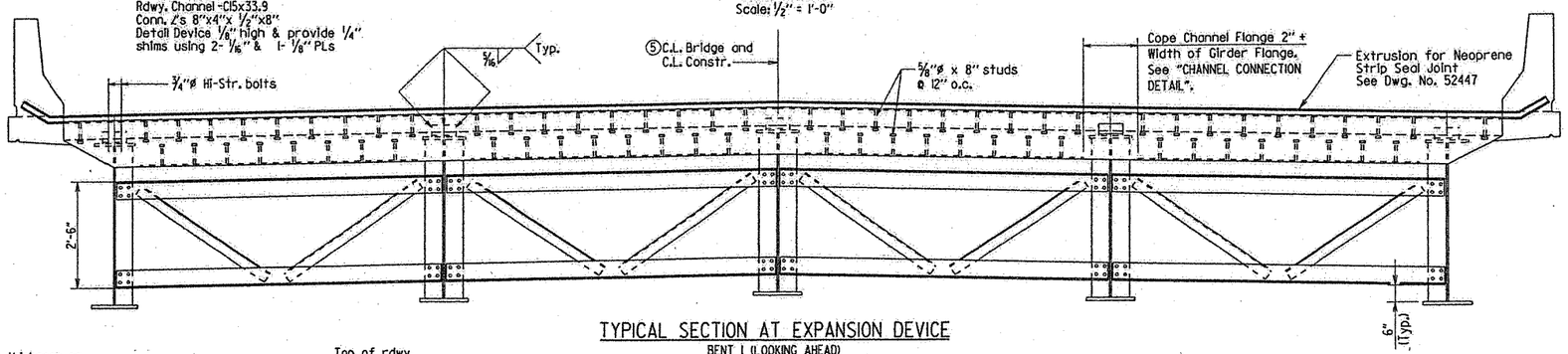
NOTE: At the Contractors option, one epoxy coated No. 5 straight bar top and bottom may be substituted for bar S502E. Payment for reinforcing will be based on the weight of bar S502E.



TYPICAL ROADWAY SECTION

(LOOKING AHEAD)
Scale: ½" = 1'-0"

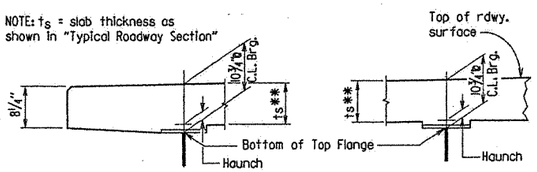
Expansion Device:
Rdwy. Channel - C15x33.9
Conn. ∠'s 8"x4"x ½"x8"
Detail Device ⅛" high & provide ¼" shims using 2- ⅛" & 1- ⅛" PLs



TYPICAL SECTION AT EXPANSION DEVICE

BENT 1 (LOOKING AHEAD)
BENT 8 (LOOKING BACK)
(See Dwg. No. 52448 for Expansion Device at Bents 3 and 6)

NOTE: t_s = slab thickness as shown in "Typical Roadway Section"



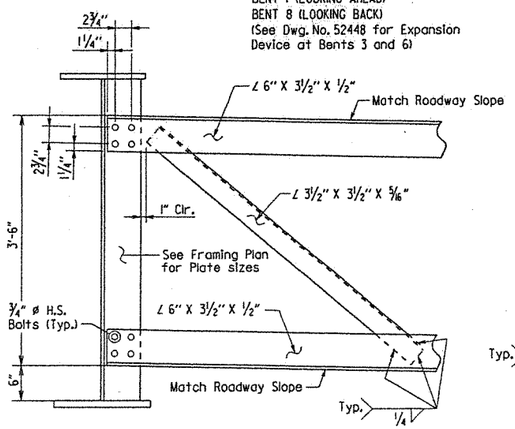
** Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

Notes:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance : Minimum - occurs when top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus 1¾". 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. 149?1 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

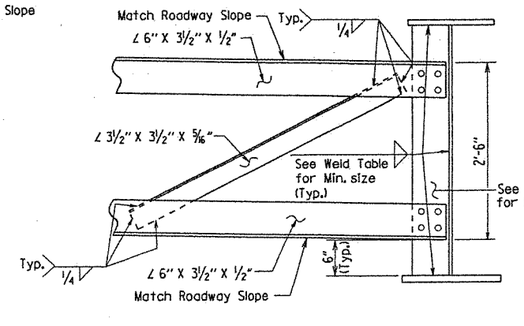
ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED

No Scale



TYPICAL CROSS-FRAME CONNECTION DETAIL

Scale: 1" = 1'-0"



CROSS-FRAME CONNECTION DETAIL @ JOINTS

Scale: 1" = 1'-0"

STATE OF ARKANSAS
Carl J. Puseliier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. PUSELIER

BRIDGE ENGINEER

① Tolerance: Minus = ¼"
Plus: Equal to 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 Working Point to Gutterline

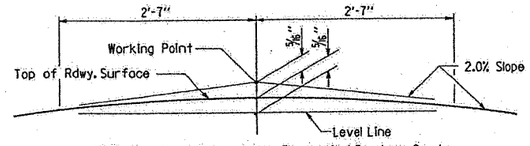
④ Width varies between PC and Bent 8

⑤ C.L. Girder and C.L. Bridge do not align at end of bridge

TABLE FOR WELD

Material Thickness Of Thicker Part Joined (inches)	Minimum Size Of Fillet Weld (inches)	Single Pass Weld Must Be Used
To ¾" inclusive	¼"	
Over ¾"	5/16"	

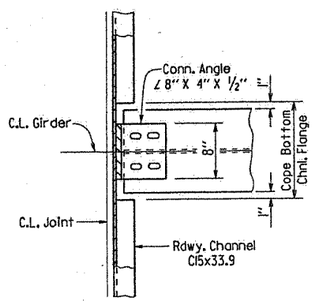
NOTE: When a fillet weld size, as shown on the Plans, is larger than the minimum, the First Pass shall be that specified for minimum size of fillet weld.



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

No Scale



CHANNEL CONNECTION DETAIL

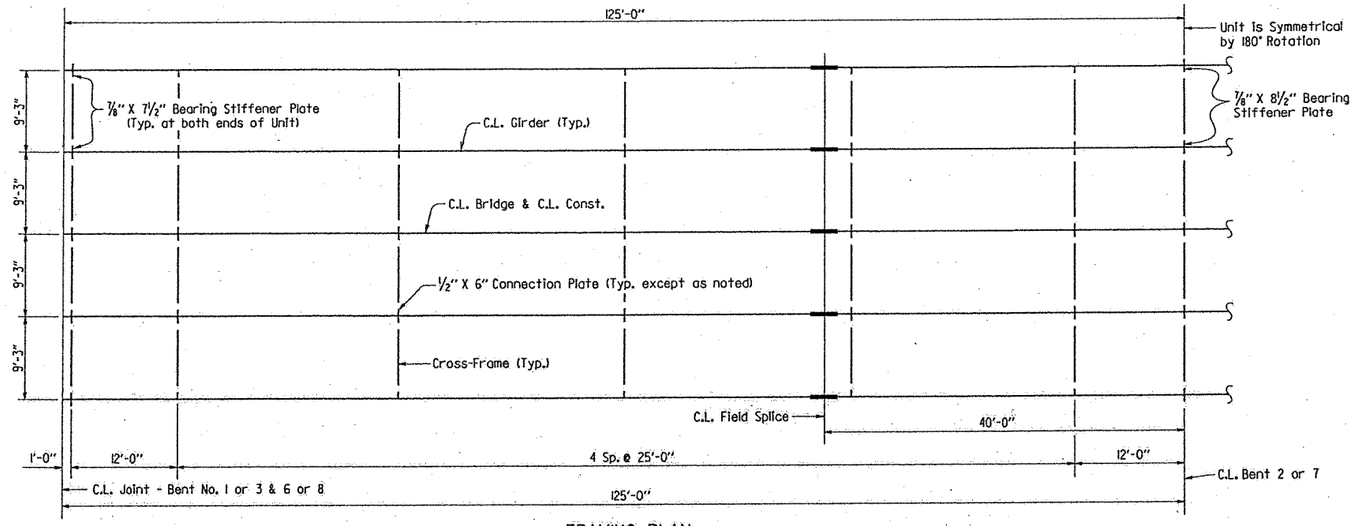
No Scale

SHEET 1 OF 6
DETAILS OF 250'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNITS
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 8/05/11 FILENAME: BR50116X1_S1.DGN
CHECKED BY: JCoT DATE: 8/06/11 SCALE: ½"= 1'-0" or as noted
DESIGNED BY: DTB DATE: 08/11

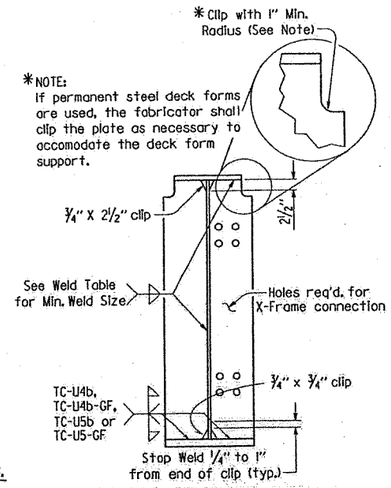
BRIDGE NO. 07231 DRAWING NO. 52442

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.		R50116	58223	
				1	07231	SUPERSTRUCTURE DETAILS		52443



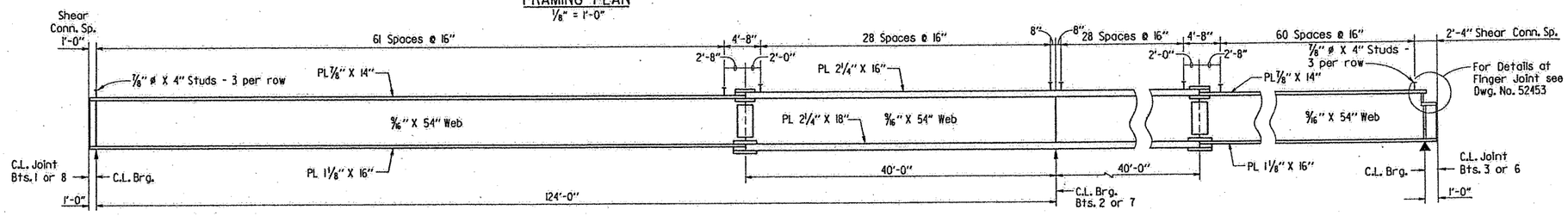
FRAMING PLAN
1/8" = 1'-0"

NOTE: Bolted field splices may be eliminated or shop welds substituted with the approval of the Engineer. Payment will be made on the basis of the splices shown.

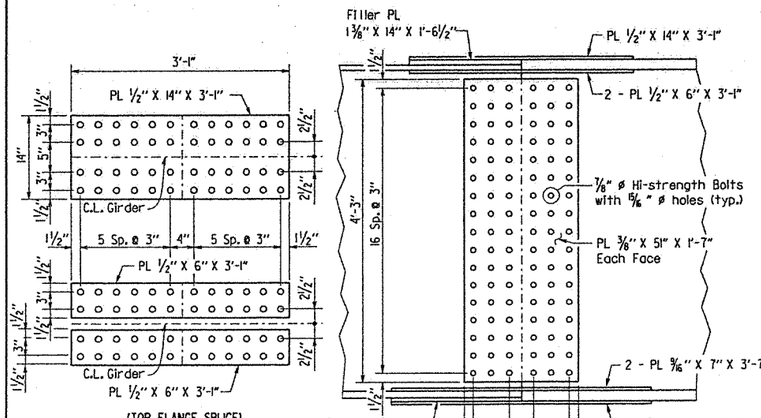


BEARING STIFFENER DETAILS
No Scale

NOTE: Bearing stiffeners shall be vertical in their final position.

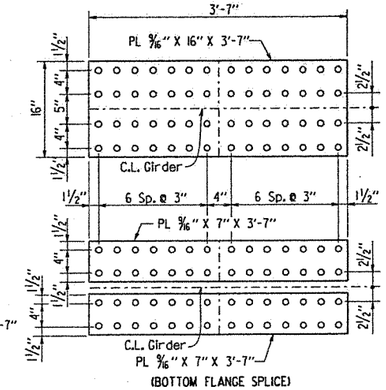


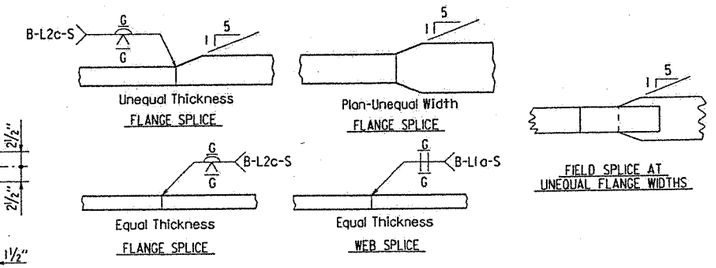
GIRDER ELEVATION
No Scale



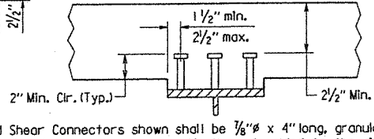
DETAILS OF FIELD SPLICE
No Scale

NOTE: All Field Splice plates to be AASHTO M270, Gr. 50W steel.



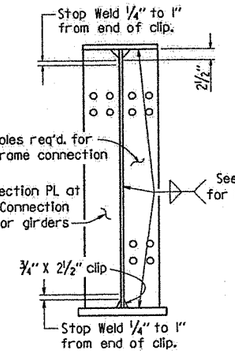


DETAILS OF WELDED SPLICES
No Scale



Stud Shear Connectors shown shall be 7/8"ø x 4" 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 7/8" ø studs shown, at the ration of 1.361- 3/4" ø studs in place of one 7/8"ø stud. 7/8"ø studs will be used as basis for measurement of structural steel in shear connectors. Maximum stud spacing = 24".

SHEAR CONNECTOR DETAIL
No Scale



CONNECTION PLATE DETAILS
No Scale

NOTE: Bolts in cross frame connections shall be properly installed and tightened in accordance with subsection 807.71.

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SHEET 2 OF 6
DETAILS OF 250'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNITS
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 08/05/11 FILENAME: BR50116X1.SLDGN
CHECKED BY: JGT DATE: 8/24/11 SCALE: 1/8" = 1'-0" or as noted
DESIGNED BY: DBS DATE: 08/11

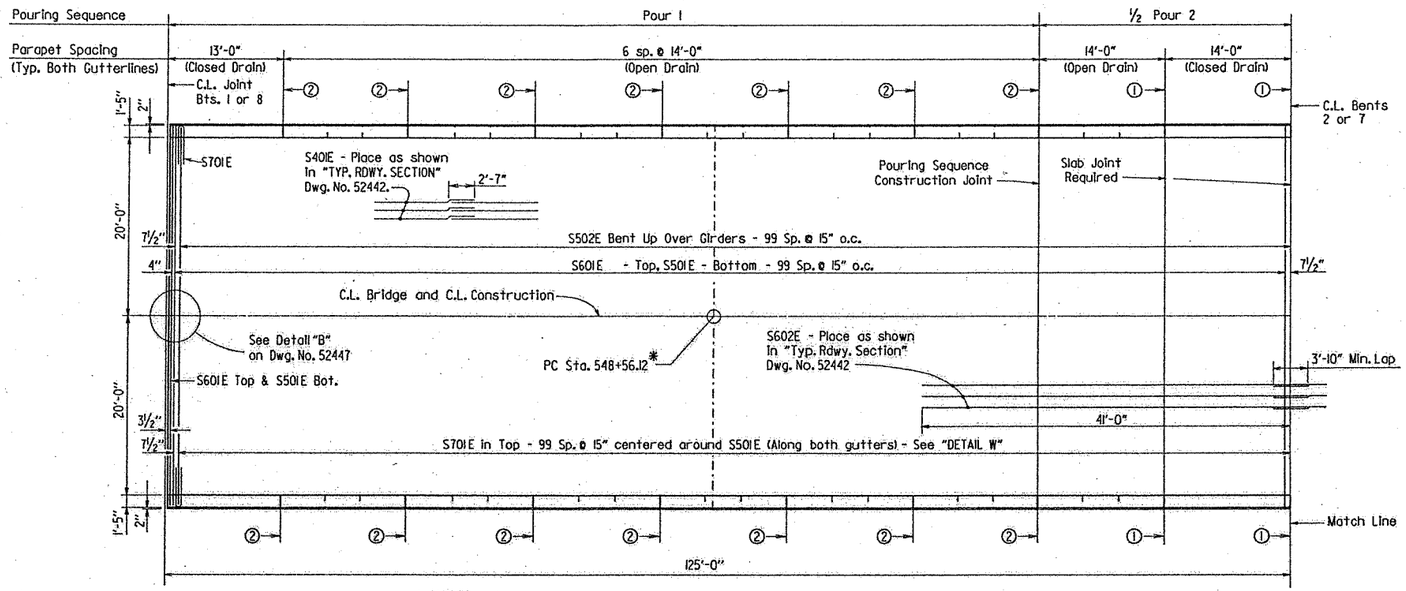
BRIDGE NO. 07231 DRAWING NO. 52443

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.		R50116	99	123

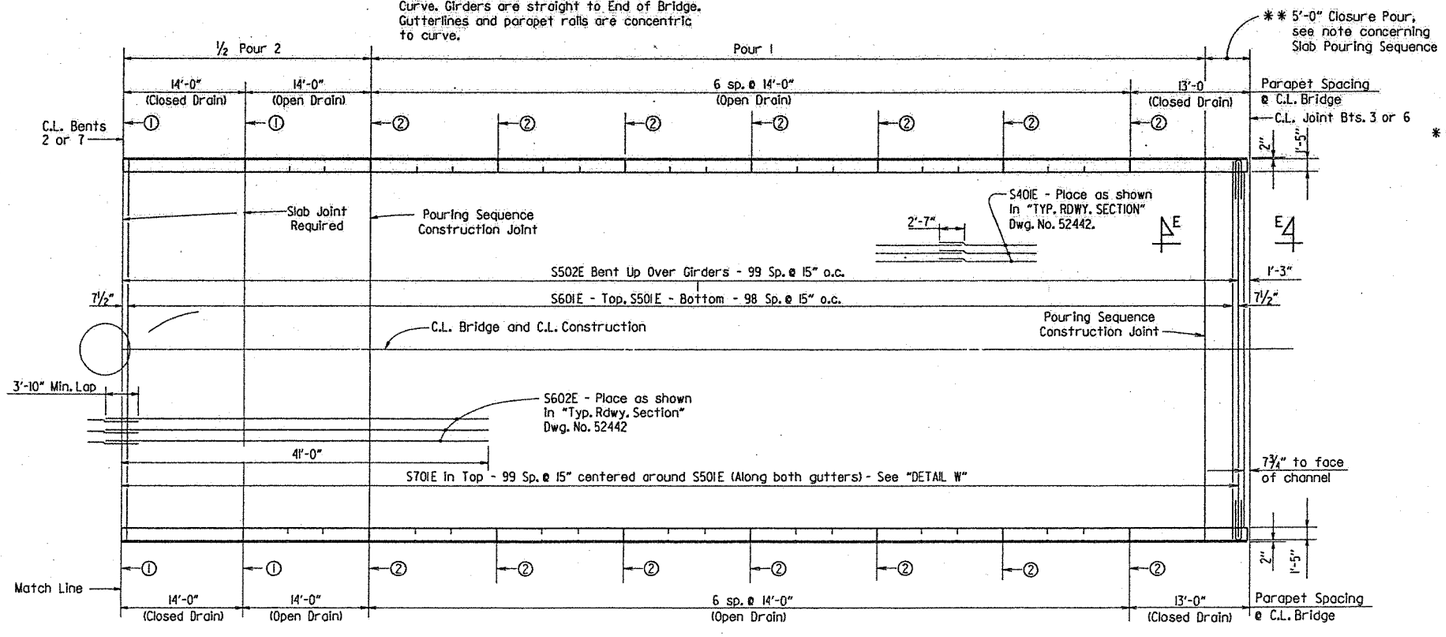
(1) 07231 SUPERSTRUCTURE DETAILS 52444

(1) C.L. Full-Depth Parapet Joint (1/4" to 1" max.) Stop 4" from top of slab.

(2) C.L. Partial-Depth Parapet Joint (1/4" to 1" max.) Stop 1'-2" from top of slab.



* NOTE:
From Sta. 548+56.12 to End Bridge, C.L. Bridge and C.L. Construction are located on a 1° Rt. Curve. Girders are straight to End of Bridge. Gutterlines and parapet rails are concentric to curve.



REINFORCING PLAN & DECK POURING SEQUENCE - UNIT 1 AND UNIT 3

1/8" = 1'-0"

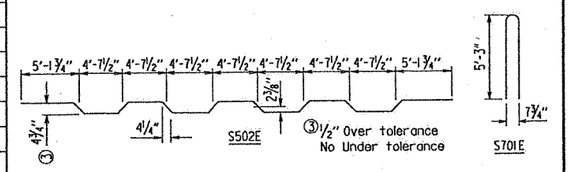
NOTE: Unit 1 shown, Unit 3 is similar.

BAR LIST - PER UNIT

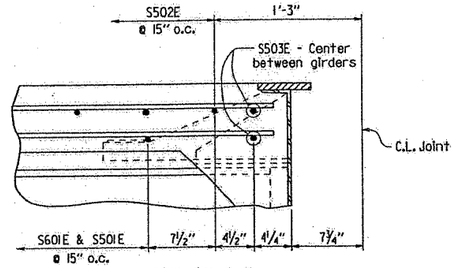
MARK	NO. REQ'D.	LENGTH	P.D.
S401E	805	37'-11"	Str.
S501E	200	42'-10"	Str.
S502E	199	43'-8"	3"
S503E	8	8'-10"	Str.
S601E	200	42'-10"	Str.
S602E	92	42'-11"	Str.
S701E	388	11'-7"	6"

BENDING DIAGRAMS

Dimensions are out to out of bars.



NOTE: Bars marked with an "E" suffix shall be epoxy coated.



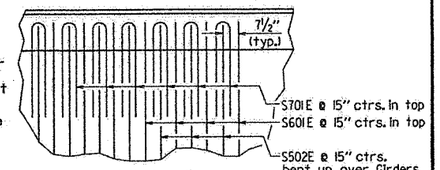
SECTION E-E

No Scale

NOTE:
Pours with the same number may be poured simultaneously or separately. All pours (1) must be placed before pours (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.

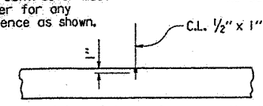
** Closure pours at the finger joints shall be made after all incremental pours on the unit have been placed. 48 hours shall elapse between the last incremental pour and the closure pours.

No railing pours shall be made before the entire slab unit has been placed unless approval of the Engineer has been obtained. The Contractor must obtain approval from the Engineer for any deviation from the pouring sequence as shown.



DETAIL W

No Scale



Use 1/2" X 1" Type 3, 4 or 6 Joint Sealer. See subsections 501.02 (h) and 501.05 (j). Backer rod shall not be installed. Joint Sealer shall be measured and 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 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 (gutterline to gutterline). Slab joints shall align with parapet open joints except at closure pour.

SLAB JOINT DETAIL

No Scale

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CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 3 OF 6
DETAILS OF 250'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNITS
LITTLE RACCOON CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

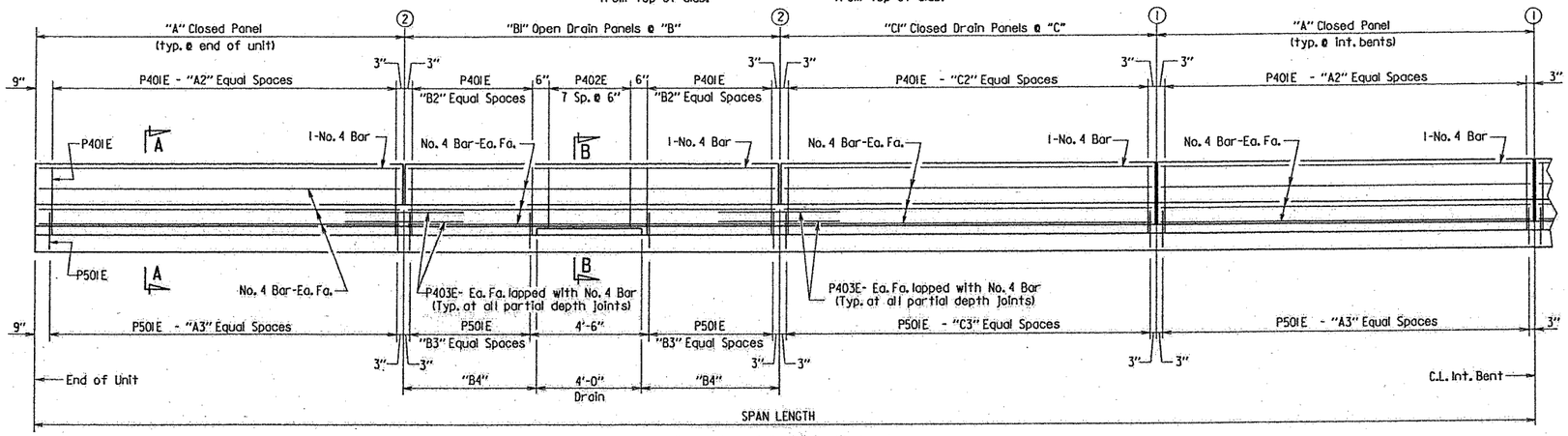
DRAWN BY: MRE DATE: 08/11/11 FILENAME: BR50116X1_S1.DGN
CHECKED BY: JCT DATE: 8/26/11 SCALE: as noted
DESIGNED BY: DRS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52444

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.		R50116	100	229
				(1) 07231 - SUPERSTRUCTURE DETAILS - 52445				

(1) C.L. Full-Depth Parapet Joint (1/4" to 1" max.) Stop 4" from top of slab.

(2) C.L. Partial-Depth Parapet Joint (1/4" to 1" max.) Stop 1'-2" from top of slab.

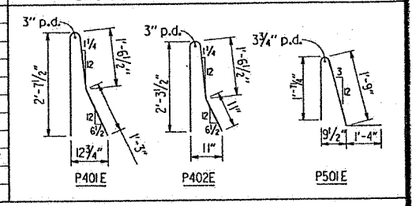


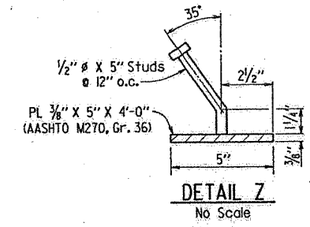
DETAILS OF PARAPET RAIL

No Scale

BAR LIST - PER UNIT

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
P401E	770	5'-6"	2"	
P402E	224	4'-10"	2"	
P403E	112	5'-0"	Str.	
P404E	28	12'-8"	Str.	
P405E	224	13'-8"	Str.	
P501E	770	4'-9"	2½"	





DETAIL Z

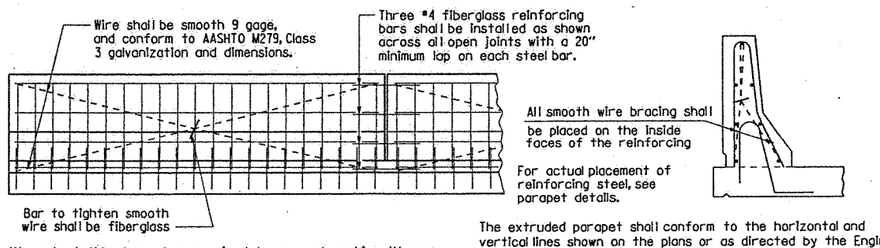
No Scale

NOTE: Parapet Studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be measured and paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)". The surfaces of the ⅜" Plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the Fabricator's shop. Painting will not be paid for directly but will be included in the Item for structural steel.

TABLE OF VARIABLES

SPAN LENGTH	"A"	"A2"	"A3"	"B"	"B1"	"B2"	"B3"	"B4"	"C"	"C1"	"C2"	"C3"	Long. No. 4 Bar MARK	Long. No. 4 Bar LENGTH
125'-0"	13'-0"	25	25										P404E	12'-8"
125'-0"	14'-0"	27	27	14'-0"	7	9	9	5'-0"					P405E	13'-8"
125'-0" *	13'-0"	24	24										P404E	12'-8"

* End of Unit at Finger Joint.

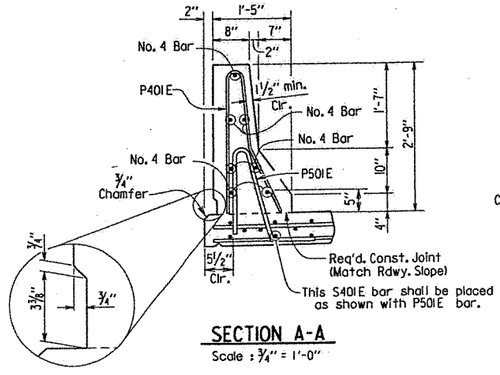


All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

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. Unless otherwise noted, exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish, in place of the Class 2, Rubbed Finish.

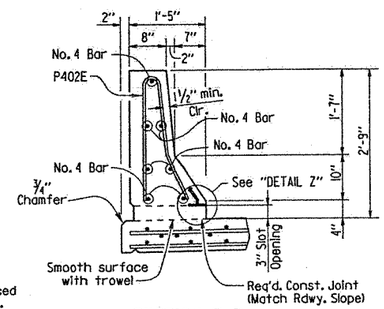
DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

No Scale



SECTION A-A

Scale : ¾" = 1'-0"



SECTION B-B

Scale : ¾" = 1'-0"

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. FUSELIER

BRIDGE ENGINEER

SHEET 4 OF 6

DETAILS OF 250'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNITS LITTLE RACCOON CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 8-12-11 FILENAME: br50116x1_s2.dgn

CHECKED BY: JCG DATE: 8/26/11 SCALE: AS SHOWN

DESIGNED BY: DBS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52445

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.		R50116	101	223
				1	07231	SUPERSTRUCTURE DETAILS		52446

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2003 edition, with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications Fifth Edition, with 2010 interim specifications.

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c = 4,000 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

CONCRETE :

Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All concrete shall be Class S(AE) 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 measurement of Class S(AE) Concrete. See Standard Drawing No. 14991 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 tine finish in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface 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. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the parapet railing.

REINFORCING STEEL :

All reinforcing steel shall conform to AASHTO M31 or M53, 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 M 270, Grade 50W unless otherwise noted and shall be paid for as "Structural Steel In Plate Girder Spans (M 270, Gr. 50W)". Grade 50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with subsection 807.84(e) unless otherwise noted. Structural steel completely embedded in concrete may be AASHTO M 270, Grade 36 unless otherwise noted.

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

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 the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

Girders and field splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in subsection 807.05.

All girders shall be blocked in their true position with webs horizontal in the shop. The camber, length of sections, distance between bearings and openings of joints shall be measured with the girders in their true position and this information shall become part of the permanent records for 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 degrees F. A tolerance of ¼"+/- is allowed for camber.

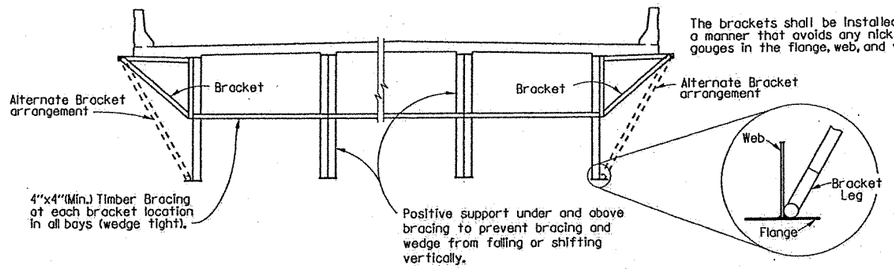
Web and Flange Plates for main members and Flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

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 the Contractor or Erector should want to make additional welds, whether temporary or permanent, he shall submit detailed drawings with a formal request 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 consruction. All welding shall conform to subsection 807.26.

Field connections shall be bolted with high-strength bolts and shall be ¾" ø bolts unless otherwise noted. Open holes shall be 15/16 "ø unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior girder webs and on the bottom of the girder flanges. Holes for ¾" ø high-strength bolts may be 15/16 " ø diameter if a washer is supplied for use under both the nut and head of the bolt.

Cross-frames shall be installed as girders are erected. All bolts in cross-frames and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring the concrete deck unless otherwise noted.

Bearings shall be seated in accordance with subsection 808.08. This work and material are to be considered as subsidiary to the item "Structural Steel in Plate Girder Spans (M270, Gr 50W)" and will not be paid for directly.

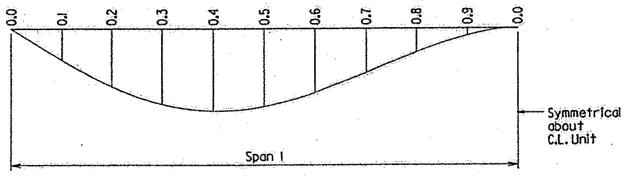


The brackets shall be installed in a manner that avoids any nicks or gouges in the flange, web, and weld.

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 ½"x6" web stiffeners are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown above is used. The Alternate Bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for intermediate connection plates shown on drawing No. 52443. 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)."

SCREED RAIL SUPPORT

No Scale



DEAD LOAD DEFLECTION DIAGRAM

No Scale

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Exterior Girders			Interior Girders		
		Str. Steel	Str. Steel + Slab	Str. Steel + Slab + Parapet	Str. Steel	Str. Steel + Slab	Str. Steel + Slab + Parapet
1 or 2	0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.175	0.790	0.878	0.182	0.917	0.973
	0.2	0.321	1.442	1.603	0.333	1.671	1.773
	0.3	0.415	1.857	2.065	0.432	2.154	2.286
	0.4	0.449	1.994	2.219	0.467	2.312	2.455
	0.5	0.422	1.855	2.067	0.438	2.149	2.283
	0.6	0.344	1.492	1.665	0.357	1.728	1.838
	0.7	0.236	1.008	1.126	0.245	1.167	1.242
	0.8	0.126	0.529	0.592	0.130	0.612	0.652
	0.9	0.037	0.154	0.172	0.039	0.170	0.191
C.L. Unit →	0	0.000	0.000	0.000	0.000	0.000	0.000

Table is symmetrical about C.L. Unit

NOTE: Camber for Dead Load Deflection plus Vertical curve +/-1/4" tolerance. Deflections shown are along C.L. Girder from a chord from C.L. Bearing to C.L. Bearing. Vertical curve corrections not included.

STATE OF ARKANSAS
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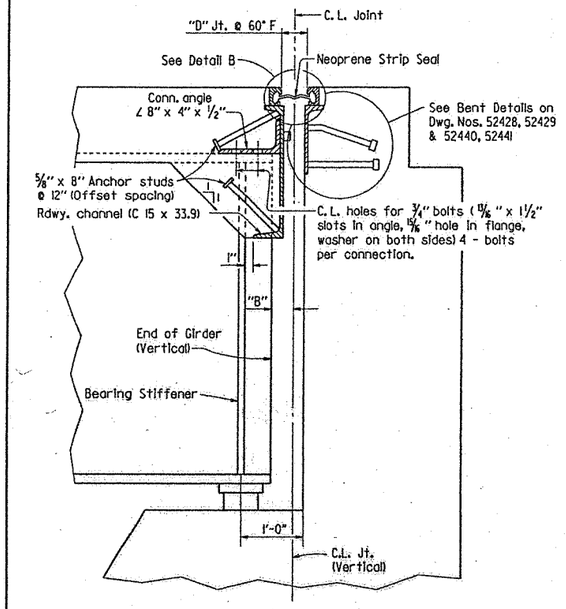
BRIDGE ENGINEER

SHEET 5 OF 6
DETAILS OF 250'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNITS
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

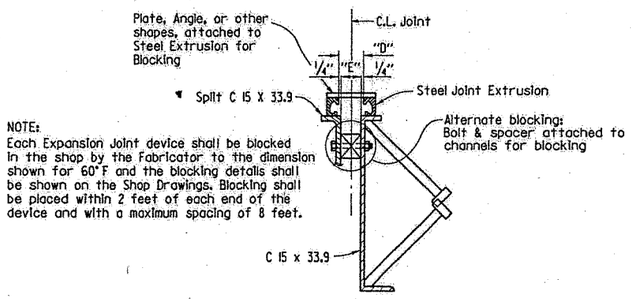
DRAWN BY: MRE DATE: 8/12/11 FILENAME: BR50116X1_S1.DGN
CHECKED BY: JGT DATE: 8/12/11 SCALE: 3/16" = 1'-0" or as noted
DESIGNED BY: DBS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52446

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.		R50116	102223	
				(1) 07231		SUPERSTRUCTURE DETAILS		52447

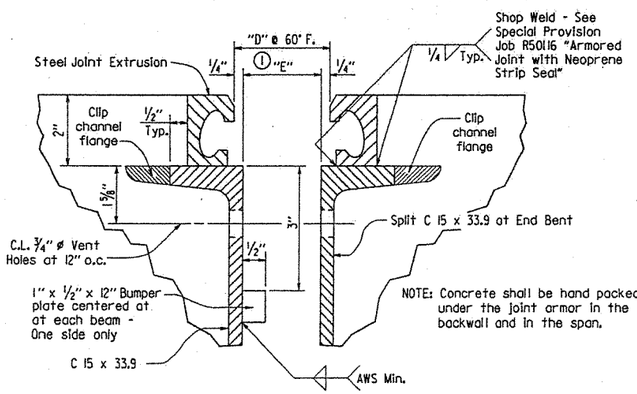


DETAILS OF JOINT AT BENTS 1 & 8
No Scale

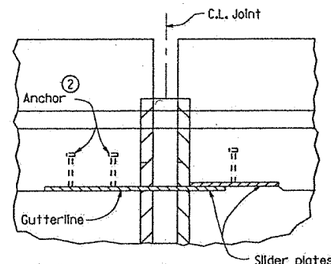


NOTE:
Each Expansion Joint device shall be blocked in the shop by the fabricator to the dimension shown for 60° F and the blocking details shall be shown on the Shop Drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE



DETAIL B
No Scale

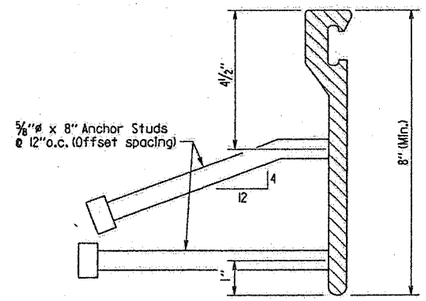


NOTE: Details of joint turn-up in curb and parapet are general and show basic design controls only. See Special Provision Job R50116, "Armored Joint with Neoprene Strip Seal." Method of installation and fabrication shall be determined by the manufacturer.

② The method of attachment of the slider plate assembly must be such that it may be removed in order to provide for future replacement of the neoprene seal.

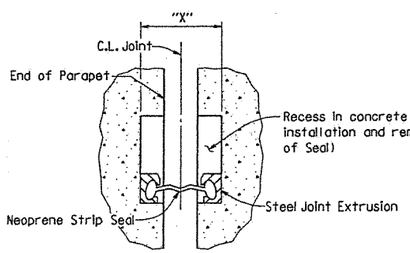
SECTION C-C
No Scale

Slider 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)".

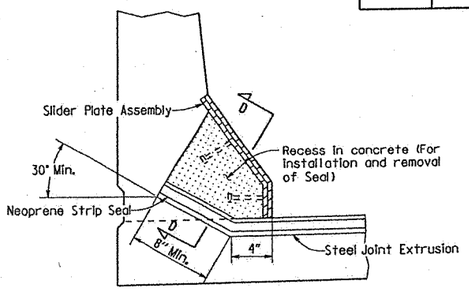


ALTERNATE STEEL JOINT EXTRUSION
No Scale

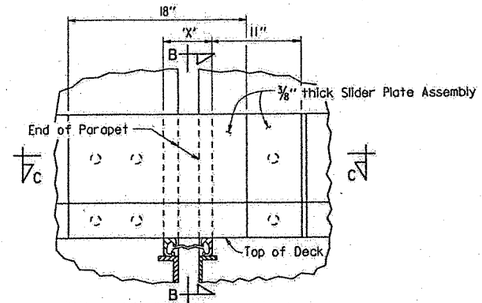
NOTE: A one piece steel joint extrusion may be used in place of extrusion welded to split C 15 x 33.9 at End Bents only. Payment to be based on Plan Quantities.



SECTION D-D
No Scale



SECTION B-B
Scale: 1½" = 1'-0"



NOTE: Dimension 'X' equals the width of opening in parapet at curb to allow for removal or repair of joint.

DETAIL OF NEOPRENE STRIP SEAL AT CURB
No Scale

STRIP SEAL DATA

Bent Number	(1) "E" width perpendicular to joint at 24 hour average temperature of:			"D" Joint width perpendicular to joint at 60° F	Movement Rating	"B" perpendicular to joint
	40°	60°	80°			
1 & 8	2 3/16"	2"	1 13/16"	2½"	4"	2 5/16"

(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.

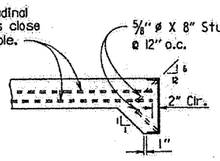
EXPANSION DEVICE INSTALLATION

Bent 1 or 8

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. 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.



NOTE: As an alternate to ⅝" ø studs, ½"ø x 8" studs spaced as shown may be used. Use weight of ⅝"ø stud as basis of measurement of structural steel in anchors.

DETAILS OF ALTERNATE ANCHORS AND PLACEMENT OF LONGITUDINAL REINFORCEMENT
No Scale

STATE OF ARKANSAS
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BRIDGE ENGINEER

SHEET 6 OF 6
DETAILS OF 250'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNITS
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 8/12/11
CHECKED BY: JGT DATE: 8/26/11
DESIGNED BY: DBS DATE: 08/11
FILENAME: BR50116XI_SLDGN
SCALE: ⅜" = 1'-0" or as noted

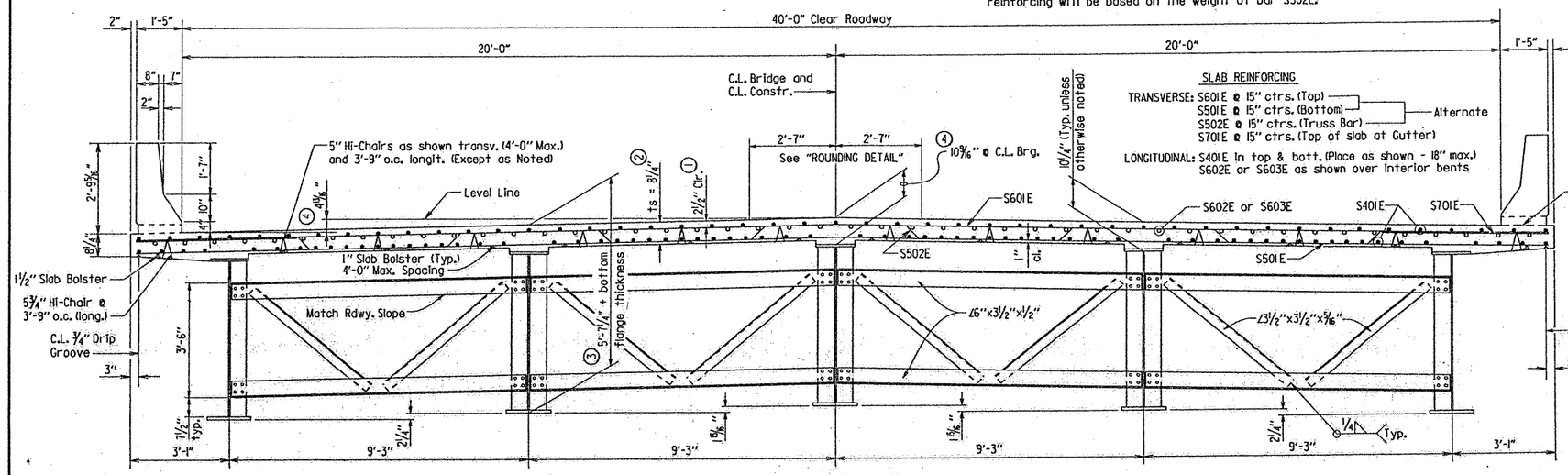
BRIDGE NO. 07231 DRAWING NO. 52447

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.		R5011 6	102	223

(1) 07231 - SUPERSTRUCTURE DETAILS - 52448

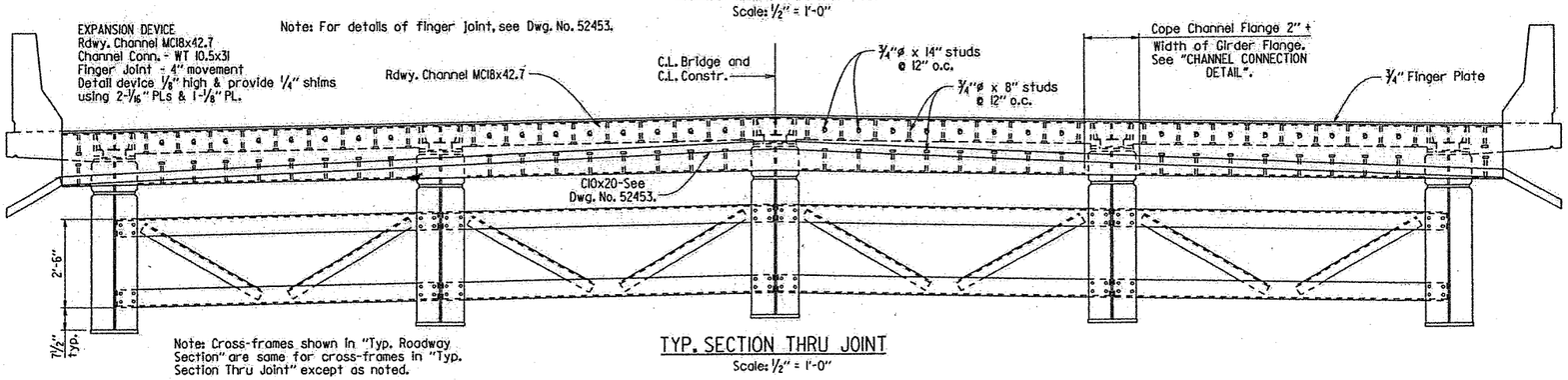
NOTE: Class I Protective Surface Treatment shall be applied to the Roadway Surface and the Face and Top of Concrete Parapet Rail.

NOTE: At the Contractors option, one epoxy coated No. 5 straight bar top and bottom may be substituted for bar S502E. Payment for reinforcing will be based on the weight of bar S502E.



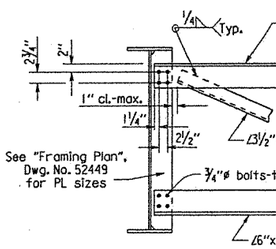
TYP. ROADWAY SECTION

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



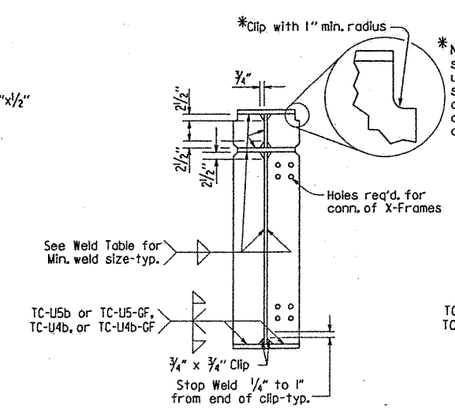
TYP. SECTION THRU JOINT

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



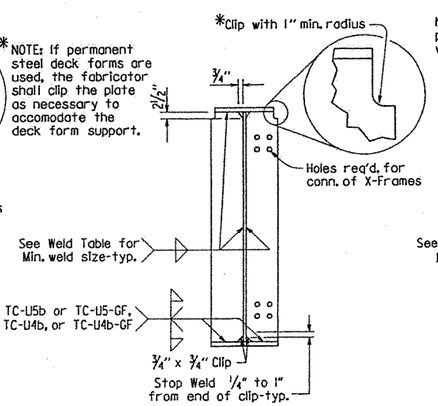
TYPICAL CROSS-FRAME CONNECTION

No Scale



END BEARING STIFFENER DETAIL

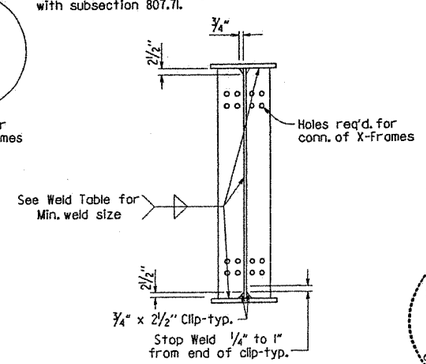
No Scale



INT. BEARING STIFFENER DETAIL

No Scale

NOTE: Bolts in cross frame connections shall be properly installed and tightened in accordance with subsection 807.71.



CROSS FRAME CONNECTION DETAIL

No Scale

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. FUSELIER

BRIDGE ENGINEER

(1) Tolerance : Minus = 1/4", Plus equal to amount of Slab Thickening used to meet Slab Thickness Tolerance - see "Adjustment for Slab Thickness Tolerance".

(2) Refer to "Adjustment for Slab Thickness Tolerance".

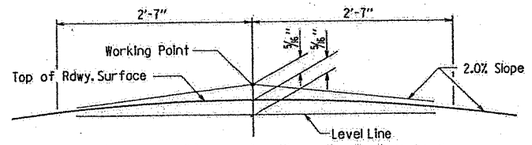
(3) Measured at C.L. Bearing & C.L. Girder

(4) To Working Point - See "Rounding Detail"

TABLE FOR WELD

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"	

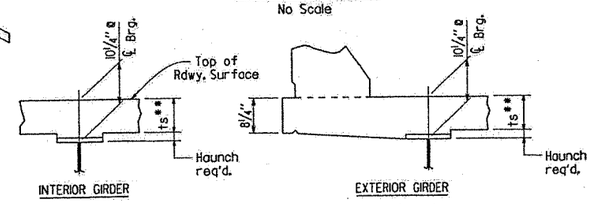
NOTE: When a fillet weld size, as shown on the Plans, is larger than the minimum, the First Pass shall be that specified for minimum size of fillet weld.



NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

No Scale



** 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.

Note : ts = slab thickness as shown in "Typ. Roadway Section".

Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance : Minimum - occurs when top flange contacts 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. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

No Scale

SHEET 1 OF 5
DETAILS OF 389'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
LITTLE RACCOON CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

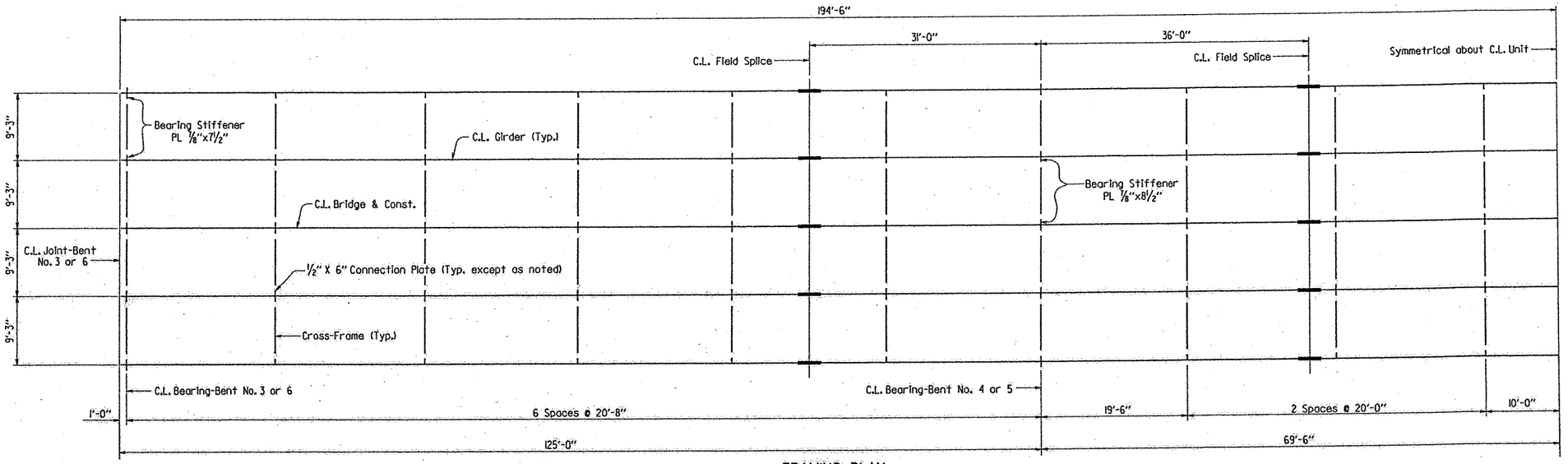
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 8-11-11 FILENAME: br5011 6xl_s2.dgn
CHECKED BY: JGT DATE: 8/26/11 SCALE: AS NOTED
DESIGNED BY: DBS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52448

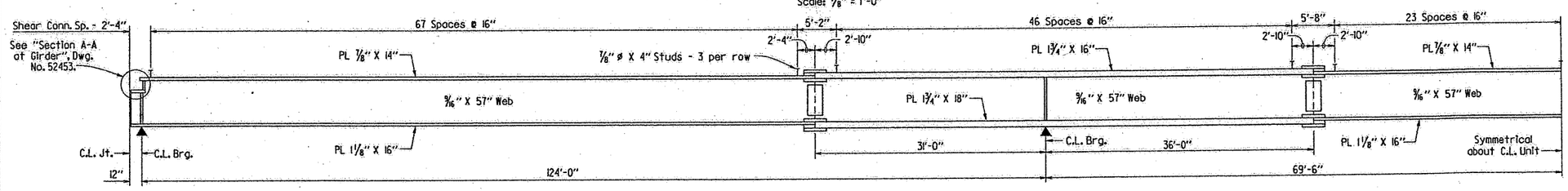
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	104	223
				1	07231 - SUPERSTRUCTURE DETAILS - 52449			

NOTE: Bolted field splices may be eliminated or shop welds substituted with the approval of the Engineer. Payment will be made on the basis of the splices shown.



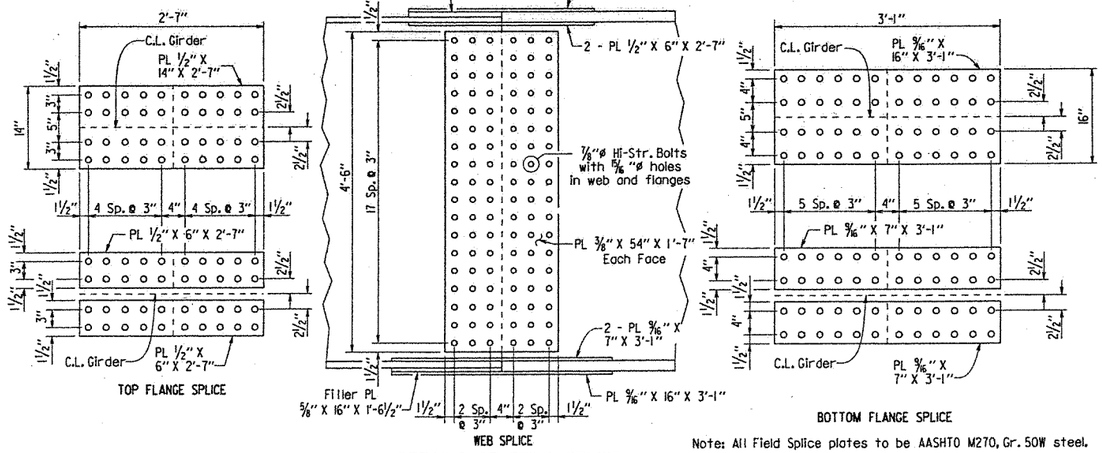
FRAMING PLAN

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



GIRDER ELEVATION

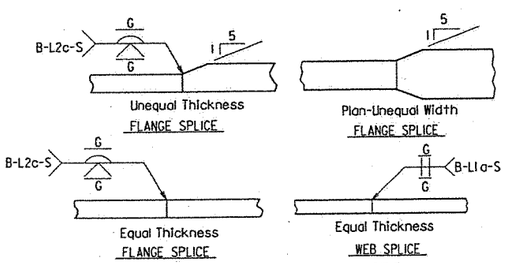
No Scale



DETAILS OF FIELD SPLICE

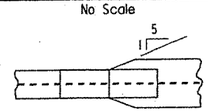
Scale: 1" = 1'-0"

Note: All Field Splice plates to be AASHTO M270, Gr. 50W steel.



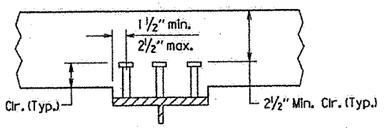
DETAILS OF WELDED SPLICES

No Scale



FIELD SPLICE AT UNEQUAL BOTTOM FLANGE WIDTHS

No Scale



Stud Shear Connectors shown shall be 7/8"ø x 4" 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 7/8" ø studs shown, at the ration of 1.361 - 3/4" ø studs in place of one 7/8"ø stud. 7/8"ø studs will be used as basis for measurement of structural steel in shear connectors. Maximum stud spacing = 24".

SHEAR CONNECTOR DETAIL

No Scale

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. PUSELLER
9/1/11

BRIDGE ENGINEER

SHEET 2 OF 5
DETAILS OF 389'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
LITTLE RACCOON CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	KDH	DATE:	8-11-11	FILENAME:	br50116x1_s2.dgn
CHECKED BY:	JCT	DATE:	8/26/11	SCALE:	AS NOTED
DESIGNED BY:	DBS	DATE:	08/11		

BRIDGE NO. 07231 DRAWING NO. 52449

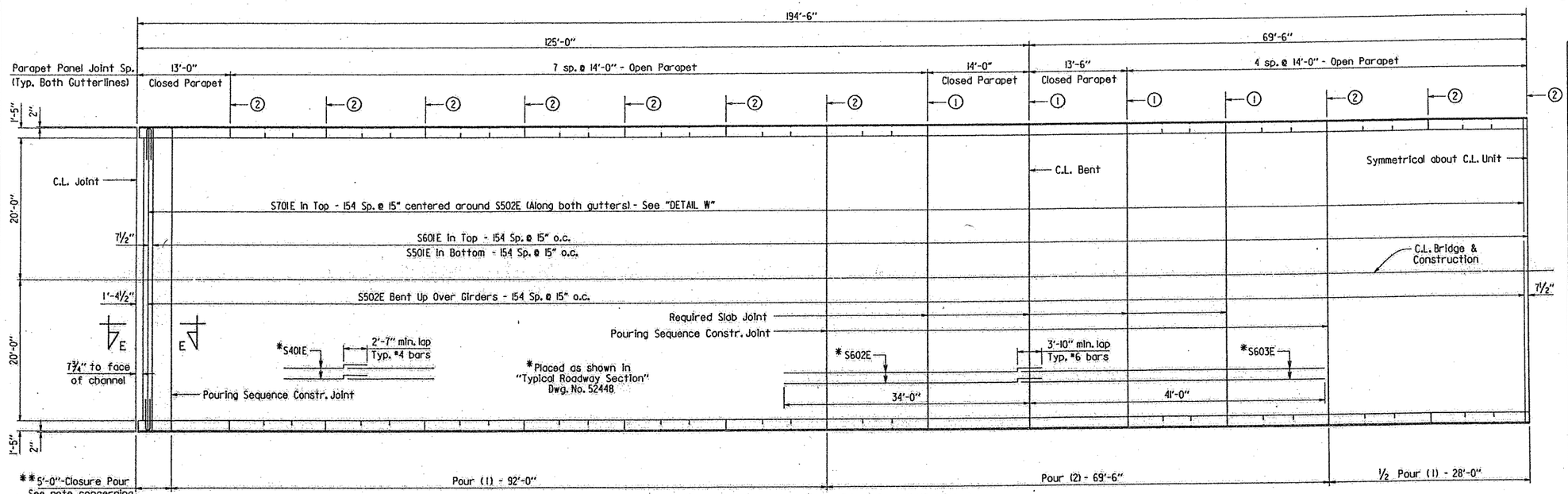
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		R50116	105	223

(1) 07231 - SUPERSTRUCTURE DETAILS - 52450

① C.L. Full-Depth Parapet Joint (1/4" to 1" max.) Stop 4" from top of slab.

② C.L. Partial-Depth Parapet Joint (1/4" to 1" max.) Stop 1'-2" from top of slab.



HALF-REINFORCING PLAN & DECK POURING SEQUENCE

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

NOTE: Pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (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.

** Closure pours at the finger joints shall be made after all incremental pours on the unit have been placed. 48 hours shall elapse between the last incremental pour and the closure pours.

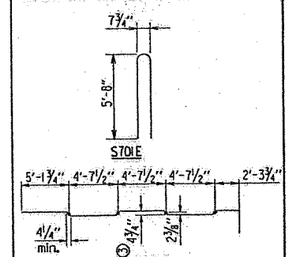
Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. The contractor must obtain approval from the Engineer for any deviations from the pouring sequence.

BAR LIST

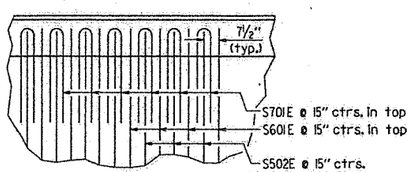
Mark	No. Req'd.	Length	Pin Dia.
S401E	1265	37'-9"	Str.
S501E	309	42'-10"	Str.
S502E	310	43'-8"	3"
S503E	16	8'-10"	Str.
S601E	309	42'-10"	Str.
S602E	92	35'-11"	Str.
S603E	92	42'-11"	Str.
S701E	620	11'-7"	6"

Bending Diagrams

Dimensions are out to out of bars.

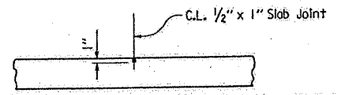


③ 1/2" Overtolerance, No Undertolerance.



DETAIL W

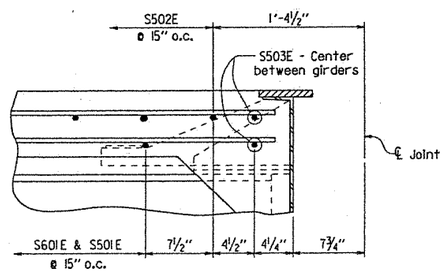
No Scale



Use 1/2" X 1" Type 3, 4 or 6 Joint Sealer. See subsections 501.02 (h) and 501.05 (j). Backer rod shall not be installed. Joint Sealer shall be measured and 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 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 (gutterline to gutterline). Slab joints shall align with parapet open joints, except at closure pour.

SLAB JOINT DETAIL

No Scale



SECTION E-E

No Scale

STATE OF ARKANSAS
Carl J. Puseller
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. PUSELLER

BRIDGE ENGINEER

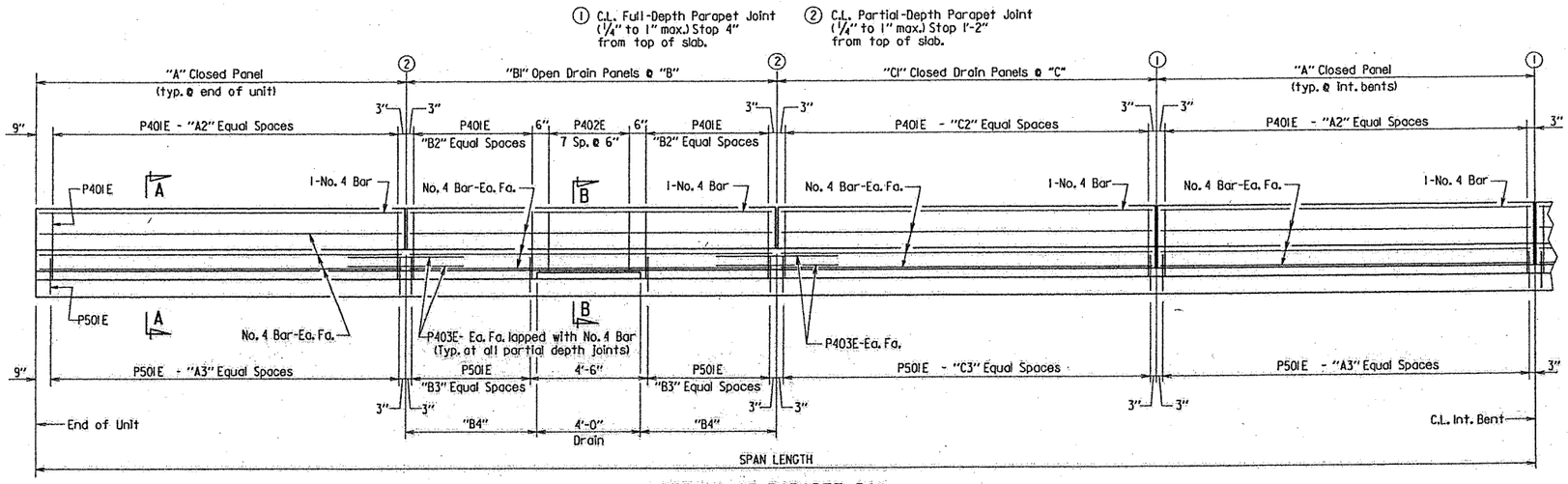
SHEET 3 OF 5
DETAILS OF 389'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
LITTLE RACCOON CREEK
ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 8-12-11 FILENAME: br50116xl_s2.dgn
CHECKED BY: DBS DATE: 8/26/11 SCALE: AS NOTED
DESIGNED BY: DBS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52450

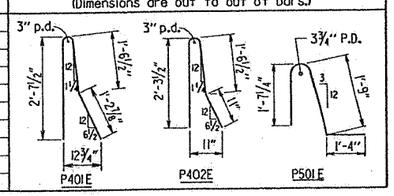
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	106	223
				(1) 07231 - SUPERSTRUCTURE DETAILS - 52451				

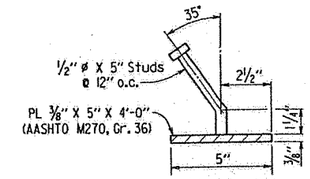


DETAILS OF PARAPET RAIL
Not to Scale

BAR LIST

Mark	No. Req'd.	Length	Pin Dia.	Bending Diagrams (Dimensions are out to out of bars.)
P401E	1200	5'-6"	2"	
P402E	352	4'-10"	2"	
P403E	152	5'-0"	Str.	
P404E	28	12'-8"	Str.	
P405E	336	13'-8"	Str.	
P406E	28	13'-2"	Str.	
P501E	1200	4'-9"	2½"	



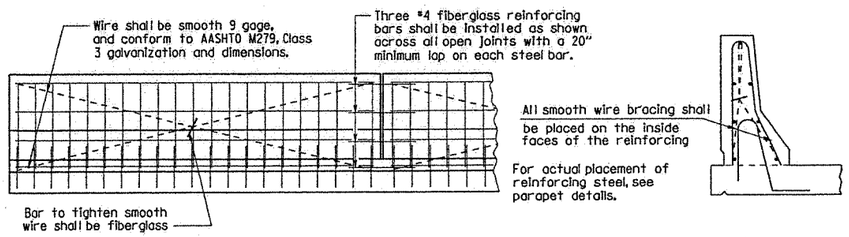


DETAIL Z
No Scale

NOTE: Parapet Studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be measured and paid for as "Structural Steel In Beam Spans M270, Gr. 50W". The surfaces of the ⅜" Plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the Fabricator's shop. Painting will not be paid for directly but will be included in the item for structural steel.

TABLE OF VARIABLES

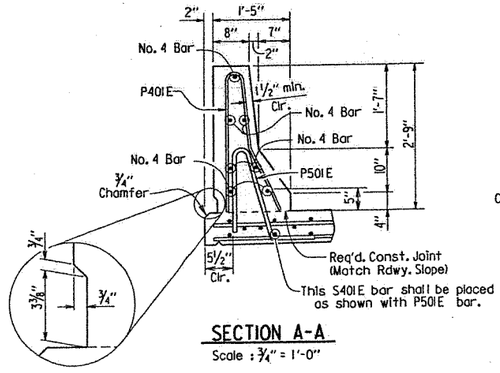
SPAN LENGTH	"A"	"A2"	"A3"	"B"	"B1"	"B2"	"B3"	"B4"	"C"	"C1"	"C2"	"C3"	Longit. No. 4 Bar MARK	Longit. No. 4 Bar LENGTH
125'-0"	13'-0"	24	24										P404E	12'-8"
125'-0"	14'-0"	27	27	14'-0"	7	9	9	5'-0"					P405E	13'-8"
139'-0"	13'-6"	26	26										P406E	13'-2"
139'-0"				14'-0"	8	9	9	5'-0"					P405E	13'-8"



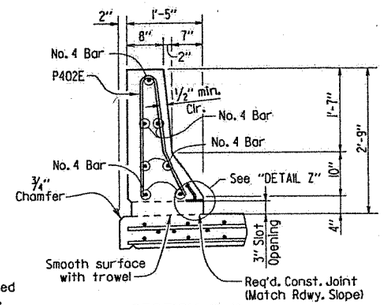
All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of ¼". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

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. Exposed surface may be given a light brush finish or a Class 3, Textured Coating Finish, in place of the Class 2, Rubbed Finish.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL
No Scale



SECTION A-A
Scale : ¾" = 1'-0"



SECTION B-B
Scale : ¾" = 1'-0"

STATE OF ARKANSAS
Carl D. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL D. FUSELIER

BRIDGE ENGINEER

SHEET 4 OF 5
DETAILS OF 389'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT LITTLE RACCOON CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 8-12-11 FILENAME: br50116x1_s2.dgn
CHECKED BY: JGT DATE: 8/26/11 SCALE: AS SHOWN
DESIGNED BY: DAS DATE: 08/11

BRIDGE NO. 07231 DRAWING NO. 52451

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.		R50116	107	223
				(1)	07231 - SUPERSTRUCTURE DETAILS - 52452			

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2003 edition, with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition, 2010 with 2010 Interim specifications.

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c = 4,000 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M 270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M 270, Gr. 36)	Fy = 36,000 psi

CONCRETE :
Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All concrete shall be Class S(AE) 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 measurement of Class S(AE) Concrete. See Standard Drawing No. 14991 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 tine finish in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface 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. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the parapet railing.

REINFORCING STEEL :
All reinforcing steel shall conform to AASHTO M31 or M53, 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 (Gr. 60)".

STRUCTURAL STEEL :
All structural steel shall be AASHTO M 270, Grade 50W unless otherwise noted and shall be paid for as "Structural Steel in Plate Girder Spans (M 270, Gr. 50W)". Grade 50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with subsection 807.84(e) unless otherwise noted. Structural steel completely embedded in concrete may be AASHTO M 270, Grade 36 unless otherwise noted.

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

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 the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

Girders and field splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in subsection 807.05.

All girders shall be blocked in their true position with webs horizontal in the shop. The camber, length of sections, distance between bearings and openings of joints shall be measured with the girders in their true position and this information shall become part of the permanent records for 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 degrees F. A tolerance of ¼"+/- is allowed for camber.

Web and flange plates for main members and flange splice plates for main members 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.

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 the Contractor or Erector should want to make additional welds, whether temporary or permanent, he shall submit detailed drawings with a formal request 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 consruction. All welding shall conform to subsection 807.26.

Field connections shall be bolted with high-strength bolts and shall be ¾" ø bolts unless otherwise noted. Open holes shall be 15/16 "ø unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior girder webs and on the bottom of the girder flanges. Holes for ¾" ø high-strength bolts may be 15/16 " ø diameter if a washer is supplied for use under both the nut and head of the bolt.

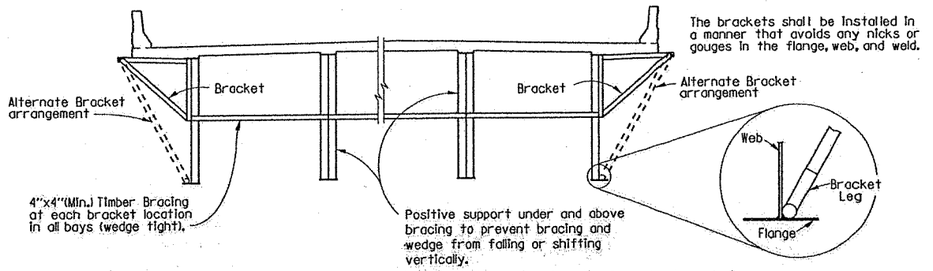
Cross-frames shall be installed as girders are erected. All bolts in cross-frames and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring the concrete deck unless otherwised noted.

Bearings shall be seated in accordance with subsection 808.08. This work and material are to be considered as subsidiary to the item "Structural Steel in Plate Girder Spans (M270, Gr. 50W)" and will not be paid for directly.

TABLE OF DEAD LOAD DEFLECTIONS - INCHES

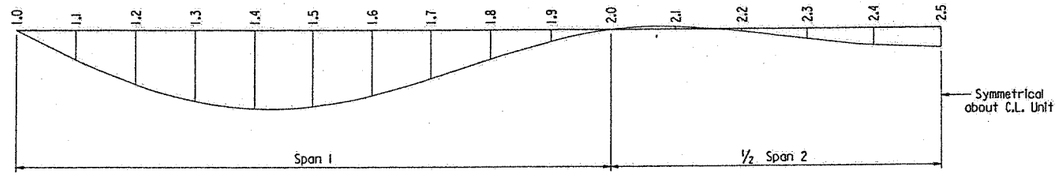
POINT OF DEFLECTION	STRUCTURAL STEEL		STRUCTURAL STEEL + SLAB		STRUCTURAL STEEL + SLAB + PARAPET	
	INT. BEAM	EXT. BEAM	INT. BEAM	EXT. BEAM	INT. BEAM	EXT. BEAM
1.0	0.000	0.000	0.000	0.000	0.000	0.000
1.1	0.199	0.190	1.033	0.889	1.092	0.982
1.2	0.368	0.351	1.907	1.640	2.015	1.812
1.3	0.484	0.462	2.509	2.158	2.652	2.385
1.4	0.535	0.511	2.775	2.387	2.934	2.638
1.5	0.519	0.496	2.696	2.319	2.851	2.564
1.6	0.444	0.424	2.310	1.987	2.443	2.198
1.7	0.327	0.313	1.707	1.469	1.806	1.626
1.8	0.195	0.187	1.207	0.884	1.087	0.978
1.9	0.077	0.073	0.412	0.354	0.435	0.391
2.0	0.000	0.000	0.000	0.000	0.000	0.000
2.1	-0.009	-0.008	-0.092	-0.077	-0.095	-0.081
2.2	0.035	0.033	0.078	0.068	0.089	0.085
2.3	0.096	0.092	0.346	0.301	0.376	0.348
2.4	0.148	0.142	0.585	0.507	0.631	0.579
2.5	0.168	0.161	0.678	0.587	0.730	0.668

Symmetrical about C.L. Unit



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 ½"x6" web stiffeners are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown above is used. The Alternate Bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for intermediate connection plates shown on drawing No. 52449 . 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)."

SCREED RAIL SUPPORT
Not to Scale



DEAD LOAD DEFLECTION DIAGRAM

Note:
Camber for Dead Load Deflection plus Vertical curve ± ¼" tolerance.
Deflections shown are from a chord from ℄ Bearing to ℄ Bearing.
Vertical curve corrections not included. Negative sign (-) indicates point above chord.

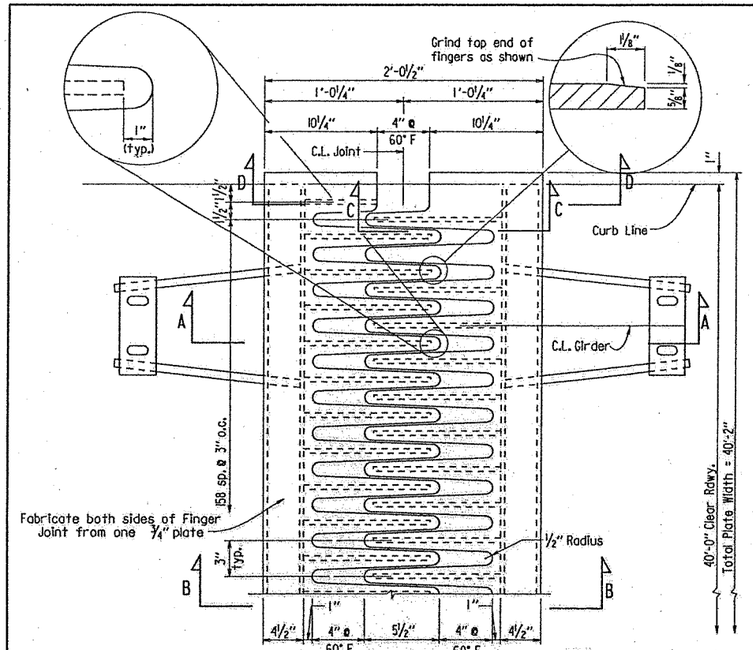
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL FUSELIER
9/1/11

BRIDGE ENGINEER

SHEET 5 OF 5
DETAILS OF 389'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
LITTLE RACCOON CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 8-12-11 FILENAME: br50116x1_s2.dgn
CHECKED BY: JGT DATE: 8/26/11 SCALE: NONE
DESIGNED BY: DBS DATE: 08/11
BRIDGE NO. 07231 DRAWING NO. 52452

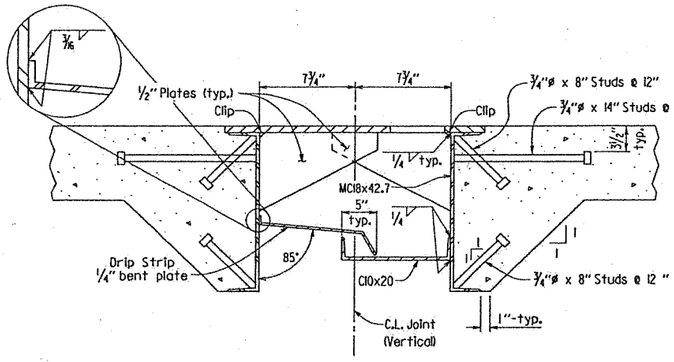
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116		168223
				① 07231-		FINGER JOINTS		- 52453



EXPANSION PLATE DETAIL

Scale: 1½" = 1'-0"

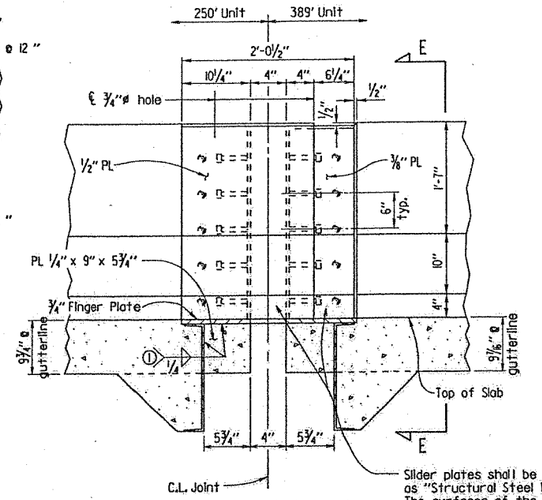
NOTE:
Top of expansion joints shall conform to the profile grade of the roadway surfaces. Dimensions shown are at 60° F.



Note: The ¾"ø Studs shown shall be granular flux filled, solid fluxed, or equal, and automatically end welded to the channel in accordance with recommendations of the manufacturer.

SECTION B-B

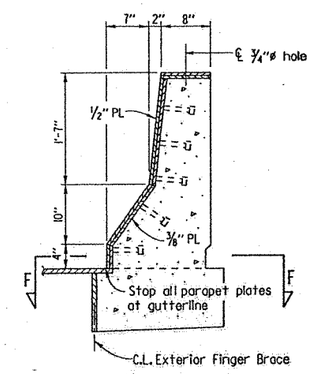
No Scale



Slider 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 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)".

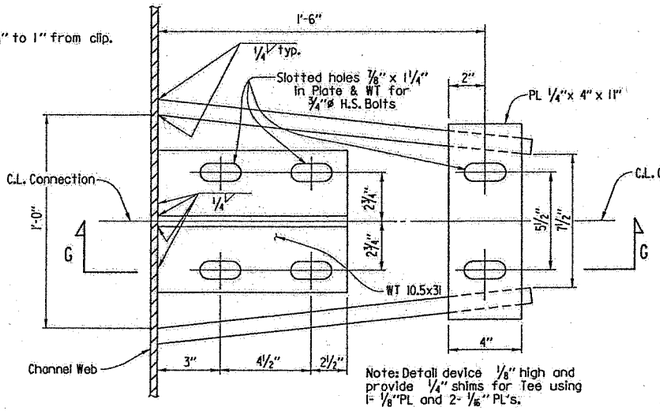
SECTION D-D

Scale: 1" = 1'-0"



SECTION E-E

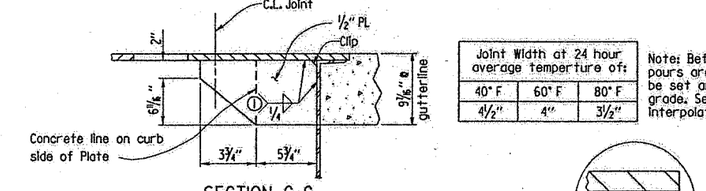
Scale: 1" = 1'-0"



Note: Detail device ⅛" high and provide ¼" shims for Tee using 1- ⅛"PL and 2- ⅛" PL's.

PLAN OF CONNECTION TO GIRDER

Scale: 3" = 1'-0"



SECTION C-C

Scale: 1" = 1'-0"

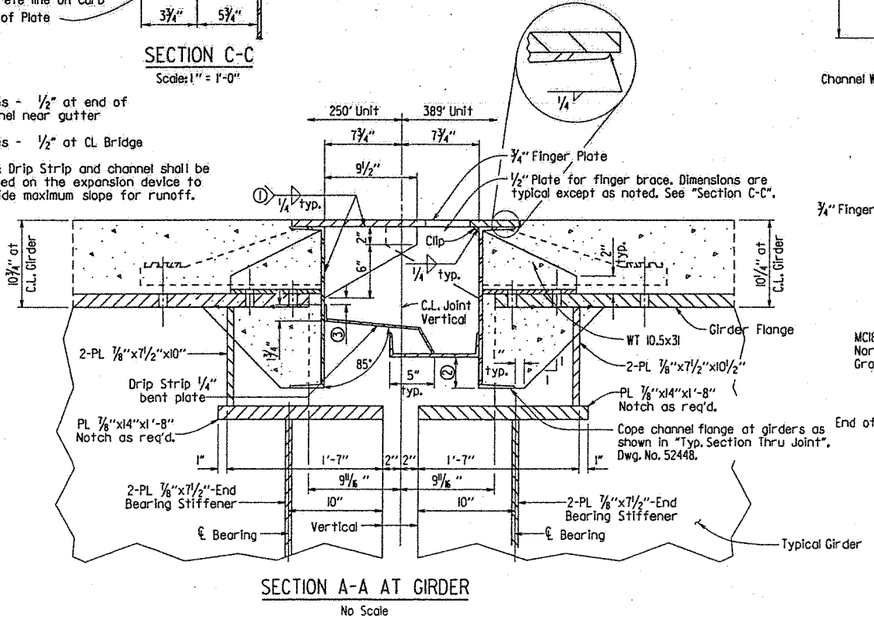
Joint Width at 24 hour average temperture of:		
40° F	60° F	80° F
4½"	4"	3½"

Note: Before joint closure pours are done, joint shall be set and adjusted for grade. Set joint width by interpolating from table.

② Varies - ½" at end of channel near gutter

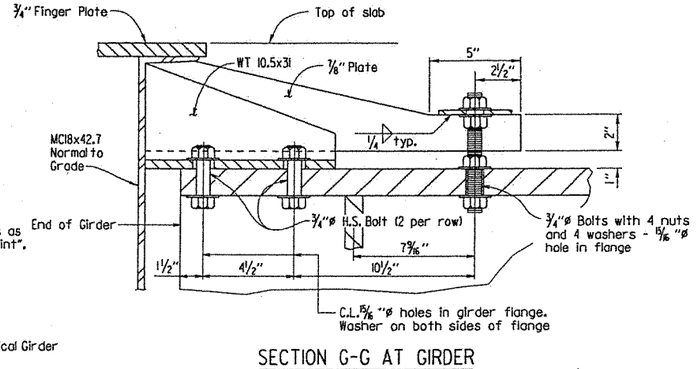
③ Varies - ½" at CL Bridge

Note: Drip Strip and channel shall be located on the expansion device to provide maximum slope for runoff.



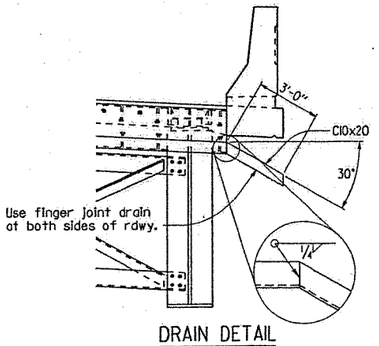
SECTION A-A AT GIRDER

No Scale



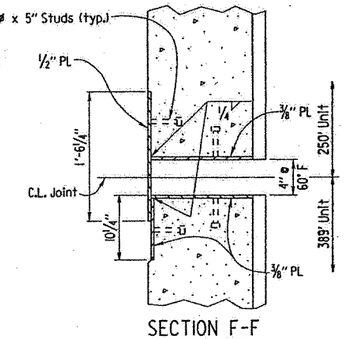
SECTION G-G AT GIRDER

Scale: 3" = 1'-0"



DRAIN DETAIL

No Scale



SECTION F-F

Scale: 1" = 1'-0"

Note: The ½"ø studs shall be granular flux filled, solid fluxed, or equal and automatically end welded to the PL's in accordance with recommendations of the manufacturer.

Note: All structural steel in Finger Joints shall be M270 Gr. 50W Steel.

Concrete shall be hand packed under the joint armor in the span.

STATE OF ARKANSAS
CARL E. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL E. FUSELIER 9/1/11

BRIDGE ENGINEER

DETAILS OF FINGER JOINTS LITTLE RACCOON CREEK

ROUTE SEC.

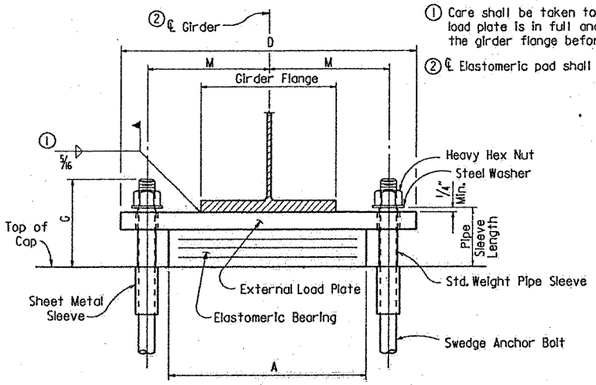
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 8-15-11 FILENAME: br50116x1_j2.dgn
CHECKED BY: JCT DATE: 8/24/11 SCALE: AS NOTED
DESIGNED BY: STD DATE:

BRIDGE NO. 07231 DRAWING NO. 52453

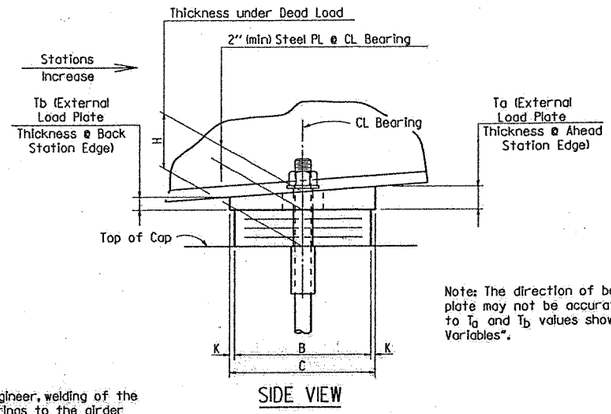
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	109	223
				①	07231-	ELASTO. BRGS. - 52454		



FRONT VIEW

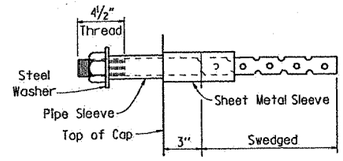
① Care shall be taken to ensure that the external load plate is in full and complete contact with the girder flange before welding begins.

② ℄ Elastomeric pad shall be aligned with ℄ Girder



SIDE VIEW

Note: The direction of bevel of the external load plate may not be accurately depicted with respect to T_a and T_b values shown in "Table of Fabricator Variables".

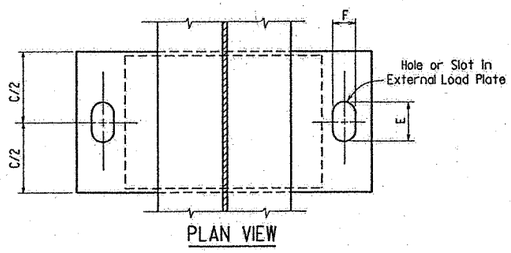


ANCHOR BOLT DETAIL

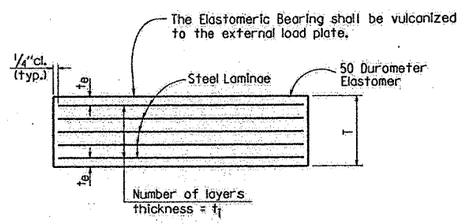
NOTE: Anchor Bolts may be cast in place or drilled and grouted into place. If Anchor Bolts are to be cast in place, the Galvanized Sheet Metal Sleeves will not be required.

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 QPL 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)"

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.



PLAN VIEW



t_e = thickness of elastomer cover on top and bottom of pad

t_i = thickness of elastomer between steel laminae

N = number of elastomer layers of thickness t_i

ELASTOMERIC BEARING

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 shall conform to AASHTO M270, Grade 50W. Pipe sleeves shall be ASTM A53, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or AASHTO M 298, Class 50.

External load 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(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 will not be measured or paid for separately but will be considered included in the unit bid price for "Elastomeric Bearings".

Bearings shall be firmly seated in accordance with Subsection 808.08. This work and materials shall be considered subsidiary to the item "Elastomeric Bearings" and shall not be paid for directly.

TABLE OF FABRICATOR VARIABLES

BRIDGE NO.	LOCATION: BENT NO(S).	LOCATION: UNIT	LOCATION: BEAM NO.	BEARING TYPE	NO. of BEARINGS EACH BENT	*MAXIMUM DESIGN LOAD (KIPS)	G	H	ELASTOMERIC PAD: A	B	N	t_i	t_e	NO. & THICKNESS OF STEEL LAMINAE	T	EXTERNAL LOAD PLATE: C	D	E	F	K	M	T_a	T_b	ANCHOR BOLT: (ø x L)	GRADE	PIPE SLEEVE SIZE (ø x L)	SHEET METAL SLEEVE SIZE (ø x L)	STEEL WASHER SIZE (O.D.)
07231	1	250'	ALL	EXP.	5	164	8¼"	5"	16"	9"	4"	½"	¼"	5 @ 12 Gauge	3"	10"	27½"	4¾"	2⅝"	½"	10¾"	1.85"	2.15"	1¾"ø x 27"	55	2"ø x 5½"	4"ø x 6"	3⅜"
	2	250'	ALL	FIX	5	472	9"	5"	18"	16"	4"	½"	¼"	5 @ 12 Gauge	3"	17"	32"	3¾"	3¾"	½"	12½"	1.87"	2.13"	2¾"ø x 38"	55	3"ø x 5½"	5"ø x 6"	5"
	3	250'	ALL	EXP.	5	164	8¼"	5"	16"	9"	4"	½"	¼"	5 @ 12 Gauge	3"	10"	27½"	4¾"	2⅝"	½"	10¾"	1.99"	2.01"	1¾"ø x 27"	55	2"ø x 5½"	4"ø x 6"	3⅜"
	3	389'	ALL	EXP.	5	171	8¾"	5⅝"	15"	10"	5"	½"	¼"	6 @ 12 Gauge	3⅝"	11"	27½"	5¾"	2⅝"	½"	10¾"	1.99"	2.01"	1¾"ø x 27"	55	2"ø x 6"	4"ø x 6"	3⅜"
	4	389'	ALL	FIX	5	440	9"	5"	18"	15"	4"	½"	¼"	5 @ 12 Gauge	3"	16"	32"	3¾"	3¾"	½"	12½"	2.10"	1.90"	2¾"ø x 38"	55	3"ø x 5½"	5"ø x 6"	5"
	5	389'	ALL	FIX	5	440	9"	5"	18"	15"	4"	½"	¼"	5 @ 12 Gauge	3"	16"	32"	3¾"	3¾"	½"	12½"	2.23"	1.77"	2¾"ø x 38"	55	3"ø x 5½"	5"ø x 6"	5"
	6	389'	ALL	EXP.	5	171	8¾"	5⅝"	15"	10"	5"	½"	¼"	6 @ 12 Gauge	3⅝"	11"	27½"	5¾"	2⅝"	½"	10¾"	2.23"	1.77"	1¾"ø x 27"	55	2"ø x 6"	4"ø x 6"	3⅜"
	6	250'	ALL	EXP.	5	164	8¼"	5"	16"	9"	4"	½"	¼"	5 @ 12 Gauge	3"	10"	27½"	4¾"	2⅝"	½"	10¾"	2.21"	1.79"	1¾"ø x 27"	55	2"ø x 5½"	4"ø x 6"	3⅜"
	7	250'	ALL	FIX	5	472	9"	5"	18"	16"	4"	½"	¼"	5 @ 12 Gauge	3"	17"	32"	3¾"	3¾"	½"	12½"	2.41"	1.59"	2¾"ø x 38"	55	3"ø x 5½"	5"ø x 6"	5"
	8	250'	ALL	EXP.	5	164	8¼"	5"	16"	9"	4"	½"	¼"	5 @ 12 Gauge	3"	10"	27½"	4¾"	2⅝"	½"	10¾"	2.24"	1.76"	1¾"ø x 27"	55	2"ø x 5½"	4"ø x 6"	3⅜"

*Maximum Design Load = Service I Limit State

Tabular Data by : KDH Date: 8-15-11

Checked by : JCOT Date: 8/24/11

Designed by : DBS Date: 08/11

STATE OF ARKANSAS
Carl J. Puseller
REGISTERED PROFESSIONAL ENGINEER
No. 7510
9/1/11
CARL J. PUSELLER

BRIDGE ENGINEER

DETAILS OF ELASTOMERIC BEARINGS LITTLE RACCOON CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: Nov.1296 FILENAME: br50116xl_el.dgn

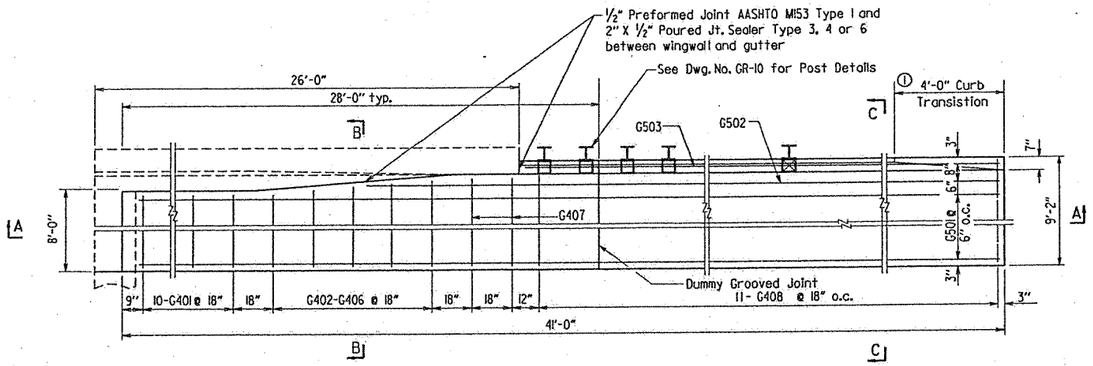
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DESIGNED BY: Std. DATE:

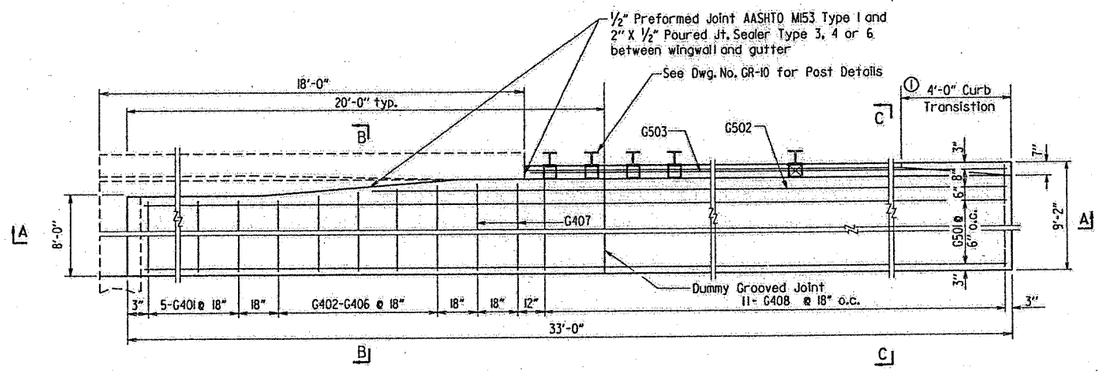
BRIDGE NO. 07231 DRAWING NO. 52454

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.		R50116	11	223

① 07231 TYPE SPECIAL GUTTERS 52455

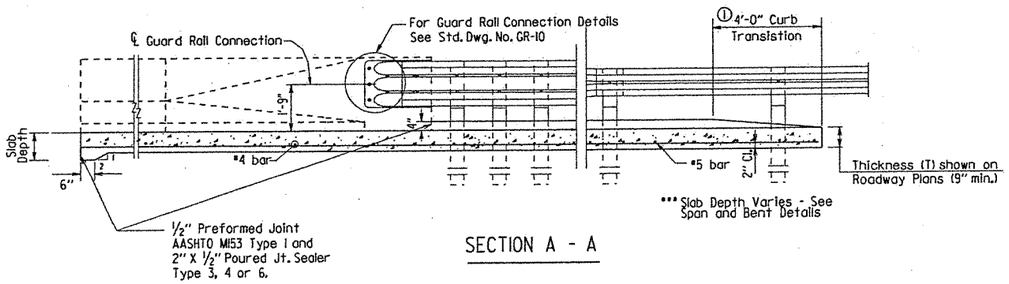


HALF PLAN OF TYPE I SPECIAL APPROACH GUTTERS AT BENT 1



HALF PLAN OF TYPE 2 SPECIAL APPROACH GUTTERS AT BENT 8

NOTE: All longitudinal lines shall be concentric to C.L. Bridge

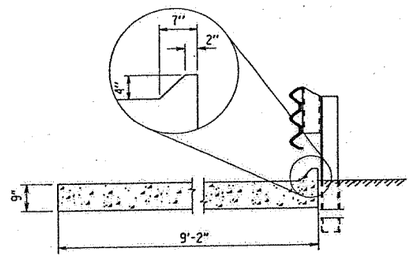


SECTION A - A

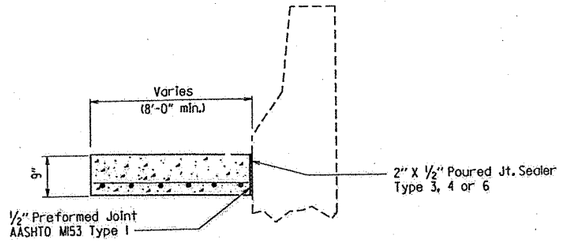
① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

Eliminate or modify curb section to fit where Bridge End Terminals are used. No payment shall be made for eliminating or modifying this curb, compensation shall be considered included in the price bid for "Approach Gutters (Type Special)".



SECTION C - C
N.T.S.



SECTION B - B
N.T.S.

BAR LIST FOR ONE TYPE SPECIAL GUTTER

Mark	No. Req'd. for Type Gutter		Length for Type Gutter	
	Type 1	Type 2	Type 1	Type 2
G401	10	5	7'-8"	7'-8"
G402 - G406	1 each	1 each	7'-9" to 8'-3"	7'-9" to 8'-3"
G407	2	2	8'-3"	8'-3"
G408	11	11	8'-10"	8'-10"
G501	11	11	40'-8"	32'-8"
G502	1	1	20'-2"	20'-2"
G503	1	1	27'-2"	27'-2"

GENERAL NOTES

Concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

QUANTITIES FOR ONE TYPE SPECIAL APPROACH GUTTER

Type Gutter	Reinforcing Steel (lbs.)	Concrete (cubic yards)
1	880	9.8
2	725	8.0

STATE OF ARKANSAS
Carl J. Puselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. PUSELIER 9/1/11

BRIDGE ENGINEER

DETAILS OF TYPE I AND 2 SPECIAL APPROACH GUTTERS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

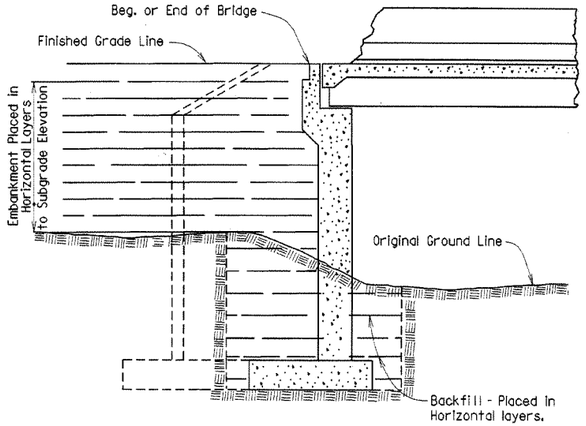
LITTLE ROCK, ARK.

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CHECKED BY: JGT DATE: 8/30/11 SCALE: 3/8" = 1'-0"
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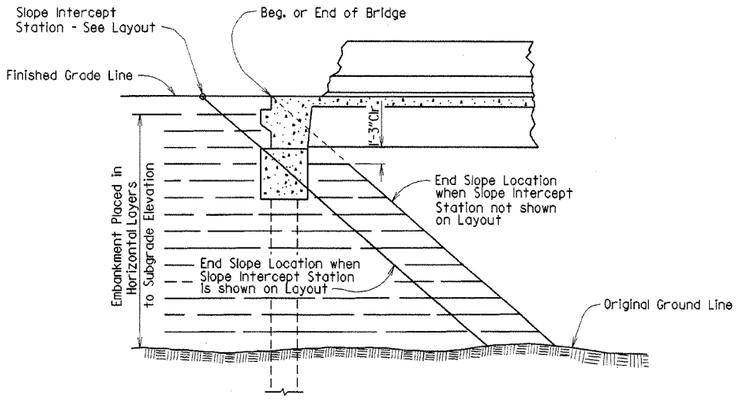
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		11	
				JOB NO.				

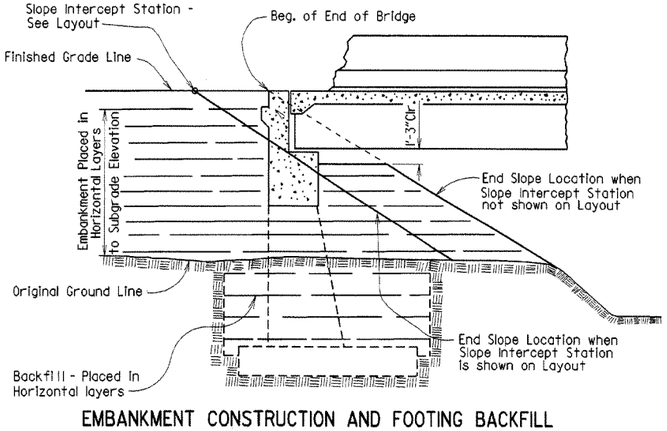
EMBANKMENT & BACKFILL 1888A



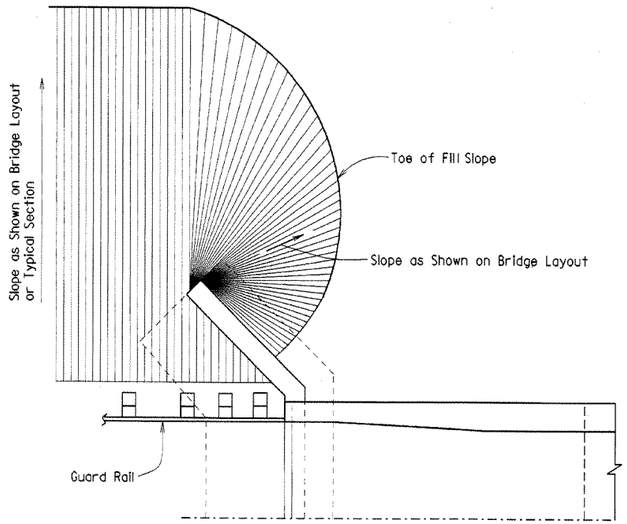
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



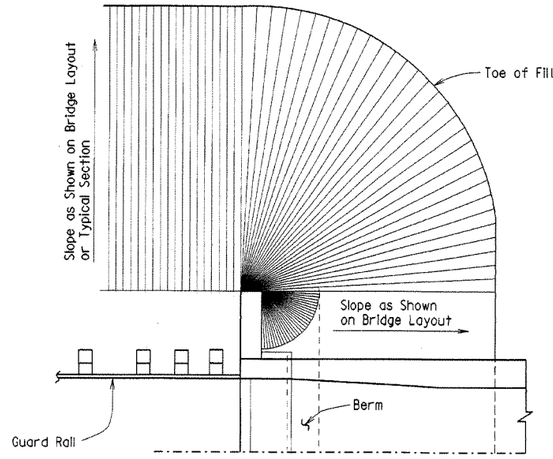
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



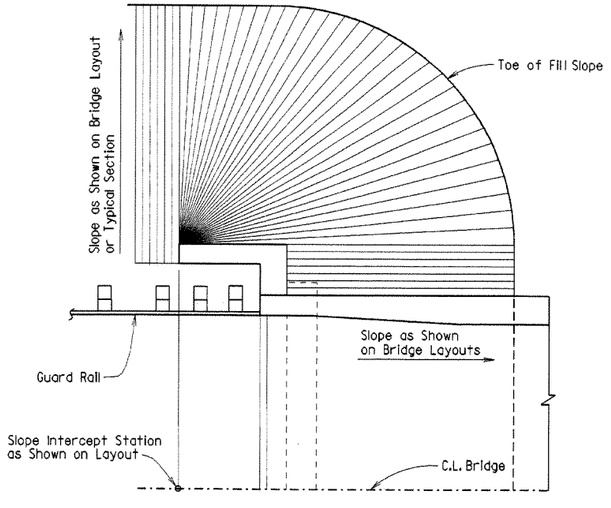
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



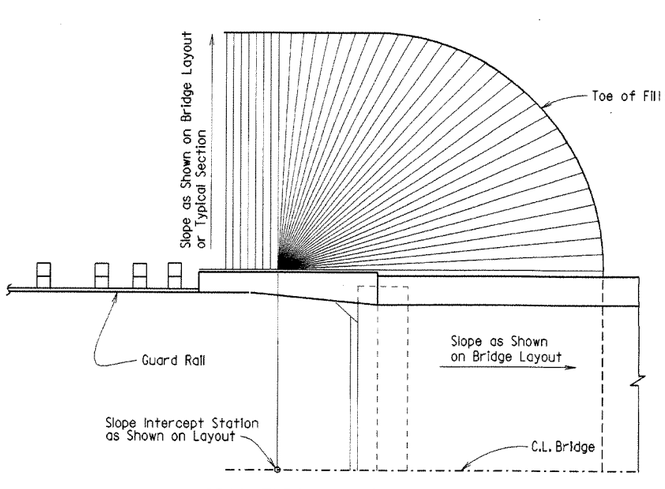
VERTICAL WALL ABUTMENTS



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 4 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 of the Specifications for construction requirements.

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

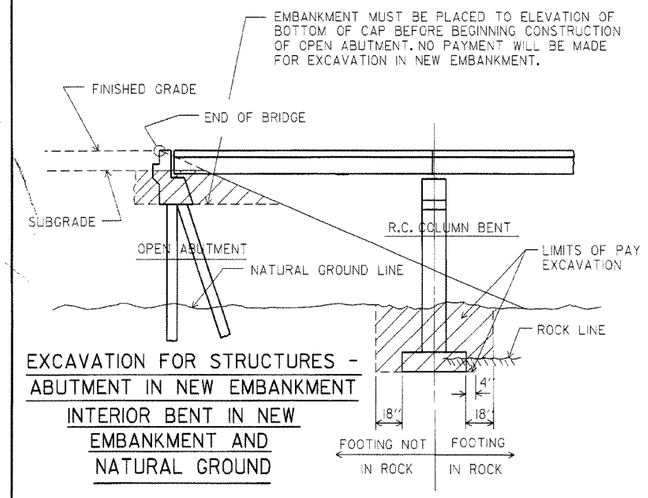
LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: BI888A.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD. DATE: ——

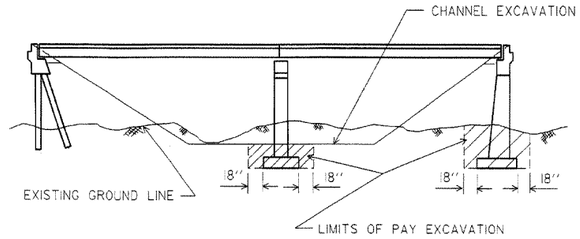
BRIDGE NO. DRAWING NO. 1888A

BI888A.STD

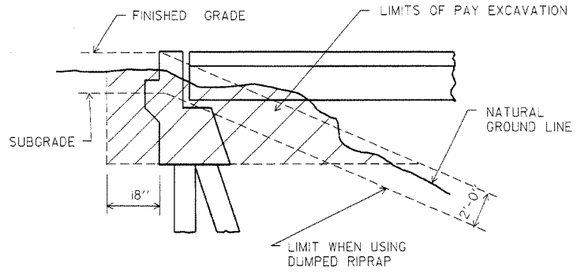
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				JOB NO.				
				①	RIP. & EXCAV.		1891F	



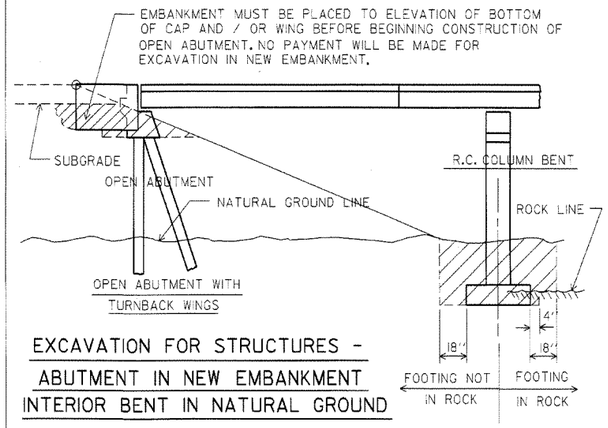
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



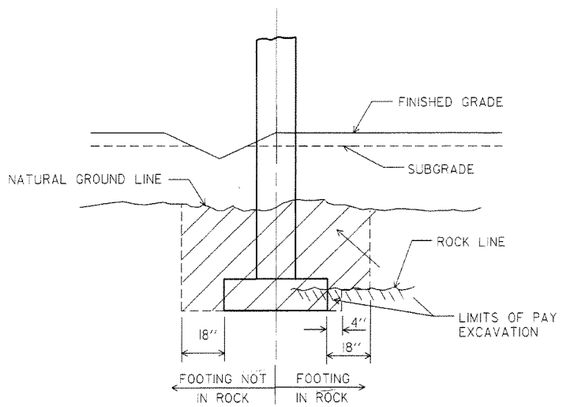
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



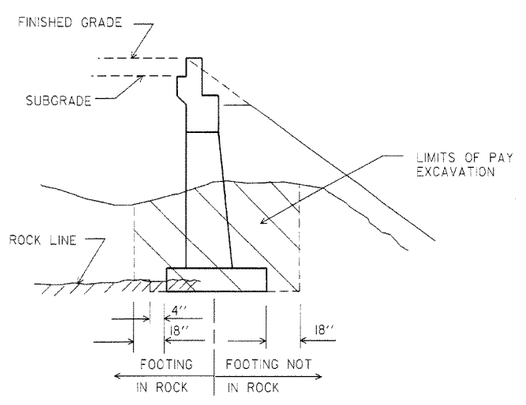
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



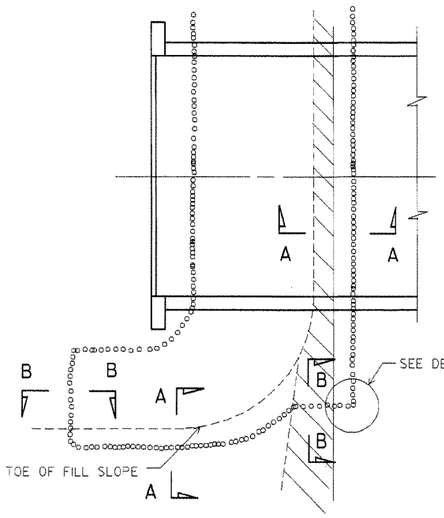
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



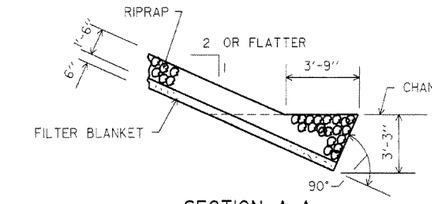
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT



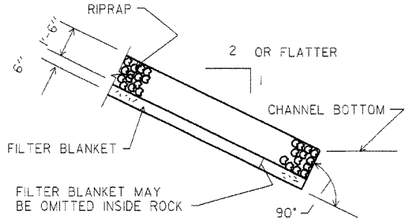
PLAN OF DUMPED RIPRAP



SECTION A-A

(TOE EXCAVATION IN SOIL)

EXCAVATION FOR TOES IS NOT A PAY ITEM



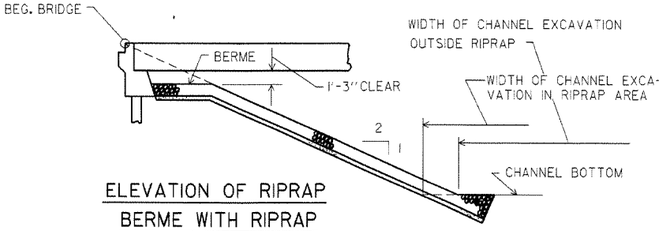
SECTION A-A

(TOE EXCAVATION IN ROCK)

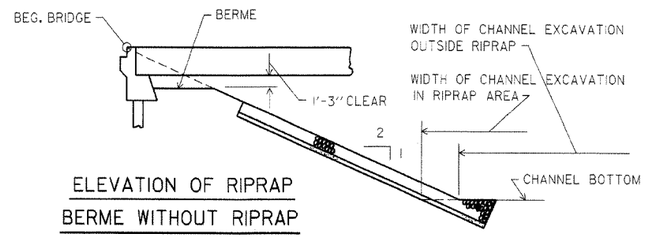
NOTE : USE THIS TYPE OF TOE WHEN ROCK IS ENCOUNTERED WHICH IS IN A STABLE CONDITION.

NOTE : IN LIEU OF AN AGGREGATE FILTER BLANKET, A SYNTHETIC FIBER GEOTEXTILE FABRIC COMPLYING WITH THE REQUIREMENTS OF SUBSECTION 816.02(e) MAY BE USED.

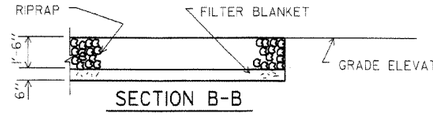
NOTE : DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES ARE INCLUDED FOR INFORMATION AS TO HOW PLAN QUANTITIES WERE CALCULATED AND FOR USE WHEN ADJUSTING QUANTITIES WHEN CHANGING FOOTING ELEVATION.



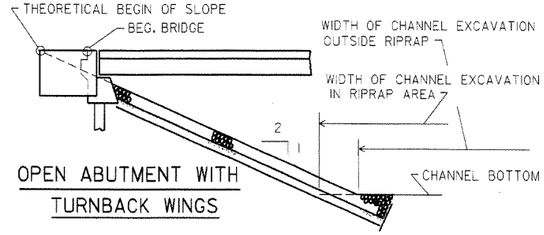
ELEVATION OF RIPRAP BERME WITH RIPRAP



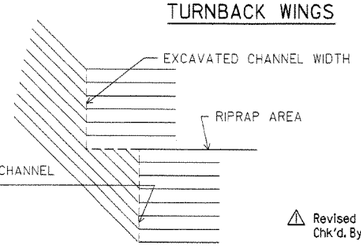
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND
BRIDGE ENGINEER

DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES

ROUTE SEC.

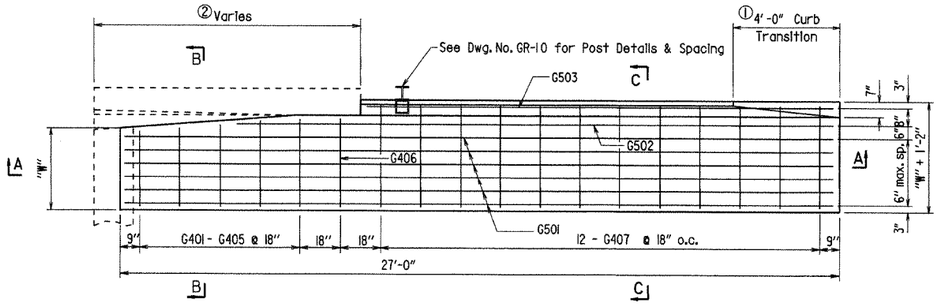
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	MJT	DATE:	04-10-2003	FILENAME:	B1891F.STD
CHECKED BY:	CJF	DATE:	04-10-2003	SCALE:	NO SCALE
DESIGNED BY:	STD.	DATE:	—		

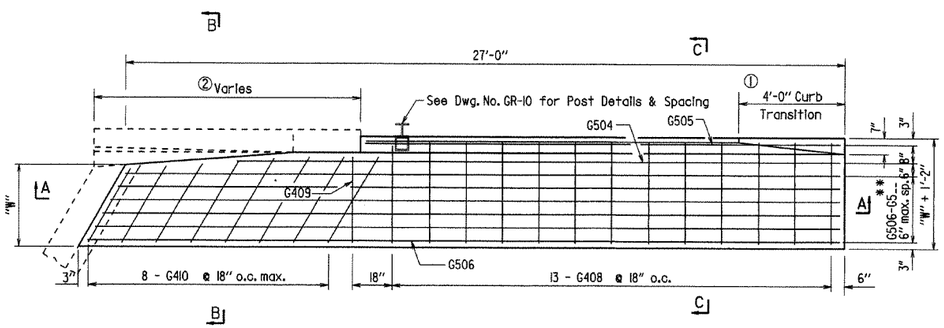
BRIDGE NO. DRAWING NO. 1891F

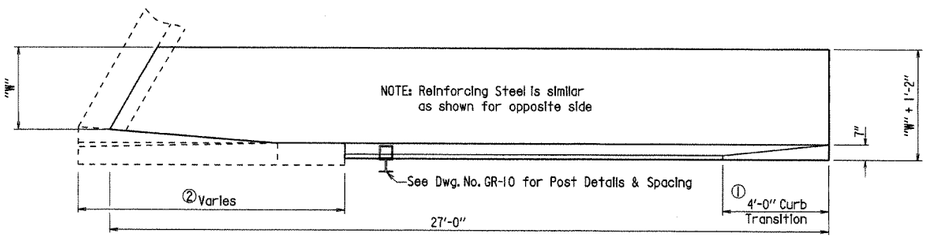
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-10-2003				6	ARK.		113	
07-14-2010				JOB NO.				
				TYPE B GUTTERS				20168



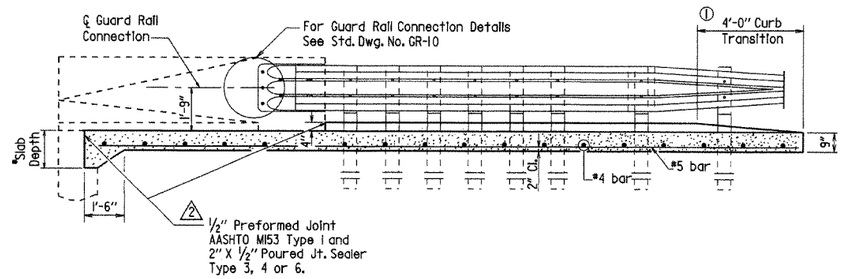
HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE

② Length varies. See End Bent details for actual length. Quantities shown are for 10'-0" Transition Rail.





PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE

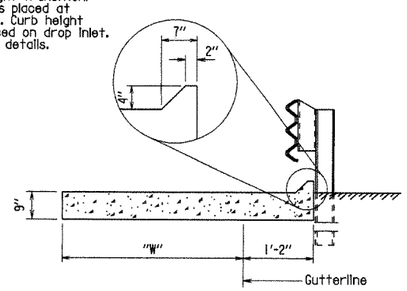


SECTION A - A

*Slab Depth Varies - See Span and Bent Details

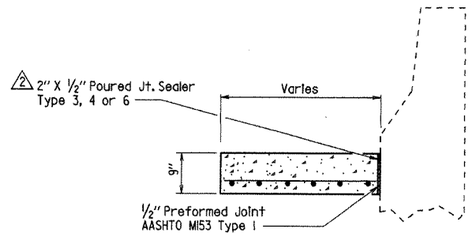
① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.



SECTION C - C

N.T.S.



SECTION B - B

N.T.S.

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

"W" Width (ft.)	Reinforcing Steel (lbs.)	Concrete (cubic yards)
3	252	3.00
4	319	3.75
6	459	5.25
8	590	6.75

***BAR LIST ②
TYPE B GUTTER

Mark	No. Required for Width "W"				Length	Square or Skewed
	3'-0"	4'-0"	6'-0"	8'-0"		
G401 - G405	1 each	1 each	1 each	1 each	"W" - 3" to "W" + 3"	Square
G406	1	1	1	1	"W" + 3"	Square
G407	12	12	12	12	"W" + 10"	Square
G408	13	13	13	13	"W" + 10"	Skewed
G409	1	1	1	1	"W" + 3"	Skewed
G410	8	8	8	8	*	Skewed
G501	6	8	12	16	26'-8"	Square
G502	1	1	1	1	22'-2"	Square
G503	1	1	1	1	17'-8"	Square
G504	1	1	1	1	*	Skewed
G505	1	1	1	1	*	Skewed
G506-05-**	1 each	1 each	1 each	1 each	*	Skewed

*Bar Lengths vary with Skew.

**G512 for "W" = 3'
G514 for "W" = 4'
G518 for "W" = 6'
G522 for "W" = 8'

***Special bar list required when skew angle exceeds 40° for W = 8'; 50° for W = 6'; or 60° for W = 4'.

GENERAL NOTES

Concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

1 Revised and redrawn 4-10-2003. By KDH Ck. By: CJF 4-10-2003

2 Added joint sealer type & revised transition rail length 07-14-2010 by MJT Checked by: CJF 07-14-2010

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF STANDARD TYPE B APPROACH GUTTERS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

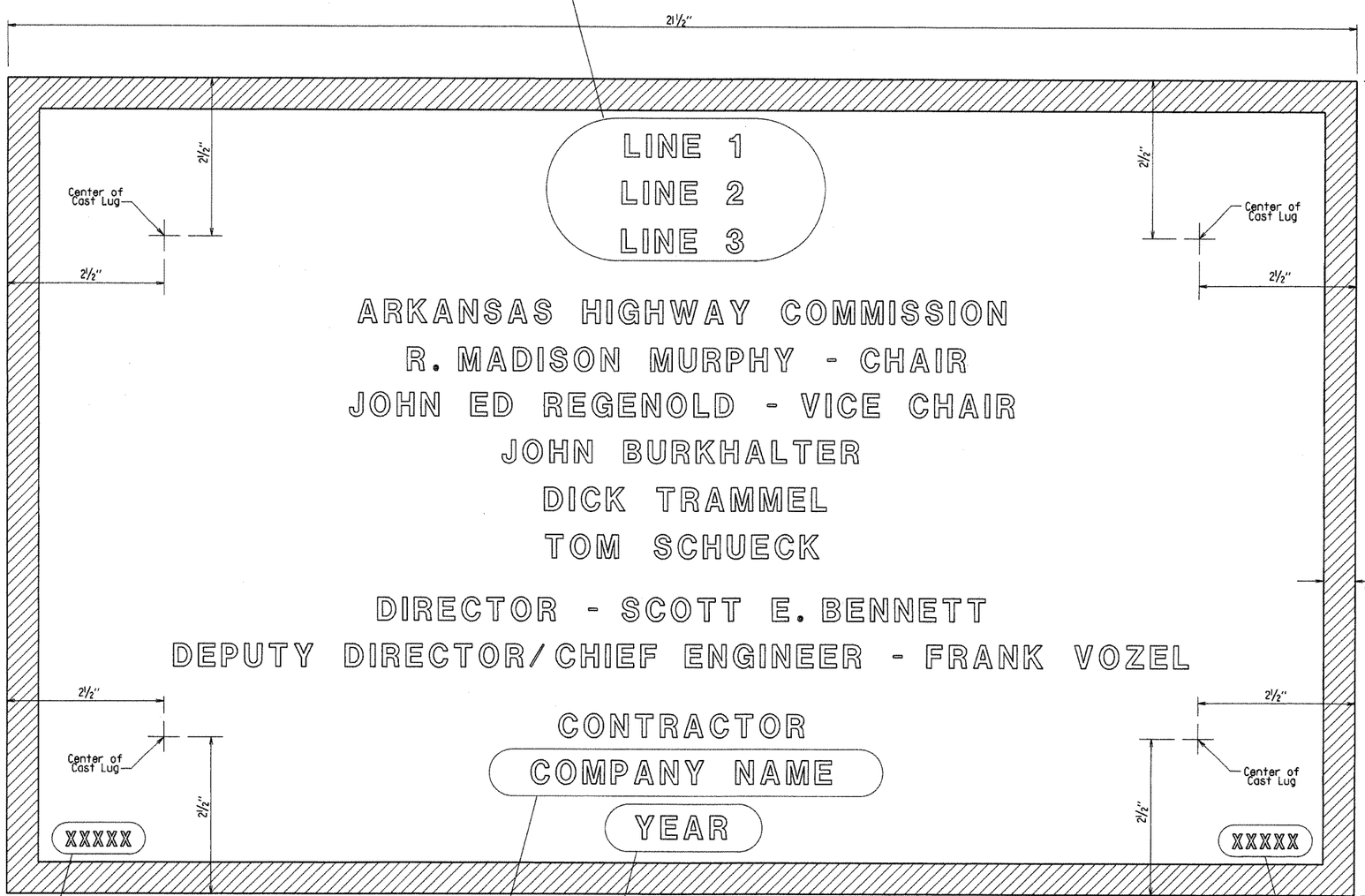
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CHECKED BY: CJF DATE: 4-10-2003 SCALE: 3/8" = 1'-0"
DESIGNED BY: STD DATE:

BRIDGE NO. DRAWING NO. 20168

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
9-8-11				6	ARK.		114	
				JOB NO.				
				①	NAME PLATE		2387	

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.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



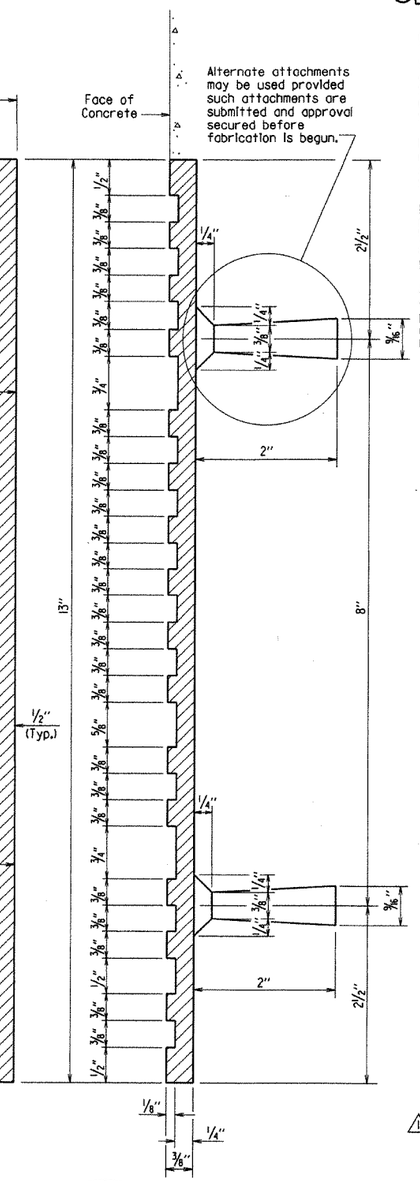
Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples : HS 20
HL-93

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.

Place the Year in which Contract was awarded here using 1/8" raised numerals 3/8" high. Example : 2001

Place the Bridge number here using 1/8" raised letters and numerals 1/4" high. Examples : AI234
05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 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 of the Standard Specifications.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 3/16" 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.

⚠1 Revised and Redrawn 9-8-11 KDH Checked By: CRE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7610
CARL J. FUSELIER
BRIDGE ENGINEER

DETAILS OF STANDARD TYPE D BRIDGE NAME PLATE

ROUTE SEC.

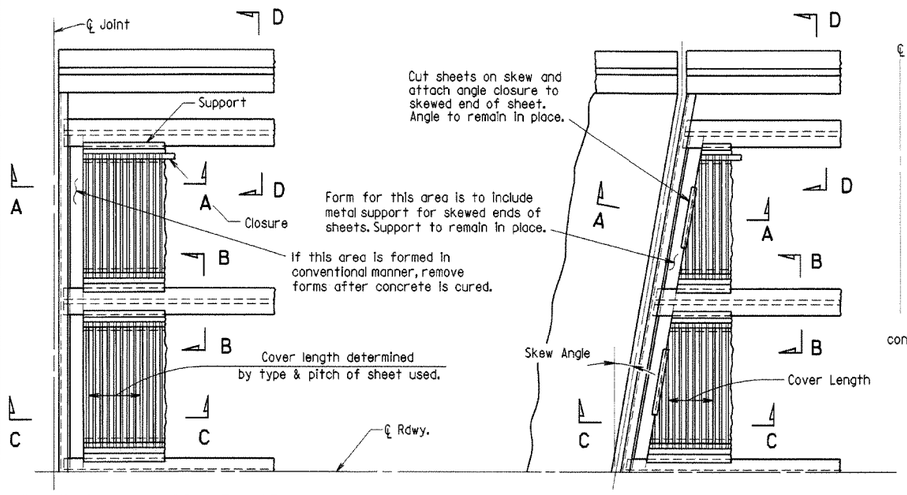
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 9-8-11 FILENAME: B2387.STD
CHECKED BY: CRE DATE: 9-8-11 SCALE: 1'-0" = 1'-0" OR AS NOTED
DESIGNED BY: STD. DATE: —
BRIDGE NO. DRAWING NO. 2387

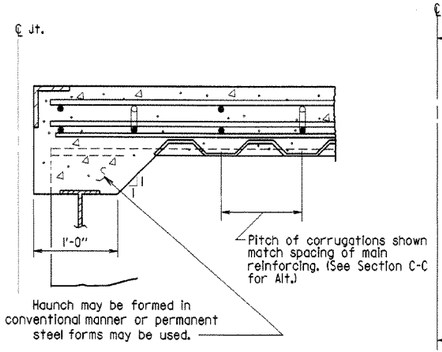
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11-27-96						6	ARK.		115	
04-10-2003						JOB NO.				

① BR. DECK FORMS 14991

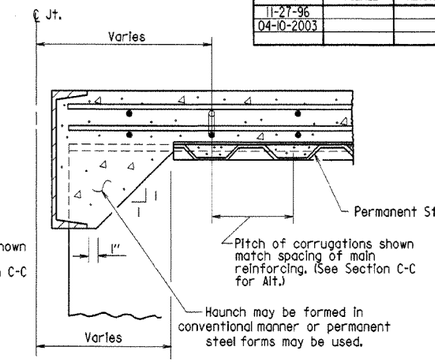


PART PLAN - SQUARE SPAN
3/8" = 1'-0"

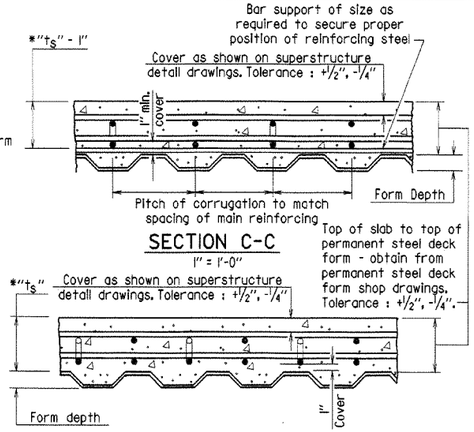
PART PLAN - SKEWED SPAN
3/8" = 1'-0"



SECTION A-A
N.T.S.
(Angle at end of span)

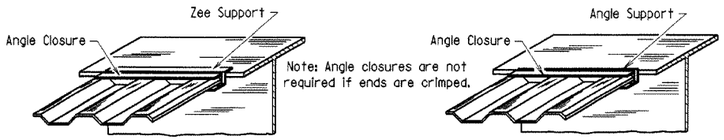


SECTION A-A
N.T.S.
(Channel at end of span)



SECTION C-C
1" = 1'-0"

SECTION C-C - ALTERNATE
1" = 1'-0"
(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS
N.T.S.

*t_s = 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) of the Standard Specifications. Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Bridge 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 ∠ supports to the flange must be approved by the Bridge Engineer.

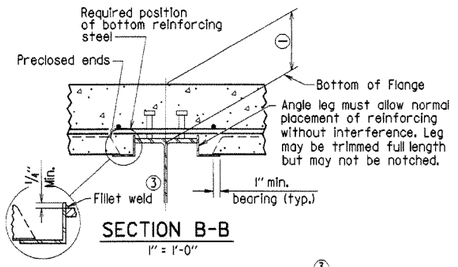
Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Bridge Engineer.

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.

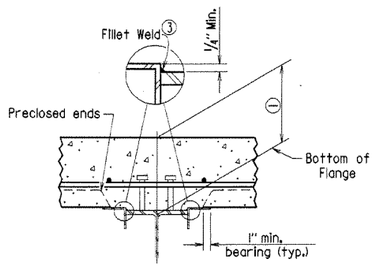
High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

⚠2 Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition), with applicable supplemental specifications and special provisions.

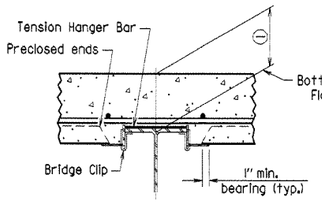


SECTION B-B
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

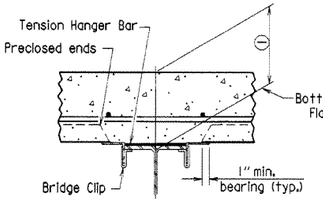
③ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



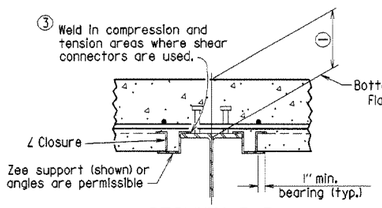
SECTION B-B
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



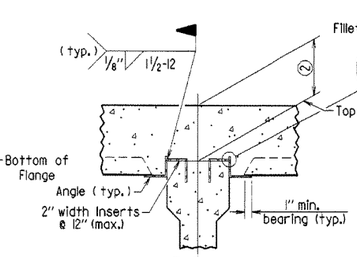
SECTION B-B
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



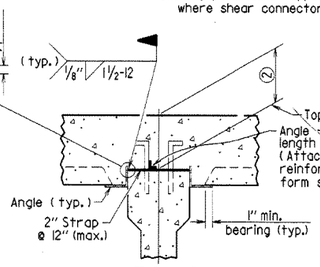
SECTION B-B
1" = 1'-0"
(Showing permissible support for tension flange where shear connectors are not used)



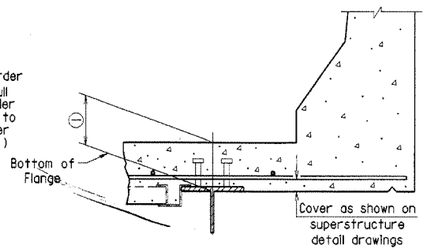
SECTION B-B
1" = 1'-0"
(Showing ∠ Closure)



SECTION B-B
(FOR CONCRETE GIRDERS)
1" = 1'-0"
(Showing support by insert cast in girder)



SECTION B-B
(FOR CONCRETE GIRDERS)
1" = 1'-0"
(Showing support by Strap)



SECTION D-D
1" = 1'-0"
Note: Only Bottom Reinforcing is shown.

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_s + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder 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.

⚠1 Redrawn and revised 11/27/96; MJT

⚠2 Revised for 2003 AHTD Construction Specifications and CPB Seal. MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND
BRIDGE ENGINEER

DETAILS OF PERMISSIBLE TYPE PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

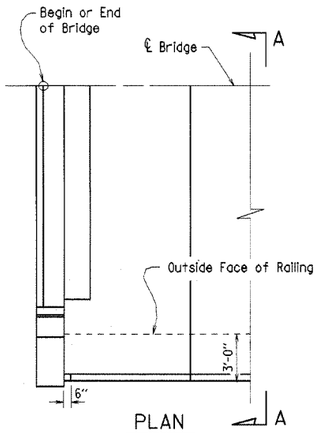
DRAWN BY: MJT DATE: 10-17-96
CHECKED BY: CPB DATE: 10-17-96 SCALE: as noted
DESIGNED BY: STD. DATE: —

BRIDGE NO. DRAWING NO. 14991

BI499I.STD

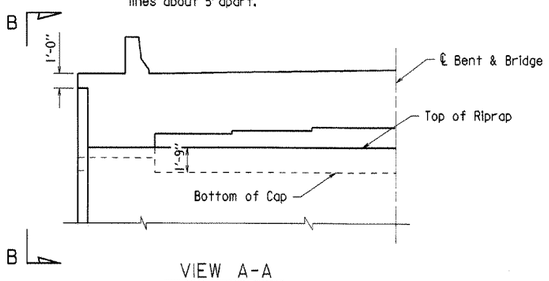
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		116	
				JOB NO.				

1 RIPRAP & PILE - 14995A

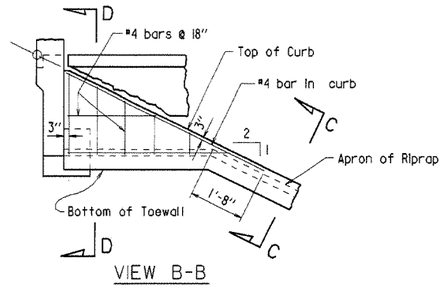


PLAN

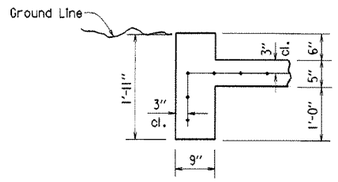
Note:
Sloped surfaces of concrete riprap to be marked off into blocks (construction joints optional) with an approved grooving tool, spacing the grooved lines about 5' apart.



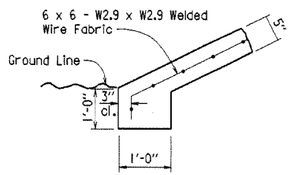
VIEW A-A



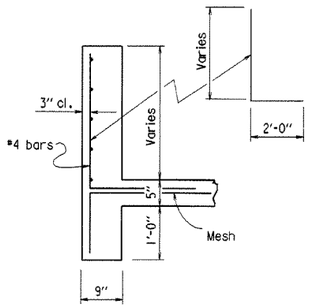
VIEW B-B



SECTION C-C

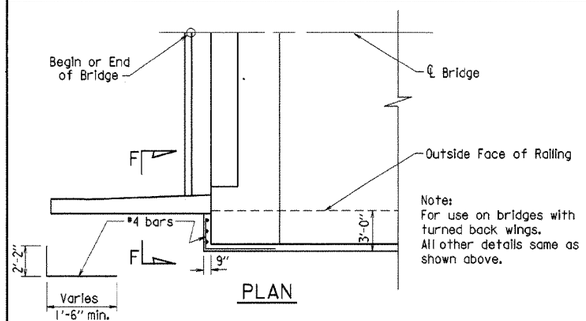


TOE WALL



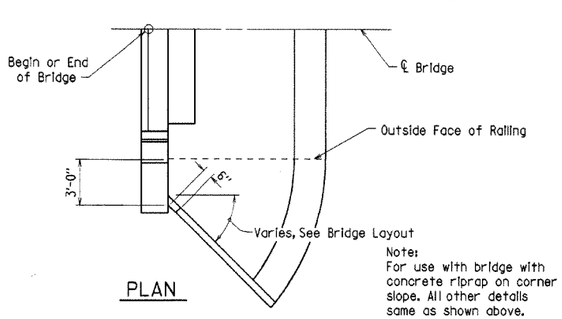
SECTION D-D

DETAILS OF CONCRETE RIPRAP



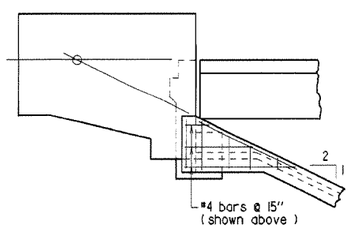
PLAN

Note:
For use on bridges with turned back wings. All other details same as shown above.

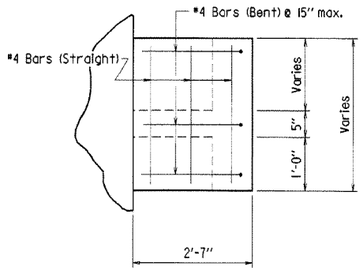


PLAN

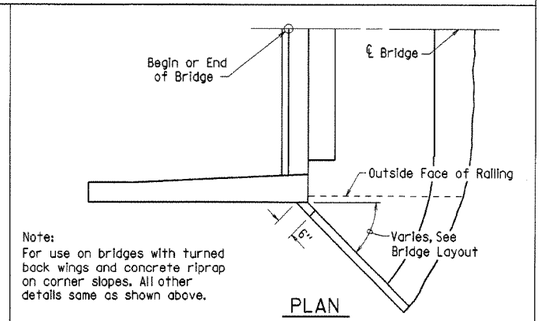
Note:
For use with bridge with concrete riprap on corner slope. All other details same as shown above.



ELEVATION

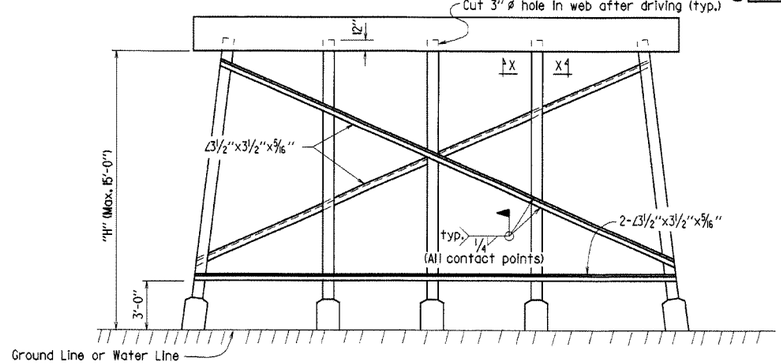


SECTION F-F



Note:
For use on bridges with turned back wings and concrete riprap on corner slopes. All other details same as shown above.

PLAN



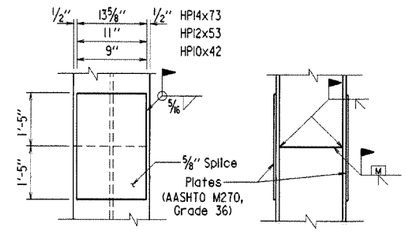
Note:
All bracing shall be cut and welded in the field. Each brace shall be furnished in one piece. Payment shall be made under item 807.

Omit bottom bracing where "H" is less than 10 ft. Omit all bracing where "H" is less than 5 ft.

Note:
Where required by the bridge layout sheet, pile encasements shall be constructed.

Omit bracing (and V-groove in cap) where pile encasement is extended to bottom of bent cap.

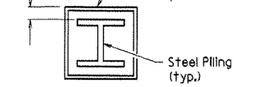
TYPICAL BRACING FOR INT. STEEL PILE BENTS



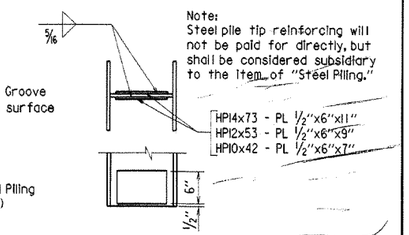
Note:
The contractor may for his own convenience and at this own expense provide as many as three splices per pile for steel bearing piling. Minimum spacing between splices shall be 5 ft.

PILE SPLICE DETAIL

Scale : 1" = 1'-0"

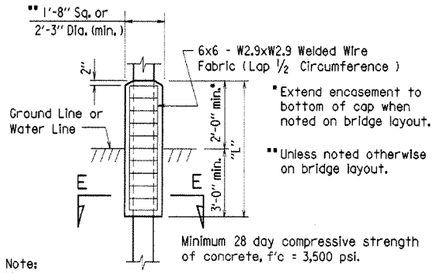


VIEW X-X



REINFORCING DETAIL FOR STEEL PILE TIP

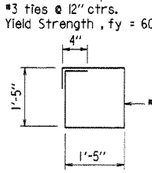
Scale : 1" = 1'-0"

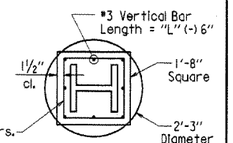


Note:
If concrete cannot be placed in the dry, seal concrete may be deposited under water. Concrete & welded wire fabric or reinforcing in encasements shall be paid for at the contract unit price per linear foot bid for "Pile Encasement."

PILE ENCASEMENT DETAIL

Reinforcing Alternate
#3 Vertical - 8 per encasement
#3 ties @ 12" ctrs.
Yield Strength , fy = 60,000 psi.





SECTION E-E
REINF. ALTERNATE

⚠ Revised and redrawn MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF CONCRETE RIPRAP AND MISC. DETAILS OF STEEL PILING

ROUTE SEC.

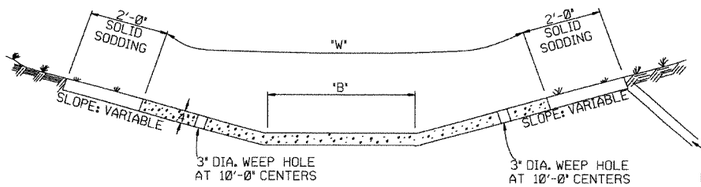
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: BI4995A.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: No Scale or As Noted
DESIGNED BY: STD. DATE: —

BRIDGE NO. DRAWING NO. 14995A

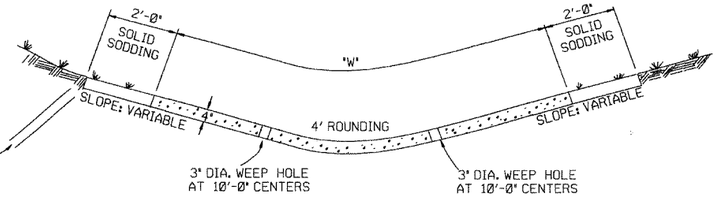
REFER TO TABULATION OF QUANTITIES FOR "W" & "B" DIMENSIONS



TYPE A

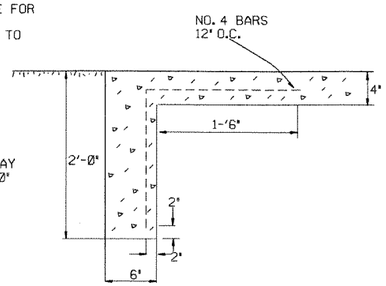
EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

REFER TO TABULATION OF QUANTITIES FOR "W" DIMENSIONS



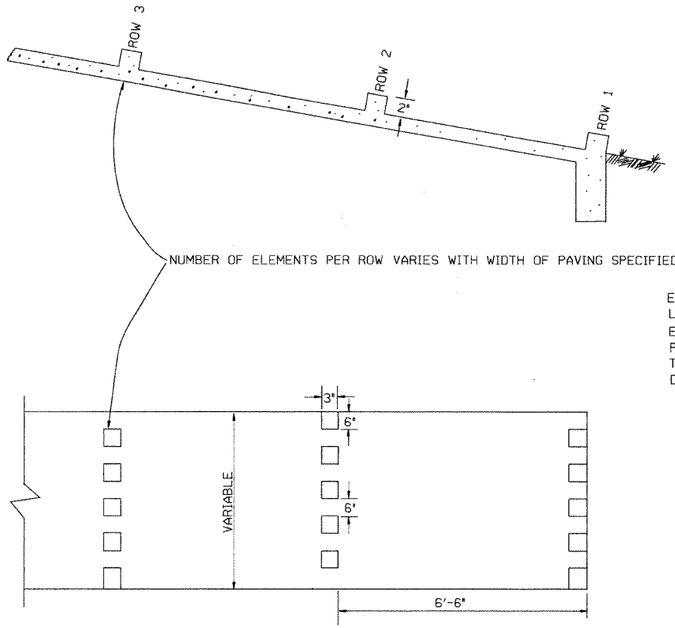
TYPE B

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



ENERGY DISSIPATORS

(NO SCALE)

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 UNCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

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.

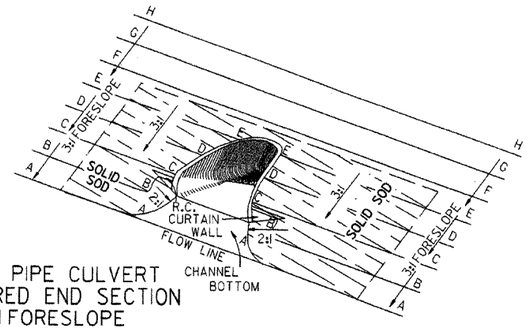
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
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 ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

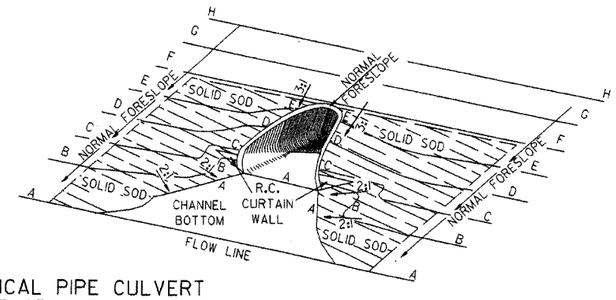
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

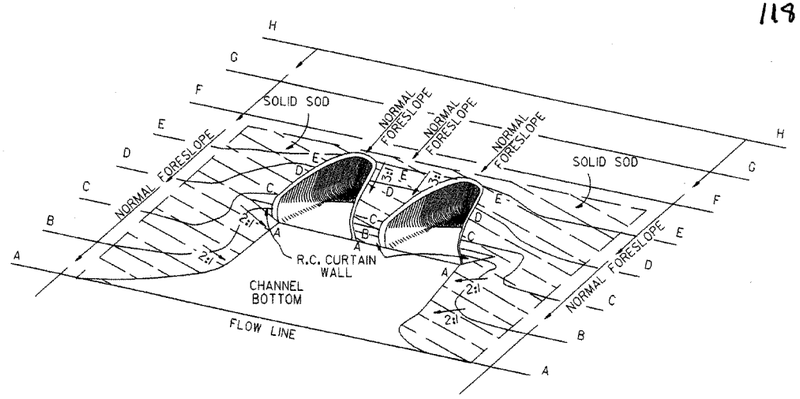
STANDARD DRAWING CDP-1



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

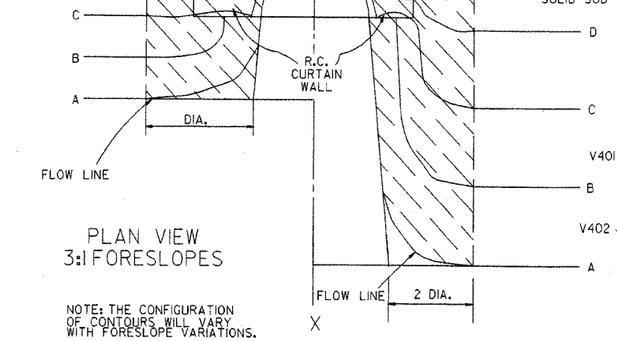
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	1'-11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	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'-9½"	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.

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'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	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'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	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'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	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

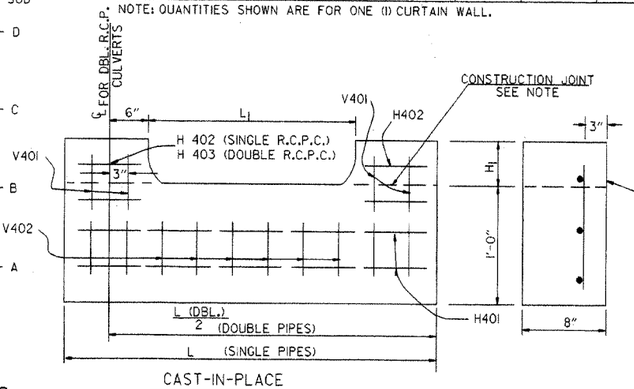
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

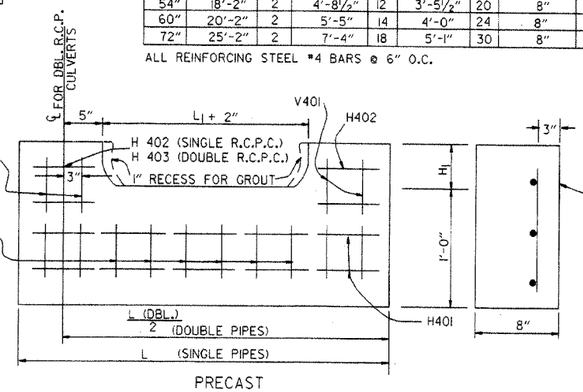
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

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.



PRECAST

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.

SOLID SODDING

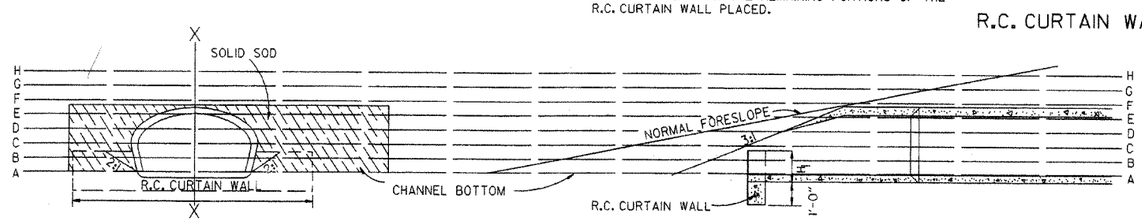
PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	82	104	48	65	107
72"	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

1. 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.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. 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.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.

R.C. CURTAIN WALL DETAILS



END VIEW

SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	10-18-96
10-12-95	CORRECTED SPELLING	
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	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1

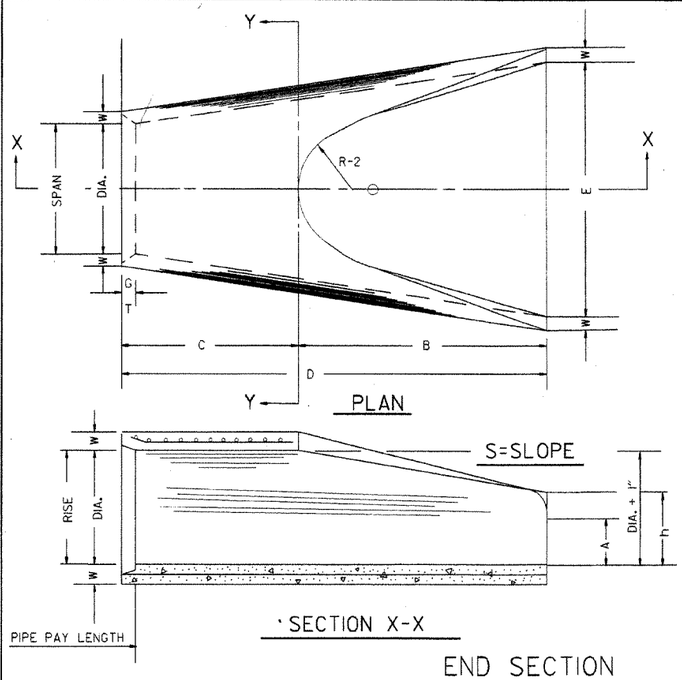
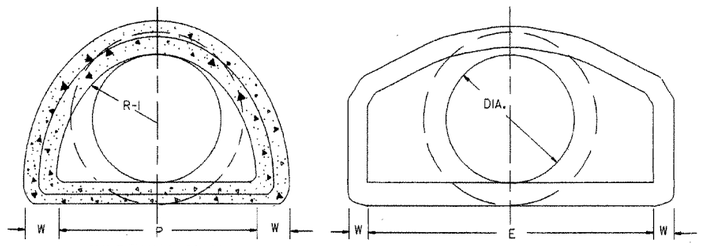


TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33 3/16"	16 5/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4 5/16"
36"	4"	1'-3"	5'-3"	2'-10¼"	8'-1¼"	6'-0"	3:1	37"	47 11/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅜"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 1/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 11/16"	38 5/16"	24"	5"	13250	4'-6"



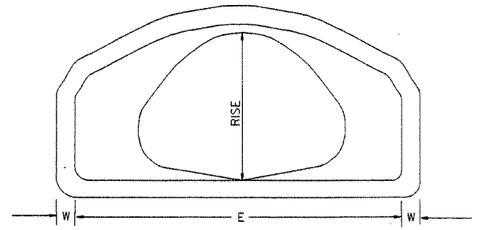
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

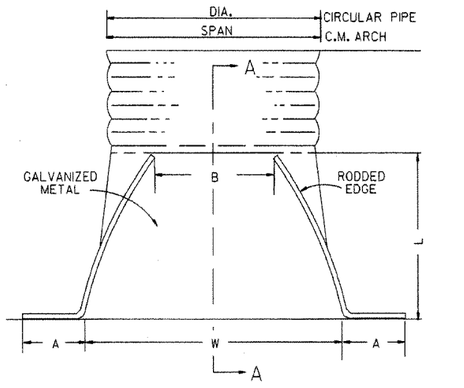
ARCH PIPE

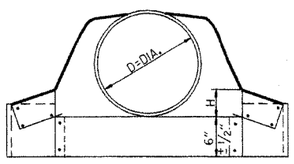
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 11/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 11/16"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54 5/16"	22"	3½"	2½:1
42	51⅛	51	31 5/16	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70 5/16"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 13/16"	24"	5"	2¼:1

• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

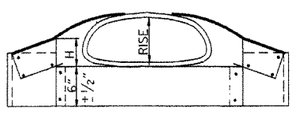


END VIEW
CONCRETE ARCH PIPE





CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

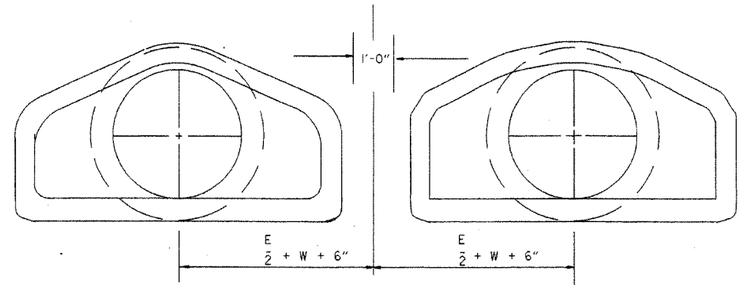
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1

C.M. ARCH PIPE

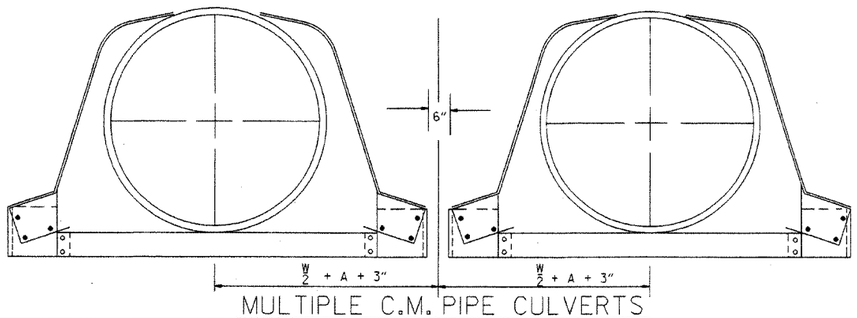
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	12

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

DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
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
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73
10-2-72	REVISED AND REDRAWN	760-10-2-72

ARKANSAS STATE HIGHWAY COMMISION

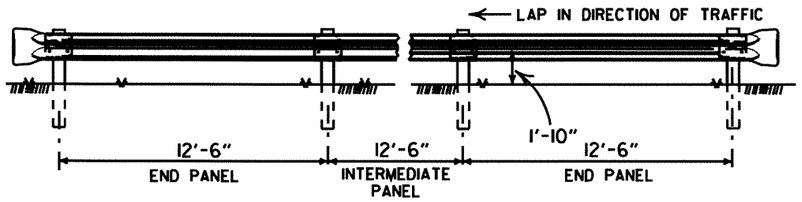
FLARED END SECTION

STANDARD DRAWING FES-2

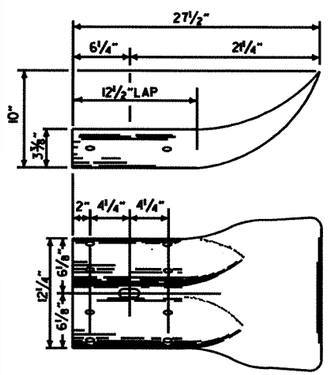
stdfes2.dgn



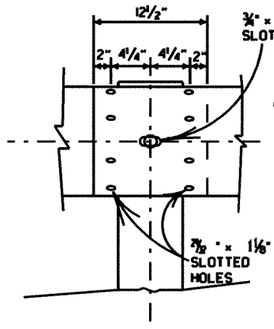
PLAN



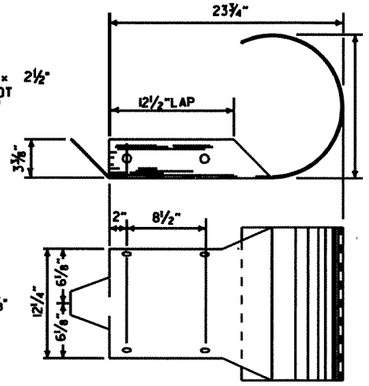
ELEVATION



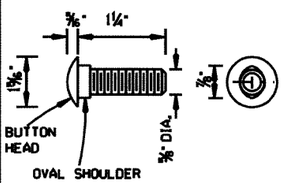
TERMINAL SECTION



RAIL SPLICE

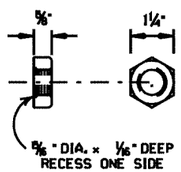


TERMINAL SECTION

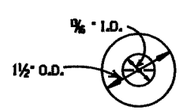


SPLICE BOLT

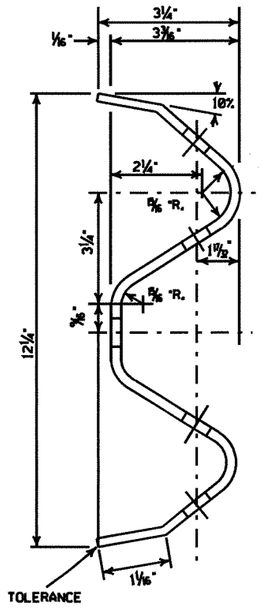
NOTE: POST BOLT SAME EXCEPT LENGTH.



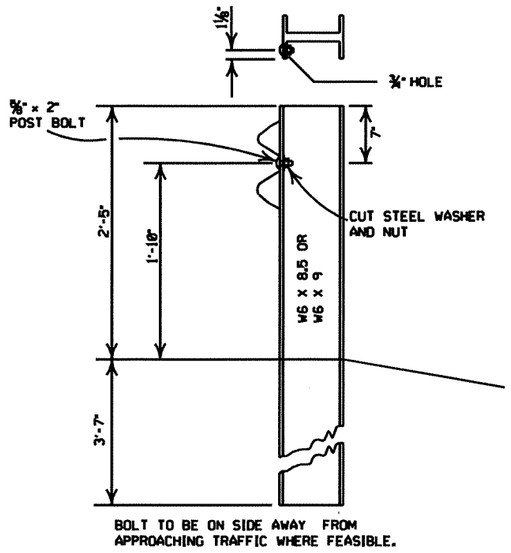
NUT



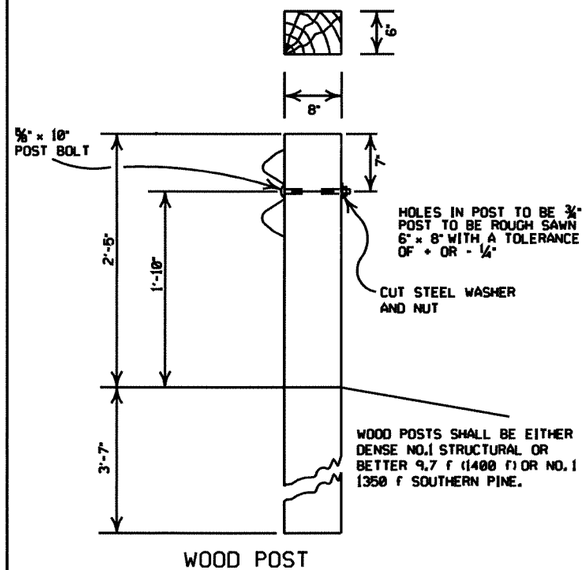
CUT STEEL WASHER



SECTION THRU RAIL



STEEL POST



WOOD POST

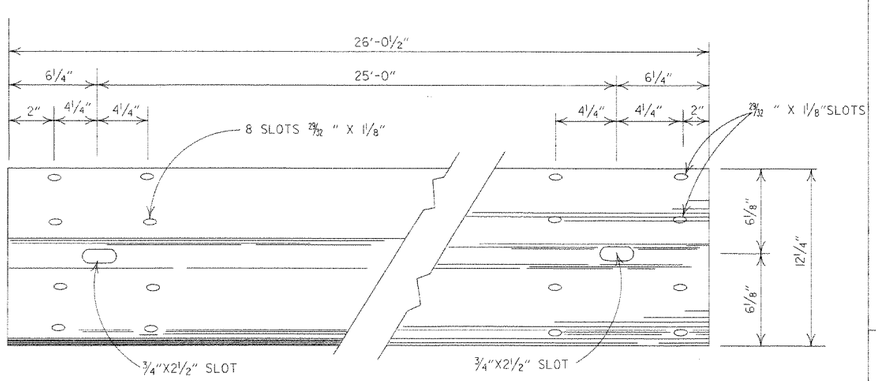
DETAILS OF POST CONNECTIONS

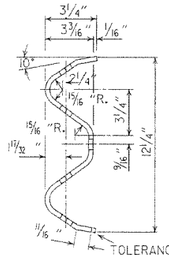
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
8-22-02	REVISED DIMENSION ON STEEL POST	
11-16-01	REVISED STEEL AND WOOD POST	
8-12-98	REMOVED CONCRETE POST	
10-18-96	CHANGED WOOD POST NOTE	10-18-96
6-2-94	ADDED ALTERNATE STEEL POST SIZE	
8-5-93	REVISED STEEL POSTS SIZE	8-5-93
8-15-91	DELETE STEEL PLATE WASHER & ADDED TYPE C TO TITLE	8-15-91
10-30-87	REMOVED DET. PLCMNT. ON HWY.	555-11-20-87
1-4-83	GRADE FOR WOOD POSTS	679-1-4-83
10-1-77	HARDENED WASHER	922-10-1-72
10-2-72	REVISED & REDRAWN	521-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS (TYPE C) STREET / ROAD BARRICADE OR TEMPORARY INSTALLATION

STANDARD DRAWING GR-7

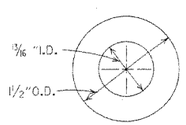




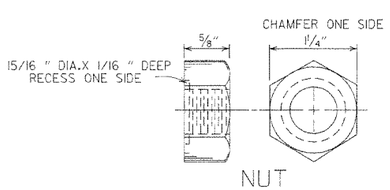
DETAILS OF W-BEAM GUARD RAIL

RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.

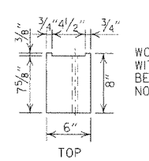
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



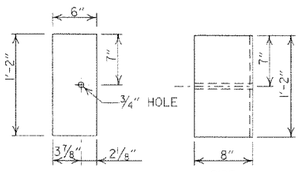
CUT STEEL WASHER



NUT



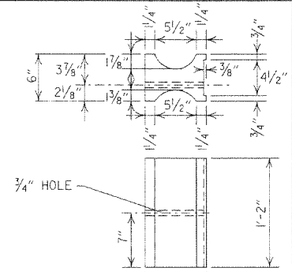
TOP



FRONT SIDE

WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"X8"x1'-2" WITH NO NOTCH REQUIRED.

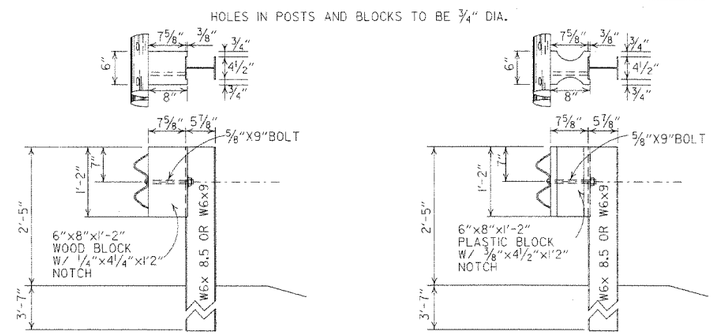
WOOD BLOCKOUT (W-BEAM)



NOTES:
1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

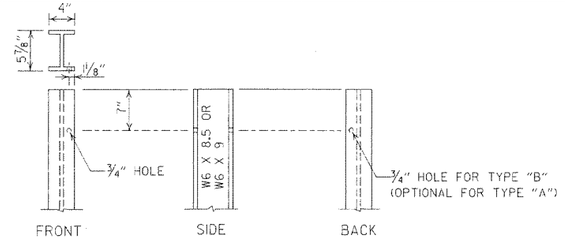
PLASTIC BLOCKOUT (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.

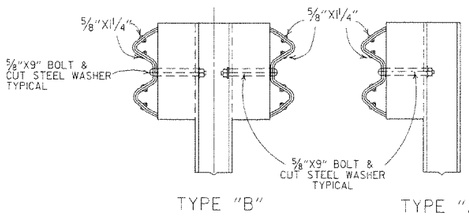


WOOD BLOCKOUT CONNECTIONS PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



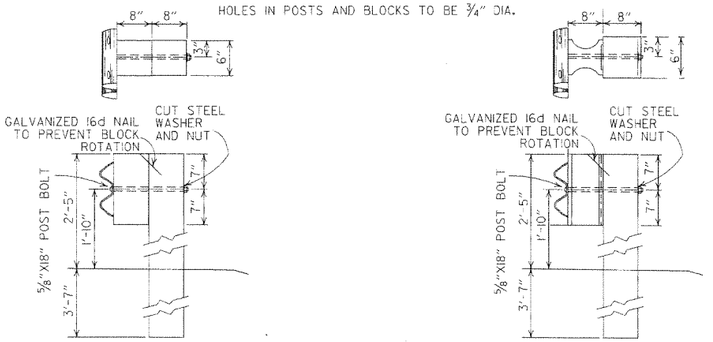
STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

WOOD BLOCKOUT CONNECTIONS PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO.1 STRUCTURAL OR BETTER 9.7# (1400 f) OR NO.1 1350 f SOUTHERN PINE.

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

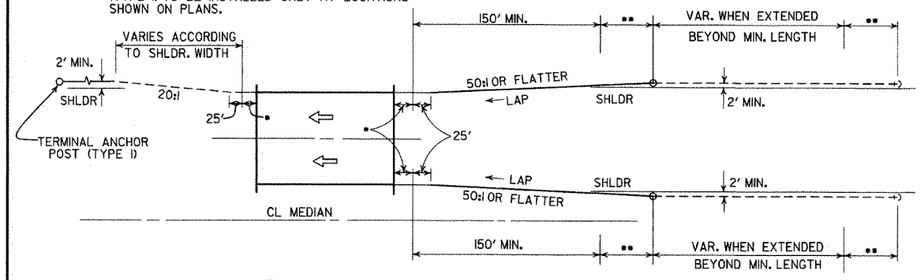
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-5-91
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

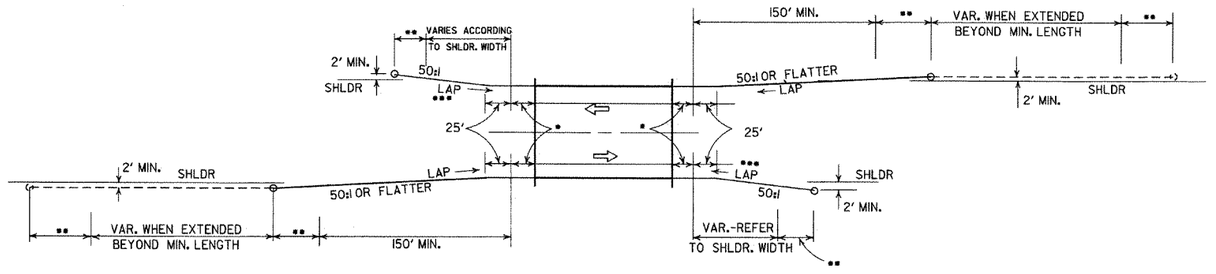
STANDARD DRAWING GR-8

NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

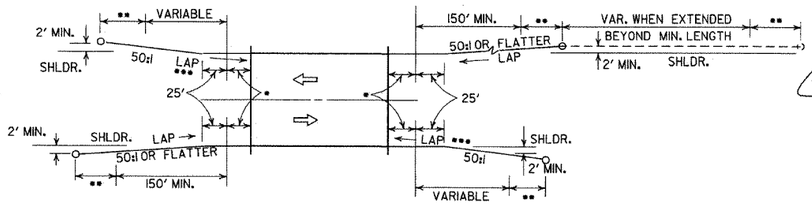
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

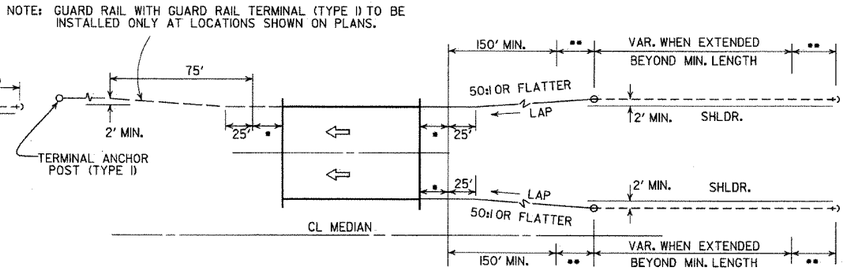
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

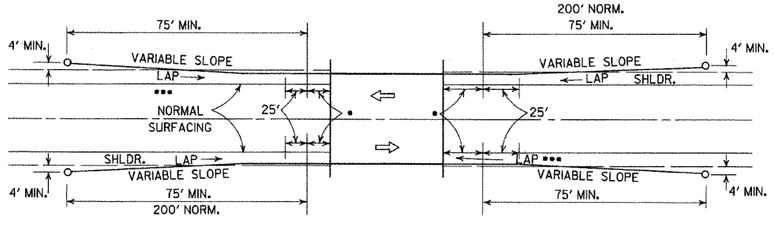
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE I) (FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

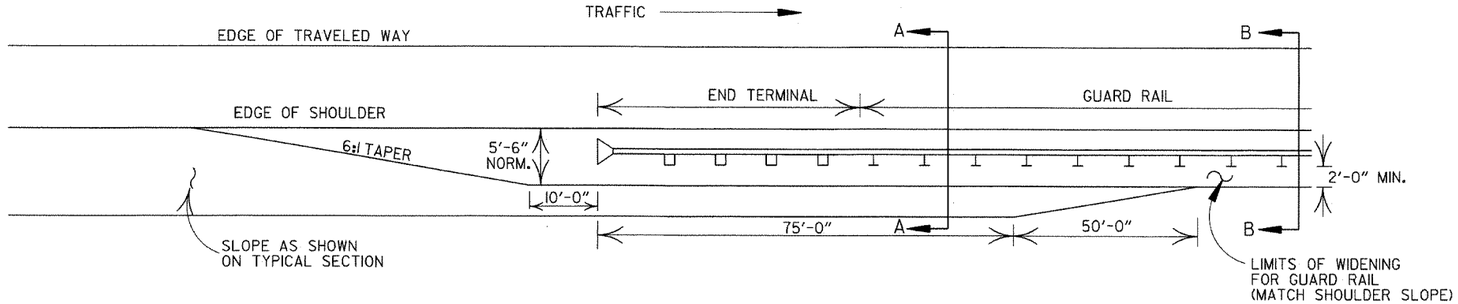
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

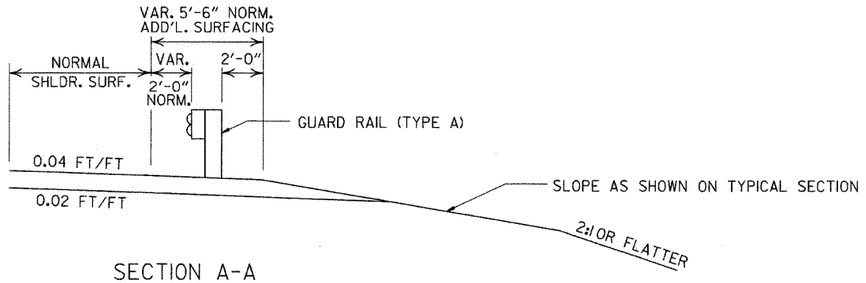
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

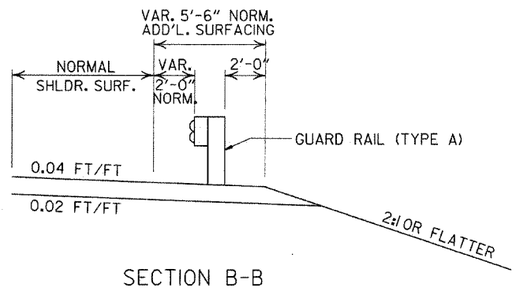
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





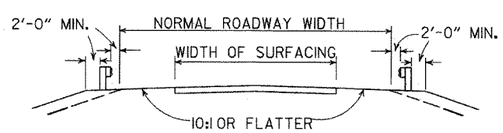
SECTION A-A



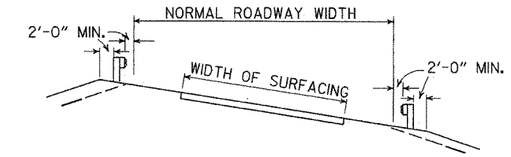
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

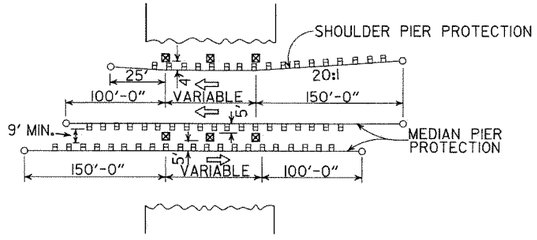


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



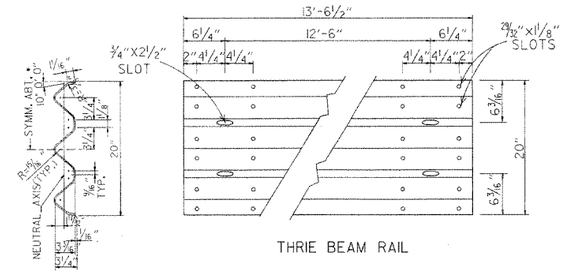
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

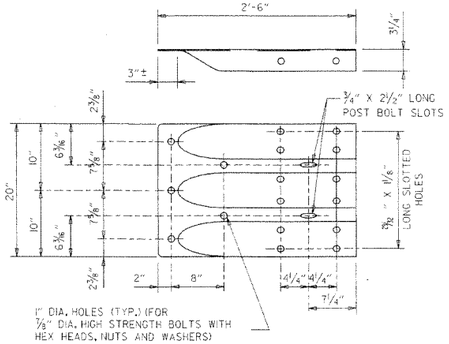
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A



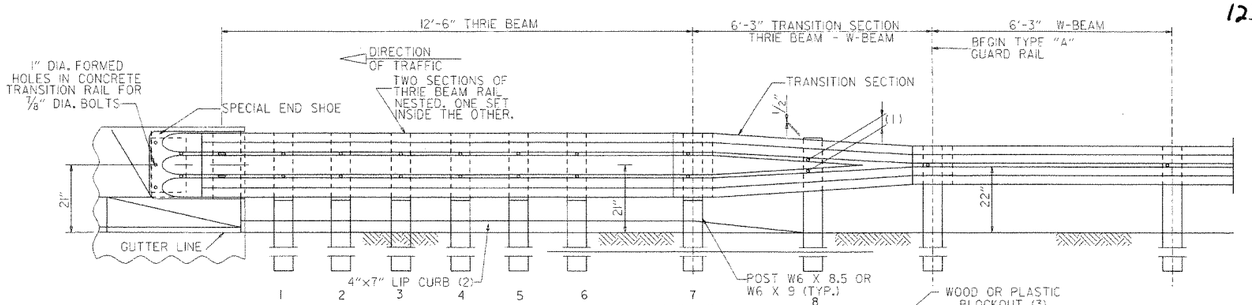
THRIE BEAM RAIL

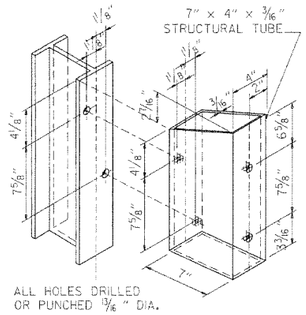
SECTION THRU THRIE BEAM RAIL



1" DIA. HOLES (TYP.) (FOR ⅞" DIA. HIGH STRENGTH BOLTS WITH HEX HEADS, NUTS AND WASHERS)

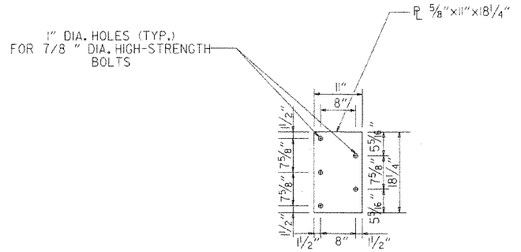
SPECIAL END SHOE





STRUCTURAL STEEL TUBING BLOCKOUT DETAIL

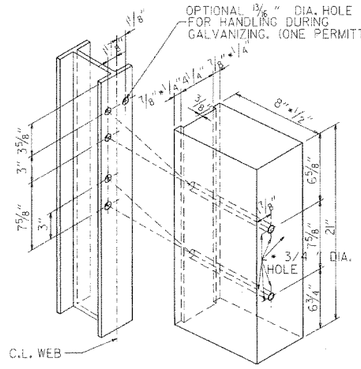
ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.



CONNECTOR PLATE

NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.

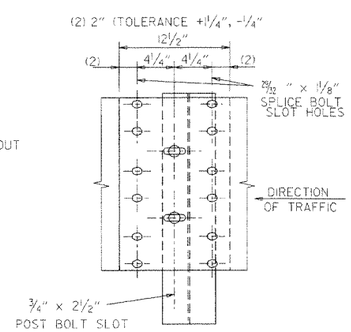
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



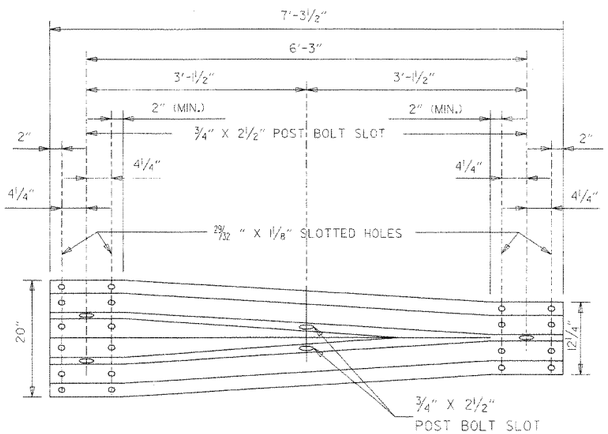
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



THRIE BEAM RAIL SPLICE AT POST



TRANSITION SECTION

(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE II.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7# (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

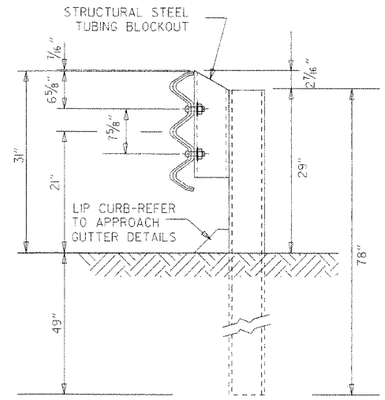
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

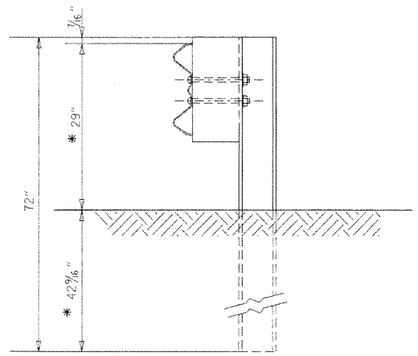
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

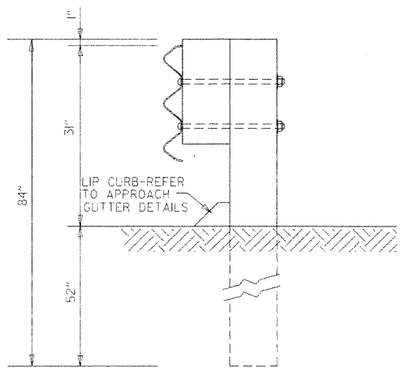


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

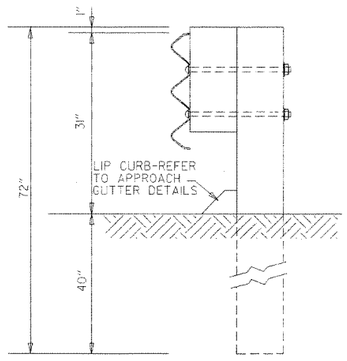


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

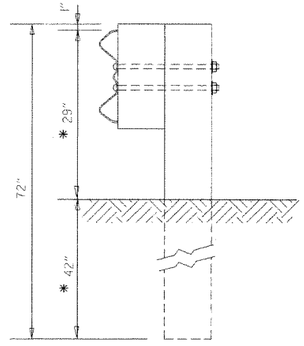
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

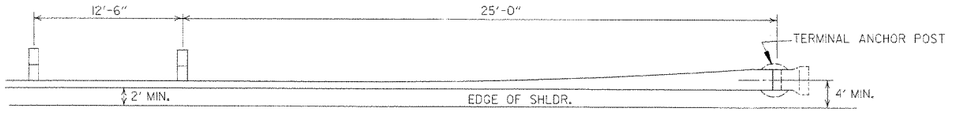
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

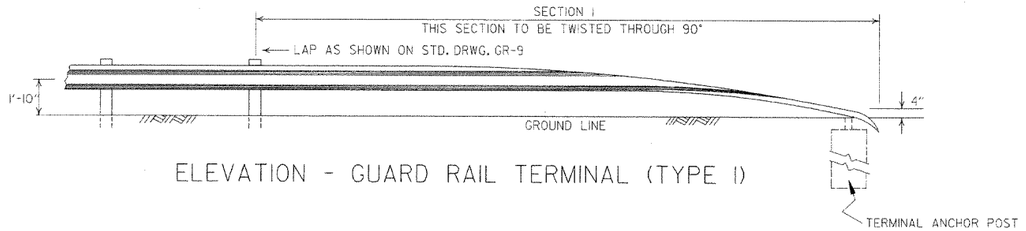
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

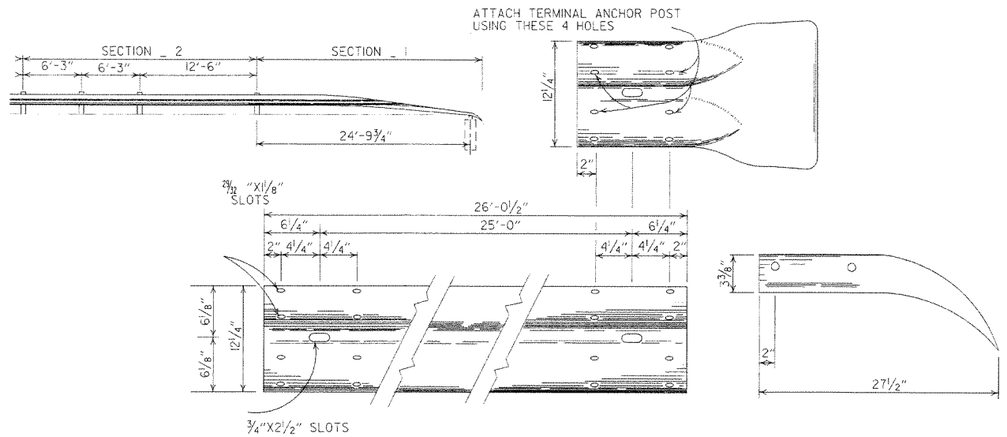


PLAN - GUARD RAIL TERMINAL (TYPE I)



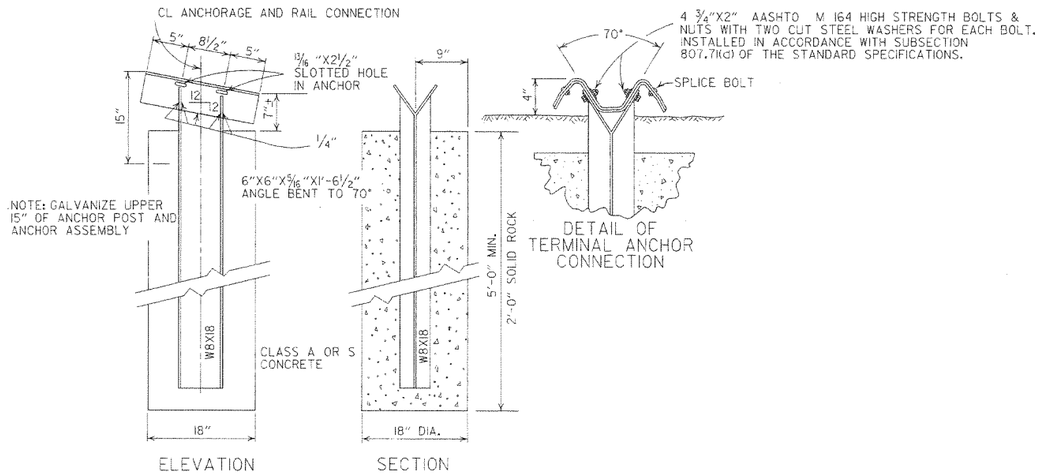
ELEVATION - GUARD RAIL TERMINAL (TYPE I)

NOTE:
SECTIONS I AND 2 OF GUARD RAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.



SECTION I

TERMINAL SECTION



NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

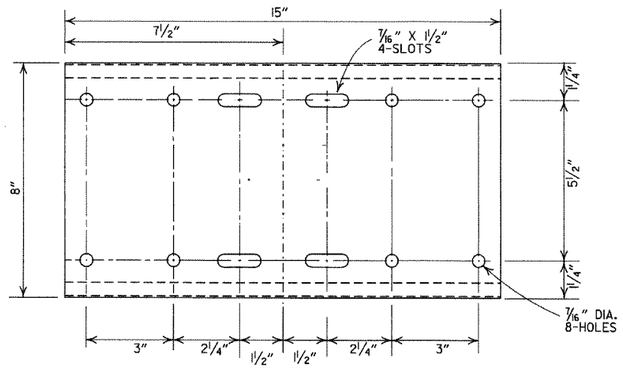
DETAIL OF TERMINAL ANCHOR POST (TYPE I)

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
6-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-3-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-1-92	DRAWN & ISSUED	10-1-92

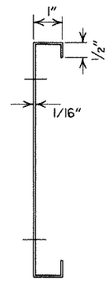
ARKANSAS STATE HIGHWAY COMMISSION

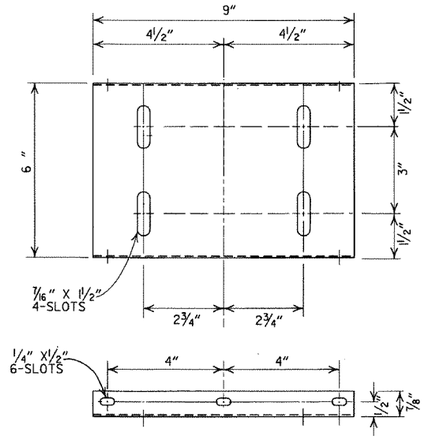
GUARD RAIL DETAILS

STANDARD DRAWING GRT-1

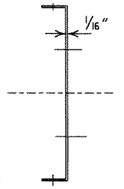


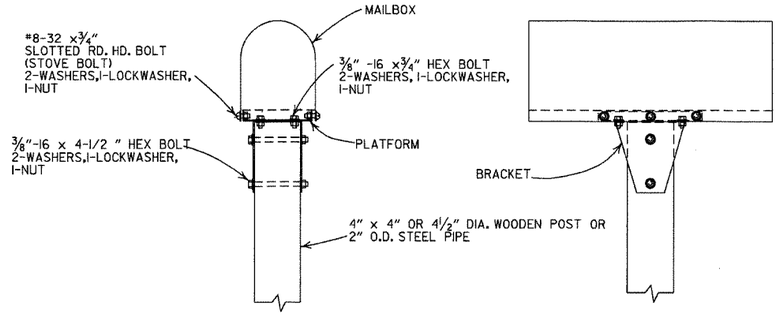
SHELF



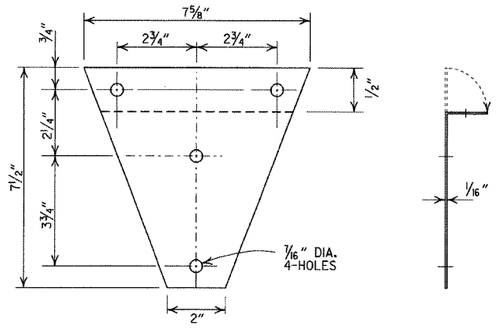


PLATFORM

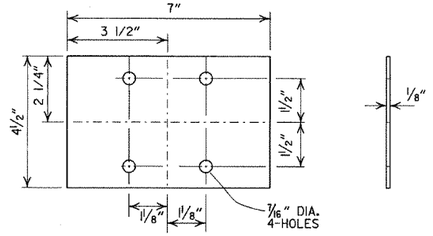




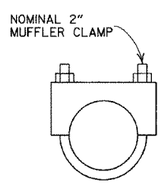
SINGLE INSTALLATION



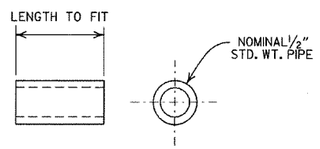
BRACKET



ANTI-TWIST PLATE



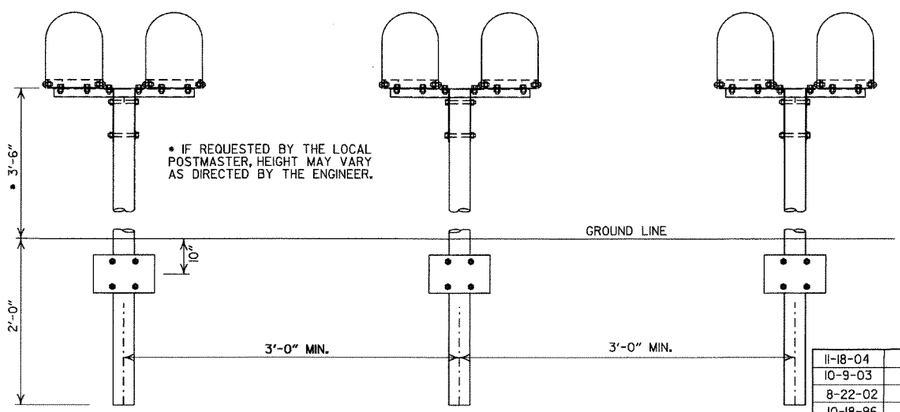
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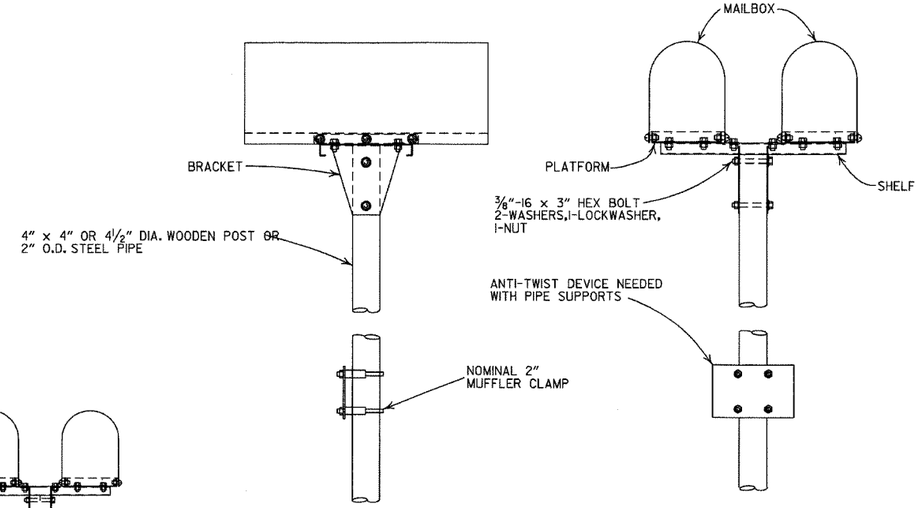
SPACER

GENERAL NOTES

1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL. HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF 3/4" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X 3/4" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



SPACING FOR MULTIPLE POST INSTALLATION



DOUBLE INSTALLATION

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	120-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1

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	43⅜	44	26⅝	27
42	51⅛	51	31 11/16	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	87⅛	87
120	154	154	96⅞	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.

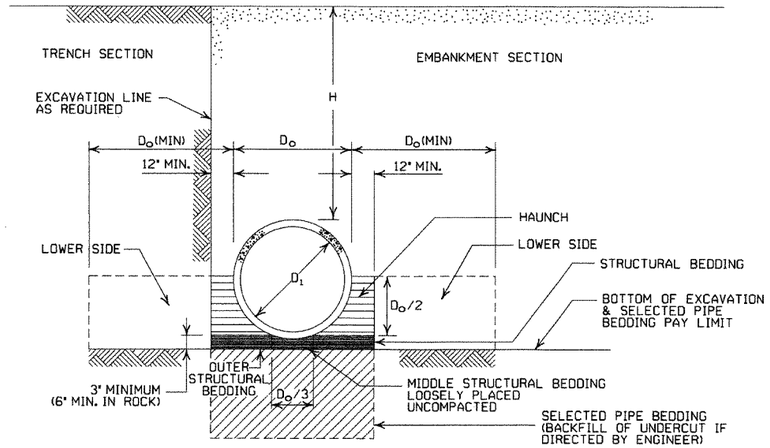
- LEGEND -

D_i = NORMAL INSIDE DIAMETER OF PIPE
D_o = 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 (2003 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

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	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
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 MINUMUM 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
2⅔ INCH BY ½ 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	
42	2		43	67	70	73
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

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM 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
		2⅔ INCH BY ½ 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

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL					ALUMINUM				
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)		MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)	
				INSTALLATION		INSTALLATION			INSTALLATION		INSTALLATION	
				TYPE 1		TYPE 1			TYPE 1		TYPE 1	
			2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM					2⅔ INCH BY ½ INCH CORRUGATION RIVETED 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	3½	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					

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.

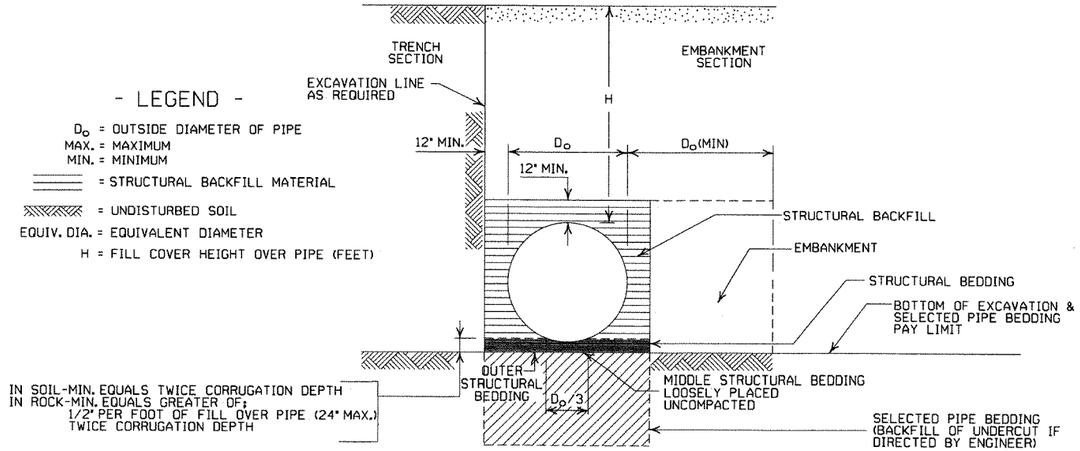
NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

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.

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



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. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" 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 (2003 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."

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

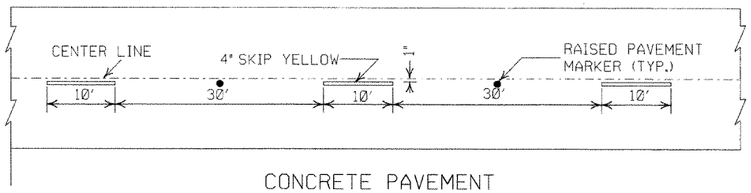
② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

DATE	REVISION	DATE FILMED
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

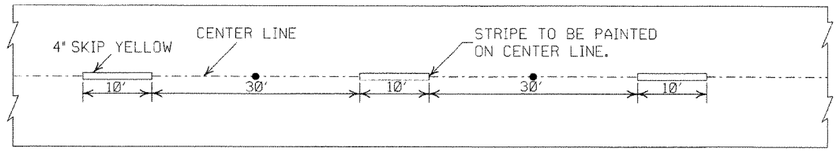
ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

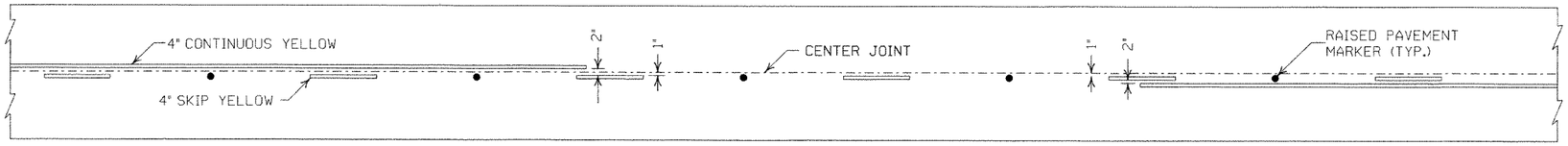


CONCRETE PAVEMENT

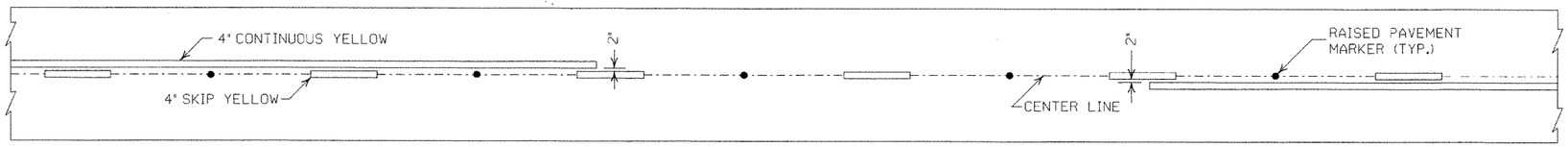


ASPHALT PAVEMENT

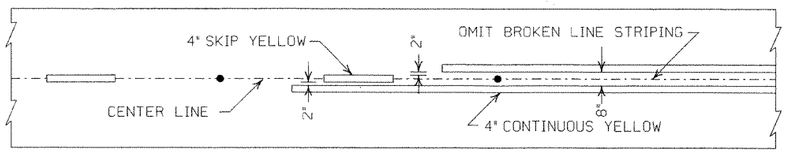
BROKEN LINE STRIPING



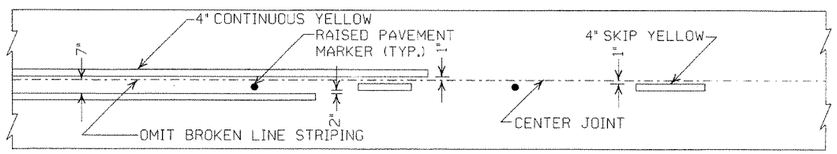
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

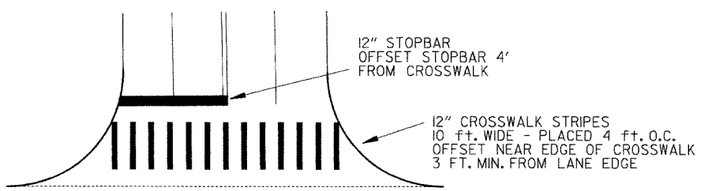


ASPHALT PAVEMENT



CONCRETE PAVEMENT

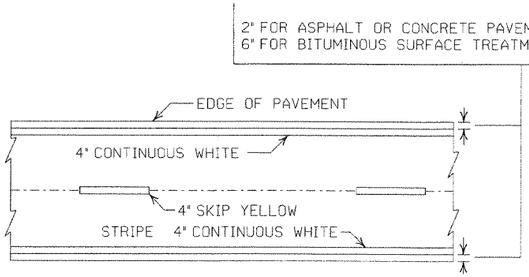
STRIPING AT ADJACENT NO PASSING LANES



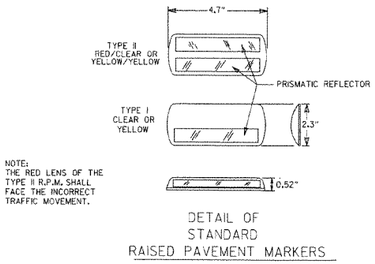
CROSSWALK AND STOPBAR DETAILS

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.



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
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

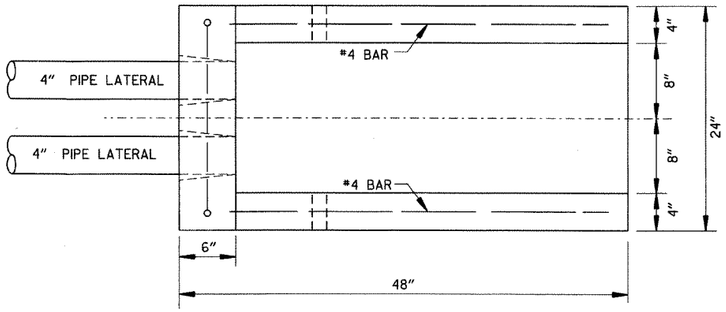
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

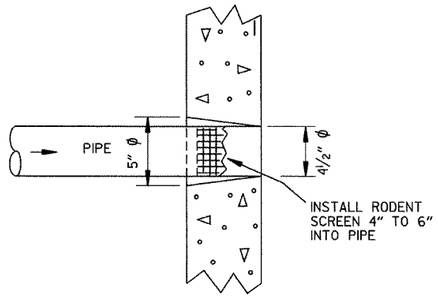
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

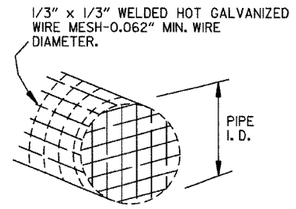
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



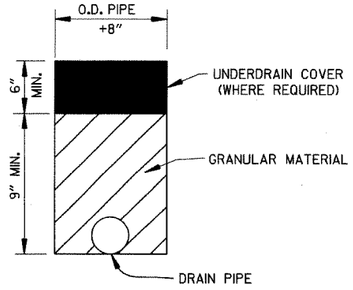
PLAN VIEW

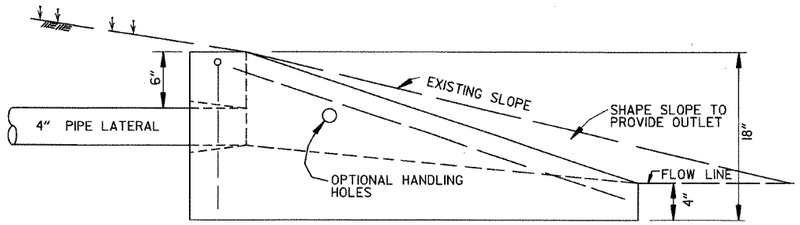


DETAIL OF HOLE FOR 4" PIPE

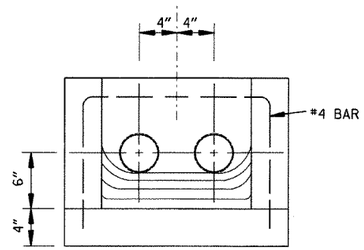


DETAIL OF RODENT SCREEN

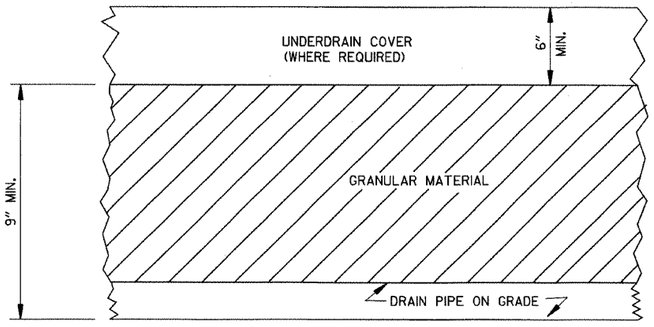




SIDE VIEW

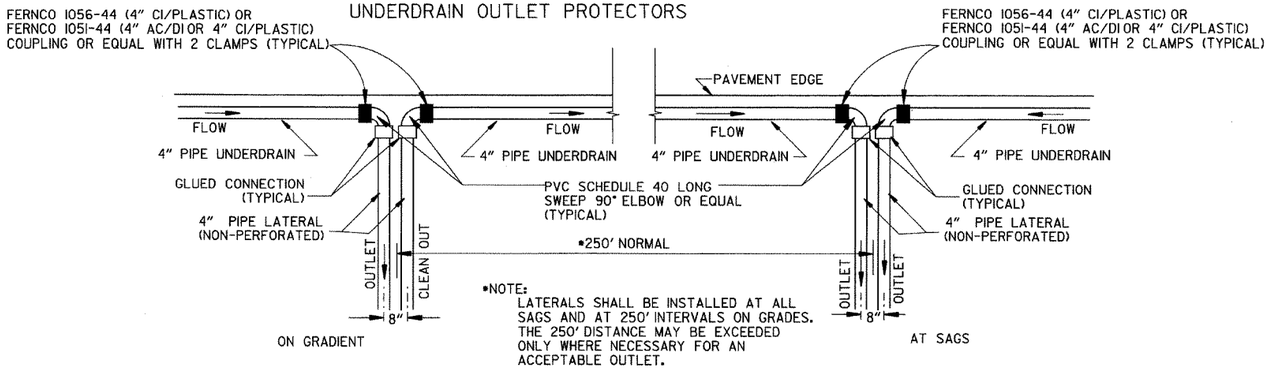


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



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; 5½" 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 POLYEDTHYLENE 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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

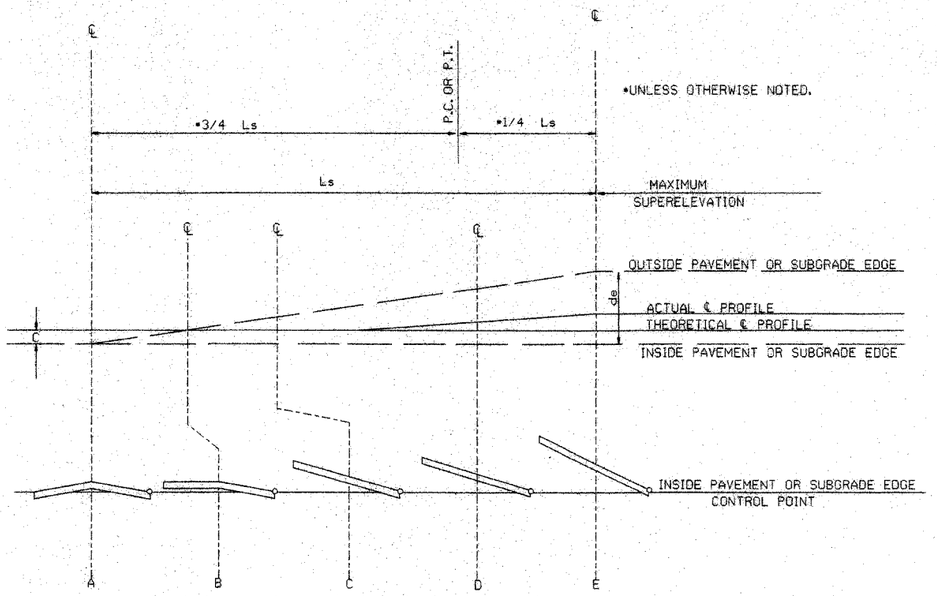
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) 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.			R. C.			0.022			0.023			0.028		
1° 00′	N. C.			N. C.			0.021			0.026			0.030			0.037	275	300
1° 15′	N. C.			R. C.			0.026			0.032			0.037	250	300	0.046		
1° 30′	N. C.			0.021			0.031	200		0.037	225	300	0.043			0.054		
1° 45′	N. C.			0.025	175		0.036			0.043			0.049			0.062		
2° 00′	R. C.			0.028			0.040			0.048			0.055			0.070		
2° 15′	R. C.			0.031			0.045			0.053			0.061	300		0.078	300	350
2° 30′	0.021			0.034			0.049		250	0.058			0.067	315		0.085	315	
2° 45′	0.023			0.037			0.053			0.063			0.072	335		0.091	335	
3° 00′	0.025			0.040		200	0.057			0.067	230		0.077	260		0.096	350	400
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		200	0.049			0.069	215		0.080	265		0.090	295				
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305	350			
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	350	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	300	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		0.100	290										
8° 30′	0.061			0.087	225	250												
9° 00′	0.063			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	250															
21° 00′	0.098	215																
22° 00′	0.099	215																
23° 00′	0.099	215																
24° 00′	0.100	220																

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 3° 30′

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.

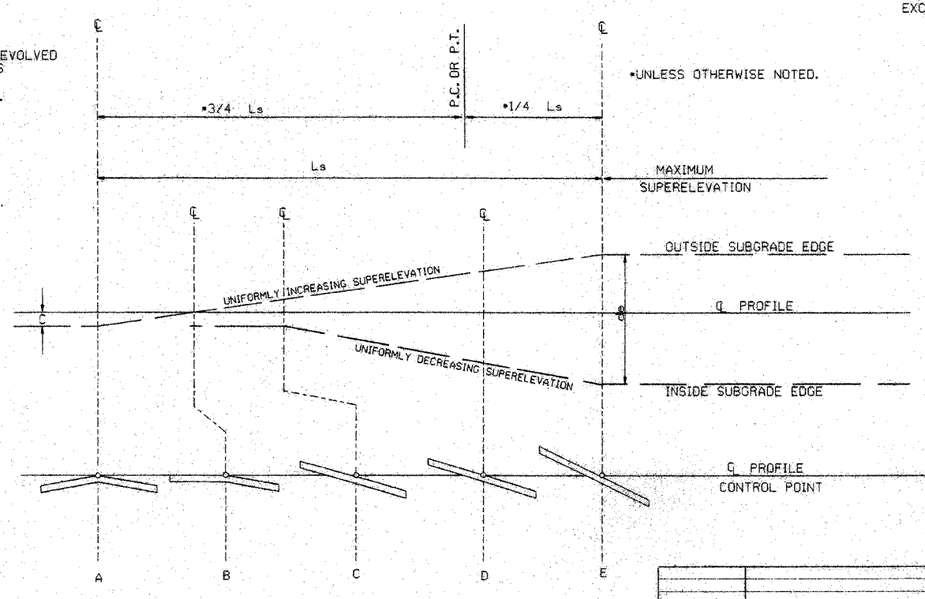
GENERAL NOTES

1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. 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 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

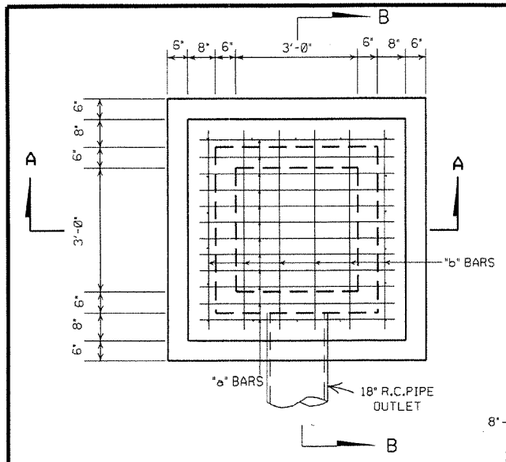
DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87

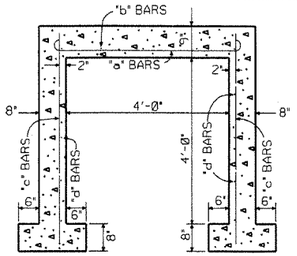
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

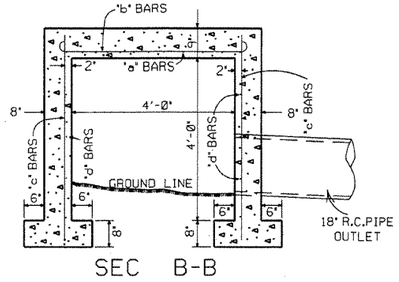
STANDARD DRAWING SE-2

FILE STDSE2.DGN





SEC A-A

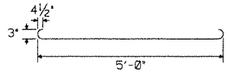


SEC B-B

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"a"	11	6'-0"	5"
"b"	6	6'-0"	10"
"c"	16	5'-1"	12"
"d"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



"a" & "b" BARS

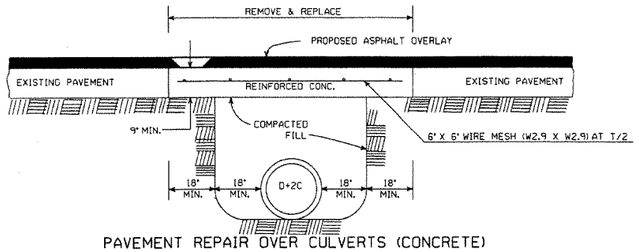
QUANTITIES

CONCRETE 3.40 CU. YDS.
REINFORCING STEEL 176 LB.

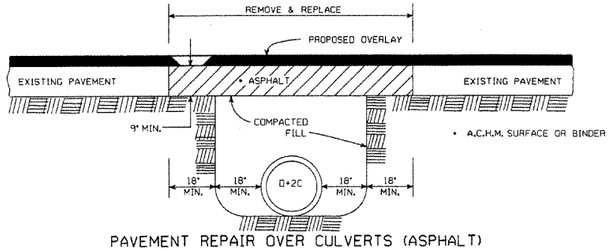
GENERAL NOTE:

THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITTIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

REINFORCED CONCRETE SPRING BOX



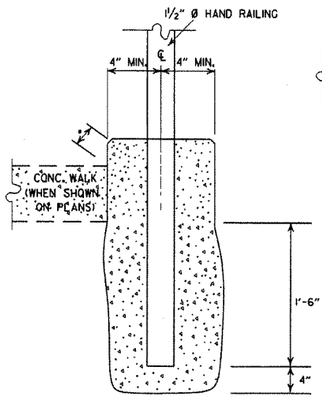
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



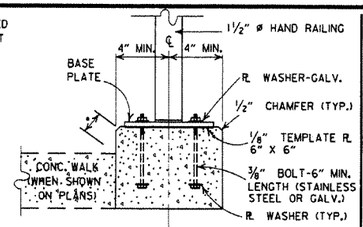
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

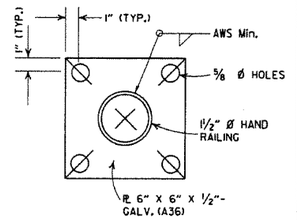
* A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

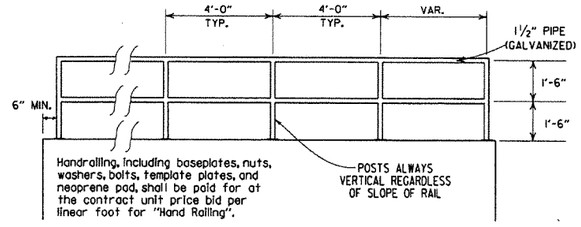


POST CONNECTION TO WALL

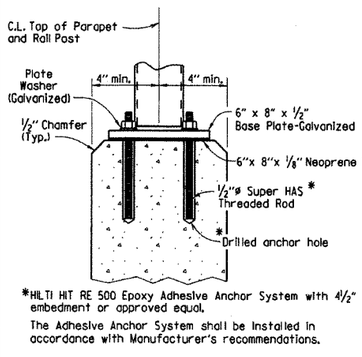


BASE PLATE

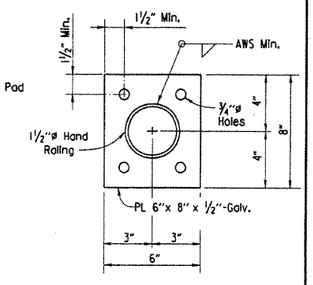
POST CONNECTION DETAILS



Hand railing shall conform to Section 633.



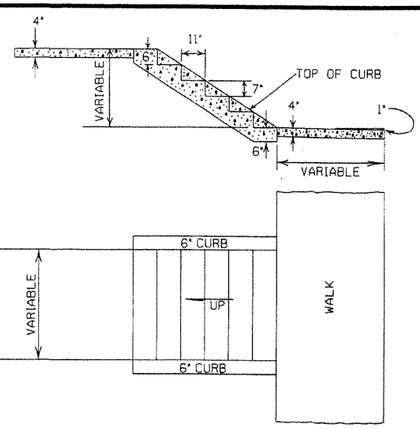
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



GENERAL NOTES

1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
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 PVMT 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 PVMT 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
	ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	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	REM. 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

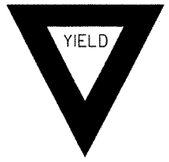
STANDARD DRAWING SI - 1

R1-1



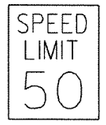
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



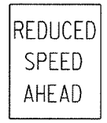
STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5A



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5C



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-1



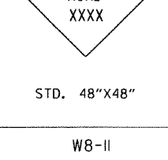
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2



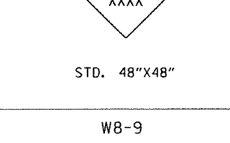
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



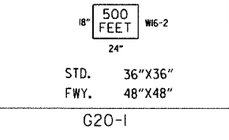
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



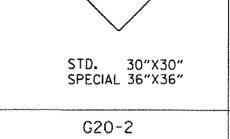
48"X30"

R11-3A



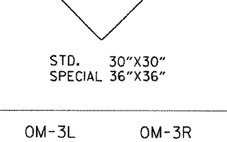
60"X30"

R11-4



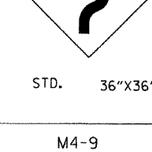
60"X30"

RSP-1



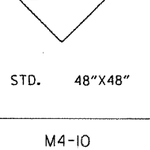
48"X30"

W1-1



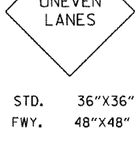
STD. 36"X36"
FWY. 48"X48"

W1-2



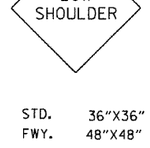
STD. 36"X36"
FWY. 48"X48"

W1-3



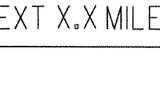
STD. 48"X48"

W1-4



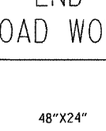
STD. 48"X48"

W1-6



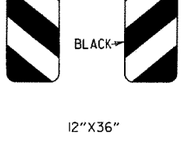
STD. 48"X24"
SPECIAL 60"X30"

W1-8



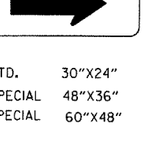
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ 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.

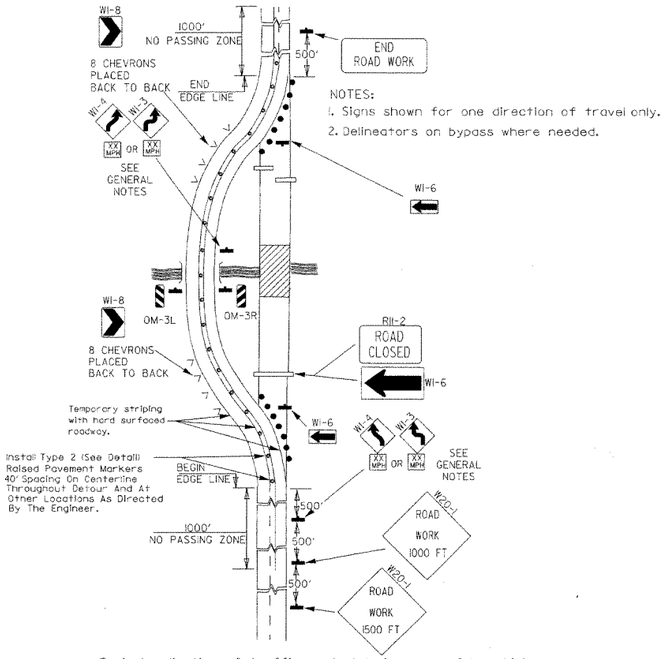
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	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	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

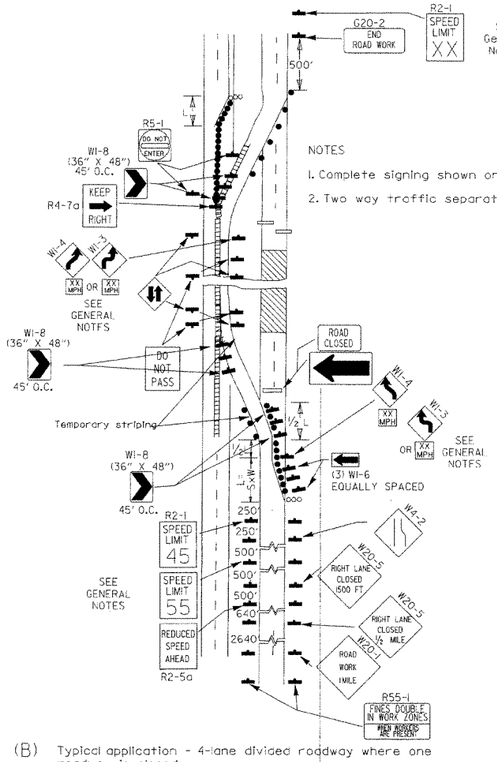
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



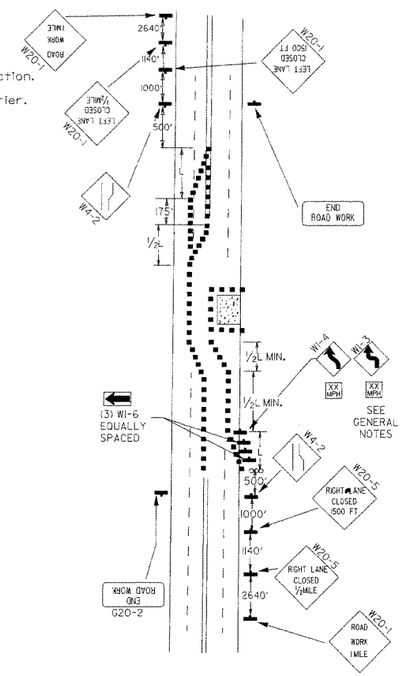
NOTES:
1. Signs shown for one direction of travel only.
2. Delineators on bypass where needed.

(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.

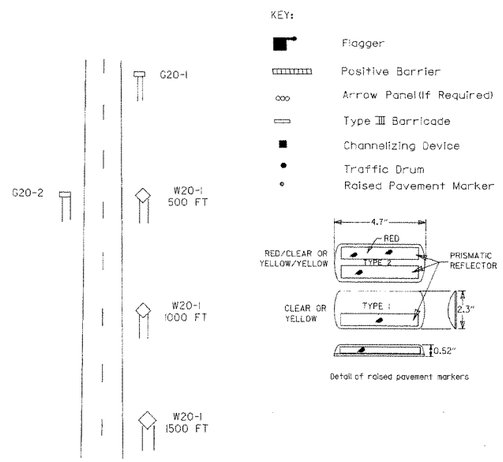


NOTES
1. Complete signing shown only in crossover direction.
2. Two way traffic separated with positive barrier.

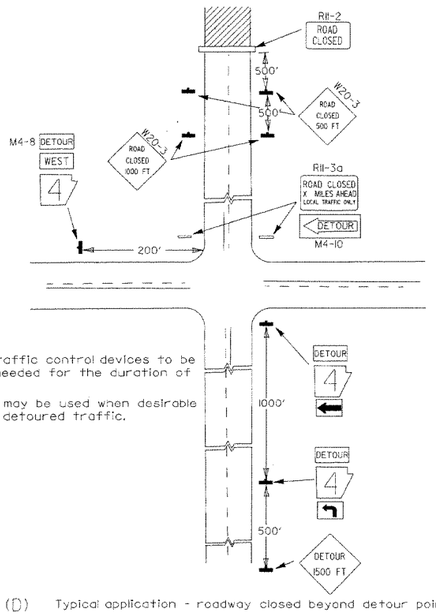
(B) Typical application - 4-lane divided roadway where one roadway is closed.



(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.

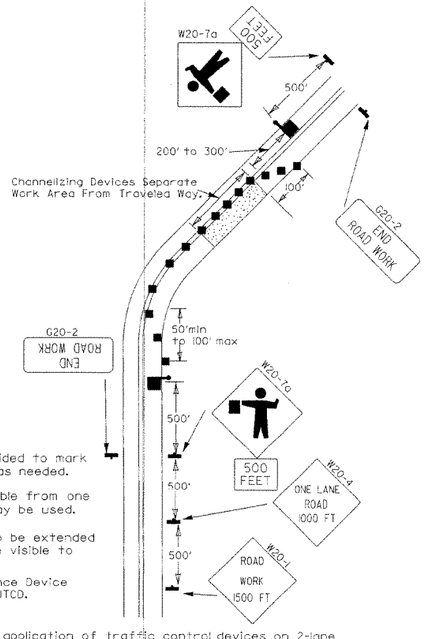


Typical advance warning sign placement



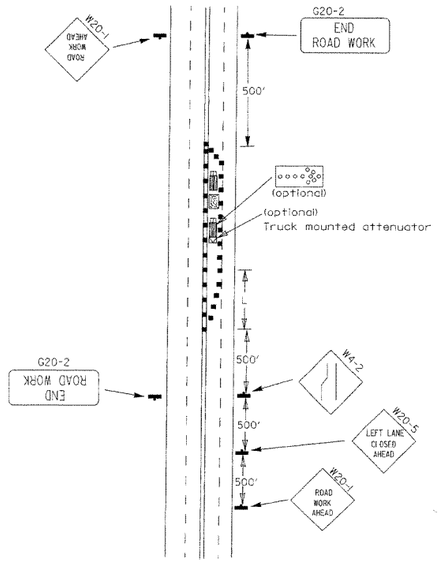
NOTES:
1. Regulatory traffic control devices to be modified as needed for the duration of the detour.
2. Street names may be used when desirable for directing detoured traffic.

(D) Typical application - roadway closed beyond detour point.



NOTES:
1. Flood lights should be provided to mark flagger stations at night as needed.
2. If entire work area is visible from one station, a single flagger may be used.
3. Channelizing devices are to be extended to a point where they are visible to approaching traffic.
4. Automated Flagger Assistance Device (AFAD) optional. Refer to MUTCD.

(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.

Taper formulae:

L=SxW 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:

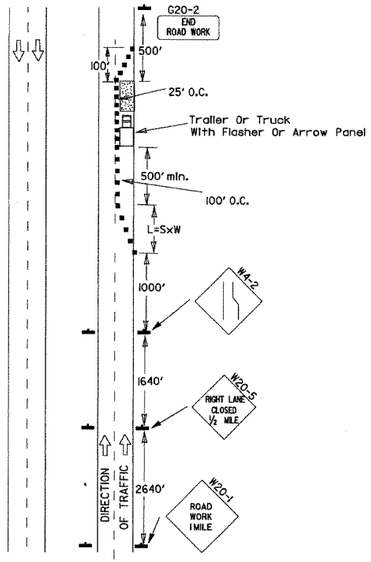
1. Advisory speed posted on WI-3 or WI-4 curve warning signs to be determined at site. Use WI-4 when speed is greater than 30mph and WI-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 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(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 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. 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.

DATE	REVISION	FILMED
3-11-10	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 WI-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

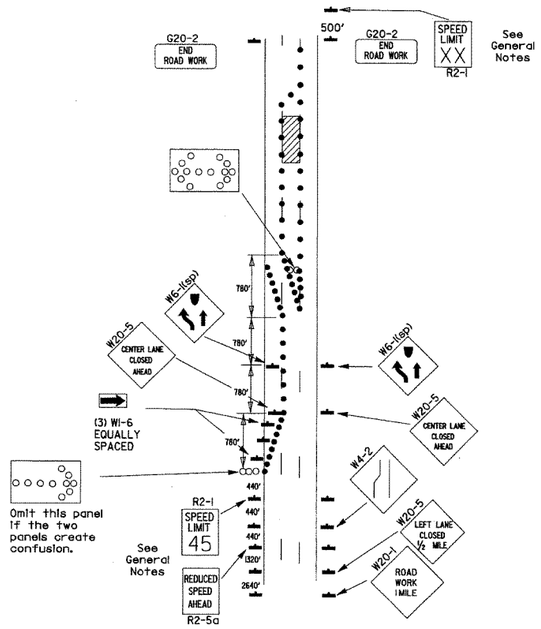
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

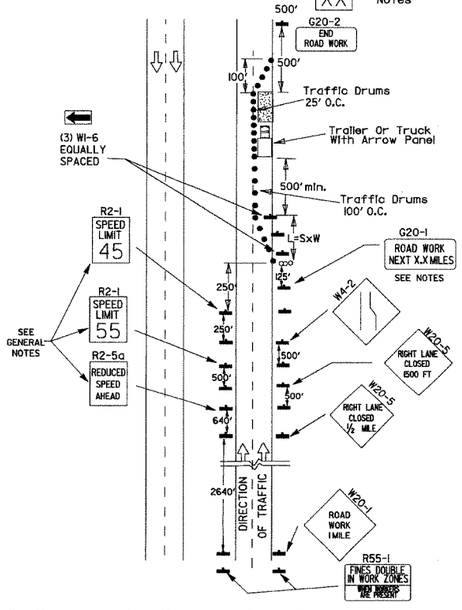
STANDARD DRAWING TC-2



(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 oneway roadway where center lane is closed.



(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

KEY:

ooo Arrow Panel (if Required)

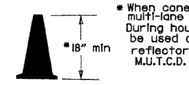
■ Channelizing Device

● Traffic drum

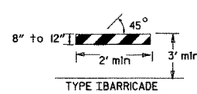
GENERAL NOTES:

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 R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 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(45) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1 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 125' in advance of the job limit. Additional W20-1 (1 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.

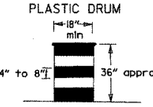
Channelizing devices



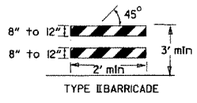
CONES



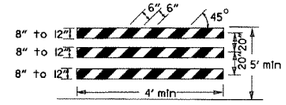
TYPE I BARRICADE



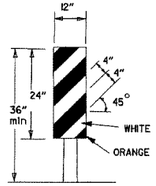
PLASTIC DRUM



TYPE II BARRICADE



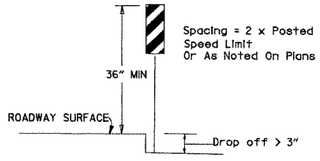
TYPE III BARRICADE



VERTICAL PANEL
VP-1R

NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

VERTICAL PANEL PLACEMENT



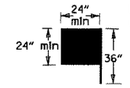
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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-1 and 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.

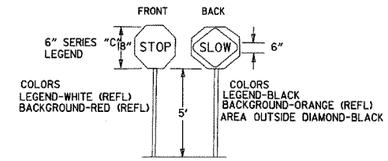
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

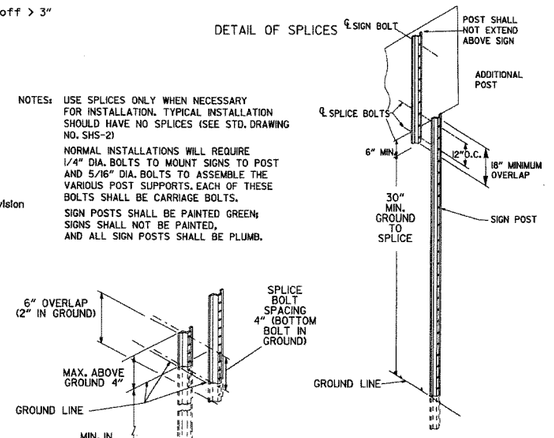
FLAG



Flag shall be of good grade red material

STOP SLOW PADDLE

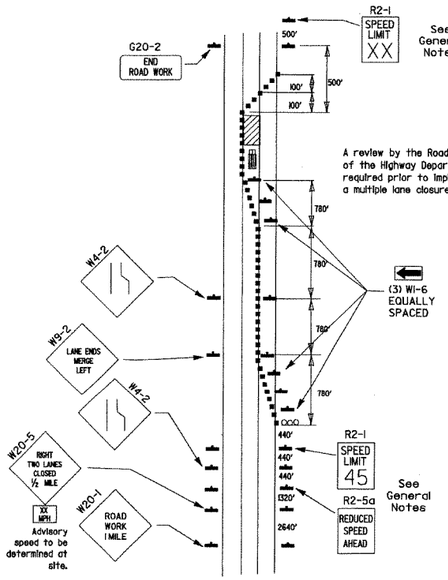




NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



(D) Typical application - closing multiple lanes of a multilane highway.

DATE	REVISION	FILMED
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 (SP) 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	

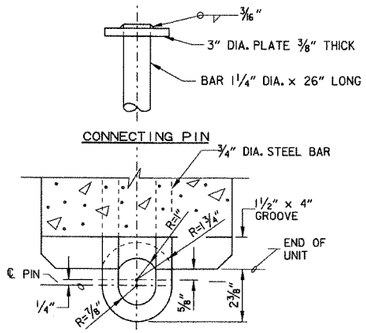
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

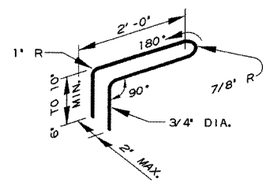
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

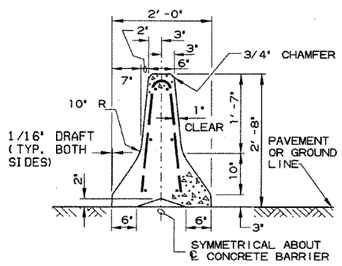
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"



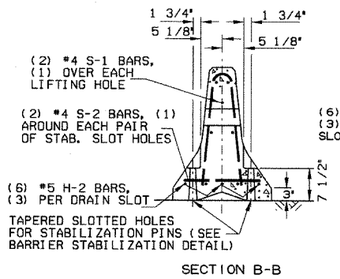
CONNECTION DETAILS



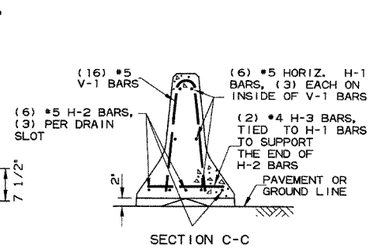
CONNECTION LOOP



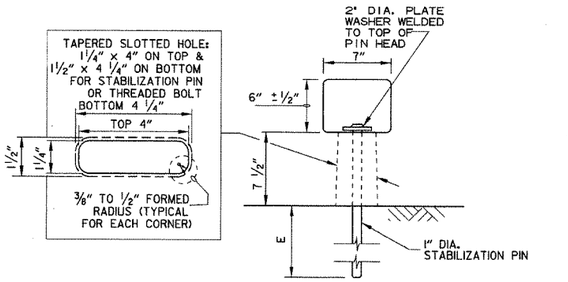
SECTION A-A



SECTION B-B



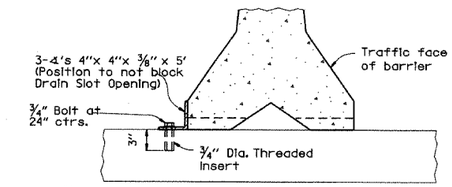
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

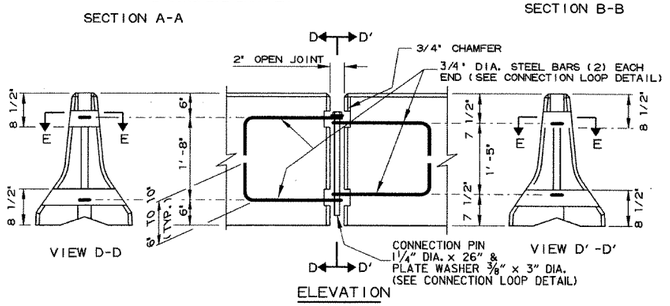
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

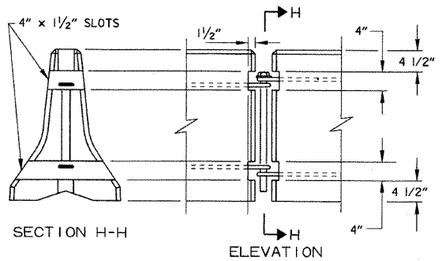
BRIDGE DECKS



VIEW D-D

VIEW D'-D'

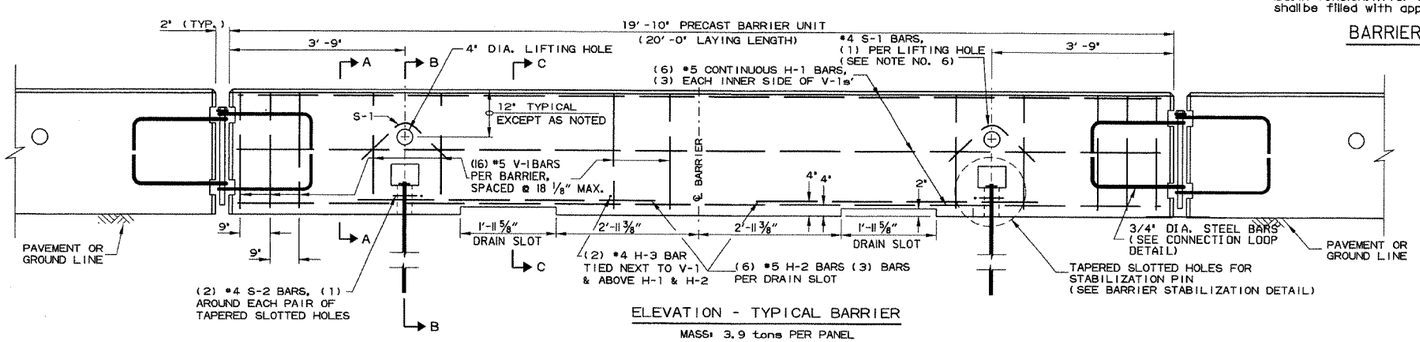
ELEVATION



SECTION H-H

ELEVATION

BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

(1) 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.

(2) 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 wall is 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 Lin. 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.

(3) 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.

(4) 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.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

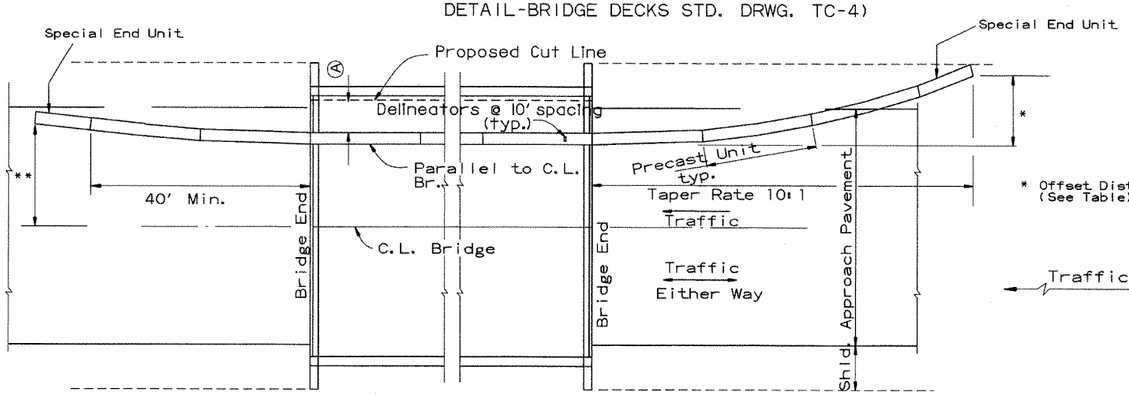
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

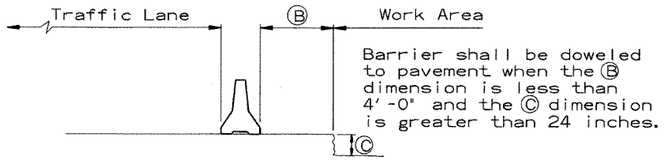
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

* Offset Distance (See Table)

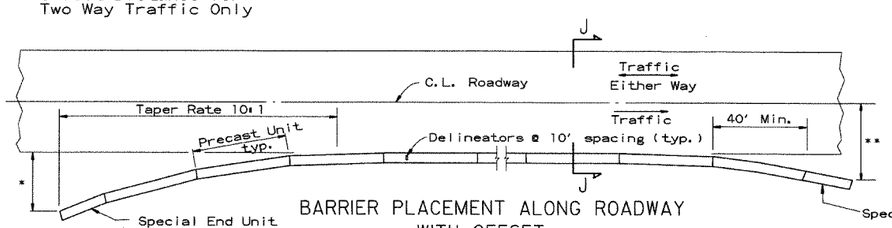


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

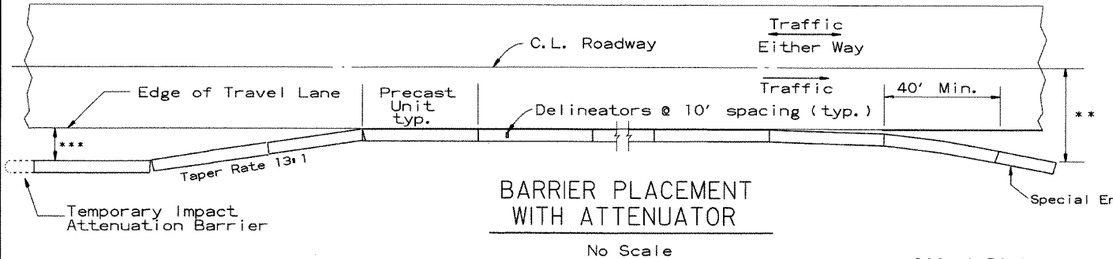
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

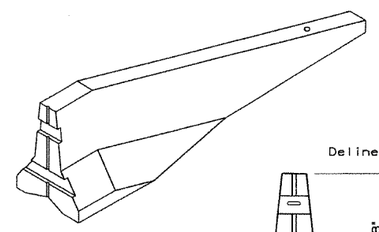


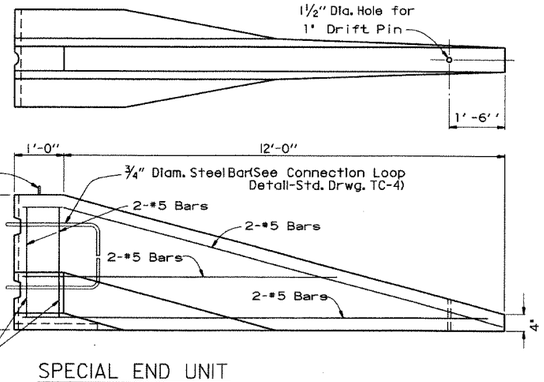
BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only





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."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

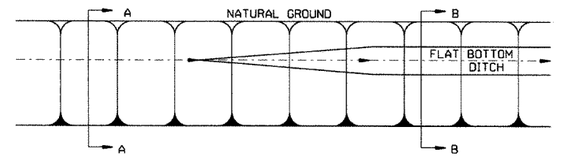
ARKANSAS STATE HIGHWAY COMMISSION

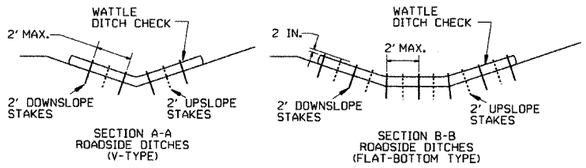
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-5

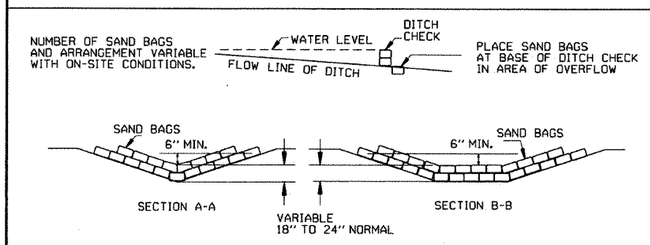
GENERAL NOTES

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

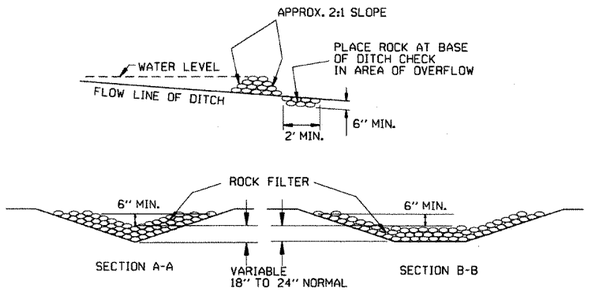




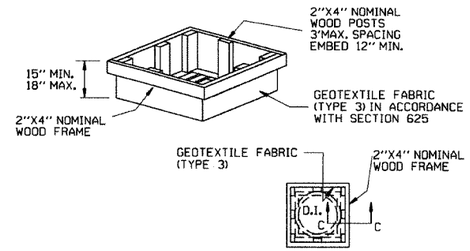
WATTLE DITCH CHECK (E-1)



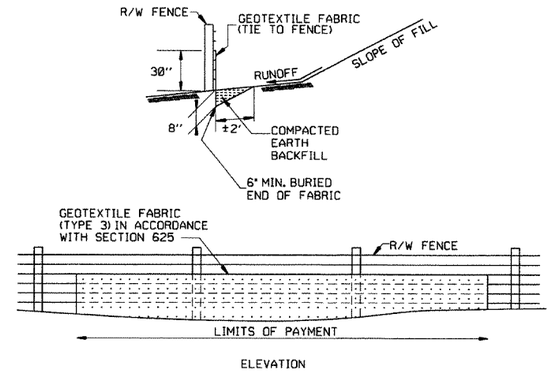
SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



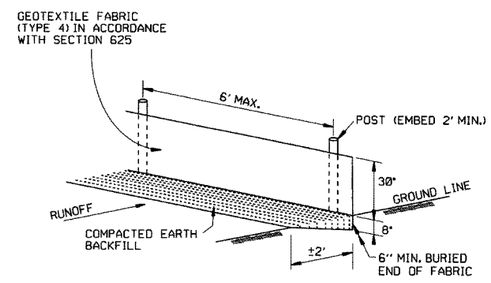
DROP INLET SILT FENCE (E-7)



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.



SILT FENCE (E-11)

GENERAL NOTES

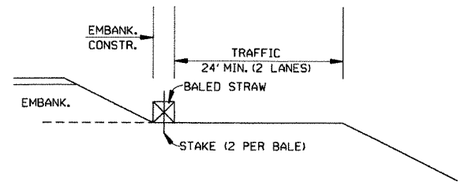
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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 BID PER BALE FOR BALED STRAW DITCH CHECKS.



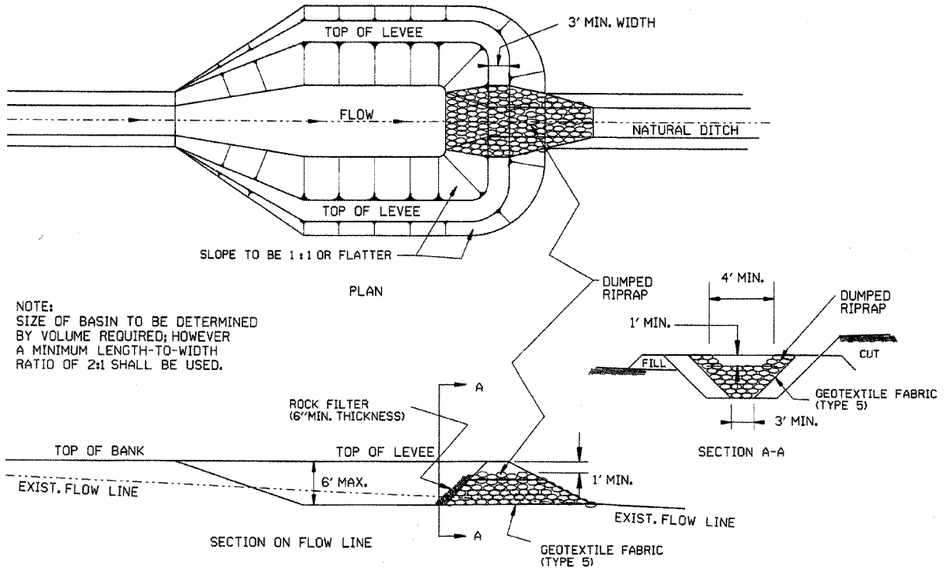
BALED STRAW FILTER BARRIER (E-2)

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
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

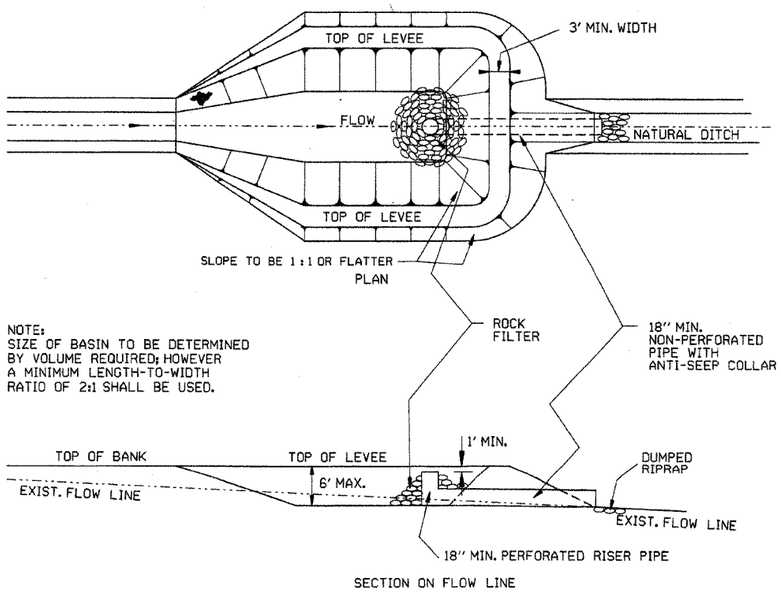
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

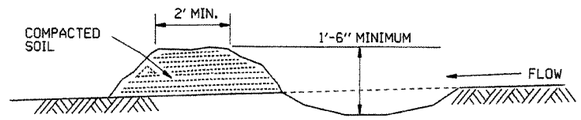
STANDARD DRAWING TEC-1



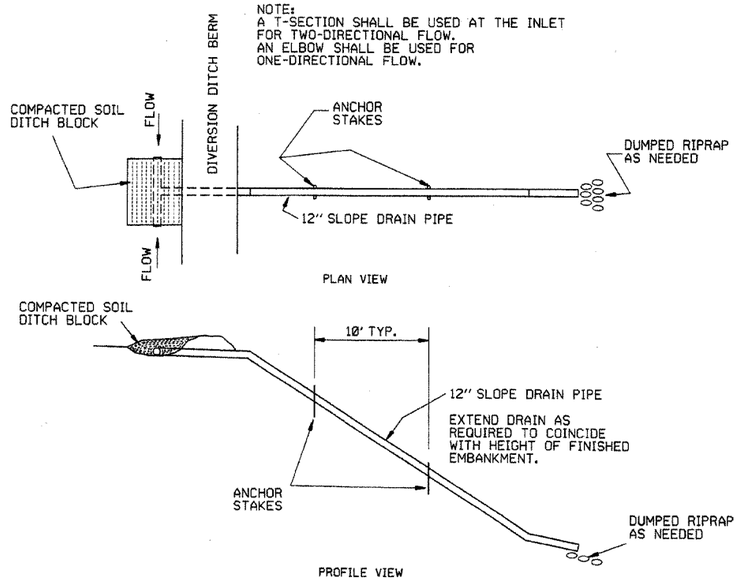
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



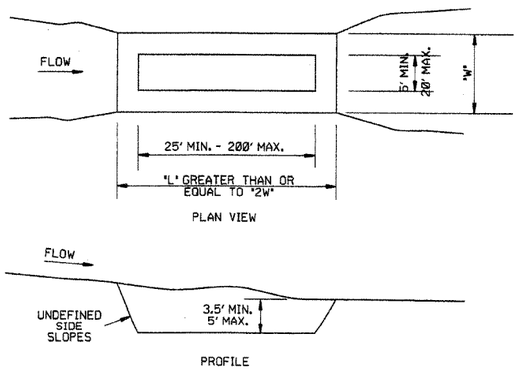
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

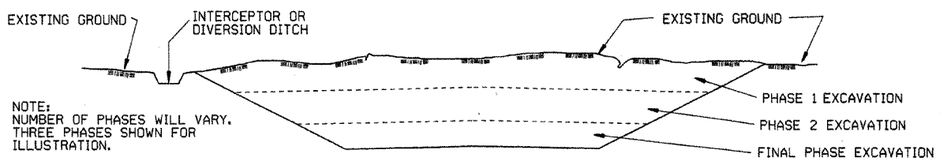
STANDARD DRAWING TEC-2

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



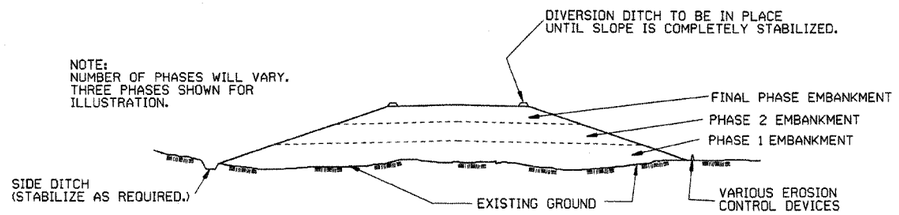
GENERAL NOTE

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

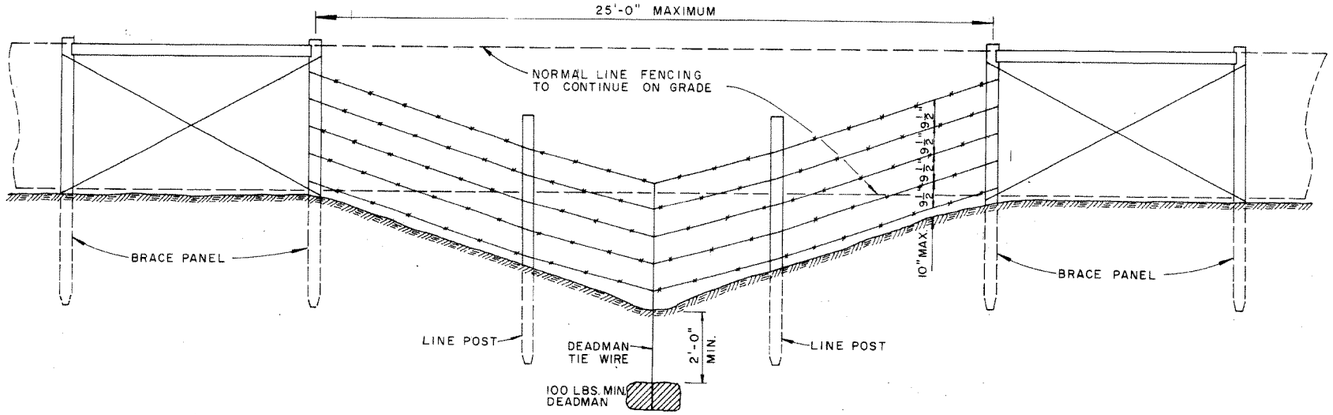
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD 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.

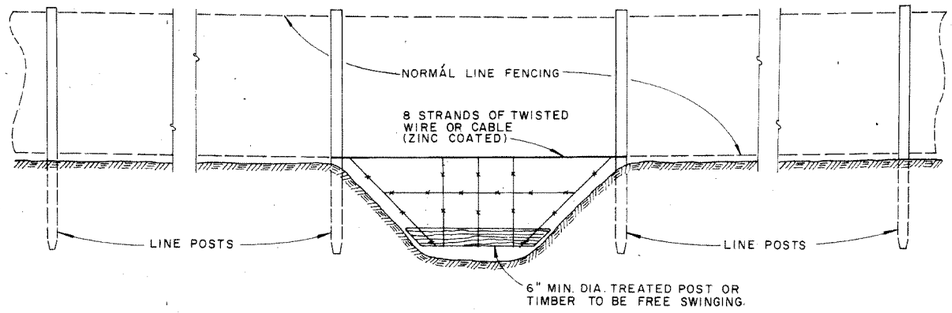
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

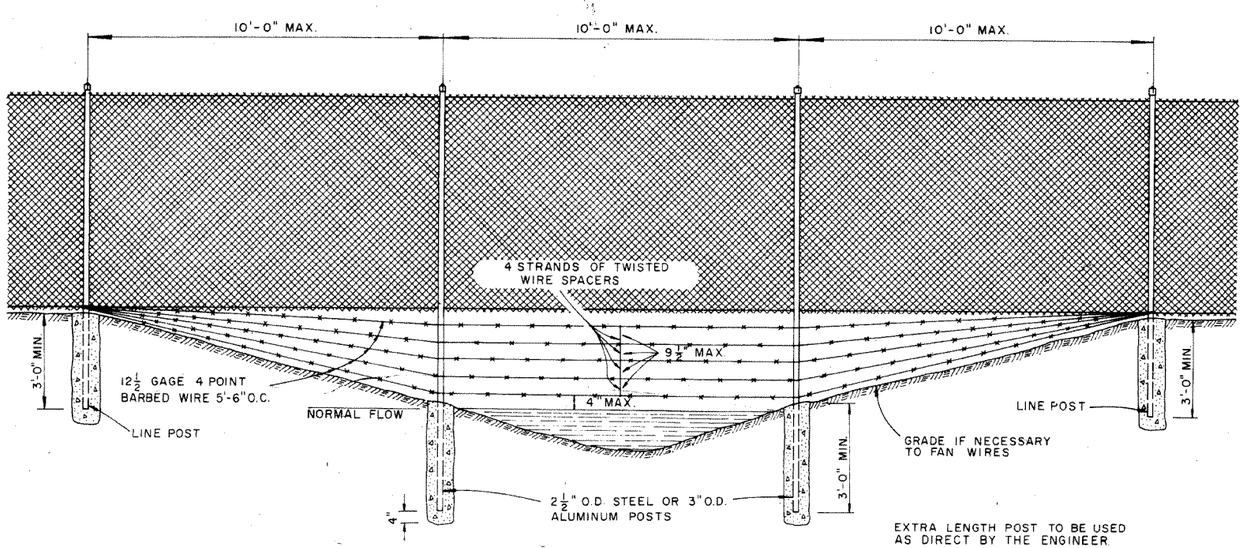
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3







GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

DATE	REVISION	DATE FILM'D.
4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED & REDRAWN	529 10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

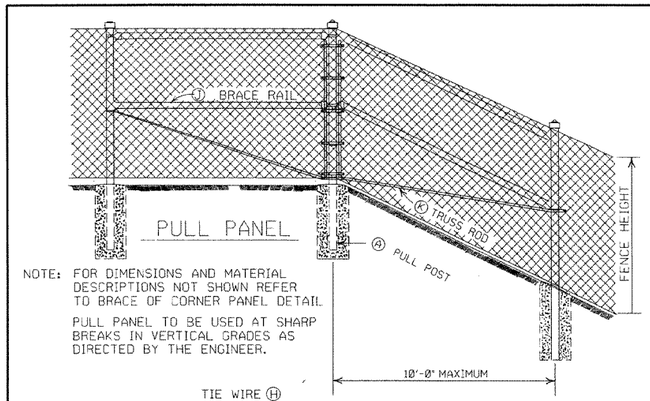
WIRE FENCE WATER GAPS

STANDARD DRAWING

WF-2

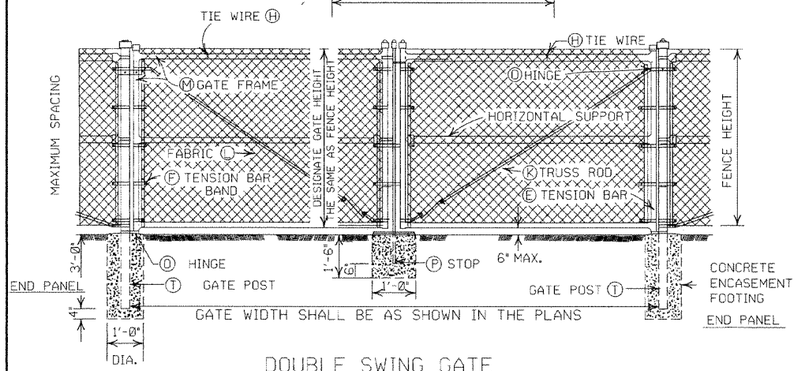
73

1M—11-71—47001—PP&SCo



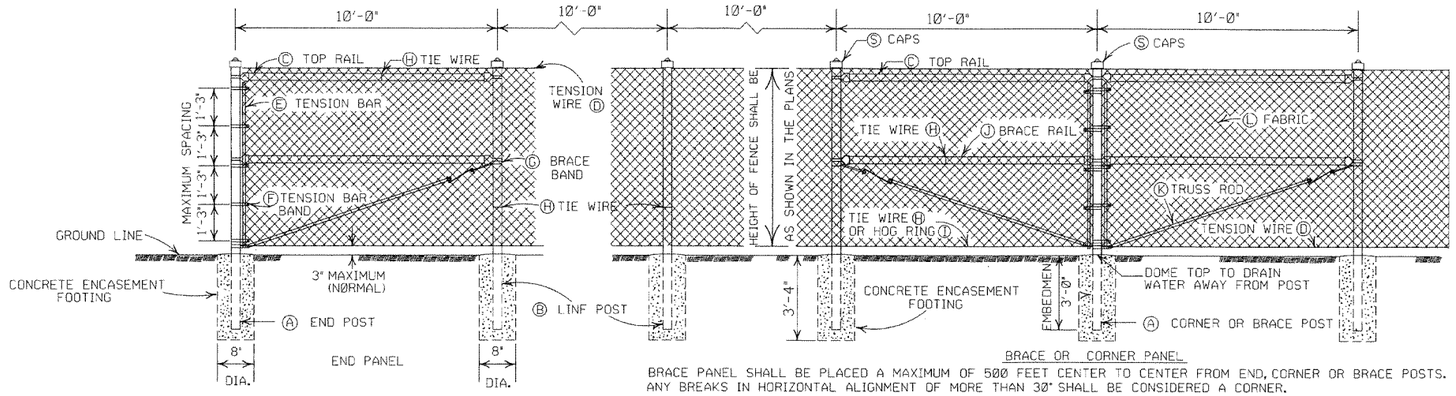
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL.

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.



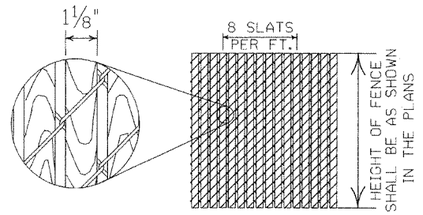
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

BRACE PANEL SHALL BE PLACED A MAXIMUM OF 500 FEET CENTER TO CENTER FROM END, CORNER OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30° SHALL BE CONSIDERED A CORNER.



1⅛" X ¼" REDWOOD SLATS(LENGTH TO MATCH HEIGHT OF FENCE)

DETAIL OF REDWOOD SLAT INSTALLATION

(WHERE APPLICABLE)

GENERAL NOTES:

(C) CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL. ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LIN. FT. OF CHAIN LINK FENCE.

(D) TENSION WIRE: SHALL BE SECURED TO ALL TERMINAL, PULL, BRACE OR CORNER POSTS WITH TENSION BAR BANDS.

(J) BRACE RAIL: BRACE RAILS SHALL BE PROVIDED AT ALL TERMINAL, PULL, BRACE OR CORNER POSTS HALFWAY BETWEEN THE TOP RAIL AND GROUND LEVEL WHEN TOPRAIL IS SPECIFIED AND TWELVE INCHES (12") DOWN FROM TOP OF FABRIC WHEN TOP TENSION WIRE IS SPECIFIED. BRACE RAIL SHALL EXTEND FROM SUCH POST TO THE FIRST ADJACENT LINE POST.

(L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

(M) GATE FRAMES: SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.

(O) HINGES: SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.

(P) LATCHES AND STOPS: SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.

(S) CAPS: ALL POSTS, EXCEPT ROLL FORMED POSTS AND "T" POSTS SHALL BE CAPPED OVER THE EXTERIOR OF THE POST, AND SHALL CONFORM TO ASTM F626.

CONCRETE REQUIRED FOR THE EMBEDMENT OF ALL POSTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR CHAIN LINK FENCE.

POSTS SHALL BE SPACED EQUIDISTANT ON A MAXIMUM OF 10' CENTERS.

EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST	(B) LINE POSTS SIZE	(B) LINE POSTS TIE SPACING	(C) TOP RAIL SIZE	(C) TOP RAIL TIE SPACING	(C) TOP RAIL MIN. LENGTH	(D) TENSION WIRE SIZE	(D) TENSION WIRE TIE SPACING	(E) TENSION BAR SIZE	(E) TENSION BAR LENGTH	(F) TENSION BAR BAND SIZE	(F) TENSION BAR BAND BOLT SIZE	(F) TENSION BAR BAND SPACING	(G) BRACE BAND SIZE	(G) BRACE BAND BOLT SIZE
6' AND LESS	2½" O.D.	2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1⅝" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF ⅜" X ¾"	MIN. OF 2" LESS THAN FABRIC HEIGHT	MIN. OF ¾" X 0.074	⅝" X 1¼"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	MIN. OF ¾" X 0.105	⅝" X 1¼"
OVER 6' TO 12' INCL.	3" O.D.	2½" O.D.													

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL SIZE	(J) BRACE RAIL TIE SPACING	(K) TRUSS ROD	(L) FABRIC SIZE	(L) FABRIC MESH	(L) FABRIC SELVAGE	(M) GATE FRAME SIZE	(M) GATE FRAME TIE SPACING	(N) HORIZONTAL SUPPORT SIZE	(N) HORIZONTAL SUPPORT TIE SPACING	(O) HINGE T2E 180° SWING	(T) GATE POST GATE WIDTH 12' AND LESS	(T) GATE POST GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅜" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK-ING AND/OR TWIST-ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½" FOR FENCE HEIGHT OF 6' AND LESS, AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' TO 12'. END, PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' AND LESS; AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHT OF 6' AND LESS. ALUMINUM TENSION WIRE SHALL BE 0.192" IN DIAMETER. MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE 0.078". POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

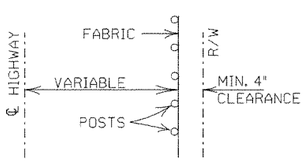
OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENTS AND PRODUCTION TOLERANCES AS SET FORTH IN THE SPECIFICATIONS. 9 GAUGE ALUMINUM WIRE SHALL BE ACCEPTABLE FOR TIEING FABRIC TO TUBULAR AND ROLL FORMED MEMBERS OF STEEL FENCE.

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	GRADE 2 O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅝	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2	1.900	0.145	2.72	0.940	1.900	0.120	2.28
2½	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3½	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4	4.000	0.226	9.11	3.151	4.000	0.160	6.56

TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

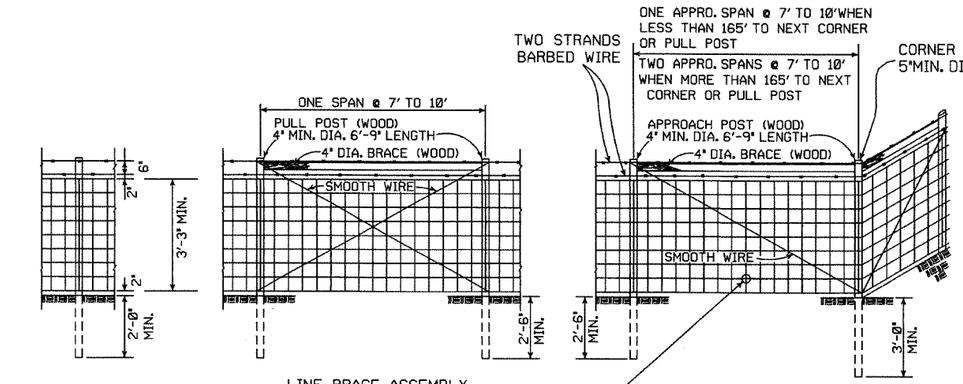
TYPICAL INSTALLATION DIAGRAM

DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91 8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
11-17-88	REVISED O.D. SIZES	668-11-17-88
10-30-87	GENERAL REVISIONS	548-10-30-87
4-20-79	REVISED TOP RAIL & TENSION WIRE	695-4-20-79
10-2-72	REVISED AND REDRAWN	530-10-2-72

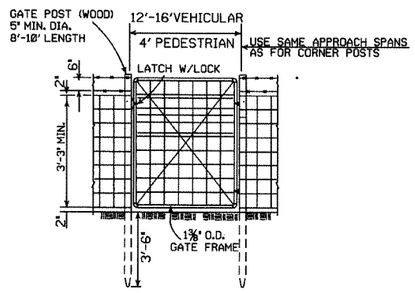
ARKANSAS STATE HIGHWAY COMMISSION

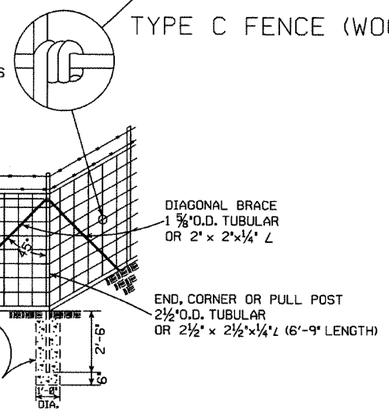
CHAIN LINK FENCE

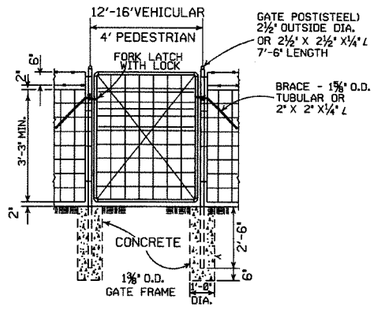
STANDARD DRAWING WF-3

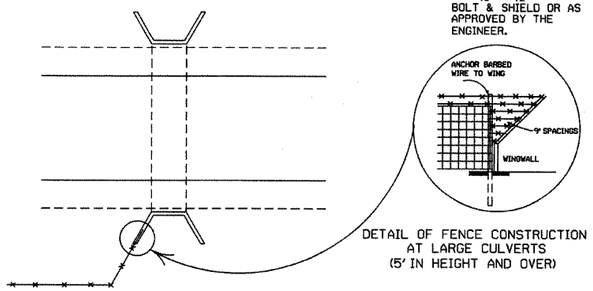


TYPE C FENCE (WOOD POSTS)









NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

GENERAL NOTES:

STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE - 1" TO +2".
TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

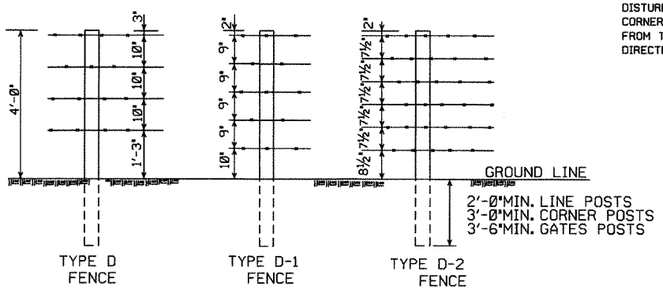
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD" AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

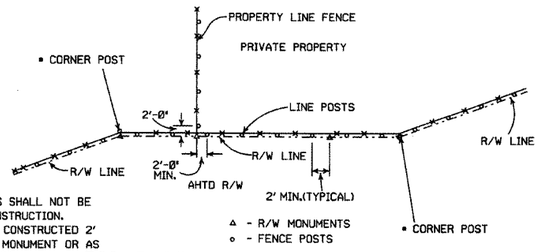
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE C FENCE (STEEL POSTS)

4 STRANDS BARBED WIRE (D)
5 STRANDS BARBED WIRE (D-1)
6 STRANDS BARBED WIRE (D-2)

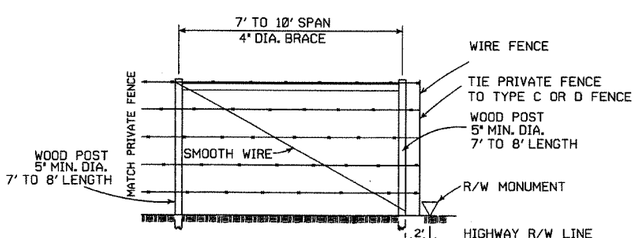


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



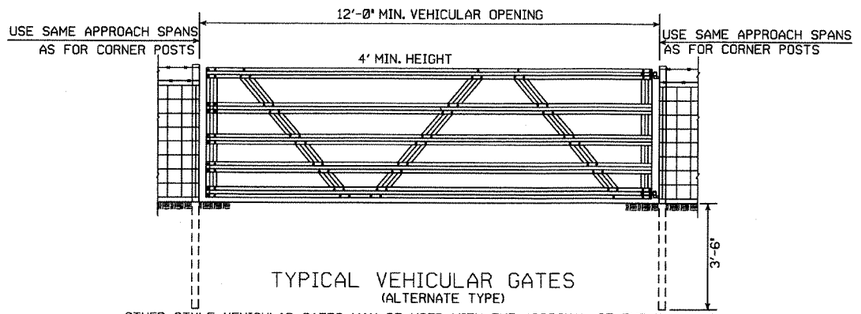
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION

WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.



TYPICAL VEHICULAR GATES
(ALTERNATE TYPE)

OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

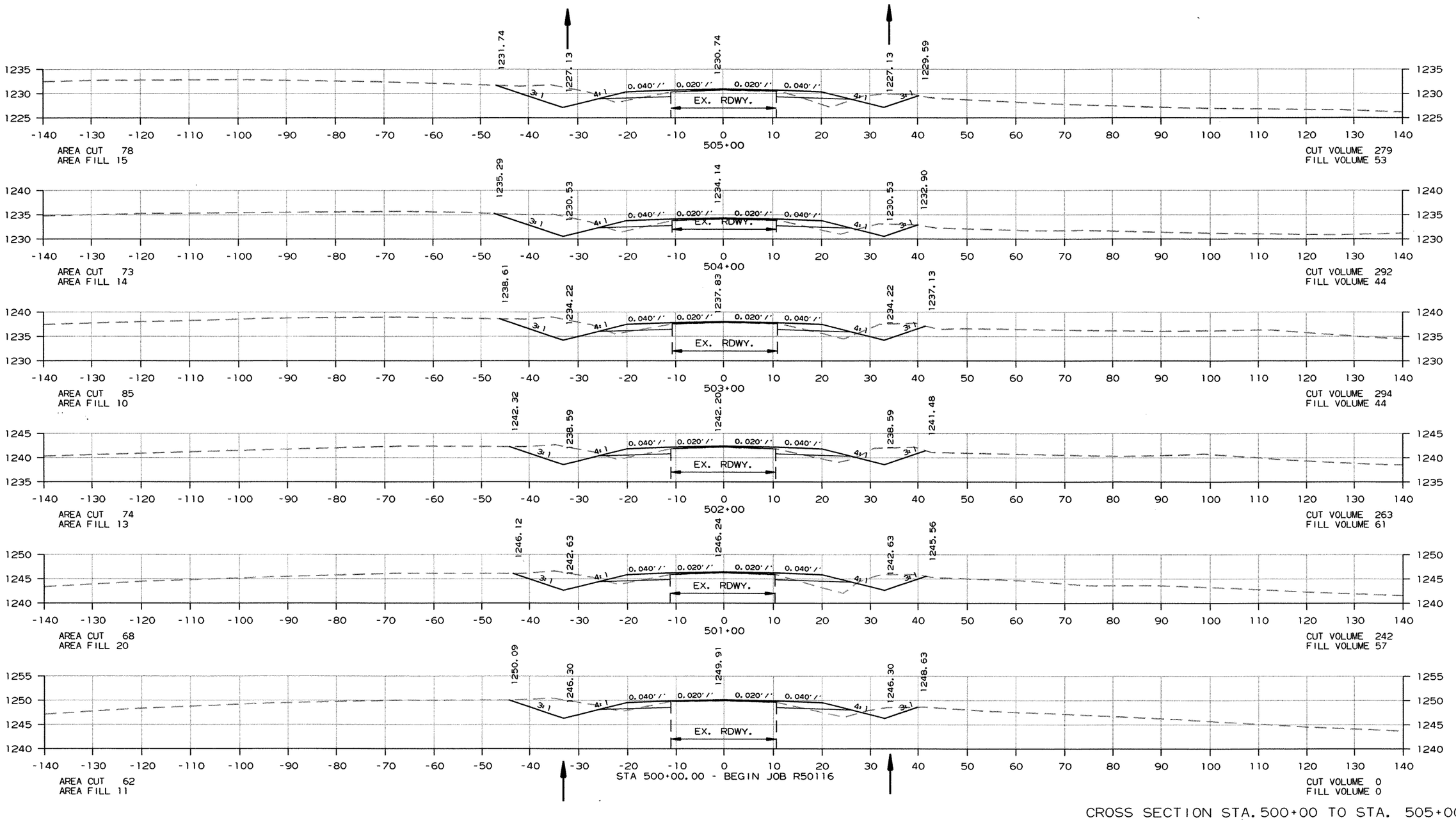
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

STANDARD DRAWING WF-4

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	143	223

(2) CROSS SECTIONS

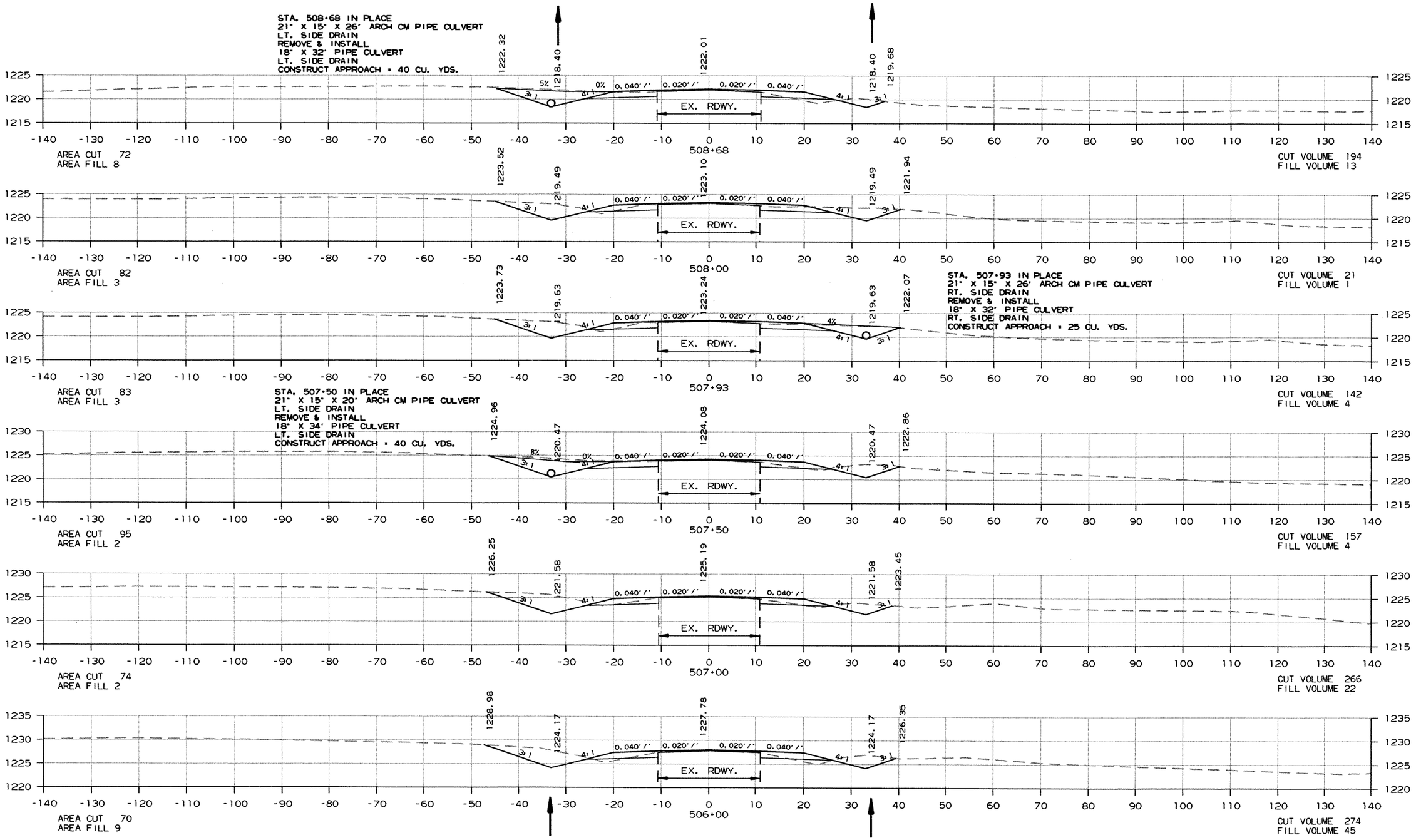


CROSS SECTION STA. 500+00 TO STA. 505+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	144	223

(2) CROSS SECTIONS

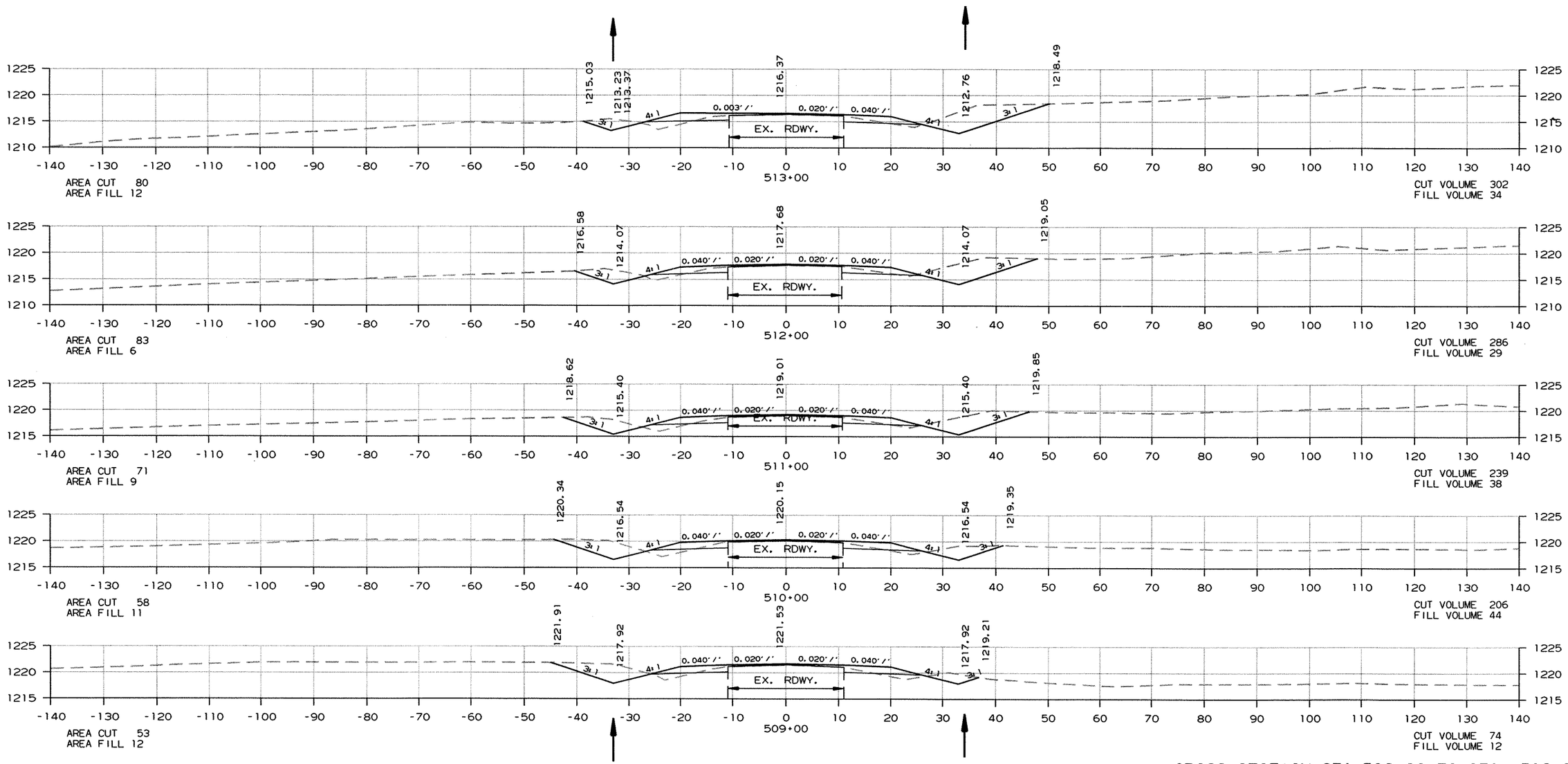


CROSS SECTION STA. 506+00 TO STA. 508+68

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	145	223

(2) CROSS SECTIONS

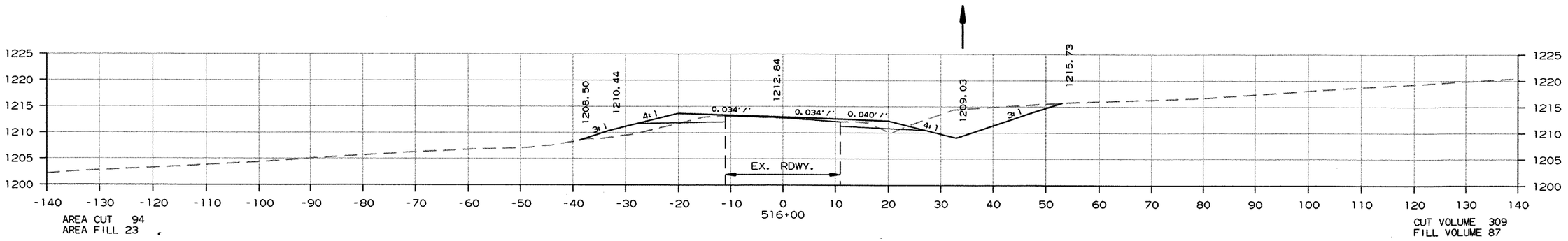


CROSS SECTION STA. 509+00 TO STA. 513+00

RR50116.DGN 4/13/2012

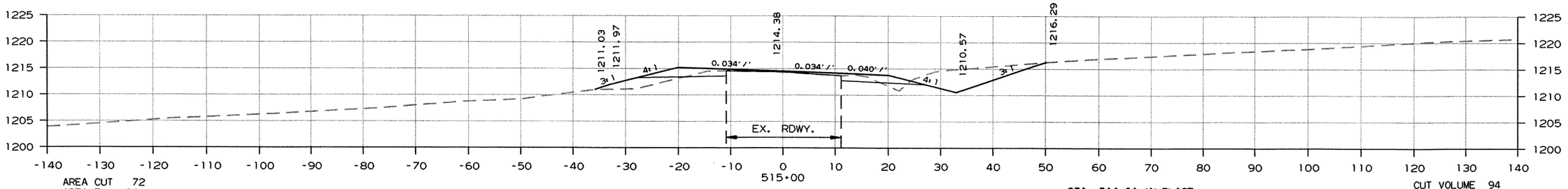
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	146	223

(2) CROSS SECTIONS



AREA CUT 94
AREA FILL 23

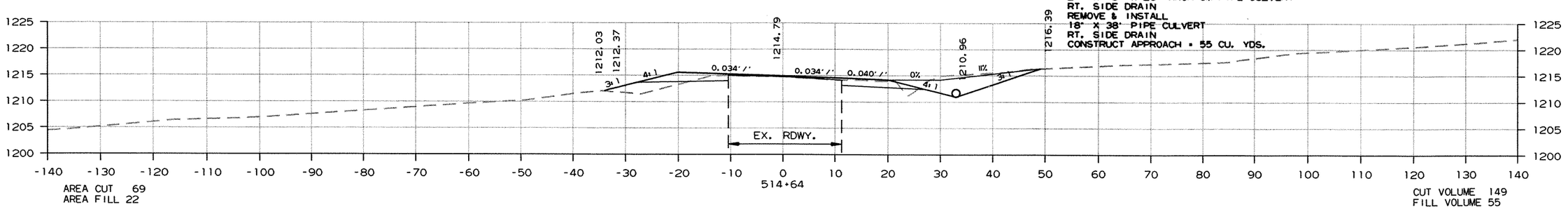
CUT VOLUME 309
FILL VOLUME 87



AREA CUT 72
AREA FILL 24

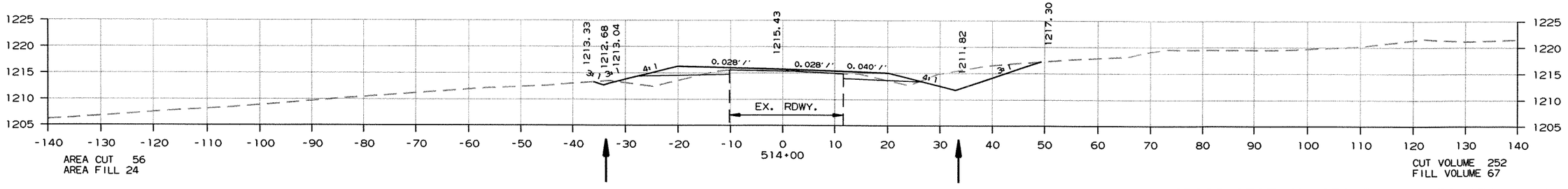
CUT VOLUME 94
FILL VOLUME 31

STA. 514+64 IN PLACE
21' X 15' X 26' ARCH CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
18" X 38" PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.



AREA CUT 69
AREA FILL 22

CUT VOLUME 149
FILL VOLUME 55



AREA CUT 56
AREA FILL 24

CUT VOLUME 252
FILL VOLUME 67

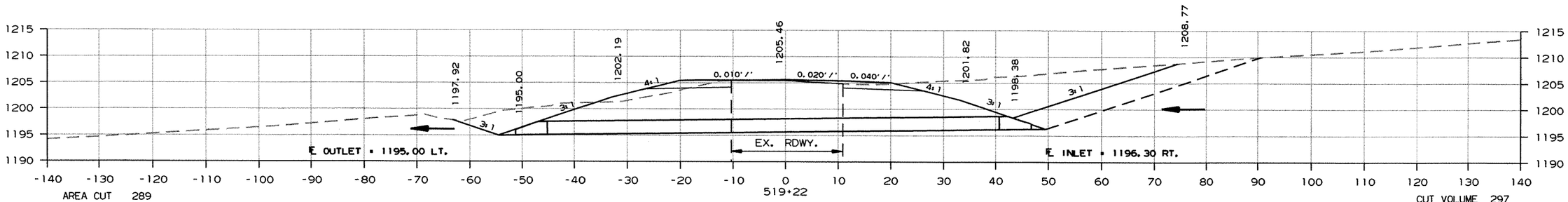
CROSS SECTION STA. 514+00 TO STA. 516+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	147	223

(2) CROSS SECTIONS

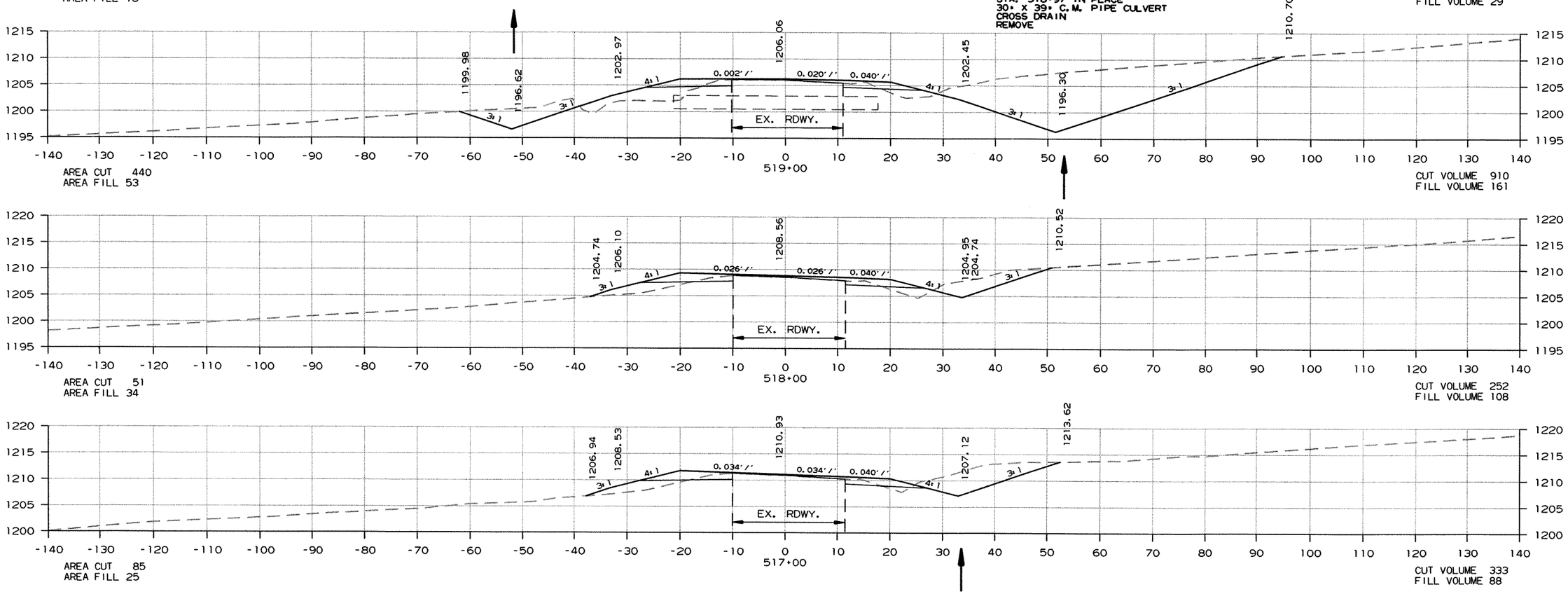
STA. 519+22 CONSTRUCT
30" X 96' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 49 C.F.S. D.A. = 14 ACRES



AREA CUT 289
AREA FILL 18

CUT VOLUME 297
FILL VOLUME 29

STA. 518+97 IN PLACE
30" X 39" C.M. PIPE CULVERT
CROSS DRAIN
REMOVE



AREA CUT 440
AREA FILL 53

CUT VOLUME 910
FILL VOLUME 161

AREA CUT 51
AREA FILL 34

CUT VOLUME 252
FILL VOLUME 108

AREA CUT 85
AREA FILL 25

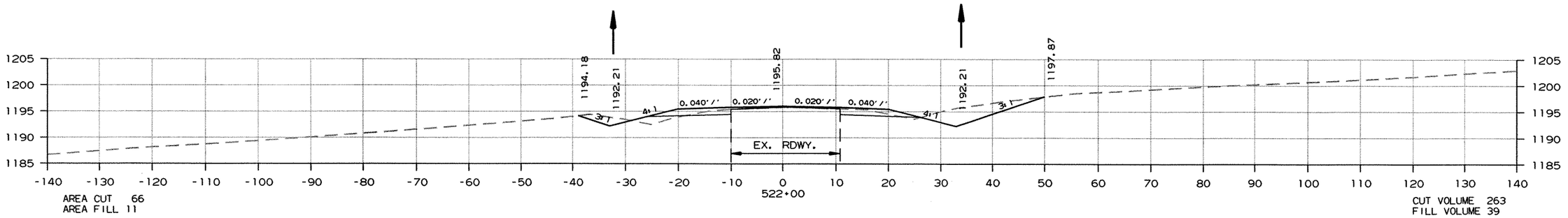
CUT VOLUME 333
FILL VOLUME 88

CROSS SECTION STA. 517+00 TO STA. 519+22

RR50116.DGN 4/13/2012

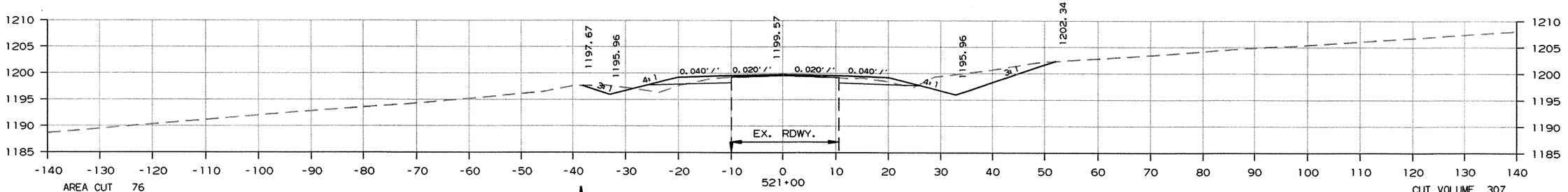
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	148	223

(2) CROSS SECTIONS



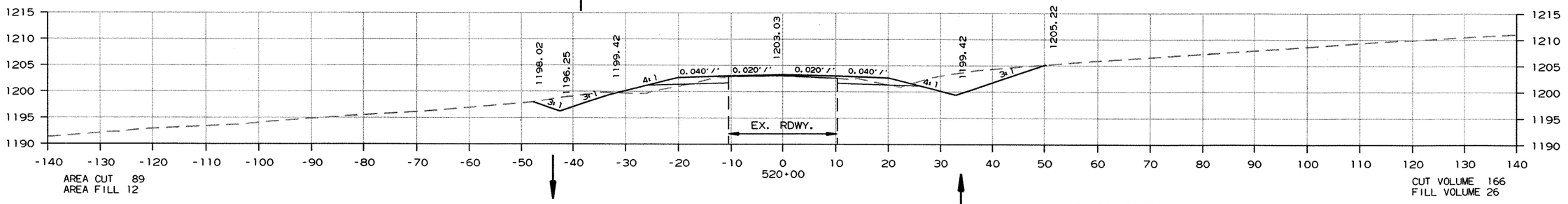
AREA CUT 66
AREA FILL 11

CUT VOLUME 263
FILL VOLUME 39



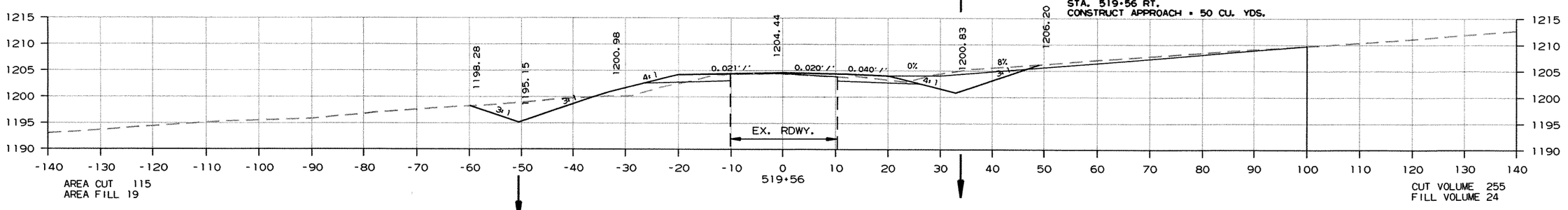
AREA CUT 76
AREA FILL 10

CUT VOLUME 307
FILL VOLUME 42



AREA CUT 89
AREA FILL 12

CUT VOLUME 166
FILL VOLUME 26



AREA CUT 115
AREA FILL 19

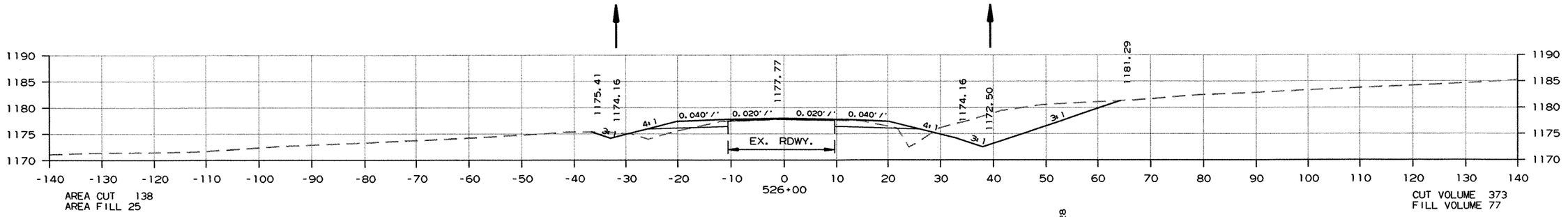
CUT VOLUME 255
FILL VOLUME 24

CROSS SECTION STA. 519+56 TO STA. 522+00

RR50116.DGN 4/13/2012

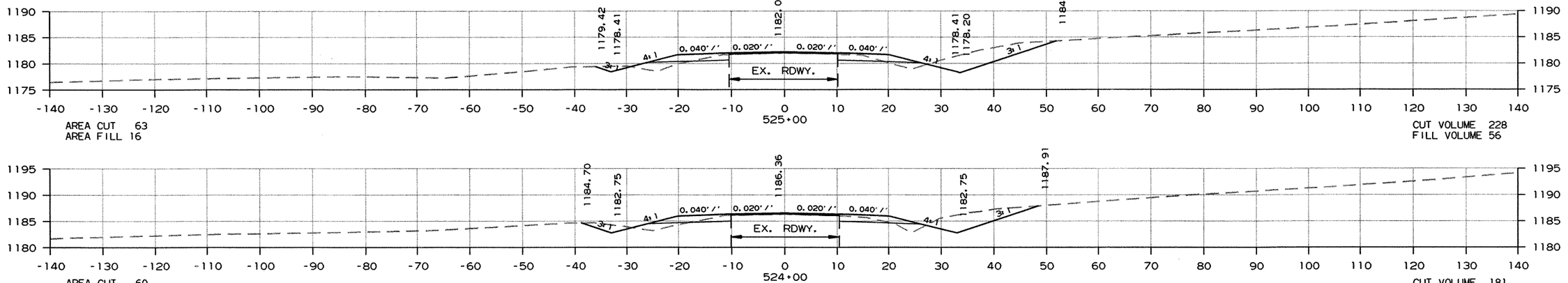
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	149	223

(2) CROSS SECTIONS



AREA CUT 138
AREA FILL 25

CUT VOLUME 373
FILL VOLUME 77



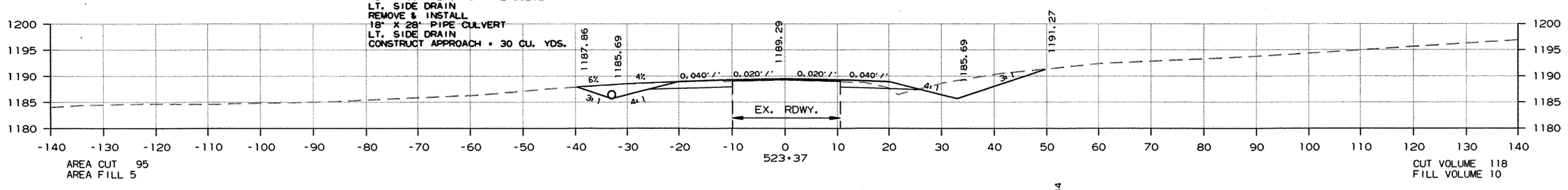
AREA CUT 63
AREA FILL 16

CUT VOLUME 228
FILL VOLUME 56

AREA CUT 60
AREA FILL 14

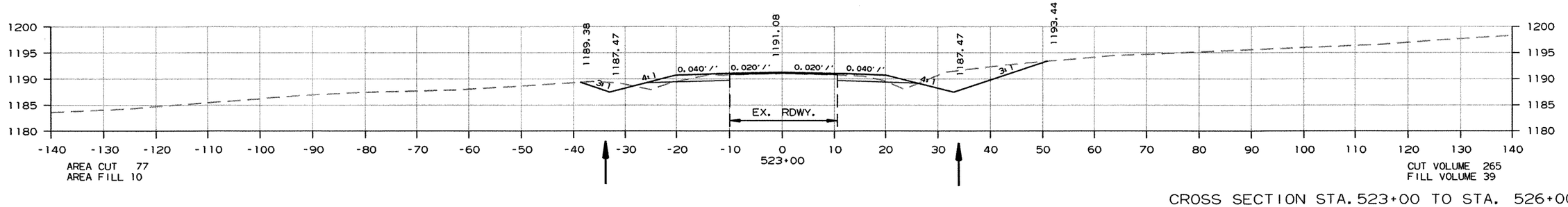
CUT VOLUME 181
FILL VOLUME 22

STA. 523+37 IN PLACE
18" X 36' PLASTIC PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.



AREA CUT 95
AREA FILL 5

CUT VOLUME 118
FILL VOLUME 10



AREA CUT 77
AREA FILL 10

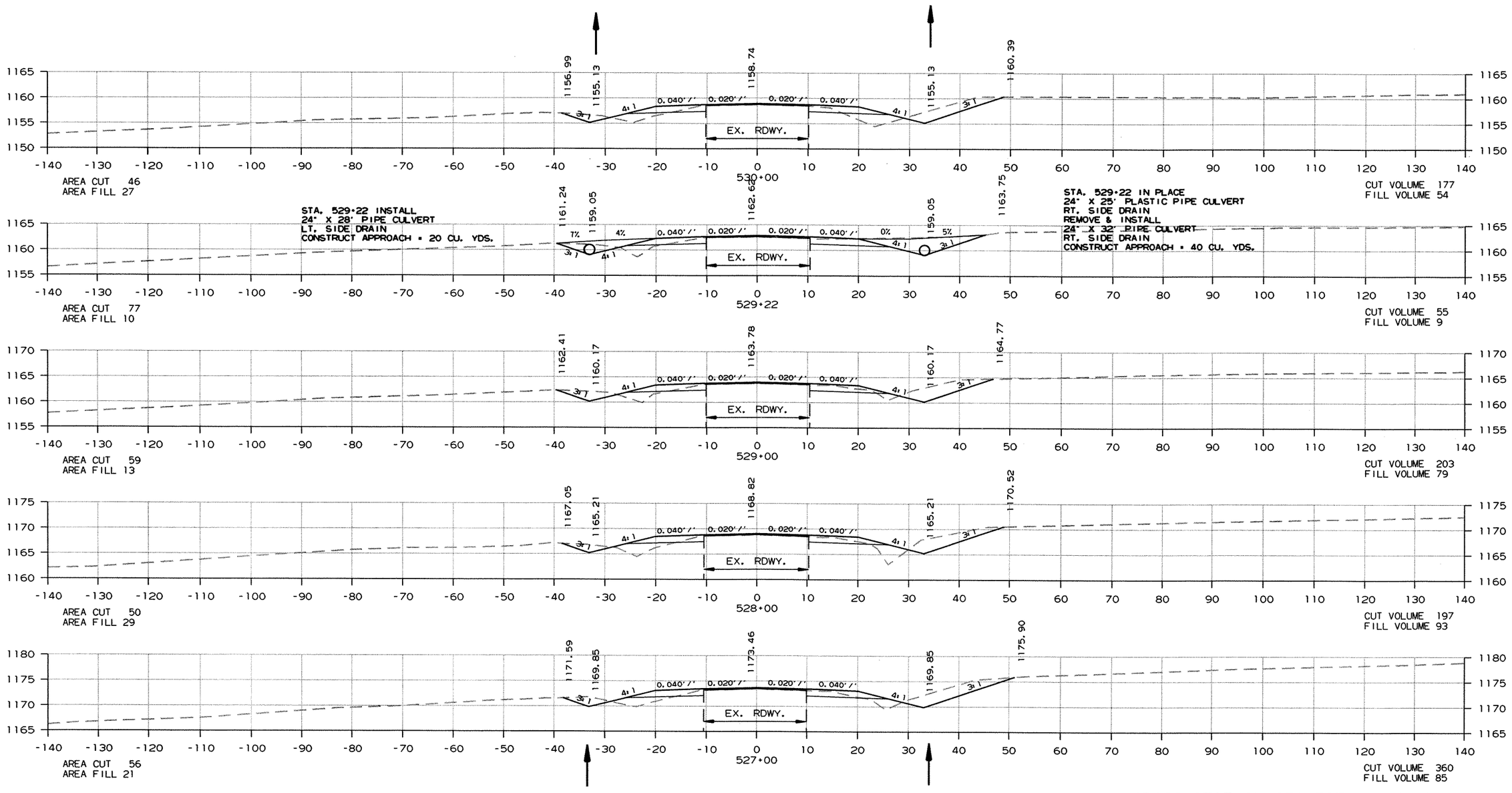
CUT VOLUME 265
FILL VOLUME 39

CROSS SECTION STA. 523+00 TO STA. 526+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	150	223

(2) CROSS SECTIONS

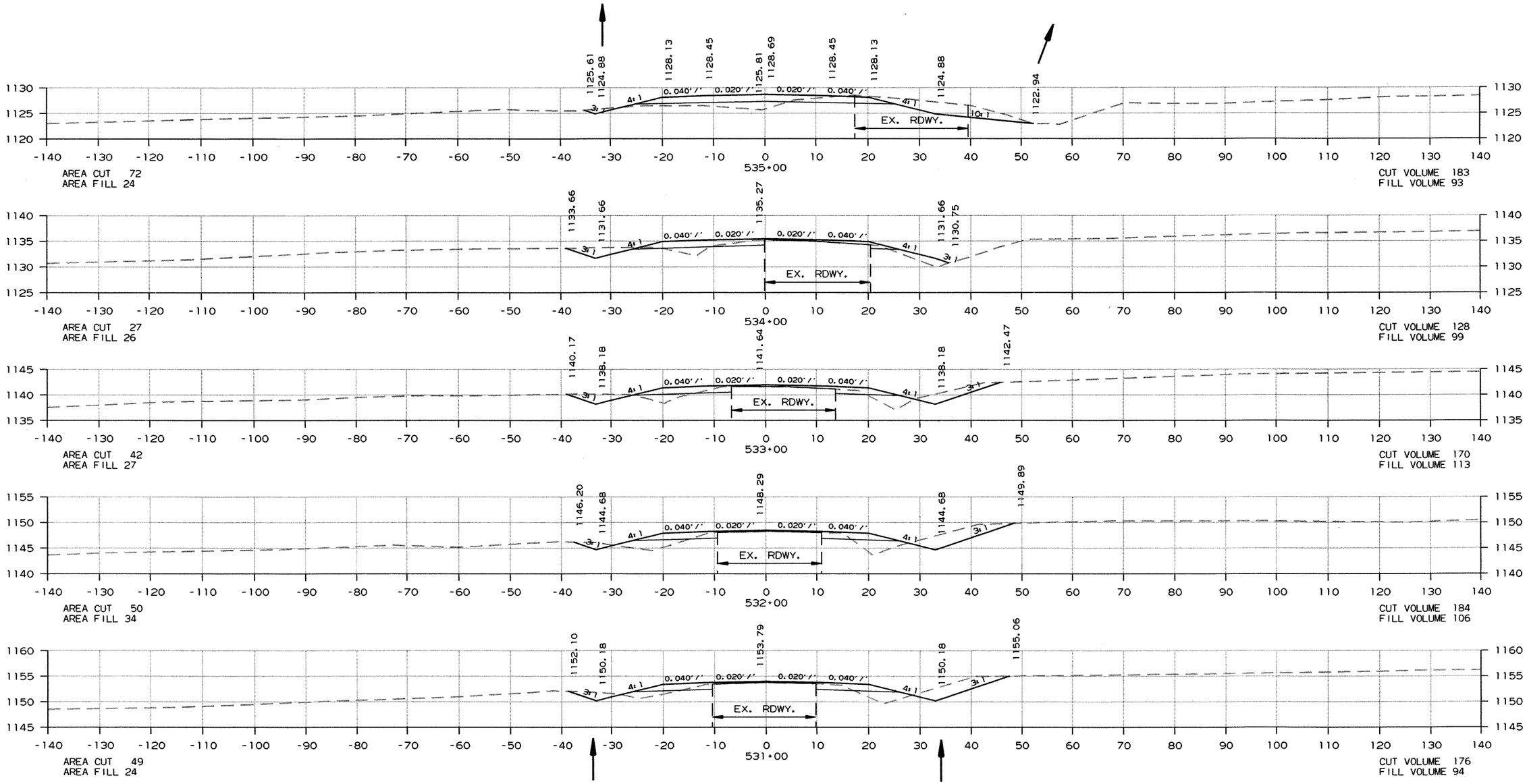


CROSS SECTION STA. 527+00 TO STA. 530+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	151	223

(2) CROSS SECTIONS

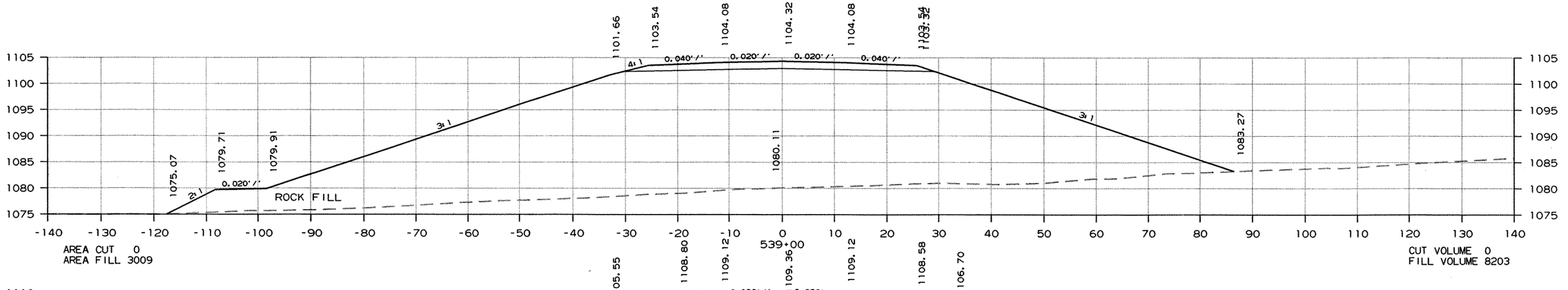


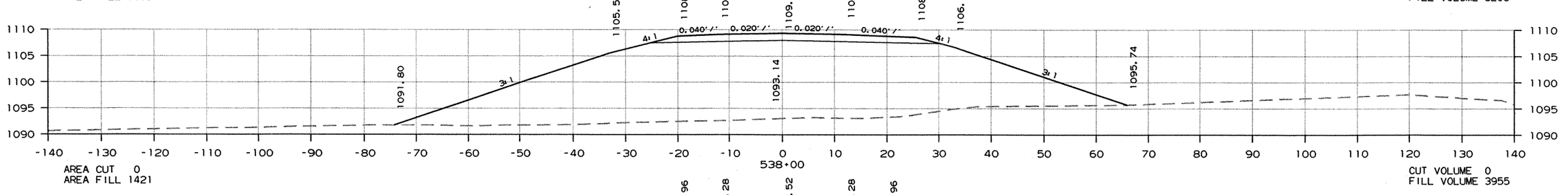
CROSS SECTION STA. 531+00 TO STA. 535+00

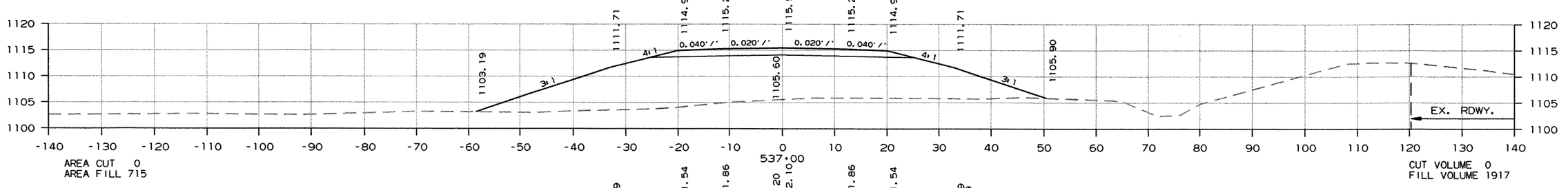
RR50116.DGN 4/13/2012

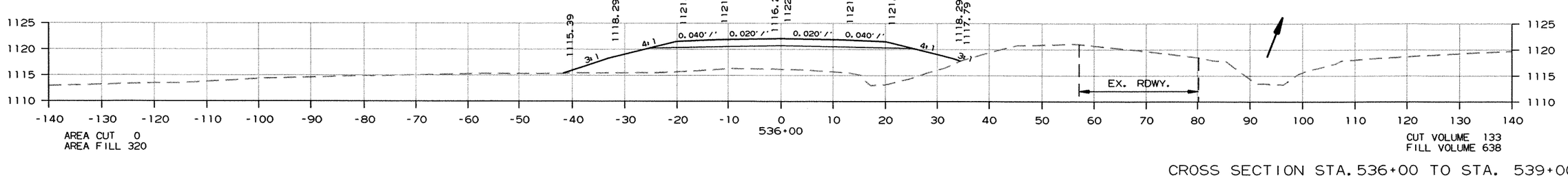
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	152	223

(2) CROSS SECTIONS









CROSS SECTION STA. 536+00 TO STA. 539+00

RR50116.DGN 4/13/2012

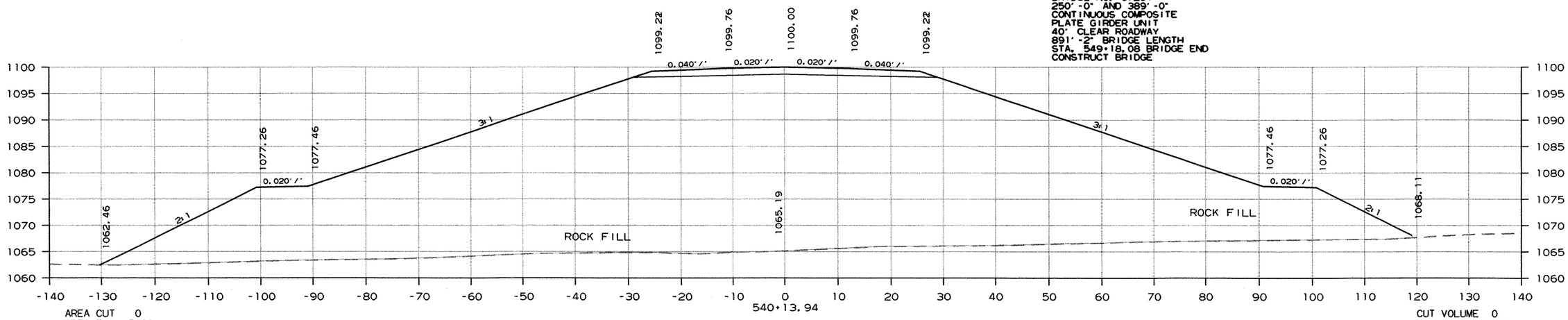
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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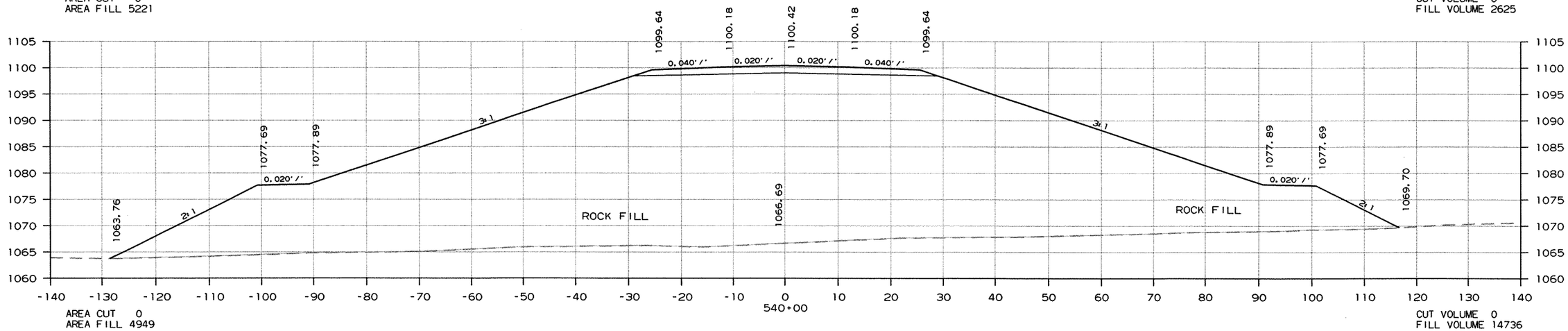
(2) CROSS SECTIONS

STATION	STATION	SIDE	GUARDRAIL (TYPE A) LIN. FT.	THRIE BEAM GUARDRAIL TERMINAL EACH	TERMINAL ANCHOR POSTS (TYPE 1) EACH	BRIDGE END TERMINAL EACH
537+93.77 -	540+12.52	RT.	200	1	1	
539+18.77 -	540+12.52	LT.	75	1	1	
549+32.48 -	549+52.48	RT.				1
549+32.48 -	551+51.23	LT.	200	1	1	

540+26.92 - BRIDGE END

STA. 540+26.92 BRIDGE END
BRIDGE NO. 07231
250'-0" AND 389'-0"
CONTINUOUS COMPOSITE
PLATE GIRDER UNIT
40' CLEAR ROADWAY
891'-2" BRIDGE LENGTH
STA. 549+18.08 BRIDGE END
CONSTRUCT BRIDGE



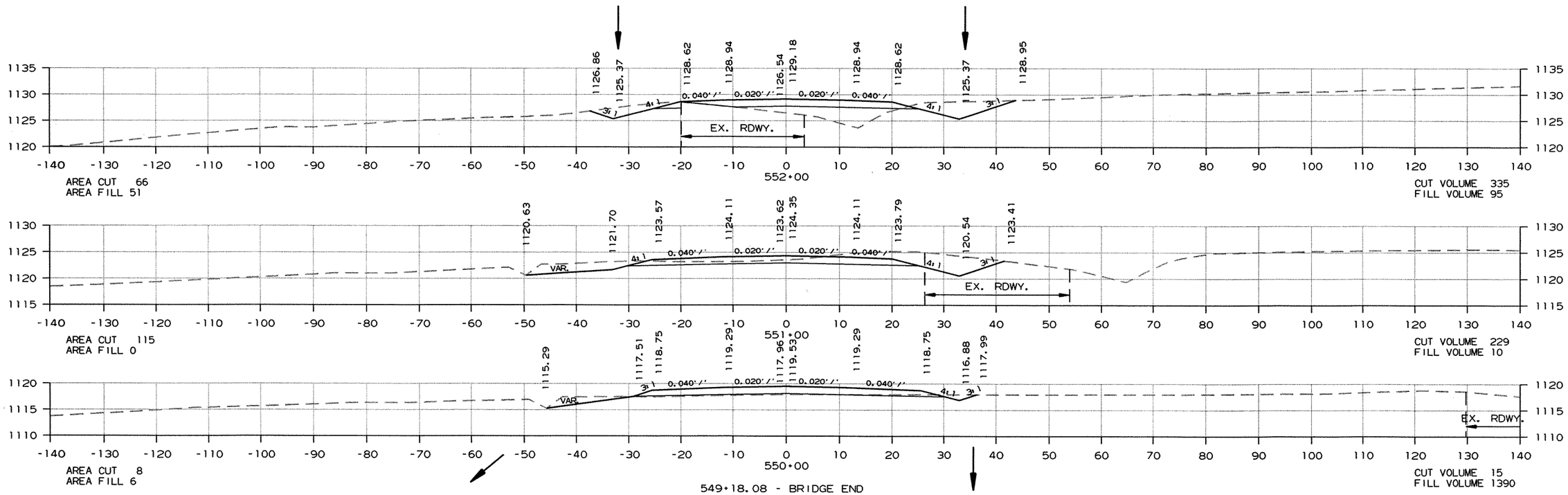


CROSS SECTION STA. 540+26.92 TO STA. 540+14

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	154	223

(2) CROSS SECTIONS

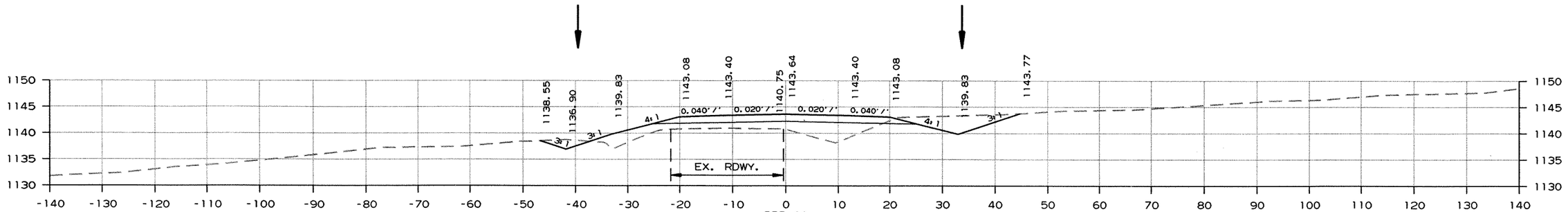


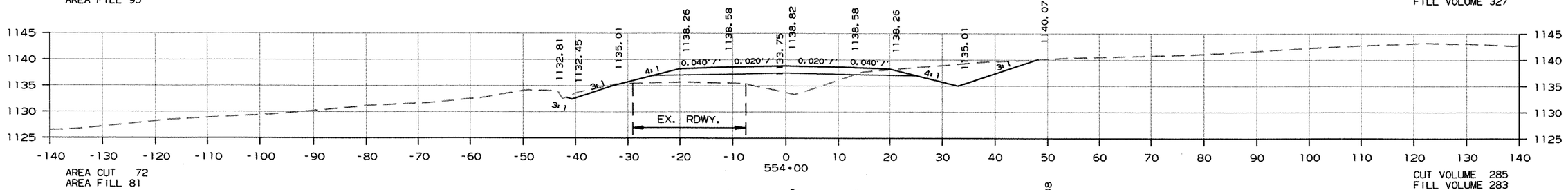
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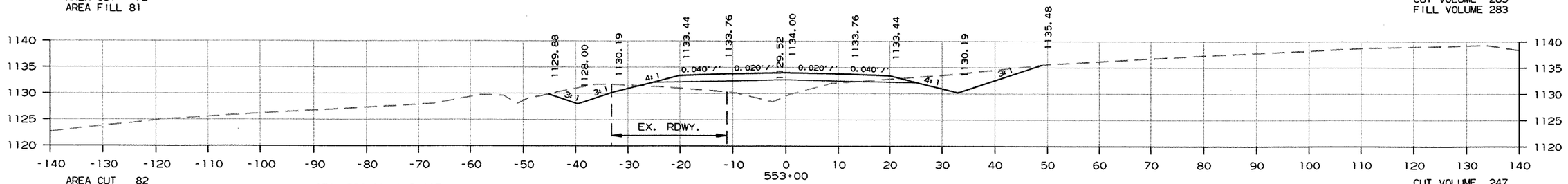
CROSS SECTION STA. 549+18.08 TO STA. 552+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	155	223

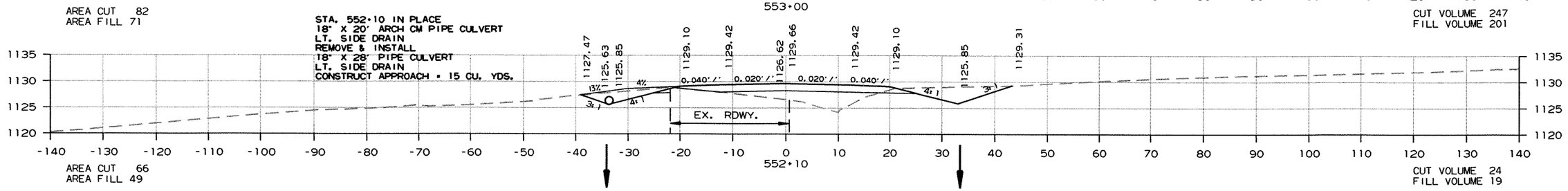
(2) CROSS SECTIONS







STA. 552+10 IN PLACE
18" X 20' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

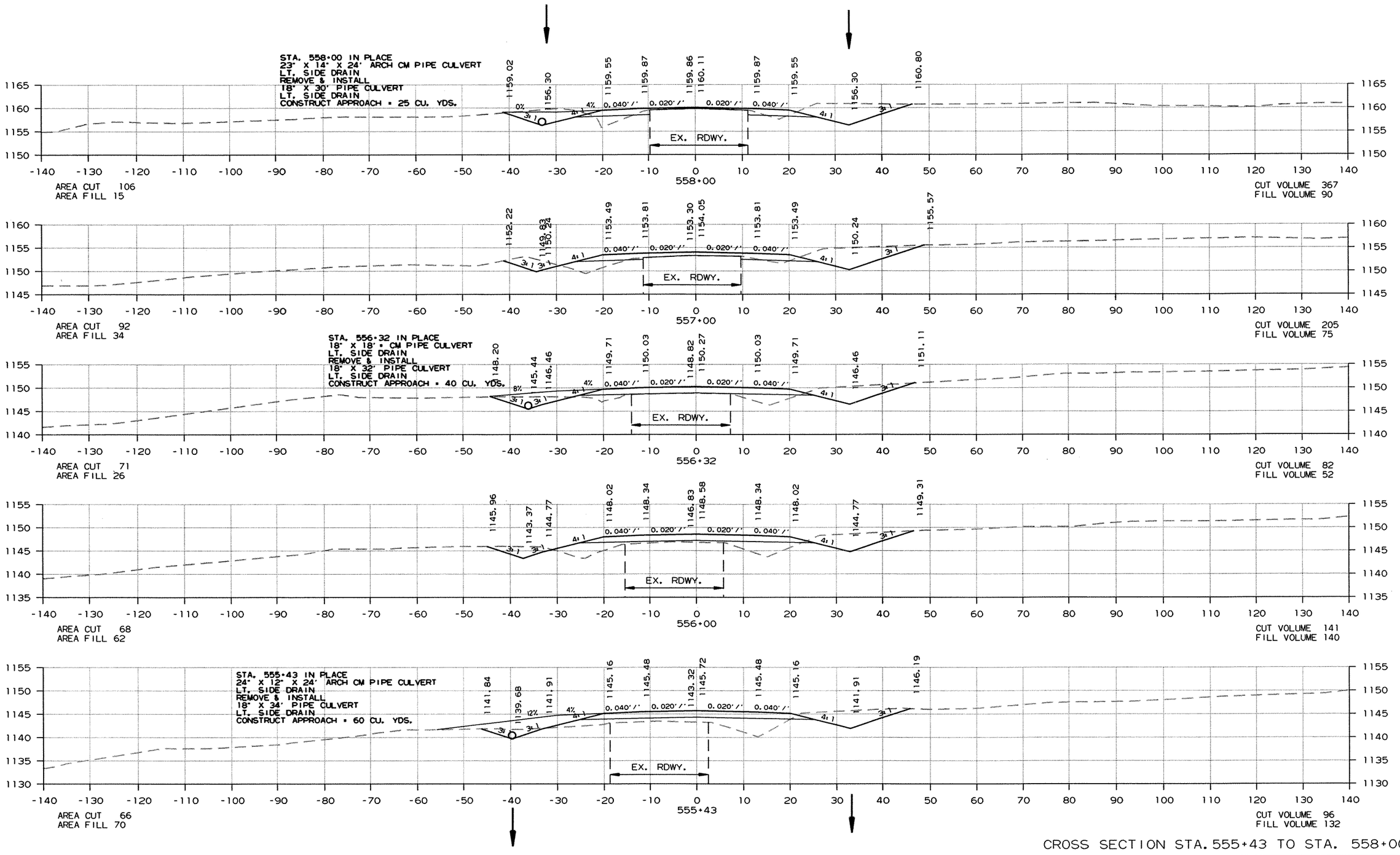


CROSS SECTION STA. 552+10 TO STA. 555+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	156	223

(2) CROSS SECTIONS

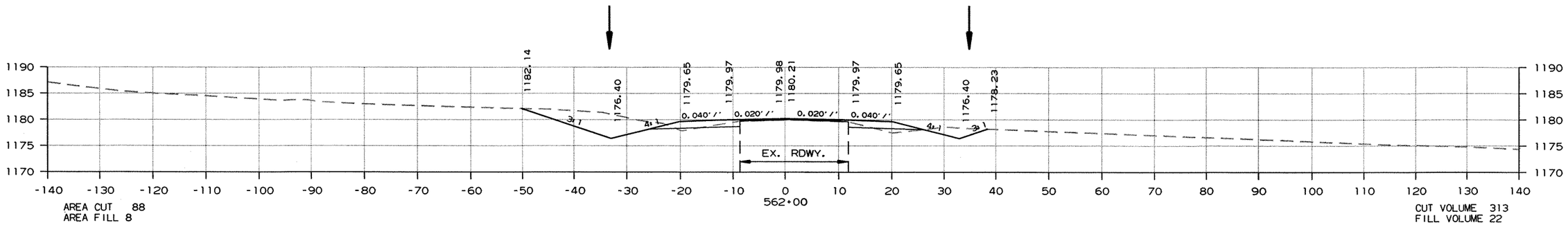


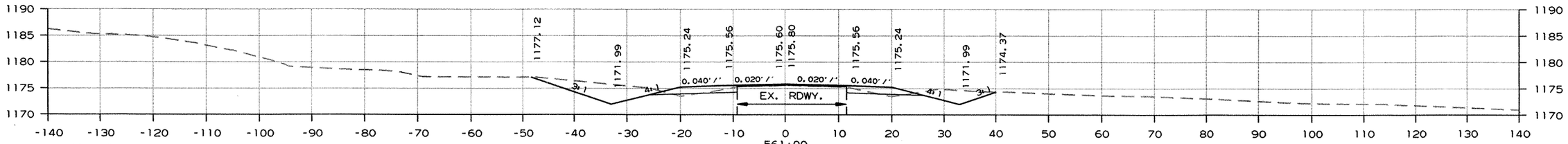
CROSS SECTION STA. 555+43 TO STA. 558+00

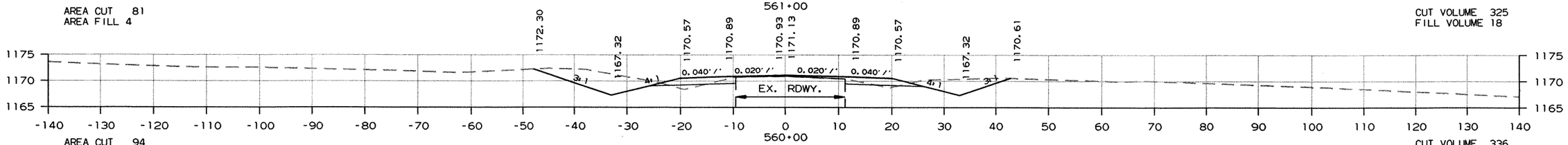
RR50116.DGN 4/13/2012

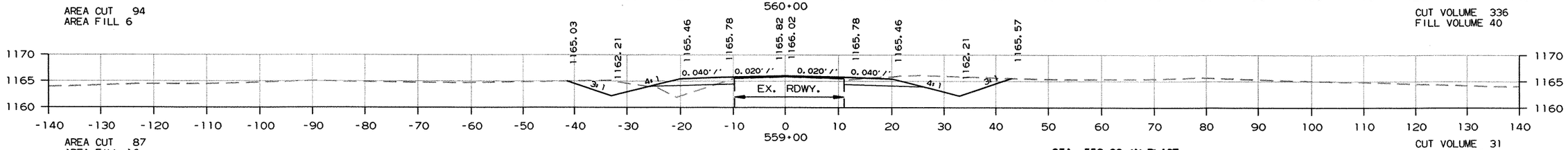
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	157	223

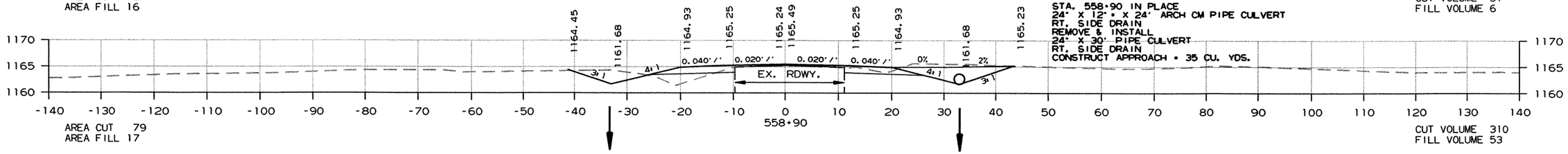
(2) CROSS SECTIONS











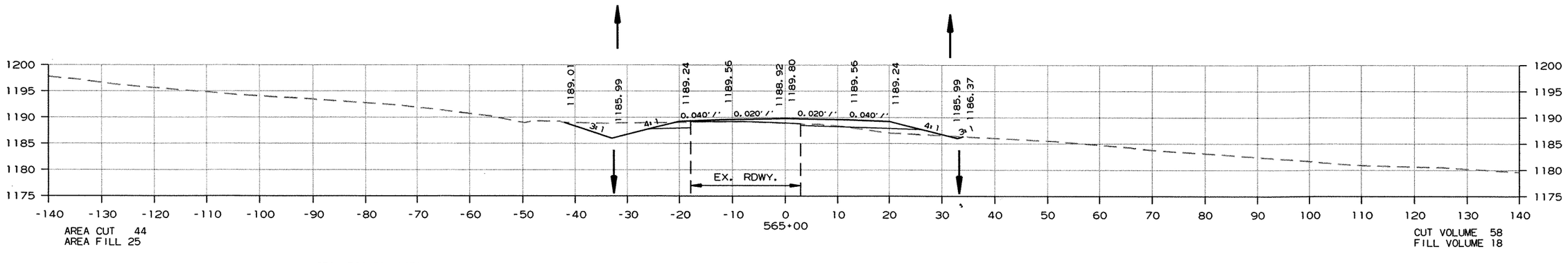
STA. 558+90 IN PLACE
24" X 12" • X 24' ARCH CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE & INSTALL
24" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH • 35 CU. YDS.

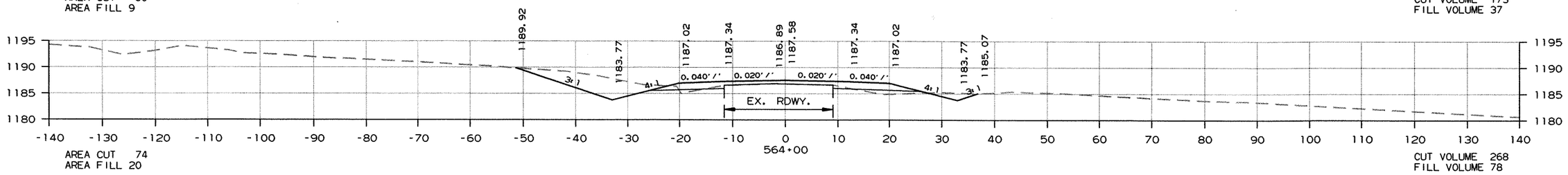
CROSS SECTION STA. 558+90 TO STA. 562+00

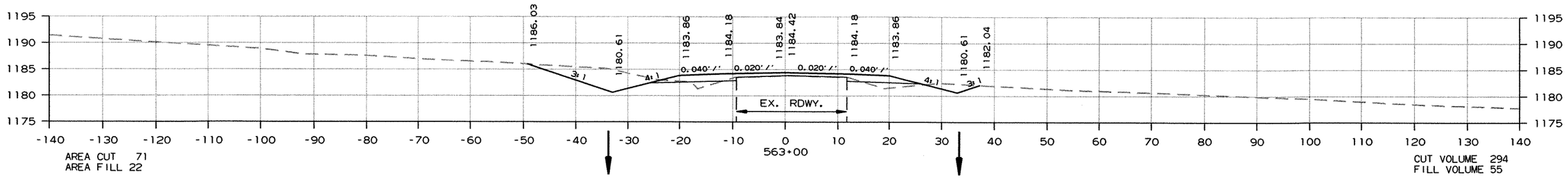
RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	158	223

(2) CROSS SECTIONS





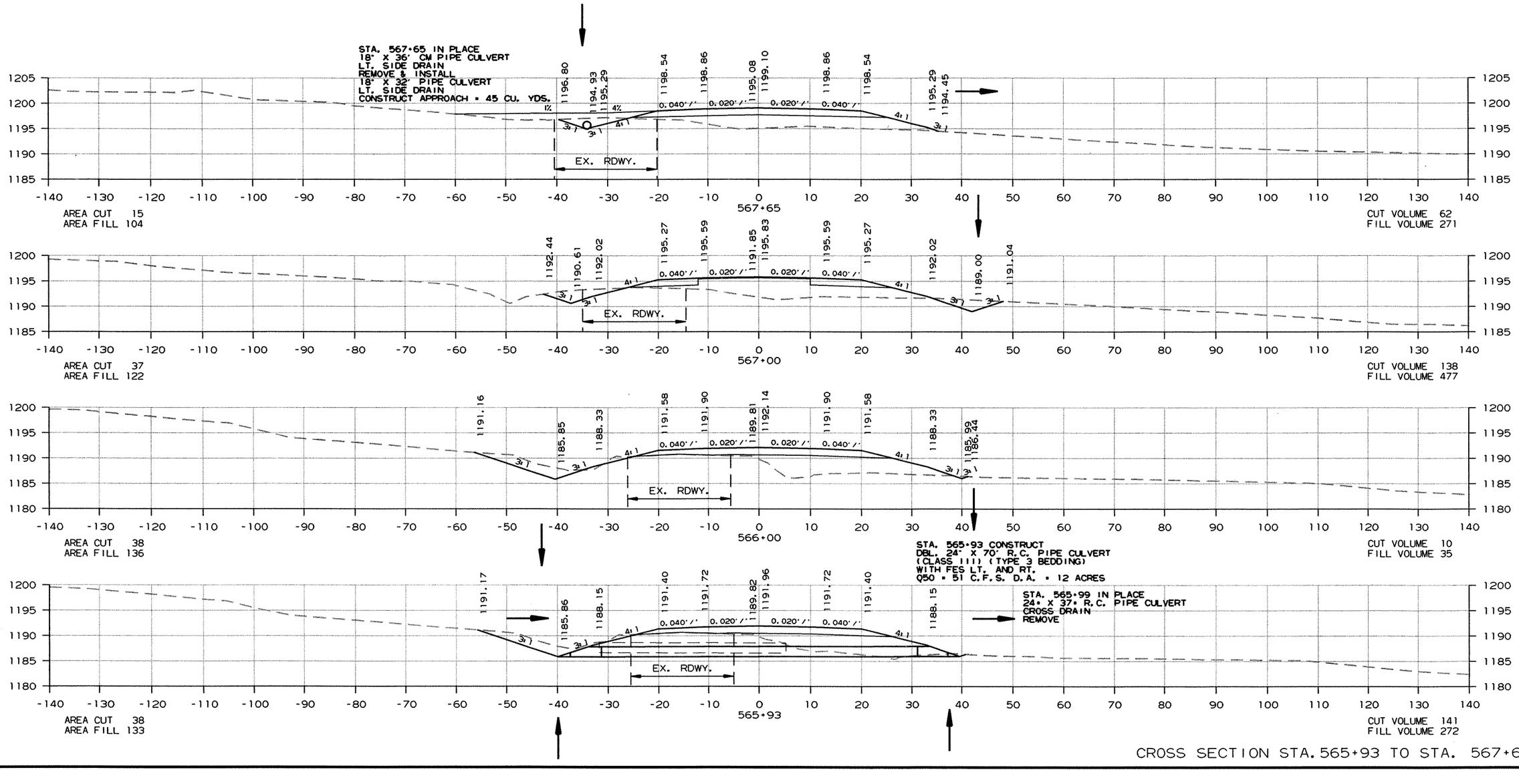


CROSS SECTION STA. 563+00 TO STA. 565+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	159	223

(2) CROSS SECTIONS

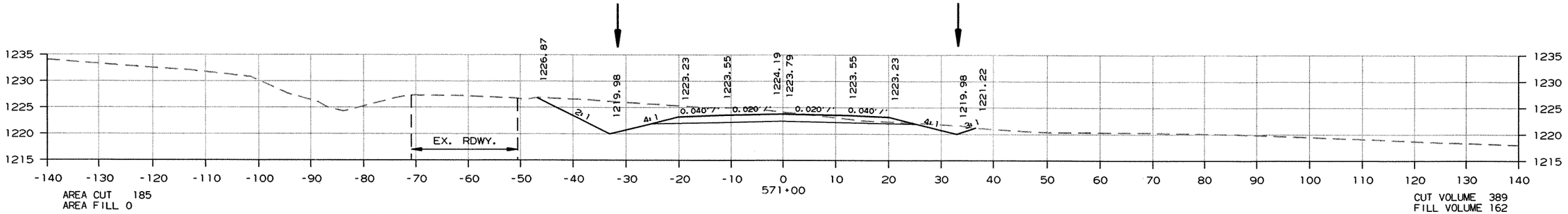


CROSS SECTION STA. 565+93 TO STA. 567+65

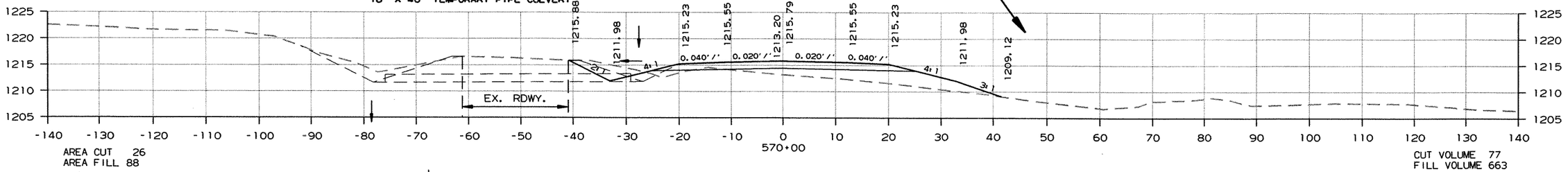
RR50116.DGN 4/13/2012

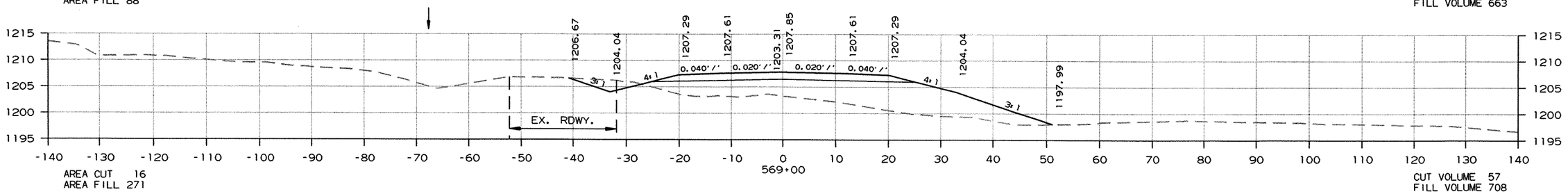
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	160	223

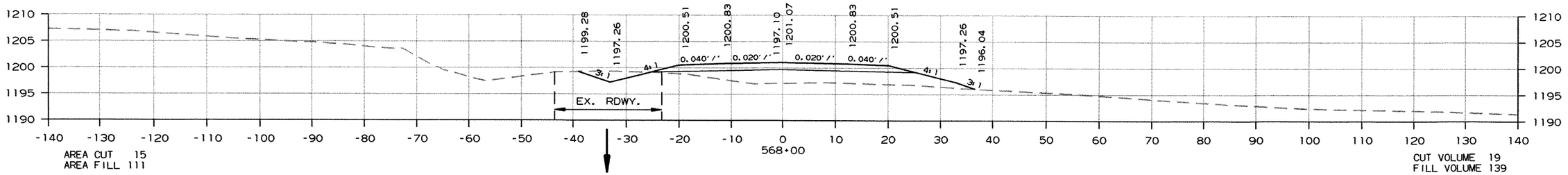
(2) CROSS SECTIONS



STA. 570+00 INSTALL
18" x 46' TEMPORARY PIPE CULVERT





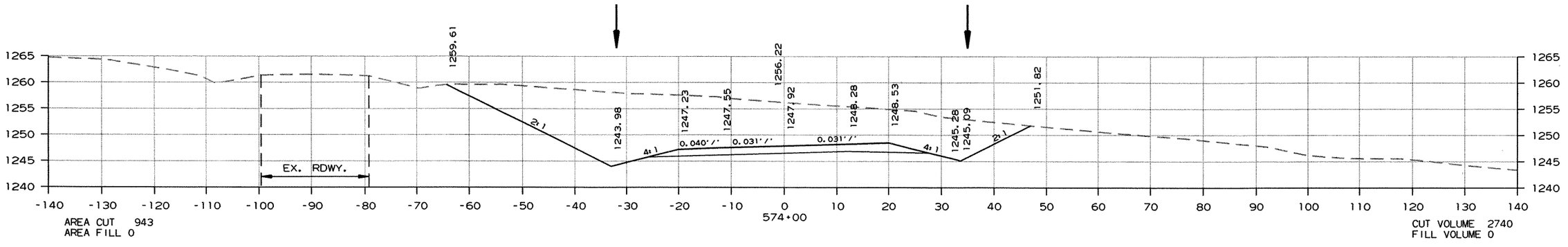


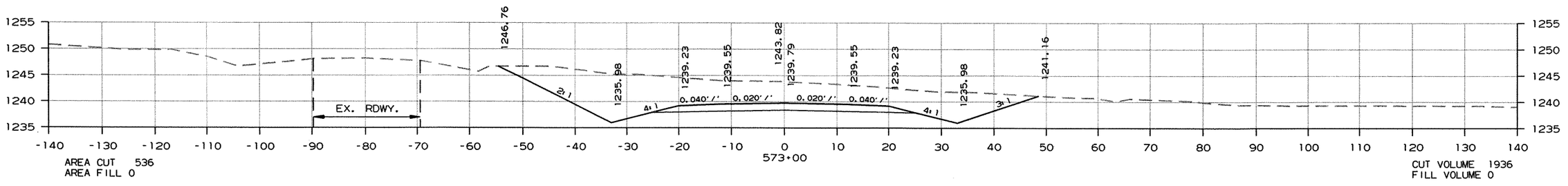
CROSS SECTION STA. 568+00 TO STA. 571+00

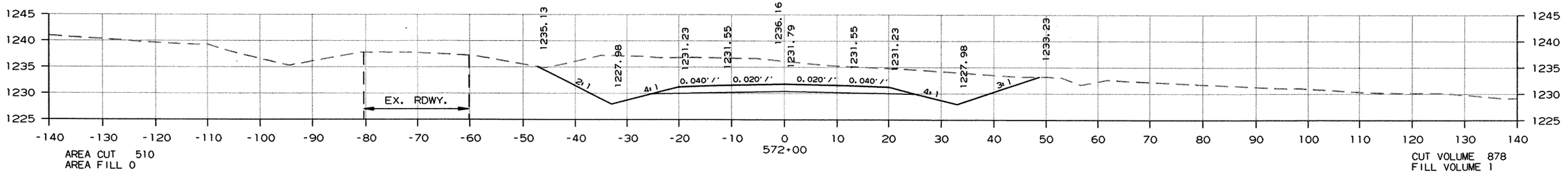
RR50116.DGN 4/13/2012

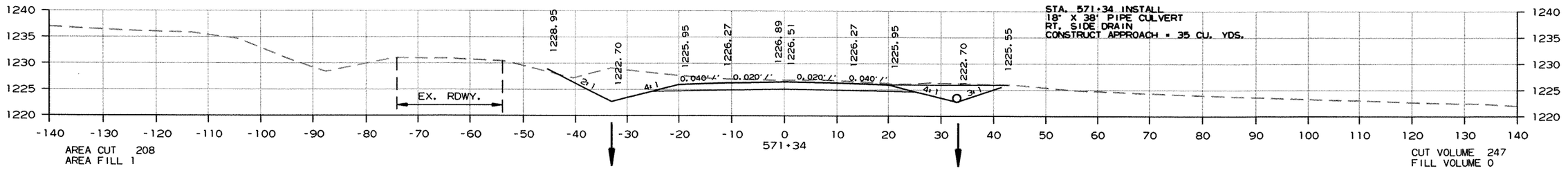
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	161	223

(2) CROSS SECTIONS







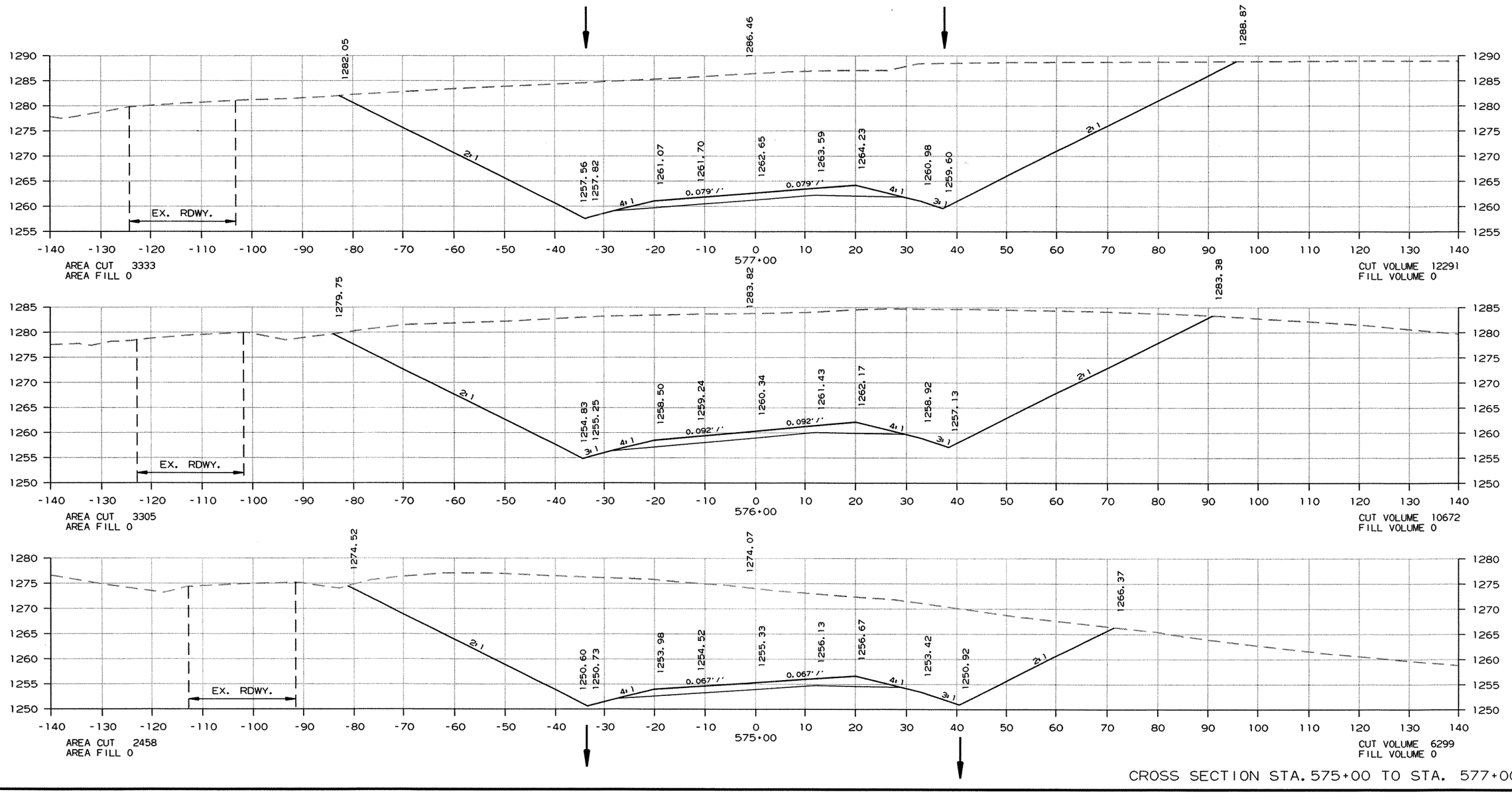


CROSS SECTION STA. 571+34 TO STA. 574+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	162	223

(2) CROSS SECTIONS

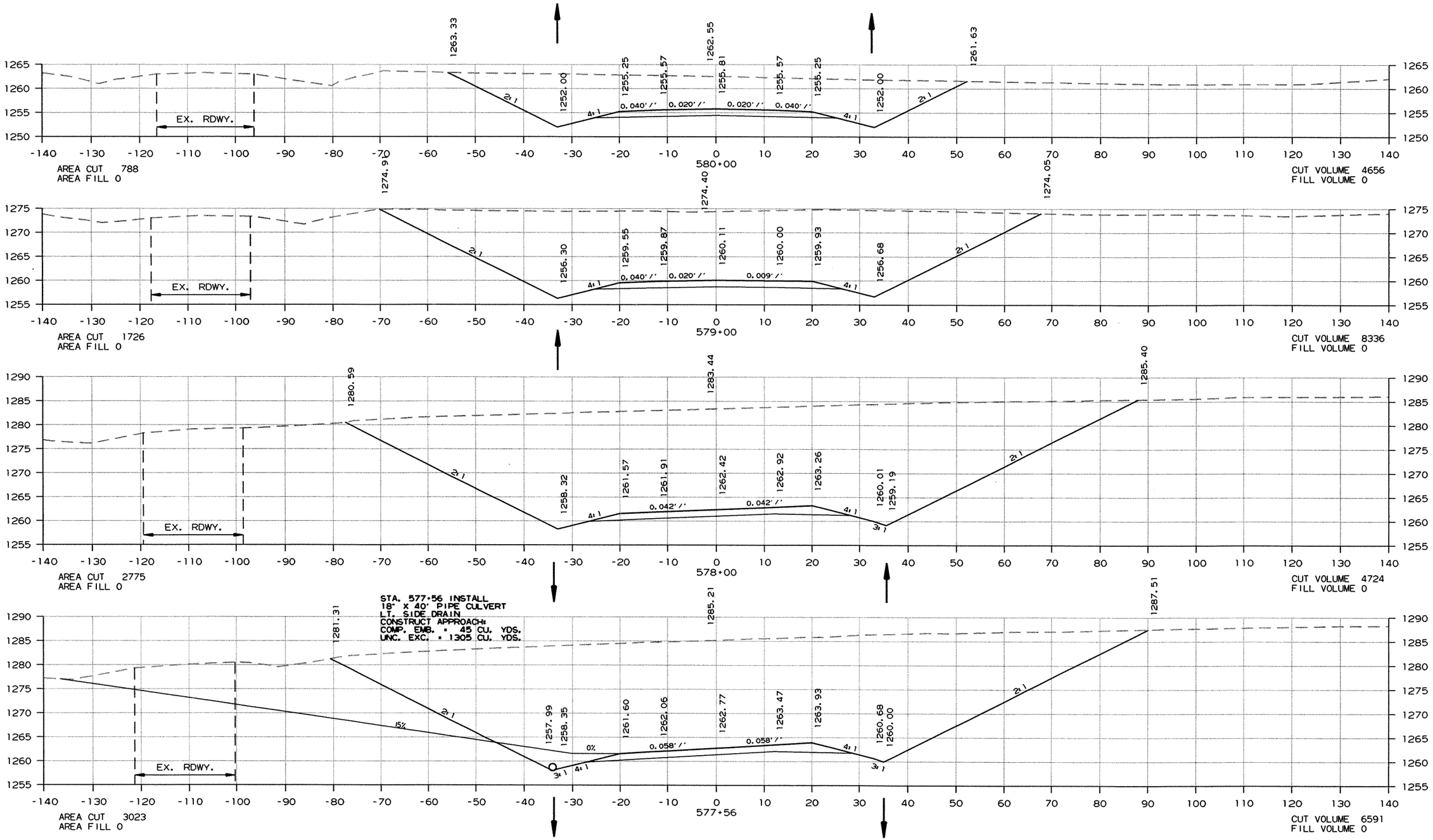


CROSS SECTION STA. 575+00 TO STA. 577+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	163	223

(2) CROSS SECTIONS

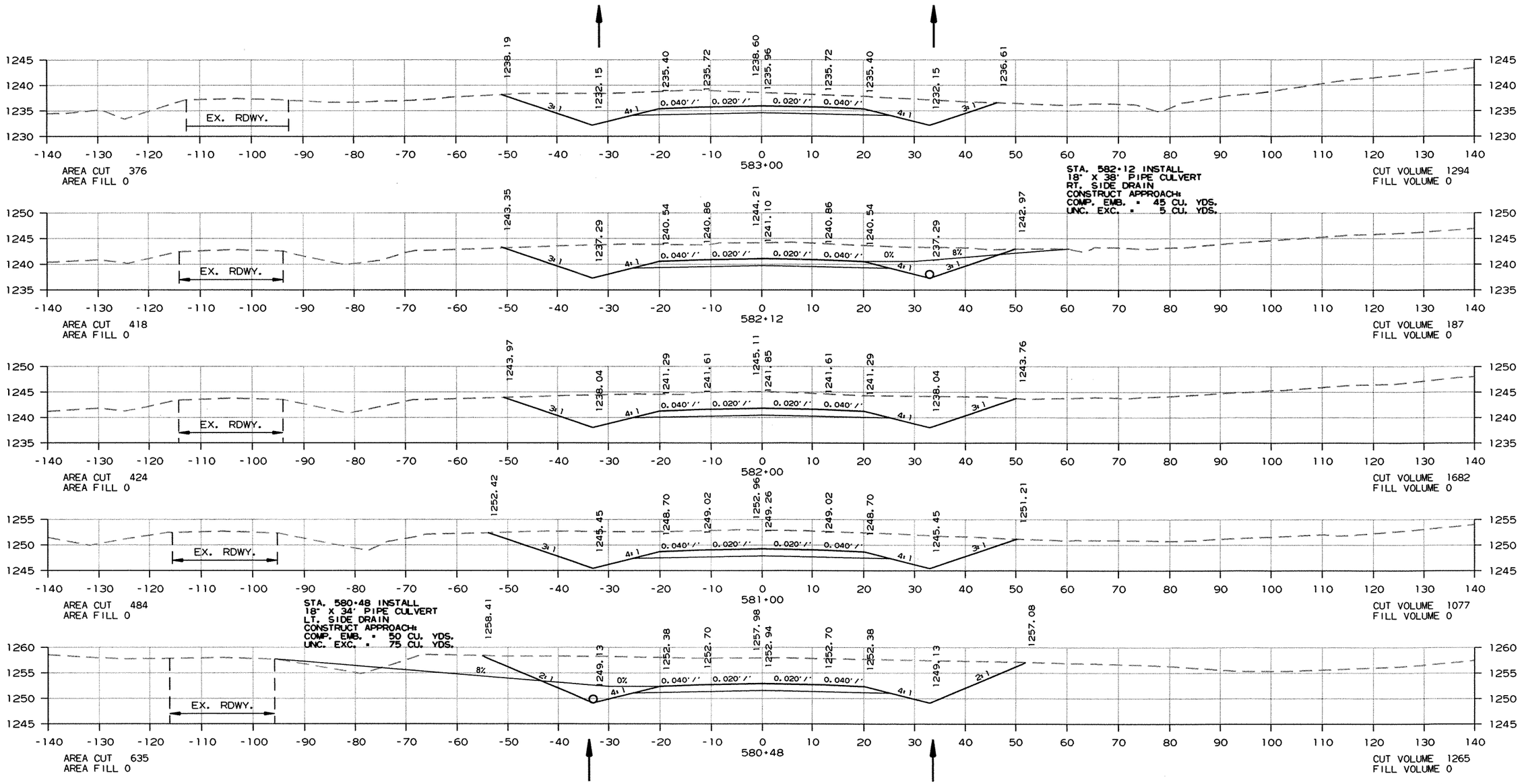


CROSS SECTION STA. 577+56 TO STA. 580+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	164	223

(2) CROSS SECTIONS

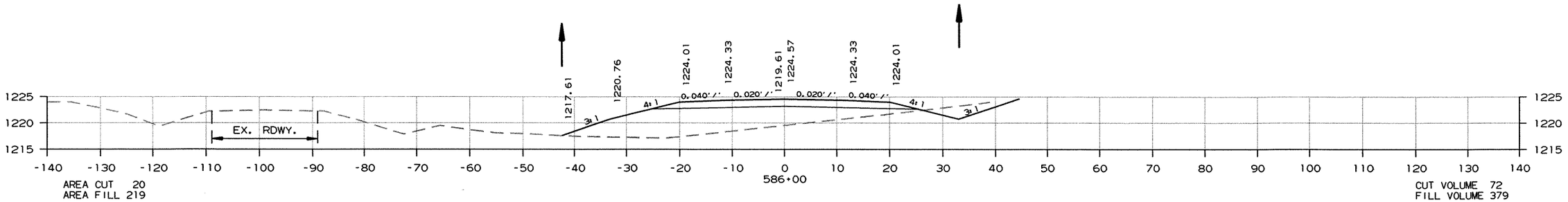


CROSS SECTION STA. 580+48 TO STA. 583+00

RR50116.DGN 4/13/2012

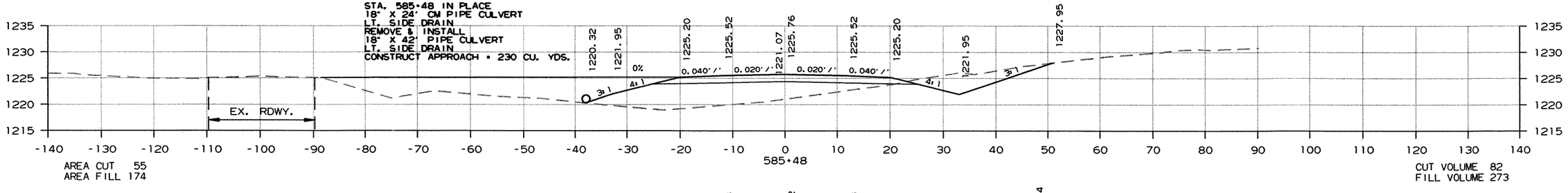
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				6	ARK.			
				JOB NO.		R50116	165	223

(2) CROSS SECTIONS



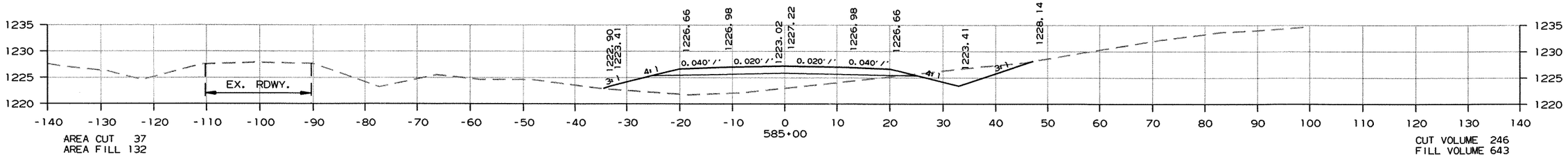
AREA CUT 20
AREA FILL 219

CUT VOLUME 72
FILL VOLUME 379



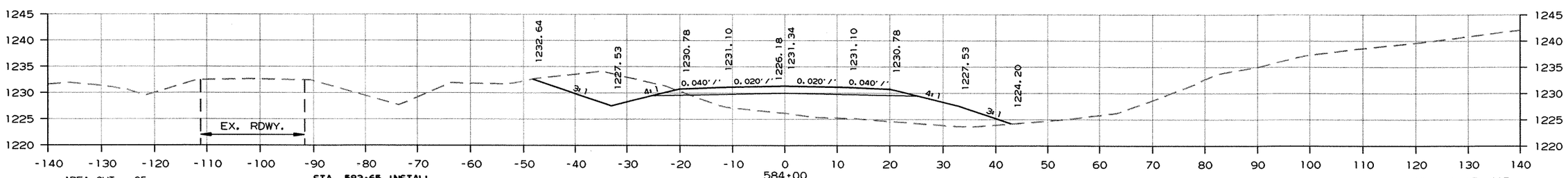
AREA CUT 55
AREA FILL 174

CUT VOLUME 82
FILL VOLUME 273



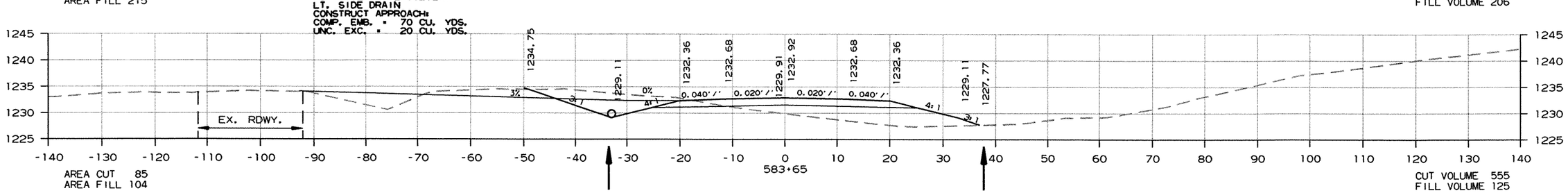
AREA CUT 37
AREA FILL 132

CUT VOLUME 246
FILL VOLUME 643



AREA CUT 95
AREA FILL 215

CUT VOLUME 117
FILL VOLUME 206



AREA CUT 85
AREA FILL 104

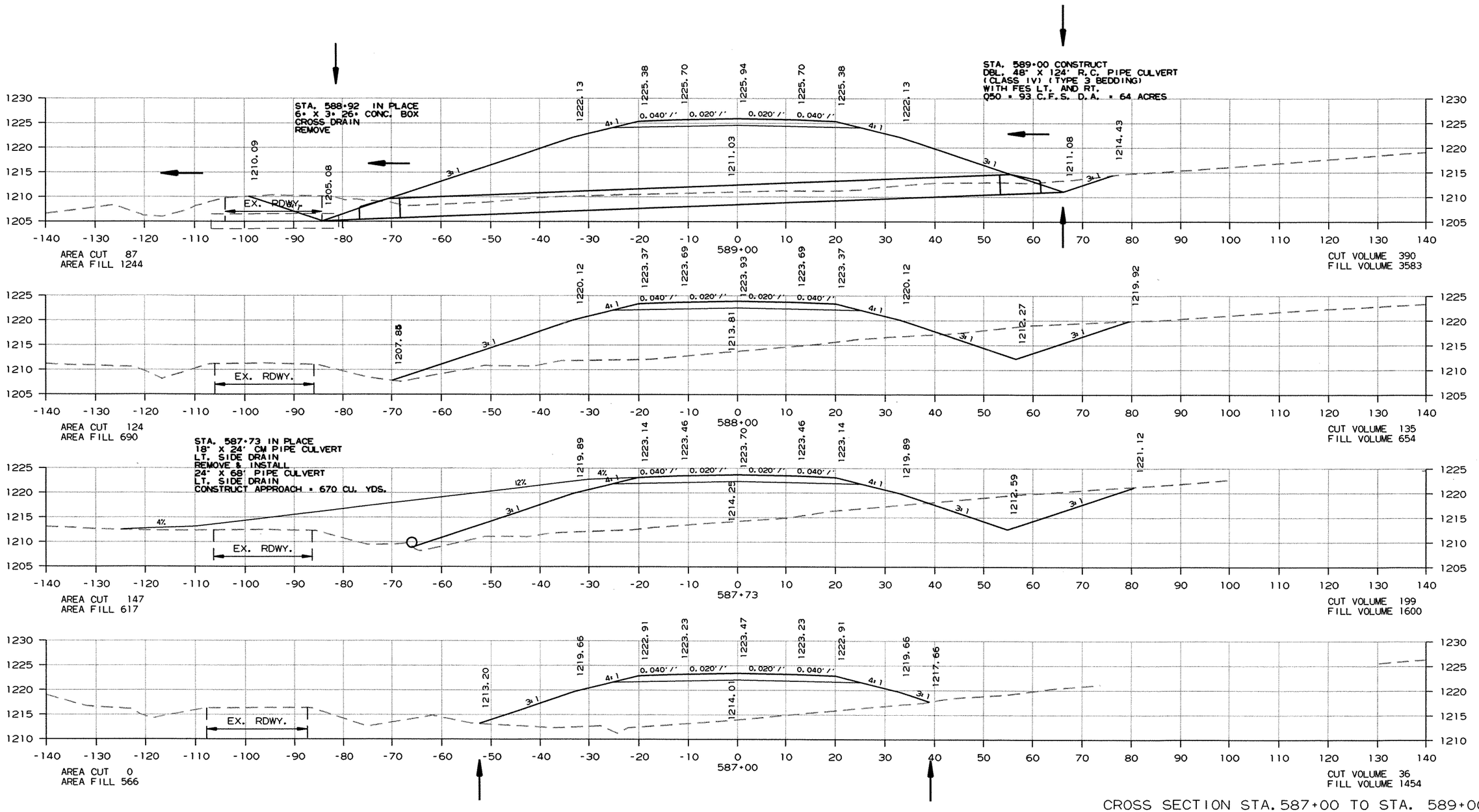
CUT VOLUME 555
FILL VOLUME 125

CROSS SECTION STA. 583+65 TO STA. 586+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	166	223

(2) CROSS SECTIONS

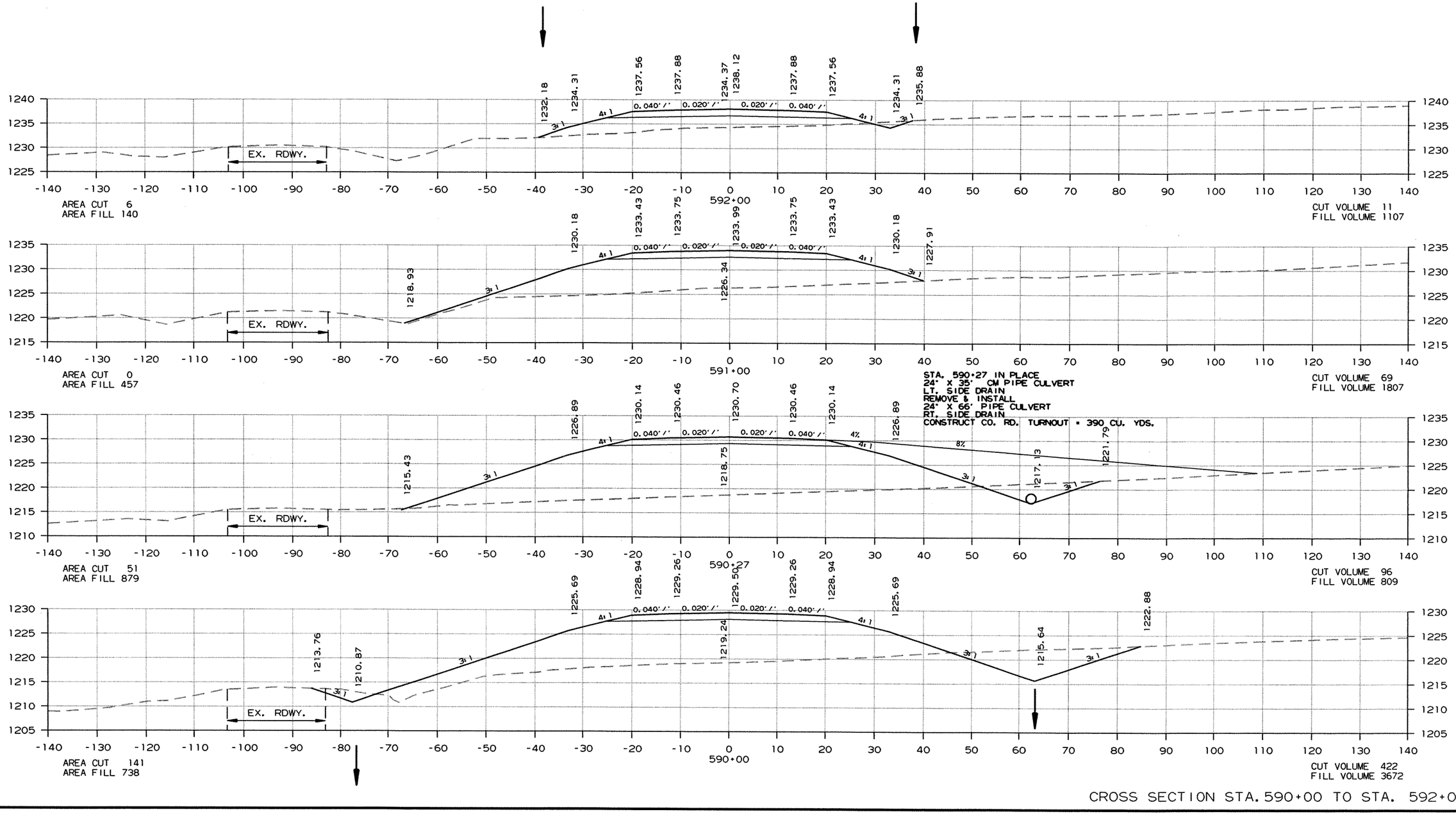


CROSS SECTION STA. 587+00 TO STA. 589+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	167	223

(2) CROSS SECTIONS

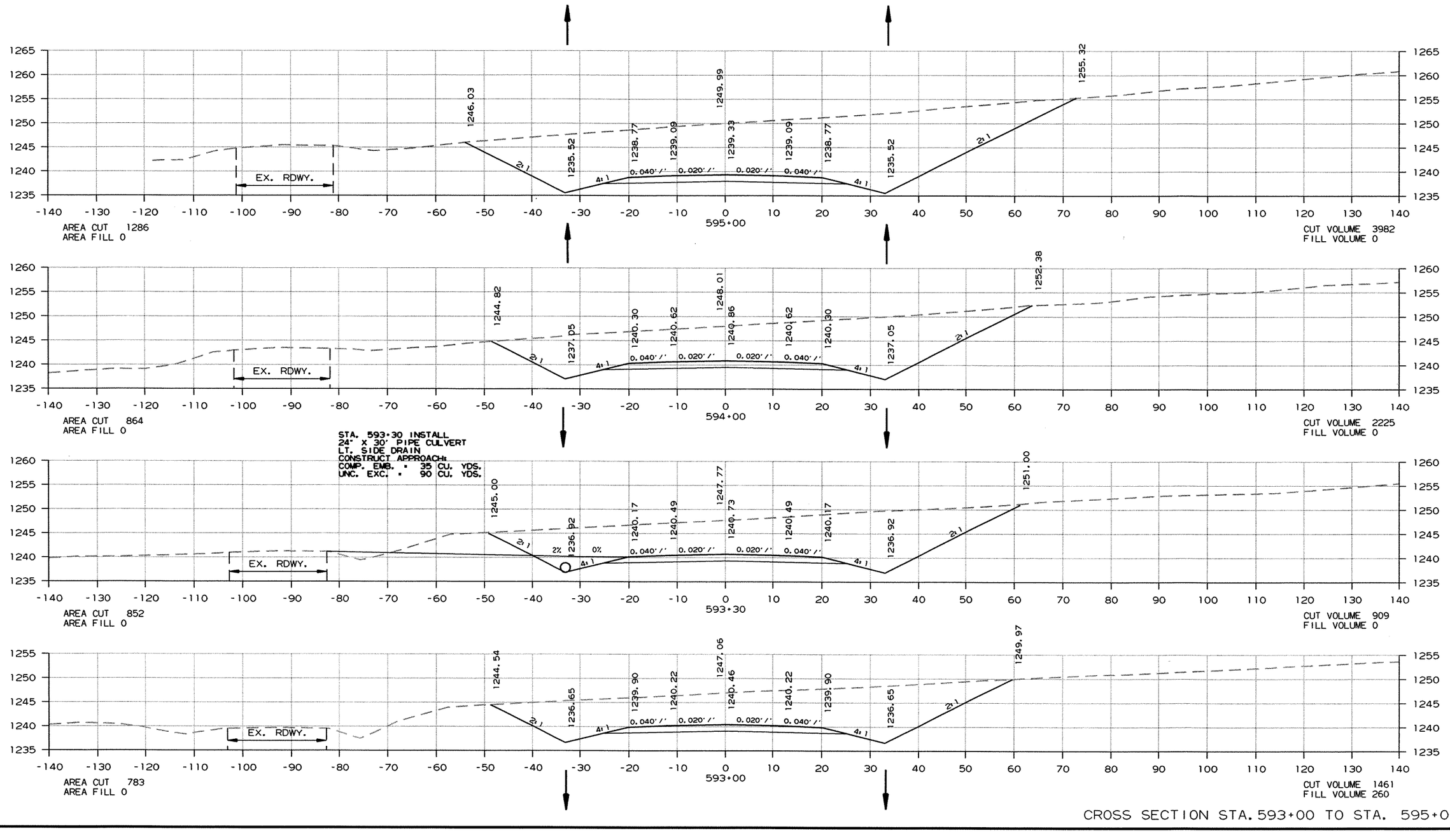


CROSS SECTION STA. 590+00 TO STA. 592+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	168	223

(2) CROSS SECTIONS

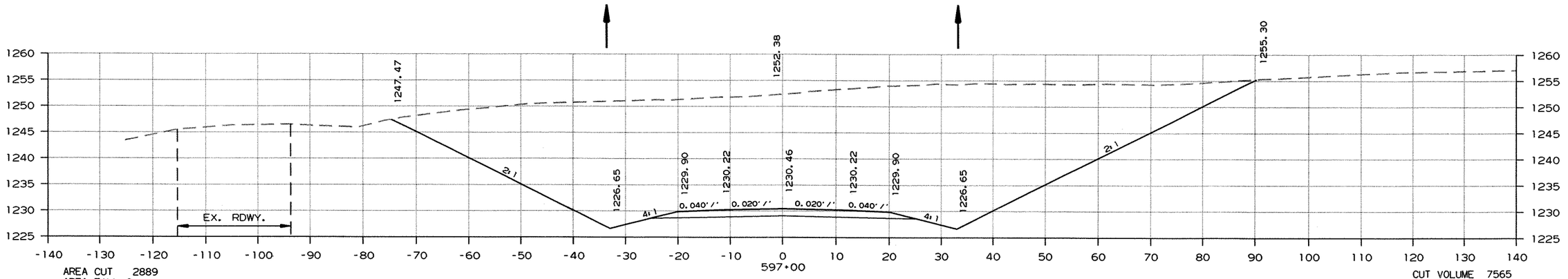


CROSS SECTION STA. 593+00 TO STA. 595+00

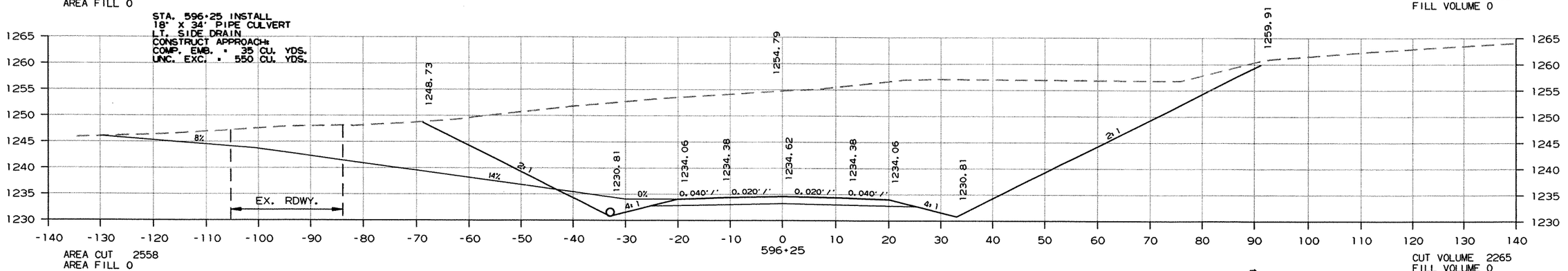
RR50116.DGN 4/13/2012

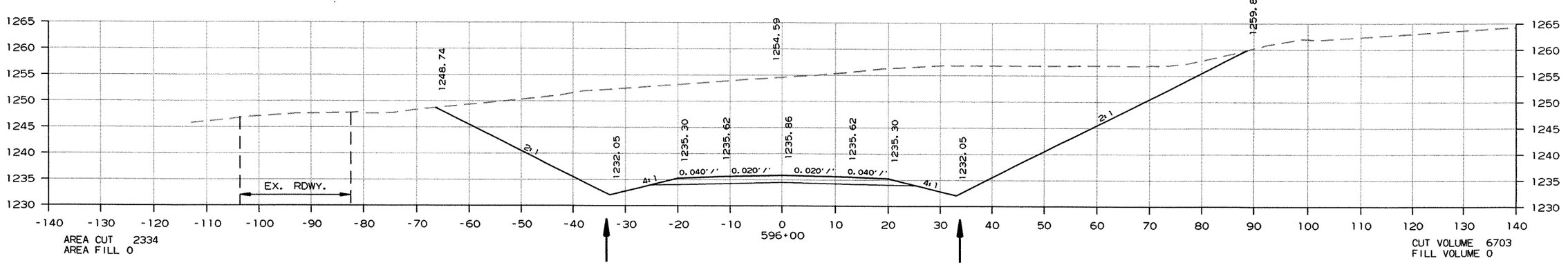
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	169	223

(2) CROSS SECTIONS



STA. 596+25 INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH:
COMP. EMB. = 35 CU. YDS.
UNC. EXC. = 550 CU. YDS.



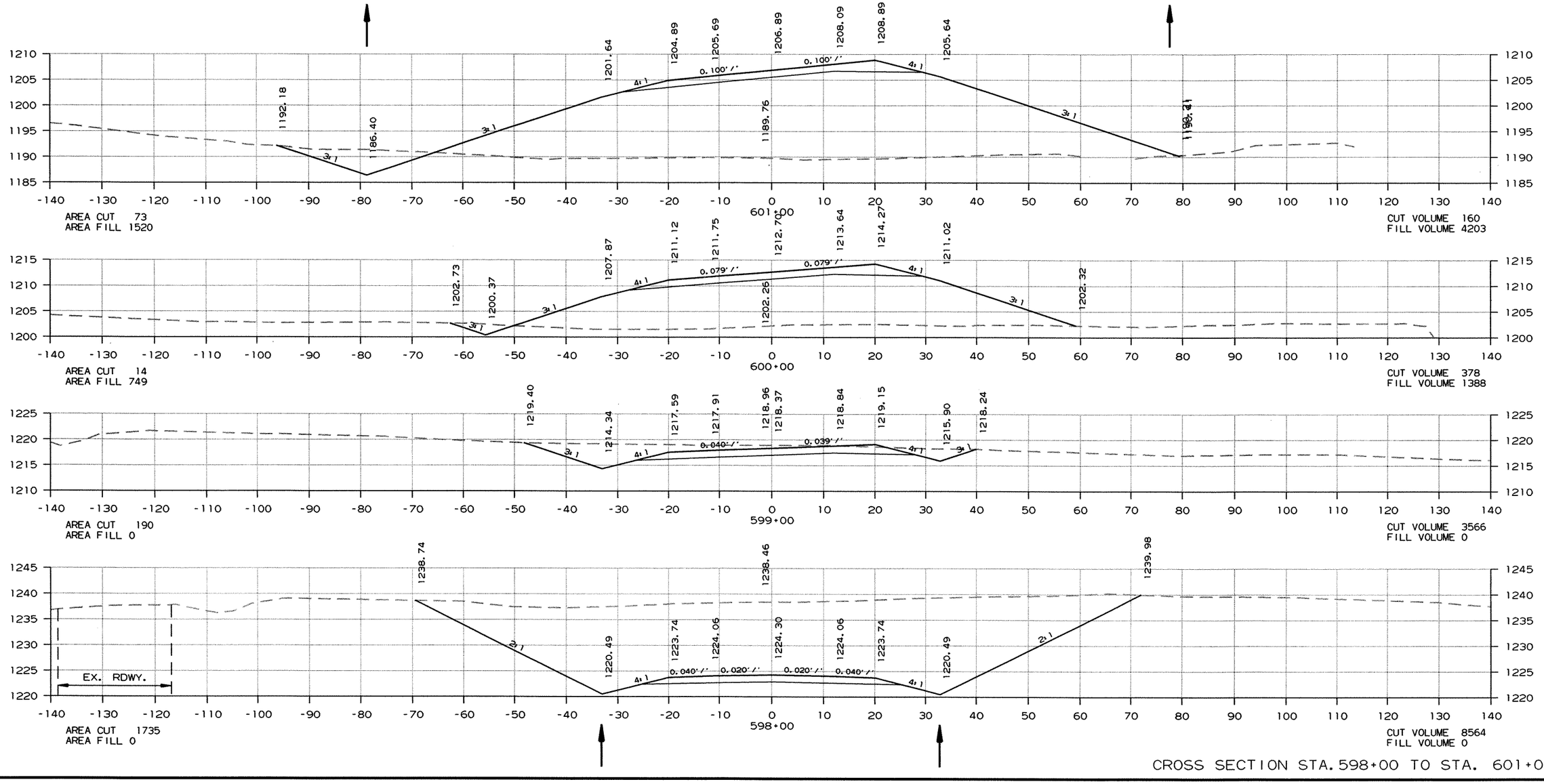


CROSS SECTION STA. 596+00 TO STA. 597+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	170	223

(2) CROSS SECTIONS

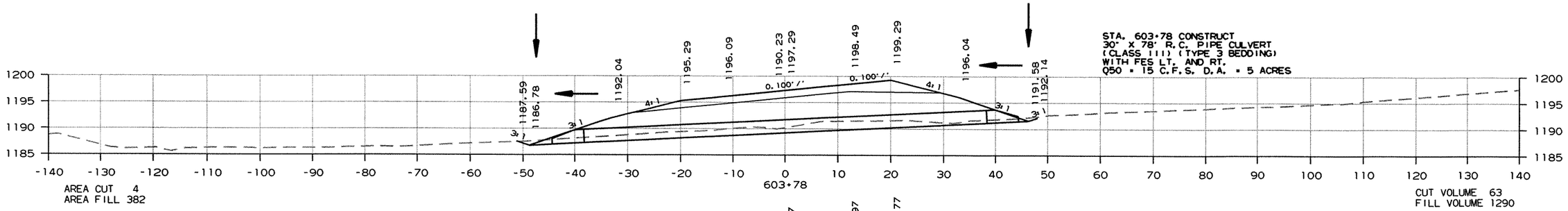


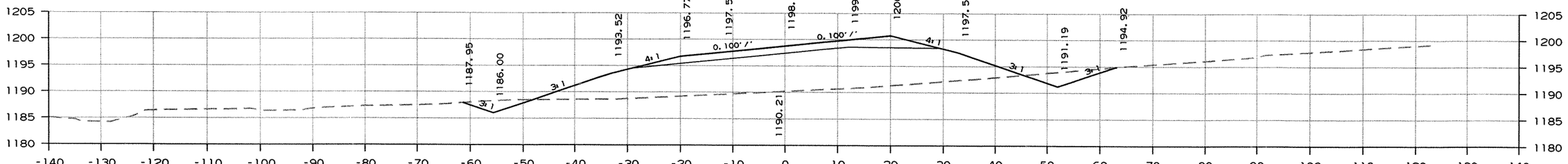
CROSS SECTION STA. 598+00 TO STA. 601+00

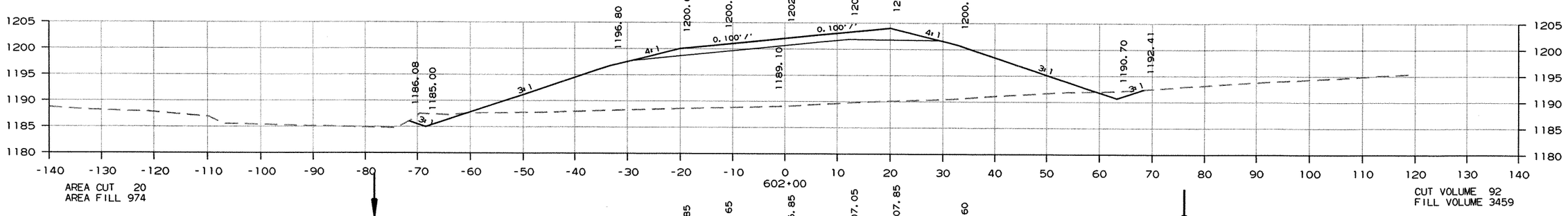
RR50116.DGN 4/13/2012

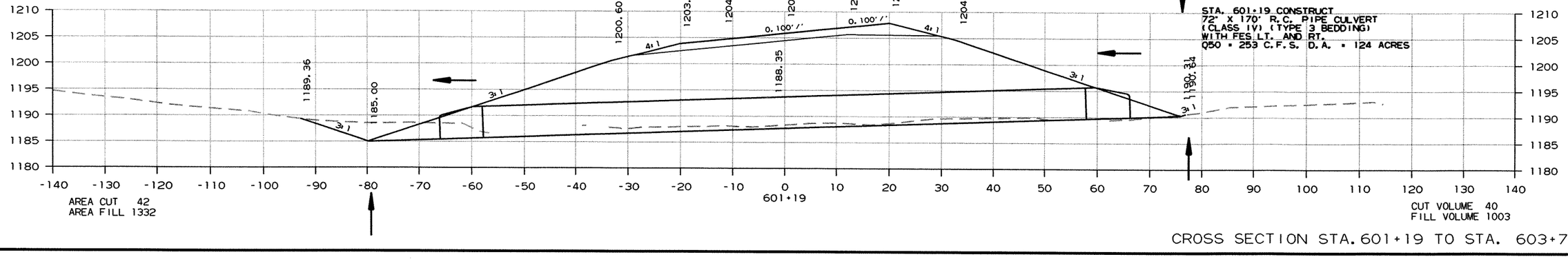
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	171	223

(2) CROSS SECTIONS







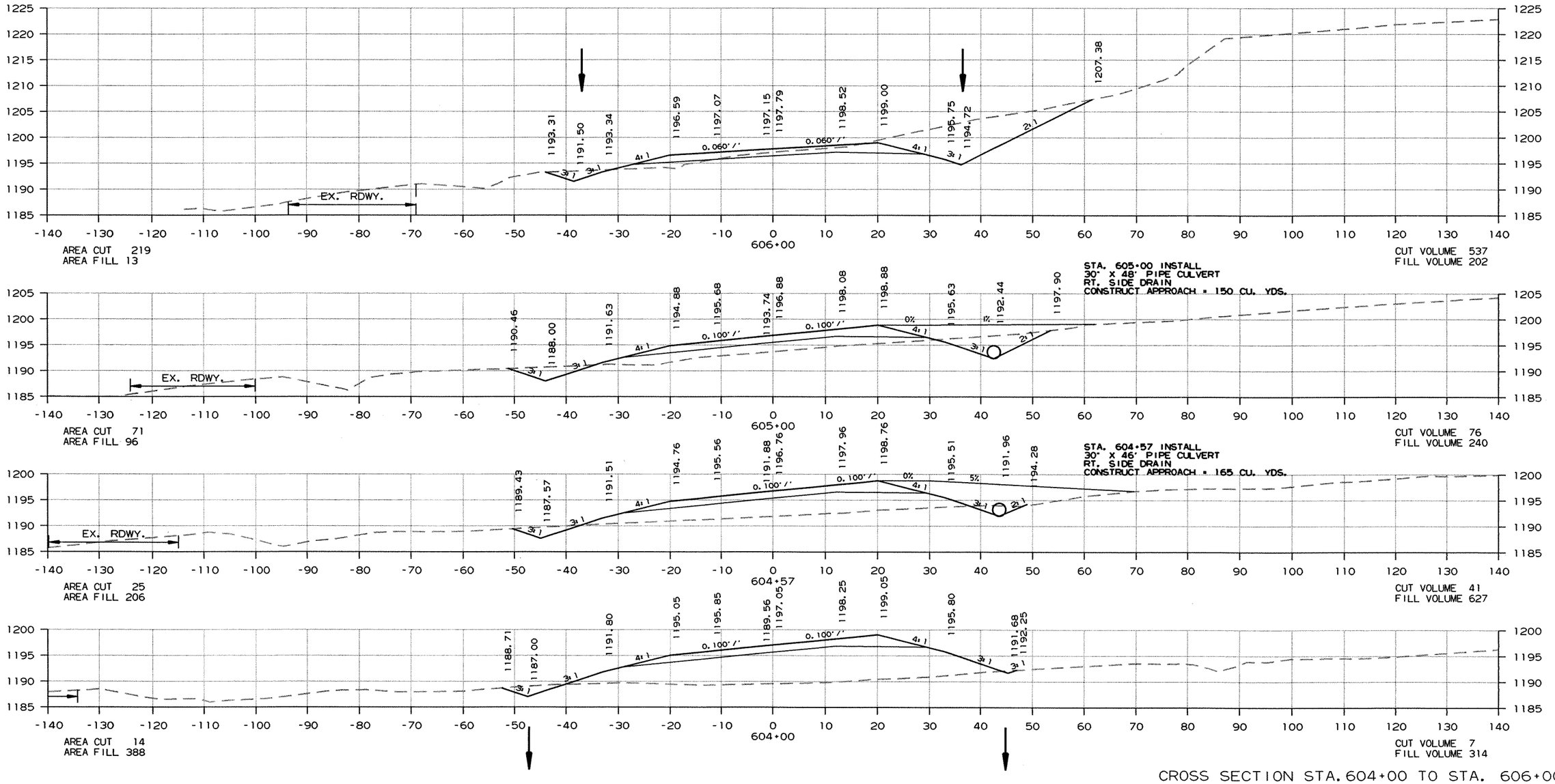


CROSS SECTION STA. 601+19 TO STA. 603+78

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	172	223

(2) CROSS SECTIONS

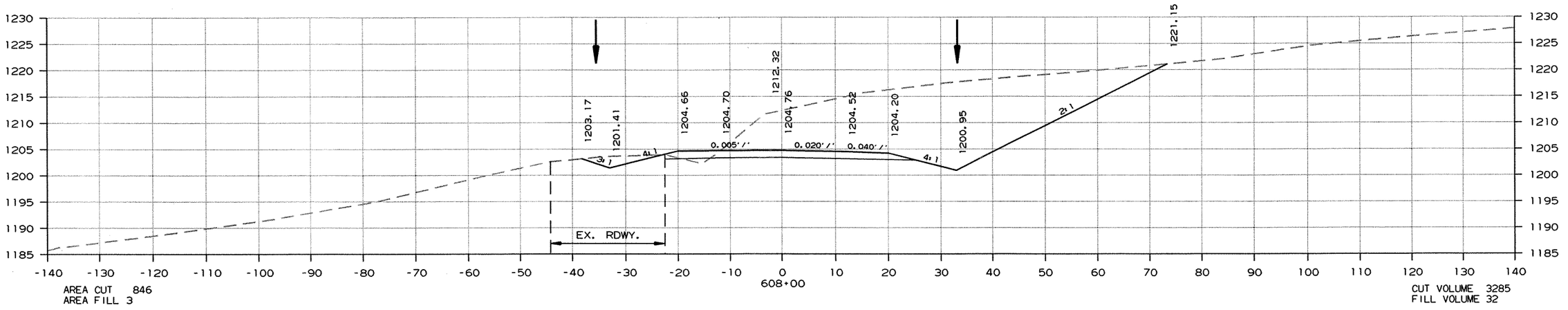


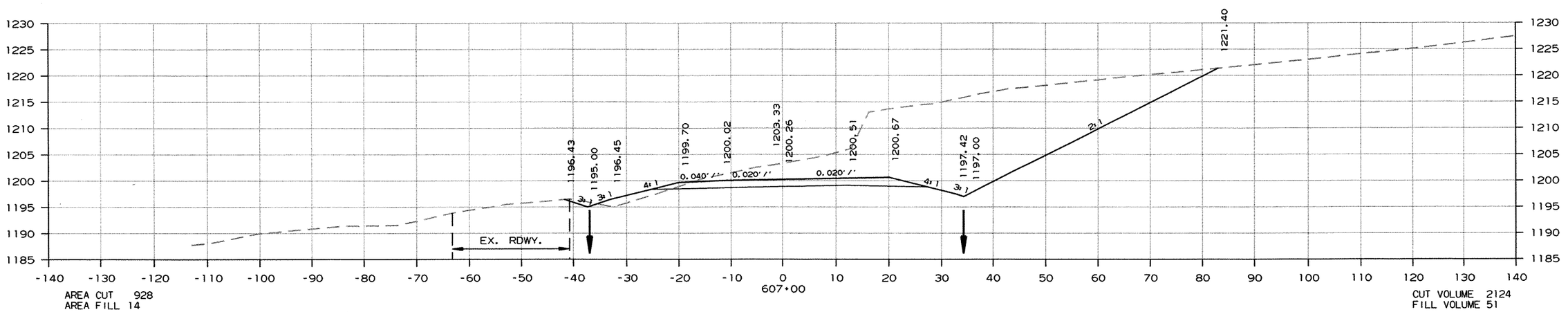
CROSS SECTION STA. 604+00 TO STA. 606+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	173	223

(2) CROSS SECTIONS



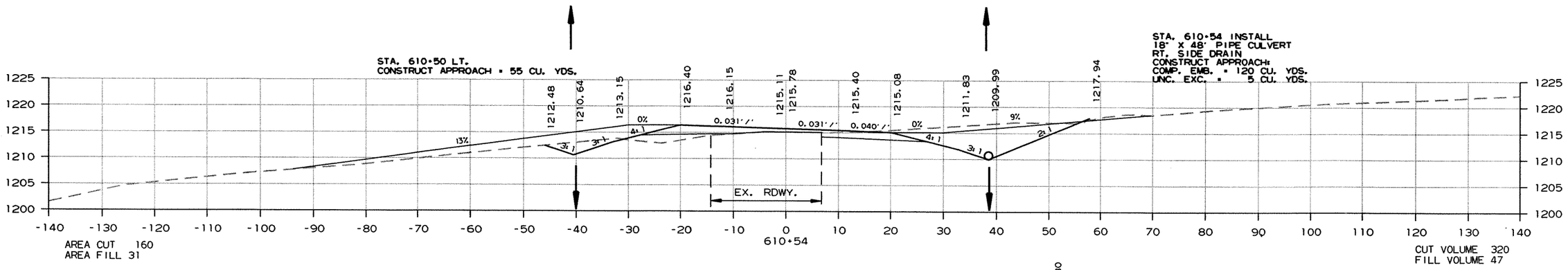


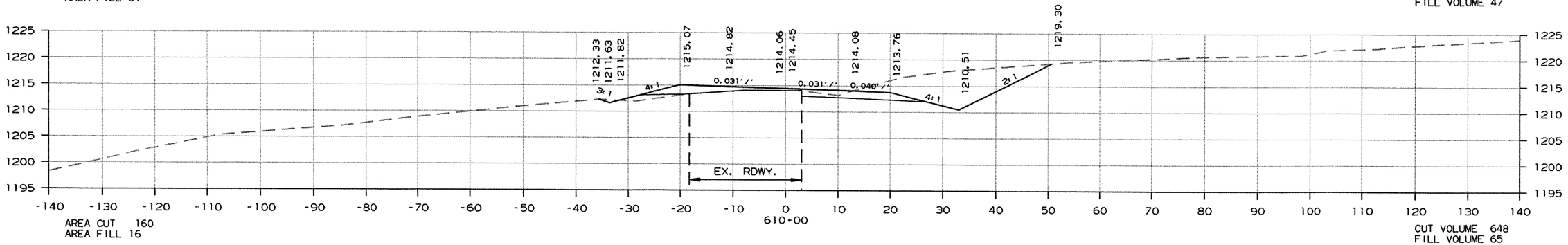
CROSS SECTION STA. 607+00 TO STA. 608+00

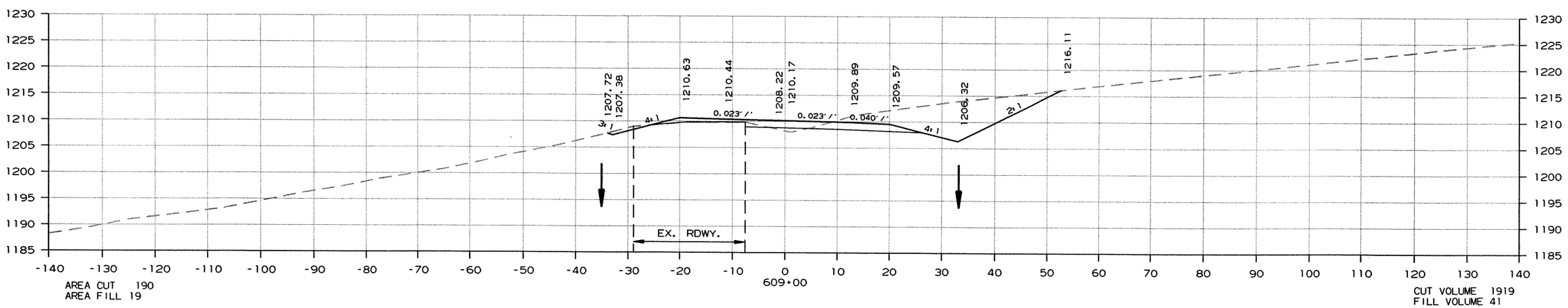
RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	174	223

(2) CROSS SECTIONS





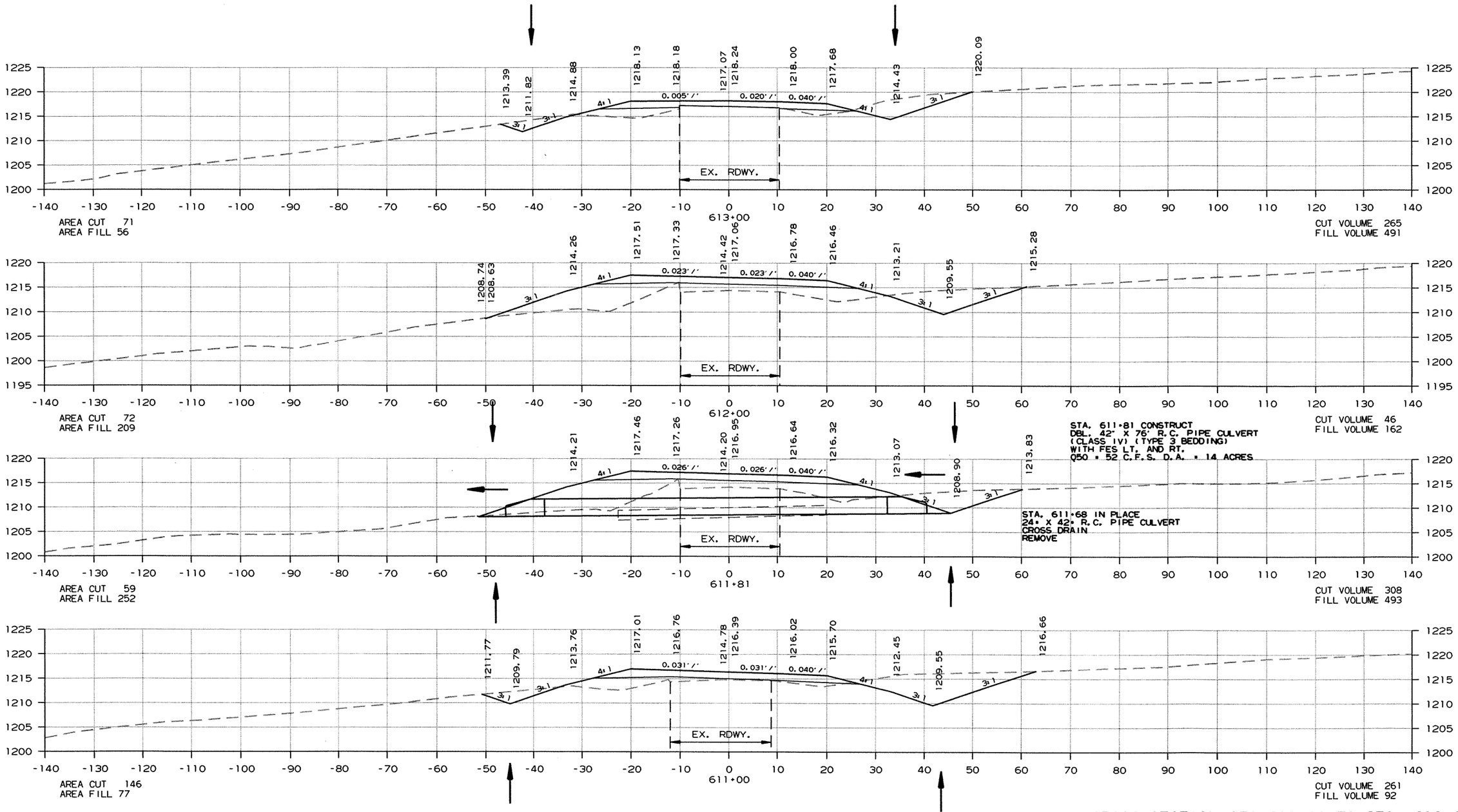


CROSS SECTION STA. 609+00 TO STA. 610+54

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	175	223

(2) CROSS SECTIONS

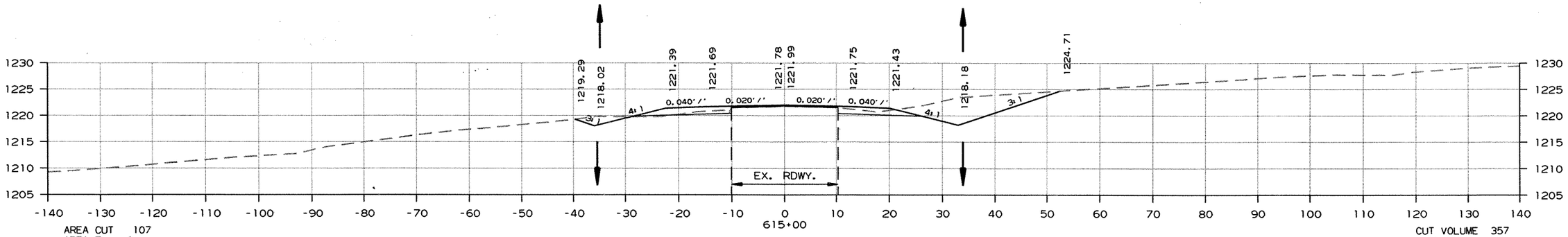


CROSS SECTION STA. 611+00 TO STA. 613+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	176	223

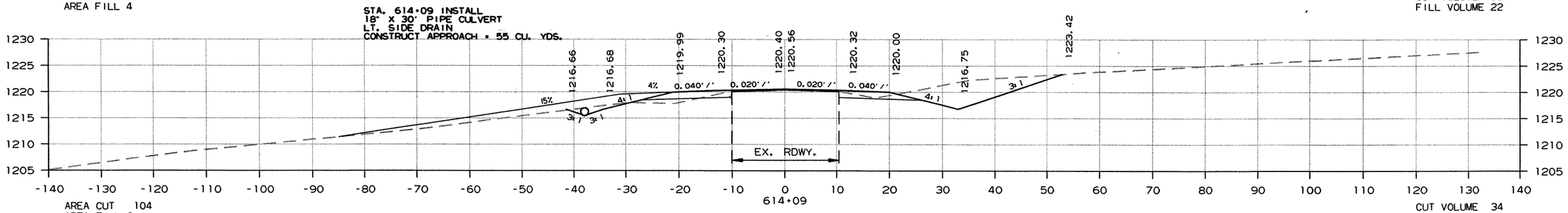
(2) CROSS SECTIONS



AREA CUT 107
AREA FILL 4

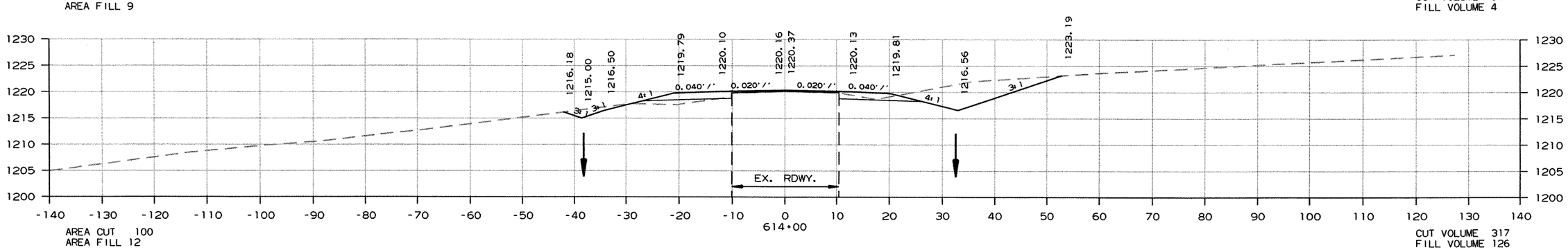
CUT VOLUME 357
FILL VOLUME 22

STA. 614+09 INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.



AREA CUT 104
AREA FILL 9

CUT VOLUME 34
FILL VOLUME 4



AREA CUT 100
AREA FILL 12

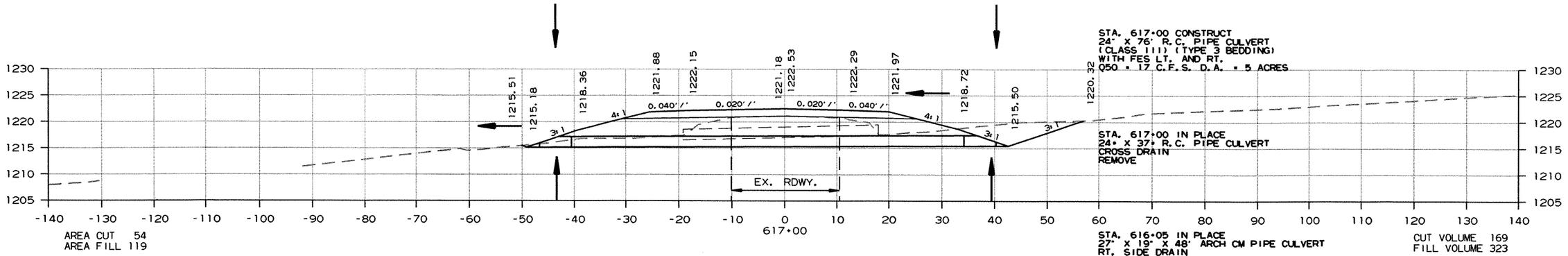
CUT VOLUME 317
FILL VOLUME 126

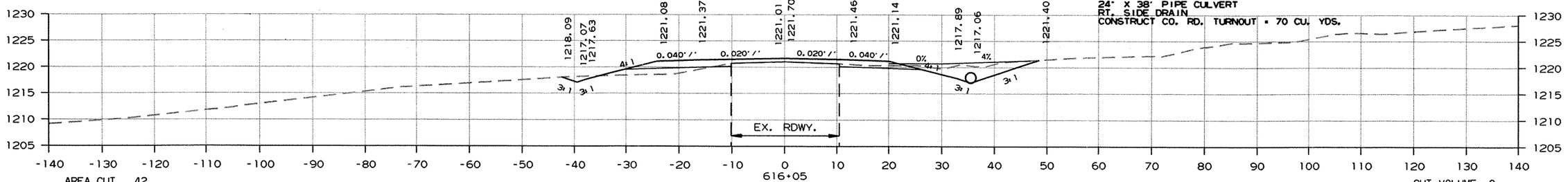
CROSS SECTION STA. 614+00 TO STA. 615+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	177	223

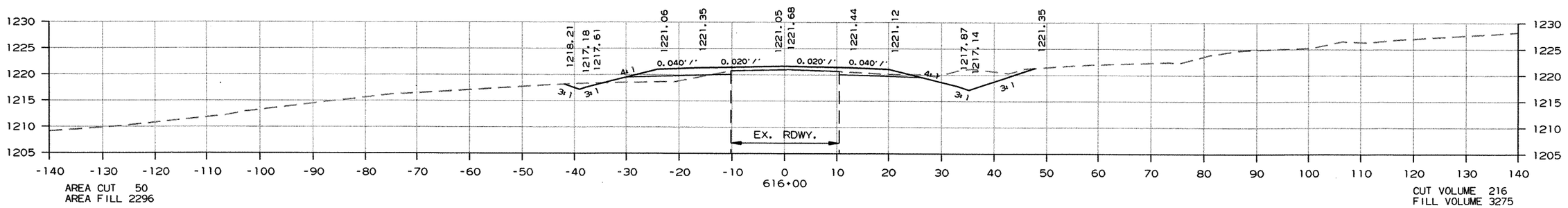
(2) CROSS SECTIONS



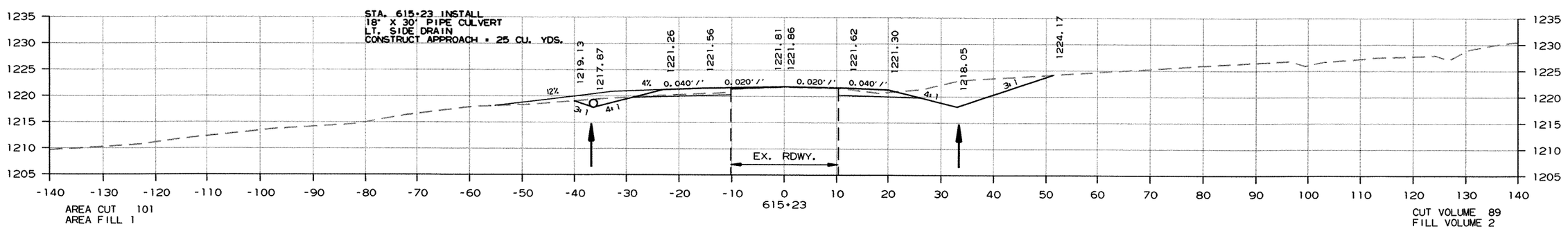


CUT VOLUME 169
FILL VOLUME 323

CUT VOLUME 9
FILL VOLUME 219



CUT VOLUME 216
FILL VOLUME 3275



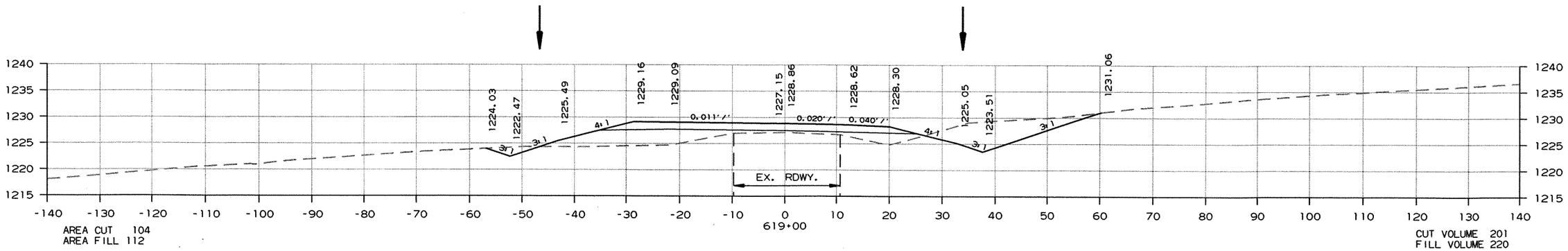
CUT VOLUME 89
FILL VOLUME 2

CROSS SECTION STA. 615+23 TO STA. 617+00

RR50116.DGN 4/13/2012

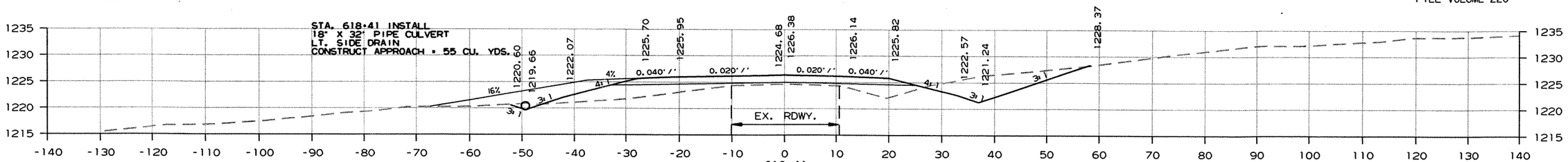
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	178	223

(2) CROSS SECTIONS



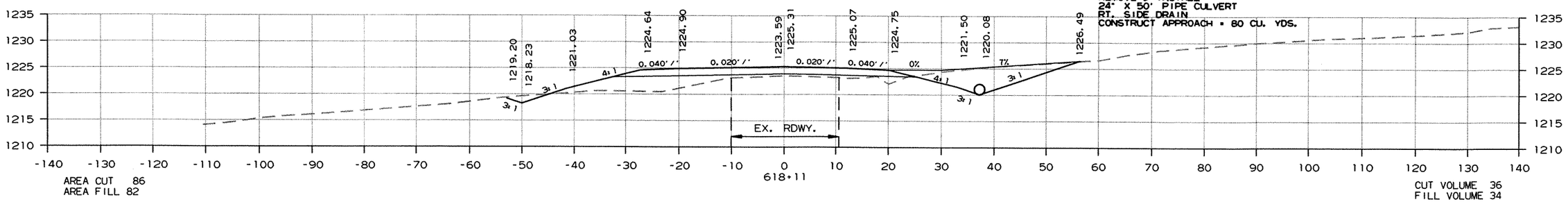
AREA CUT 104
AREA FILL 112

CUT VOLUME 201
FILL VOLUME 220



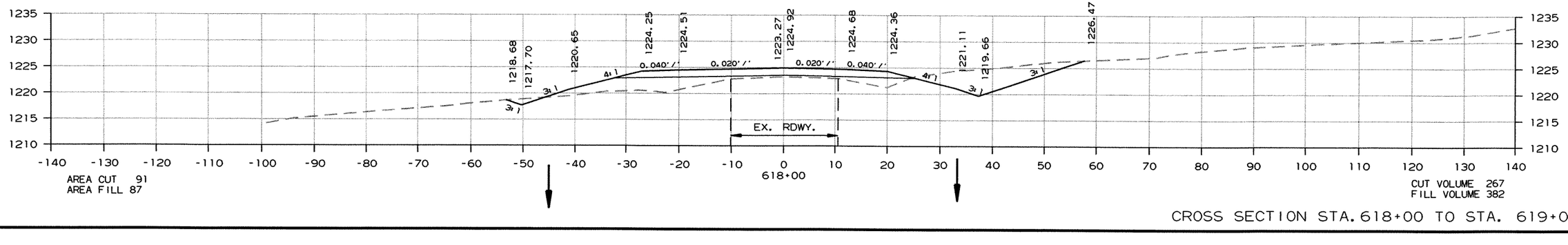
AREA CUT 80
AREA FILL 90

CUT VOLUME 92
FILL VOLUME 95



AREA CUT 86
AREA FILL 82

CUT VOLUME 36
FILL VOLUME 34



AREA CUT 91
AREA FILL 87

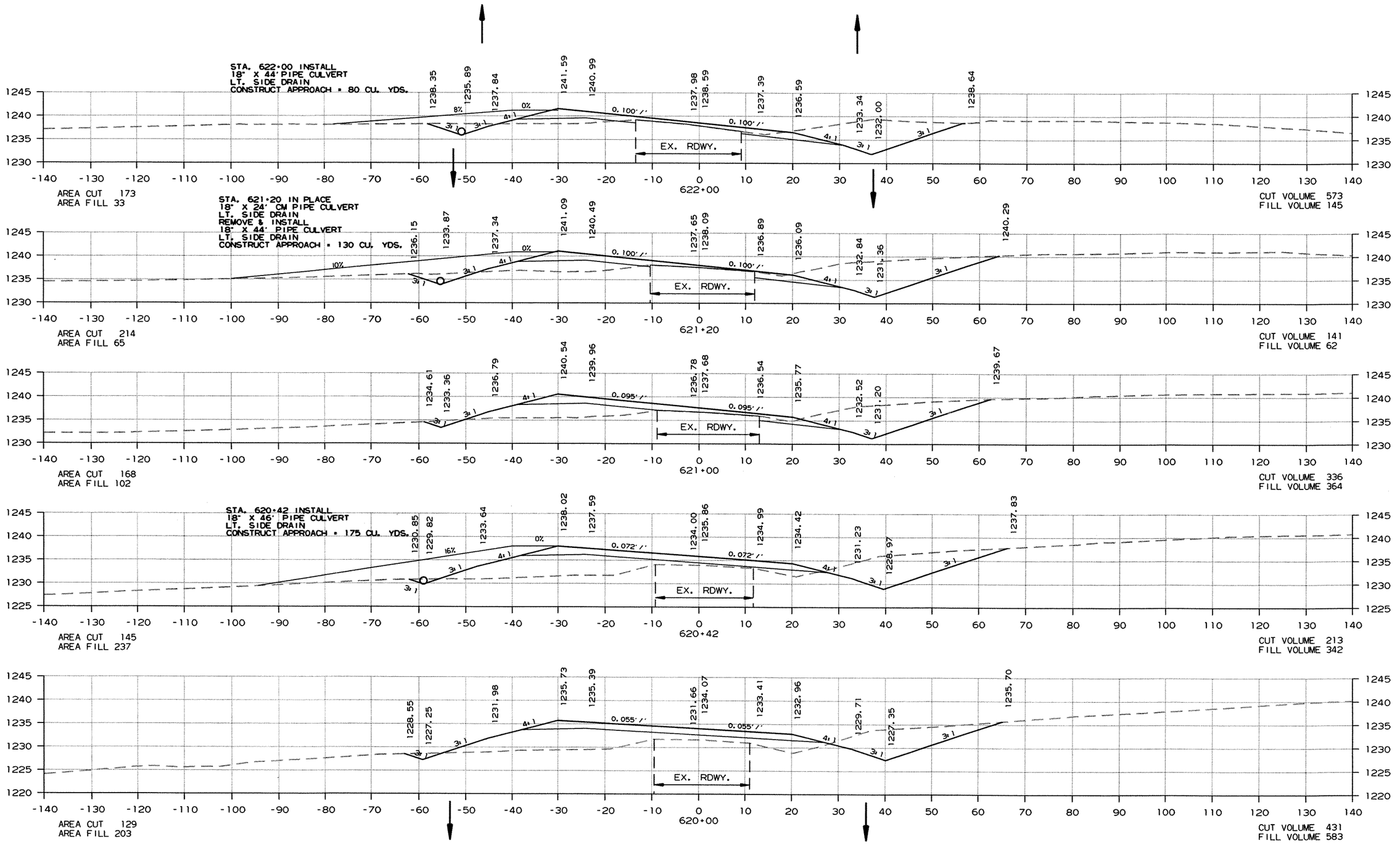
CUT VOLUME 267
FILL VOLUME 382

CROSS SECTION STA. 618+00 TO STA. 619+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	179	223

(2) CROSS SECTIONS

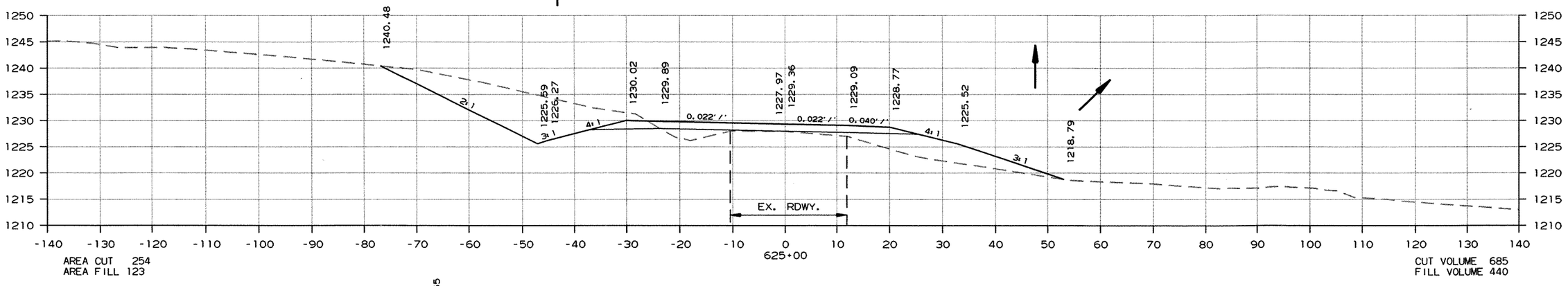


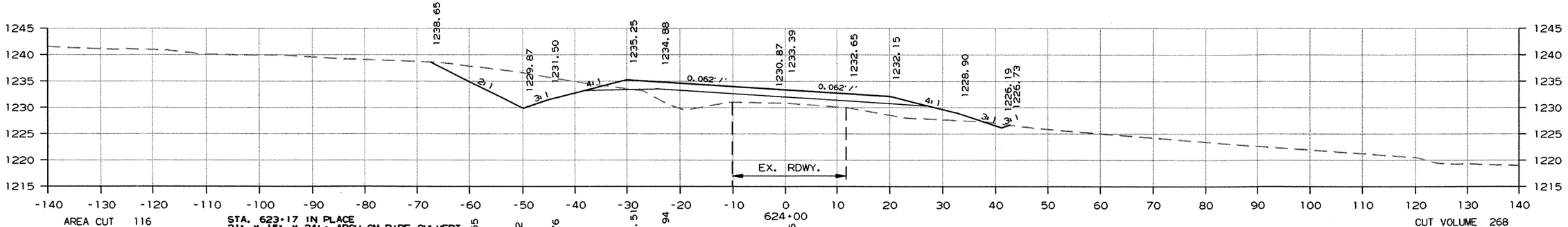
CROSS SECTION STA. 620+00 TO STA. 622+00

RR50116.DGN 4/13/2012

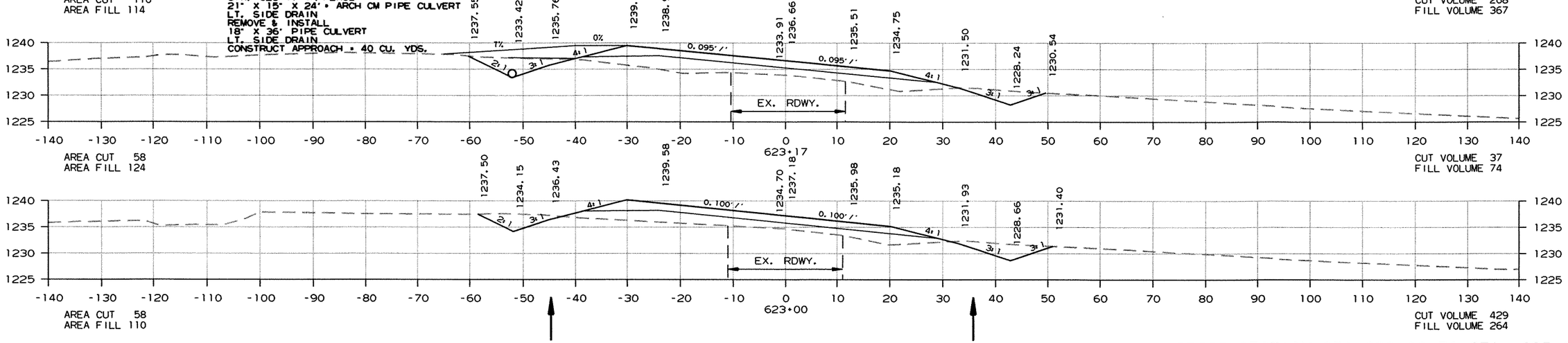
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	180	223

(2) CROSS SECTIONS





STA. 623+17 IN PLACE
21" X 15" X 24' ARCH CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

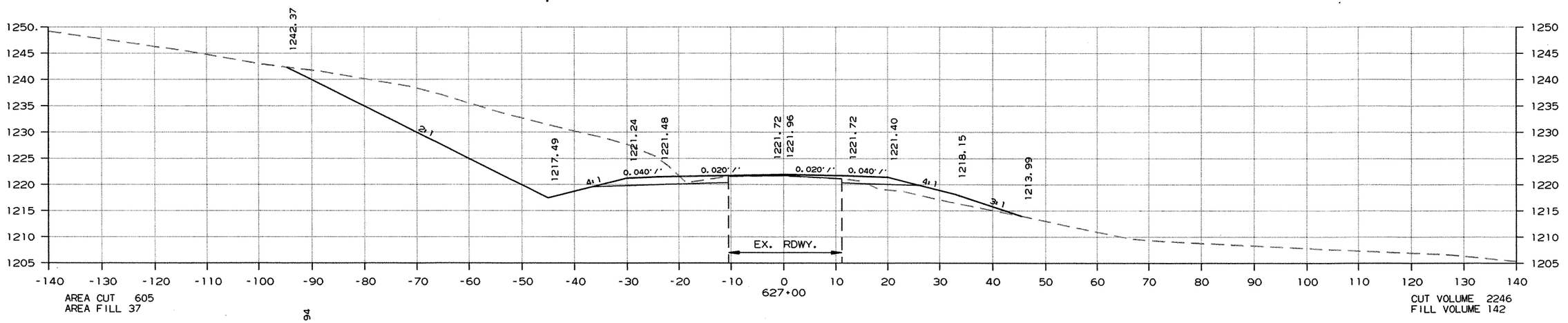


CROSS SECTION STA. 623+00 TO STA. 625+00

RR50116.DGN 4/13/2012

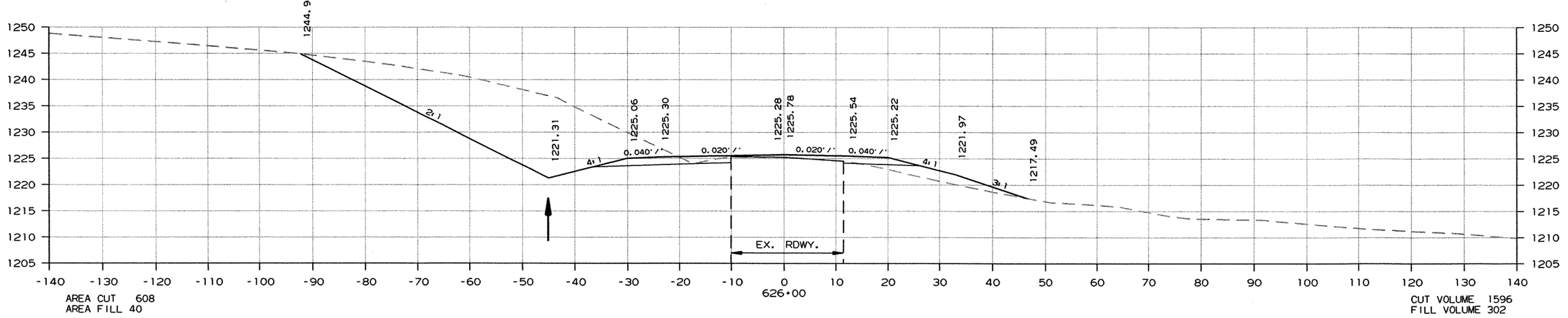
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	181	223

(2) CROSS SECTIONS



AREA CUT 605
AREA FILL 37

CUT VOLUME 2246
FILL VOLUME 142



AREA CUT 608
AREA FILL 40

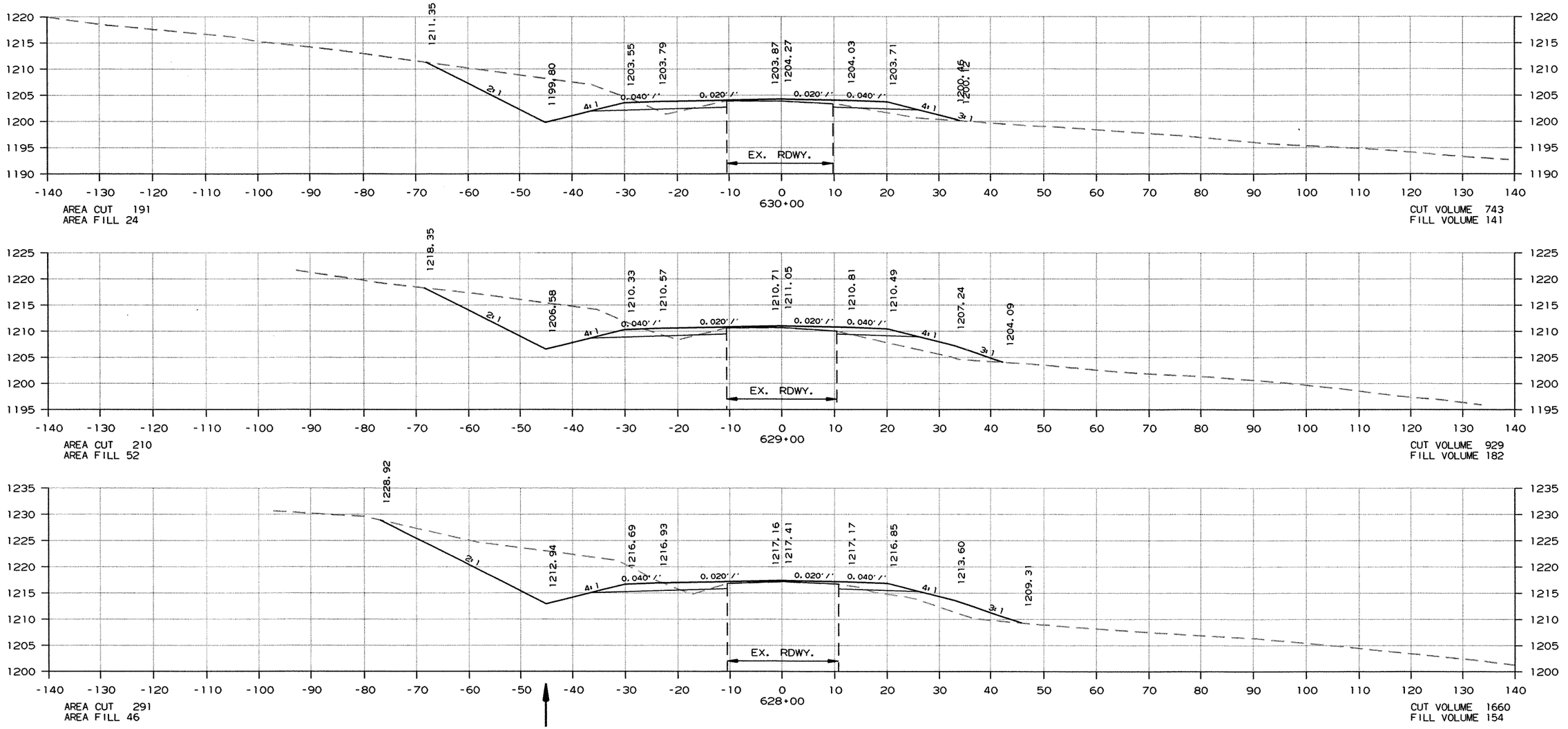
CUT VOLUME 1596
FILL VOLUME 302

CROSS SECTION STA. 626+00 TO STA. 627+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	182	223

(2) CROSS SECTIONS

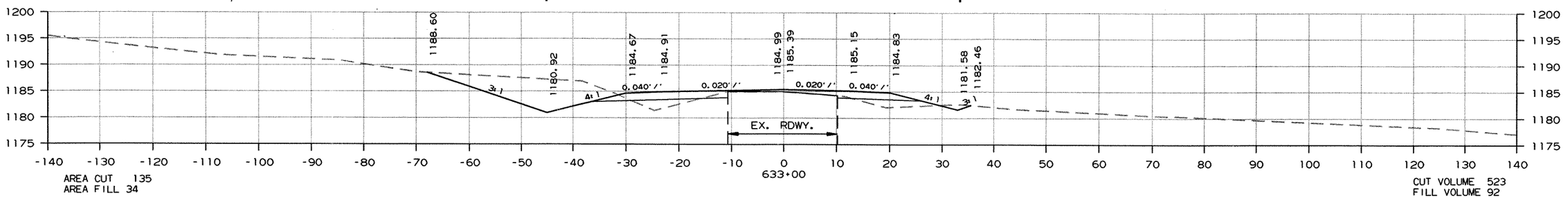


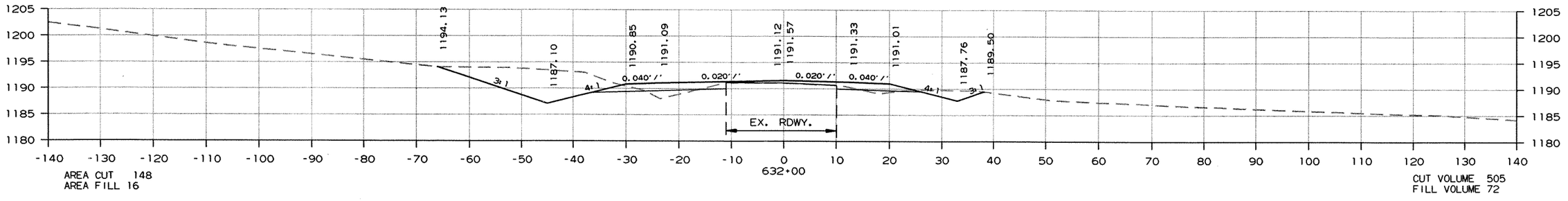
CROSS SECTION STA. 628+00 TO STA. 630+00

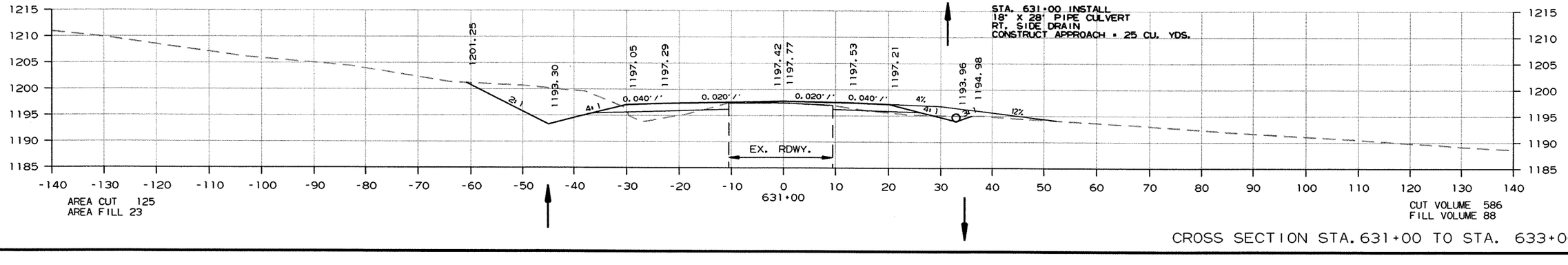
RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	183	223

(2) CROSS SECTIONS





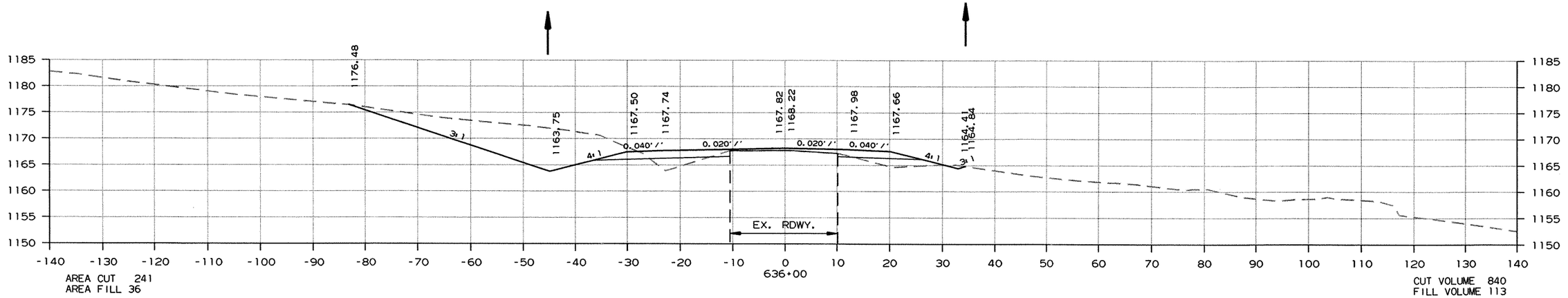


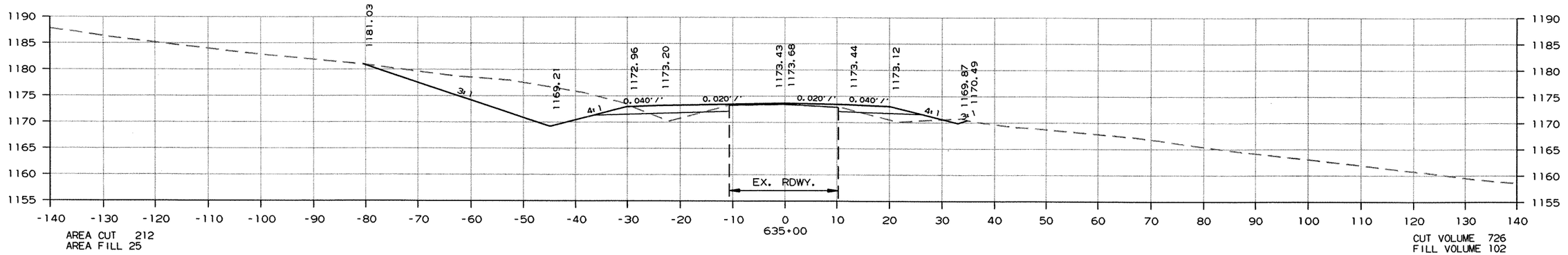
CROSS SECTION STA. 631+00 TO STA. 633+00

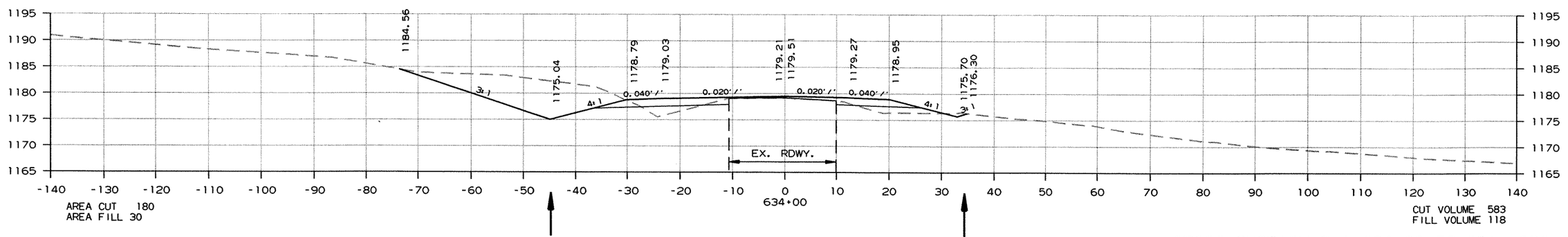
RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	184	223

(2) CROSS SECTIONS





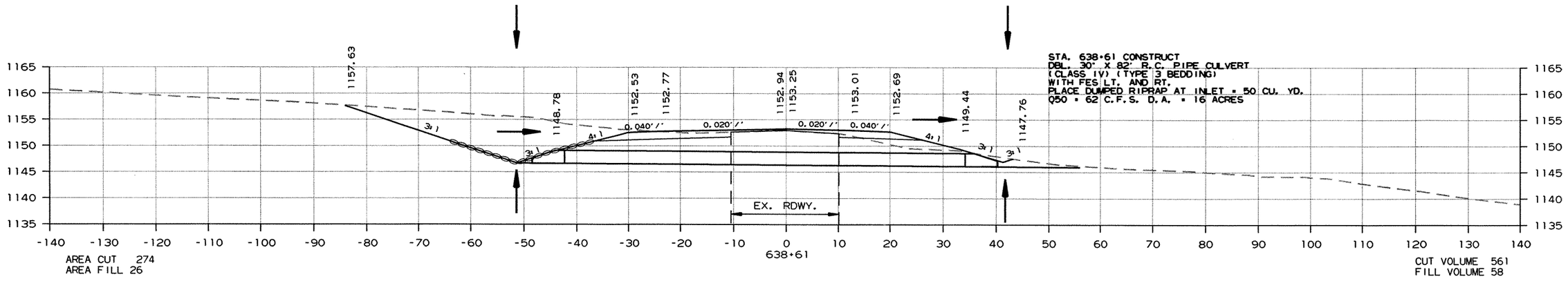


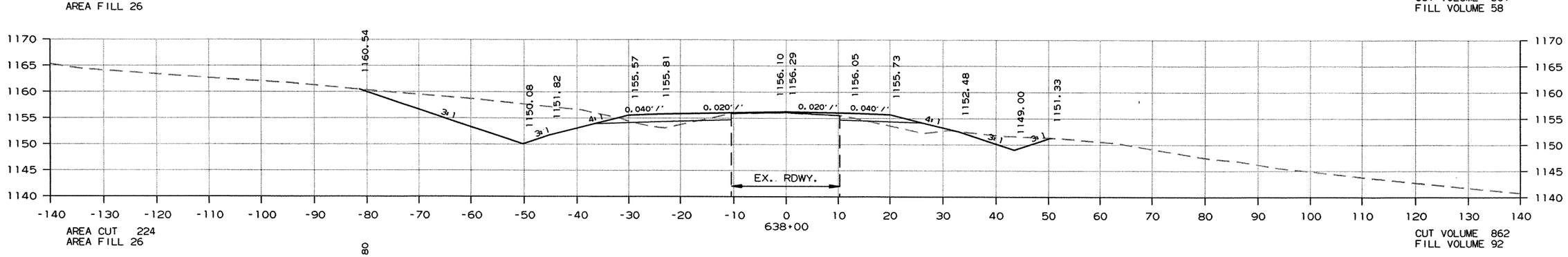
CROSS SECTION STA. 634+00 TO STA. 636+00

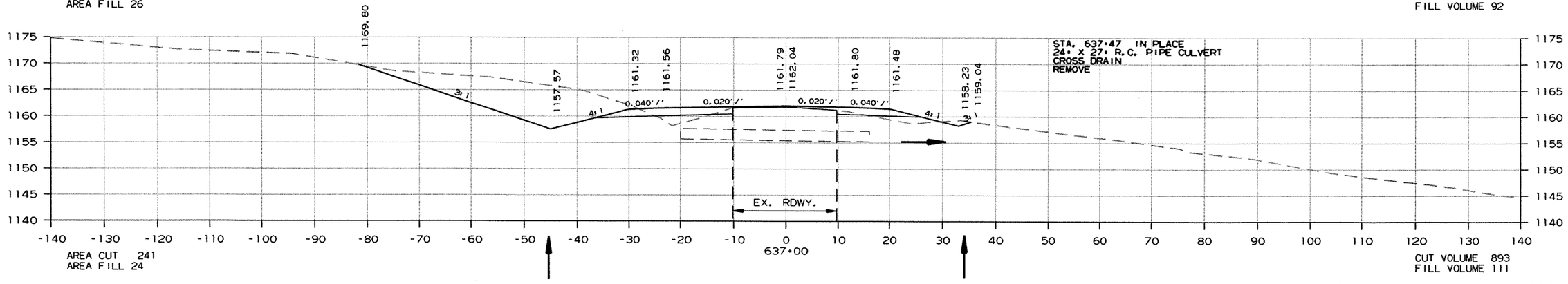
RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	185	223

(2) CROSS SECTIONS





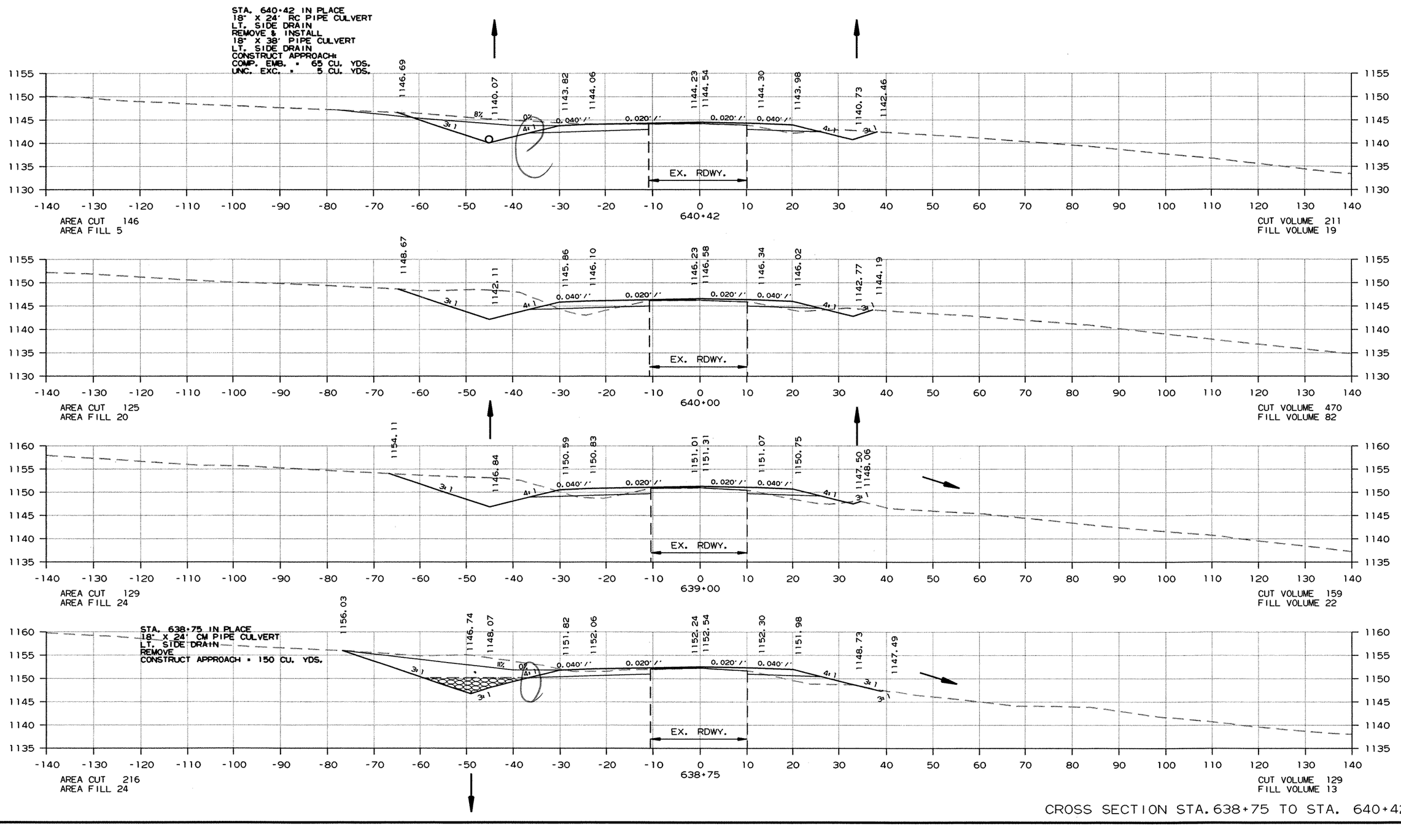


CROSS SECTION STA. 637+00 TO STA. 638+61

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	186	223

(2) CROSS SECTIONS

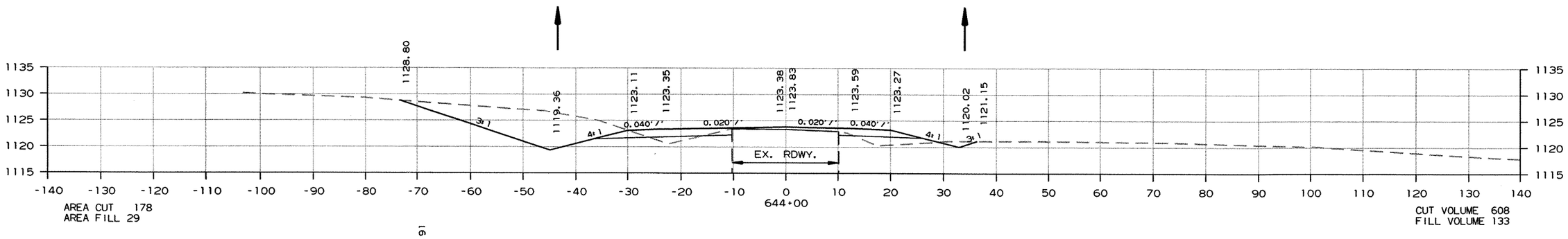


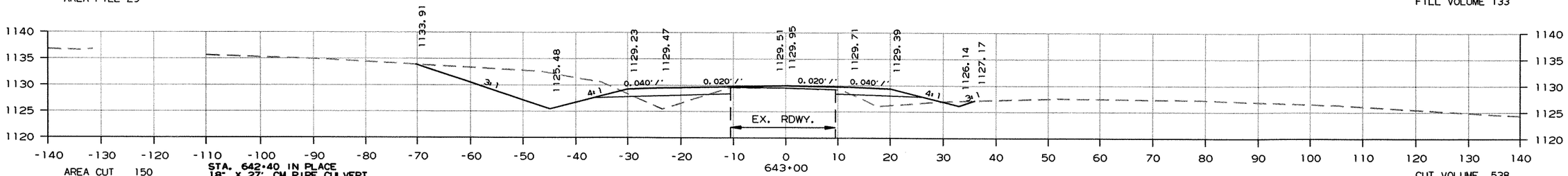
CROSS SECTION STA. 638+75 TO STA. 640+42

RR50116.DGN 4/13/2012

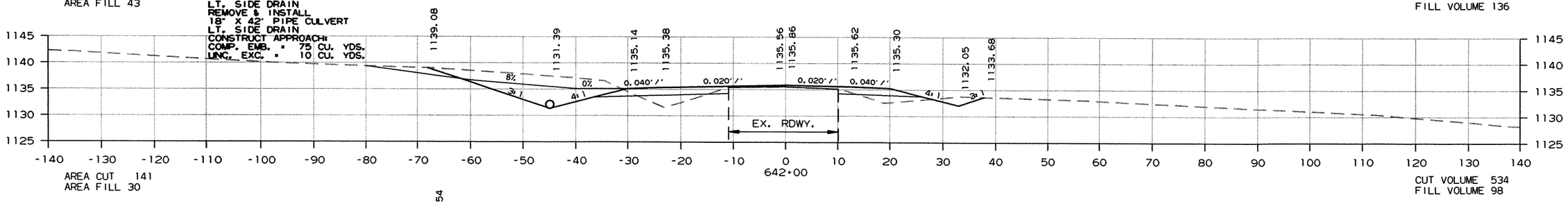
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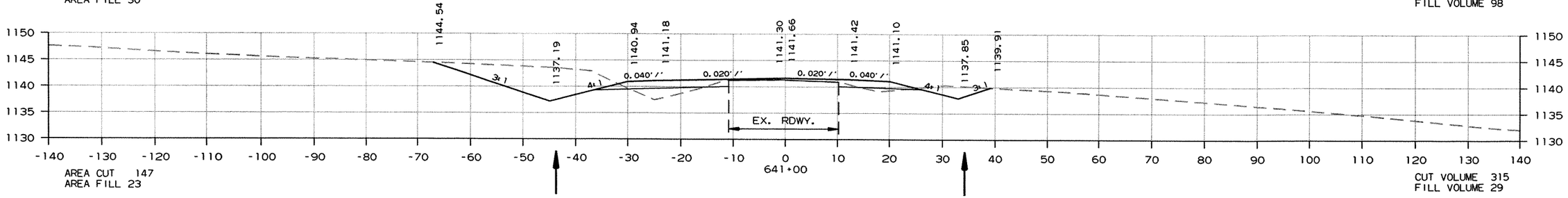
(2) CROSS SECTIONS





STA. 642+40 IN PLACE
18" X 27' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
18" X 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH:
COMP. EMB. = 75 CU. YDS.
UNC. EXC. = 10 CU. YDS.



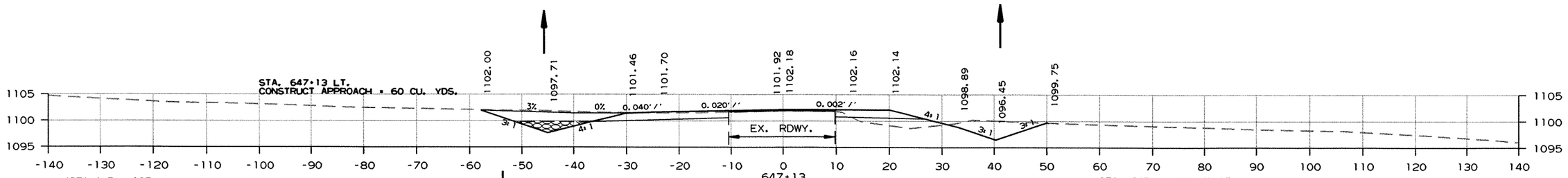


CROSS SECTION STA. 641+00 TO STA. 644+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	188	223

(2) CROSS SECTIONS

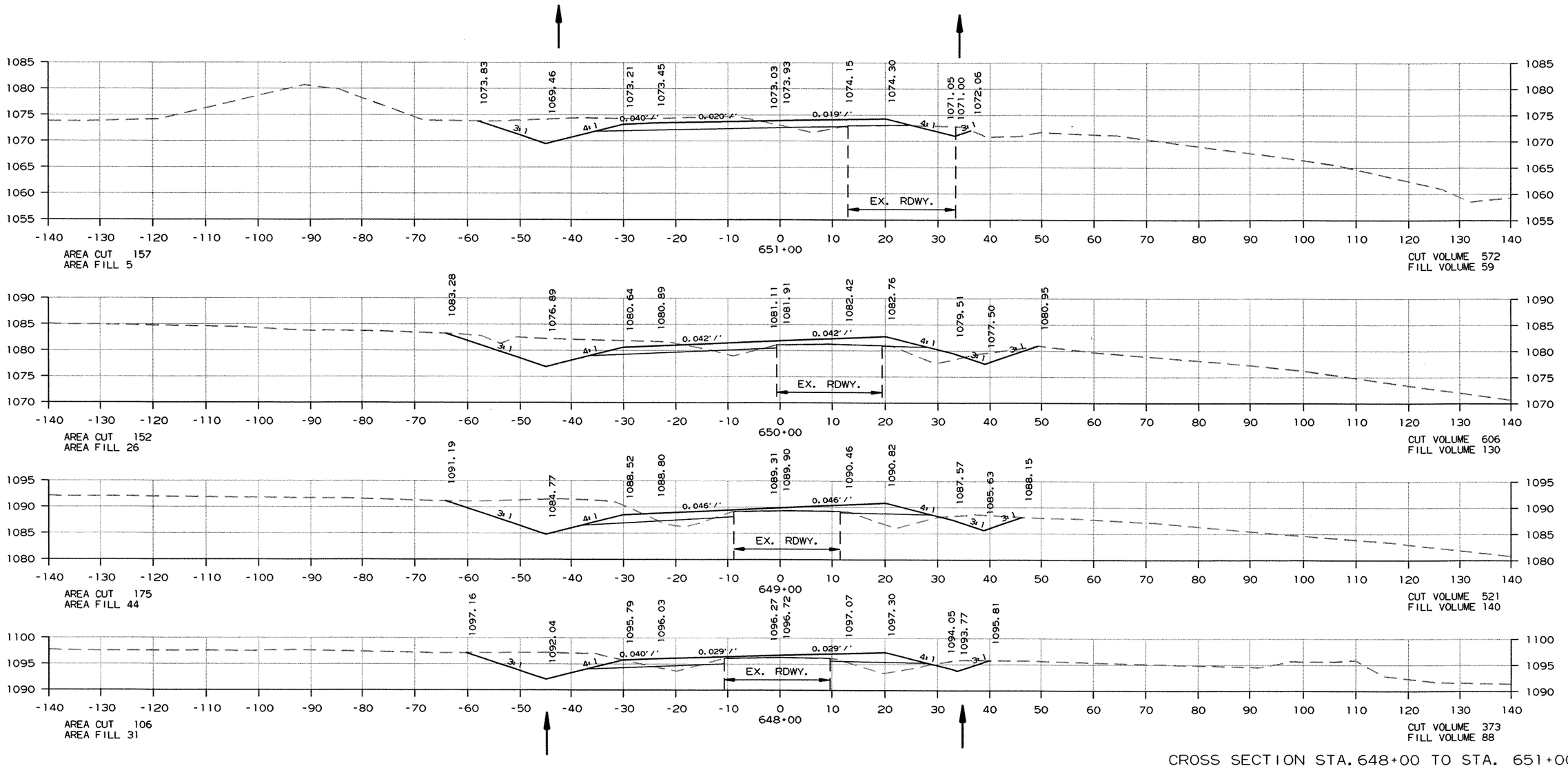


CROSS SECTION STA. 644+87 TO STA. 647+13

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	189	223

(2) CROSS SECTIONS

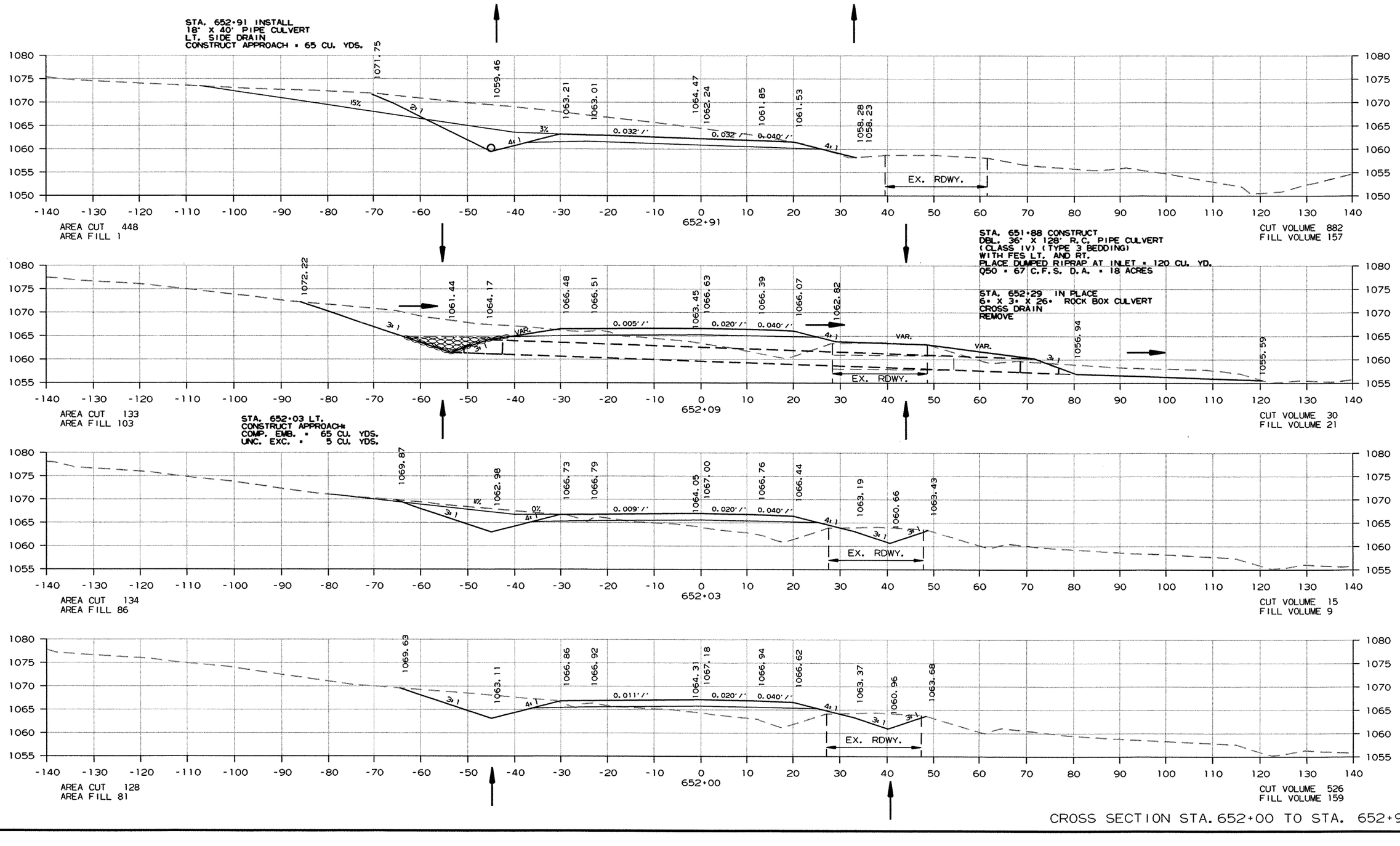


CROSS SECTION STA. 648+00 TO STA. 651+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	190	223

(2) CROSS SECTIONS

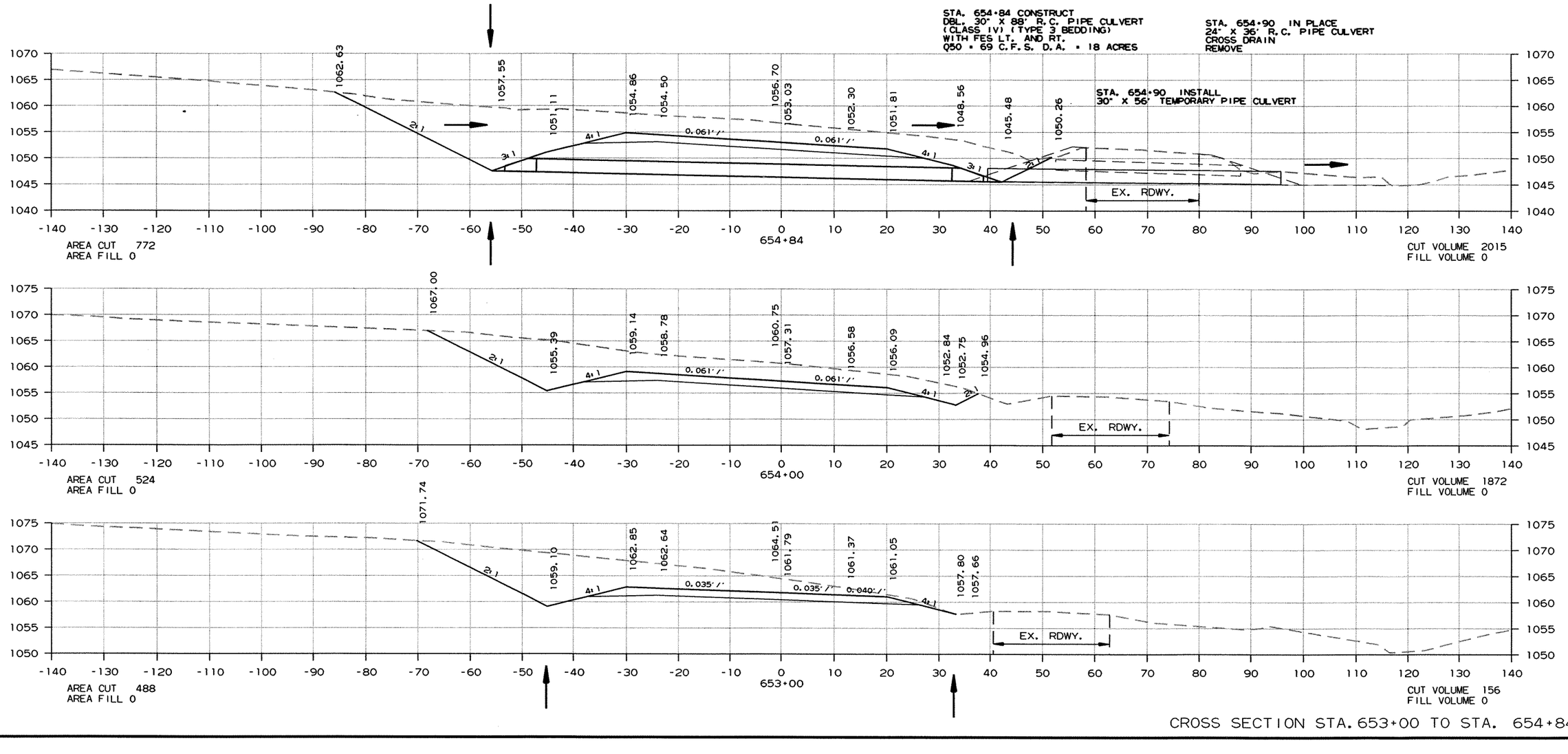


CROSS SECTION STA. 652+00 TO STA. 652+91

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	191	223

(2) CROSS SECTIONS

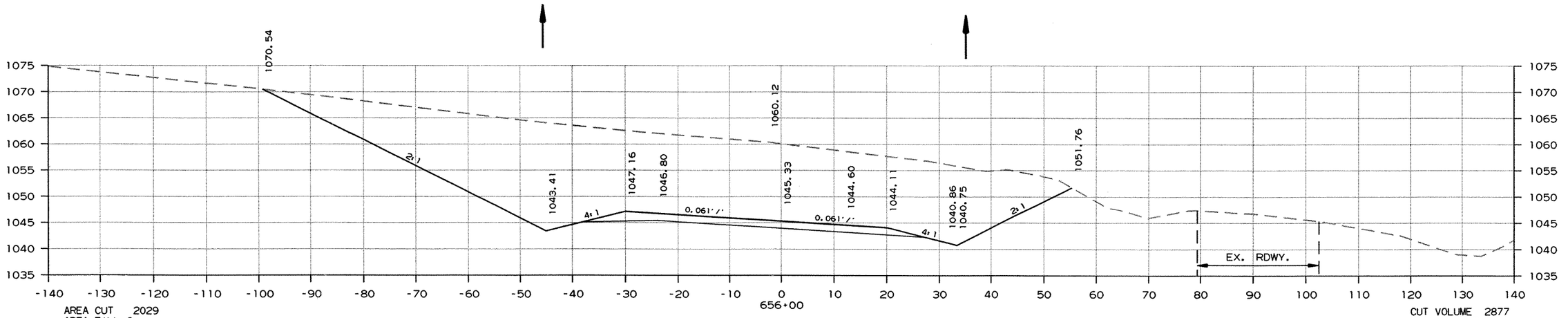


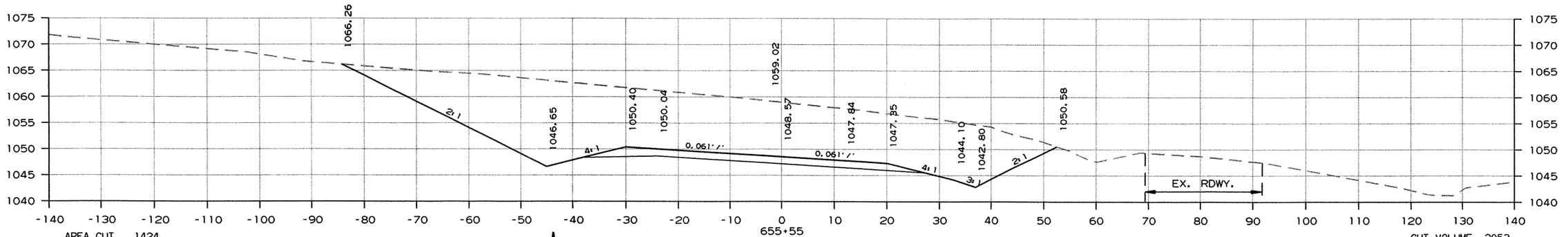
CROSS SECTION STA. 653+00 TO STA. 654+84

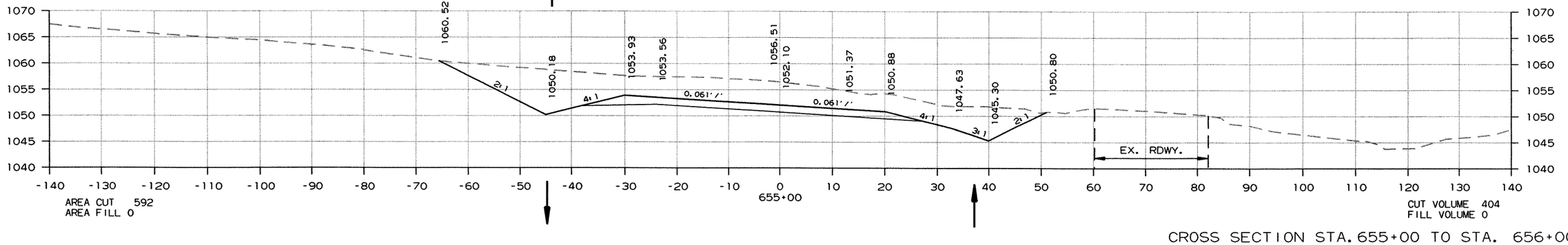
RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	192	223

(2) CROSS SECTIONS





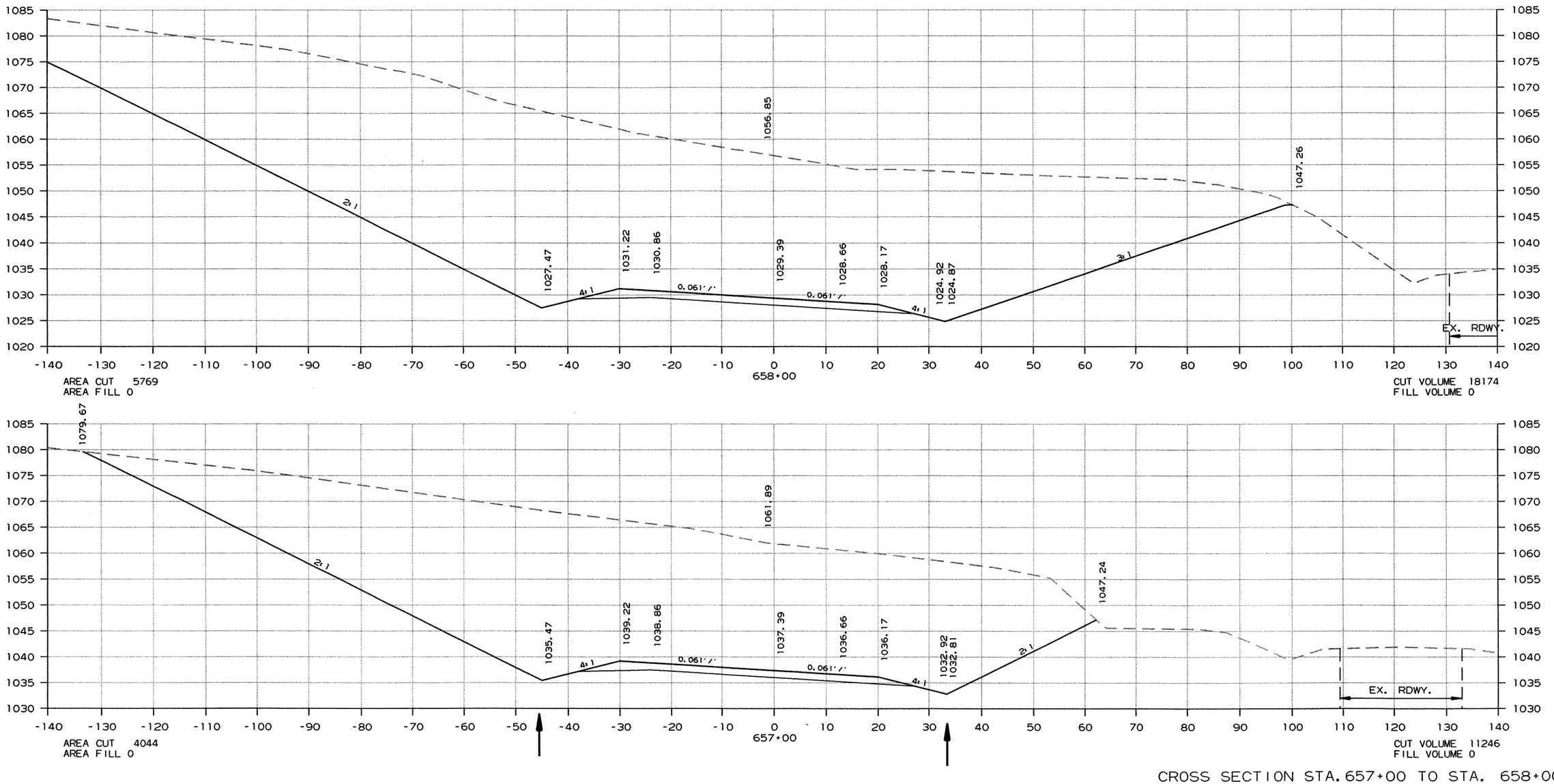


CROSS SECTION STA. 655+00 TO STA. 656+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	193	223

(2) CROSS SECTIONS

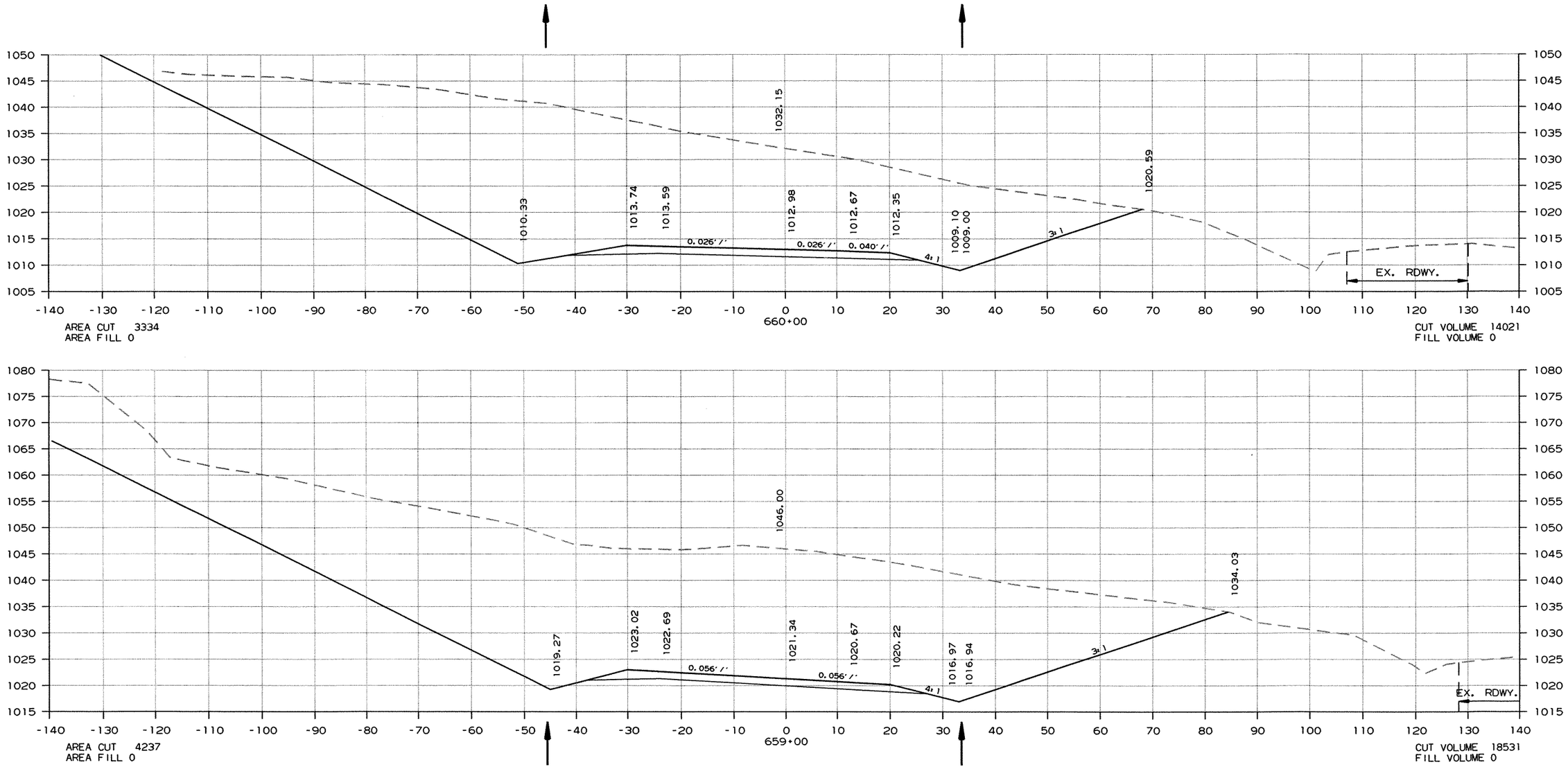


CROSS SECTION STA. 657+00 TO STA. 658+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	194	223

(2) CROSS SECTIONS

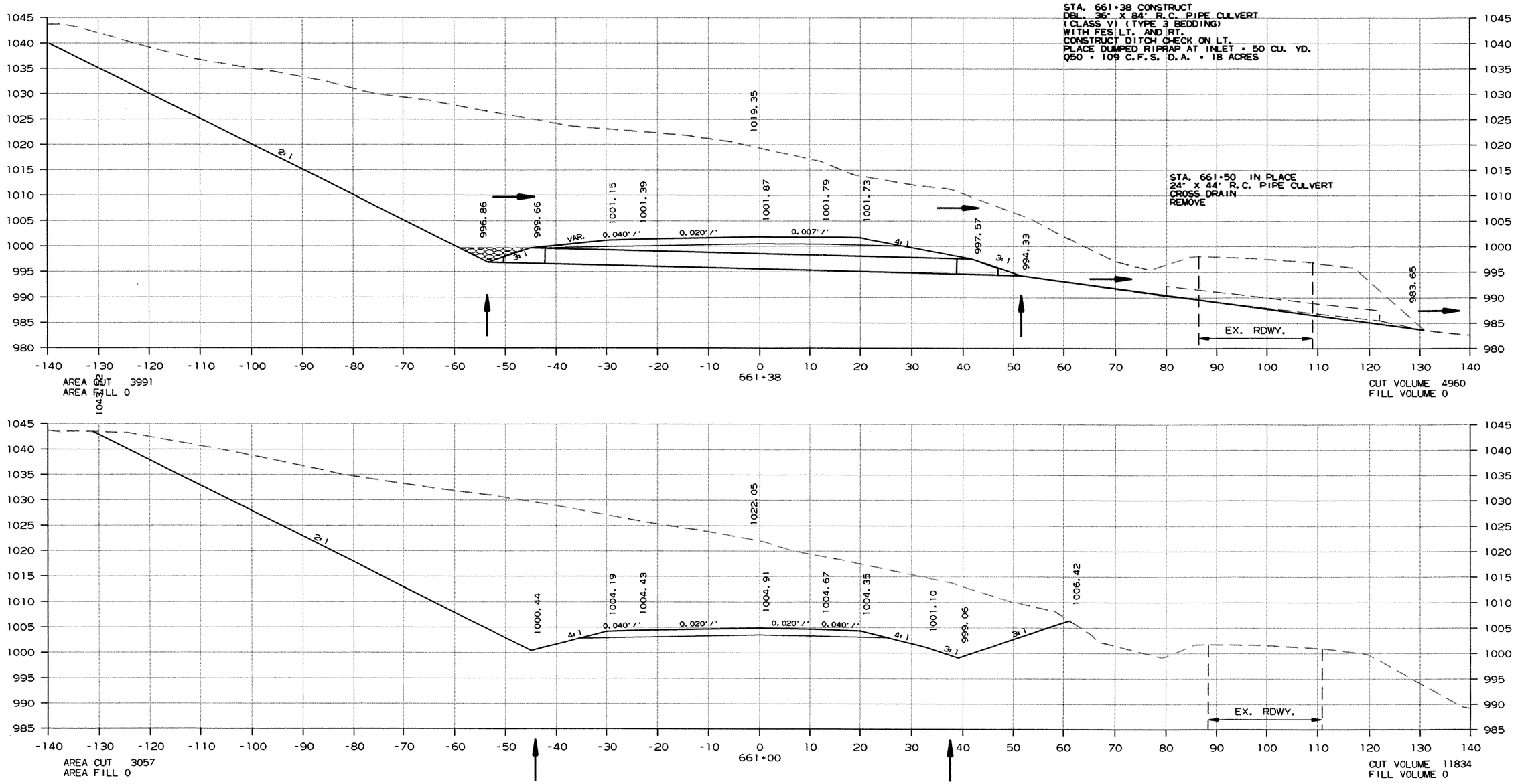


CROSS SECTION STA. 659+00 TO STA. 660+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	195	223

(2) CROSS SECTIONS

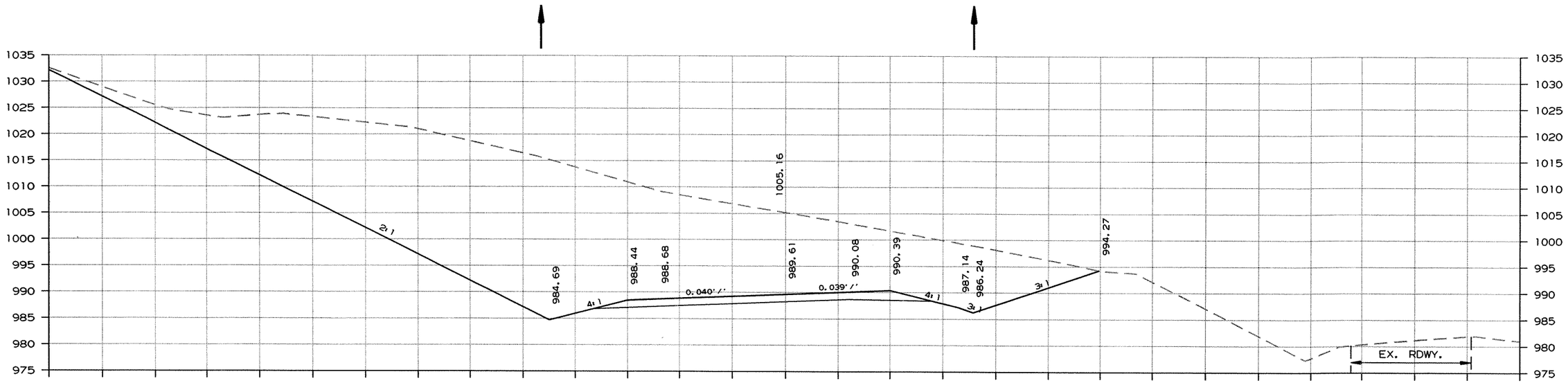


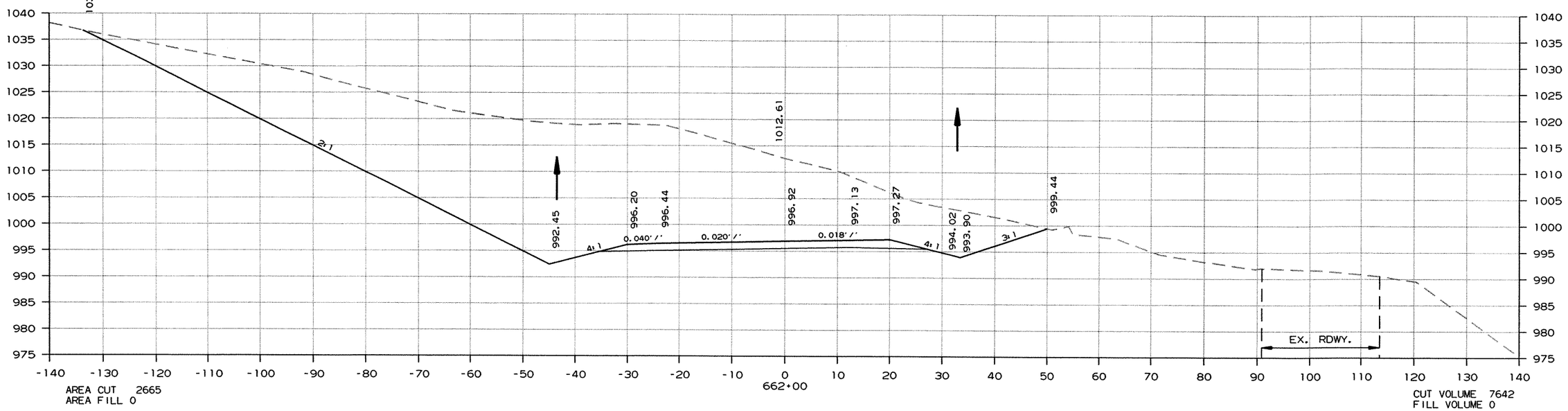
CROSS SECTION STA. 661+00 TO STA. 661+38

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	196	223

(2) CROSS SECTIONS



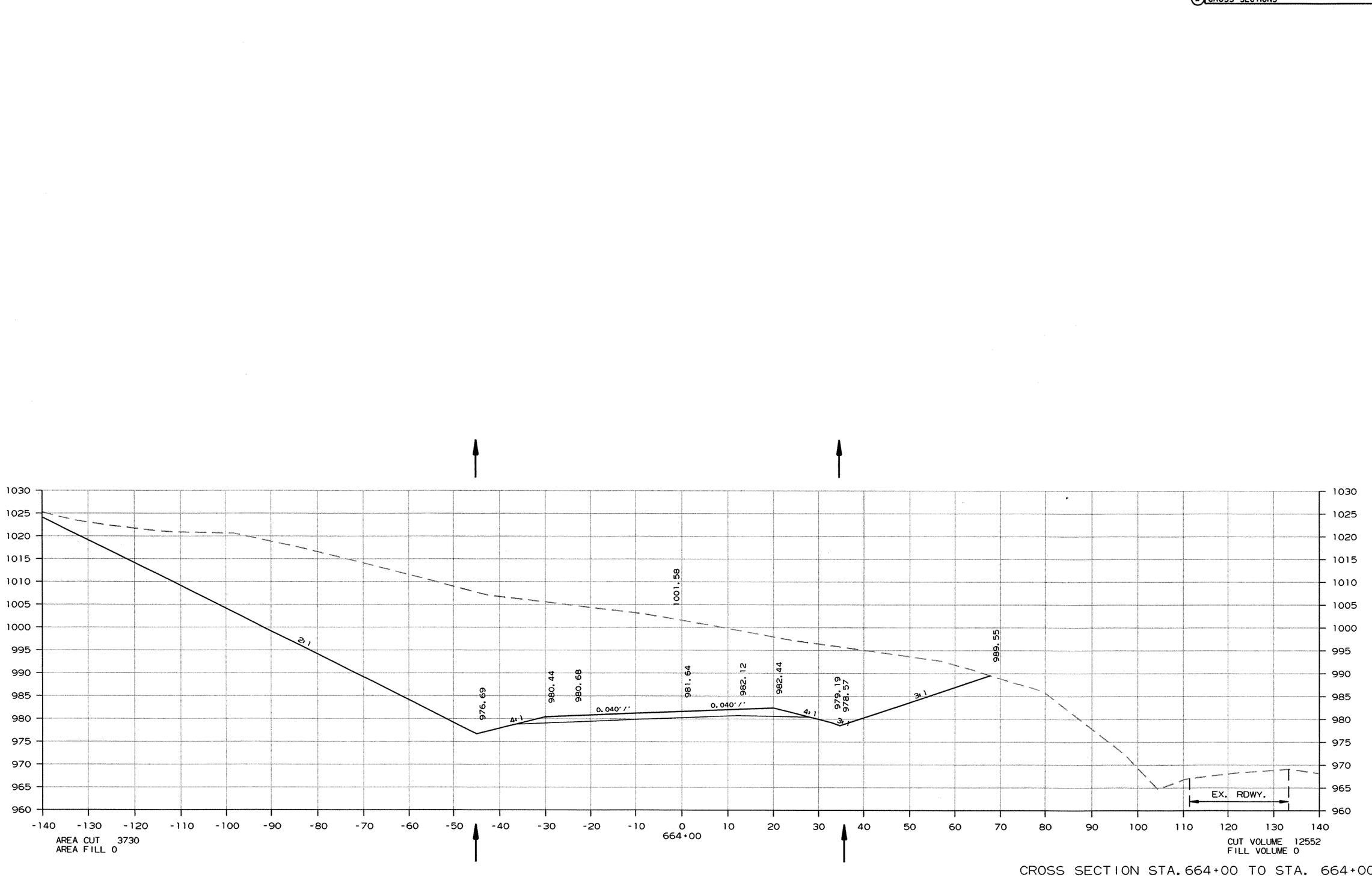


CROSS SECTION STA. 662+00 TO STA. 663+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	197	223

(2) CROSS SECTIONS

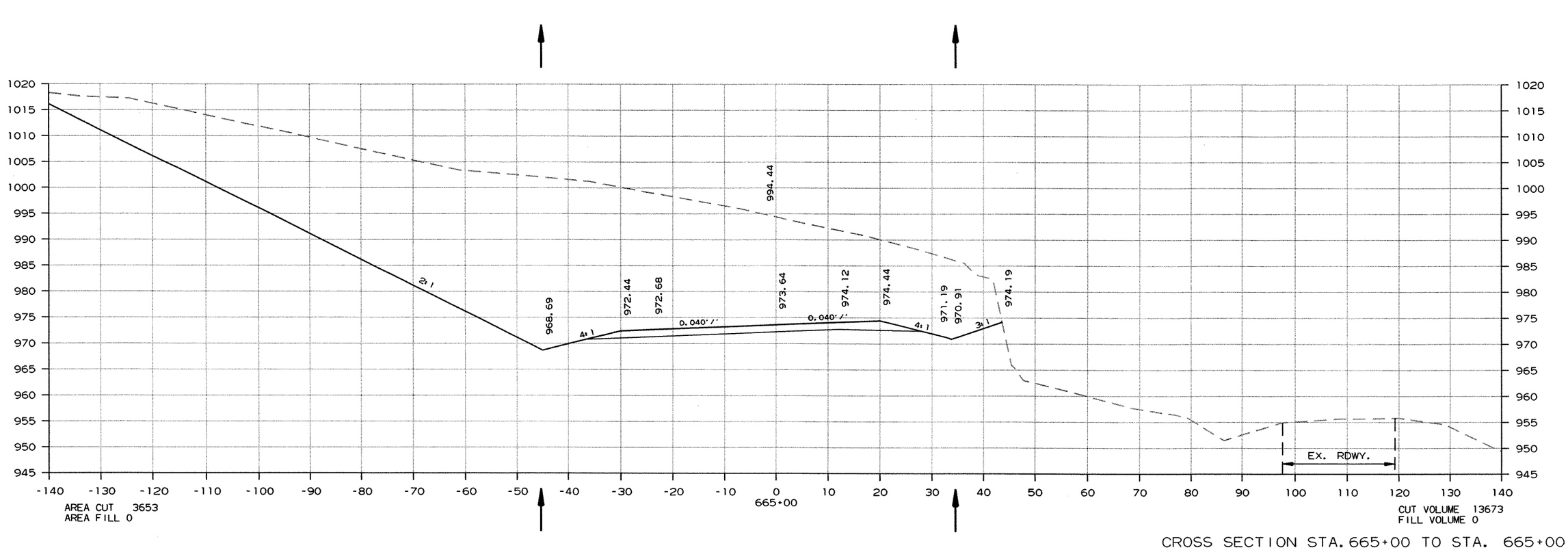


CROSS SECTION STA. 664+00 TO STA. 664+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	198	223

(2) CROSS SECTIONS

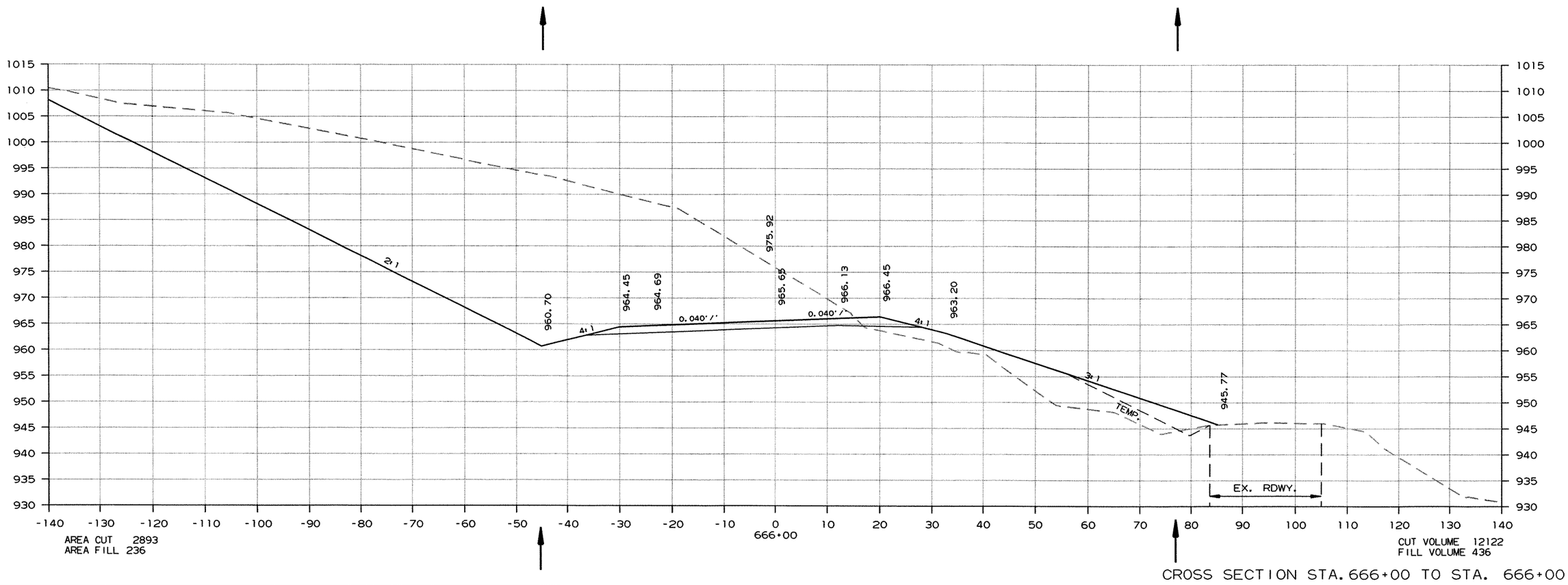


CROSS SECTION STA. 665+00 TO STA. 665+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	199	223

(2) CROSS SECTIONS

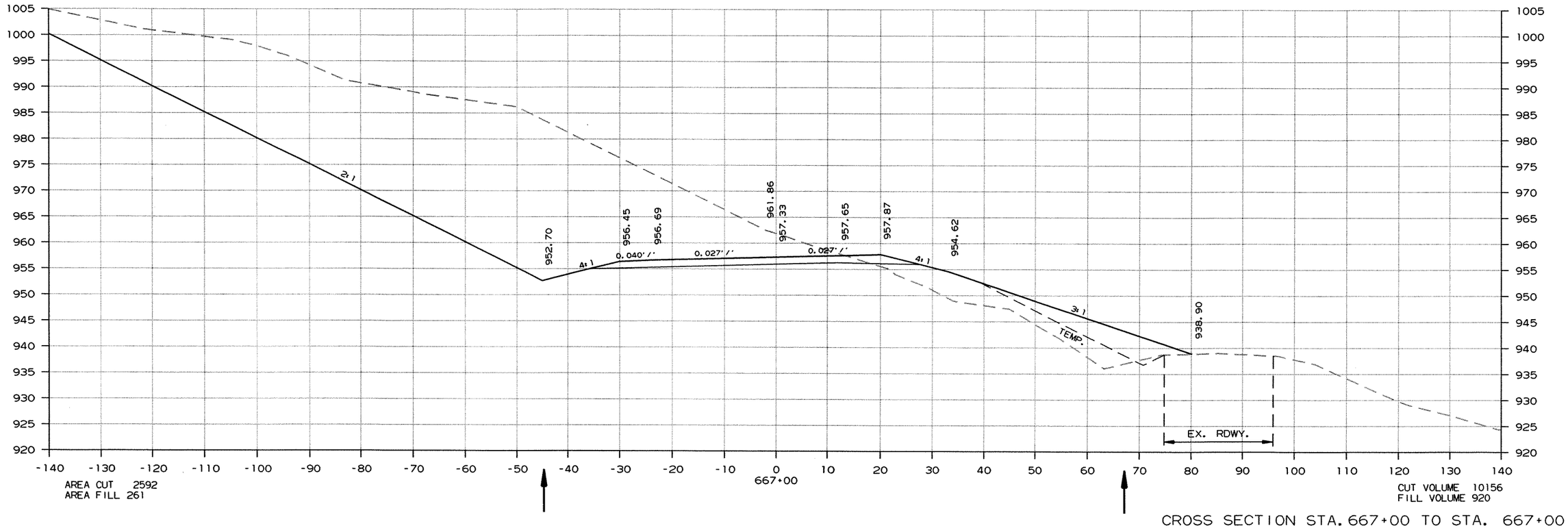


CROSS SECTION STA. 666+00 TO STA. 666+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	200	223

(2) CROSS SECTIONS

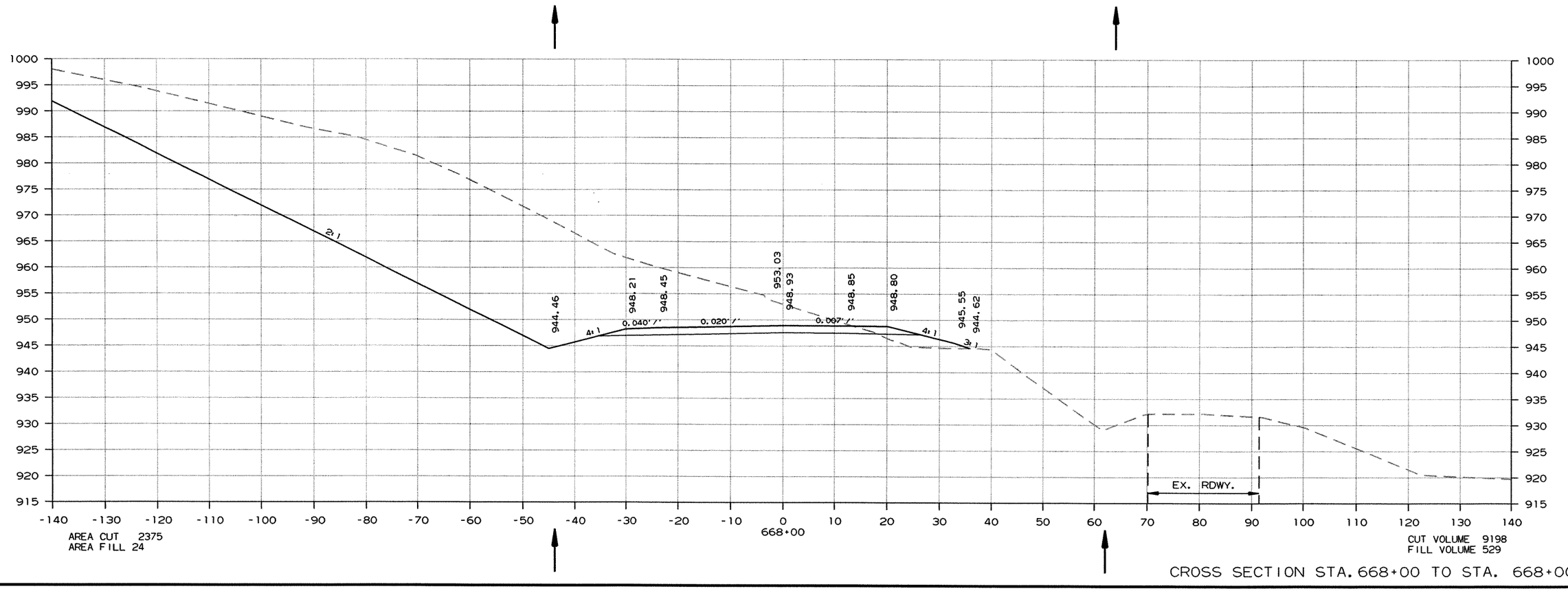


CROSS SECTION STA. 667+00 TO STA. 667+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AND PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	201	223

(2) CROSS SECTIONS

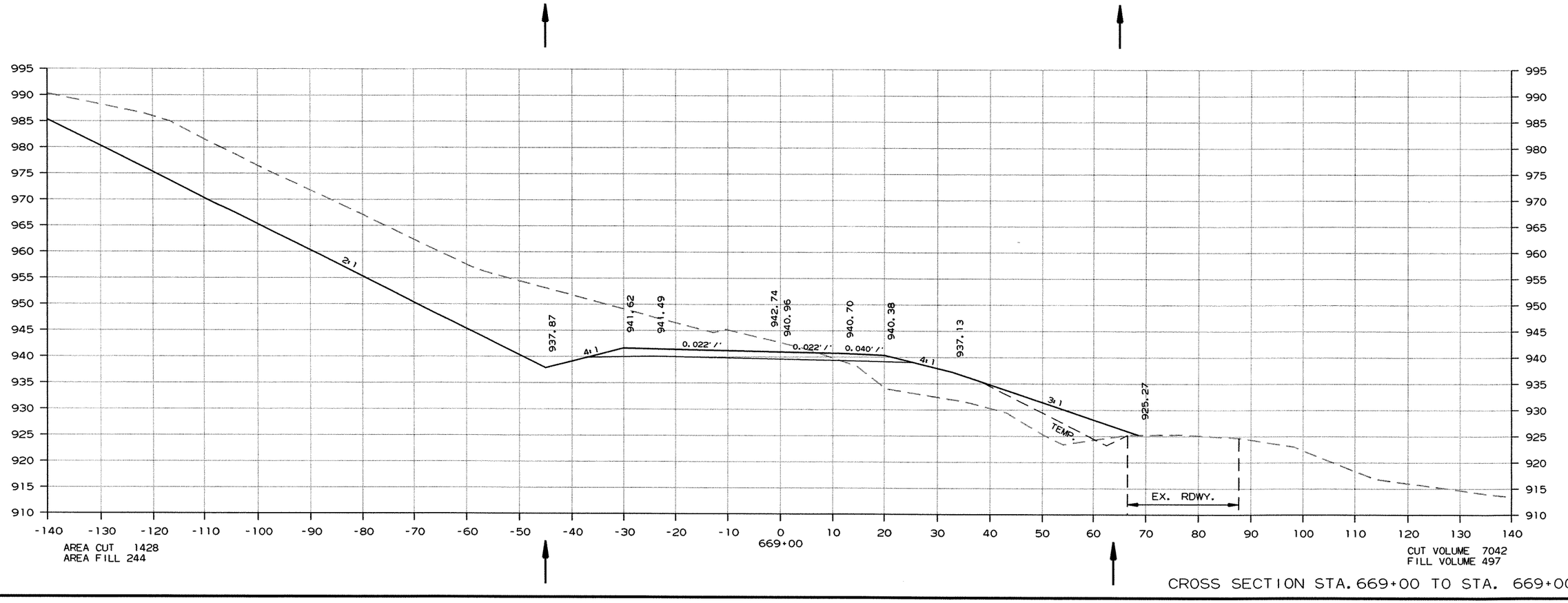


CROSS SECTION STA. 668+00 TO STA. 668+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	202	223

(2) CROSS SECTIONS

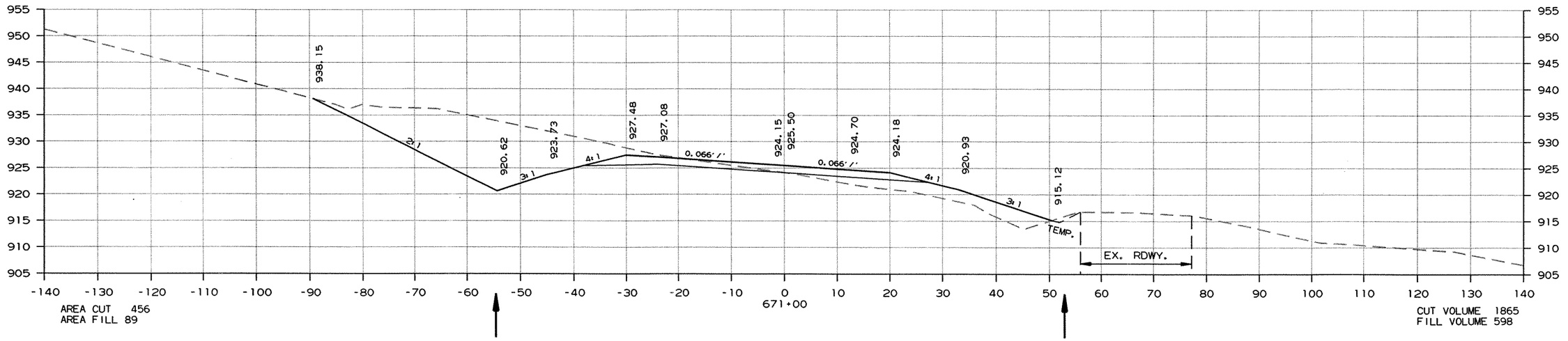


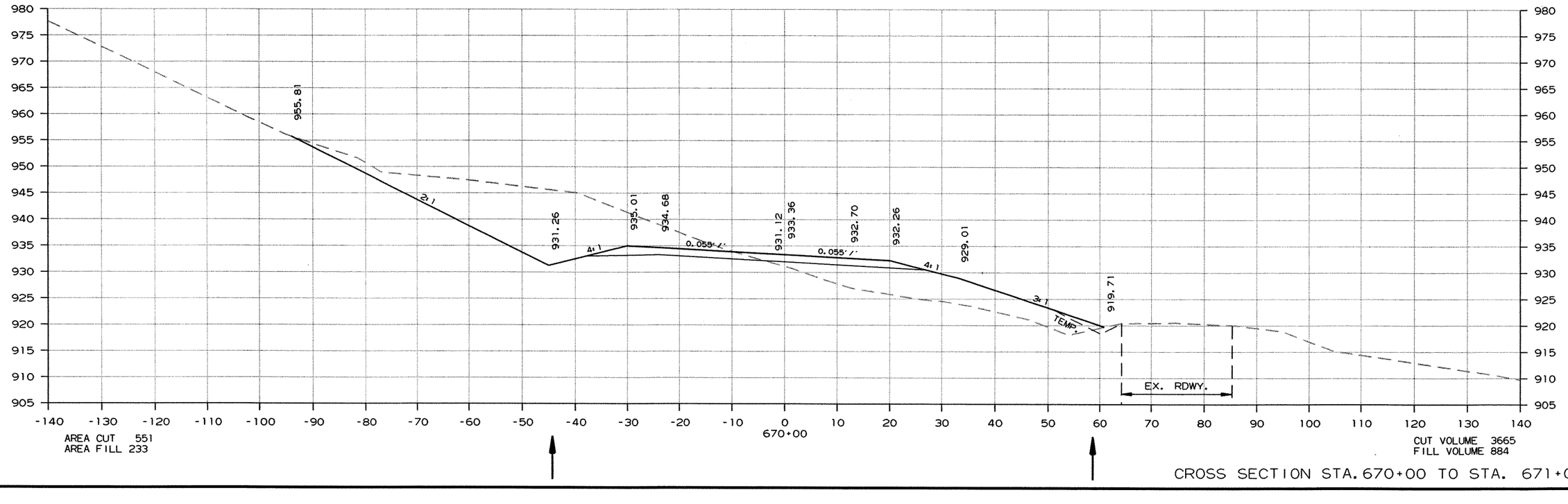
CROSS SECTION STA. 669+00 TO STA. 669+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	203	223

(2) CROSS SECTIONS



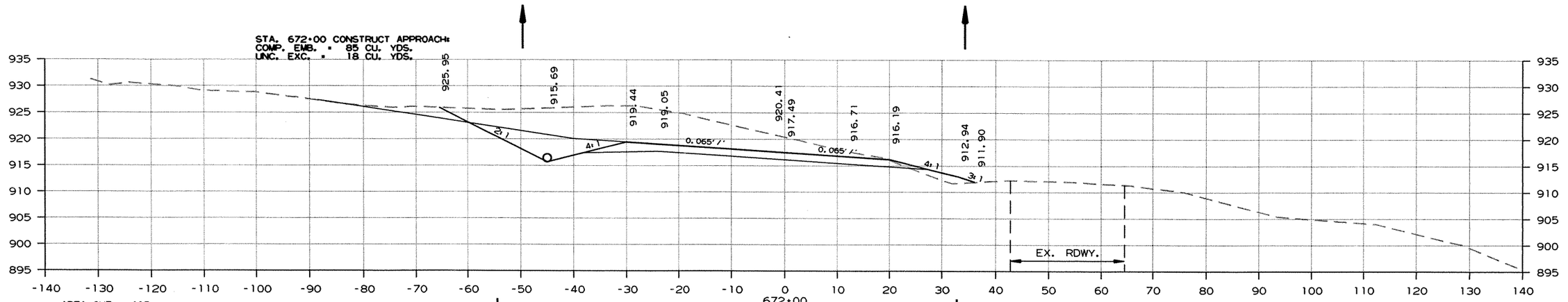


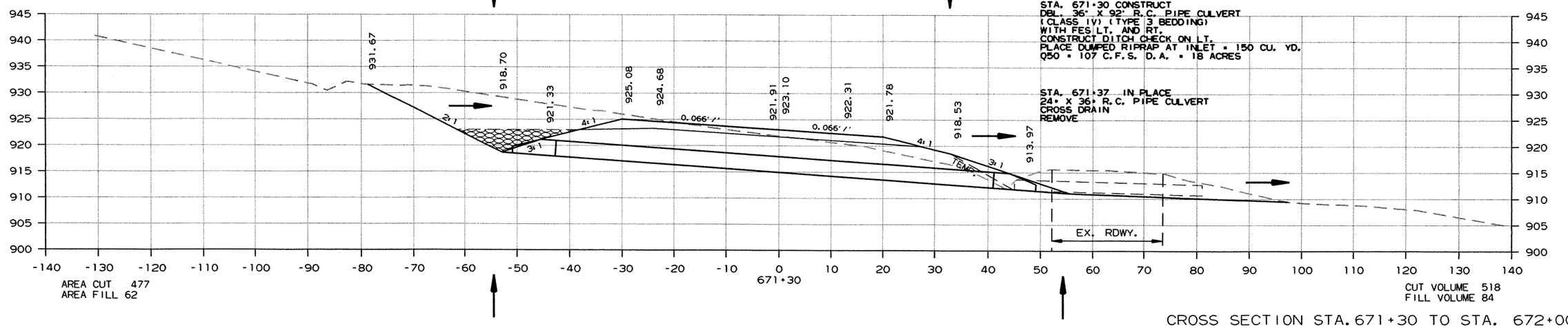
CROSS SECTION STA. 670+00 TO STA. 671+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	204	223

(2) CROSS SECTIONS



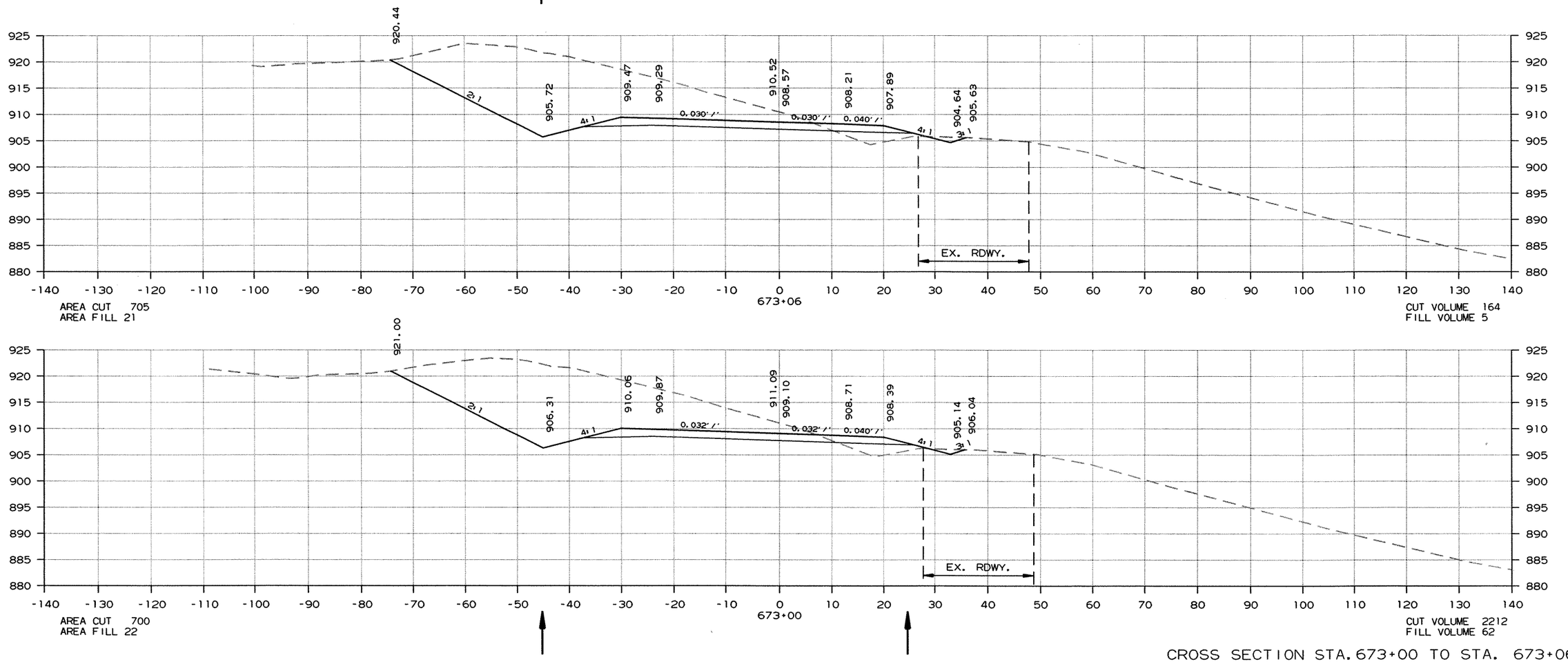


CROSS SECTION STA. 671+30 TO STA. 672+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	205	223

(2) CROSS SECTIONS



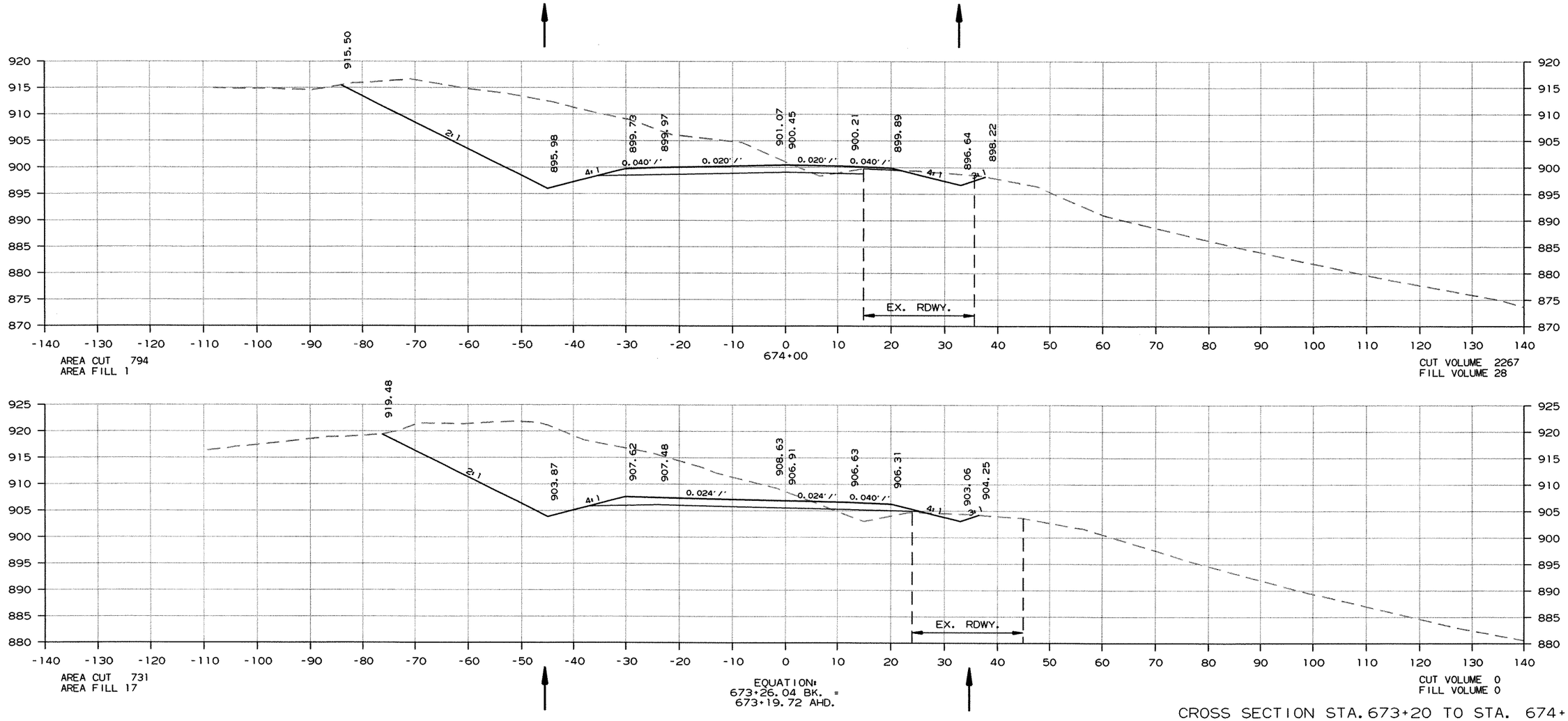
CROSS SECTION STA. 673+00 TO STA. 673+06

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		R50116	206	223

(2) CROSS SECTIONS

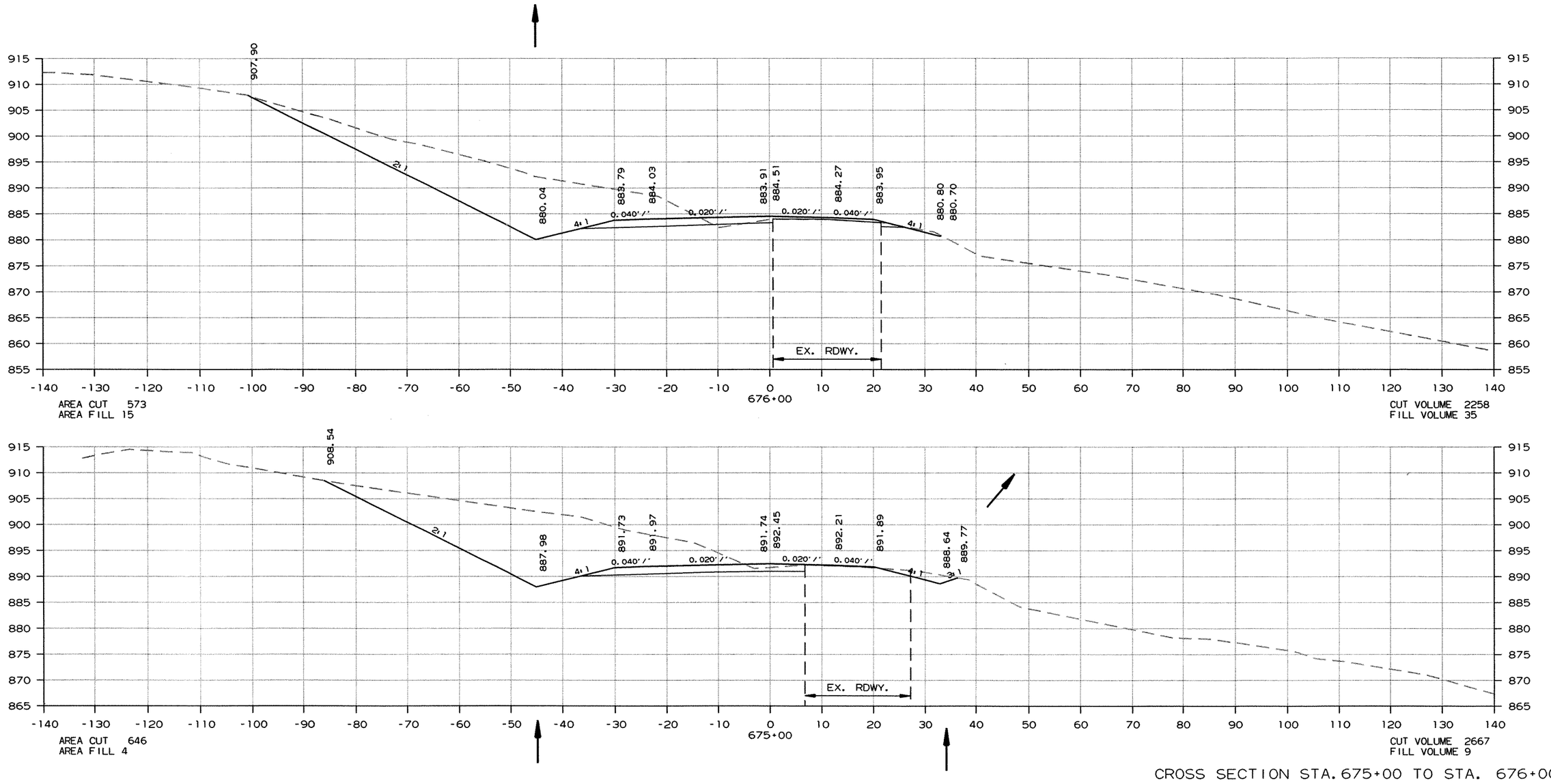


CROSS SECTION STA. 673+20 TO STA. 674+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	207	223

(2) CROSS SECTIONS

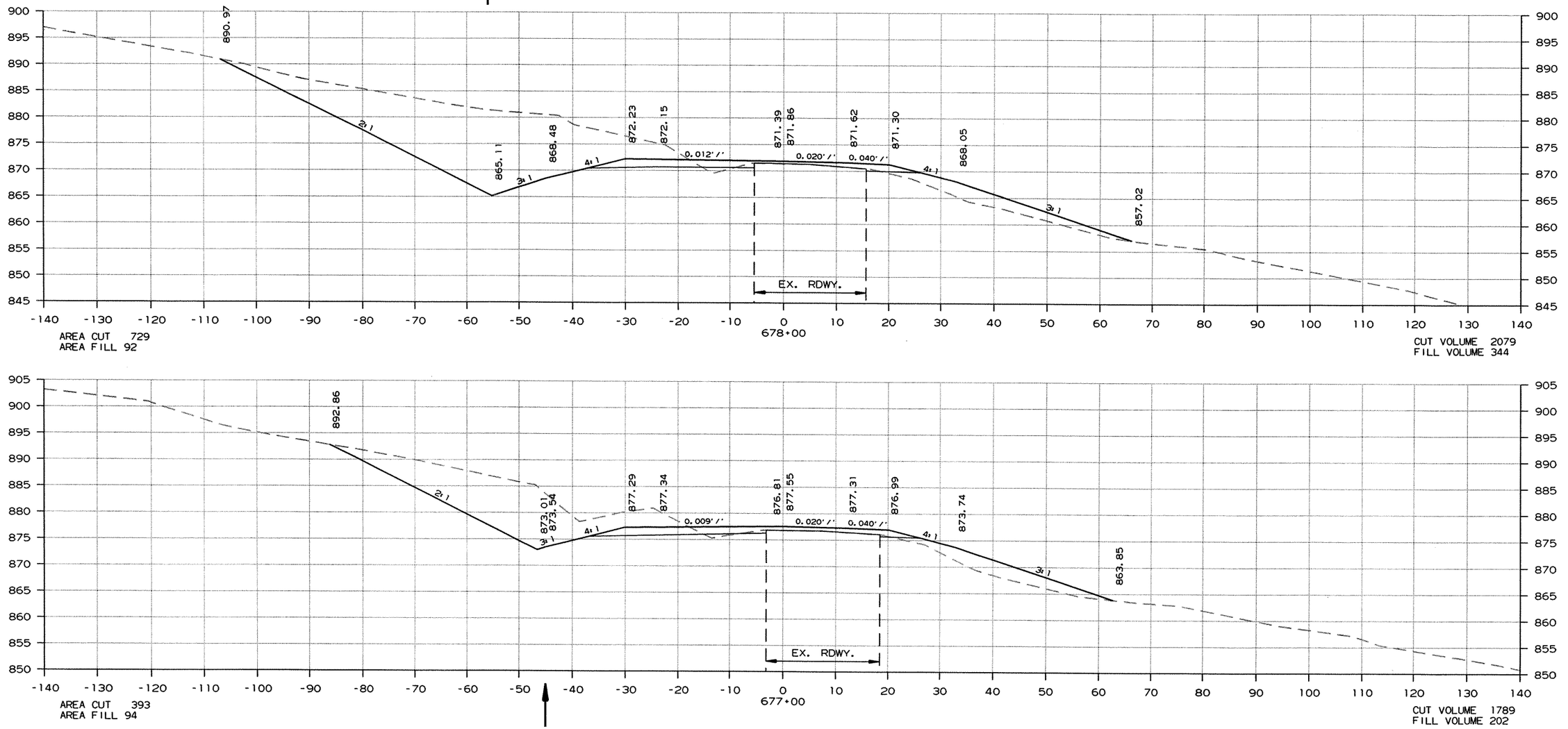


CROSS SECTION STA. 675+00 TO STA. 676+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	208	223

(2) CROSS SECTIONS

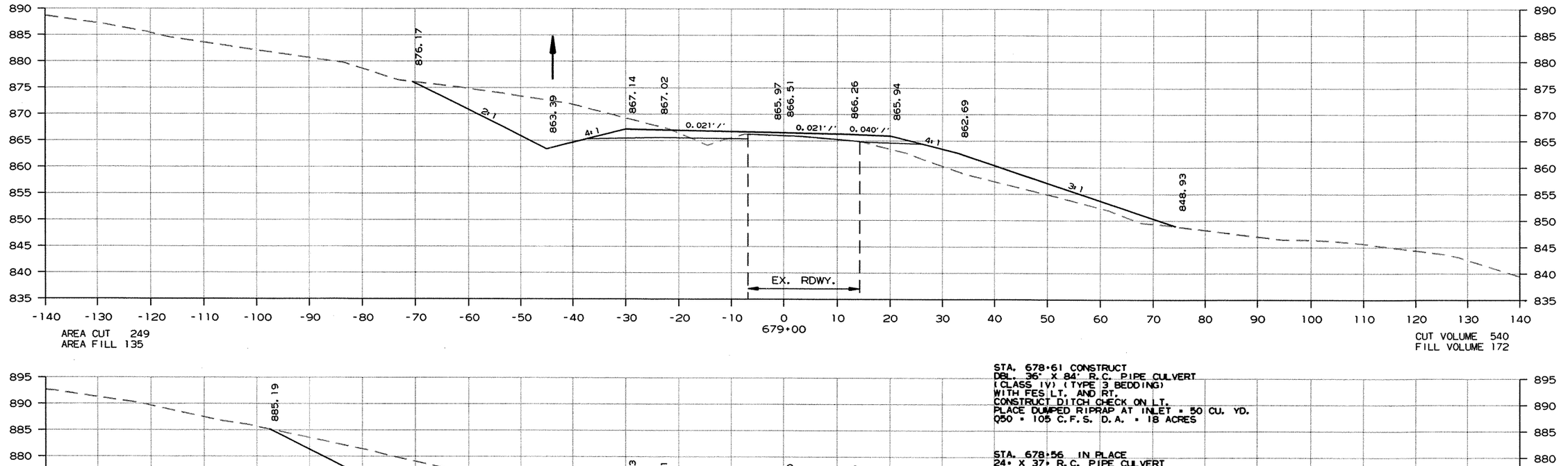


CROSS SECTION STA. 677+00 TO STA. 678+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	209	223

(2) CROSS SECTIONS

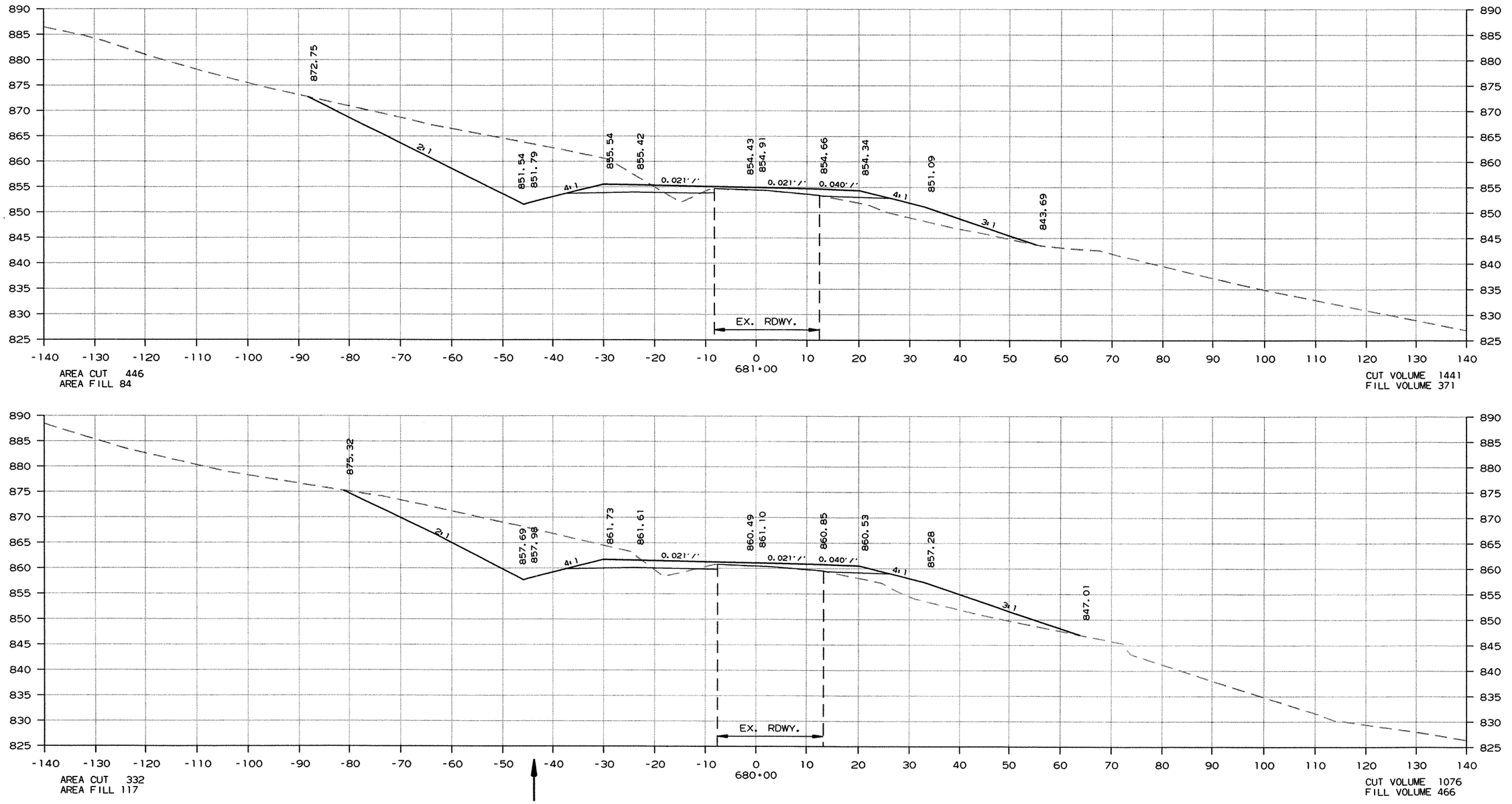


CROSS SECTION STA. 678+61 TO STA. 679+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS

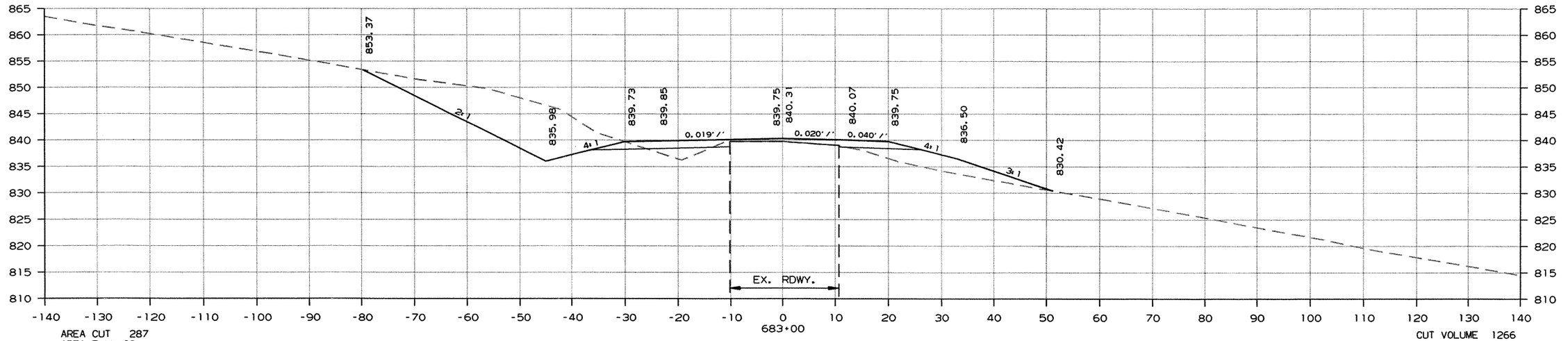


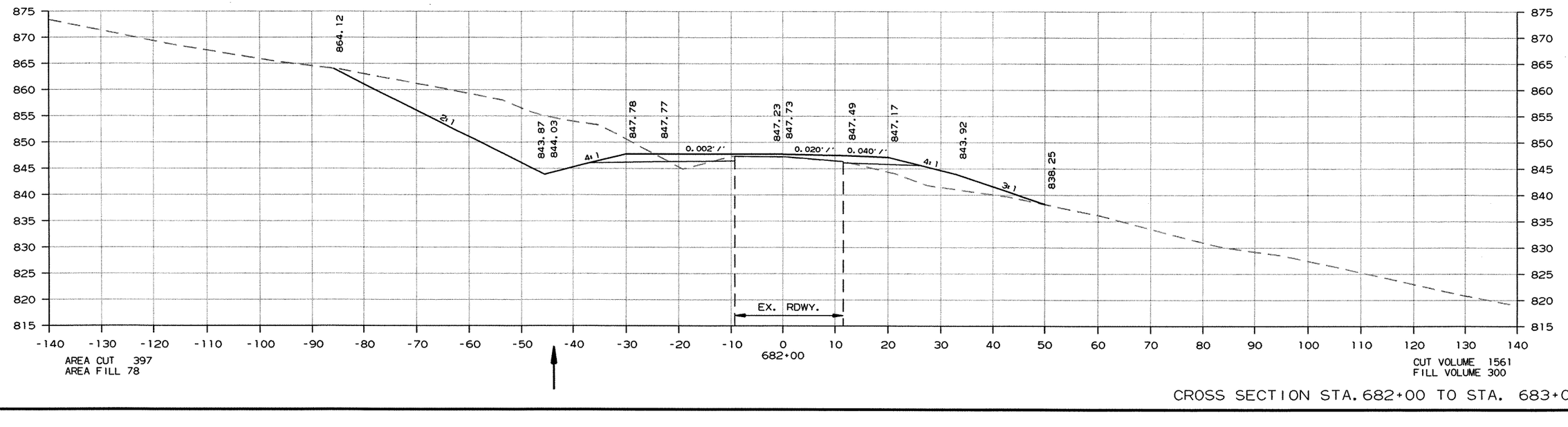
CROSS SECTION STA. 680+00 TO STA. 681+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	211	223

(2) CROSS SECTIONS



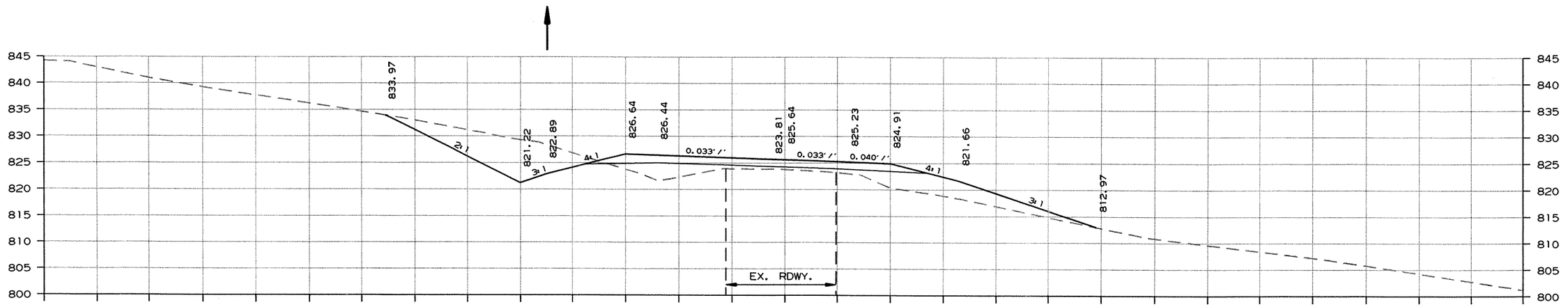


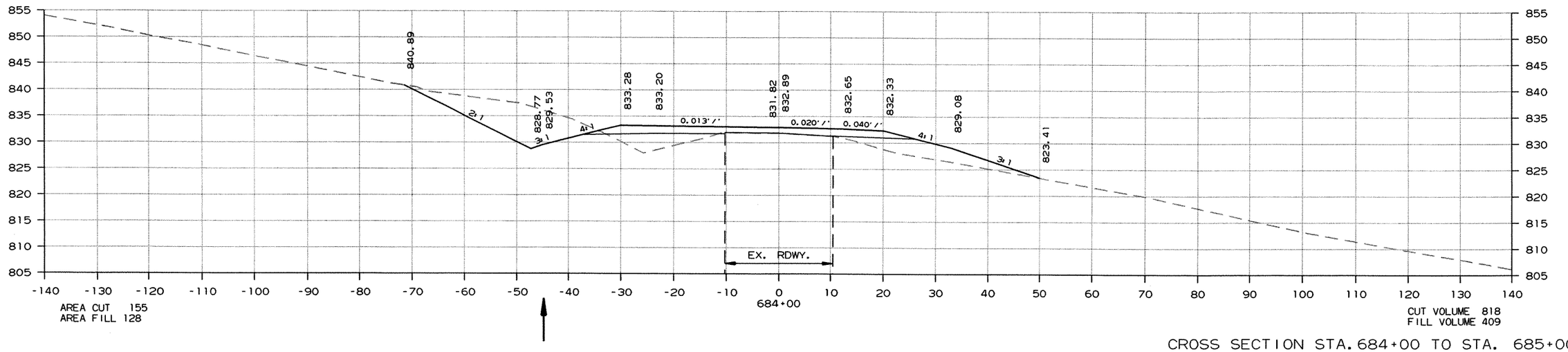
CROSS SECTION STA. 682+00 TO STA. 683+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	212	223

(2) CROSS SECTIONS



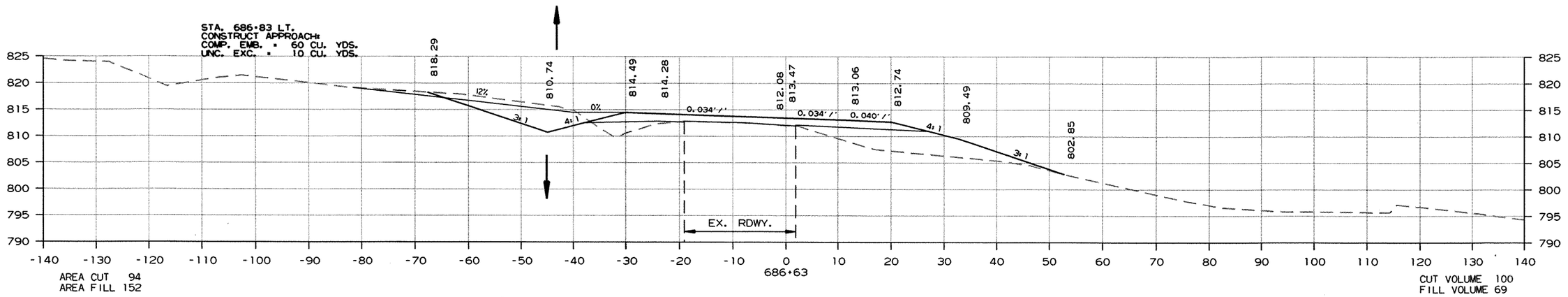


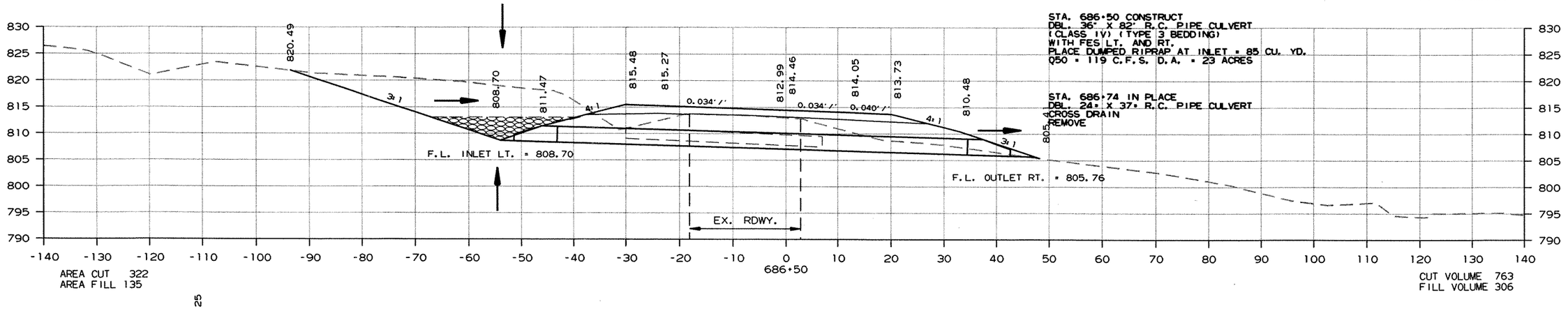
CROSS SECTION STA. 684+00 TO STA. 685+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	213	223

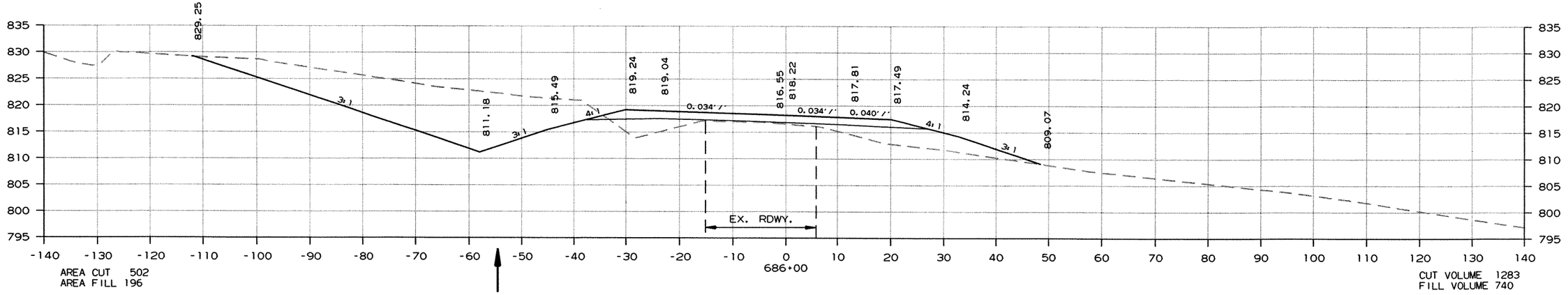
(2) CROSS SECTIONS





STA. 686+50 CONSTRUCT
DBL. 36" X 82" R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
PLACE DUMPED RIPRAP AT INLET = 85 CU. YD.
Q50 = 119 C.F.S. D.A. = 23 ACRES

STA. 686+74 IN PLACE
DBL. 24" X 37" R.C. PIPE CULVERT
CROSS DRAIN
REMOVE

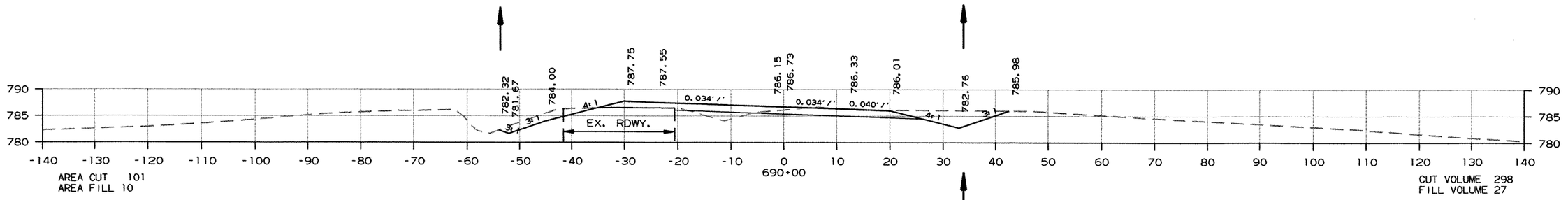


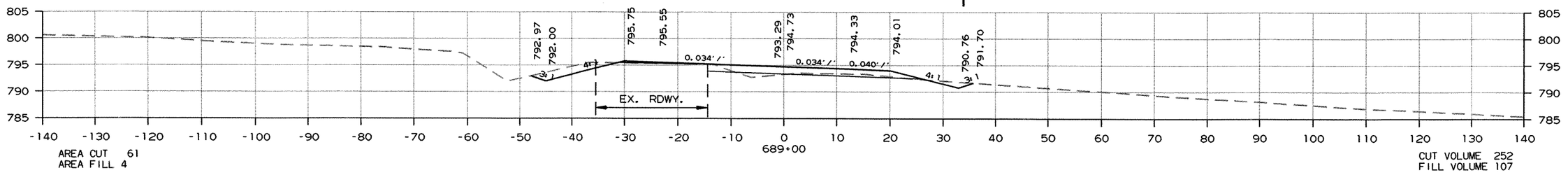
CROSS SECTION STA. 686+00 TO STA. 686+63

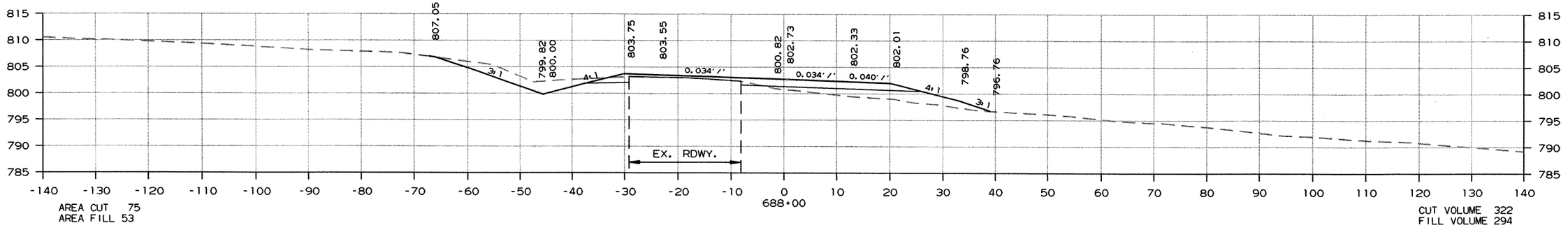
RR50116.DGN 4/13/2012

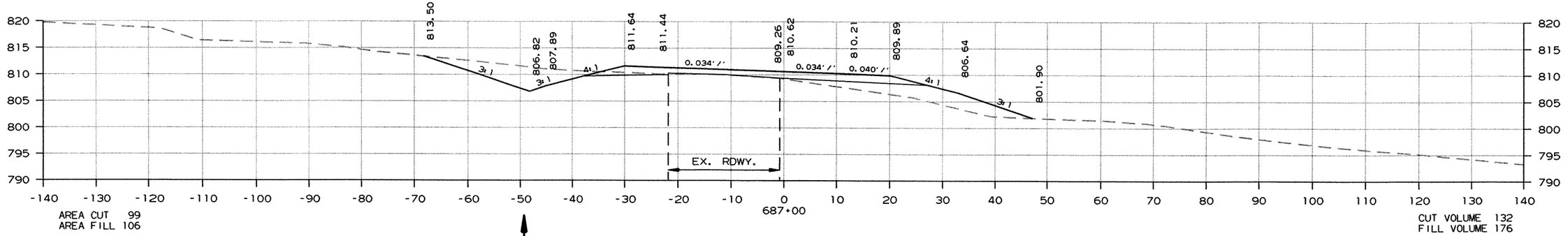
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	214	223

(2) CROSS SECTIONS







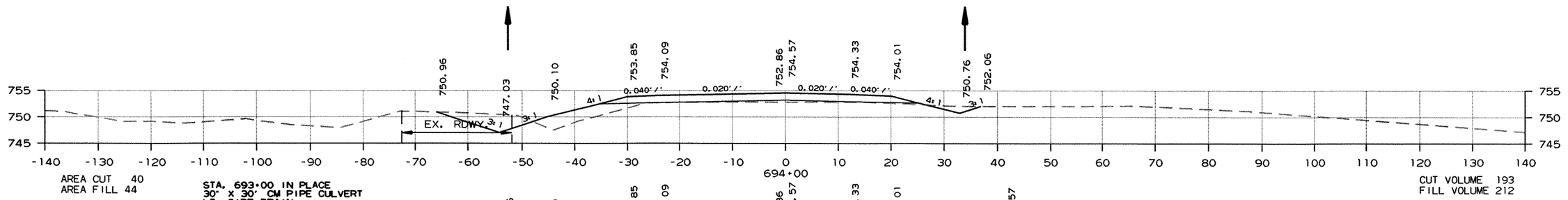


CROSS SECTION STA. 687+00 TO STA. 690+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	215	223

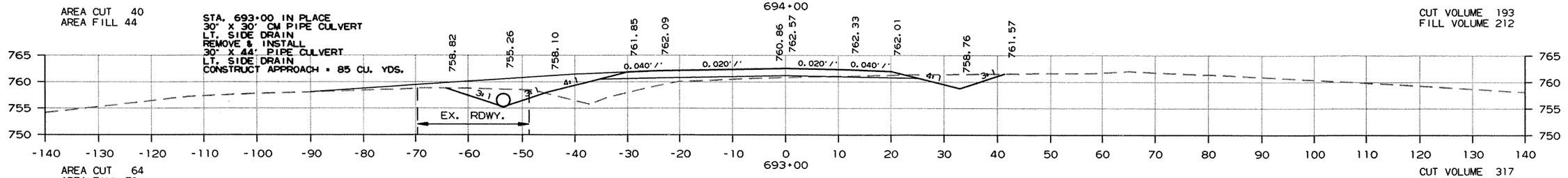
(2) CROSS SECTIONS



AREA CUT 40
AREA FILL 44

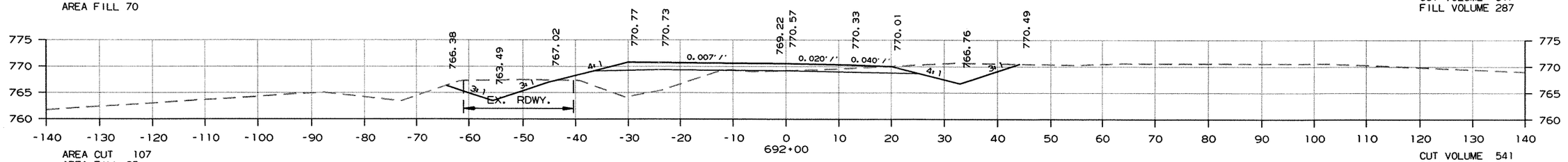
CUT VOLUME 193
FILL VOLUME 212

STA. 693+00 IN PLACE
30" X 30' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
30" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.



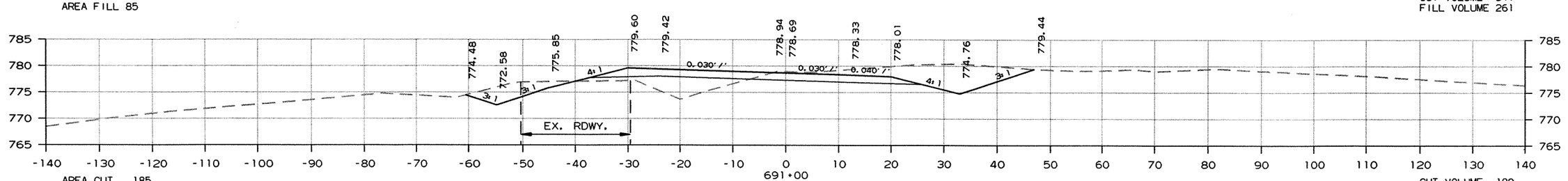
AREA CUT 64
AREA FILL 70

CUT VOLUME 317
FILL VOLUME 287



AREA CUT 107
AREA FILL 85

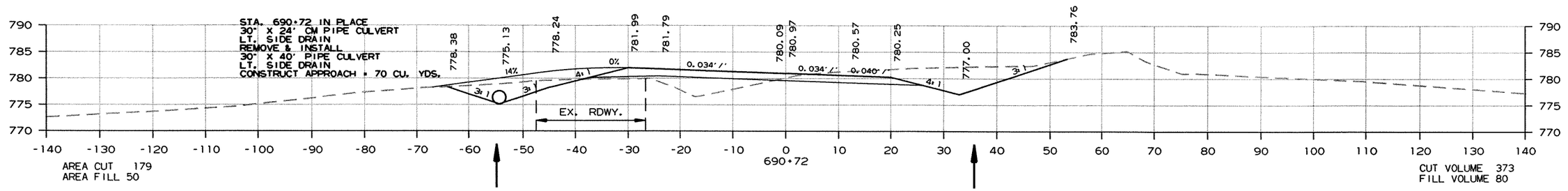
CUT VOLUME 541
FILL VOLUME 261



AREA CUT 185
AREA FILL 56

CUT VOLUME 189
FILL VOLUME 55

STA. 690+72 IN PLACE
30" X 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE & INSTALL
30" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.



AREA CUT 179
AREA FILL 50

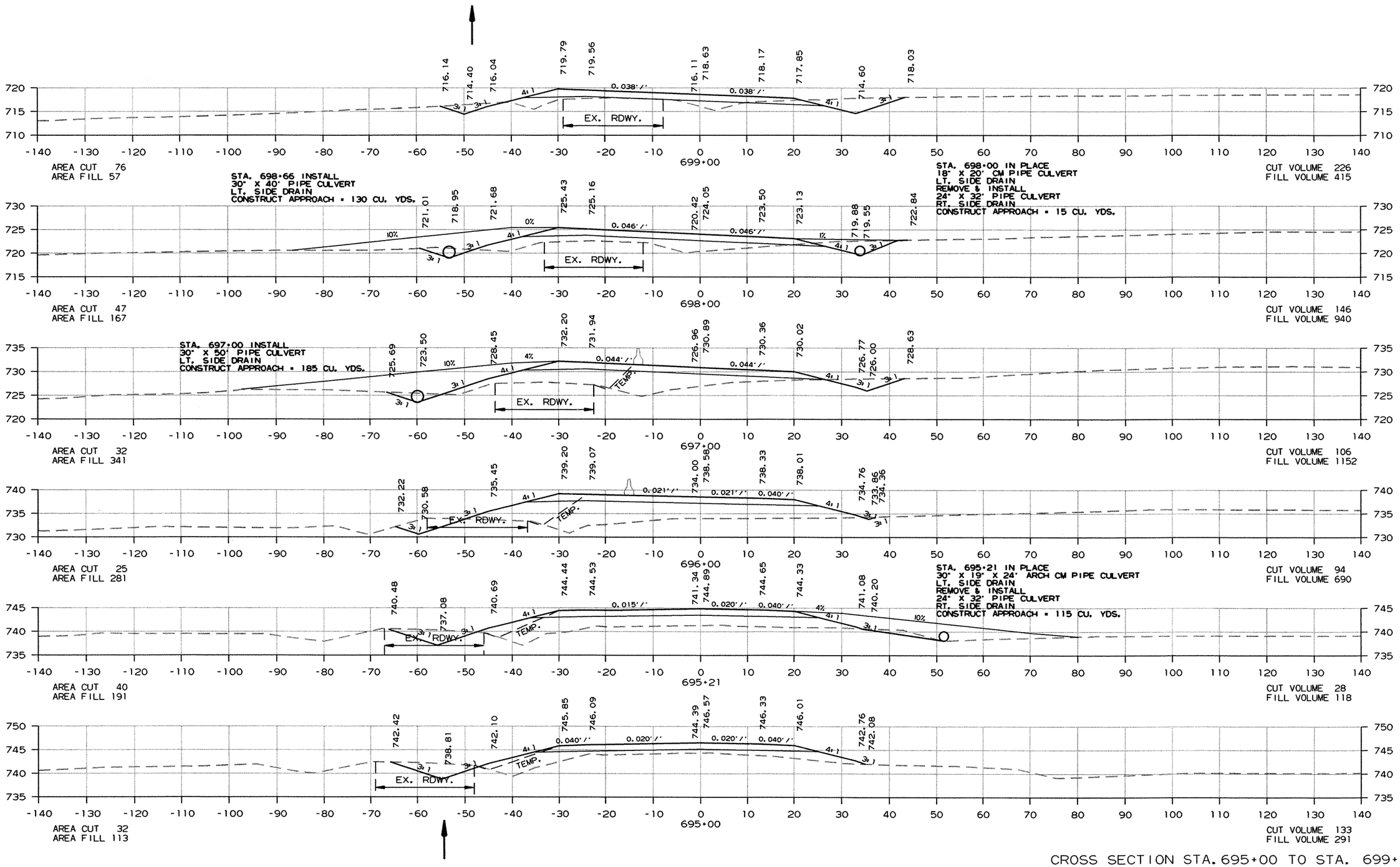
CUT VOLUME 373
FILL VOLUME 80

CROSS SECTION STA. 690+72 TO STA. 694+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	216	223

(2) CROSS SECTIONS

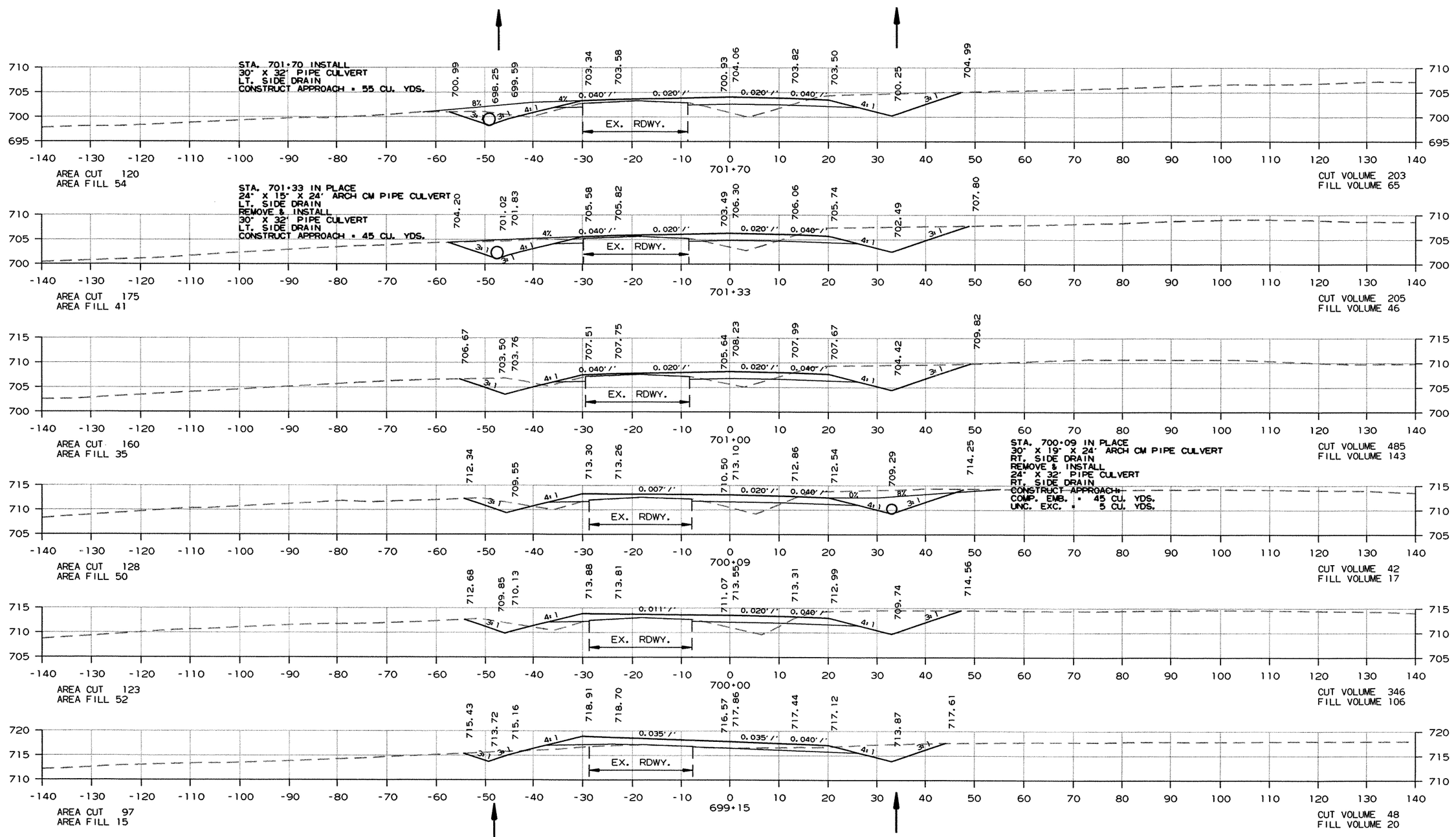


CROSS SECTION STA. 695+00 TO STA. 699+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS

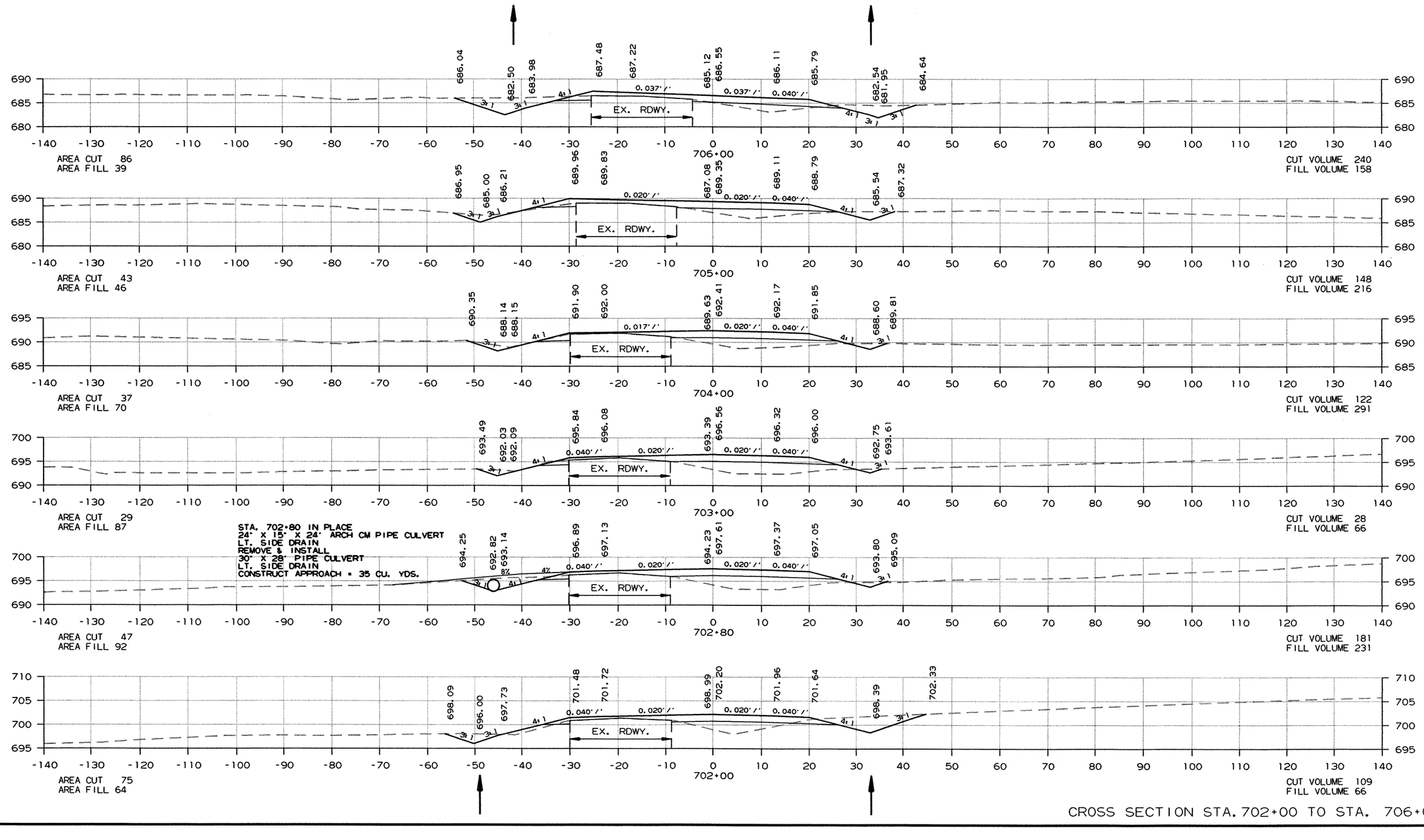


CROSS SECTION STA. 699+15 TO STA. 701+70

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		R50116	218	223

(2) CROSS SECTIONS

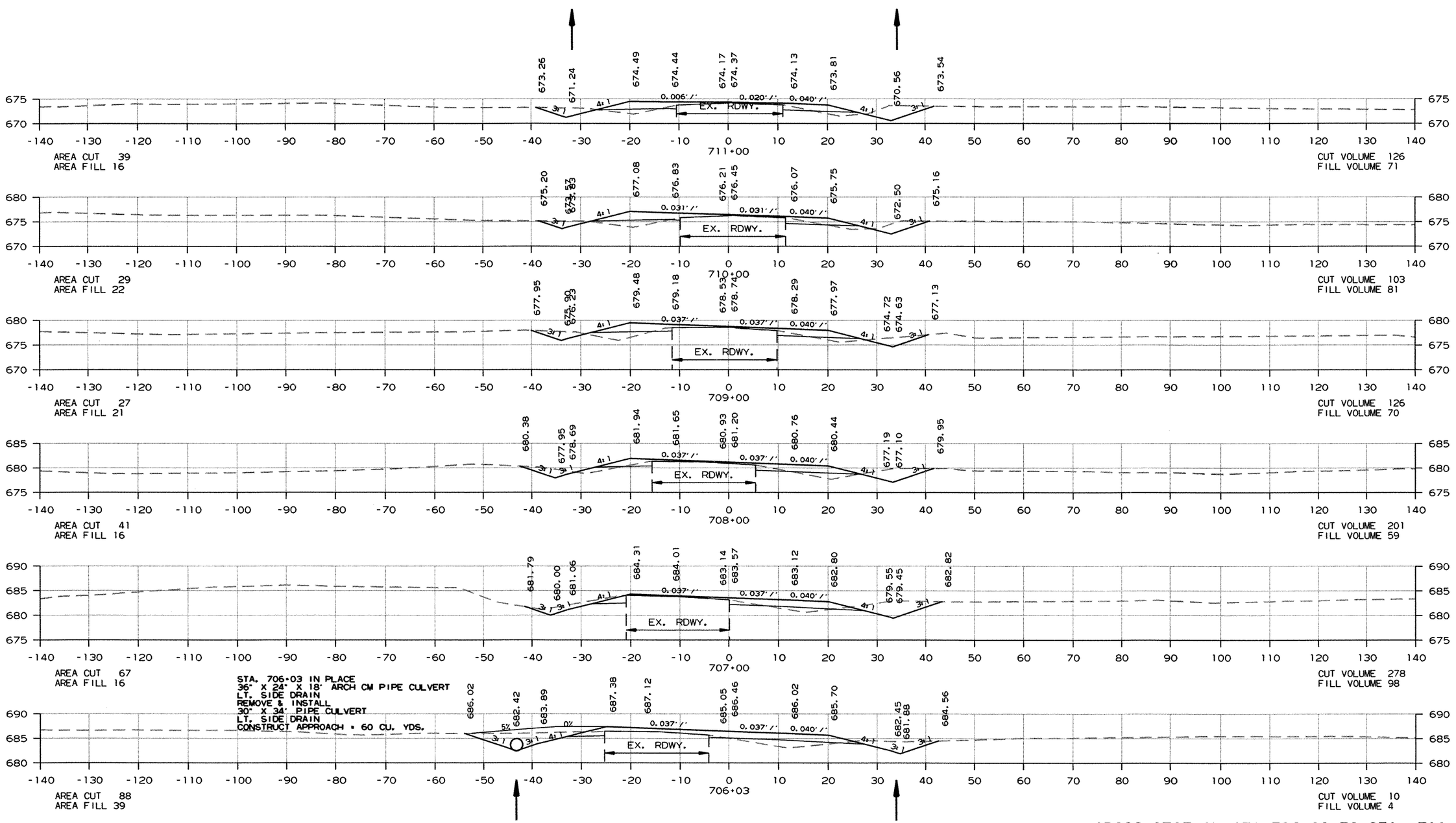


CROSS SECTION STA. 702+00 TO STA. 706+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	219	223

(2) CROSS SECTIONS

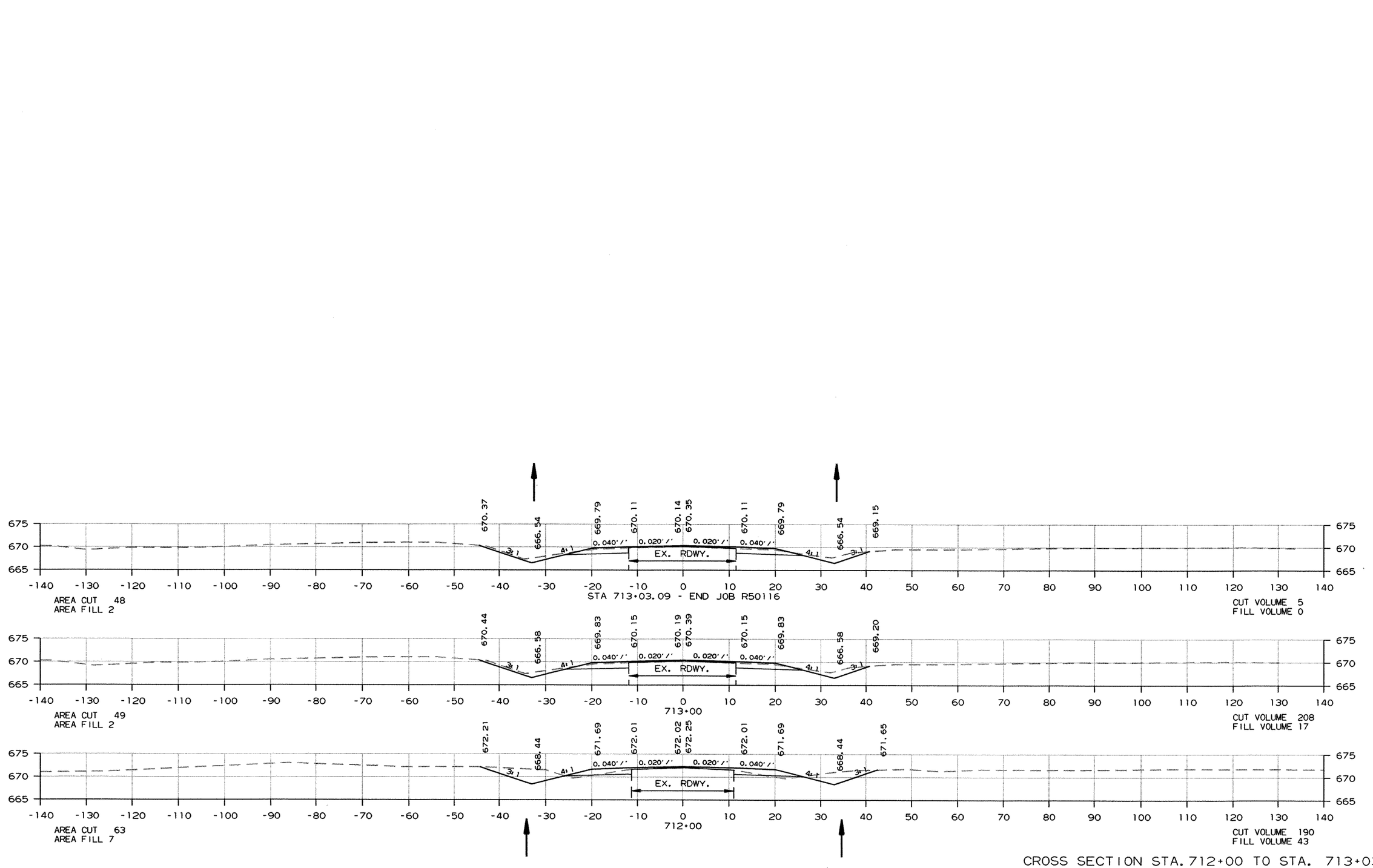


CROSS SECTION STA. 706+03 TO STA. 711+00

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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(2) CROSS SECTIONS

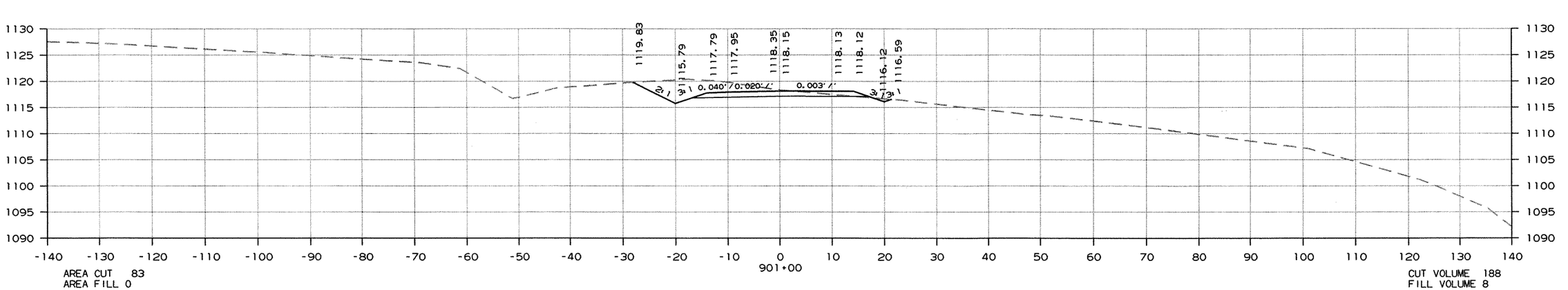


CROSS SECTION STA. 712+00 TO STA. 713+03

RR50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	221	223

(2) CROSS SECTIONS-EX. HWY. 5

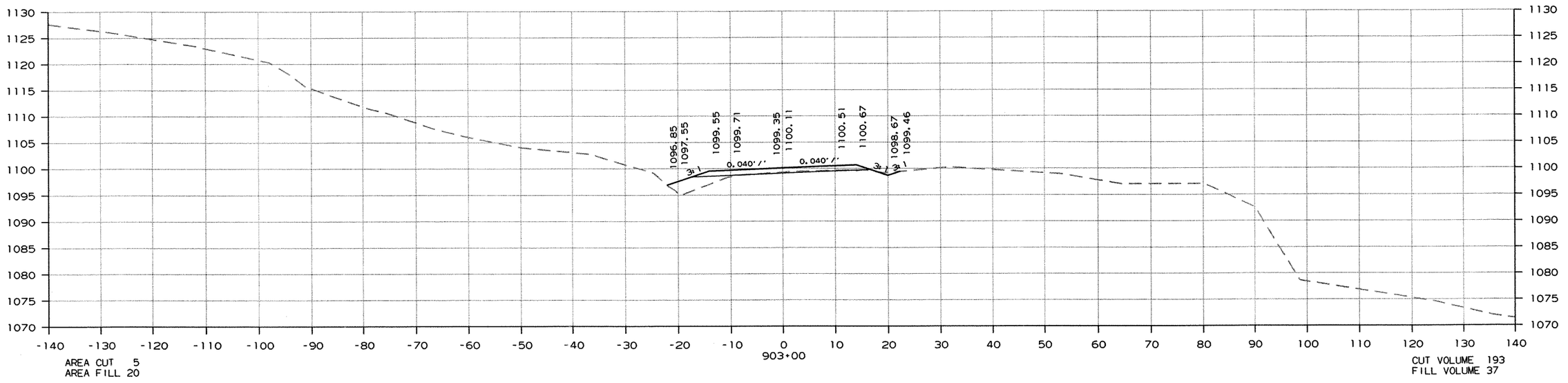


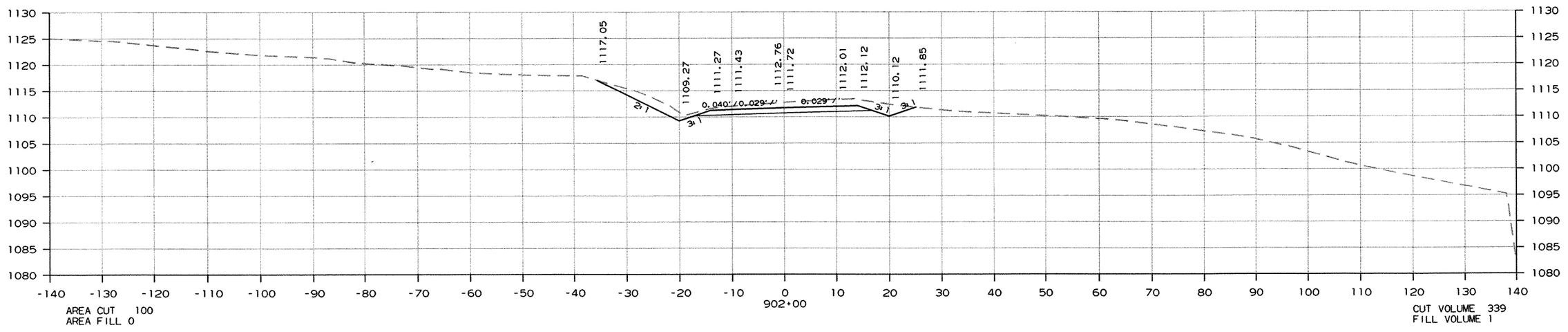
CROSS SECTION STA. 900+12.25 TO STA. 901+00

R50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	222	223

(2) CROSS SECTIONS-EX. HWY. 5



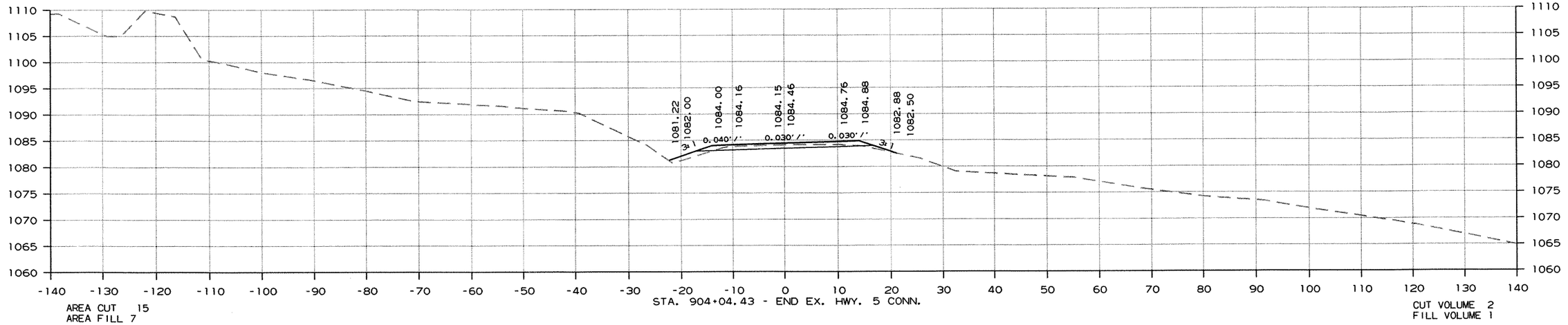


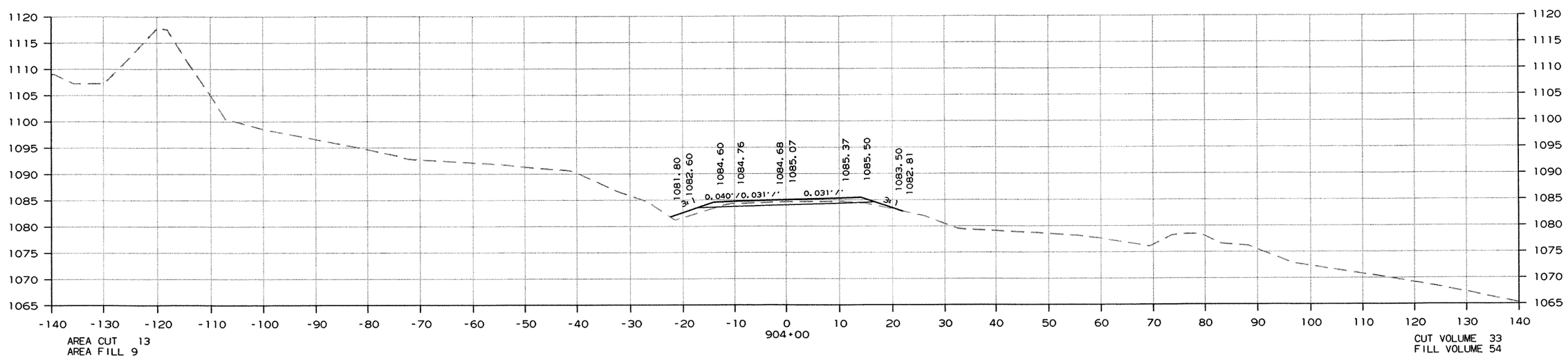
CROSS SECTION STA. 902+00 TO STA. 903+00

R50116.DGN 4/13/2012

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		R50116	223	223

(2) CROSS SECTIONS-EX. HWY. 5





CROSS SECTION STA. 904+00 TO STA. 904+04.43

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