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.		070280	1	336
				②	EL DORADO-HWY. 335 (S)			

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

EL DORADO-HWY. 335 (S)

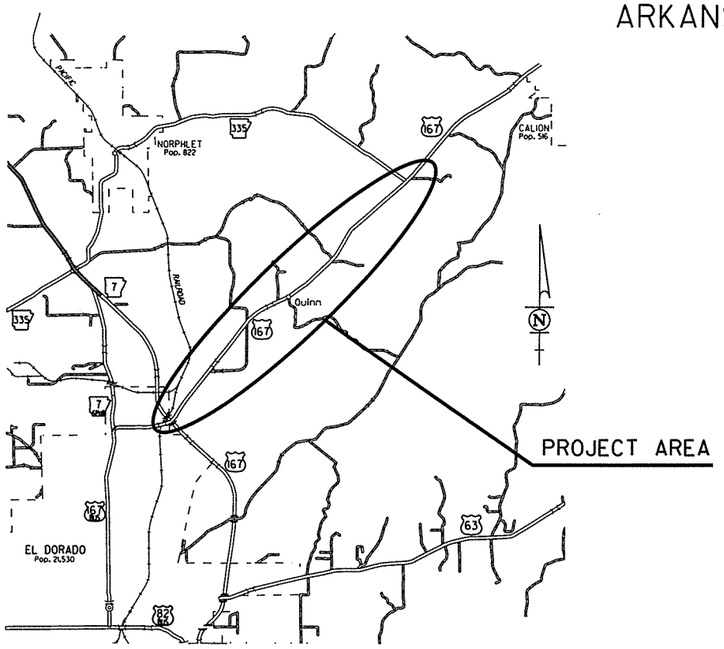
UNION COUNTY

ROUTE 167 SECTION 2

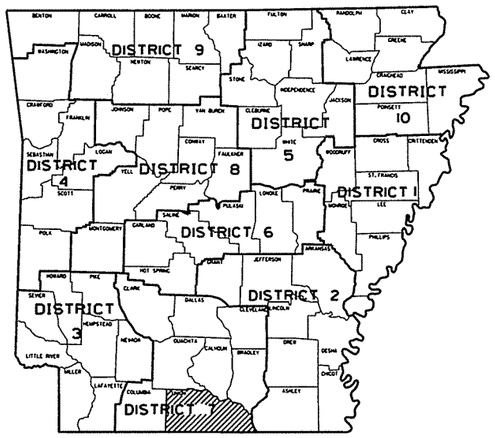
FEDERAL AID PROJ. NHPP-STPP-0070(33)

JOB 070280

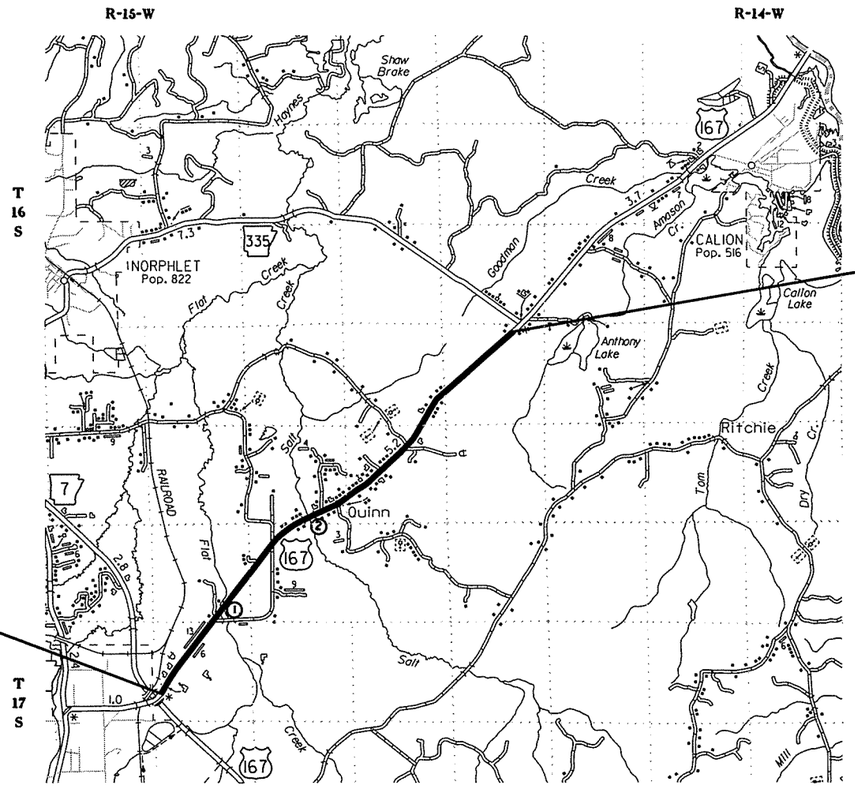
NOT TO SCALE



VICINITY MAP



ARK. HWY. DIST. NO. 7



STA. 131+00.00
BEGIN JOB 070280
L.M. = 0.23

STA. 397+03.97
END JOB 070280
BEGIN JOB 070281
L.M. =5.27

DESIGN TRAFFIC DATA

DESIGN YEAR	2015
2015 ADT	5300
2035 ADT	6400
2035 DHV	704
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	18%
DESIGN SPEED	60 MPH

BRIDGE DATA

①STA. 179+60.50 BR. END
111'-0" CONTINUOUS COMP. W-BEAM
75'-0" CLEAR ROADWAY
BR. NO. 07261
STA. 180+71.50 BR. END

②STA. 246+99.50 BR. END
111'-0" CONTINUOUS COMP. W-BEAM
75'-0" CLEAR ROADWAY
BR. NO. 07262
STA. 248+10.50 BR. END

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 33°15'22.6"	N 33°16'54.4"	N 33°18'23.2"
LONGITUDE	W 92°38'44.8"	W 92°36'54.4"	W 92°35'02.7"

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF	PROJECT	26603.97	FEET	OR	5.039	MILES
NET	ROADWAY	26381.97			4.997	MILES
NET	BRIDGES	222.00			0.042	MILES
NET	PROJECT	26603.97			5.039	MILES

P.E. JOB 070280

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7836
M.E. BANKS

6-29-15

DEPUTY DIRECTOR
AND CHIEF ENGINEER

r070280.dgn 3/3/2015

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.		070280	2	336

(2) INDEX OF SHEETS, GOV. SPECS., & GEN. NOTES

INDEX OF SHEETS

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2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES			
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7 - 11	SPECIAL DETAILS			
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51 - 79	MAINTENANCE OF TRAFFIC			
80 - 92	PERMANENT PAVEMENT MARKING DETAILS			
93 - 99	QUANTITIES			
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101	SUMMARY OF QUANTITIES AND REVISIONS			
102 - 112	SURVEY CONTROL DETAILS			
113 - 134	PLAN AND PROFILE SHEETS			
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137	DETAILS OF STAGE CONSTRUCTION FLAT CREEK	07261	53069	
138	DETAILS OF END BENT NO. 1 FLAT CREEK	07261	53070	
139	DETAILS OF INTERMEDIATE BENTS FLAT CREEK	07261	53071	
140	DETAILS OF END BENT NO. 4 FLAT CREEK	07261	53072	
141	DETAILS OF 20" & 24" SQUARE PRETRESSED CONCRETE PILES	07261, 07262	53073	
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143	DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK (SHEET 2 OF 6)	07261, 07262	53075	
144	DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK (SHEET 3 OF 6)	07261, 07262	53076	
145	DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK (SHEET 4 OF 6)	07261, 07262	53077	
146	DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK (SHEET 5 OF 6)	07261, 07262	53078	
147	DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK (SHEET 6 OF 6)	07261, 07262	53079	
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174	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)		PCP-1	2-27-14
175	PLASTIC PIPE CULVERT (PVC F949)		PCP-2	2-27-14
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177	DETAILS OF PIPE UNDERDRAIN		PU-1	4-10-03
178	REINFORCED CONCRETE BOX CULVERT DETAILS		RCB-1	7-26-12
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190	WIRE FENCE WATER GAPS		WF-2	4-20-79
191	CHAIN LINK FENCE		WF-3	11-17-10
192	WIRE FENCE TYPE C AND D		WF-4	8-22-02
193	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS		W-X003-1	5-10-66
194	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS		R-100X-0	2-08-63
195	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS		R-100X-X3	12-11-64
196 - 336	CROSS SECTIONS			

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
9-28-15

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - TRAINING PROGRAM - JOB 070280
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
108-1	LIQUIDATED DAMAGES
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
620-1	MULCH COVER
JOB 070280	BIDDING REQUIREMENTS AND CONDITIONS
JOB 070280	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 070280	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 070280	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 070280	COORDINATION OF WORK
JOB 070280	CULVERT CLEAN OUT
JOB 070280	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 070280	EXTENSION FOR PIPE CULVERTS
JOB 070280	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 070280	HIGH PERFORMANCE PAVEMENT MARKING
JOB 070280	MANDATORY ELECTRONIC CONTRACT
JOB 070280	NESTING SITES OF MIGRATORY BIRDS
JOB 070280	PARTNERING REQUIREMENTS
JOB 070280	PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS
JOB 070280	PLASTIC PIPE
JOB 070280	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 070280	PROSECUTION AND PROGRESS
JOB 070280	SECTION 404 LETTER OF PERMISSION PERMIT REQUIREMENTS
JOB 070280	SHORING
JOB 070280	SHORING FOR CULVERTS
JOB 070280	SITE USE (A+C METHOD)
JOB 070280	SOIL STABILIZATION
JOB 070280	STORM WATER POLLUTION PREVENTION PLAN
JOB 070280	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 070280	UTILITY ADJUSTMENTS
JOB 070280	VALUE ENGINEERING
JOB 070280	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 WITH SUCH OWNERS.

3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.

4. 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. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.

6. 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.

7. 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 LIVESTOCK.

8. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.

9. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

INDEX OF SHEETS, GOV. SPECS., & GEN. NOTES

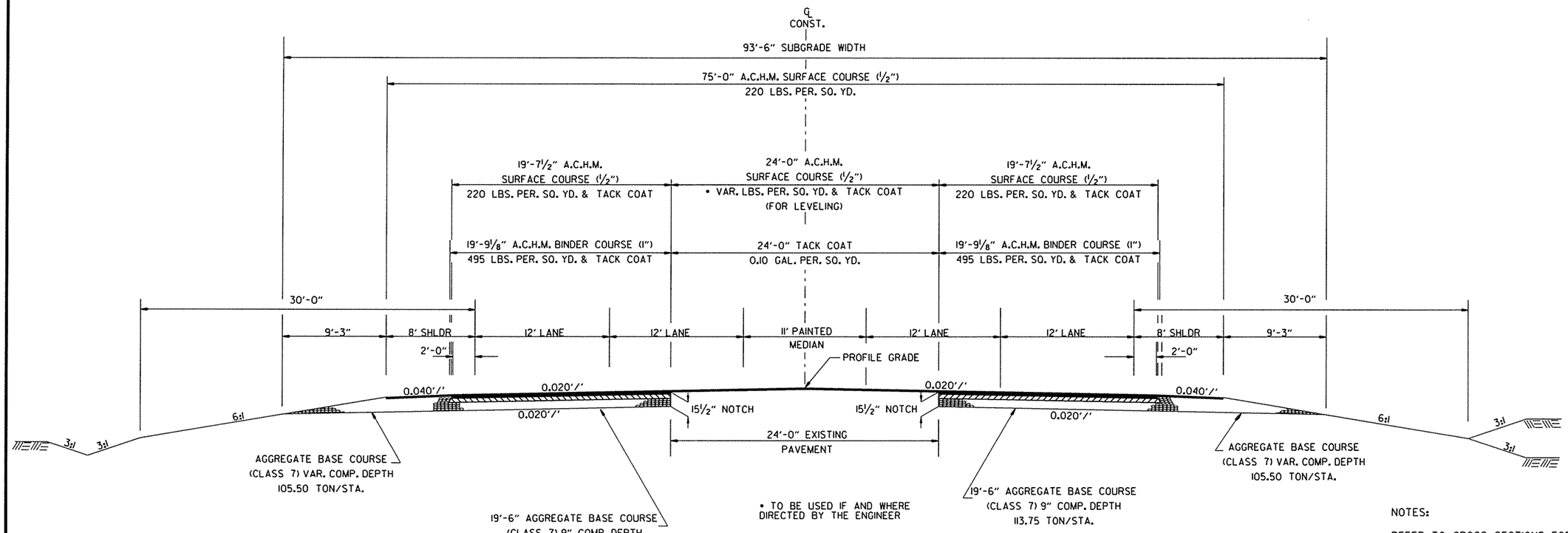
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				6	ARK.			
				JOB NO.		070280	3	336

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



5 LANES (NOTCH AND WIDEN SECTION)

STA. 131+00.00 - STA. 154+49.00
STA. 157+00.00 - STA. 170+00.00
STA. 189+73.00 - STA. 224+00.00
STA. 237+00.00 - STA. 239+00.00
STA. 266+00.00 - STA. 267+00.00
STA. 393+00.00 - STA. 308+00.00
STA 311+00.00 - STA. 397+03.97

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. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

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

THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (½") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

3/3/2015

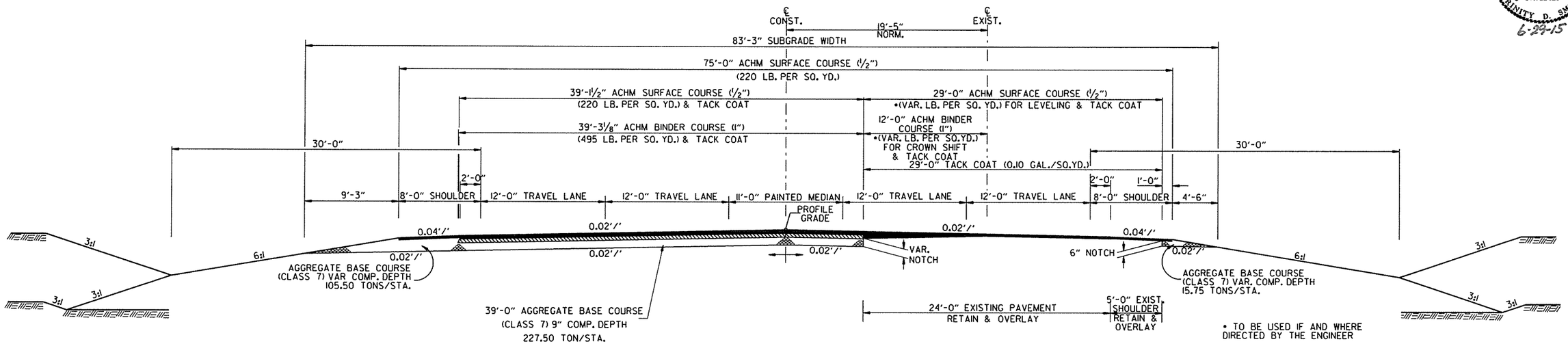
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TYPICAL SECTIONS OF IMPROVEMENT

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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

OPEN SHOULDER
NOTCH & WIDENING ON LEFT
(REVERSE FOR WIDENING ON RIGHT)

STA. 170+00.00 - STA. 175+00.00
STA. 183+00.00 - STA. 189+73.00
STA. 224+00.00 - STA. 237+00.00
STA. 239+00.00 - STA. 243+48.00
STA. 256+00.00 - STA. 266+00.00
STA. 267+00.00 - STA. 281+50.00
STA. 281+50.00 - STA. 326+10.00
STA. 335+26.00 - STA. 393+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.

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

3/3/2015

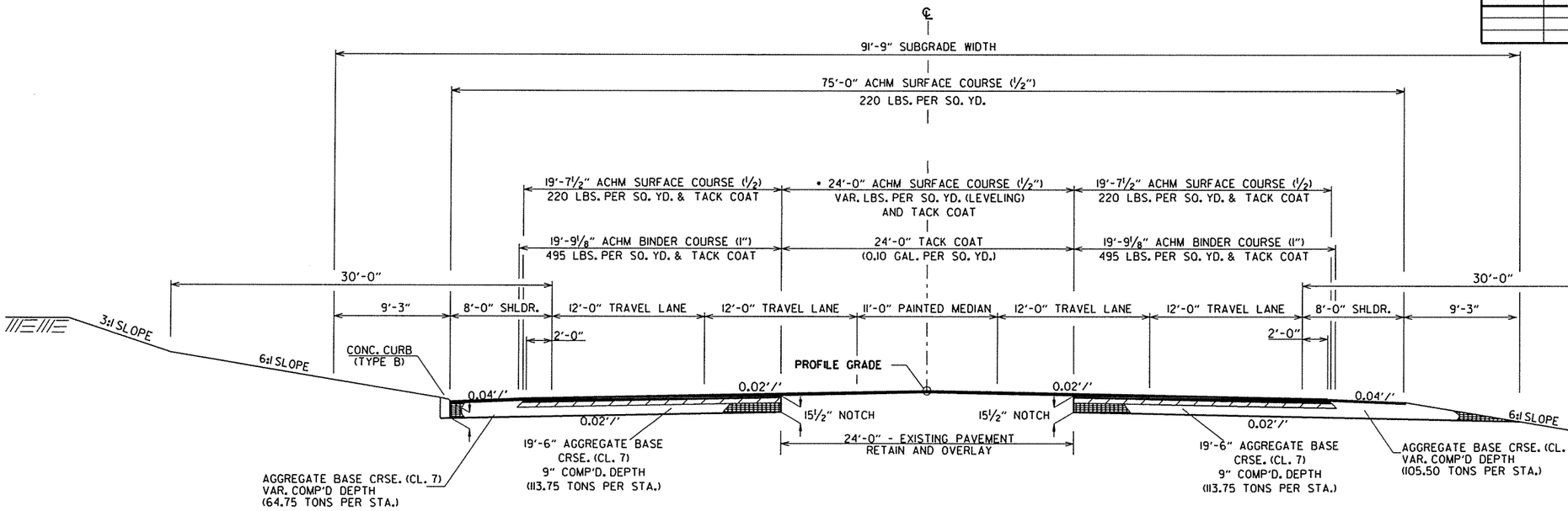
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TYPICAL SECTIONS OF IMPROVEMENT

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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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



MOUNTABLE CURB

STA. 308+00.00 - STA. 311+00.00

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

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.

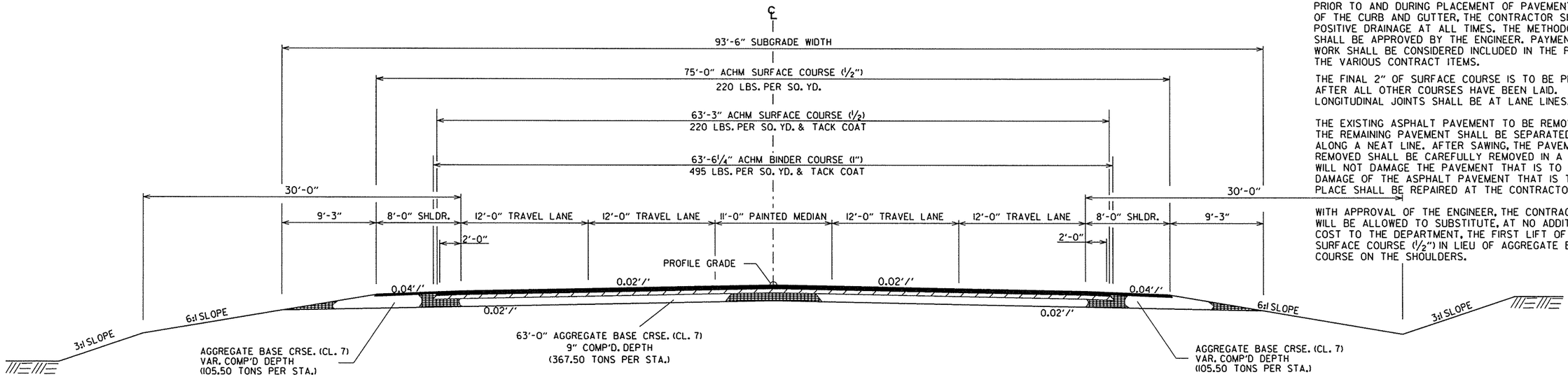
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PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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

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FULL DEPTH

STA. 154+49.00 - STA. 157+00.00
STA. 175+00.00 - STA. 179+60.50
STA. 180+71.50 - STA. 183+00.00
STA. 243+48.00 - STA. 246+99.50
STA. 248+10.50 - STA. 256+00.00
STA. 326+10.00 - STA. 335+26.00

TYPICAL SECTIONS OF IMPROVEMENT

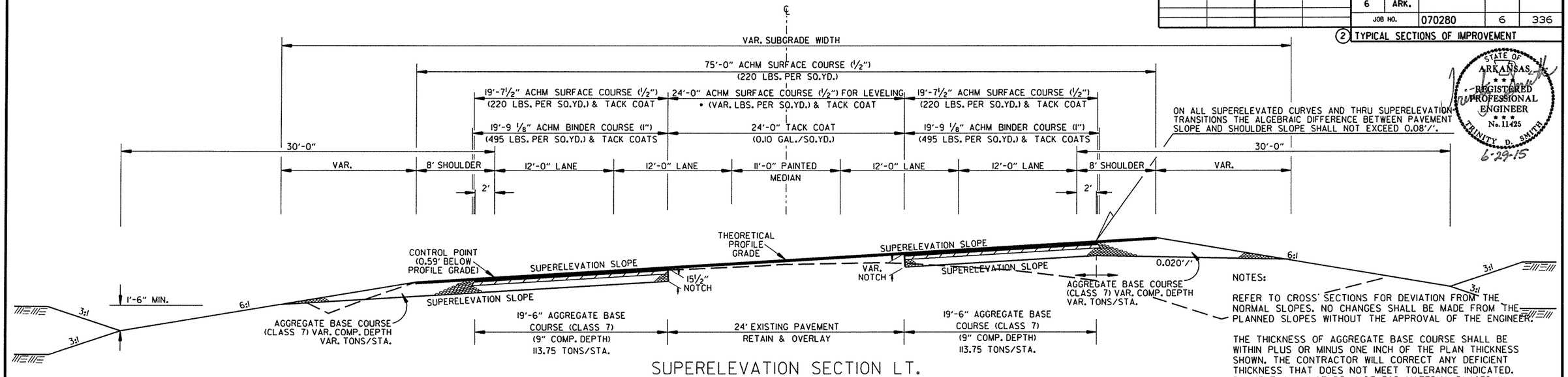
3/3/2015

R070280.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.		070280	6	336

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



SUPERELEVATION SECTION LT.
OPEN SHOULDER
NOTCH AND WIDEN
(24' EXIST. PAVEMENT CENTERED)

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

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.

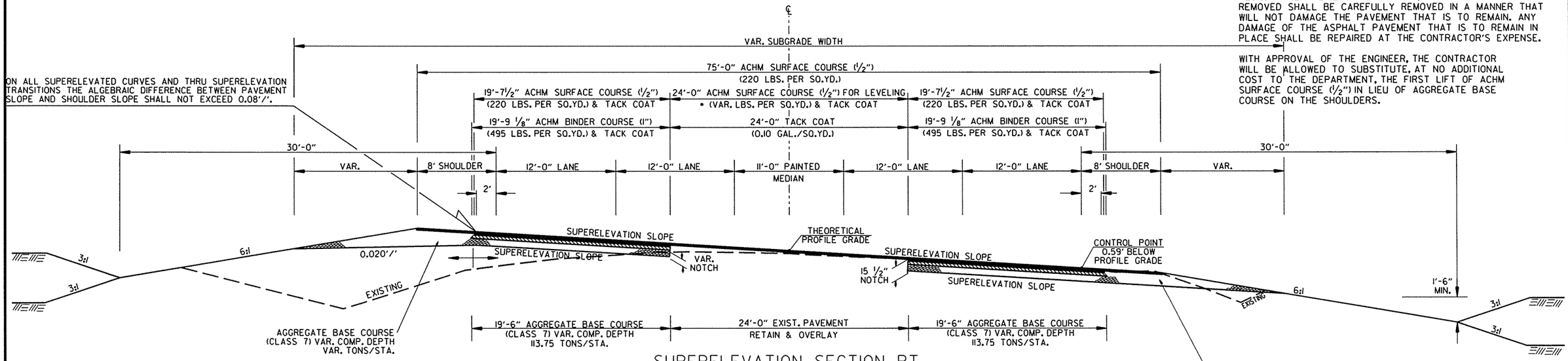
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

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

THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (½") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



SUPERELEVATION SECTION RT.
OPEN SHOULDER
NOTCH AND WIDEN
(24' EXIST. PAVEMENT CENTERED)

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

TYPICAL SECTIONS OF IMPROVEMENT

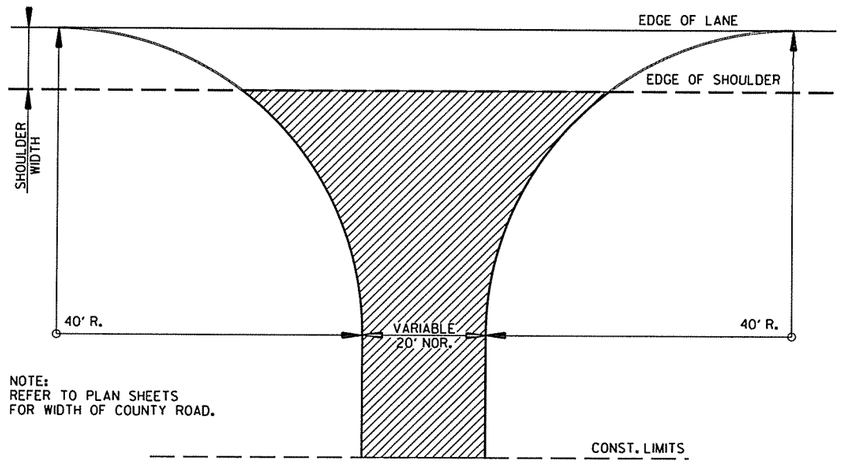
3/3/2015

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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.			
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(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

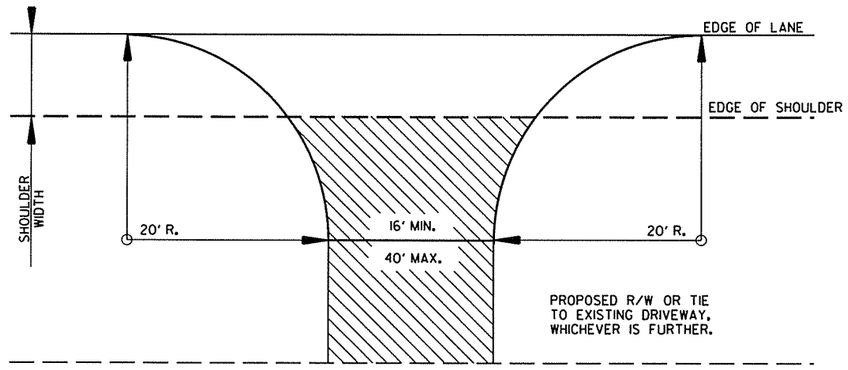


NOTE:
REFER TO PLAN SHEETS
FOR WIDTH OF COUNTY ROAD.

DETAIL FOR COUNTY ROAD TURNOUTS
OPEN SHOULDER SECTION

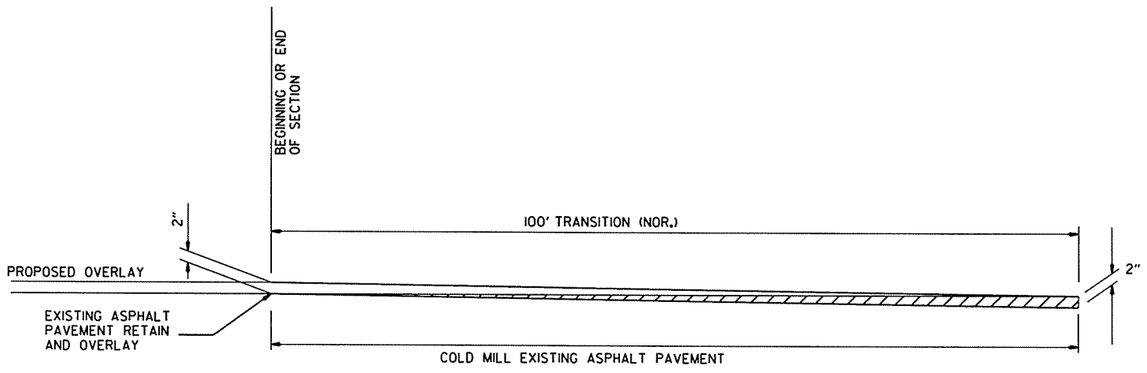
A.C.H.M SURFACE COURSE (1/2")
(220 LBS. PER SQ. YD.) AND
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH.

NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.



DETAIL FOR DRIVEWAY TURNOUTS
OPEN SHOULDER SECTION

A. C. H. M SURFACE COURSE (1/2")
(220 LBS. PER SQ. YD.) AND
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH IF ASPHALT OR
GRAVEL DRIVE EXISTING, OR 6" CONCRETE
IF CONCRETE DRIVE EXISTING.



DETAIL FOR TRANSITIONS

3/31/2015

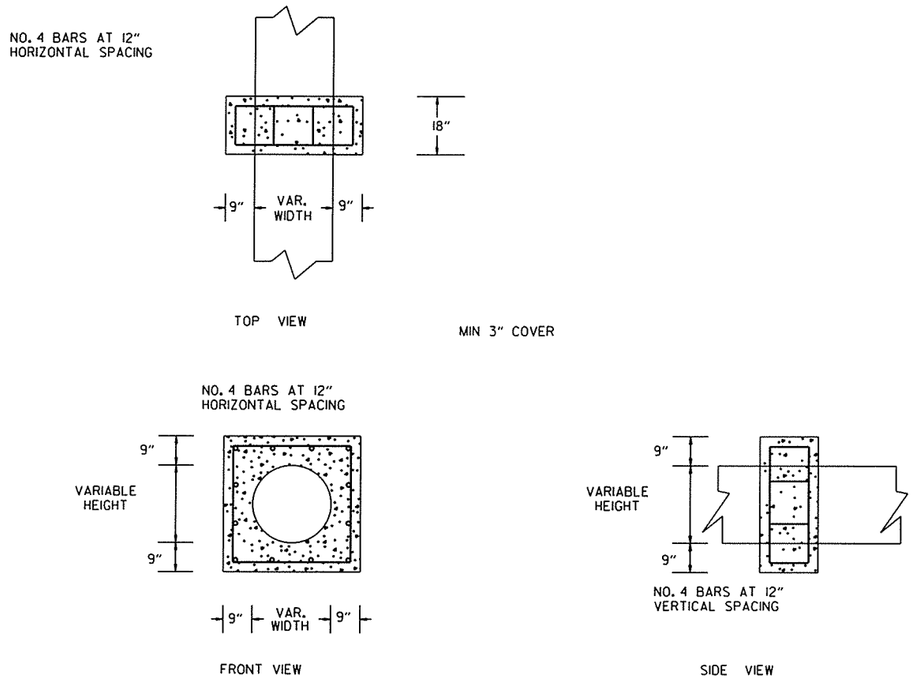
R070280.DGN

SPECIAL DETAILS

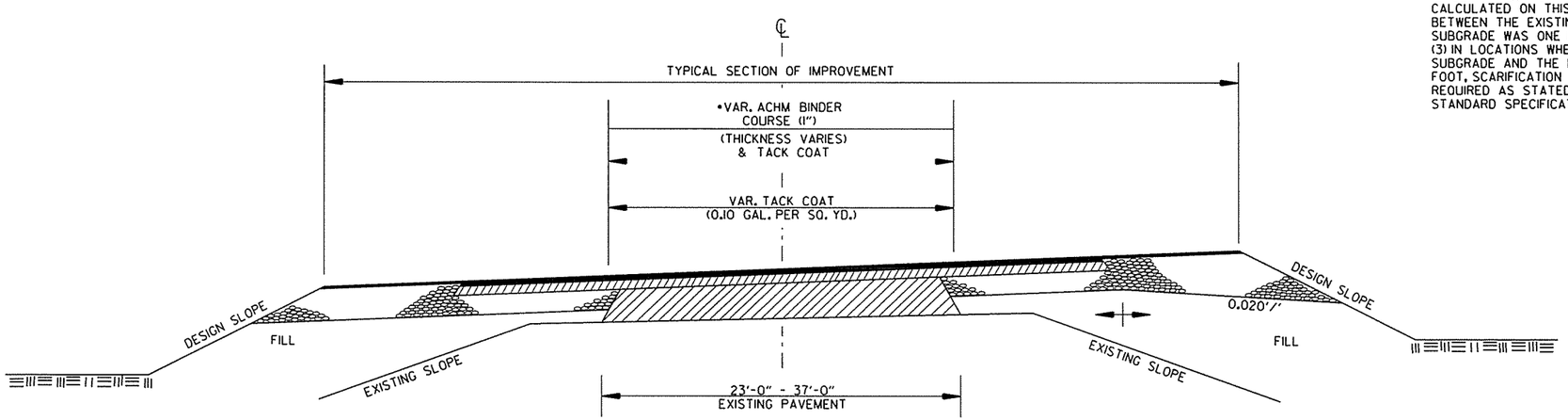
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				6	ARK.			
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(2) SPECIAL DETAILS

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
6-29-15



PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



NOTES:
(1) THIS DETAIL TO BE USED 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 2014.

• 9" AGGREGATE BASE COURSE (CLASS 7) TO BE REPLACED WITH A.C.H.M. BINDER COURSE (1")

METHOD OF RAISING GRADE

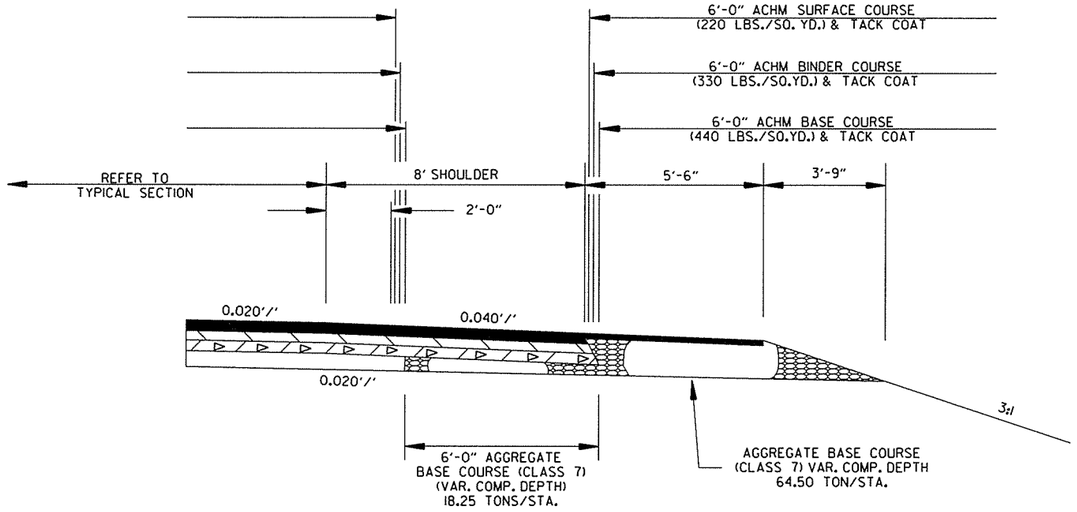
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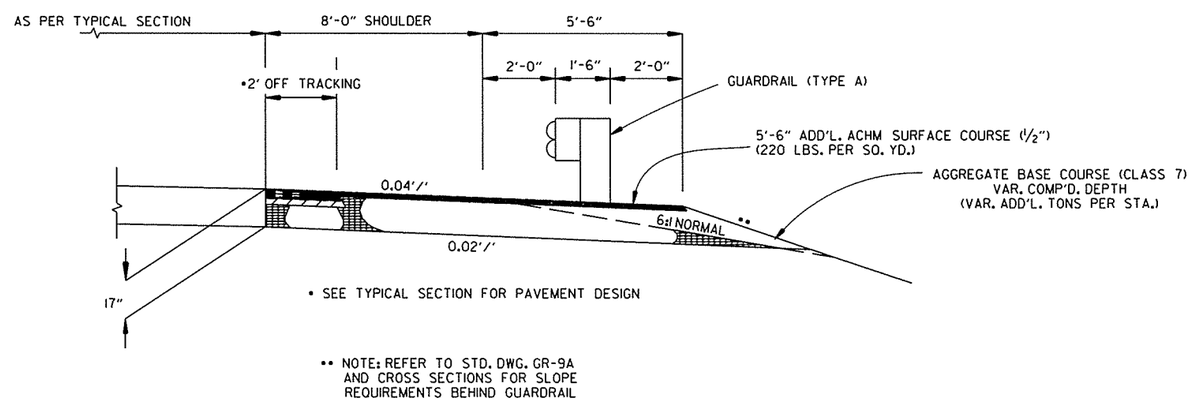
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(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



FULL DEPTH SHOULDER
FOR MAINTENANCE OF TRAFFIC



• SEE TYPICAL SECTION FOR PAVEMENT DESIGN

•• NOTE: REFER TO STD. DWG. GR-9A AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL

WIDENING FOR GUARDRAIL

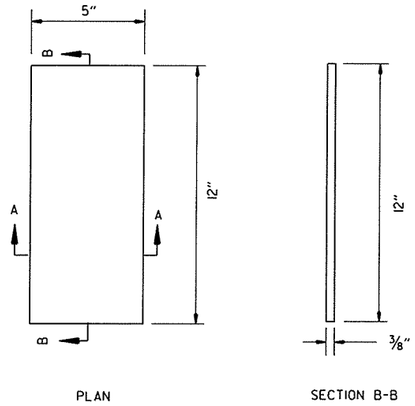
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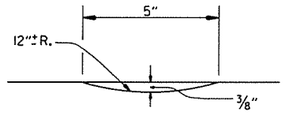
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(2) SPECIAL DETAILS

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
6-29-15

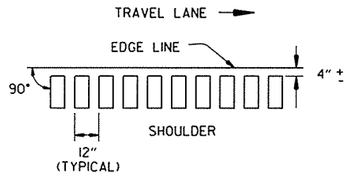


PLAN SECTION B-B

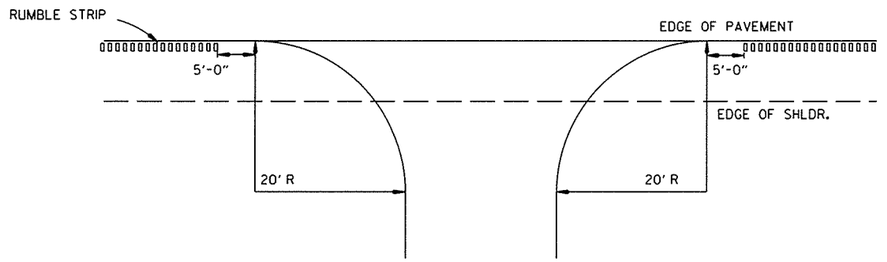


SECTION A-A

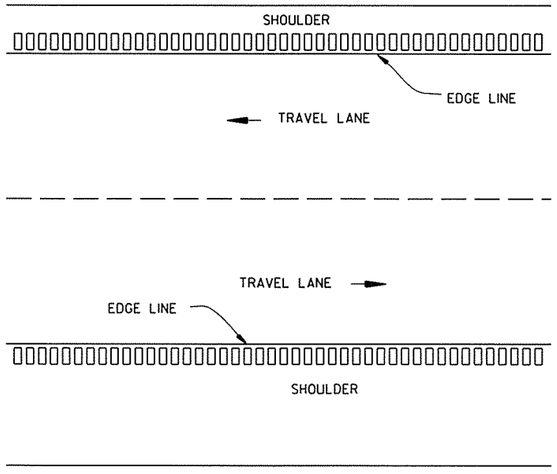
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS LEFT OR RIGHT SHOULDER



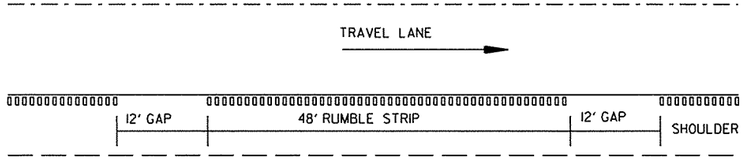
DETAIL FOR RUMBLE STRIP GAP AT DRIVEWAY TURNOUTS



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.

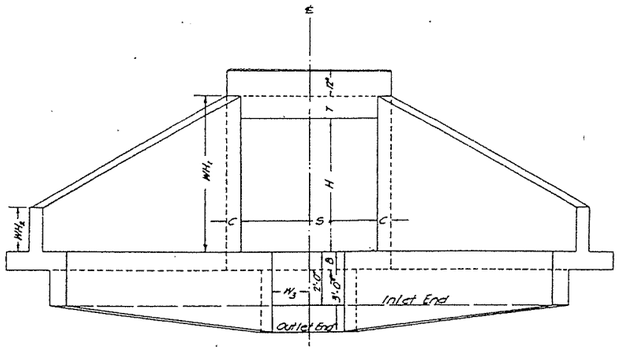
3/31/2015

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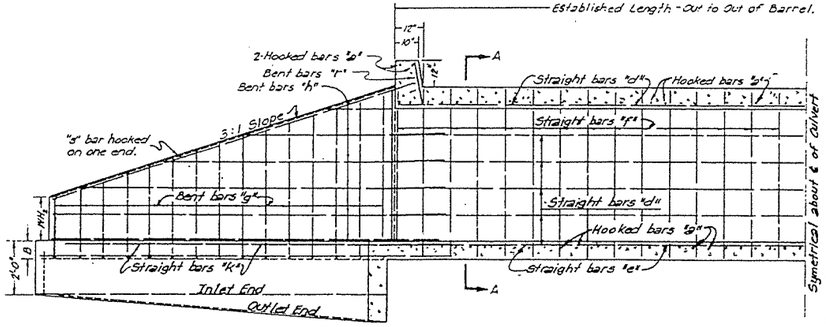
SPECIAL DETAILS

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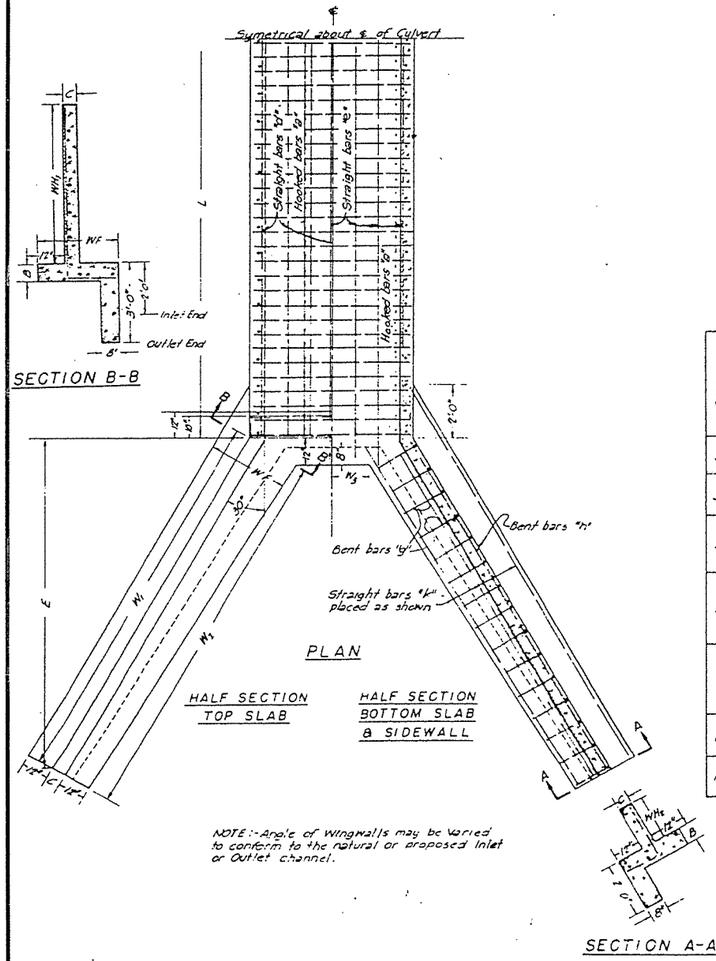
(2) SPECIAL DETAILS



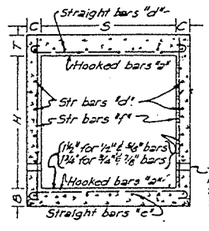
END ELEVATION



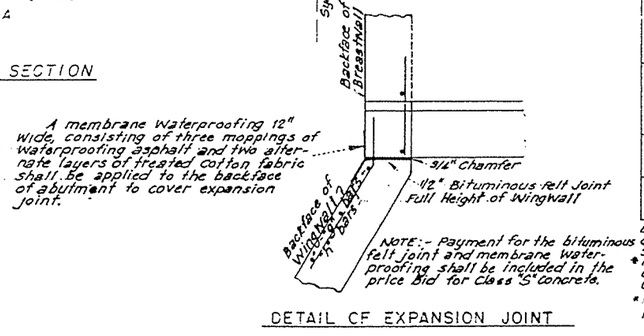
LONGITUDINAL SECTION



SECTION B-B



SECTION A-A



A membrane Waterproofing 12" Wide, consisting of three moppings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the backface of abutment to cover expansion joint.

NOTE:- Payment for the bituminous felt joint and membrane waterproofing shall be included in the price bid for Class 'S' concrete.

DETAIL OF EXPANSION JOINT
FOR CULVERTS WHEN HEIGHT "H" = 8' OR MORE
SCALE: 3/4" = 1'-0"

DIMENSIONS AND QUANTITIES

SPAN	HEIGHT	AREA OF OPENING SQ. FT.	MINIMUM DEPTH OF TOP SLAB	THICKNESS OF SIDE WALLS & WINGWALLS	THICKNESS OF BOTTOM SLAB	WINGWALL HEIGHTS AT HEADWALL	WINGWALL HEIGHTS AT WING END	MAXIMUM WIDTH OF WING FOOTING	PERPENDICULAR DIST. FROM FACE OF HDWALL TO END OF WING	LENGTH OF WINGWALLS	INSIDE LENGTH OF WING FOOTING	FOOTING EMBEDMENT BELOW ℄ OF BOX.	CONCRETE CU.YD. HEADWALLS, WINGWALLS & FOOTINGS	CONCRETE CU.YD. PER LINEAR FT. OF BARREL	STEEL LB. HEADWALLS, WINGWALLS & FOOTINGS	STEEL LB. PER LINEAR FT. OF BARREL	STEEL LB. ADDL. STEEL FOR LAPS
S	H	A	D	T	C	B	WH1	WH2	WF	E	W1	W2	W3				
3	2	6	3'-6"	8"	6"	6"	2'-9"	1'-0"	2'-6"	5'-3"	6'-0⅜"	5'-3½"	0'-10⅛"	3.65	0.253	236	25.26	13.4
	3	9					3'-9"	1'-0"	2'-6"	6'-3"	9'-6⅛"	9'-2¾"	0'-10⅛"	5.86	0.290	352	27.97	15.6
	4	12					4'-8"	1'-4"	2'-6"	10'-3"	11'-4⅞"	11'-2½"	0'-10⅛"	7.71	0.367	461	30.67	17.8
4	2	8	3'-6"	9"	6"	7½"	2'-9"	1'-0"	2'-6"	5'-3"	6'-0⅜"	5'-3½"	1'-4⅛"	4.02	0.329	246	31.72	15.6
	3	12					3'-9"	1'-0"	2'-6"	6'-3"	9'-6⅛"	9'-2½"	1'-4⅛"	6.30	0.366	363	33.93	17.8
	4	16					4'-9"	1'-4"	2'-6"	10'-3"	11'-10"	11'-6⅛"	1'-4⅛"	8.20	0.403	472	36.63	20.0
	6	24					6'-9"	2'-0"	3'-6½"	14'-3"	16'-5⅝"	16'-3⅛"	0'-5"	13.57	0.520	777	42.58	24.5
5	2	10	3'-6"	9"	6"	8"	2'-10"	1'-0"	2'-6"	5'-6"	6'-1⅛"	6'-0⅜"	1'-10⅛"	4.56	0.356	289	40.36	17.8
	3	15					3'-10"	1'-0"	2'-6"	8'-6"	9'-9⅜"	9'-5⅛"	1'-10⅛"	6.82	0.435	407	43.04	20.0
	4	20					4'-10"	1'-4"	2'-6"	10'-6"	12'-1⅝"	11'-10"	1'-10⅛"	8.78	0.472	513	45.75	22.3
	5	25					5'-10"	1'-8"	2'-9½"	12'-6"	14'-5⅝"	14'-2⅜"	1'-10⅛"	11.20	0.509	650	48.46	24.5
	7	35		12"			7'-10"	2'-8"	3'-11"	16'-6"	18'-9⅛"	18'-5⅞"	0'-4"	15.17	0.662	1231	54.64	28.9
6	3	18	3'-6"	9"	6"	10½"	3'-8"	1'-0"	2'-6"	8'-6"	9'-9⅜"	9'-5⅛"	2'-4⅛"	7.28	0.532	403	50.58	22.3
	4	24			6"		4'-8"	1'-4"	2'-6"	10'-6"	12'-1⅝"	11'-10"	2'-4⅛"	9.28	0.569	527	53.28	24.5
	5	30			6"		5'-8"	1'-8"	2'-11"	12'-6"	14'-5⅝"	14'-2⅜"	2'-4⅛"	11.80	0.606	662	55.99	26.7
	6	36			7"		6'-8"	2'-0"	3'-5"	14'-6"	16'-9"	17'-0"	2'-4⅛"	15.76	0.691	825	59.39	28.9
	8	48			8"		8'-10"	2'-8"	4'-5"	18'-6"	21'-4⅝"	22'-3"	0'-3⅝"	24.98	0.836	1500	72.76	33.4
8	7	56	3'-6"	11½"	7½"	11"	8'-0"	2'-4"	4'-0"	17'-0"	19'-7⅜"	20'-3"	1'-8⅞"	22.58	0.966	1337	90.21	40.1
	8	64			8"		9'-0"	2'-8"	4'-6"	19'-0"	21'-11⅛"	22'-10¾"	1'-2½"	27.97	1.043	1532	100.81	42.3
	10	80			10"		11'-0"	3'-4"	5'-6"	23'-0"	26'-6⅝"	28'-1⅞"	0'-2½"	43.93	1.289	2449	109.51	46.8
8	8	80	3'-6"	12½"	8"	11"	9'-0"	2'-8"	4'-6"	19'-0"	21'-11⅛"	22'-10¾"	2'-2½"	29.64	1.210	1628	130.56	44.5
	10	100			10"	12½"	11'-0"	3'-4"	5'-6"	23'-0"	26'-6⅝"	28'-1⅞"	1'-2½"	46.15	1.517	2490	139.76	45.0
	12	120			12"		13'-0"	4'-0"	6'-6"	27'-0"	31'-2"	33'-4⅝"	0'-2⅜"	68.41	1.815	3817	158.53	53.4

LAP NOTE -In computing quantities of steel from the above table add one Lap for culverts up to 50'-0" in length and one Lap for each additional 25'-0" in length.
SPECIFICATIONS :- Arkansas Standard Road and Bridge Specifications.
* REINFORCING STEEL :- To be deformed bars of structural or intermediate grade.
CHAMFER :- All exposed corners to have ¾" Chamfer.
CONCRETE :- All concrete to be Class "S"
* Reinforcing Steel to be Deformed Bars of Intermediate or Rail Grade on all Interstate Highways.

STEEL SCHEDULE

For Culverts 30'-0" in Length - Out to Out of Barrel

SPAN	HEIGHT	"a" bars (3" for ¼"ø & ⅜"ø bars; 2" for ½"ø & ⅝"ø bars; In each headwall balance in Top and Bottom Slab of Barrel) SIZE	SPACING	LENGTH	"X"	"d" bars STRAIGHT In Bottom of Top Slab SIZE	SPACING	LENGTH	"d" bars STRAIGHT In Sidewalls SIZE	SPACING	LENGTH	"e" bars STRAIGHT In Top of Bottom Slab SIZE	SPACING	LENGTH	"f" bars STRAIGHT Vertical bars in Sidewalls SIZE	SPACING	NUMBER	LENGTH	"g" bars Vertical bars in back face of Wingwall bent into Bottom of footing SIZE	SPACING	NUMBER	LENGTH	X Min	X Max	Y Min	Y Max	"h" bars ½"ø bars @ 12" Ctrs. NUMBER	LENGTH	Z Min	Z Max	"k" bars ½"ø bars STRAIGHT in Wing footings NUMBER	LENGTH	"r" bars ½"ø bars Vertical in Headwalls NUMBER	LENGTH	"s" bars ½"ø bars In Top of each Wingwall NUMBER	LENGTH	Z
S	H																																					
3	2			13G	6'-6"	3'-9"			5			2			5	½"	12"	28	3'-5"	3"	1'-3"	½"	3"	12	6'-3⅜"	2'-4"	5'-0⅝"	12	7'-8"	10	3'-4"	4	7'-7⅛"	7'-7⅛"
	3			13G	8'-6"	3'-6"	⅜"	10"	5			4			5			40	5'-11⅛"	3"	3"	⅝"	4½"	16	8'-6"	2'-4"	5'-3⅜"	12	10'-8"	10	3'-11"	4	10'-0⅛"	10'-0⅛"
	4			13G	10'-6"	3'-9"			5			6			5			68	6'-11⅛"	3"	3"	⅝"	6"	20	10'-3½"	2'-4"	11'-7"	12	13'-5"	10	3'-11"	4	13'-0⅛"	13'-0⅛"
4	2			16G	5'-6"	4'-0"			6			2			6			28	3'-6"	1'-3"	2"	½"	3'-1½"	2"	6'-3⅜"	2'-4"	5'-9½"	12	9"	12	3'-8"	4	7'-7⅛"	7'-7⅛"
	3			16G	8'-6"	4'-0"	½"	10"	6			4			6	½"	12"	40	6'-0"	3"	3"	½"	5'-6"	16	8'-6"	2'-4"	5'-3⅜"	12	1'-0"	12	3'-8"	4	10'-0⅛"	10'-0⅛"
	4			16G	10'-6"	4'-0"			6			6			6			68	6'-0"	3"	3"	1'-0"	8'-6"	20	10'-3½"	2'-4"	11'-7"	12	1'-5½"	12	3'-8"	4	13'-0⅛"	13'-0⅛"
5	2			19G	6'-6"	4'-3"			7			2			7			28	3'-7"	1'-3"	1'-3"	1'-6"	3"	2"	6'-7⅜"	2'-7⅝"	6'-1⅝"	2	1'-0"	14	3'-2½"	4	7'-10⅛"	7'-10⅛"
	3			19G	8'-6"	4'-3"			7			4			7			40	4'-2½"	1'-3"	1'-3"	1'-10½"	4'-4½"	16	8'-7⅜"	2'-7⅝"	6'-1⅝"	2	1'-11½"	14	3'-2½"	4	10'-10⅛"	11'-0"
	4			19G	10'-6"	4'-3"			7			6			7			52	4'-9"	1'-3"	1'-3"	1'-2½"	5'-3"	20	10'-0⅜"	2'-7⅝"	11'-10⅝"	12	13'-8½"	14	3'-2½"	4	13'-10⅛"	13'-4½"
	5			19G	12'-6"	4'-3"			7			6			8			60	5'-7½"	1'-3"	1'-8"	2'-1"	6'-2"	24	11'-7⅜"	2'-7⅝"	14'-2⅝"	12	15'-0½"	14	3'-2½"	4	16'-3⅝"	15'-9⅝"
	7			19G	16'-6"	4'-3"			8			8			12			80	7'-6½"	1'-3"	2'-3"	2'-11"	8'-5"	32	15'-3⅜"	2'-7⅝"	18'-9⅝"	12	20'-0"	14	3'-2½"	4	21'-1⅛"	20'-1⅝"
6	3			22G	7'-6"	6'-3"			6			4			6	½"	12"	40	4'-6½"	1'-3"	1'-3"	1'-6"	3"	6	8'-7⅞"	2'-7⅝"	5'-6½"	12	11'-5"	4	3'-3½"	4	7'-10⅛"	7'-10⅛"
	4			22G	9'-6"	6'-3"			6			6			6			52	5'-8½"	1'-3"	1'-6"	2'-3"	4'-3"	16	10'-10⅜"	2'-7⅝"	8'-6½"	12	15'-0½"	4	3'-3½"	4	13'-10⅛"	13'-4½"
	5			22G	11'-6"	6'-3"			6			8			8			60	6'-8½"	1'-3"	1'-6"	2'-9"	5'-3"	20	13'-8⅜"	2'-7⅝"	11'-2½"	12	18'-8½"	4	3'-3½"	4	16'-3⅝"	15'-9⅝"
	6			22G	13'-6"	6'-3"			8			10			10			68	7'-10½"	1'-3"	2'-0"	3'-4"	6'-4"	24	16'-6⅜"	2'-7⅝"	13'-10½"	12	22'-4½"	4	3'-3½"	4	19'-5⅝"	19'-5⅝"
8	7			25G	9'-6"	8'-3"			8			12			12	½"	12"	80	7'-10⅜"	2'-0"	2'-0"	3'-1"	6'-2"	32	15'-3⅜"	3'-2⅝"	19'-0⅝"	12	21'-2⅜"	20	3'-4⅜"	4	21'-2⅝"	21'-2⅝"
	8			25G	11'-6"	8'-3"			8			12			12	⅝"	12"	88	8'-1⅛"	2'-0"	2'-0"	3'-3"	6'-5"	32	16'-9⅝"	3'-2⅝"	20'-8⅜"	12	23'-0½"	20	3'-4⅜"	4	24'-1⅛"	23'-7½"
	10			25G	13'-6"	8'-3"			10			12			12			120	10'-0⅝"	2'-0"	2'-0"	4'-3"	8'-5"	40	20'-6⅜"	3'-2⅝"	25'-10⅜"	12	28'-5"	20	3'-4⅜"	4	28'-11"	28'-5"
10	8			28G	10'-6"	11'-0⅞"			10			13			13	⅝"	12"	88	8'-11⅞"	2'-5"	2'-3"	3'-7"	7'-2⅝"	36	18'-4⅜"	3'-5⅛"	23'-0⅜"	12	25'-11½"	20	3'-5⅝"	4	24'-11⅛"	23'-7½"
	10			28G	12'-6"	11'-0⅞"			10			16			16			120	10'-10½"	2'-7"	2'-5"	4'-3"	8'-5"	40	20'-6⅜"	3'-5⅛"	25'-10⅜"	12	28'-5"	20	3'-5⅝"	4	28'-11"	28'-5"
	12			28G	13'-6"	11'-0⅞"			12			22			22			168	12'-3½"	2'-7"	2'-5"	4'-9"	9'-4"	48	22'-8⅜"	3'-5⅛"	28'-8⅜"	12	31'-5½"	26	3'-5⅝"	4	33'-0⅝"	33'-2½"

NOTE - Lengths given above do not include Lap.

A.A.S.H.O. DESIGN LIVE LOADING H20-S16
UNIT STRESSES
Concrete (n-15) - 840 Lb. per Sq. In.
Reinforcing Steel - 18000 Lb. per Sq. In.

SPECIAL MILITARY LOADING
Add'l. Loading For Interstate Highways
2-24,000 Lb. Axles @ 4'-0" Ctrs.
Concrete (n-15) - 840 Lbs. per Sq. In.
Reinf. Steel (Int. or Rail) - 20,000 Lbs. per Sq. In.

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SPECIAL DETAIL FOR REINFORCED CONCRETE BOX CULVERTS

3' TO 10' SPAN — 3:1 SLOPES
SINGLE — UNDER 3'-6" COVER

3/31/2015
R070280.DGN

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	12	336

(2) TEMPORARY EROSION CONTROL DETAILS

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STA. 131+00.00
BEGIN JOB 070280
LOG MILE 0.23

P.T. 125+43.49
N 30°17'09" E
HWY. 167
P.C. 129+97.49
P.I. 134+51.07
N 39°20'18" E
P.T. 139+02.76

STA. 131+00 - 132+00
SILT FENCE = 100 LIN. FT.

STA. 133+25 - 146+00
SILT FENCE = 1275 LIN. FT.

HWY. 167
P.I. 134+51.07
Δ = 9°03'10" RT.
D = 1°00'00"
T = 453.58'
L = 905.27'
P.C. 129+97.49
P.T. 139+02.76
e = 0.030'/'
Ls = 540

PROP. R/W

STA. 147+50 - 151+50
SILT FENCE = 400 LIN. FT.

STA. 152+00 - 153+00
SILT FENCE = 100 LIN. FT.

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN
  XX CU FT

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R070280.DGN

CLEARING AND GRUBBING
TEMPORARY EROSION 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.		070280	13	336

(2) TEMPORARY EROSION CONTROL DETAILS

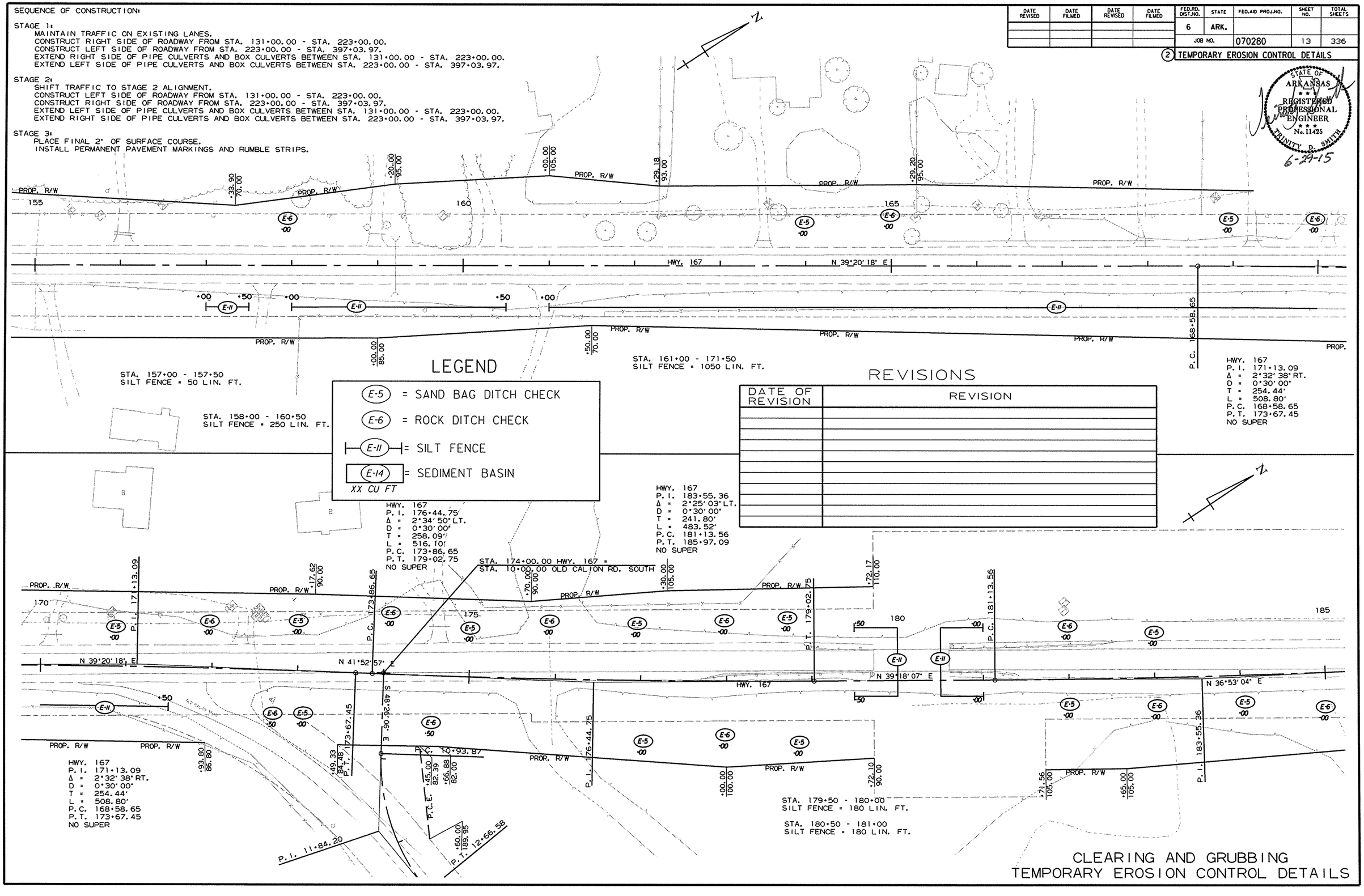
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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STA. 157+00 - 157+50
SILT FENCE = 50 LIN. FT.

STA. 158+00 - 160+50
SILT FENCE = 250 LIN. FT.

STA. 161+00 - 171+50
SILT FENCE = 1050 LIN. FT.

HWY. 167
P.I. 171+13.09
Δ = 2°32'38" RT.
D = 0°30'00"
T = 254.44'
L = 508.80'
P.C. 168+58.65
P.T. 173+67.45
NO SUPER

HWY. 167
P.I. 176+44.75
Δ = 2°34'50" LT.
D = 0°30'00"
T = 258.09'
L = 516.10'
P.C. 173+86.65
P.T. 179+02.75
NO SUPER

HWY. 167
P.I. 183+55.36
Δ = 2°25'03" LT.
D = 0°30'00"
T = 241.80'
L = 483.52'
P.C. 181+13.56
P.T. 185+97.09
NO SUPER

HWY. 167
P.I. 171+13.09
Δ = 2°32'38" RT.
D = 0°30'00"
T = 254.44'
L = 508.80'
P.C. 168+58.65
P.T. 173+67.45
NO SUPER

STA. 174+00.00 HWY. 167 =
STA. 10+00.00 OLD CALION RD. SOUTH

STA. 179+50 - 180+00
SILT FENCE = 180 LIN. FT.

STA. 180+50 - 181+00
SILT FENCE = 180 LIN. FT.

LEGEND

E-5	= SAND BAG DITCH CHECK
E-6	= ROCK DITCH CHECK
E-11	= SILT FENCE
E-14 XX CU FT	= SEDIMENT BASIN

REVISIONS

DATE OF REVISION	REVISION

3/31/2015

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CLEARING AND GRUBBING
TEMPORARY EROSION 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.		070280	14	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

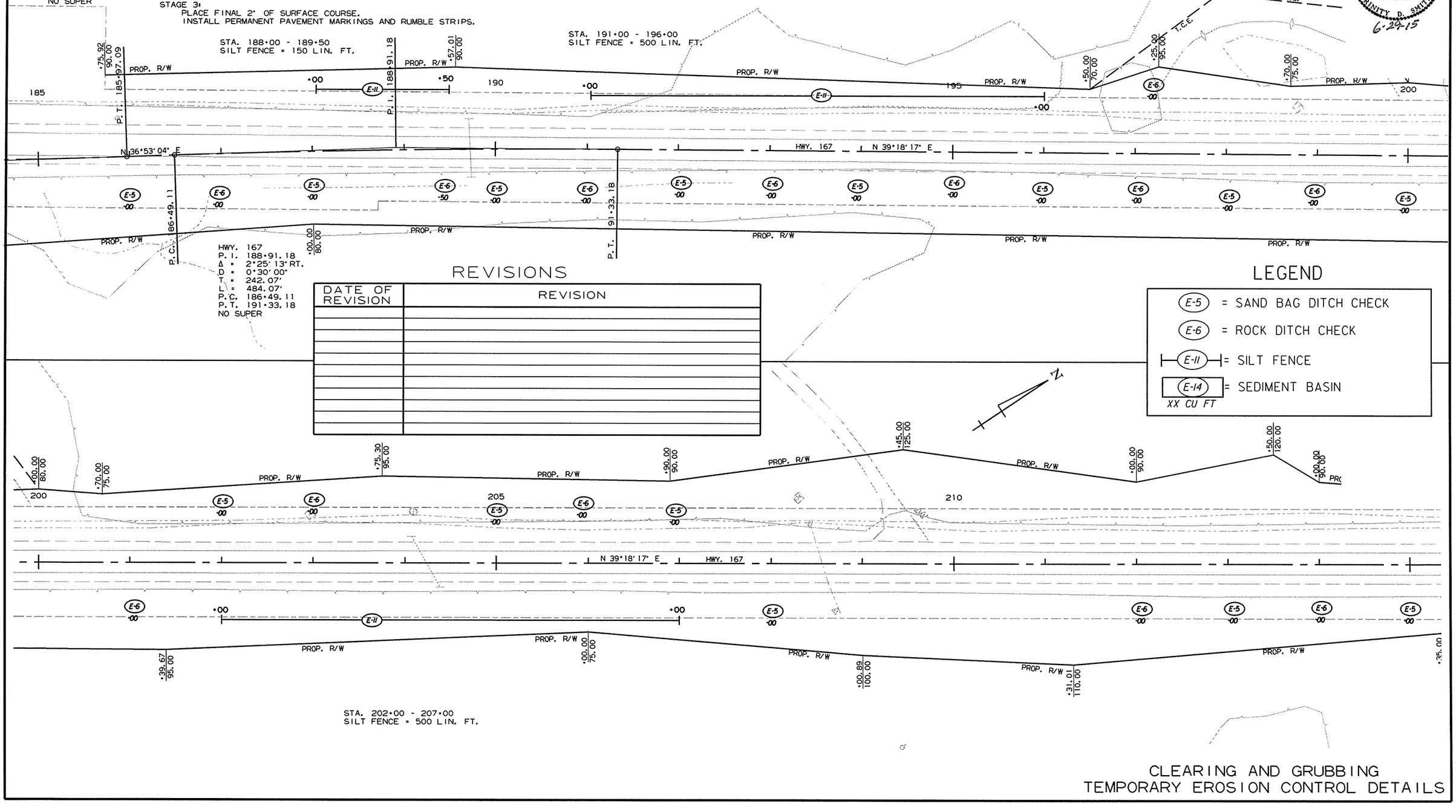
HWY. 167
P. I. 183+55.36
Δ = 2°25' 03" LT.
D = 0°30' 00"
T = 241.80'
L = 483.52'
P.C. 181+13.56
P.T. 185+97.09
NO SUPER

HWY. 167
P. I. 188+91.18
Δ = 2°25' 13" RT.
D = 0°30' 00"
T = 242.07'
L = 484.07'
P.C. 186+49.11
P.T. 191+33.18
NO SUPER

STA. 188+00 - 189+50
SILT FENCE = 150 LIN. FT.

STA. 191+00 - 196+00
SILT FENCE = 500 LIN. FT.

STA. 202+00 - 207+00
SILT FENCE = 500 LIN. FT.



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN (XX CU FT)

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TRINITY D. SMITH
6-24-15

3/31/2015

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CLEARING AND GRUBBING
TEMPORARY EROSION 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.		070280	15	336

(2) TEMPORARY EROSION CONTROL DETAILS

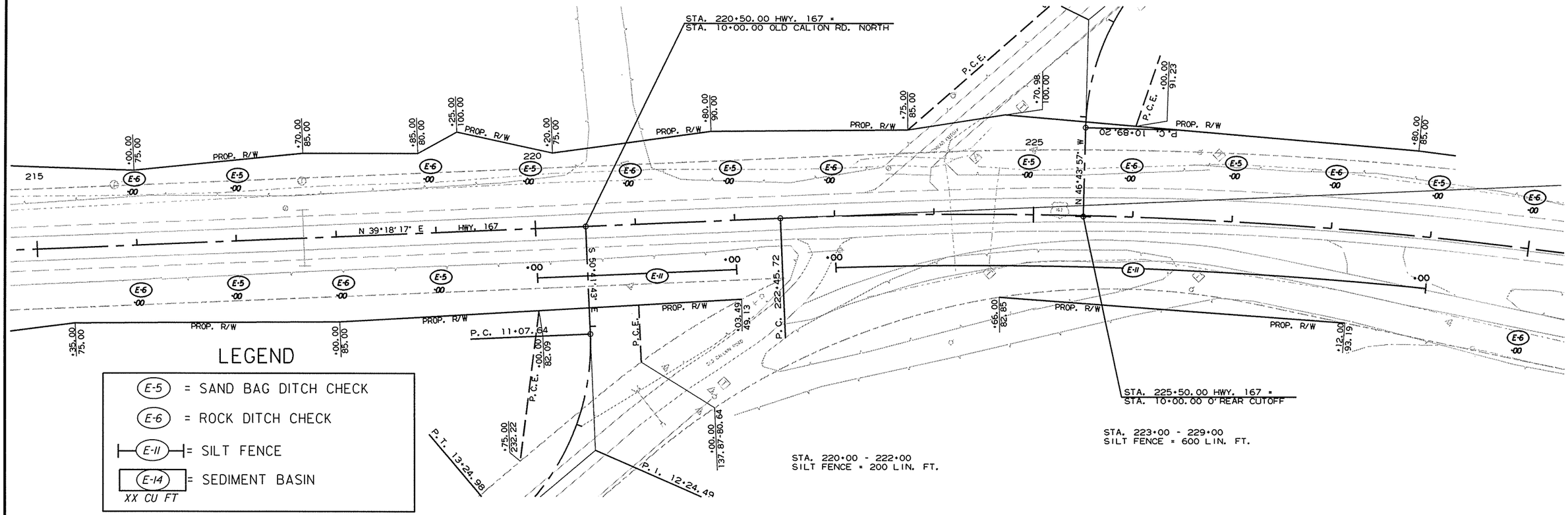
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



LEGEND

E-5 = SAND BAG DITCH CHECK
E-6 = ROCK DITCH CHECK
E-11 = SILT FENCE
E-14 = SEDIMENT BASIN
XX CU FT

REVISIONS

DATE OF REVISION	REVISION

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CLEARING AND GRUBBING
TEMPORARY EROSION 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.		070280	16	336

(2) TEMPORARY EROSION CONTROL DETAILS

STA. 230+00 - 237+00
SILT FENCE = 700 LIN. FT.

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

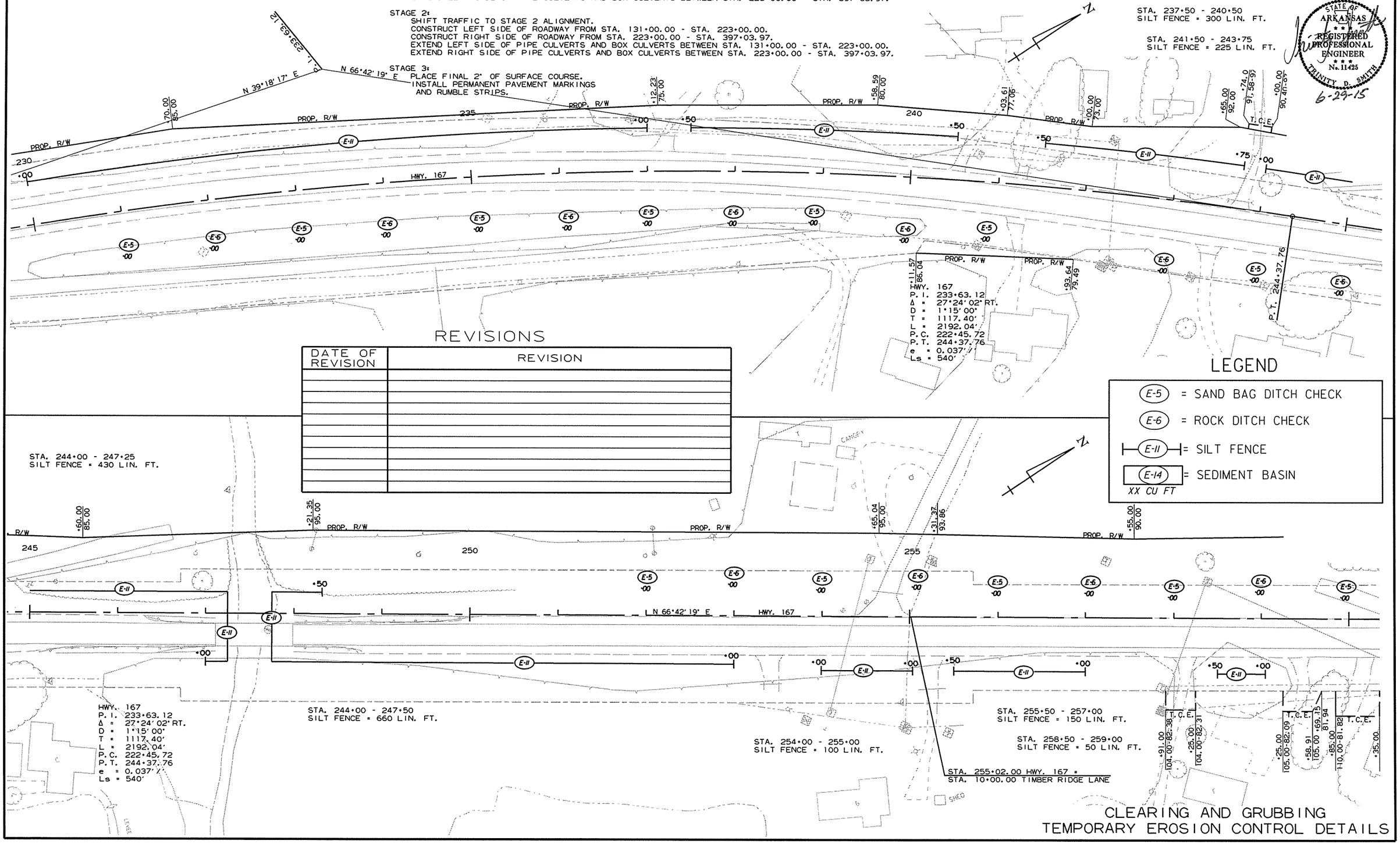
STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STA. 237+50 - 240+50
SILT FENCE = 300 LIN. FT.

STA. 241+50 - 243+75
SILT FENCE = 225 LIN. FT.

STATE OF ARKANSAS
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REVISIONS

DATE OF REVISION	REVISION

STA. 244+00 - 247+25
SILT FENCE = 430 LIN. FT.

STA. 244+00 - 247+50
SILT FENCE = 660 LIN. FT.

STA. 254+00 - 255+00
SILT FENCE = 100 LIN. FT.

STA. 255+50 - 257+00
SILT FENCE = 150 LIN. FT.

STA. 258+50 - 259+00
SILT FENCE = 50 LIN. FT.

STA. 255+02.00 HWY. 167 =
STA. 10+00.00 TIMBER RIDGE LANE

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN, XX CU FT

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

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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.		070280	17	336

(2) TEMPORARY EROSION CONTROL DETAILS

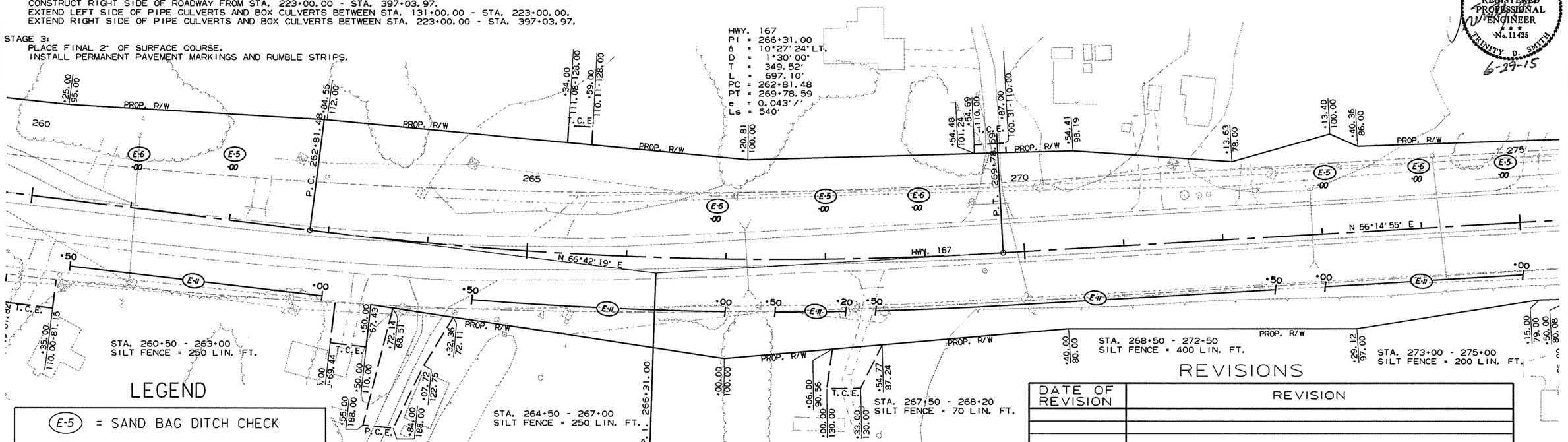
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

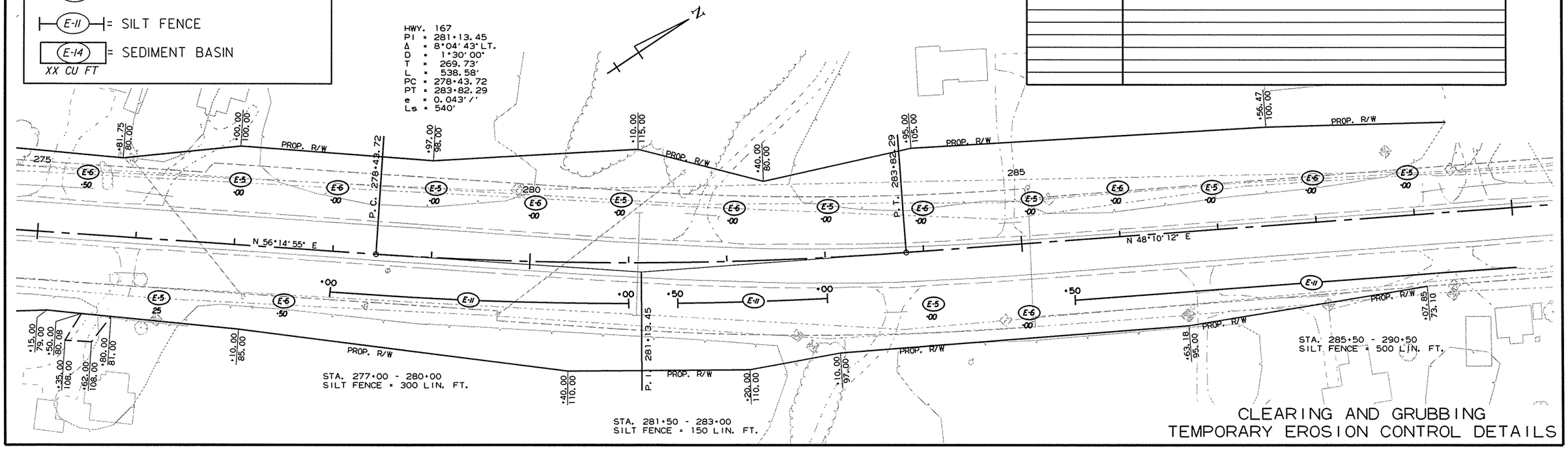


LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

REVISIONS

DATE OF REVISION	REVISION



3/31/2015

R070280.DGN

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL 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.		070280	18	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
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6-29-15

N 48°10' 12" E
HWY. 167

STA. 294+00 - 296+00
SILT FENCE = 200 LIN. FT.

STA. 296+25 - 301+25
SILT FENCE = 500 LIN. FT.

STA. 302+25 - 304+50
SILT FENCE = 225 LIN. FT.

STA. 306+00 - 308+00
SILT FENCE = 200 LIN. FT.

STA. 309+00 - 310+00
SILT FENCE = 100 LIN. FT.

STA. 312+50 - 314+00
SILT FENCE = 150 LIN. FT.

HWY. 167
PI = 314+88.98
Δ = 16°04' 01" LT.
D = 2°30' 00"
T = 323.46'
L = 642.68'
PC = 311+65.52
PT = 318+08.20
e = 0.067'/'
Ls = 540'

STA. 314+00 - 315+75
SILT FENCE = 175 LIN. FT.

STA. 316+25 - 317+00
SILT FENCE = 75 LIN. FT.

STA. 317+50 - 318+00
SILT FENCE = 50 LIN. FT.

N 32°06' 11" E

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

3/31/2015

R070280.DGN

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL 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.		070280	19	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 326+00 - 337+50
SILT FENCE = 1150 LIN. FT.

STA. 326+50 - 330+00
SILT FENCE = 350 LIN. FT.

STA. 330+50 - 333+00
SILT FENCE = 250 LIN. FT.

STA. 338+00 - 340+00
SILT FENCE = 200 LIN. FT.

STA. 336+25 - 341+00
SILT FENCE = 475 LIN. FT.

STA. 347+00 - 348+25
SILT FENCE = 125 LIN. FT.

HWY. 167
PI = 341+43.30
Δ = 18°27'58" RT.
D = 3°00'00"
T = 310.46'
L = 615.54'
PC = 338+32.84
PT = 344+48.38
e = 0.077'/'
Ls = 540'

LEGEND

E-5 = SAND BAG DITCH CHECK

E-6 = ROCK DITCH CHECK

E-11 = SILT FENCE

E-14 = SEDIMENT BASIN
XX CU FT

REVISIONS

DATE OF REVISION	REVISION

3/31/2015

R070280.DGN

CLEARING AND GRUBBING
TEMPORARY EROSION 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.		070280	20	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

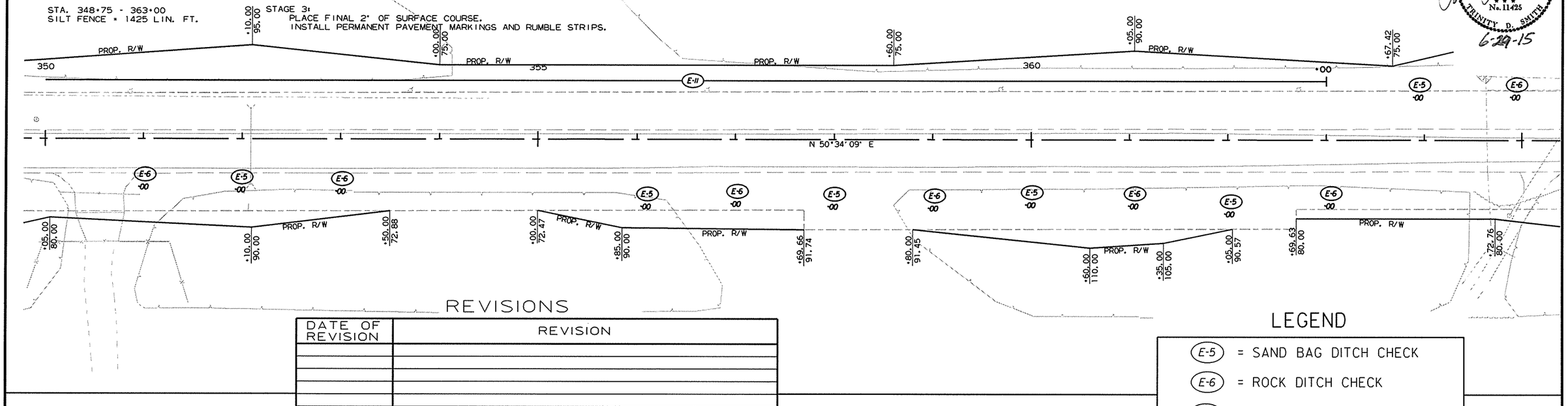
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 348+75 - 363+00
SILT FENCE = 1425 LIN. FT.

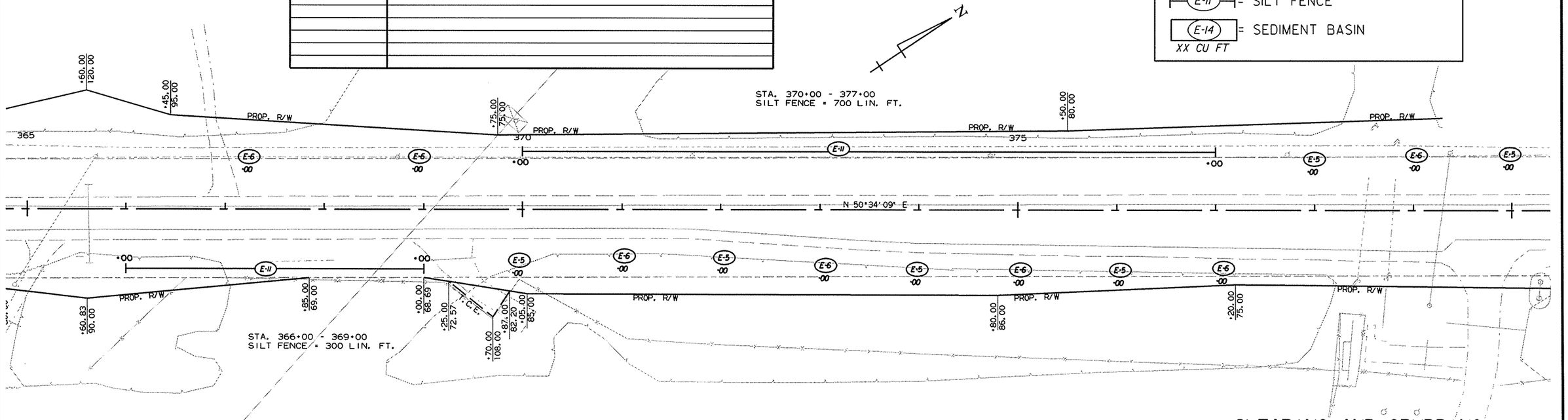


REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 XX CU FT = SEDIMENT BASIN



STA. 366+00 - 369+00
SILT FENCE = 300 LIN. FT.

STA. 370+00 - 377+00
SILT FENCE = 700 LIN. FT.

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

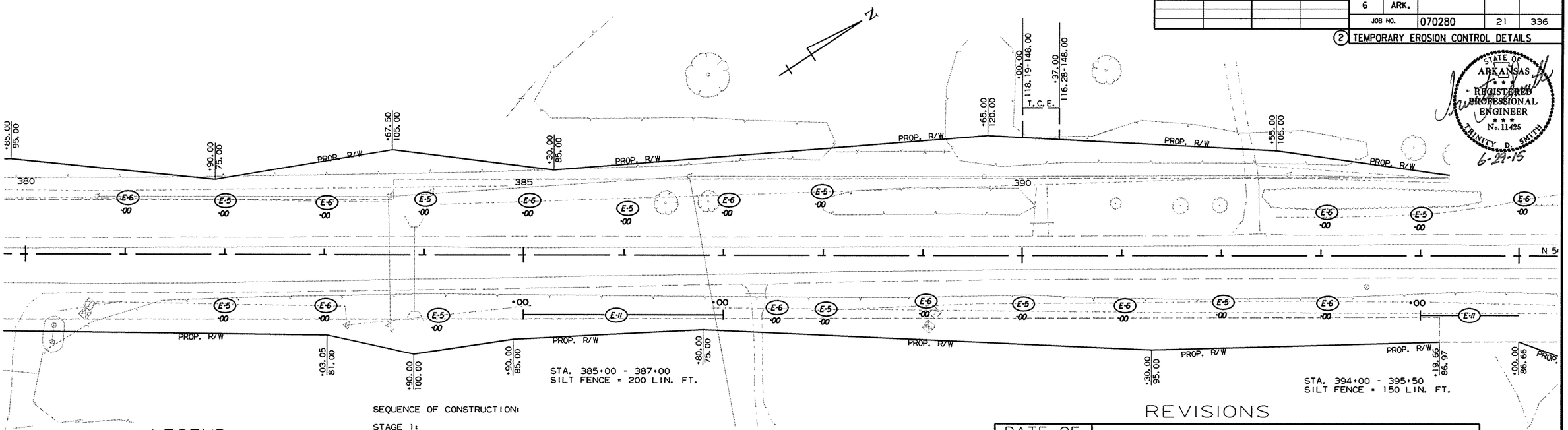
3/31/2015

R070280.DGN

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.		070280	21	336

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15



LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
  XX CU FT

SEQUENCE OF CONSTRUCTION:

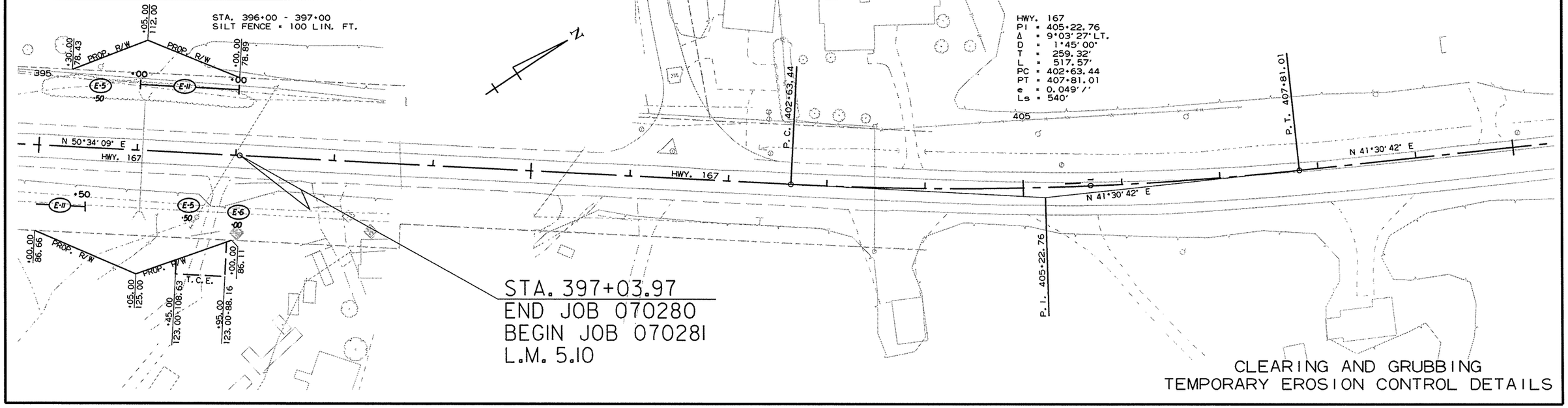
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

REVISIONS

DATE OF REVISION	REVISION



STA. 397+03.97
END JOB 070280
BEGIN JOB 070281
L.M. 5.10

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

3/31/2015

R070280.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.		070280	22	336

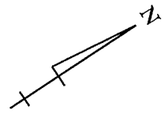
(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

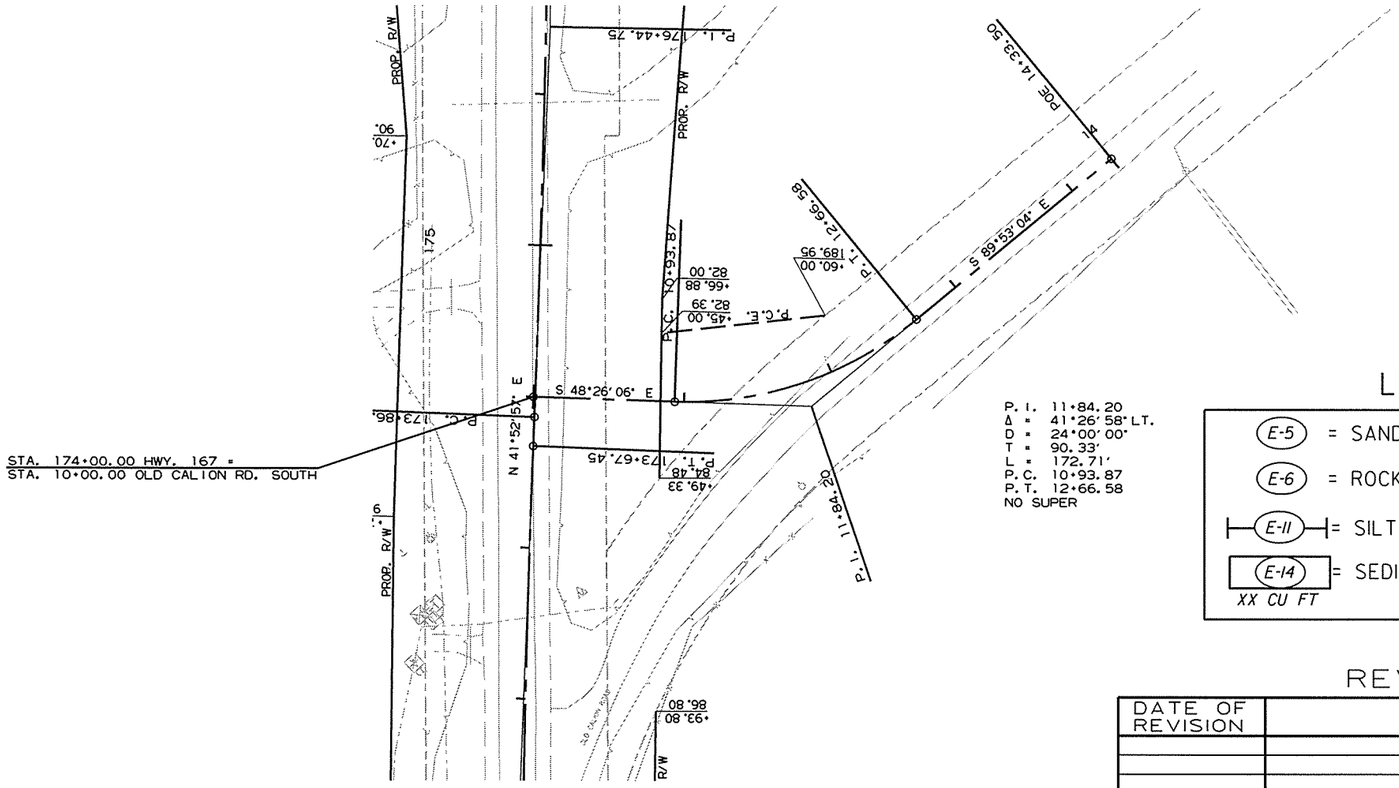
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.



STATE OF ARKANSAS
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6-29-15



P. I. 11+84.20
Δ = 41°26'58" LT.
D = 24°00'00"
T = 90.33'
L = 172.71'
P. C. 10+93.87
P. T. 12+66.58
NO SUPER

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
  XX CU FT

REVISIONS

DATE OF REVISION	REVISION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

3/31/2015

R070280.DGN

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.		070280	23	336

(2) TEMPORARY EROSION CONTROL DETAILS

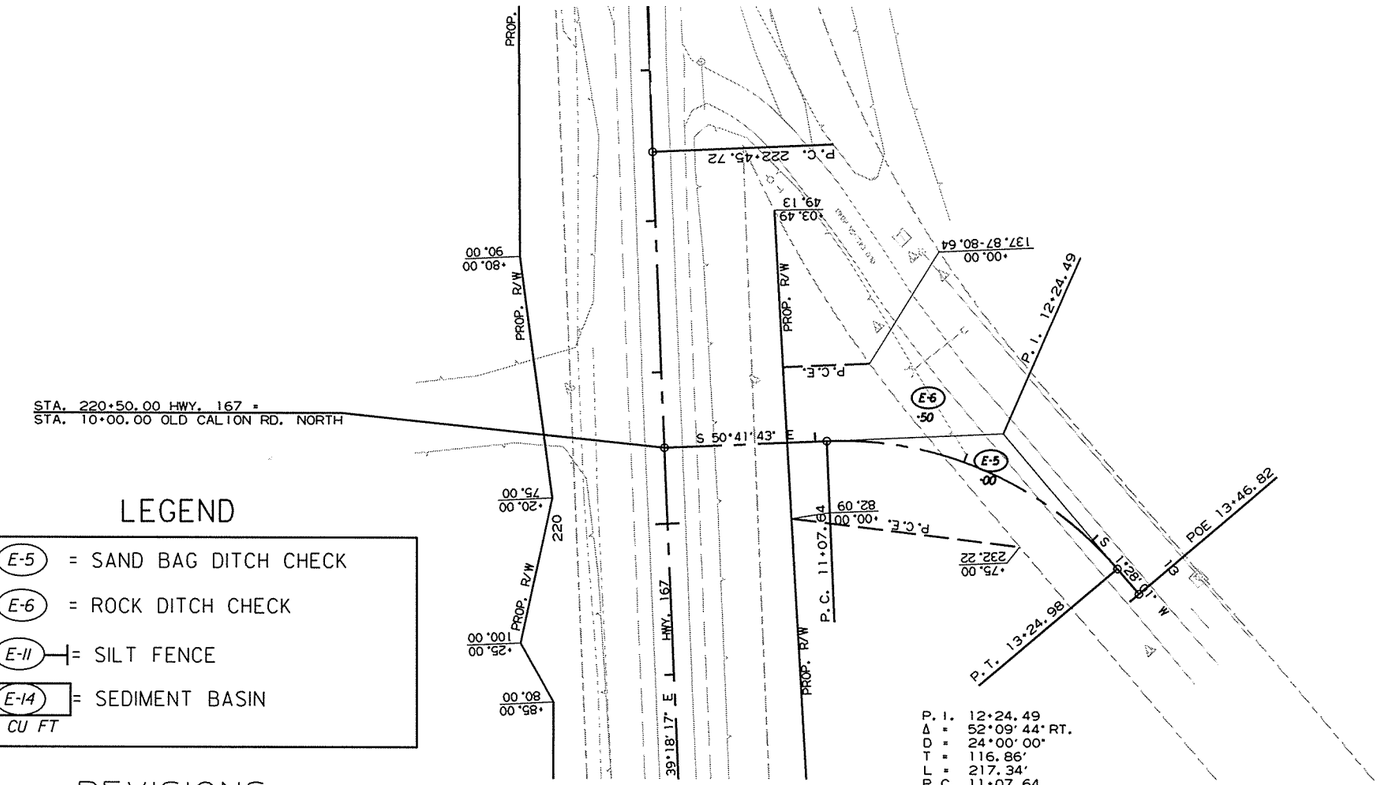
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



LEGEND

E-5	= SAND BAG DITCH CHECK
E-6	= ROCK DITCH CHECK
E-11	= SILT FENCE
E-14 (XX CU FT)	= SEDIMENT BASIN

P.I. 12+24.49
Δ = 52°09'44" RT.
D = 24°00'00"
T = 116.86'
L = 217.34'
P.C. 11+07.64
P.T. 13+24.98
NO SUPER

REVISIONS

DATE OF REVISION	REVISION

3/31/2015

R070280.DGN

CLEARING AND GRUBBING
TEMPORARY EROSION 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.		070280	24	336

(2) TEMPORARY EROSION CONTROL DETAILS

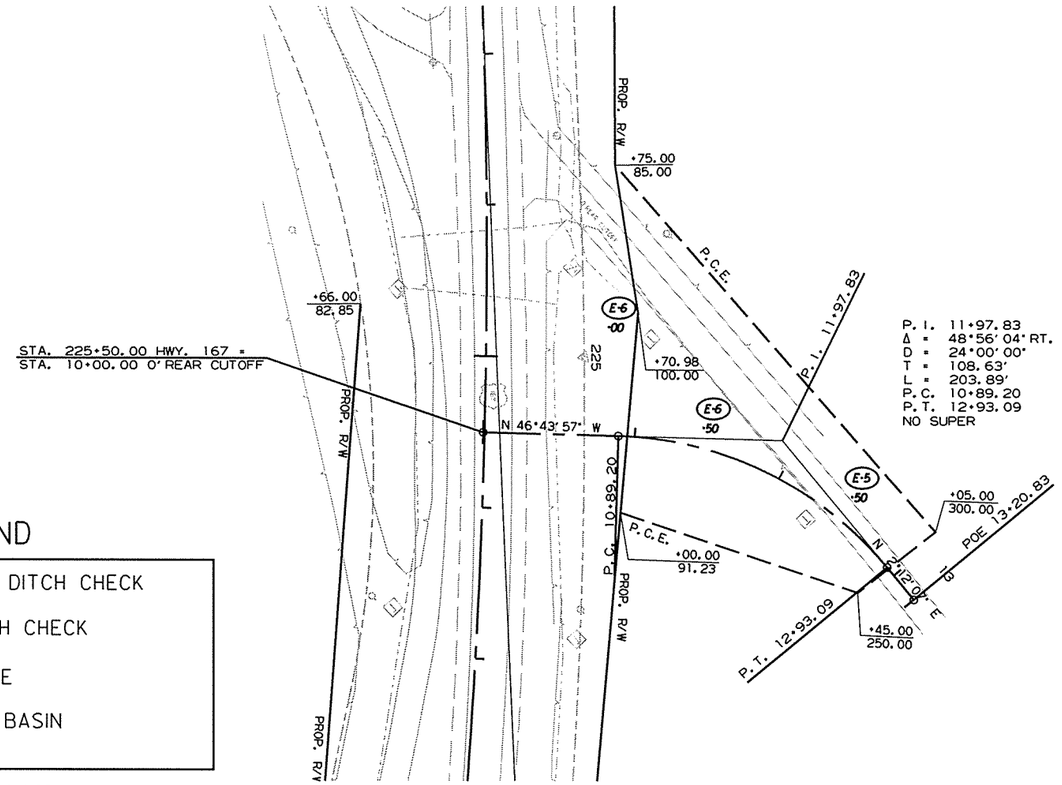
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN
  XX CU FT

REVISIONS

DATE OF REVISION	REVISION

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CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
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STAGE 2:
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	25	336

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 131+00.00
BEGIN JOB 070280
LOG MILE 0.23

P. T. 125+43.49
P. I. 134+51.07
P. C. 129+97.49
HWY. 167
N 30°17' 09" E
N 39°20' 18" E
69
30'

CONST. LIMITS
E-11
+00 +00
STA. 132+00 - 133+00
SILT FENCE = 100 LIN. FT.

HWY. 167
P. I. 134+51.07
Δ = 9°03' 10" RT.
D = 1°00' 00"
T = 453.58'
L = 905.27'
P.C. 129+97.49
P.T. 139+02.76
e = 0.030'/'
Ls = 540

STA. 136+80 - 138+80
SILT FENCE = 200 LIN. FT.

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN
  XX CU FT

E-14
3869
CU. FT.

STA. 147+60 - 148+80
SILT FENCE = 120 LIN. FT.

PROP. R/W
CONST. LIMITS
CANOPY

3/31/2015
R070280.DGN

STAGE 1
TEMPORARY EROSION 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.		070280	26	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN (XX CU FT)

REVISIONS

DATE OF REVISION	REVISION

HWY. 167
P. I. 171+13.09
Δ = 2°32' 38" RT.
D = 0°30' 00"
T = 254.44'
L = 508.80'
P. C. 168+58.65
P. T. 173+67.45
NO SUPER

HWY. 167
P. I. 176+44.75
Δ = 2°34' 50" LT.
D = 0°30' 00"
T = 258.09'
L = 516.10'
P. C. 173+86.65
P. T. 179+02.75
NO SUPER

HWY. 167
P. I. 183+55.36
Δ = 2°25' 03" LT.
D = 0°30' 00"
T = 241.80'
L = 483.52'
P. C. 181+13.56
P. T. 185+97.09
NO SUPER

STA. 174+00.00 HWY. 167 =
STA. 10+00.00 OLD CALION RD SOUTH

STA. 179+50 - 180+00
SILT FENCE = 100 LIN. FT.

STA. 180+50 - 181+00
SILT FENCE = 100 LIN. FT.

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STAGE 1
TEMPORARY EROSION 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.		070280	27	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

HWY. 167
P. I. 183+55.36
Δ = 2°25'03" LT.
D = 0°30'00"
T = 241.80'
L = 483.52'
P.C. 181+13.56
P.T. 185+97.09
NO SUPER

HWY. 167
P. I. 188+91.18
Δ = 2°25'13" RT.
D = 0°30'00"
T = 242.07'
L = 484.07'
P.C. 186+49.11
P.T. 191+33.18
NO SUPER

N 36°53'04" E — HWY. 167 — N 39°18'17" E

CONST. LIMITS / PROP. R/W

E-14 5289 CU. FT.

E-14 3890 CU. FT.

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN (XX CU FT)

3/31/2015

R070280.DGN

STAGE 1
TEMPORARY EROSION 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.		070280	28	336

(2) TEMPORARY EROSION CONTROL DETAILS

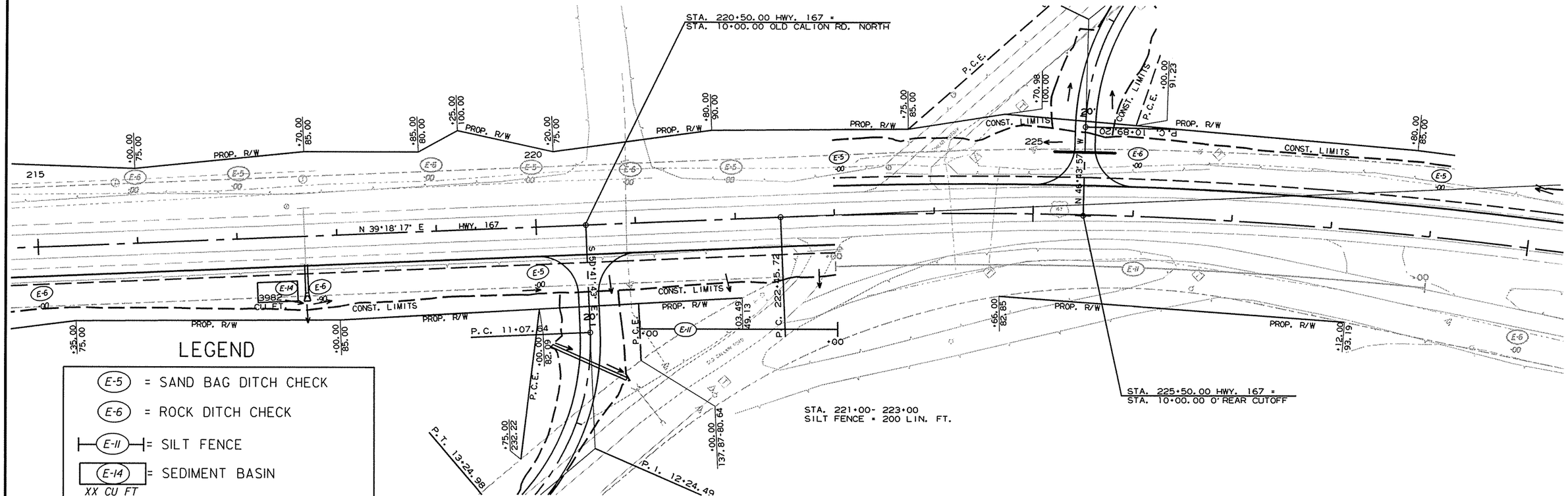
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



REVISIONS

DATE OF REVISION	REVISION

3/31/2015

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STAGE 1
TEMPORARY EROSION 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.		070280	29	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 230+72 - 236+00
SILT FENCE =518 LIN. FT.

N 39°18' 17" E 233.63.12 N 66°42' 19" E

HWY. 167
P. I. 233+63.12
Δ = 27°24' 02" RT.
D = 1°15' 00"
T = 1117.40'
L = 2192.04'
P.C. 222+45.72
P.T. 244+37.76
e = 0.037'/'
Ls = 540'

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

REVISIONS

DATE OF REVISION	REVISION

STA. 244+00 - 247+25
SILT FENCE =375 LIN. FT.

STA. 247+75 - 248+50
SILT FENCE =105 LIN. FT.

HWY. 167
P. I. 233+63.12
Δ = 27°24' 02" RT.
D = 1°15' 00"
T = 1117.40'
L = 2192.04'
P.C. 222+45.72
P.T. 244+37.76
e = 0.037'/'
Ls = 540'

STA. 255+02.00 HWY. 167 =
STA. 10+00.00 TIMBER RIDGE LANE

TIMBER RIDGE LANE

3/31/2015

R070280.DGN

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	30	336

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

HWY. 167
PI = 266+31.00
Δ = 10°27'24" LT.
D = 1°30'00"
T = 349.52'
L = 697.10'
PC = 262+81.48
PT = 269+78.59
e = 0.043'/'
Ls = 540'

STA. 271+00 - 274+60
SILT FENCE = 360 LIN. FT.

QUINN HILL DRIVE PVT.

HWY. 167
PI = 281+13.45
Δ = 8°04'43" LT.
D = 1°30'00"
T = 269.73'
L = 538.58'
PC = 278+43.72
PT = 283+82.29
e = 0.043'/'
Ls = 540'

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
  XX CU FT

REVISIONS

DATE OF REVISION	REVISION

3/31/2015

R070280.DGN

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	31	336

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

HWY. 167
PI = 314+88.98
Δ = 16°04'01" LT.
D = 2°30'00"
T = 323.46'
L = 642.68'
PC = 311+65.52
PT = 318+08.20
e = 0.067'/'
Ls = 540'

STA. 314+29 - 315+40
SILT FENCE = 111 LIN. FT.

N 48°10'12" E HWY. 167

N 32°06'11" E

P.I. 314+88.98

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STAGE 1
TEMPORARY EROSION 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.		070280	32	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-22-15

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

REVISIONS

DATE OF REVISION	REVISION

HWY. 167
PI = 341+43.30
Δ = 18°27'58" RT.
D = 3°00'00"
T = 310.46'
L = 615.54'
PC = 338+32.84
PT = 344+48.38
e = 0.077'/'
Ls = 540'

STA. 347+00 - 348+50
SILT FENCE = 150 LIN. FT.

STA. 348+85 - 350+00
SILT FENCE = 115 LIN. FT.

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STAGE 1
TEMPORARY EROSION 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.		070280	33	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

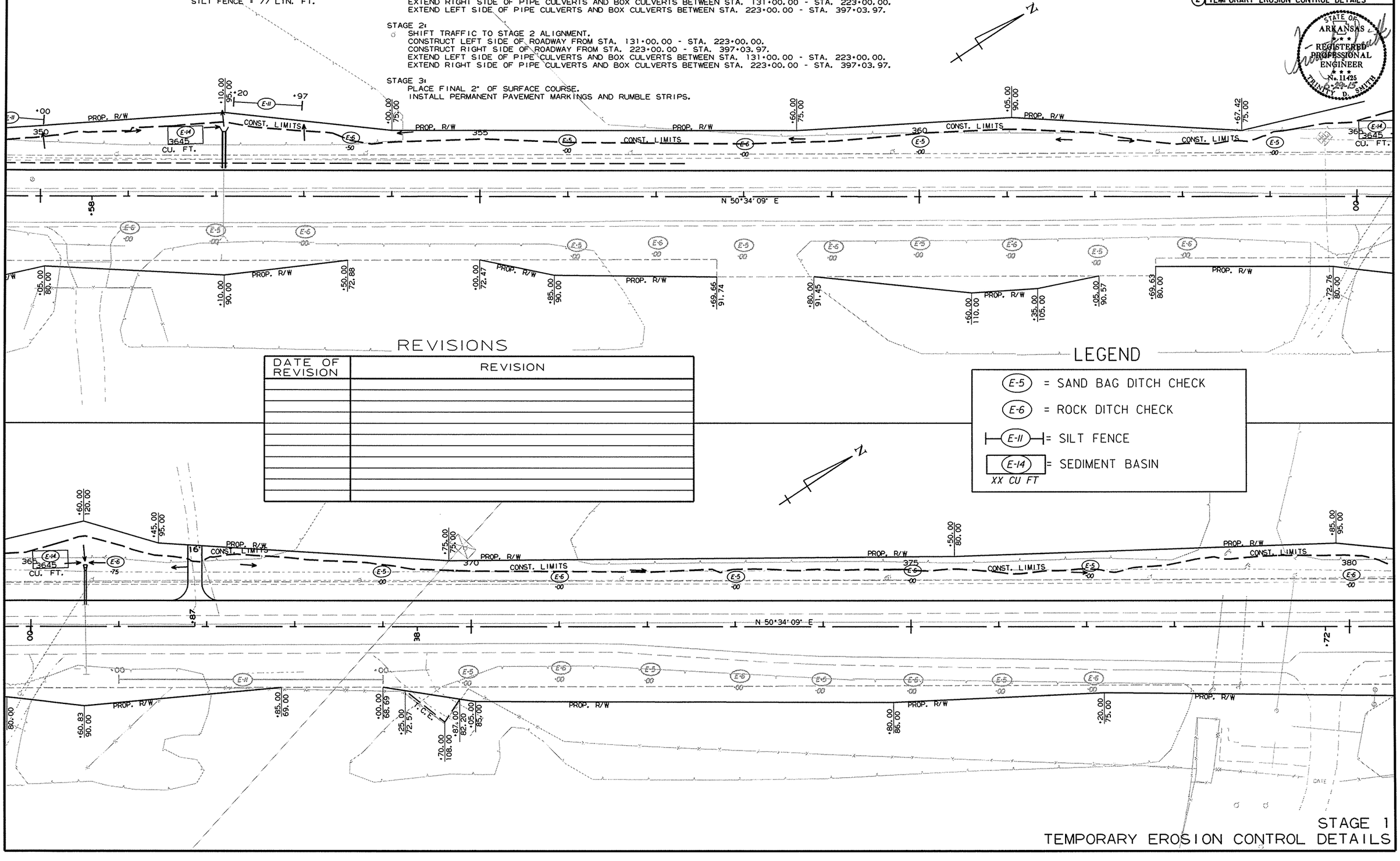
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STA. 352+20 - 352+97
SILT FENCE = 77 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-24-15



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN

3/31/2015

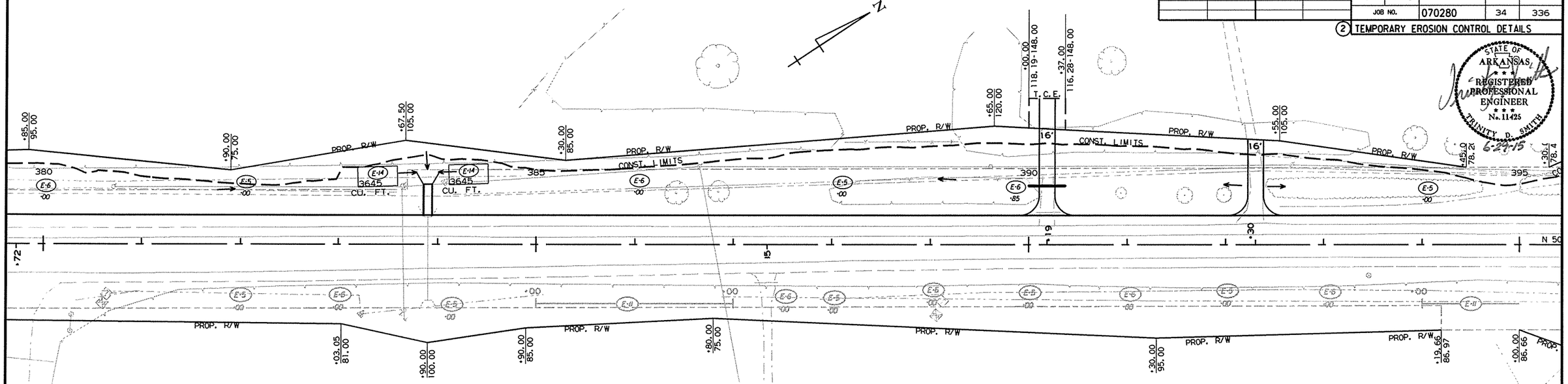
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STAGE 1
TEMPORARY EROSION CONTROL DETAILS

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.		070280	34	336

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
  XX CU FT

SEQUENCE OF CONSTRUCTION:

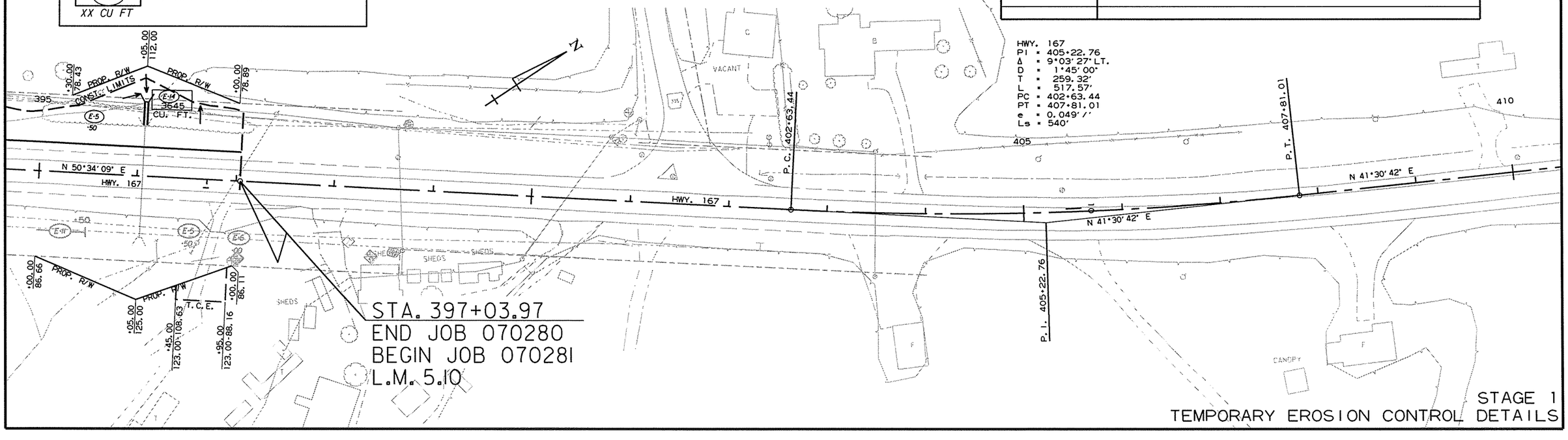
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

REVISIONS

DATE OF REVISION	REVISION



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R070280.DGN

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

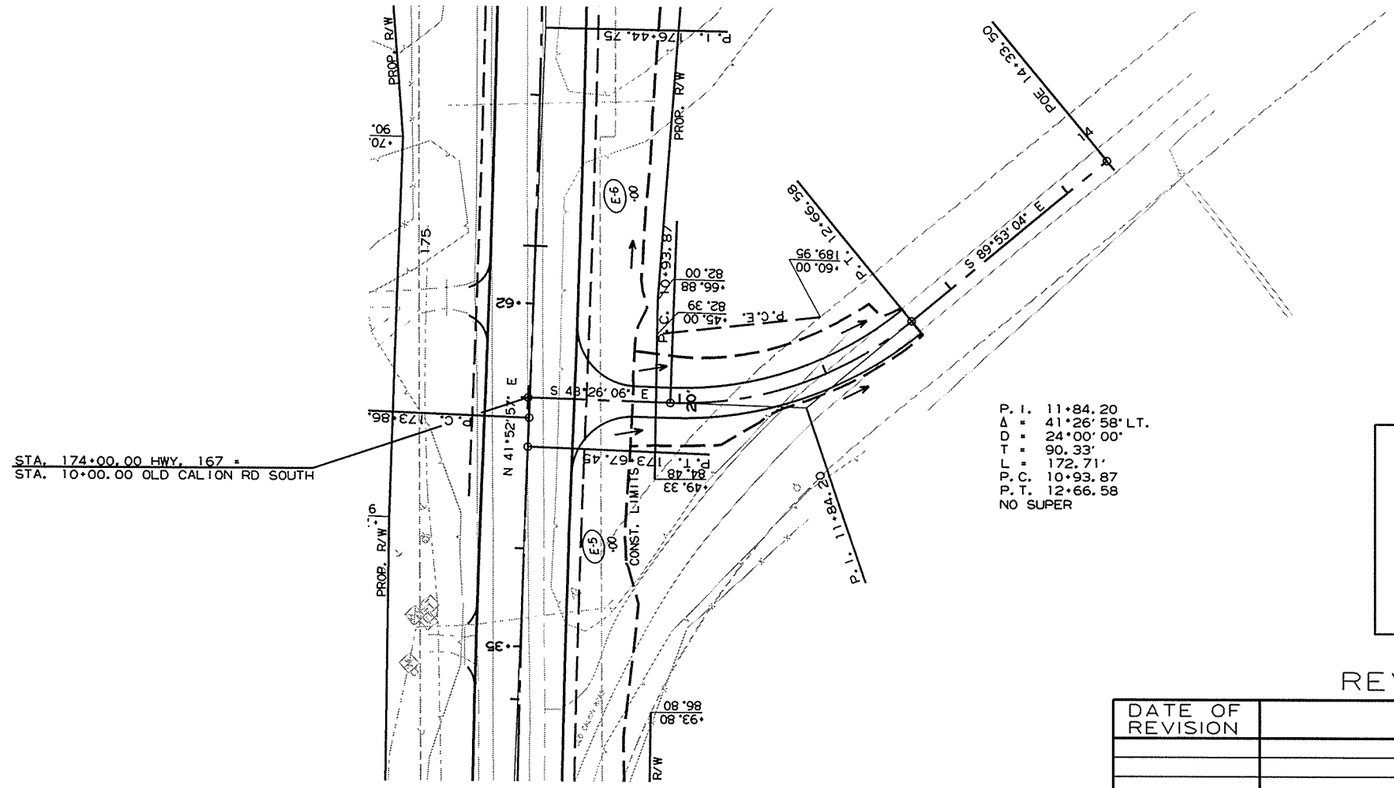
STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	35	336

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



P. I. 11+84.20
Δ = 41°26'58" LT.
D = 24°00'00"
T = 90.33'
L = 172.71'
P.C. 10+93.87
P.T. 12+66.58
NO SUPER

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
  XX CU FT

REVISIONS

DATE OF REVISION	REVISION

R070280.DGN 3/31/2015

STAGE 1
TEMPORARY EROSION 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.		070280	36	336

(2) TEMPORARY EROSION CONTROL DETAILS

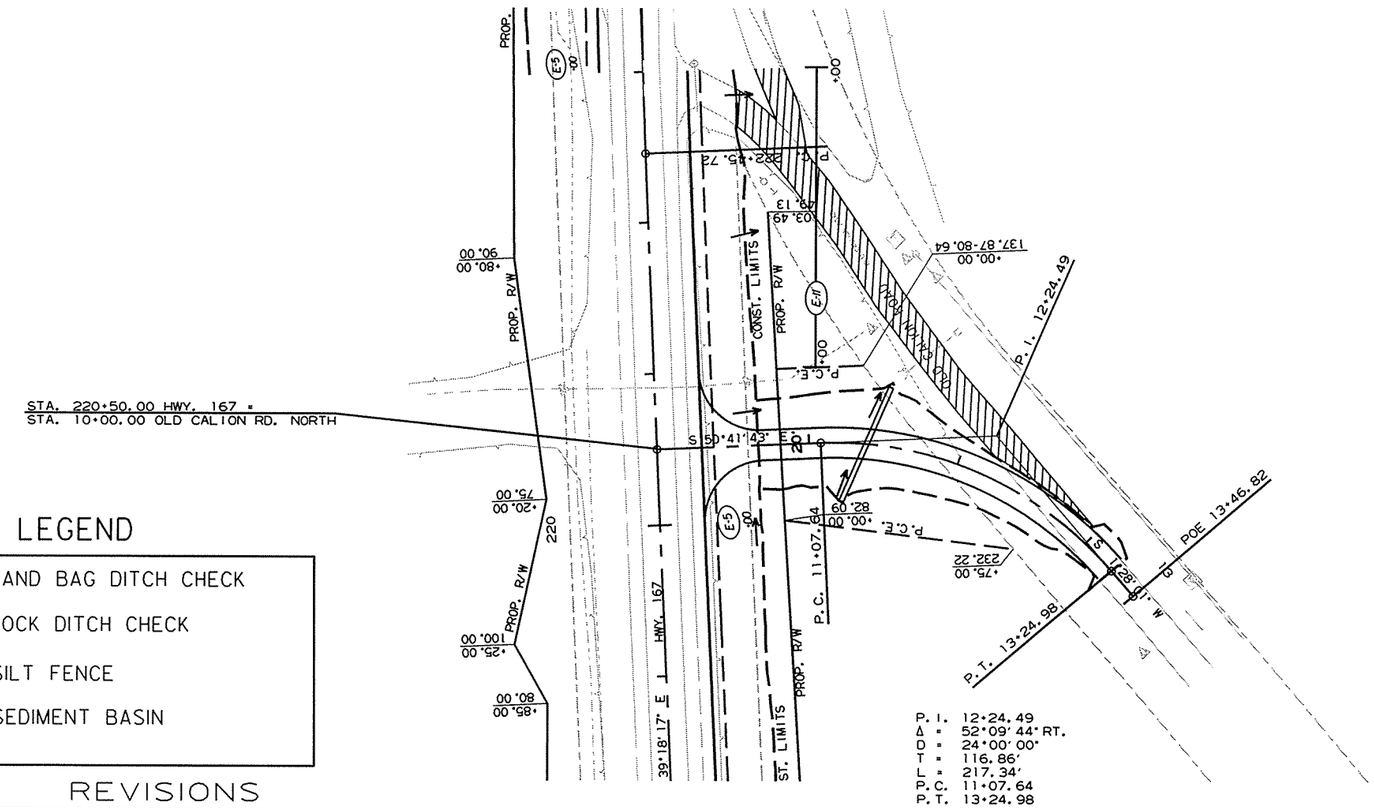
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



P. I. 12+24.49
Δ = 52°09'44" RT.
D = 24°00'00"
T = 116.86'
L = 217.34'
P.C. 11+07.64
P.T. 13+24.98
NO SUPER

LEGEND

E-5	= SAND BAG DITCH CHECK
E-6	= ROCK DITCH CHECK
E-11	= SILT FENCE
E-14 XX CU FT	= SEDIMENT BASIN

REVISIONS

DATE OF REVISION	REVISION

3/31/2015

R070280.DGN

STAGE 1
TEMPORARY EROSION 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.		070280	37	336

(2) TEMPORARY EROSION CONTROL DETAILS

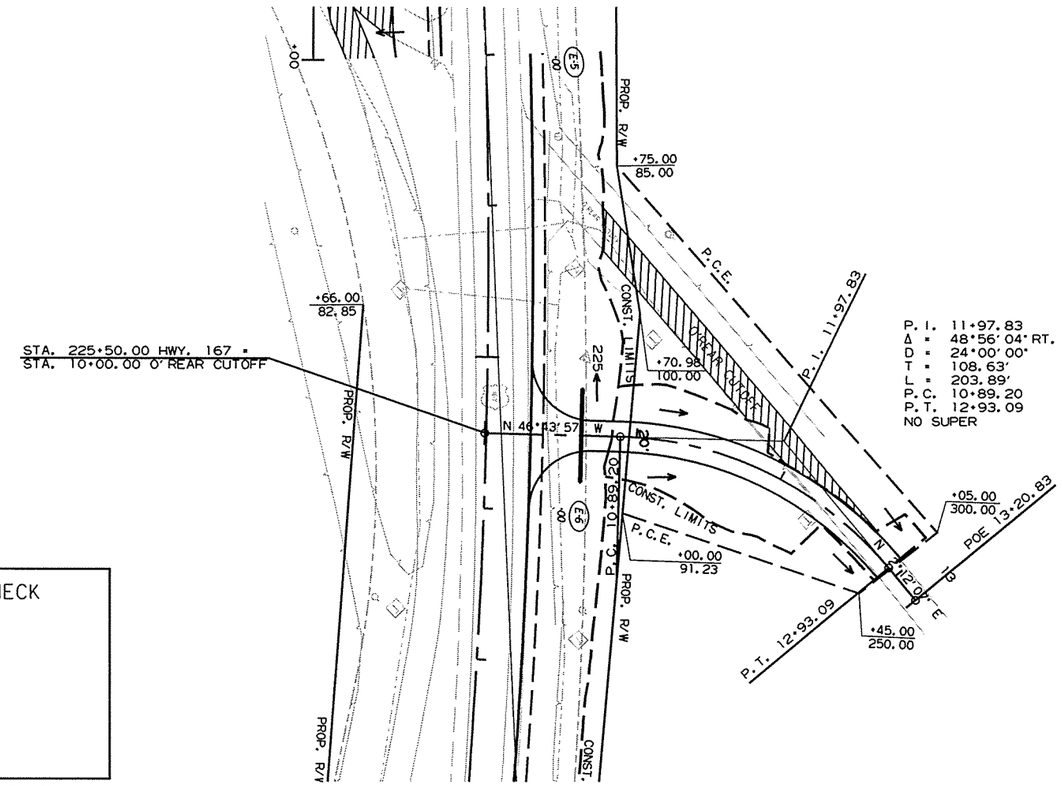
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
  XX CU FT

REVISIONS

DATE OF REVISION	REVISION

3/31/2015

R070280.DGN

STAGE 1
TEMPORARY EROSION 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.		070280	38	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

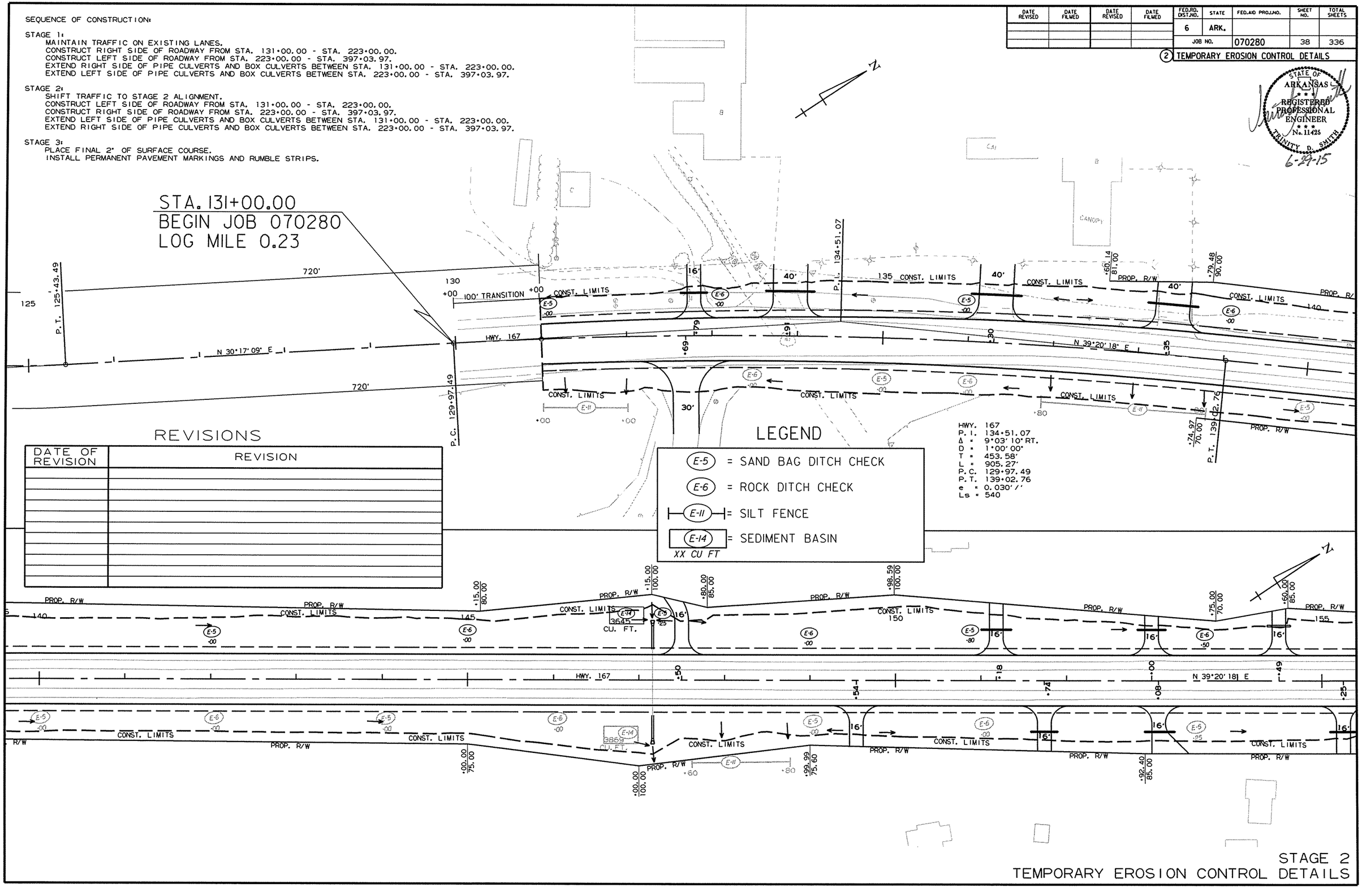
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 131+00.00
BEGIN JOB 070280
LOG MILE 0.23



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
  XX CU FT

HWY. 167
P.I. 134+51.07
Δ = 9°03'10" RT.
D = 1°00'00"
T = 453.58'
L = 905.27'
P.C. 129+97.49
P.T. 139+02.76
e = 0.030'/'
Ls = 540

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STAGE 2
TEMPORARY EROSION 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.		070280	39	336

(2) TEMPORARY EROSION CONTROL DETAILS

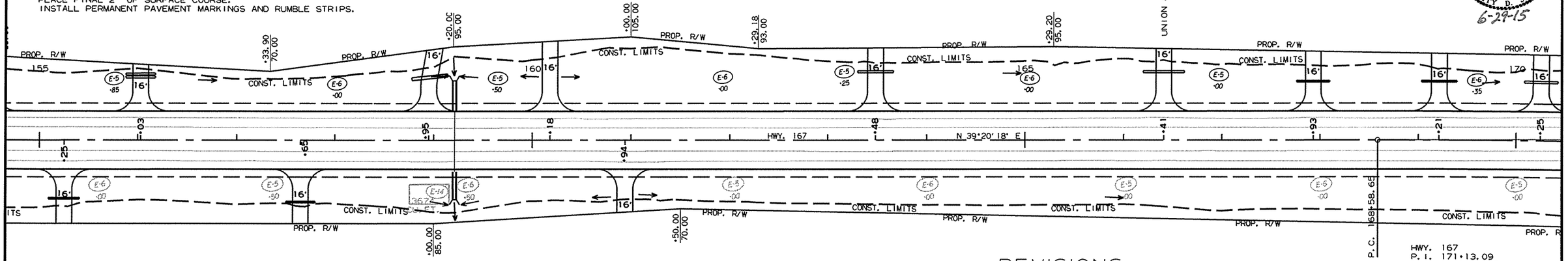
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



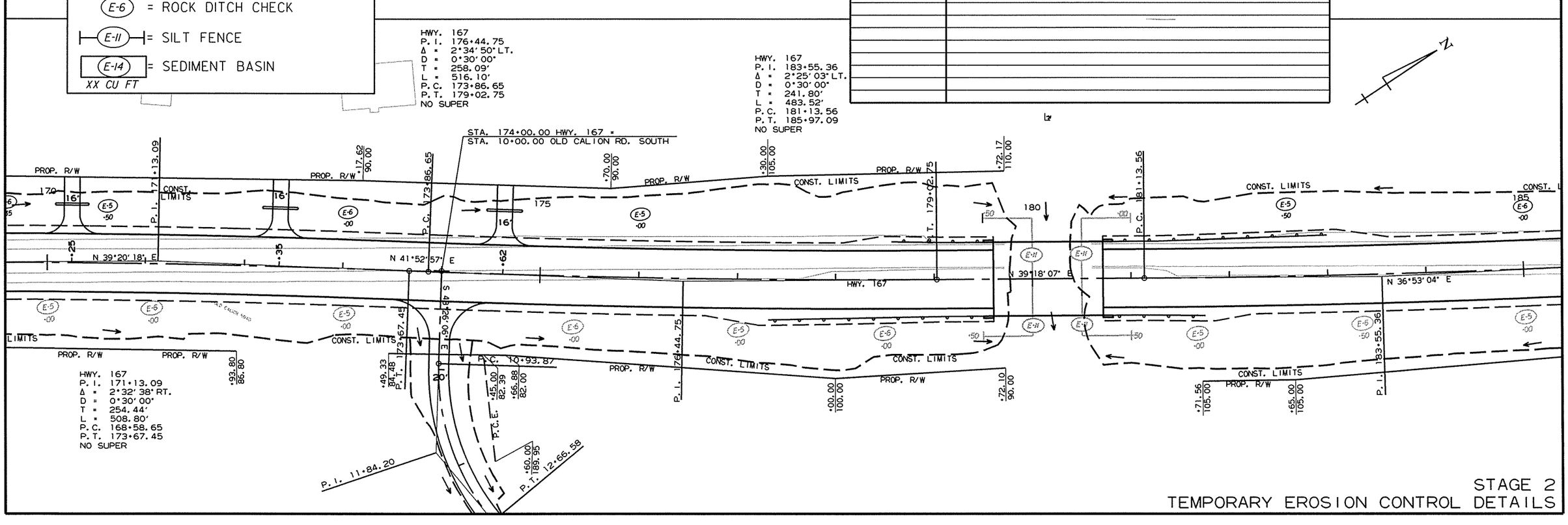
HWY. 167
P. I. 171+13.09
Δ = 2°32' 38" RT.
D = 0°30' 00"
T = 254.44'
L = 508.80'
P.C. 168+58.65
P.T. 173+67.45
NO SUPER

HWY. 167
P. I. 176+44.75
Δ = 2°34' 50" LT.
D = 0°30' 00"
T = 258.09'
L = 516.10'
P.C. 173+86.65
P.T. 179+02.75
NO SUPER

HWY. 167
P. I. 183+55.36
Δ = 2°25' 03" LT.
D = 0°30' 00"
T = 241.80'
L = 483.52'
P.C. 181+13.56
P.T. 185+97.09
NO SUPER

REVISIONS

DATE OF REVISION	REVISION



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STAGE 2
TEMPORARY EROSION 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.		070280	40	336

(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

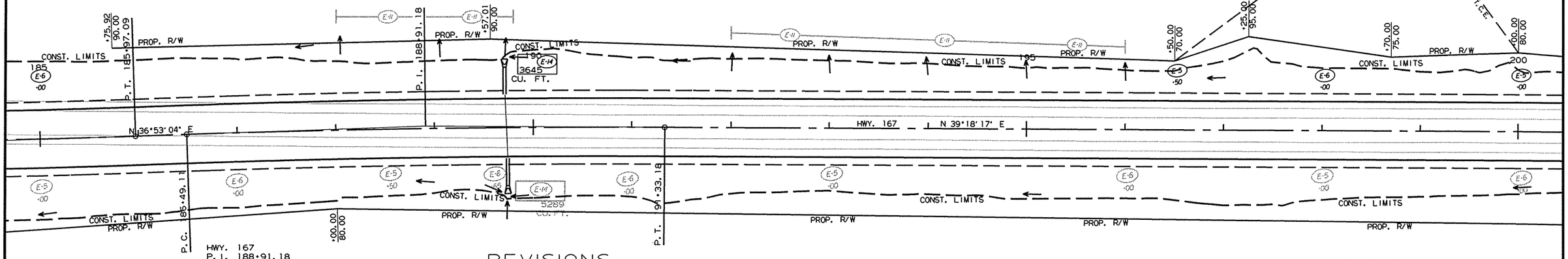
STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

HWY. 167
P. I. 183+55.36
Δ = 2°25'03" LT.
D = 0°30'00"
T = 241.80'
L = 483.52'
P.C. 181+13.56
P.T. 185+97.09
NO SUPER

HWY. 167
P. I. 188+91.18
Δ = 2°25'13" RT.
D = 0°30'00"
T = 242.07'
L = 484.07'
P.C. 186+49.11
P.T. 191+33.18
NO SUPER

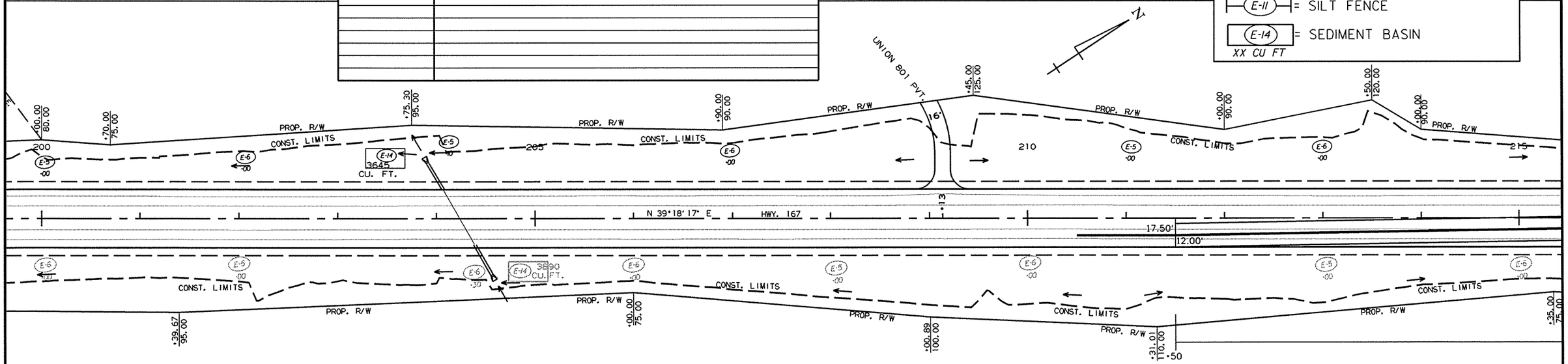


REVISIONS

DATE OF REVISION	REVISION

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) XX CU FT = SEDIMENT BASIN



3/31/2015

R070280.DGN

STAGE 2
TEMPORARY EROSION CONTROL 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.		070280	41	336

(2) TEMPORARY EROSION CONTROL DETAILS

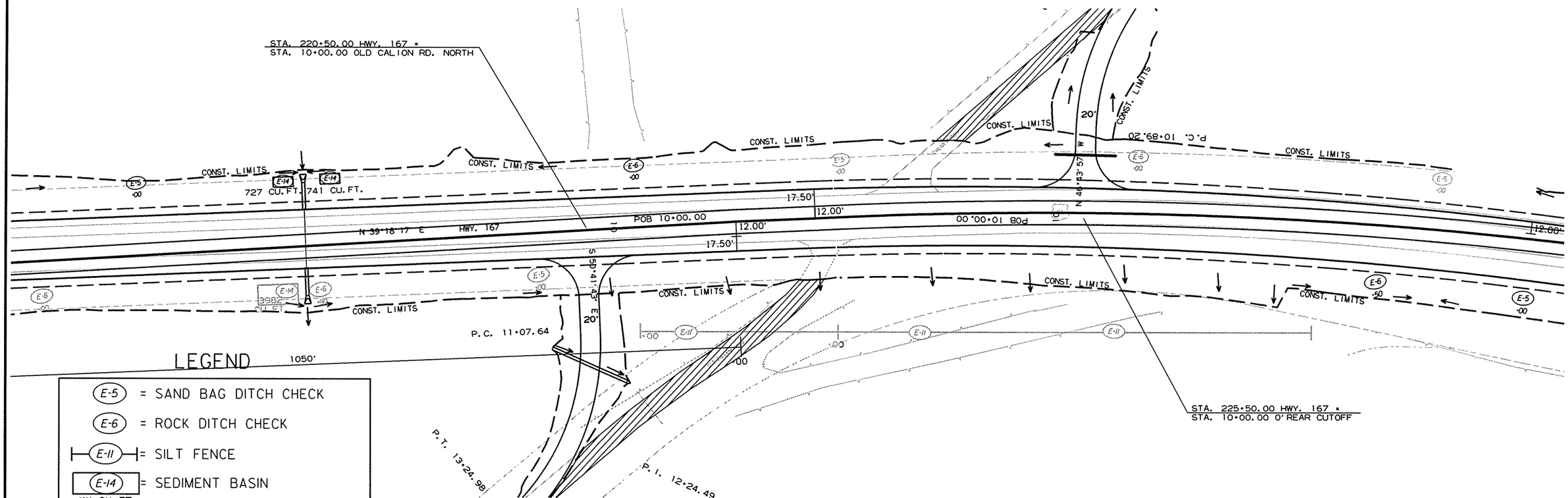
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



LEGEND

E-5 = SAND BAG DITCH CHECK
E-6 = ROCK DITCH CHECK
E-11 = SILT FENCE
E-14 = SEDIMENT BASIN
XX CU FT

REVISIONS

DATE OF REVISION	REVISION

3/31/2015

R070280.DGN

STAGE 2
TEMPORARY EROSION 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.		070280	42	336

(2) TEMPORARY EROSION CONTROL DETAILS

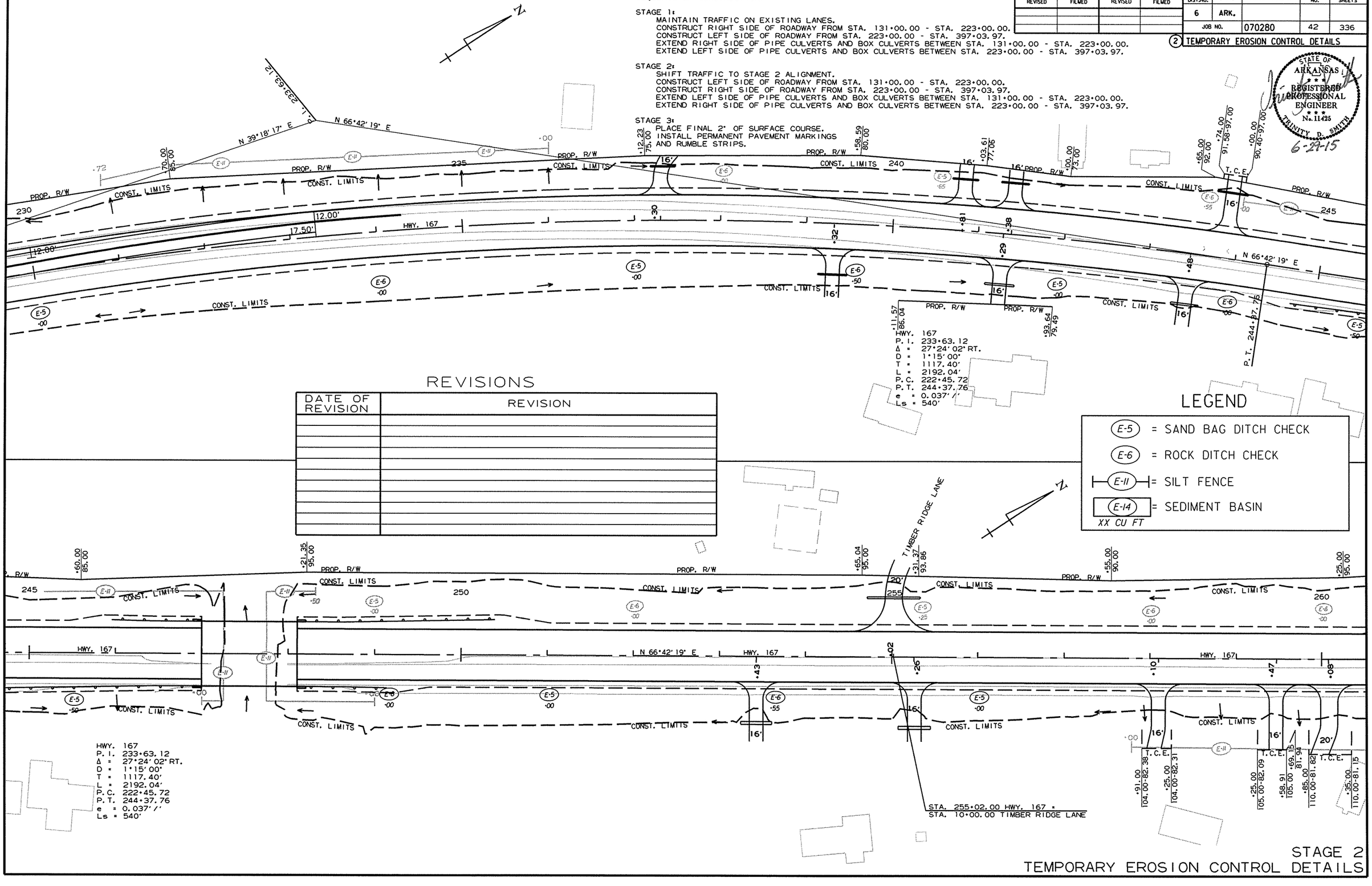
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15



REVISIONS

DATE OF REVISION	REVISION

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	43	336

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

HWY. 167
PI = 266+31.00
Δ = 10°27'24" LT.
D = 1°30'00"
T = 349.52'
L = 697.10'
PC = 262+81.48
PT = 269+78.59
e = 0.043'/'
Ls = 540'

QUINN HILL DRIVE PVT.

LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN, XX CU FT

STA. 270+95 - 274+34
SILT FENCE = 339 LIN. FT.

REVISIONS

DATE OF REVISION	REVISION

HWY. 167
PI = 281+13.45
Δ = 8°04'43" LT.
D = 1°30'00"
T = 269.73'
L = 538.58'
PC = 278+43.72
PT = 283+82.29
e = 0.043'/'
Ls = 540'

STAGE 2

3/31/2015

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STAGE 2
TEMPORARY EROSION 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.		070280	44	336

(2) TEMPORARY EROSION CONTROL DETAILS

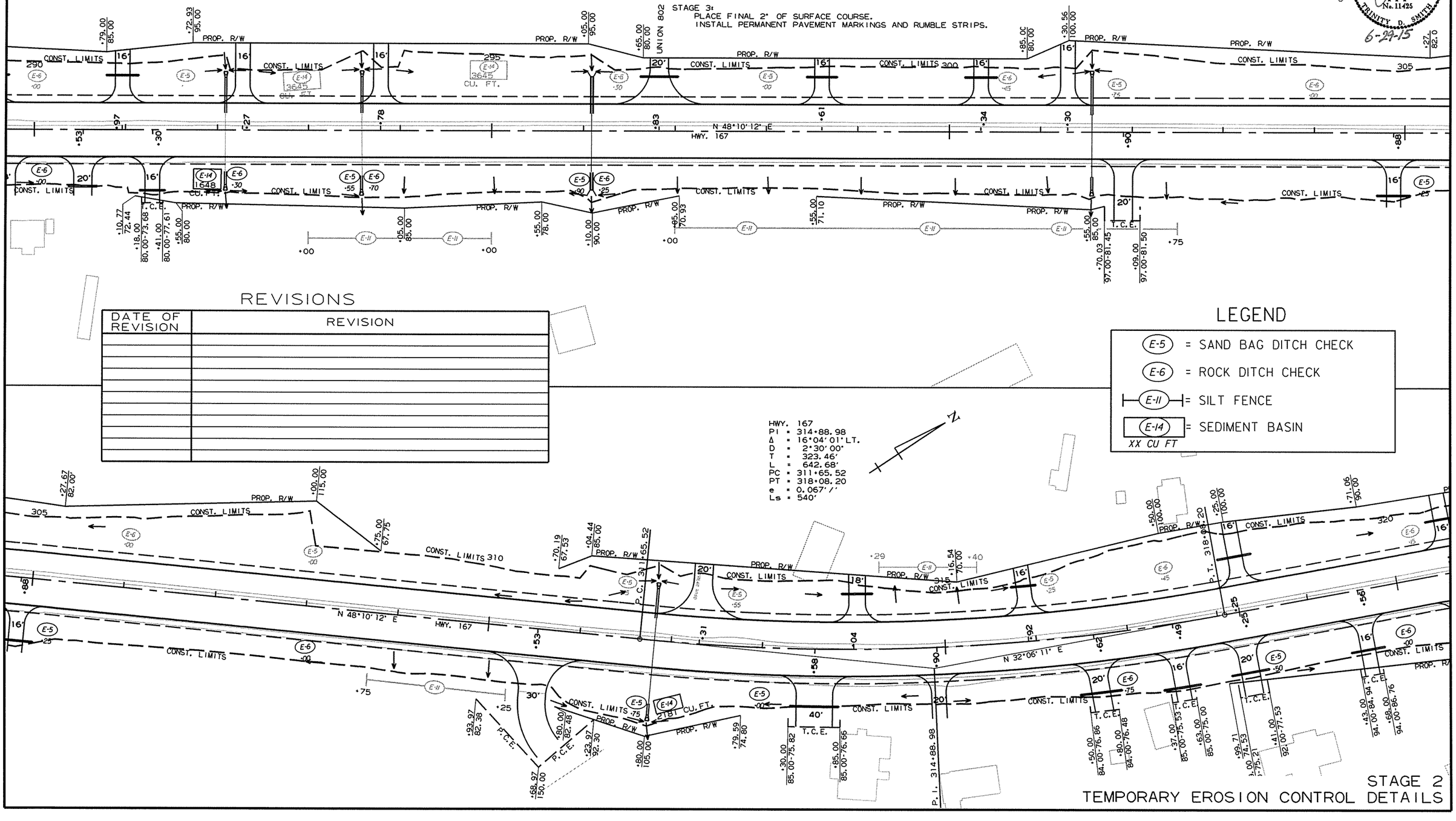
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15



REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN (XX CU FT)

HWY. 167
PI = 314+88.98
Δ = 16°04'01" LT.
D = 2°30'00"
T = 323.46'
L = 642.68'
PC = 311+65.52
PT = 318+08.20
e = 0.067'/'
Ls = 540'

3/31/2015

R070280.DGN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	45	336

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN (XX CU FT)

HWY. 167
PI = 341+43.30
Δ = 18°27'58" RT.
D = 3°00'00"
T = 310.46'
L = 615.54'
PC = 338+32.84
PT = 344+48.38
e = 0.077'/'
Ls = 540'

3/31/2015

R070280.DGN

STAGE 2
TEMPORARY EROSION 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.		070280	46	336

(2) TEMPORARY EROSION CONTROL DETAILS

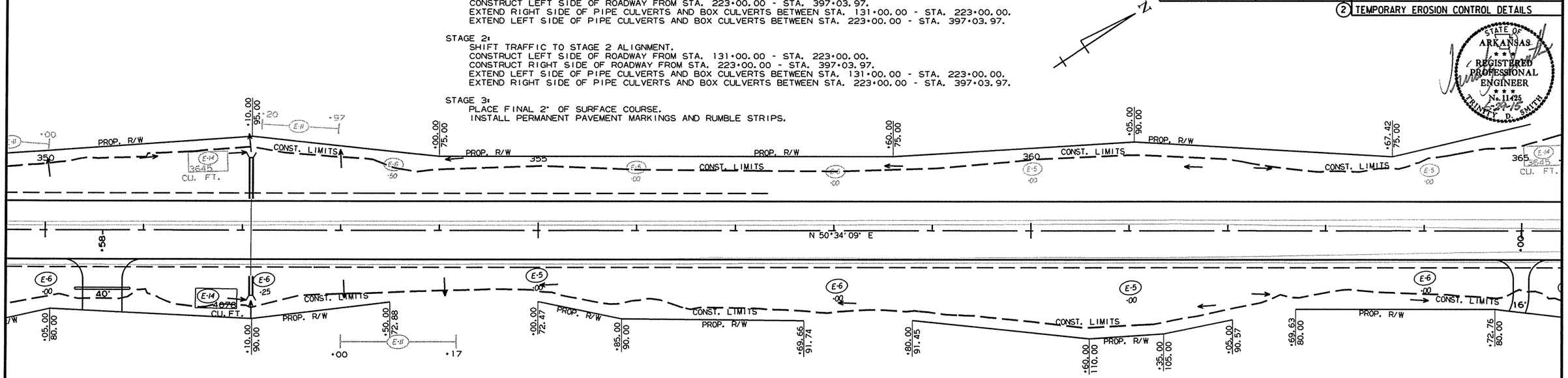
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-24-15

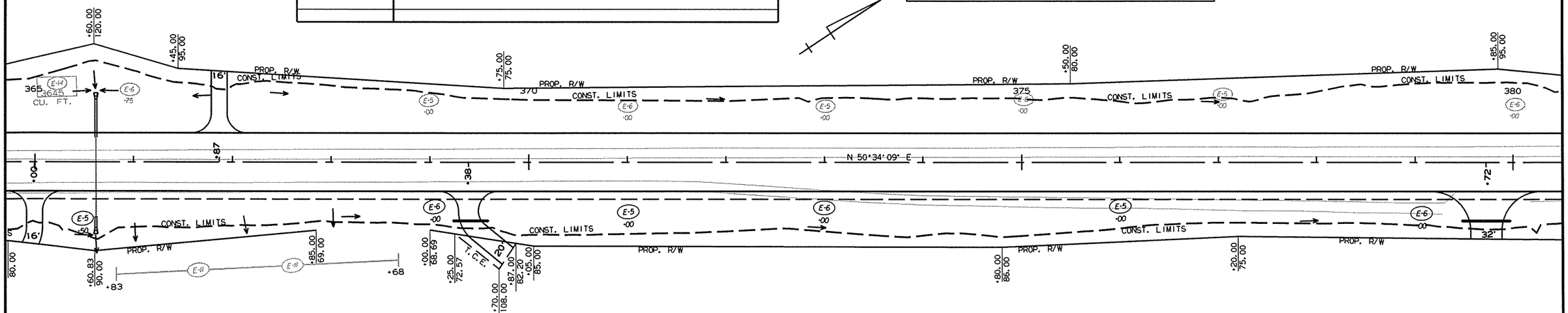


REVISIONS

DATE OF REVISION	REVISION

LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE
- E-14 = SEDIMENT BASIN
  XX CU FT



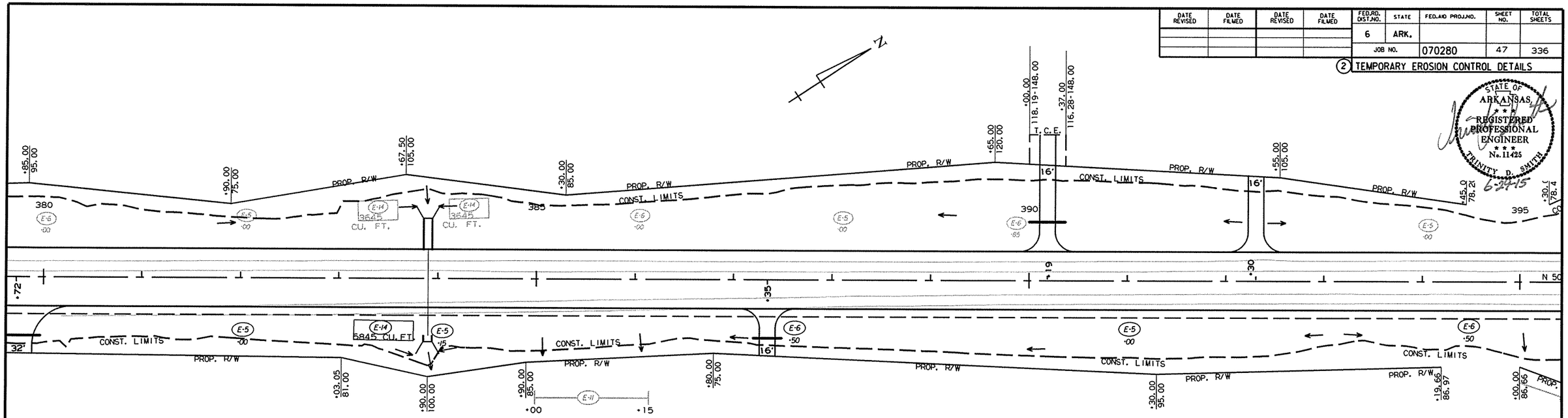
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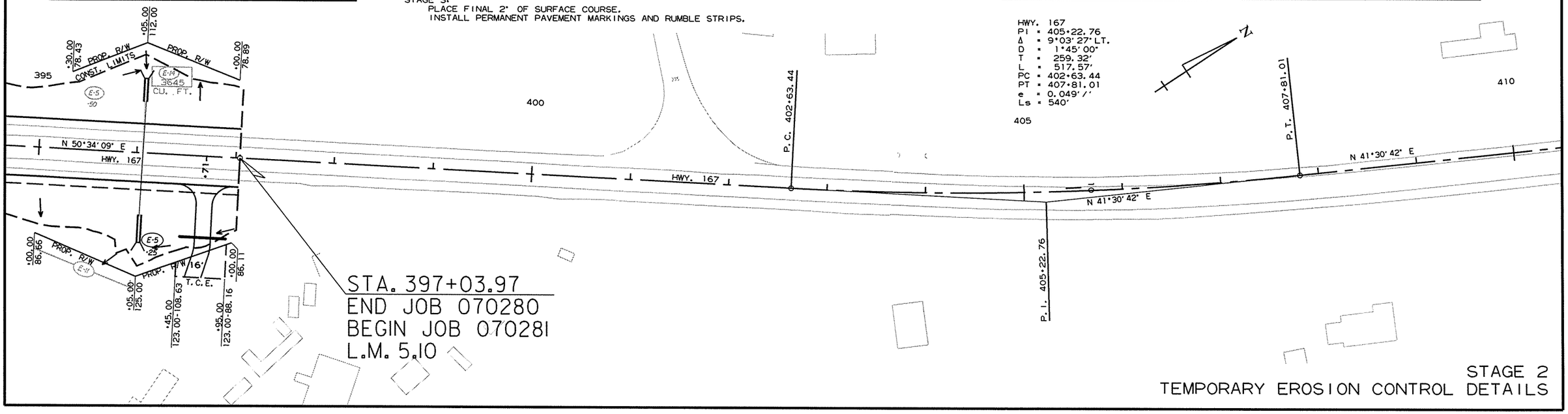
R070280.DGN

STAGE 2
TEMPORARY EROSION 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.		070280	47	336

(2) TEMPORARY EROSION CONTROL DETAILS





LEGEND

- (E-5) = SAND BAG DITCH CHECK
- (E-6) = ROCK DITCH CHECK
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
  XX CU FT

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STA. 397+03.97
END JOB 070280
BEGIN JOB 070281
L.M. 5.10

REVISIONS

DATE OF REVISION	REVISION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

3/31/2015

R070280.DGN

STAGE 2
TEMPORARY EROSION CONTROL 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.		070280	48	336

(2) TEMPORARY EROSION CONTROL DETAILS

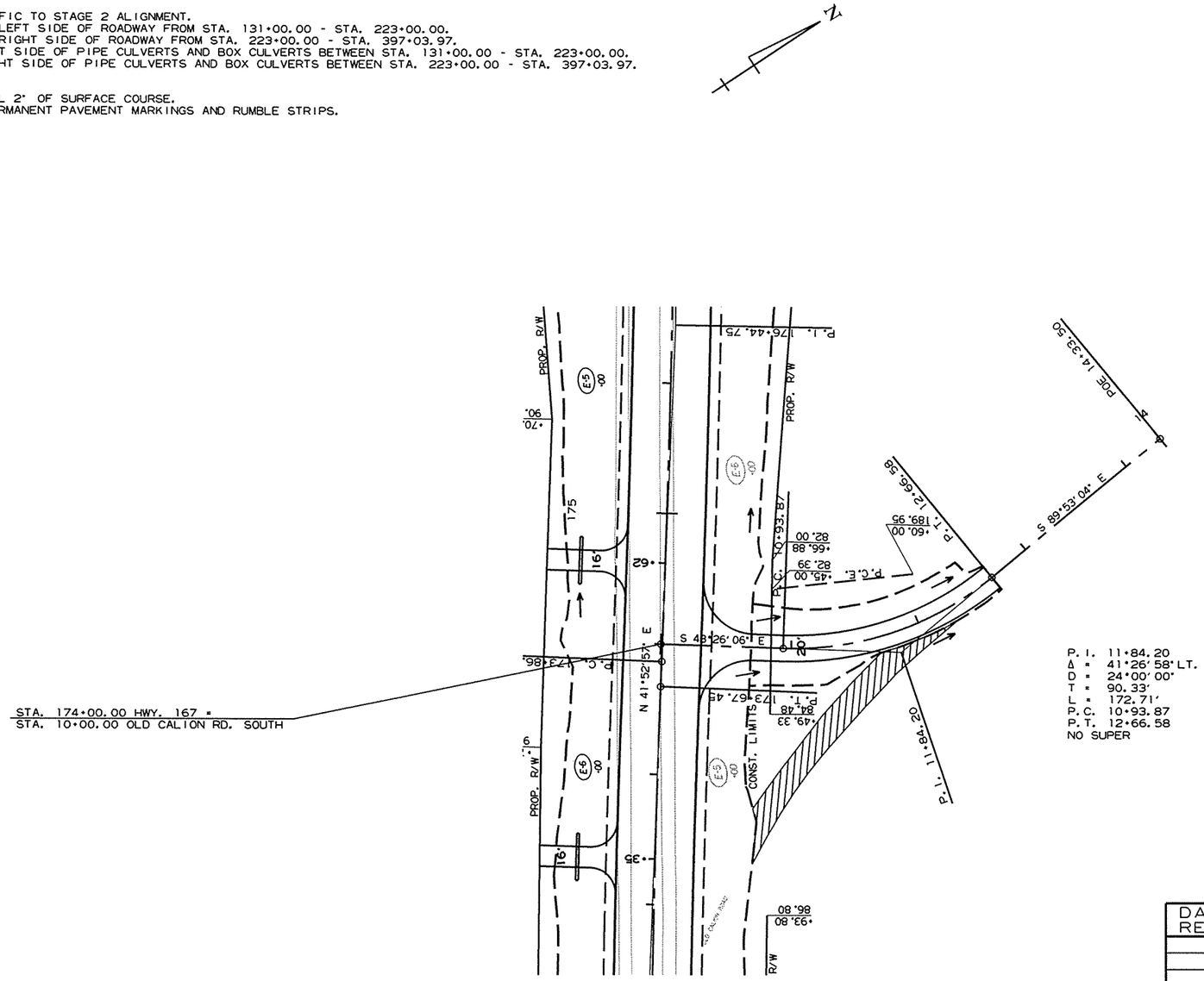
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15



P. I. 11+84.20
Δ = 41°26' 58" LT.
D = 24°00' 00"
T = 90.33'
L = 172.71'
P.C. 10+93.87
P.T. 12+66.58
NO SUPER

LEGEND

E-5	= SAND BAG DITCH CHECK
E-6	= ROCK DITCH CHECK
E-11	= SILT FENCE
E-14 XX CU FT	= SEDIMENT BASIN

REVISIONS

DATE OF REVISION	REVISION

3/31/2015

R070280.DGN

STAGE 2
TEMPORARY EROSION CONTROL 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.		070280	49	336

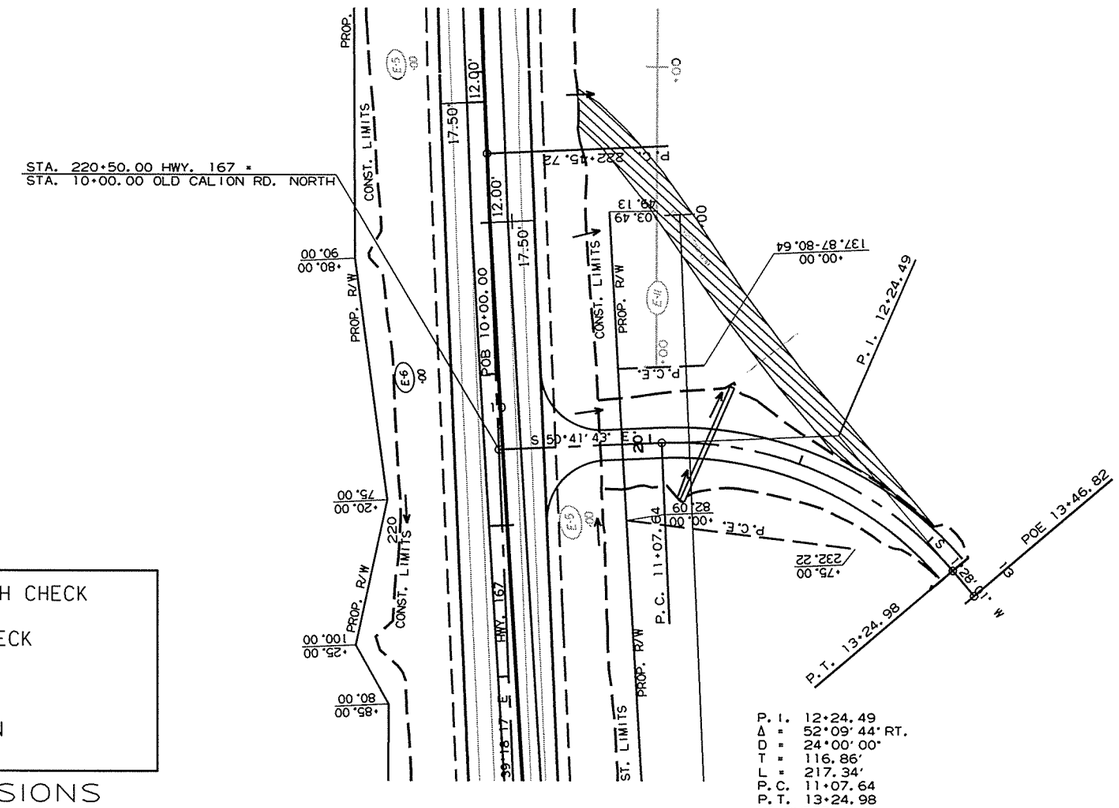
(2) TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.



P. I. 12+24.49
Δ = 52°09'44" RT.
D = 24°00'00"
T = 116.86'
L = 217.34'
P.C. 11+07.64
P.T. 13+24.98
NO SUPER

LEGEND

E-5 = SAND BAG DITCH CHECK
E-6 = ROCK DITCH CHECK
E-11 = SILT FENCE
E-14 = SEDIMENT BASIN
XX CU FT

REVISIONS

DATE OF REVISION	REVISION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

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R070280.DGN

STAGE 2
TEMPORARY EROSION 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.		070280	50	336

(2) TEMPORARY EROSION CONTROL DETAILS

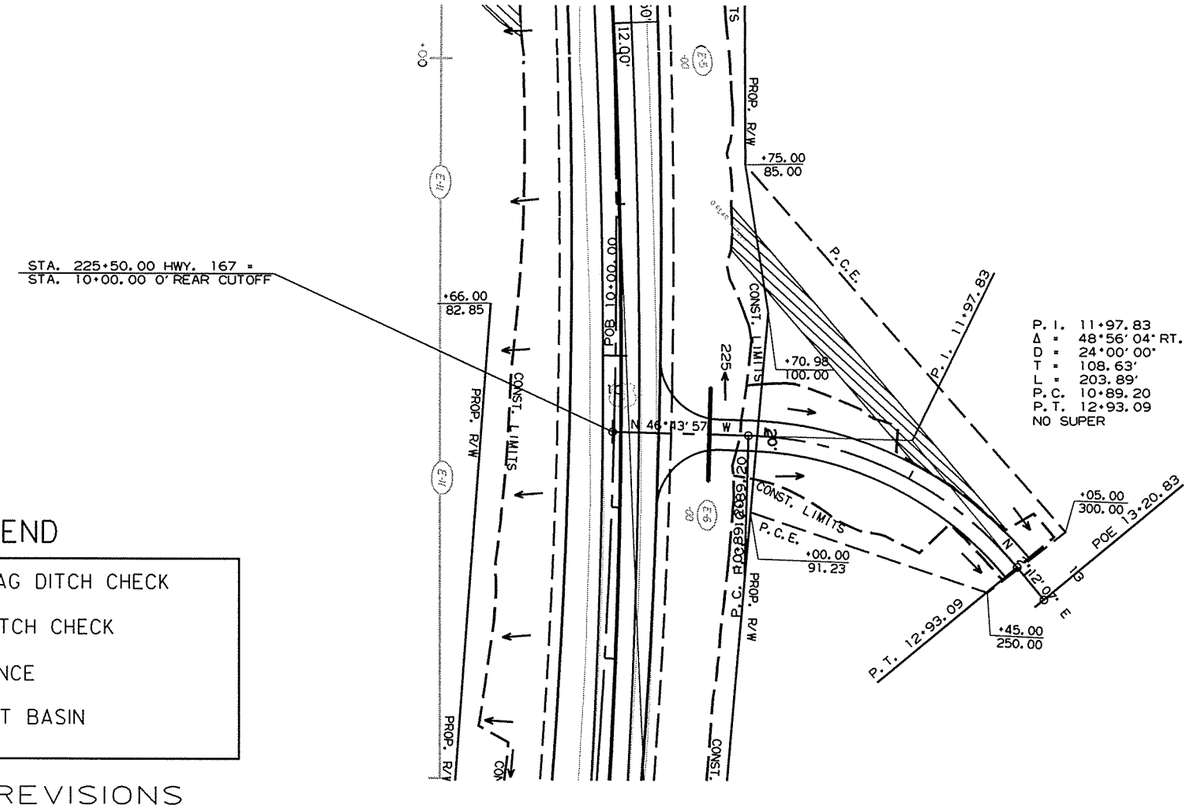
SEQUENCE OF CONSTRUCTION:

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



LEGEND

E-5	= SAND BAG DITCH CHECK
E-6	= ROCK DITCH CHECK
E-11	= SILT FENCE
E-14 XX CU FT	= SEDIMENT BASIN

REVISIONS

DATE OF REVISION	REVISION

3/31/2015

R070280.DGN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

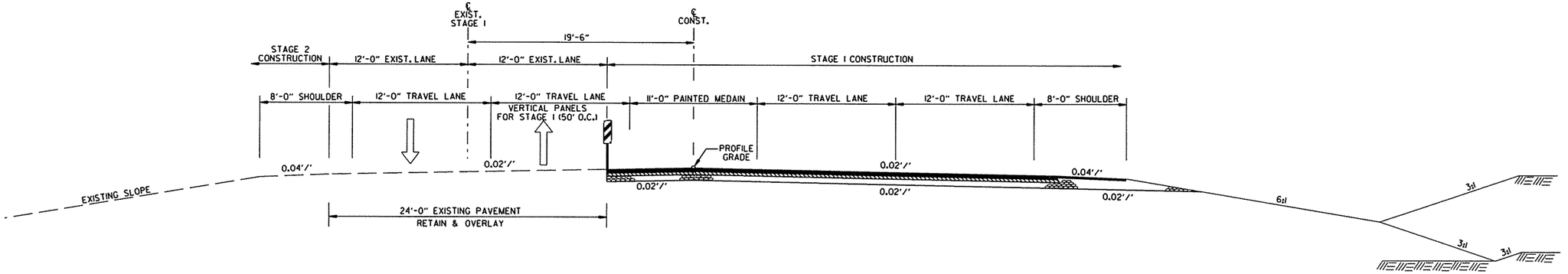
STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

NOTE:
THE QUANTITY OF THE VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR 2 MILES. THIS IS THE MAXIMUM QUANITTY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

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.		070280	51	336

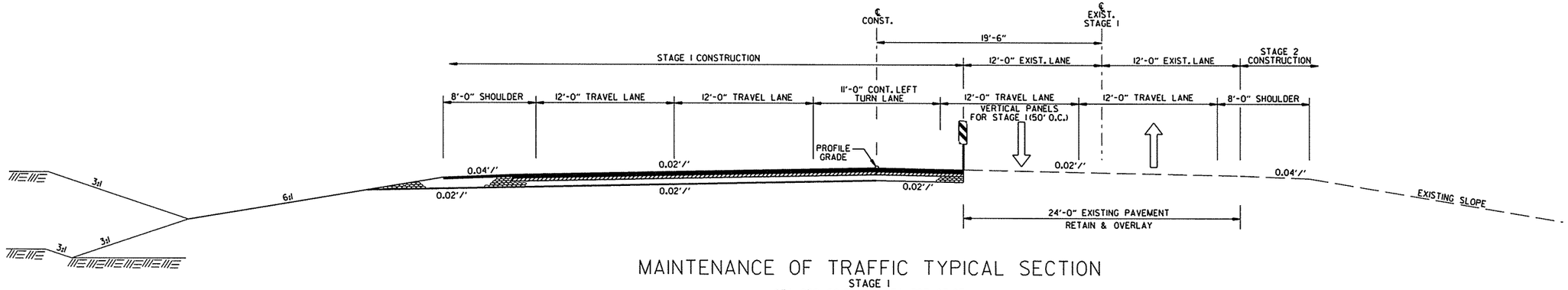
(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



MAINTENANCE OF TRAFFIC TYPICAL SECTION
STAGE 1
STA. 131+00.00 TO STA. 215+00.00

NOTE: TRANSITION FROM RT. TO LT. SIDE STA. 215+00.00 TO STA. 230+00.00



MAINTENANCE OF TRAFFIC TYPICAL SECTION
STAGE 1
STA. 230+00.00 TO STA. 397+03.97

3/31/2015

R070280.DGN

ALL STAGES
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

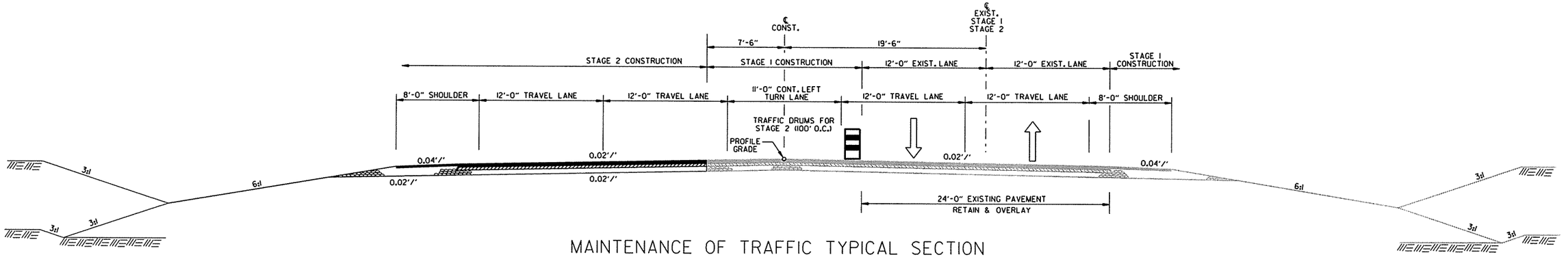
STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

NOTE:
THE QUANTITY OF THE VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR 2 MILES. THIS IS THE MAXIMUM QUANITTY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4' OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

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.		070280	52	336

(2) MAINTENANCE OF TRAFFIC

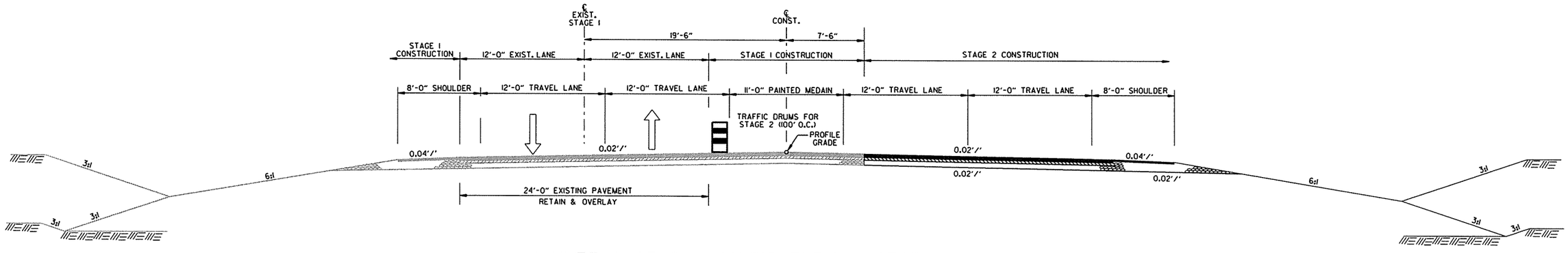
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



MAINTENANCE OF TRAFFIC TYPICAL SECTION

STAGE 2
STA. 131+00.00 TO STA. 215+00.00

NOTE: TRANSITION FROM RT. TO LT. SIDE STA. 215+00.00 TO STA. 230+00.00



MAINTENANCE OF TRAFFIC TYPICAL SECTION

STAGE 2
STA. 230+00.00 TO STA. 397+03.97

3/31/2015

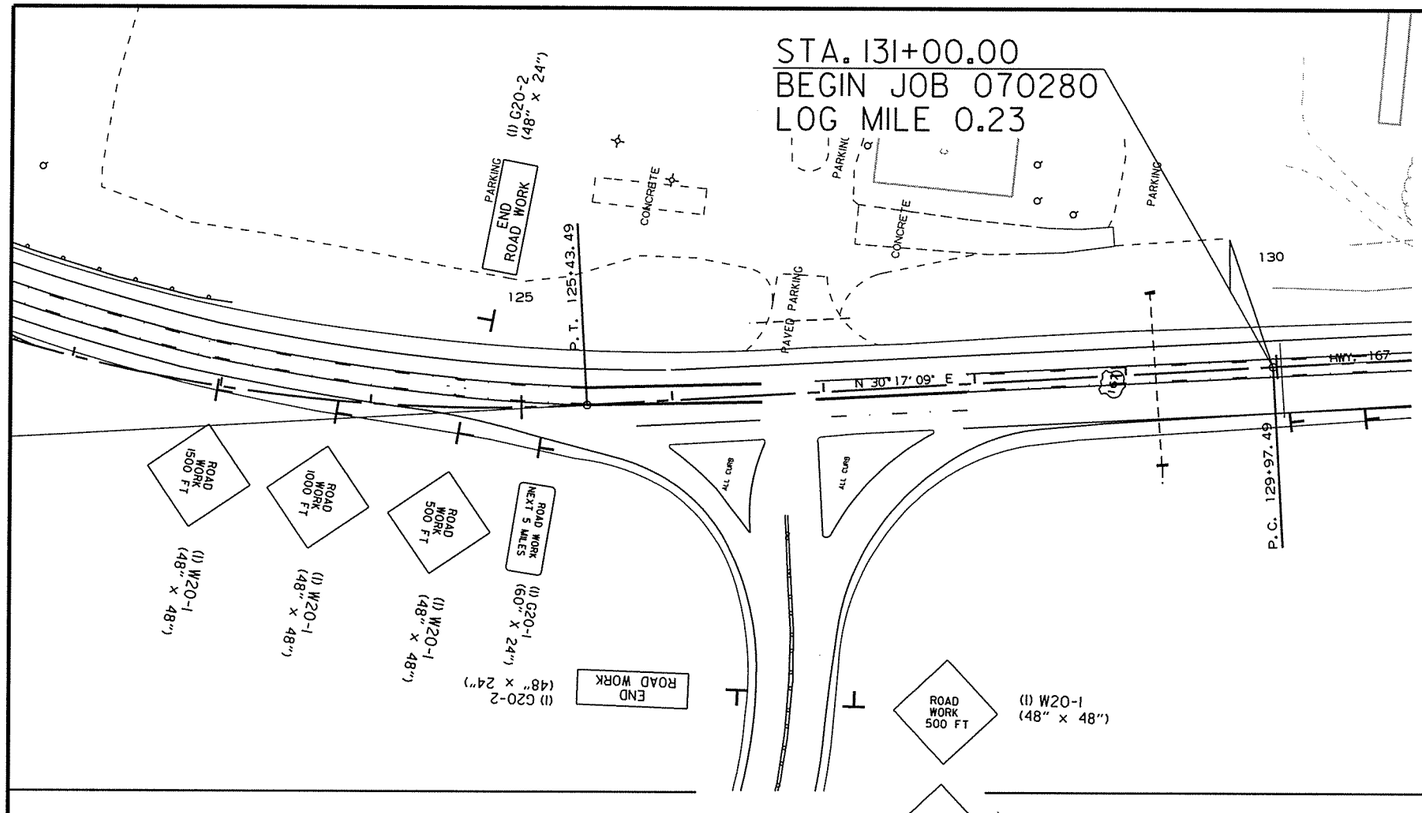
R070280.DGN

ALL STAGES
MAINTENANCE OF TRAFFIC

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.		070280	53	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

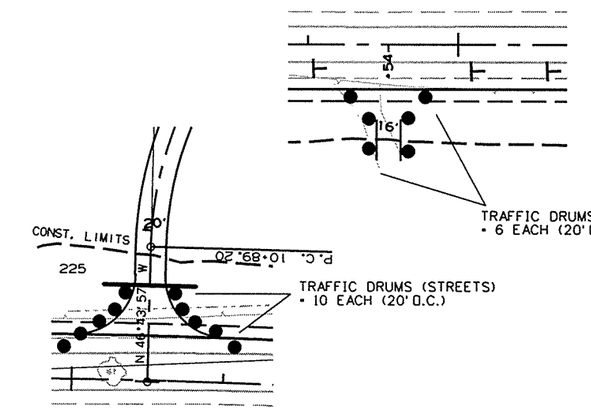


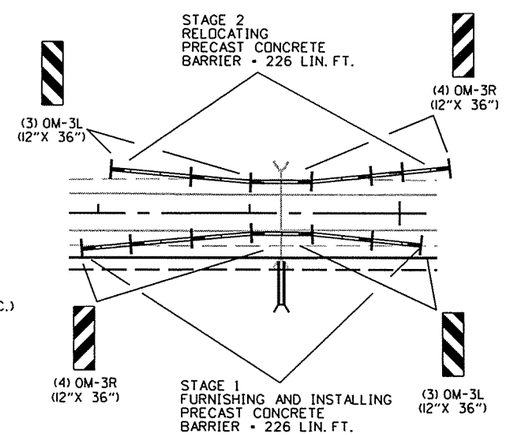
SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.





DO NOT PASS

(20) R4-1 (24" X 30")

LOW SHOULDER

(2) W8-9 (36" X 36")

SHOULDER CLOSED

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

TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

ALL STAGES
MAINTENANCE OF TRAFFIC

3/31/2015

R070280.DGN

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

NOTE:
THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR 2 MILES. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

TYPE III BARRICADES LT. = 32 LIN. FT.
TYPE III BARRICADES RT. = 128 LIN. FT.

TRAFFIC DRUMS ON RT. & LT. (@ 20' O.C.) = 465 EACH

VERTICAL PANELS ON RT. & LT. (@ 50' O.C.) = 211 EACH

CONSTRUCTION PAVEMENT MARKINGS
MAIN LANES
STA. 125+00-STA. 397+03.97
WHITE =54400 LIN. FT.
YELLOW =54400 LIN. FT.
SIDE ROADS
WHITE = 1656 LIN. FT.
YELLOW = 1656 LIN. FT.

REMOVAL OF PERMANENT PAVEMENT MARKINGS
SIDE ROADS = 5260 LIN. FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
AT BRIDGES = 888 LIN. FT.

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.		070280	54	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 131+00.00
BEGIN JOB 070280
LOG MILE 0.23

P.T. 125+43.49
P.I. 134+51.07
P.C. 129+97.49
P.T. 139+02.76

HWY. 167
N 30°17'09" E
N 39°20'18" E

CONST. LIMITS
PROP. R/W
PARKING
CONCRETE
PAVED PARKING
ALL CURB
30'

TRAFFIC DRUMS (@ 20' O.C.)
VERTICAL PANELS (@ 50' O.C.)
(1) G20-2 (48" x 24") END ROAD WORK
ROAD WORK AHEAD
(1) W20-1 (48" x 48")

HWY. 167
P. I. 134+51.07
Δ = 9°03'10" RT.
D = 1°00'00"
T = 453.58'
L = 905.27'
P.C. 129+97.49
P.T. 139+02.76
e = 0.030'/'
Ls = 540

120' 40' 120'
15 TRAFFIC DRUMS (20' O.C.)

STAGE 1
MAINTENANCE OF TRAFFIC

3/31/2015
R070280.DGN

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

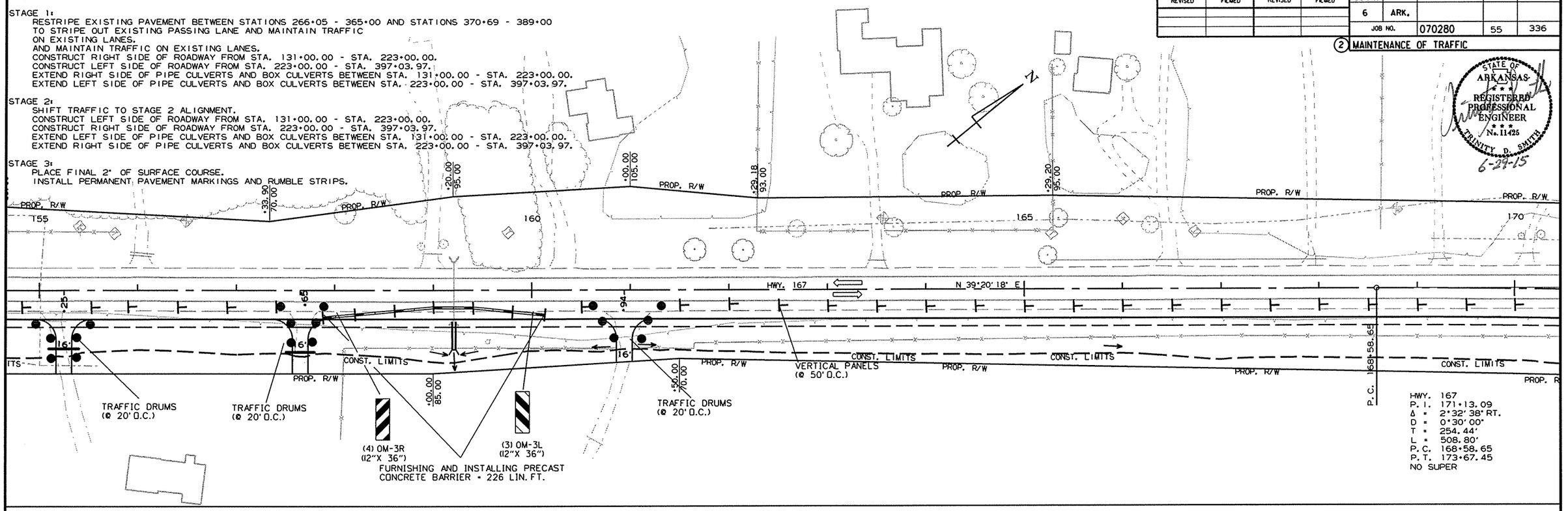
STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

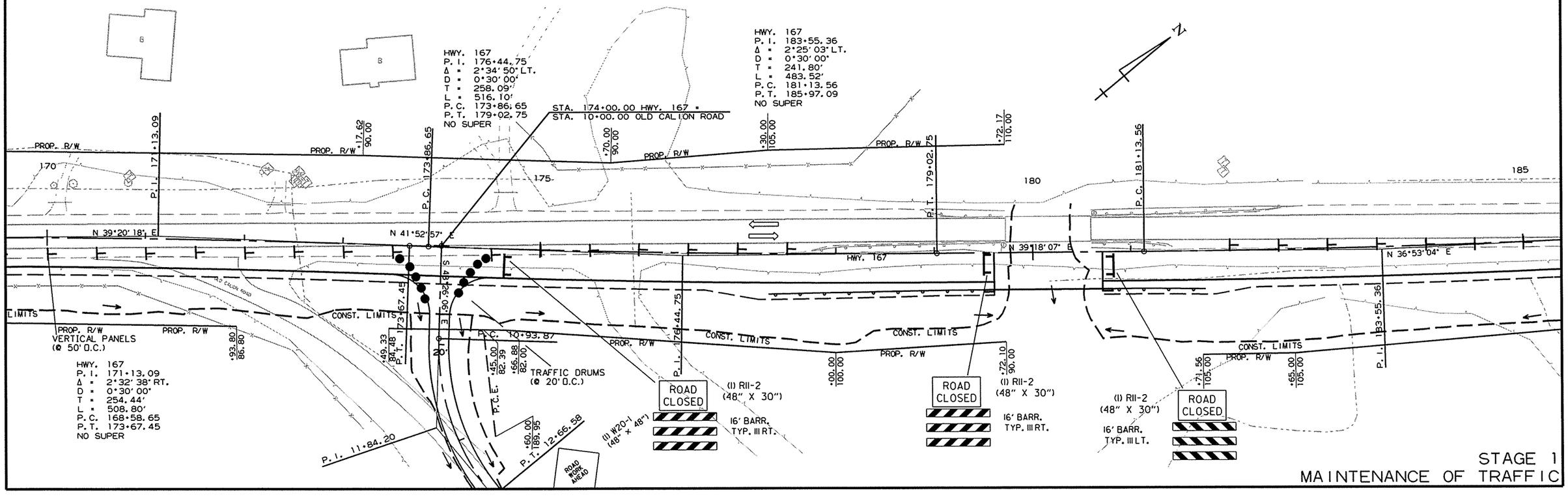
STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	55	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15





STAGE 1
MAINTENANCE OF TRAFFIC

3/31/2015
R070280.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.		070280	56	336

(2) MAINTENANCE OF TRAFFIC

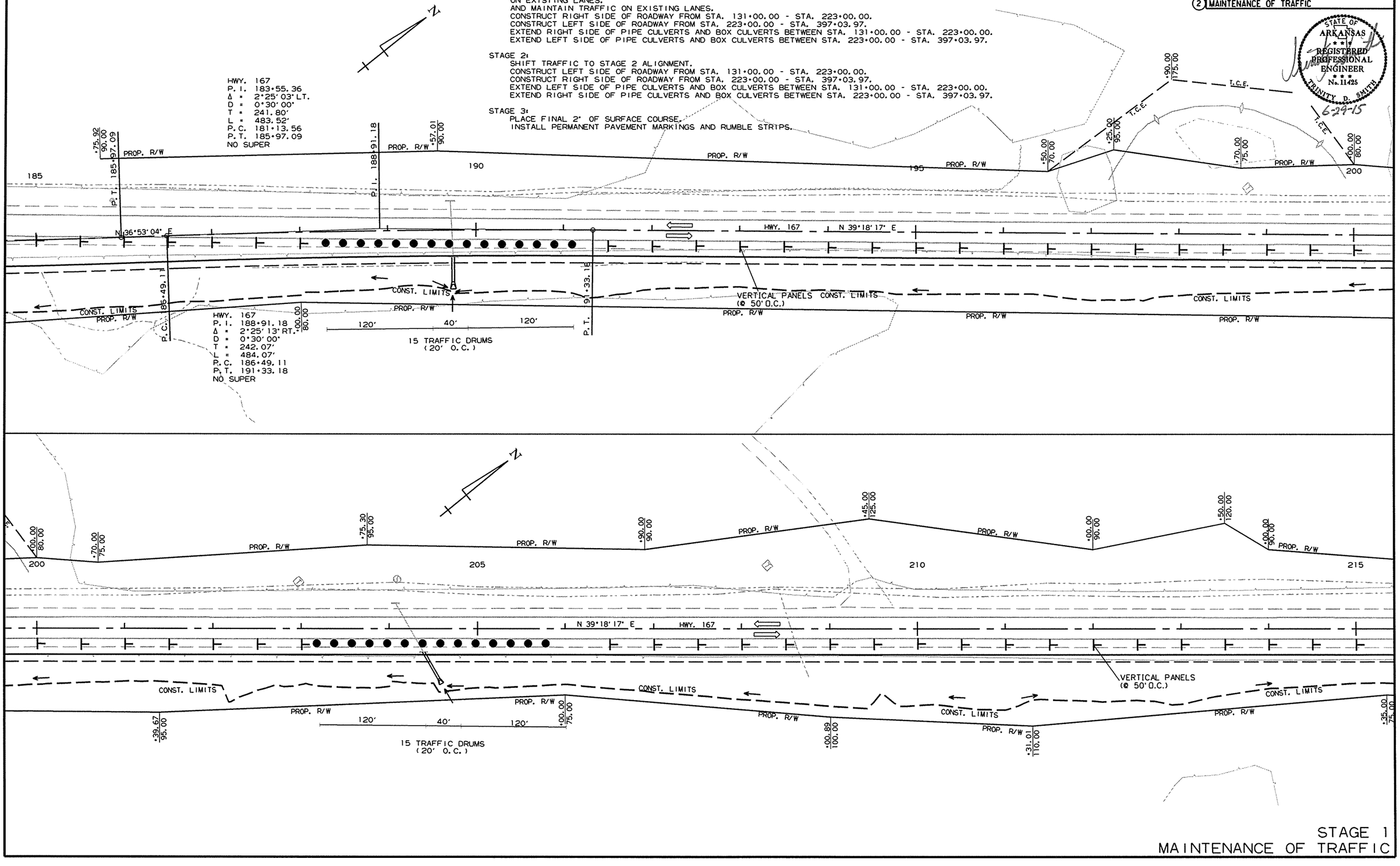
SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



STAGE 1
MAINTENANCE OF TRAFFIC

3/31/2015

R070280.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.		070280	57	336

(2) MAINTENANCE OF TRAFFIC

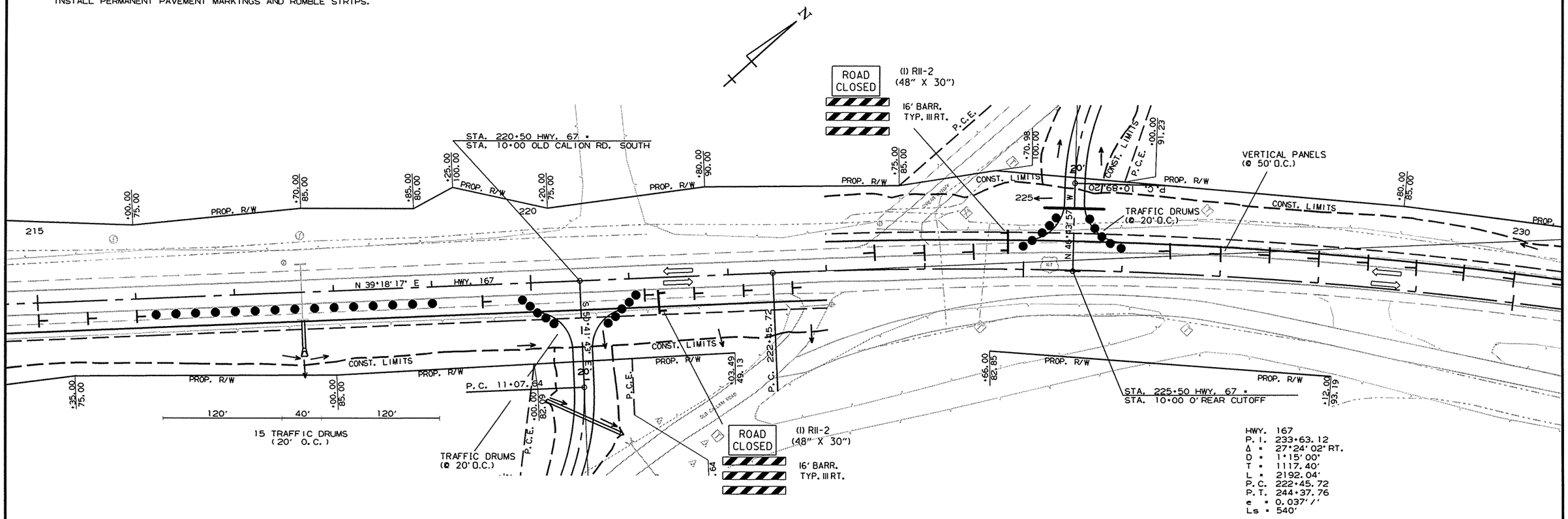
SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
TRINITY D. SMITH
REGISTERED PROFESSIONAL ENGINEER
No. 11425
6-29-15



STAGE 1
MAINTENANCE OF TRAFFIC

3/31/2015

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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.		070280	58	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

HWY. 167
P.I. 233+63.12
Δ = 27°24'02" RT.
D = 1°15'00"
T = 1117.40'
L = 2192.04'
P.C. 222+45.72
P.T. 244+37.76
e = 0.037'/'
Ls = 540'

TRAFFIC DRUMS (@ 20' O.C.)
VERTICAL PANELS (@ 50' O.C.)
TRAFFIC DRUMS (@ 20' O.C.)
P.I. 233+63.12
N 39°18'17" E
N 66°42'19" E
PROP. R/W
CONST. LIMITS
HWY. 167
T.C.E.
P.T. 244+37.76
ROAD CLOSED
(I) RII-2 (48" X 30")
16' BARR. TYP. III RT.
(I) W20-1 (48" x 48")
ROAD WORK AHEAD
CANOPY
TIMBER RIDGE LANE
END ROAD WORK
(I) G20-2 (48" x 24")
VERTICAL PANELS (@ 50' O.C.)
TRAFFIC DRUMS (@ 20' O.C.)
(I) RII-2 (48" X 30") 16' BARR. TYP. III LT.
ROAD CLOSED
ROAD CLOSED
(I) RII-2 (48" X 30") 16' BARR. TYP. III RT.
STA. 255+02.00 HWY. 167 = STA. 10+00.00 TIMBER RIDGE LANE
SHED

STAGE 1
MAINTENANCE OF TRAFFIC

3/31/2015
R070280.DGN

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	59	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

HWY. 167
PI = 266+31.00
Δ = 10°27'24" LT.
D = 1°30'00"
T = 349.52'
L = 697.10'
PC = 262+81.48
PT = 269+78.59
e = 0.043'/'
Ls = 540'

HWY. 167
PI = 281+13.45
Δ = 8°04'43" LT.
D = 1°30'00"
T = 269.73'
L = 538.58'
PC = 278+43.72
PT = 283+82.29
e = 0.043'/'
Ls = 540'

TRAFFIC DRUMS (@ 20' O.C.)
VERTICAL PANELS (@ 50' O.C.)
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER - 226 LIN. FT.
(1) W20-1 (48" x 48")
ROAD WORK AHEAD
QUINN HILL DRIVE PVT.
END ROAD WORK
(1) G20-2 (48" x 24")
TEMPORARY IMPACT ATTENUATION BARRIER - 1 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) - 1 EACH
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER - 160 LIN. FT.
40' 11 TRAFFIC DRUMS (20' O.C.)
(3) OM-3L (12"X 36")
(4) OM-3R (12"X 36")
(2) OM-3L (12"X 36")
(4) OM-3R (12"X 36")
PROP. R/W
CONST. LIMITS
HWY. 167
N 66°42' 19" E
N 56°14' 55" E
N 48°10' 12" E
P.I. 266+31.00
P.C. 262+81.48
P.C.E.
T.C.E.
P.C. 278+43.72
P.T. 283+82.29
P.I. 281+13.45

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STAGE 1
MAINTENANCE OF TRAFFIC

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.		070280	60	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

ROAD CLOSED
(1) R11-2 (48" X 30")
16' BARR. TYP. III RT.
(1) W20-1 (48" x 48")
ROAD WORK AHEAD
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER - 146 LIN. FT.
END ROAD WORK
(1) G20-2 (48" x 24")
40' 7 TRAFFIC DRUMS (20' O. C.)
TRAFFIC DRUMS (@ 20' O.C.)
VERTICAL PANELS (@ 50' O.C.)
UNION 802
PROP. R/W
CONST. LIMITS
HWY. 167
N 48°10' 12" E
TEMPORARY IMPACT ATTENUATION BARRIER - 2 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) - 2 EACH
(3) OM-3L (12"X 36")
(2) OM-3R (12"X 36")
T.C.E.
A.C.E.

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

HWY. 167
PI = 314+88.98
Δ = 16°04' 01" LT.
D = 2°30' 00"
T = 323.46'
L = 642.68'
PC = 311+65.52
PT = 318+08.20
e = 0.067'/'
Ls = 540'

8 TRAFFIC DRUMS (20' O. C.)
N 32°06' 11" E
P.I. 314+88.98
ROAD WORK AHEAD

STAGE 1
MAINTENANCE OF TRAFFIC

3/31/2015
R070280.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.		070280	61	336

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 246 LIN. FT.

TRAFFIC DRUMS (@ 20' O.C.)
40' 13 TRAFFIC DRUMS (20' O.C.) 120' 120'
VERTICAL PANELS (@ 50' O.C.)
HWY. 167
N 32°06'11" E
(3) OM-3L (12"X 36")
(4) OM-3R (12"X 36")
CONST. LIMITS
PROP. R/W
16'
320
325
330
335
340
345
350
P.C. 338+32.84
P.T. 344+48.38
HWY. 167
PI = 341+43.30
Δ = 18°27'58" RT.
D = 3°00'00"
T = 310.46'
L = 615.54'
PC = 338+32.84
PT = 344+48.38
e = 0.077'/'
Ls = 540'

STAGE 1
MAINTENANCE OF TRAFFIC

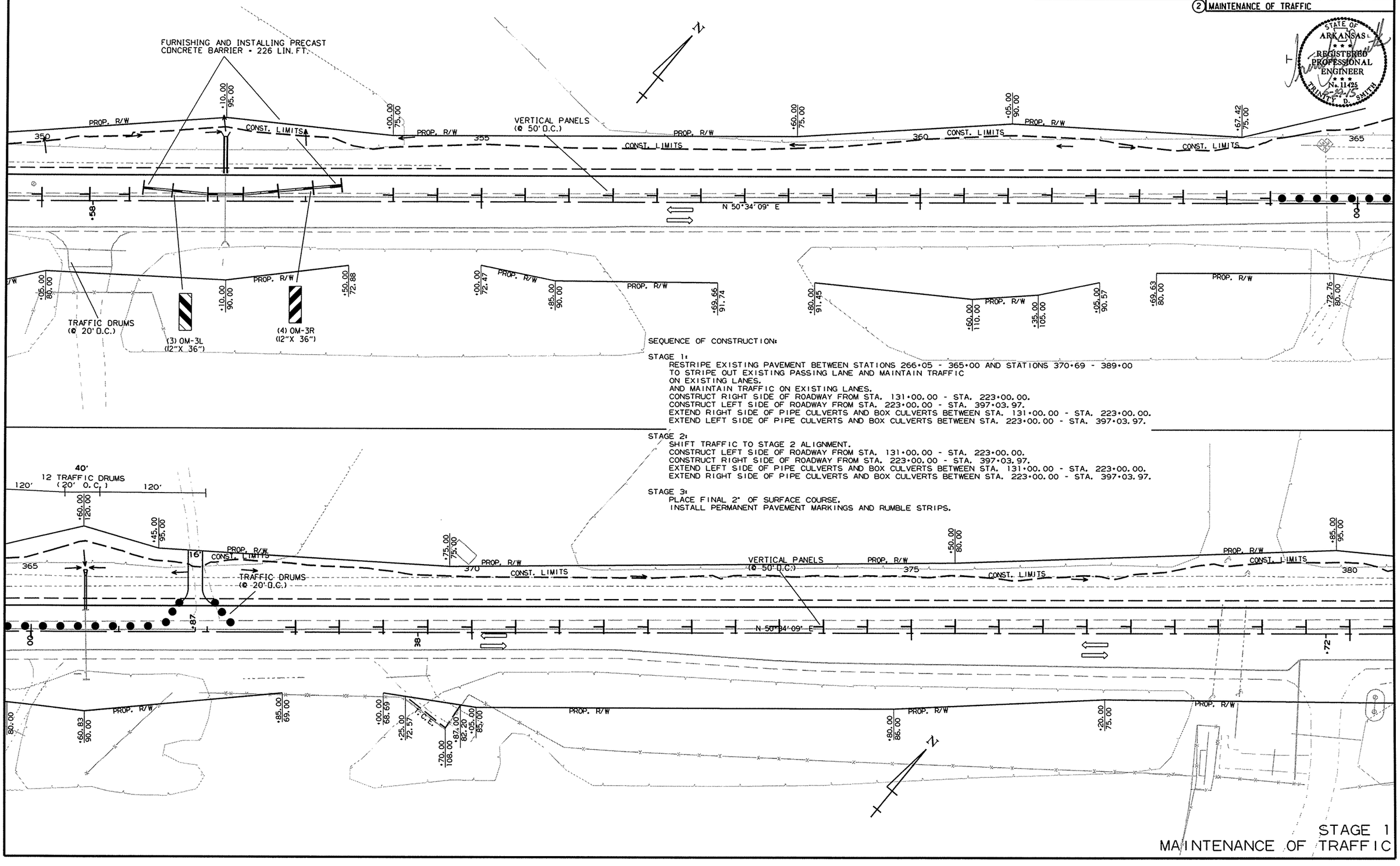
3/31/2015

R070280.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.		070280	62	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
3-31-15
TRINITY D. SMITH



SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00
TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC
ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

3/31/2015

R070280.DGN

STAGE 1
MAINTENANCE OF TRAFFIC

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.		070280	63	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER - 226 LIN. FT.

VERTICAL PANELS (@ 50' O.C.)

TRAFFIC DRUMS (@ 20' O.C.)

TRAFFIC DRUMS (@ 20' O.C.)

(3) OM-3L (12"X 36")

(4) OM-3R (12"X 36")

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00
TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC
ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

HWY. 167
PI = 405+22.76
Δ = 9°03'27" LT.
D = 1°45'00"
T = 259.32'
L = 517.57'
PC = 402+63.44
PT = 407+81.01
e = 0.049'/'
Ls = 540'

STA. 397+03.97
END JOB 070280
BEGIN JOB 070281
L.M. 5.27

STAGE 1
MAINTENANCE OF TRAFFIC

3/31/2015

R070280.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.		070280	64	336

(2) MAINTENANCE OF TRAFFIC

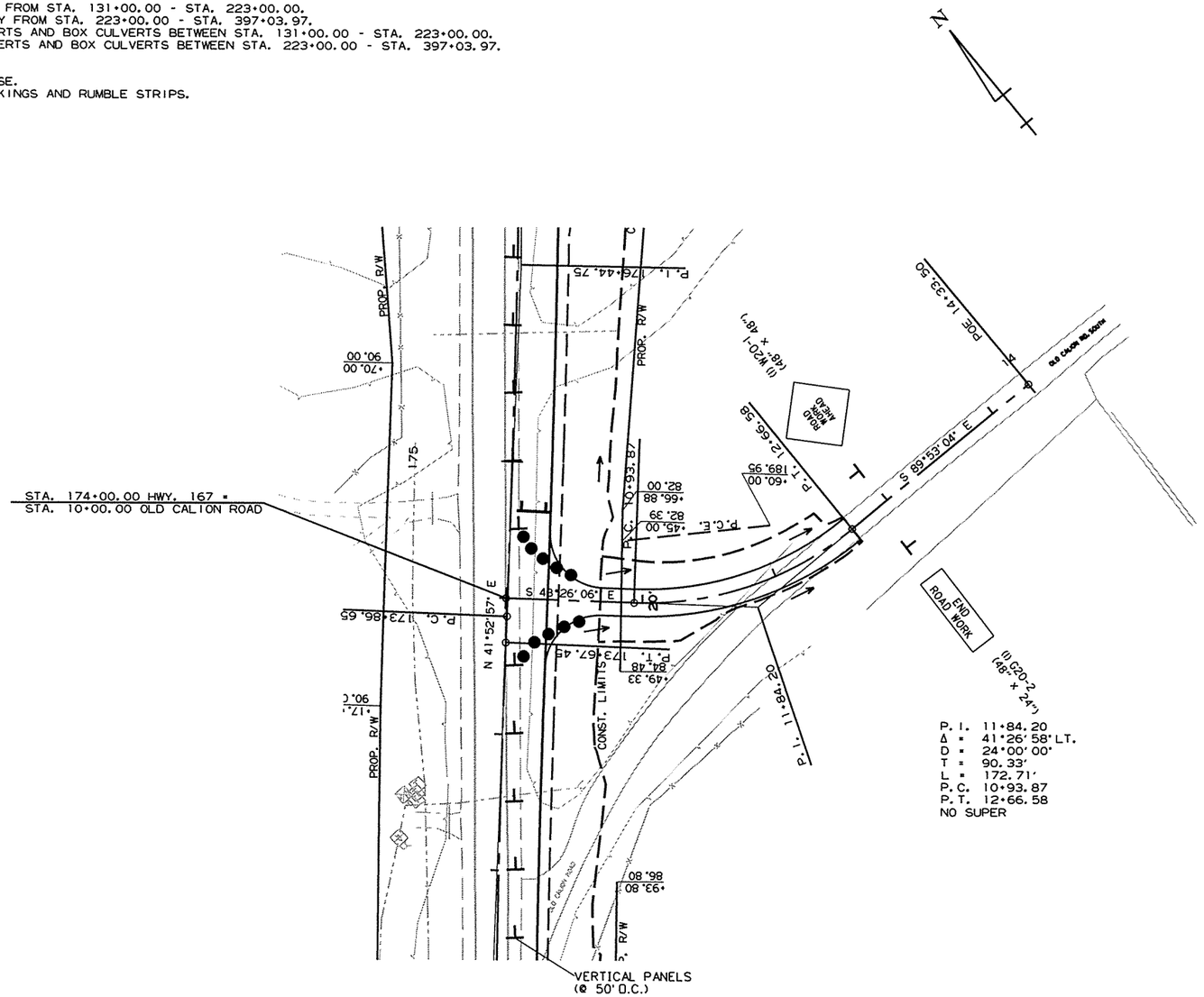
SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



3/31/2015

R070280.DGN

STAGE 1
MAINTENANCE OF TRAFFIC

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.		070280	65	336

(2) MAINTENANCE OF TRAFFIC

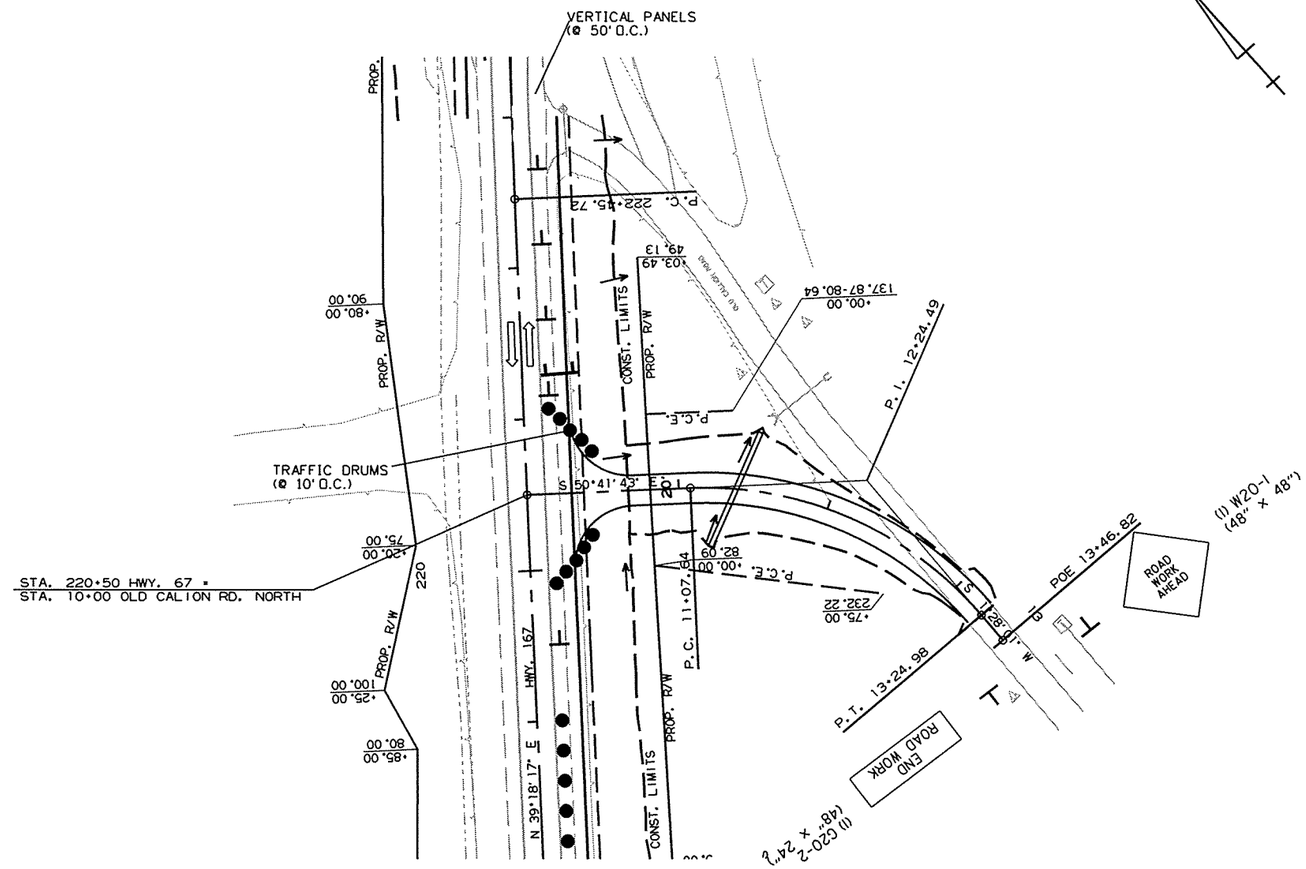
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-22-15

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.



P.I. 12+24.49
Δ = 52°09'44" RT.
D = 24°00'00"
T = 116.86'
L = 217.34'
P.C. 11+07.64
P.T. 13+24.98
NO SUPER

STAGE 1
MAINTENANCE OF TRAFFIC

3/31/2015

R070280.DGN

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
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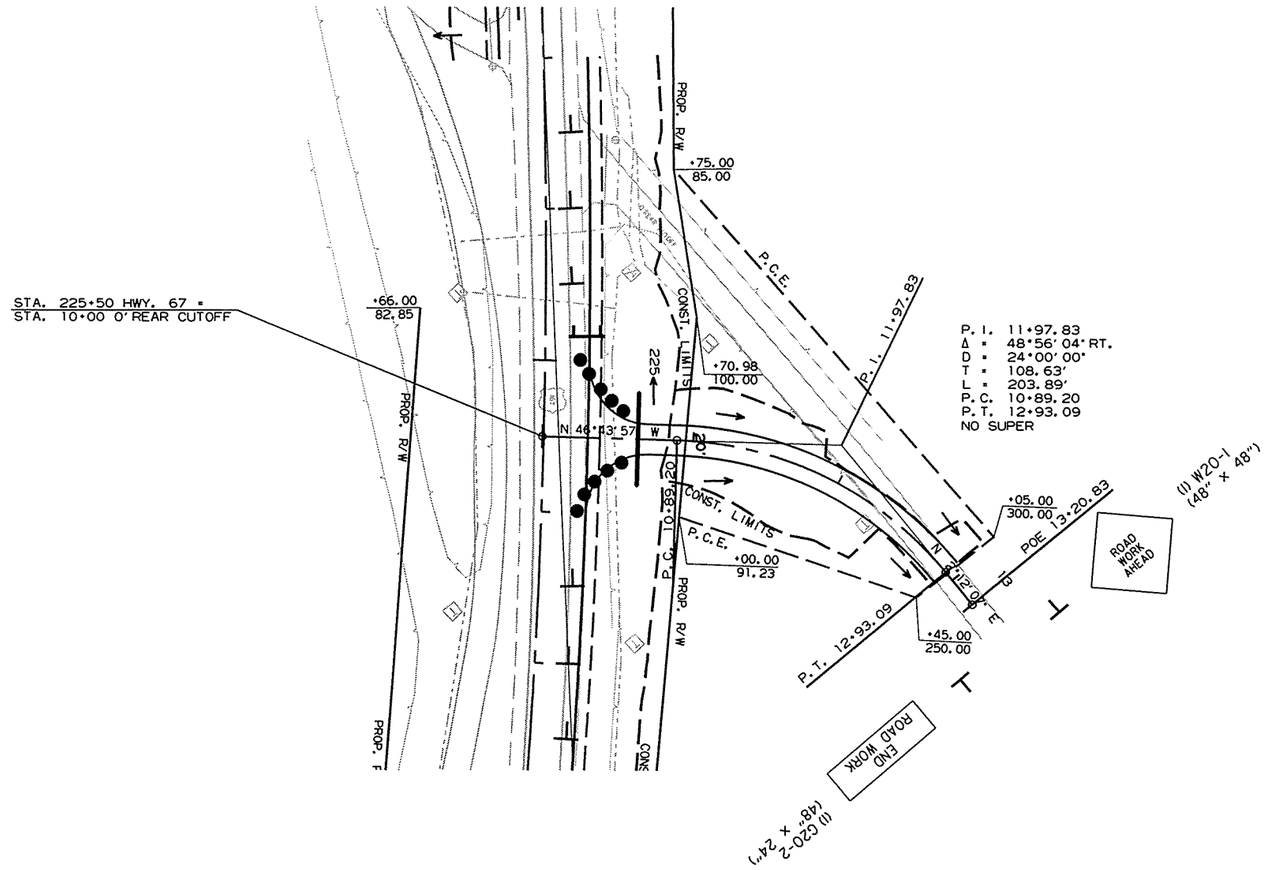
STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

DENOTES: EXISTING LANES

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.		070280	66	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



STAGE 1
MAINTENANCE OF TRAFFIC

3/31/2015

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NOTE:
THE QUANTITY OF TRAFFIC DRUMS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR 2 MILES. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

TRAFFIC DRUMS ON RT. & LT. = 549 EACH

TRAFFIC DRUMS ON LT. & RT. (@ 50' O.C.) = 327 EACH

TYPE III BARRICADES LT.= 48 LIN. FT.
TYPE III BARRICADES RT.= 64 LIN. FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS AT BRIDGES = 888 LIN. FT.

REMOVAL OF PERMANENT PAVEMENT MARKINGS
STA. 123+80.00 TO STA. 131+00.00 = 3265 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS
STA. 123+80.00 TO STA. 131+00.00 = 2880 LIN. FT.
STA. 131+00.00 TO STA. 404+23.97 = 108408 LIN. FT.

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.		070280	67	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 131+00.00
BEGIN JOB 070280
LOG MILE 0.23

TRAFFIC DRUMS (@ 20' O.C.)
TRAFFIC DRUMS (@ 20' O.C.)
TRAFFIC DRUMS (@ 20' O.C.)
TRAFFIC DRUMS (@ 50' O.C.)

P.I. 134+51.07

100' TRANSITION
CONST. LIMITS
PROP. R/W
HWY. 167
N 30°17'09" E
N 39°20'18" E
720' TAPER
MATCHLINE
P.C. 129+97.49
P.T. 125+43.49
P.T. 139+02.76

(1) C20-2 (48" x 24") END ROAD WORK

(1) R11-2 (48" X 30") ROAD CLOSED
16' BARR. TYP. III LT.

ROAD WORK AHEAD
(1) W20-1 (48" x 48")

HWY. 167
P. I. 134+51.07
Δ = 9°03'10" RT.
D = 1°00'00"
T = 453.58'
L = 905.27'
P.C. 129+97.49
P.T. 139+02.76
e = 0.030'/'
Ls = 540

10 TRAFFIC DRUMS (20' O.C.)
120' 40' 120'

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

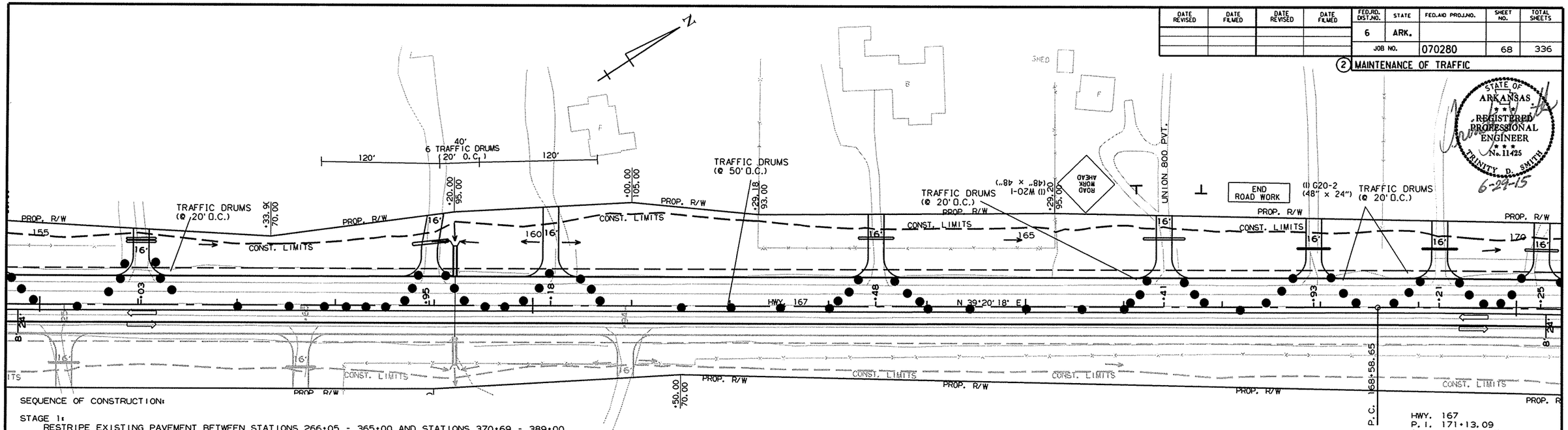
STAGE 2
MAINTENANCE OF TRAFFIC

3/31/2015
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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.		070280	68	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
TRINITY D. SMITH
No. 11425
REGISTERED PROFESSIONAL ENGINEER
6-29-15



SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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STAGE 2:
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CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

HWY. 167
P. I. 171+13.09
Δ = 2°32' 38" RT.
D = 0°30' 00"
T = 254.44'
L = 508.80'
P. C. 168+58.65
P. T. 173+67.45
NO SUPER

HWY. 167
P. I. 176+44.75
Δ = 2°34' 50" LT.
D = 0°30' 00"
T = 258.09'
L = 516.10'
P. C. 173+86.65
P. T. 179+02.75
NO SUPER

HWY. 167
P. I. 183+55.36
Δ = 2°25' 03" LT.
D = 0°30' 00"
T = 241.80'
L = 483.52'
P. C. 181+13.56
P. T. 185+97.09
NO SUPER

STA. 174+00.00 HWY. 167 = STA. 10+00.00 OLD CALION ROAD

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STAGE 2 MAINTENANCE OF TRAFFIC

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.		070280	69	336

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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STAGE 2:
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

HWY. 167
P. I. 183+55.36
Δ = 2°25'03" LT.
D = 0°30'00"
T = 241.80'
L = 483.52'
P.C. 181+13.56
P.T. 185+97.09
NO SUPER

HWY. 167
P. I. 188+91.18
Δ = 2°25'13" RT.
D = 0°30'00"
T = 242.07'
L = 484.07'
P.C. 186+49.11
P.T. 191+33.18
NO SUPER

40'
15 TRAFFIC DRUMS
(20' O.C.)
120' 120'

TRAFFIC DRUMS
(@ 50' O.C.)

TRAFFIC DRUMS
(@ 20' O.C.)

(1) G20-2
(48" x 24")
END ROAD WORK

ROAD WORK AHEAD
(48" x 48")
(1-OZM (1))

UNION 801-PVT

1230' TAPER

N 36°53'04" E
N 39°18'17" E
HWY. 167

T.C.E.

CONST. LIMITS
PROP. R/W
P.C.
P.I.
P.T.
POB
24'
16'
13'
17.50'
12.00'

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STAGE 2
MAINTENANCE OF TRAFFIC

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.		070280	70	336

(2) MAINTENANCE OF TRAFFIC

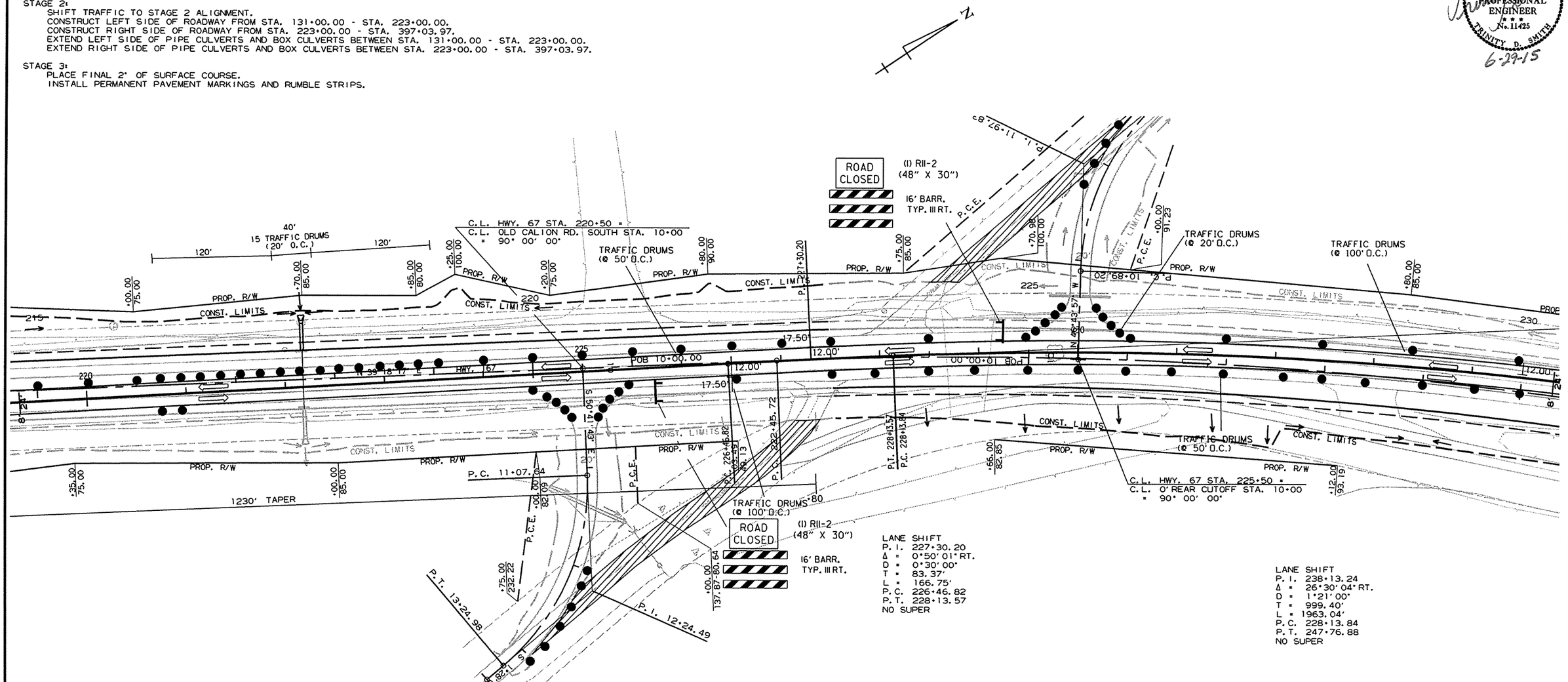
SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



STAGE 2
MAINTENANCE OF TRAFFIC

3/31/2015

R070280.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.		070280	71	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

LANE SHIFT
P. I. 238+13.24
Δ = 26°30'04" RT.
D = 1°21'00"
T = 999.40'
L = 1963.04'
P.C. 228+13.84
P.T. 247+76.88
NO SUPER

HWY. 167
P. I. 233+63.12
Δ = 27°24'02" RT.
D = 1°15'00"
T = 1117.40'
L = 2192.04'
P.C. 222+45.72
P.T. 244+37.76
e = 0.037'/'
Ls = 540'

RELOCATE PRECAST CONCRETE BARRIER = 326 LIN. FT.

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
STA. 246+99.50 TO 248+10.50 = 444 LIN. FT.

(3) OM-3L (12"X 36")

(4) OM-3R (12"X 36")

(1) W8-1 (30" X 30")

(1) W20-1 (48" x 48") ROAD WORK AHEAD

BUMP

(1) G20-2 (48" x 24") END ROAD WORK

(1) R11-2 (48" X 30") ROAD CLOSED

16' BARR. TYP. III RT.

(1) R11-2 (48" X 30") ROAD CLOSED

16' BARR. TYP. III LT.

TRAFFIC DRUMS (@ 50' O.C.)

TRAFFIC DRUMS (@ 20' O.C.)

STA. 255+02.00 HWY. 167 =
STA. 10+00.00 TIMBER RIDGE LANE

STAGE 2
MAINTENANCE OF TRAFFIC

3/31/2015

R070280.DGN

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	72	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

HWY. 167
PI = 266+31.00
Δ = 10°27'24" LT.
D = 1°30'00"
T = 349.52'
L = 697.10'
PC = 262+81.48
PT = 269+78.59
e = 0.043'/'
Ls = 540'

(1) W20-1 (48" x 48")

ROAD WORK AHEAD

END ROAD WORK

(1) G20-2 (48" x 24")

TRAFFIC DRUMS (@ 50' O.C.)

TRAFFIC DRUMS (@ 20' O.C.)

RELOCATING PRECAST CONCRETE BARRIER - 226 LIN. FT.

(4) OM-3R (12"X 36")

(3) OM-3L (12"X 36")

HWY. 167
PI = 281+13.45
Δ = 8°04'43" LT.
D = 1°30'00"
T = 269.73'
L = 538.58'
PC = 278+43.72
PT = 283+82.29
e = 0.043'/'
Ls = 540'

STAGE 2

40'
15 TRAFFIC DRUMS (20' O.C.)
120' 120'

STAGE 2
MAINTENANCE OF TRAFFIC

3/31/2015

R070280.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.		070280	73	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

* 20 TRAFFIC DRUMS (20' O.C.)
STA. 290+70-295+00

(1) W20-1 (48" x 48")
ROAD WORK AHEAD

END ROAD WORK
(1) G20-2 (48" x 24")

TRAFFIC DRUMS (@ 50' O.C.)

40' 15 TRAFFIC DRUMS (20' O.C.) 120'

40' 12 TRAFFIC DRUMS (20' O.C.) 120'

TRAFFIC DRUMS (@ 20' O.C.)

(4) OM-3R (12"X 36")

(3) OM-3L (12"X 36")

RELOCATING PRECAST CONCRETE BARRIER - 226 LIN. FT.

HWY. 167
N 48°10'12" E

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

HWY. 167
PI = 314+88.98
Δ = 16°04'01" LT.
D = 2°30'00"
T = 323.46'
L = 642.68'
PC = 311+65.52
PT = 318+08.20
e = 0.067'/'
Ls = 540'

P.C. 311+65.52
P.T. 318+08.20
P.I. 314+88.98
N 32°06'11" E

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STAGE 2
MAINTENANCE OF TRAFFIC

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.		070280	74	336

(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

TRAFFIC DRUMS (@ 50' O.C.)
TRAFFIC DRUMS (@ 20' O.C.)
40' 12 TRAFFIC DRUMS (20' O.C.)
(4) OM-3R (12"X 36")
(3) OM-3L (12"X 36")

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER - 666 LIN. FT.

HWY. 167
PI = 341+43.30
Δ = 18°27'58" RT.
D = 3°00'00"
T = 310.46'
L = 615.54'
PC = 338+32.84
PT = 344+48.38
e = 0.077'/'
Ls = 540'

3/31/2015

R070280.DGN

STAGE 2
MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

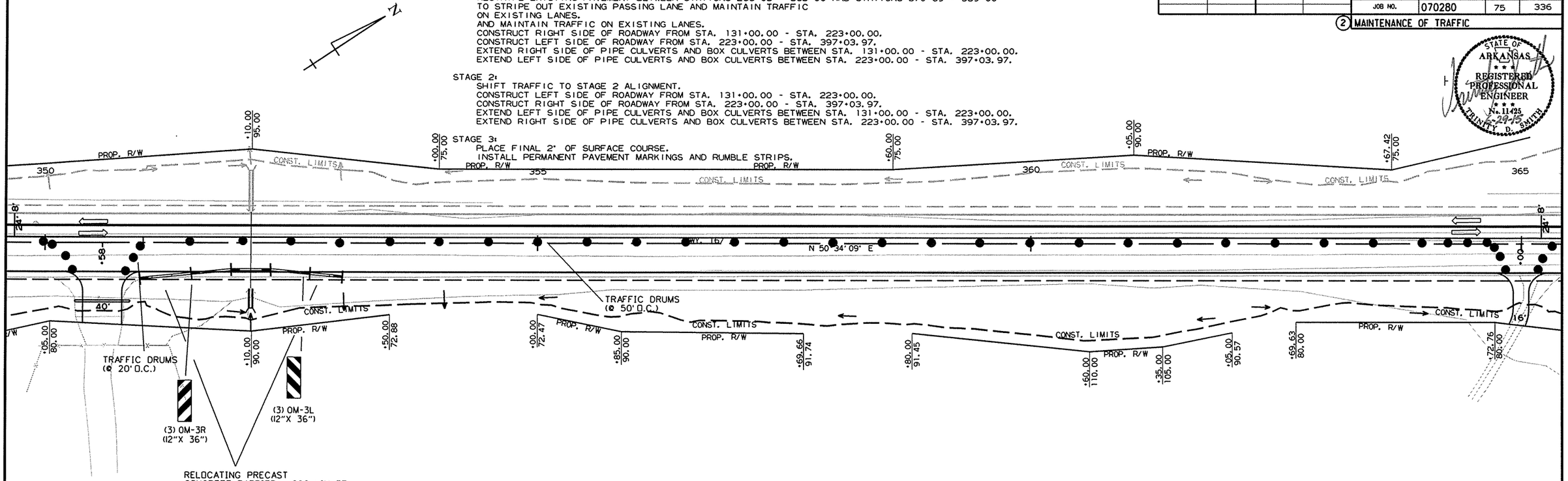
STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
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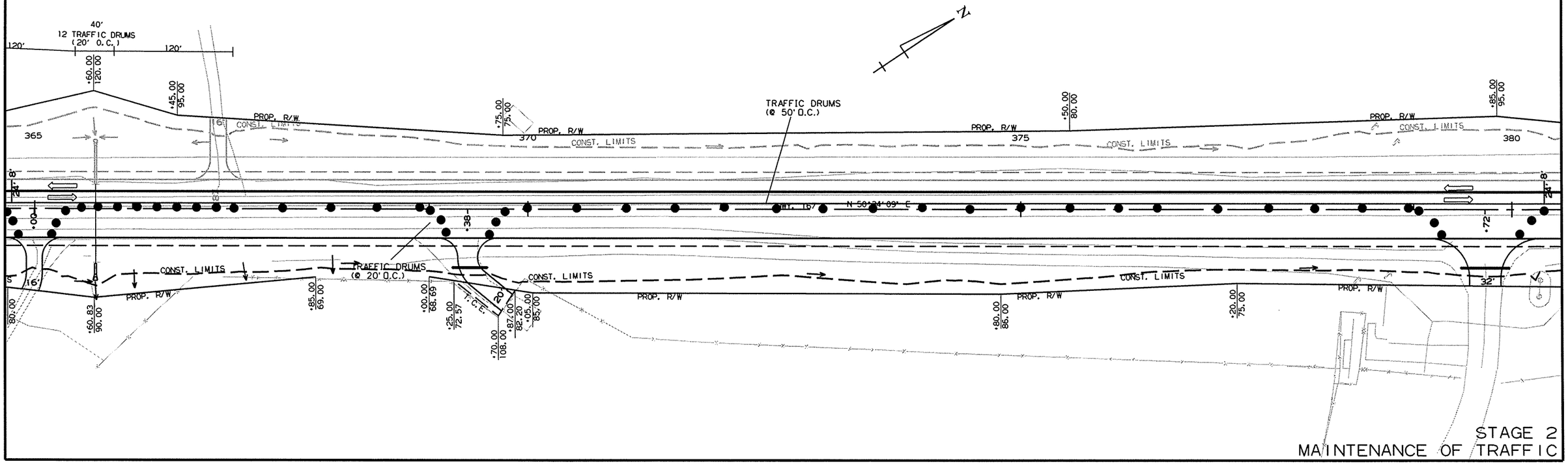
STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	75	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
5-29-15
TRINITY D. SMITH





3/31/2015

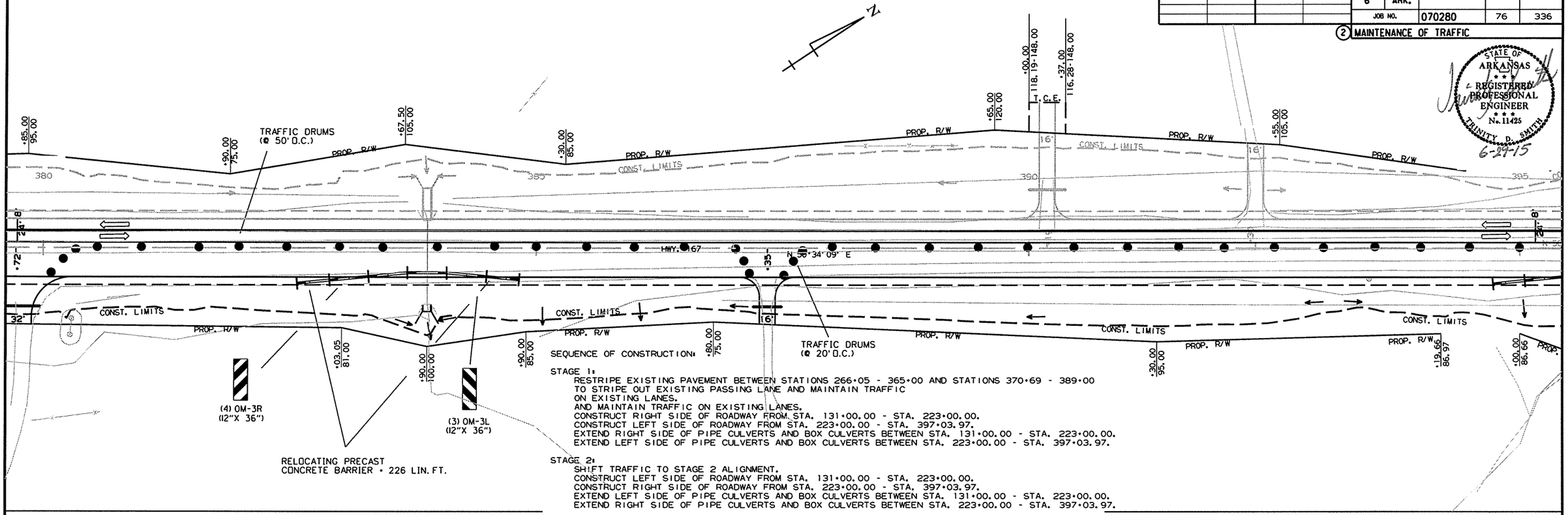
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STAGE 2
MAINTENANCE OF TRAFFIC

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.		070280	76	336

(2) MAINTENANCE OF TRAFFIC

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

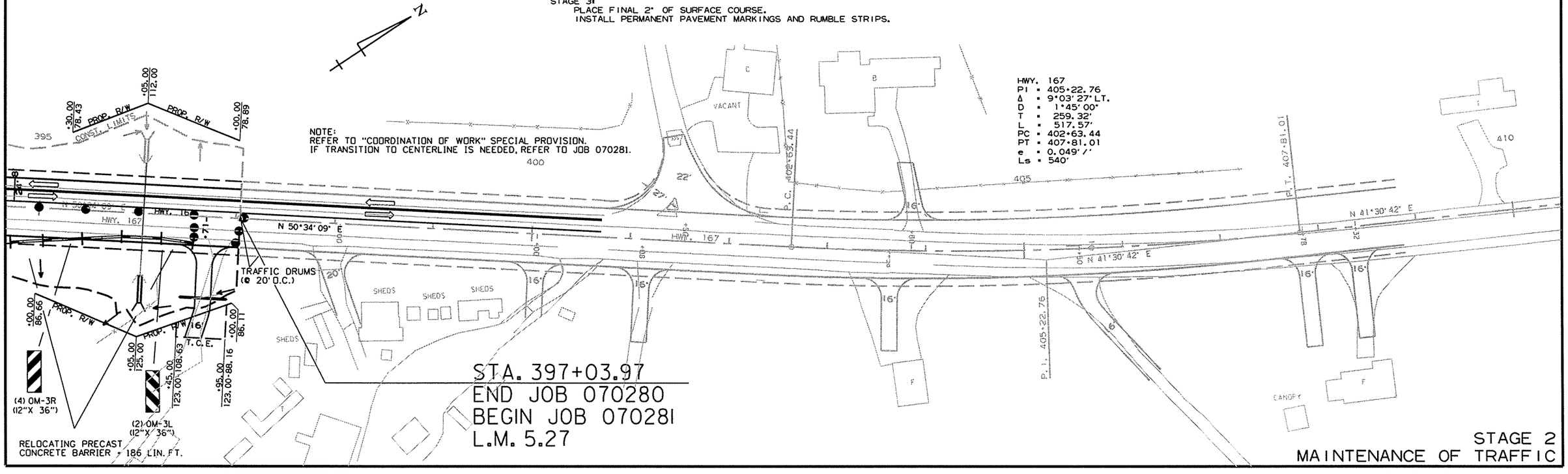


SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
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STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.



STAGE 2
MAINTENANCE OF TRAFFIC

3/31/2015

R070280.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.		070280	77	336

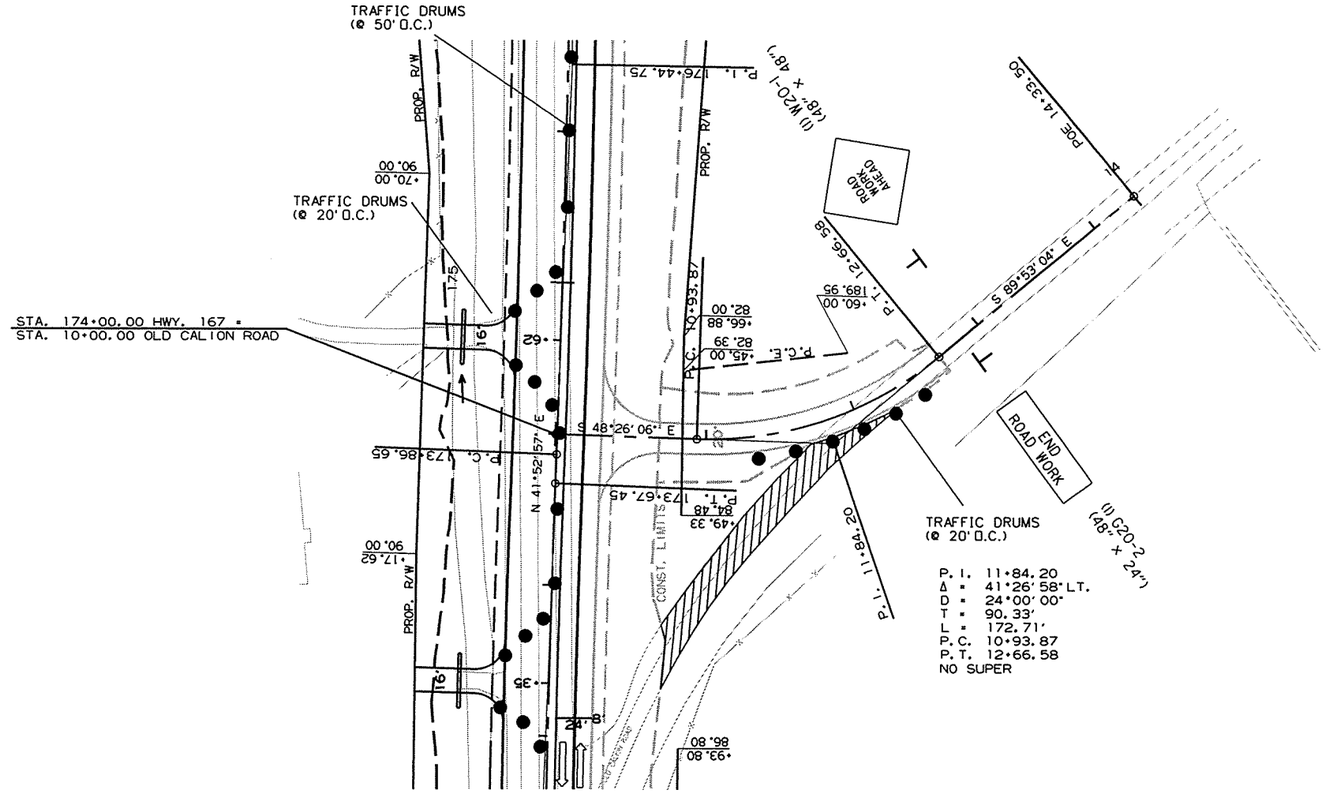
(2) MAINTENANCE OF TRAFFIC

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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STAGE 2:
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CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

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STAGE 2
MAINTENANCE OF TRAFFIC

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.		070280	78	336

(2) MAINTENANCE OF TRAFFIC

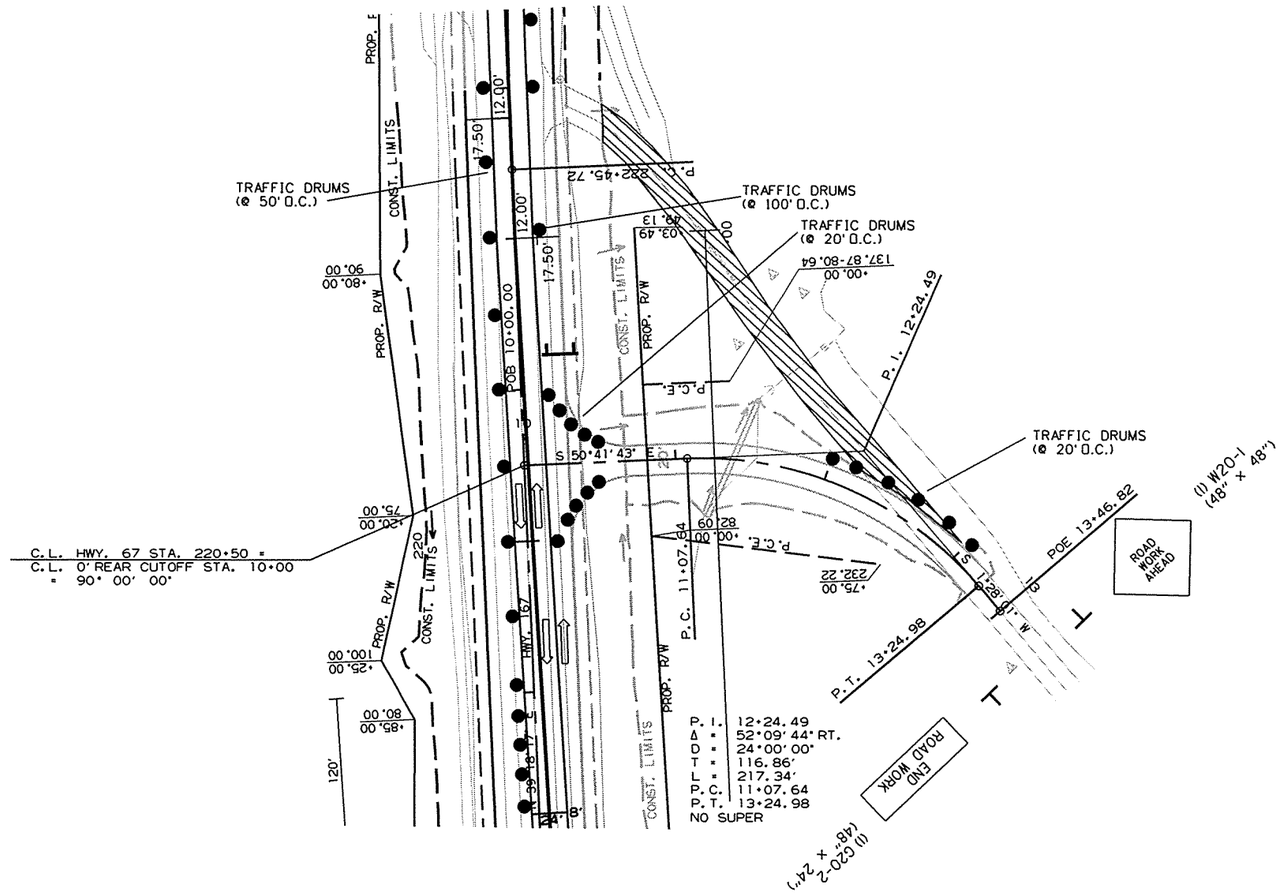
SEQUENCE OF CONSTRUCTION:

STAGE 1:
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STAGE 2:
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STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



STAGE 2
MAINTENANCE OF TRAFFIC

3/31/2015

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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.		070280	79	336

(2) MAINTENANCE OF TRAFFIC

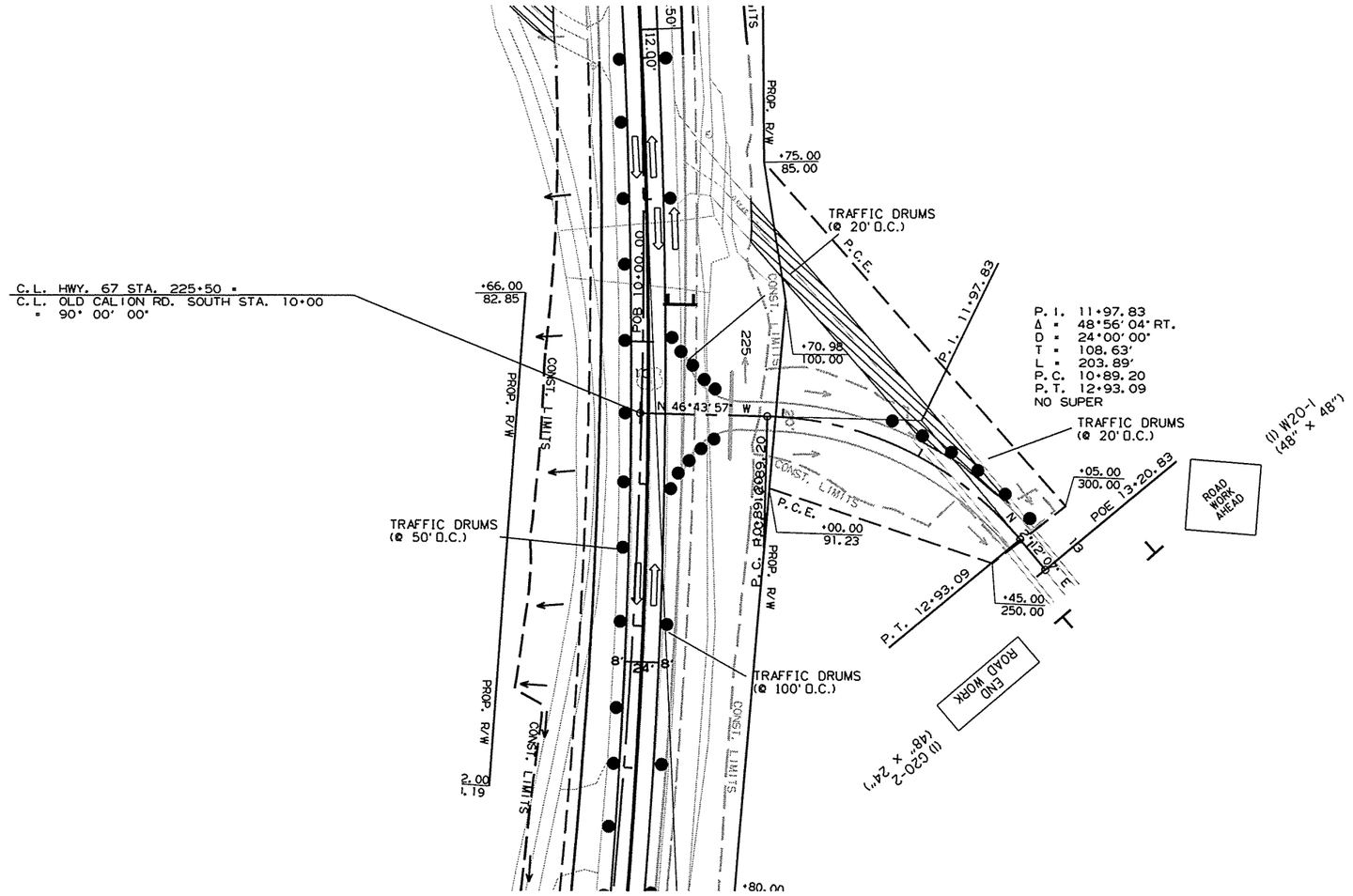
SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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STAGE 2:
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STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



STAGE 2
MAINTENANCE OF TRAFFIC

3/31/2015

R070280.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.		070280	80	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

THERMOPLASTIC PAVEMENT MARKINGS:
4" YELLOW SKIP = 13697 LIN. FT.
4" YELLOW SOLID = 54968 LIN. FT.
4" WHITE SKIP = 56671 LIN. FT.
4" WHITE SOLID = 14764 LIN. FT.

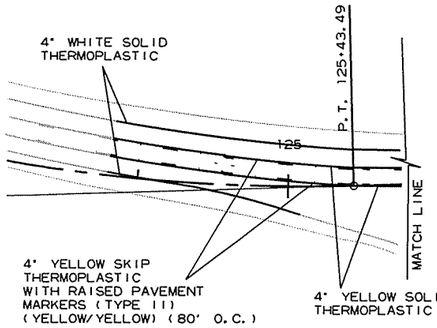
4" DBL. YELLOW SOLID
SIDE ROADS = 1768 LIN. FT.
HWY. 7 & HWY. 167 INTERSECTION = 200 LIN. FT.

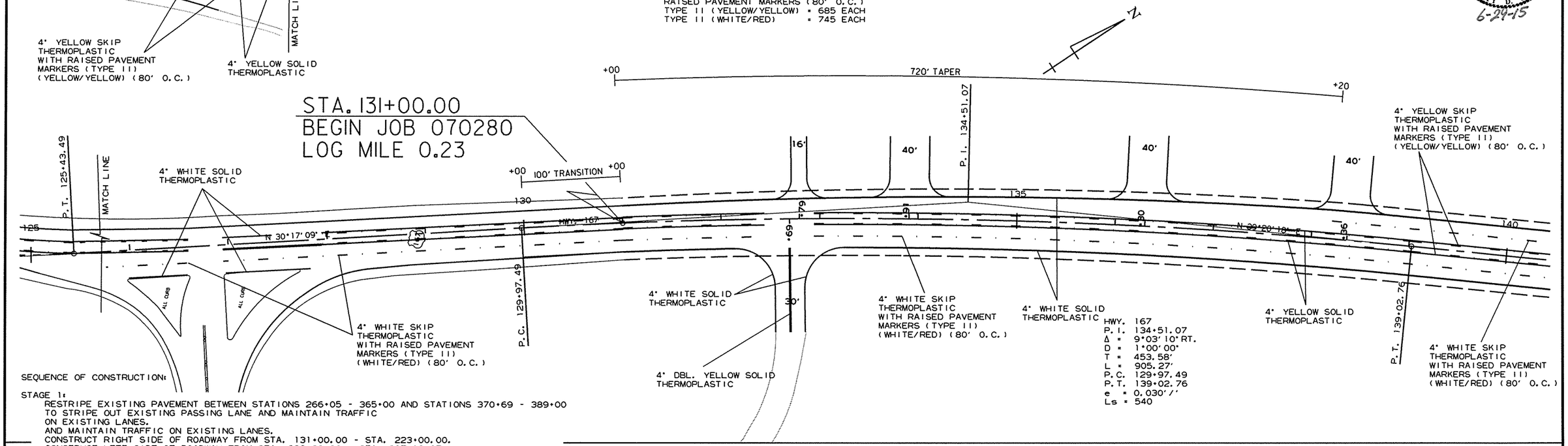
REMOVAL OF PERMANENT PAVEMENT MARKINGS = 1140 LIN. FT.
REMOVAL OF PERMANENT PAVEMENT MARKINGS (WORDS) = 2 EACH
REMOVAL OF PERMANENT PAVEMENT MARKINGS (ARROWS) = 3 EACH

REMOVAL OF CONSTRUCTION PAVEMENT MARKING = 3280 LIN. FT.

RAISED PAVEMENT MARKERS (80' O.C.)
TYPE II (YELLOW/YELLOW) = 685 EACH
TYPE II (WHITE/RED) = 745 EACH

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15





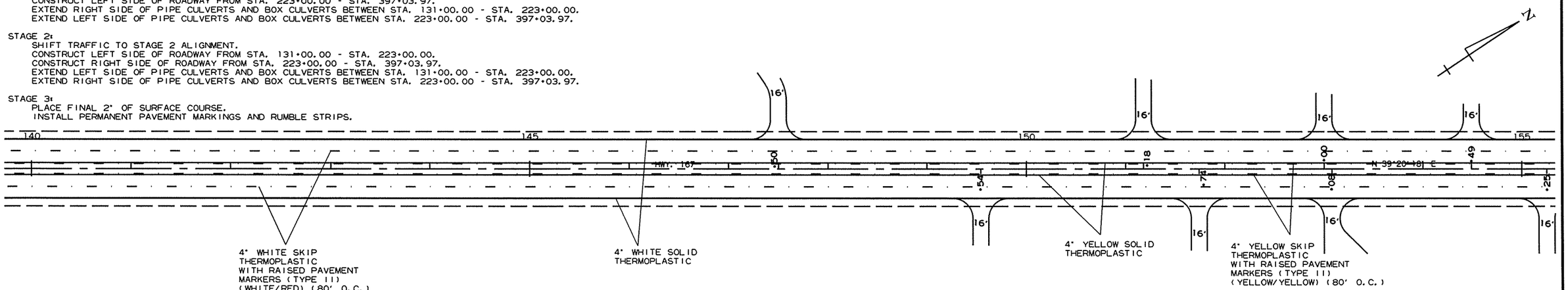
HWY. 167
P.I. 134+51.07
Δ = 9°03' 10" RT.
D = 1°00' 00"
T = 453.58'
L = 905.27'
P.C. 129+97.49
P.T. 139+02.76
e = 0.030'/'
Ls = 540

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.



NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PLASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.

3/31/2015

R070280.DGN

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.		070280	81	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

SEQUENCE OF CONSTRUCTION:

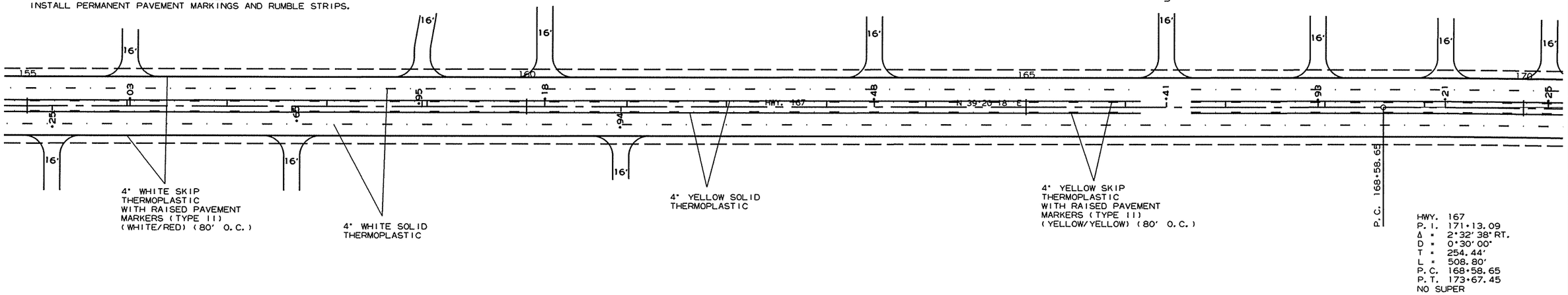
STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PLASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.

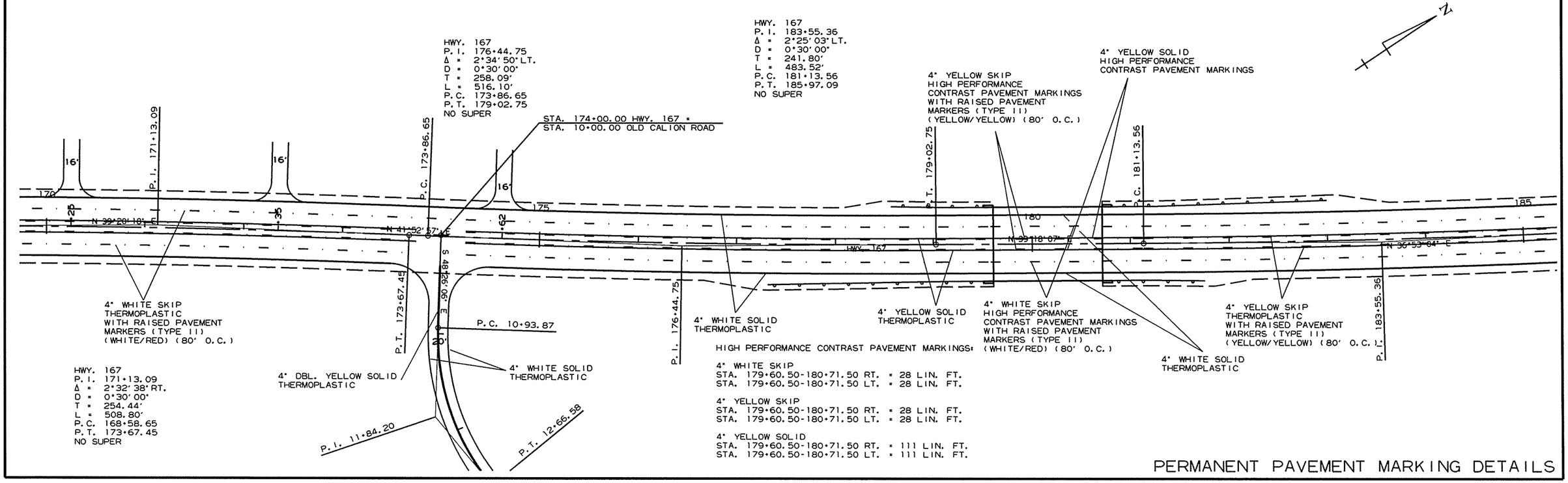
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



HWY. 167
P. I. 171+13.09
Δ = 2°32'38" RT.
D = 0°30'00"
T = 254.44'
L = 508.80'
P.C. 168+58.65
P.T. 173+67.45
NO SUPER

HWY. 167
P. I. 176+44.75
Δ = 2°34'50" LT.
D = 0°30'00"
T = 258.09'
L = 516.10'
P.C. 173+86.65
P.T. 179+02.75
NO SUPER

HWY. 167
P. I. 183+55.36
Δ = 2°25'03" LT.
D = 0°30'00"
T = 241.80'
L = 483.52'
P.C. 181+13.56
P.T. 185+97.09
NO SUPER



HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS:

4" WHITE SKIP
STA. 179+60.50-180+71.50 RT. = 28 LIN. FT.
STA. 179+60.50-180+71.50 LT. = 28 LIN. FT.

4" YELLOW SKIP
STA. 179+60.50-180+71.50 RT. = 28 LIN. FT.
STA. 179+60.50-180+71.50 LT. = 28 LIN. FT.

4" YELLOW SOLID
STA. 179+60.50-180+71.50 RT. = 111 LIN. FT.
STA. 179+60.50-180+71.50 LT. = 111 LIN. FT.

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PERMANENT PAVEMENT MARKING DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

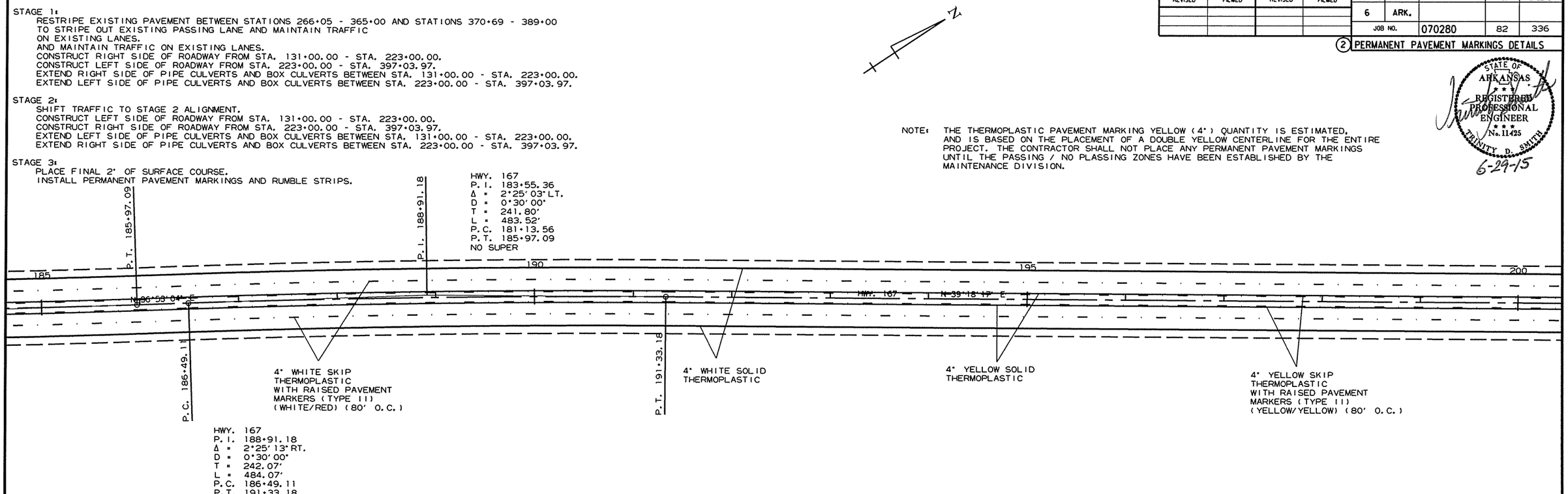
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

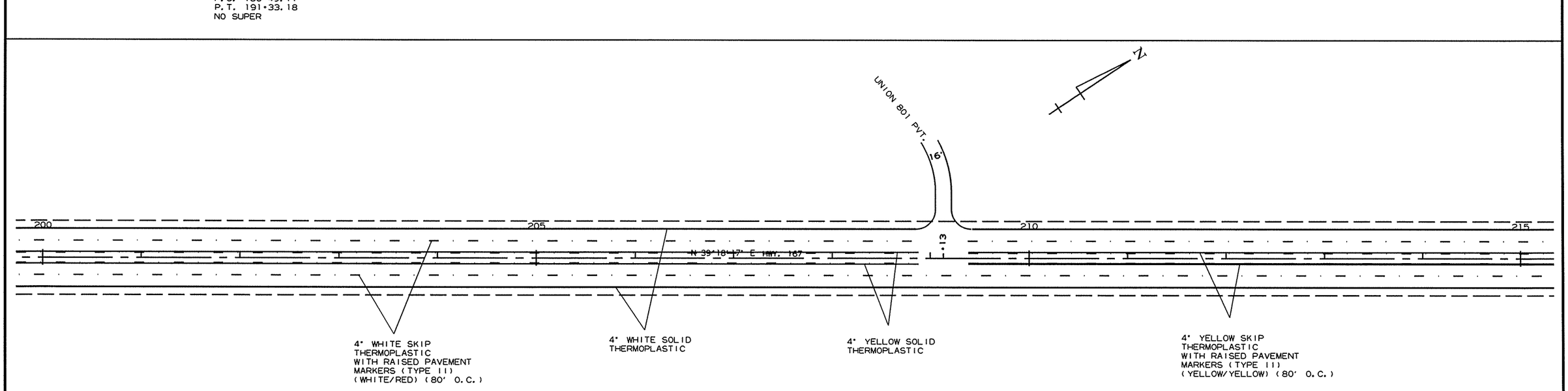
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070280	82	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PLASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.





3/31/2015

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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.		070280	83	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

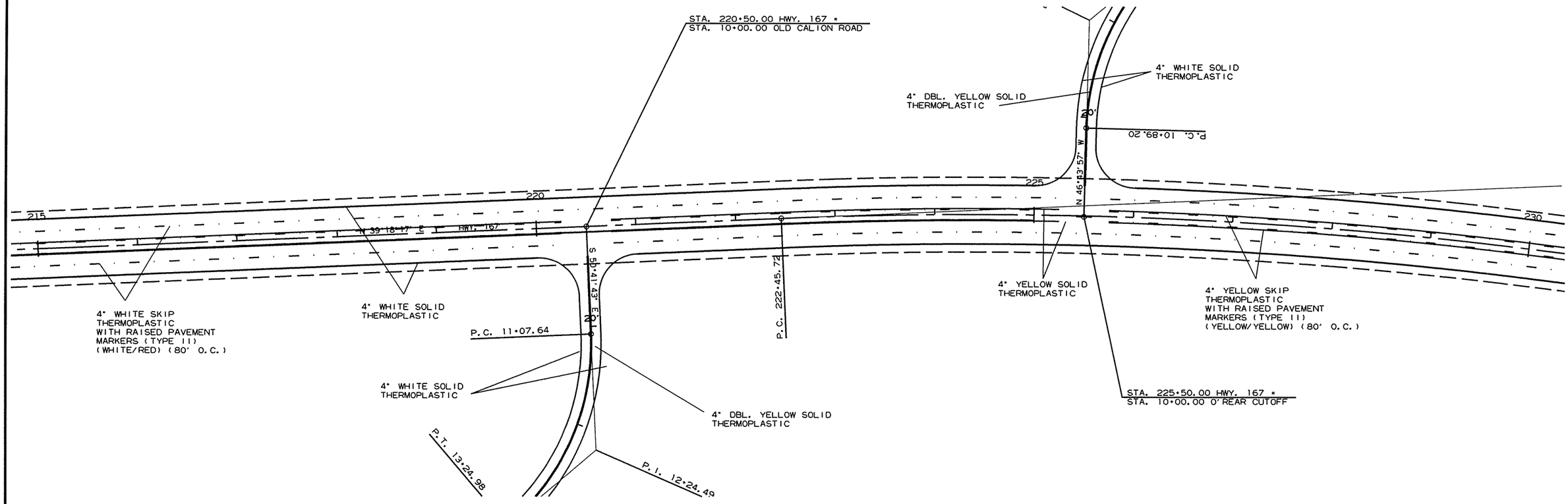
SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES,
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PLASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.

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R070280.DGN

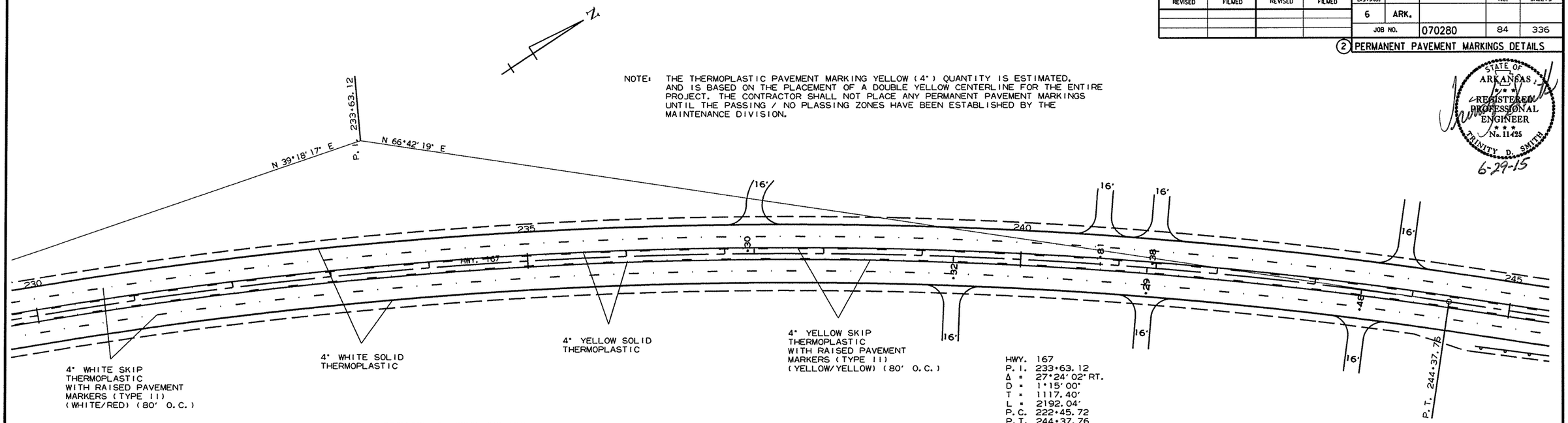
PERMANENT PAVEMENT MARKING DETAILS

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.		070280	84	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.



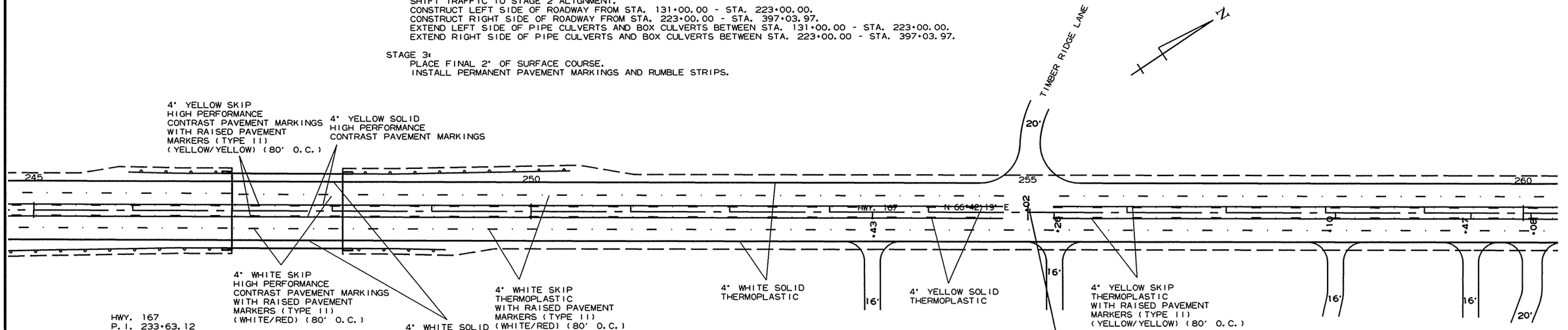
HWY. 167
P. I. 233+63.12
Δ = 27°24'02" RT.
D = 1°15'00"
T = 1117.40'
L = 2192.04'
P.C. 222+45.72
P.T. 244+37.76
e = 0.037'/'
Ls = 540'

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.



HWY. 167
P. I. 233+63.12
Δ = 27°24'02" RT.
D = 1°15'00"
T = 1117.40'
L = 2192.04'
P.C. 222+45.72
P.T. 244+37.76
e = 0.037'/'
Ls = 540'

HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS:

4" WHITE SKIP
STA. 246+99.50-248+10.50 RT. = 28 LIN. FT.
STA. 246+99.50-248+10.50 LT. = 28 LIN. FT.

4" YELLOW SKIP
STA. 246+99.50-248+10.50 RT. = 28 LIN. FT.
STA. 246+99.50-248+10.50 LT. = 28 LIN. FT.

4" YELLOW SOLID
STA. 246+99.50-248+10.50 RT. = 111 LIN. FT.
STA. 246+99.50-248+10.50 LT. = 111 LIN. FT.

STA. 255+02.00 HWY. 167 =
STA. 10+00.00 TIMBER RIDGE LANE

3/31/2015

R070280.DGN

PERMANENT PAVEMENT MARKING DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

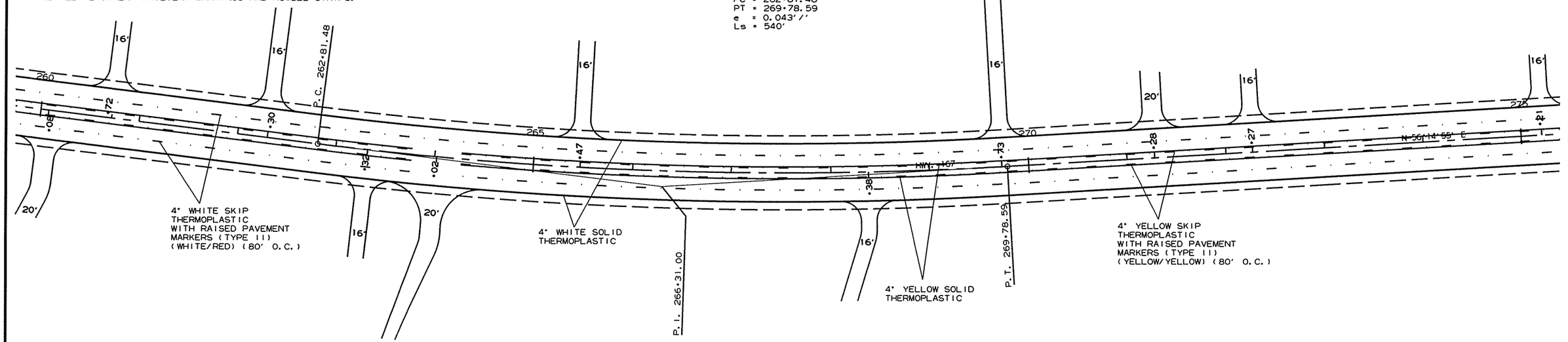
STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

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.		070280	85	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

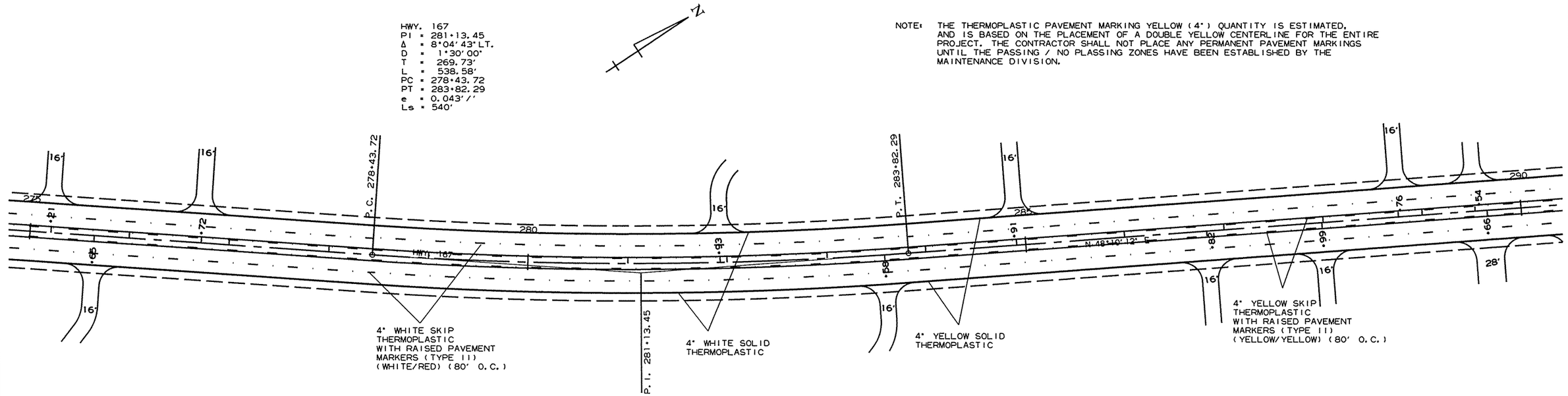
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

HWY. 167
PI = 266+31.00
Δ = 10°27'24" LT.
D = 1°30'00"
T = 349.52'
L = 697.10'
PC = 262+81.48
PT = 269+78.59
e = 0.043'/'
Ls = 540'



HWY. 167
PI = 281+13.45
Δ = 8°04'43" LT.
D = 1°30'00"
T = 269.73'
L = 538.58'
PC = 278+43.72
PT = 283+82.29
e = 0.043'/'
Ls = 540'

NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.



3/31/2015

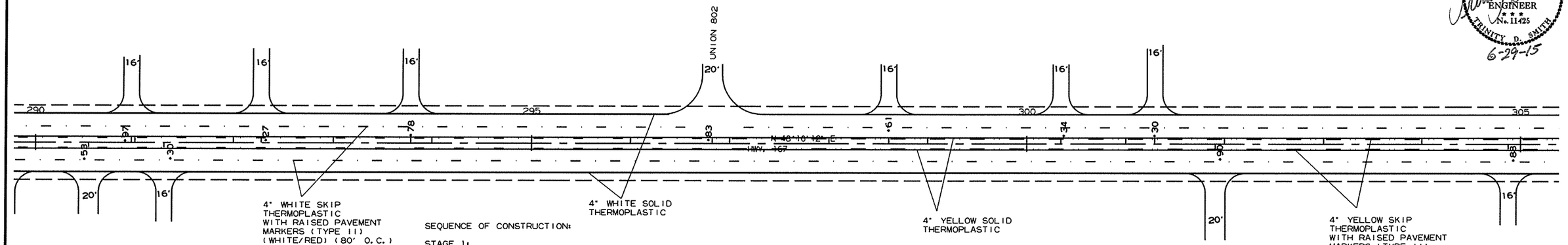
R070280.DGN

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.		070280	86	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



SEQUENCE OF CONSTRUCTION:

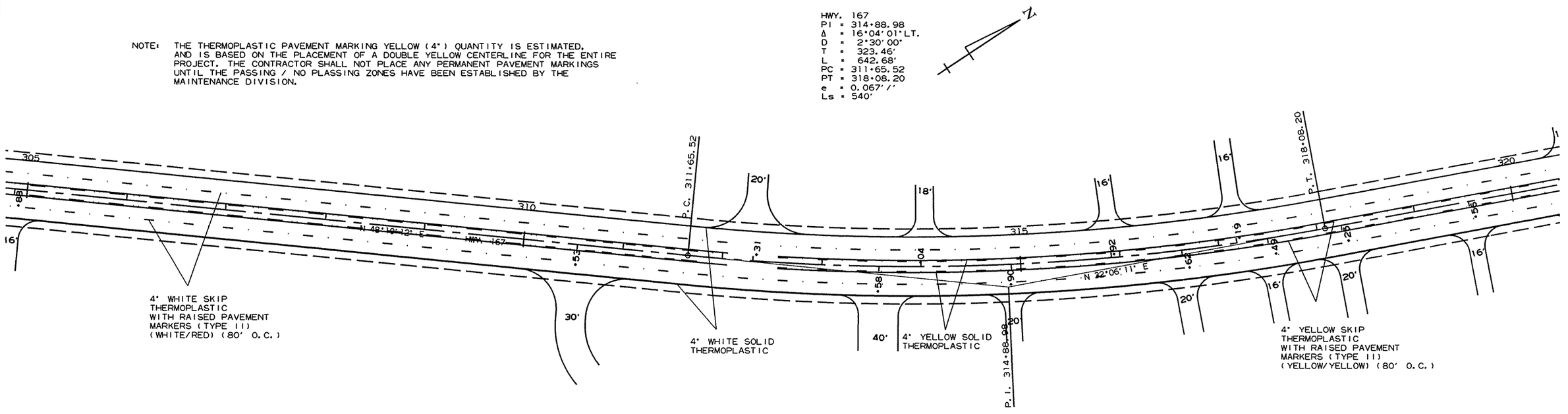
STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PLASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.

HWY. 167
PI = 314+88.98
Δ = 16°04'01" LT.
D = 2°30'00"
T = 323.46'
L = 642.68'
PC = 311+65.52
PT = 318+08.20
e = 0.067'/'
Ls = 540'



3/31/2015

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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.		070280	87	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

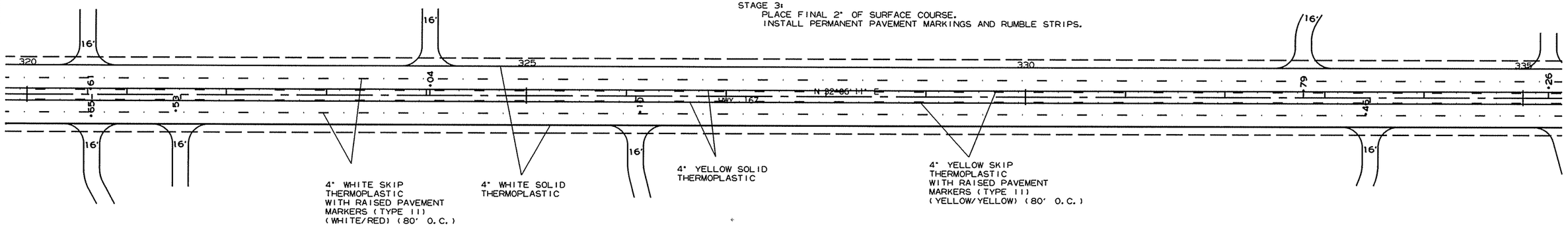
SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
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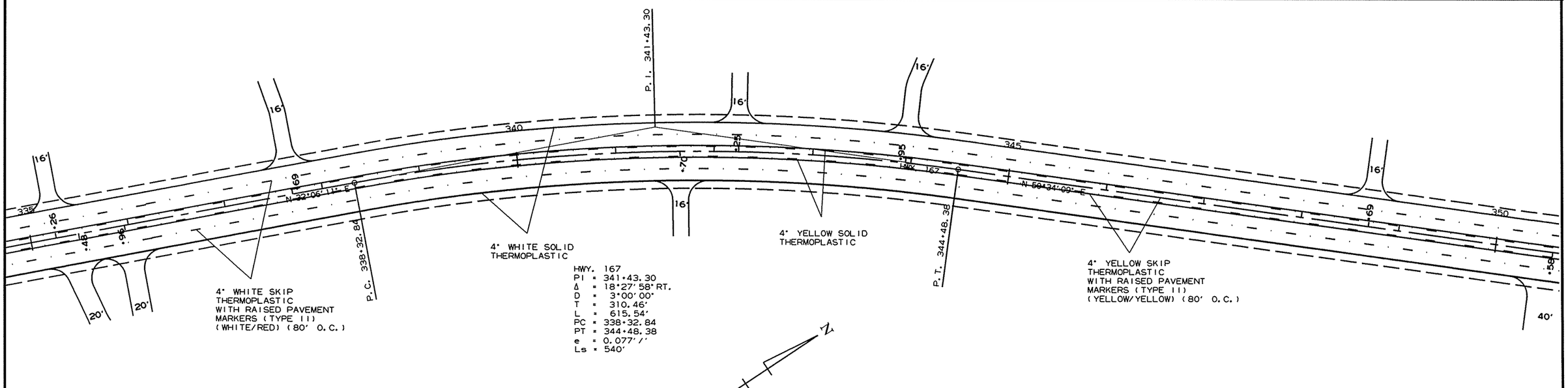
STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PLASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.



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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.		070280	88	336

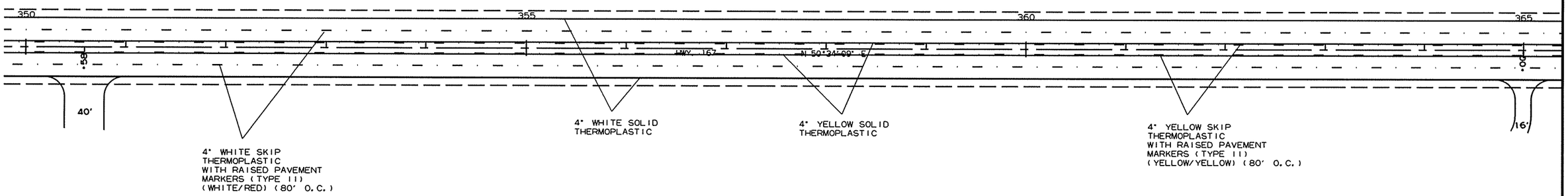
(2) PERMANENT PAVEMENT MARKINGS DETAILS

SEQUENCE OF CONSTRUCTION:

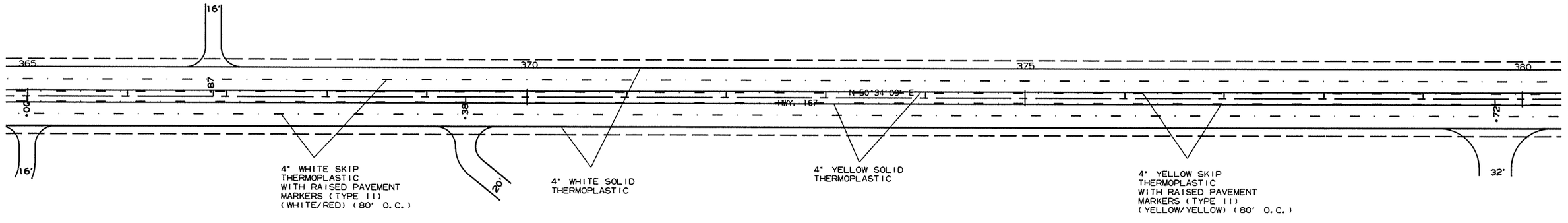
STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.



NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-27-15

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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.		070280	89	336

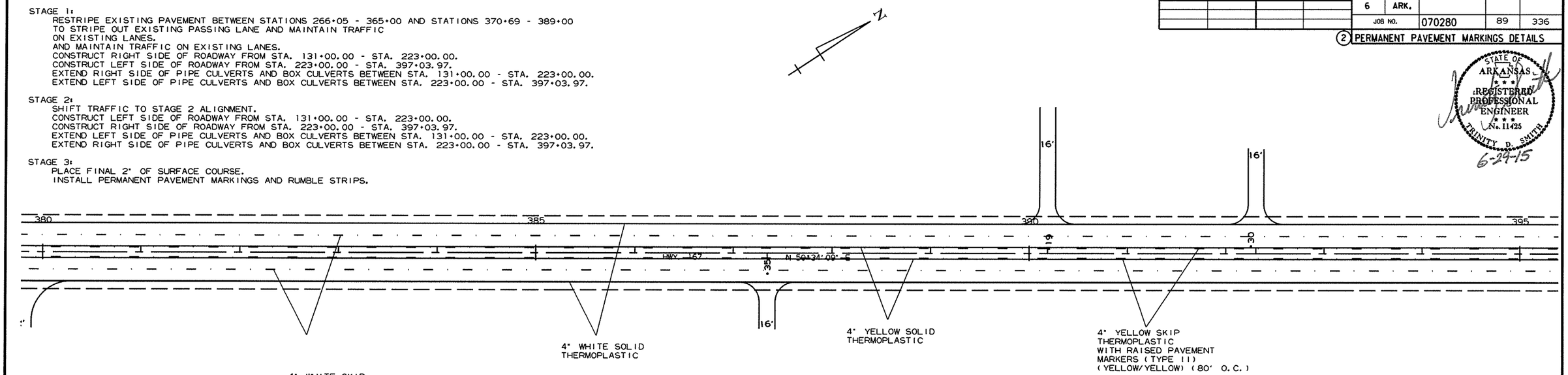
(2) PERMANENT PAVEMENT MARKINGS DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00
TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC
ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
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EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

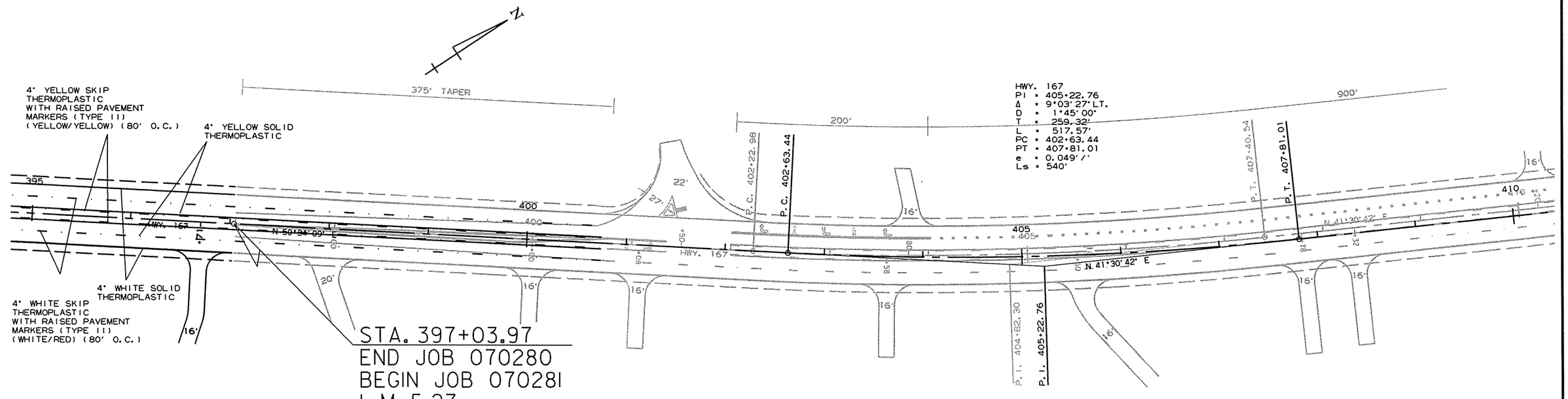
STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.



NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PLASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15



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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.		070280	90	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

SEQUENCE OF CONSTRUCTION:

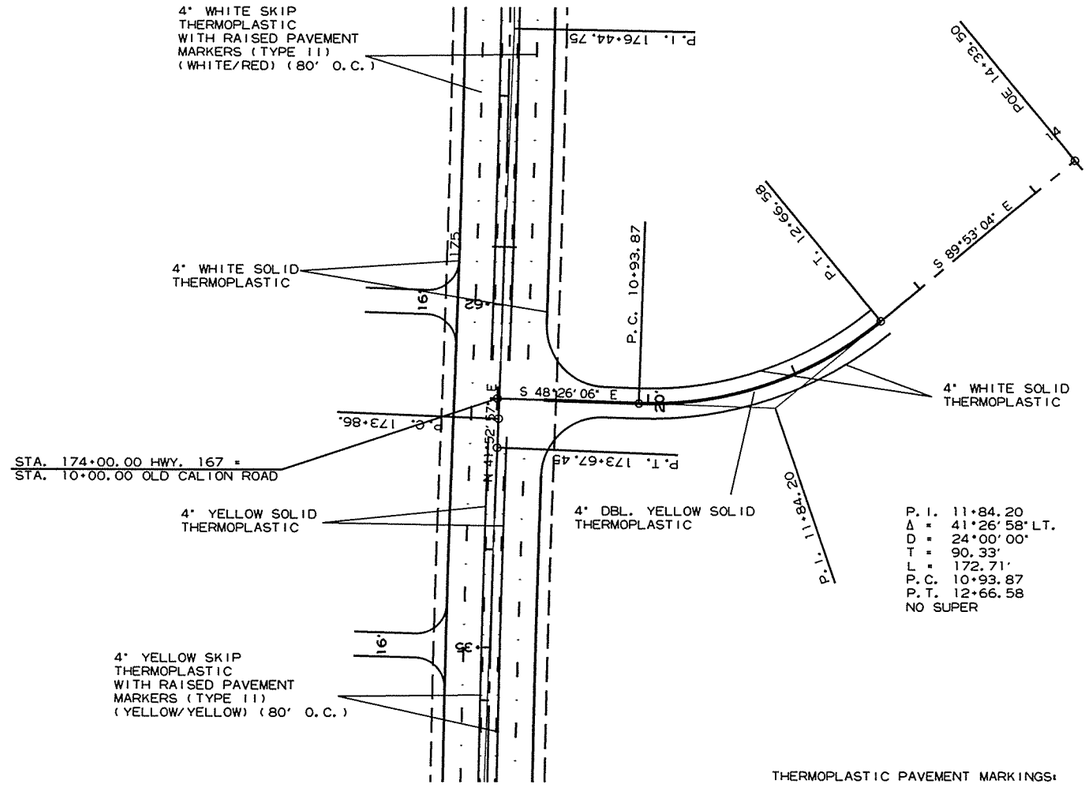
STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00
TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC
ON EXISTING LANES.
AND MAINTAIN TRAFFIC ON EXISTING LANES.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 2:
SHIFT TRAFFIC TO STAGE 2 ALIGNMENT.
CONSTRUCT LEFT SIDE OF ROADWAY FROM STA. 131+00.00 - STA. 223+00.00.
CONSTRUCT RIGHT SIDE OF ROADWAY FROM STA. 223+00.00 - STA. 397+03.97.
EXTEND LEFT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 131+00.00 - STA. 223+00.00.
EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.



P.I. 11+84.20
Δ = 41°26'58" LT.
D = 24°00'00"
T = 90.33'
L = 172.71'
P.C. 10+93.87
P.T. 12+66.58
NO SUPER

THERMOPLASTIC PAVEMENT MARKINGS:

OLD CALION ROAD
4" WHITE SOLID EDGE LINES
STA. 10+00-12+67 RT. = 166 LIN. FT.
STA. 10+00-12+67 LT. = 166 LIN. FT.

4" YELLOW SOLID
STA. 10+00-12+67 RT. = 472 LIN. FT.

3/31/2015

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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.		070280	91	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

SEQUENCE OF CONSTRUCTION:

STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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STAGE 2:
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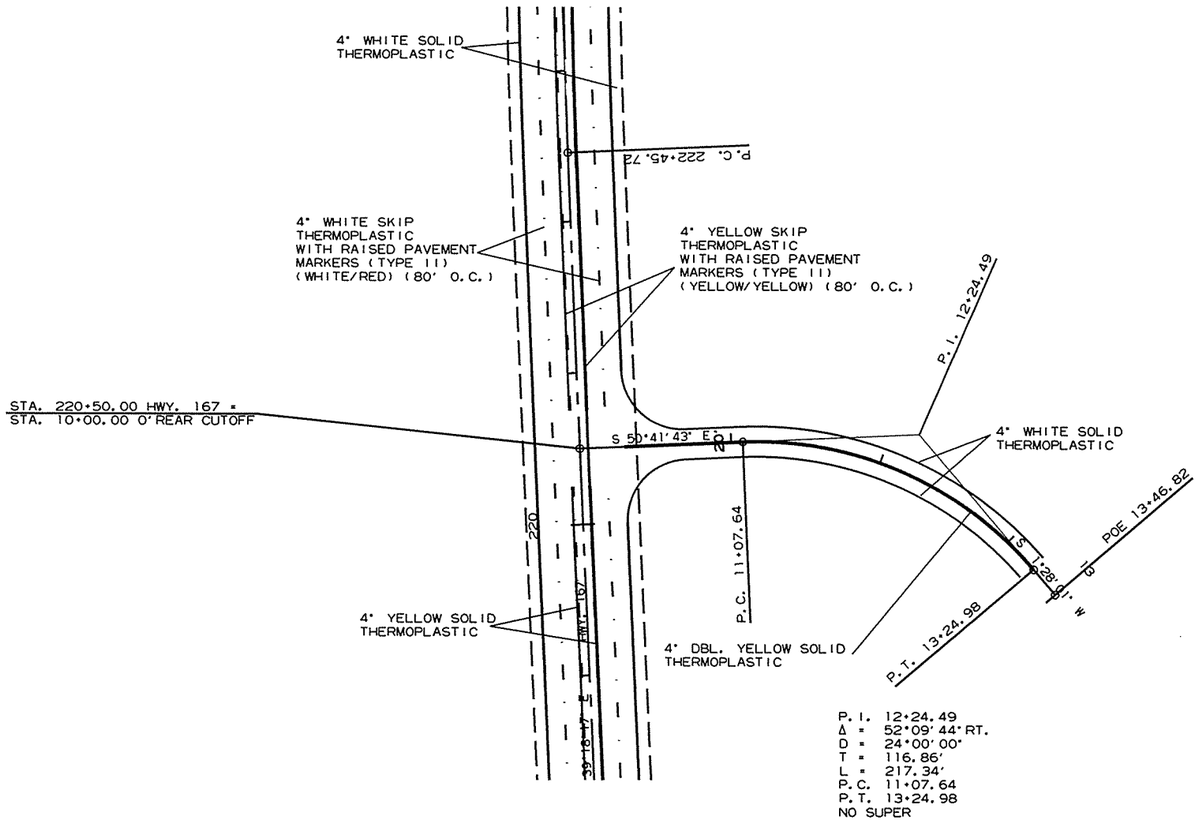
STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

THERMOPLASTIC PAVEMENT MARKINGS:

0' REAR CUTOFF
4" WHITE SOLID EDGE LINES
STA. 10+00-12+93 RT. = 307 LIN. FT.
STA. 10+00-12+93 LT. = 307 LIN. FT.

4" YELLOW SOLID
STA. 10+00-12+93 RT. = 590 LIN. FT.



P.I. 12+24.49
Δ = 52°09' 44" RT.
D = 24°00' 00"
T = 116.86'
L = 217.34'
P.C. 11+07.64
P.T. 13+24.98
NO SUPER

NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PLASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.

3/31/2015

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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.		070280	92	336

(2) PERMANENT PAVEMENT MARKINGS DETAILS

SEQUENCE OF CONSTRUCTION:

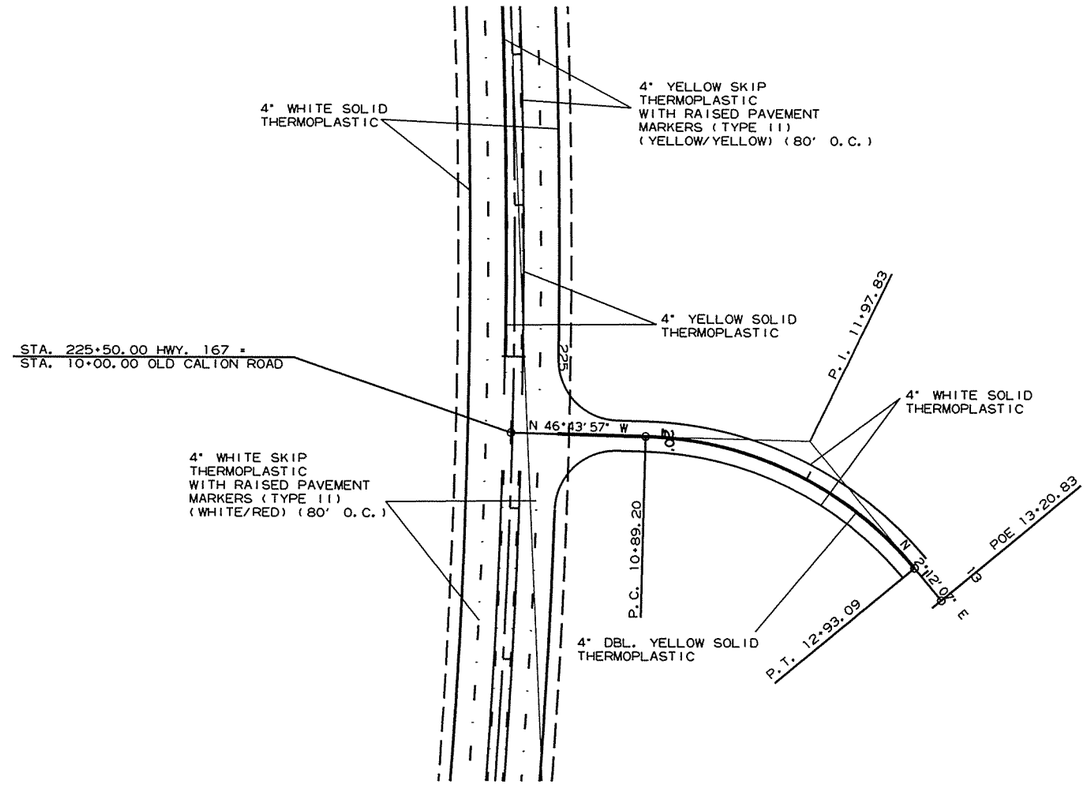
STAGE 1:
RESTRIPE EXISTING PAVEMENT BETWEEN STATIONS 266+05 - 365+00 AND STATIONS 370+69 - 389+00 TO STRIPE OUT EXISTING PASSING LANE AND MAINTAIN TRAFFIC ON EXISTING LANES.
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EXTEND RIGHT SIDE OF PIPE CULVERTS AND BOX CULVERTS BETWEEN STA. 223+00.00 - STA. 397+03.97.

STAGE 3:
PLACE FINAL 2" OF SURFACE COURSE.
INSTALL PERMANENT PAVEMENT MARKINGS AND RUMBLE STRIPS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

NOTE: THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED, AND IS BASED ON THE PLACEMENT OF A DOUBLE YELLOW CENTERLINE FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT PLACE ANY PERMANENT PAVEMENT MARKINGS UNTIL THE PASSING / NO PLASSING ZONES HAVE BEEN ESTABLISHED BY THE MAINTENANCE DIVISION.



P.I. 11+97.83
Δ = 48°56'04" RT.
D = 24°00'00"
T = 108.63'
L = 203.89'
P.C. 10+89.20
P.T. 12+93.09
NO SUPER

THERMOPLASTIC PAVEMENT MARKINGS:

OLD CALION ROAD
4" WHITE SOLID EDGE LINES
STA. 10+00-13+25 RT. = 277 LIN. FT.
STA. 10+00-13+25 LT. = 277 LIN. FT.

4" YELLOW SOLID
STA. 10+00-13+25 RT. = 524 LIN. FT.

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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.		070280	93	336

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)
										RIGHT	LEFT				
			LIN. FT. - EACH			NO.	SQ. FT.	EACH				LIN. FT.		EACH	
W20-1	ROAD WORK 1500 FT.	48"x48"	3	3	3	3	48.0								
W20-1	ROAD WORK 1000 FT.	48"x48"	3	3	3	3	48.0								
W20-1	ROAD WORK 500 FT.	48"x48"	3	3	3	3	48.0								
W20-1	ROAD WORK AHEAD	48"x48"	10	10	10	10	160.0								
G20-2	END ROAD WORK	48"x24"	13	13	13	13	104.0								
G20-1	ROAD WORK NEXT xx MILES	60"x24"	2	2	2	2	20.0								
R11-2	ROAD CLOSED	48"x30"	10	7	10	10	100.0								
OM-3L	OBJECT MARKER	12"x36"	23	26	26	26	78.0								
OM-3R	OBJECT MARKER	12"x36"	30	35	35	35	105.0								
R4-1	DO NOT PASS	24"x30"	20	20	20	20	100.0								
RSP-1	SHOULDER CLOSED	48"x30"	2	2	2	2	20.0								
W8-9	SHOULDER DROP-OFF	36"X36"	2	2	2	2	18.0								
W8-1	BUMP	30"X30"		4	4	4	25.0								
	VERTICAL PANELS		211		211	211		211							
	TRAFFIC DRUMS		465	876	876	876			876						
	TYPE III BARRICADE-RT. (16')		8	4	8	8				128					
	TYPE III BARRICADE-LT. (16')		2	3	3	3					48				
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		1682	992	2674							2674			
	RELOCATING PRECAST CONCRETE BARRIER			1622	1622								1622		
	TEMPORARY IMPACT ATTENUATION BARRIER		3		3									3	
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		3		3										3
TOTALS:							874.0	211	876	128	48	2674	1622	3	3

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR 2 MILES. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	REMOVAL OF PERMANENT PAVEMENT MARKINGS	REMOVAL OF PERMANENT PAVEMENT MARKINGS		CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING		HIGH PERFORMANCE CONTRAST PAVEMENT MARKING	
					WORDS	ARROWS				TYPE II (WHITE)	TYPE II (YEL/YEL)	4" WHITE	4" YELLOW	WHITE (4")	YELLOW (4")
	LIN. FT. - EACH			LIN. FT.	EACH			LIN. FT.		EACH		LIN. FT.		LIN. FT.	
REMOVAL OF PERMANENT PAVEMENT MARKINGS	5260	3265	1140	9665											
REMOVAL OF PERMANENT PAVEMENT MARKINGS (WORDS)			2		2										
REMOVAL OF PERMANENT PAVEMENT MARKINGS (ARROWS)			3			3									
CONSTRUCTION PAVEMENT MARKINGS	112112	111732					223844								
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			3280					3280							
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	888	888							1776						
RAISED PAVEMENT MARKERS TYPE II (WHITE)			745							745					
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			685								685				
THERMOPLASTIC PAVEMENT MARKING WHITE (4")			71435									71435			
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")			70633										70633		
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")			120											120	
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4")			564												564
TOTALS:				9665	2	3	223844	3280	1776	745	685	71435	70633	120	564

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

4/9/2015

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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.		070280	94	336

(2) QUANTITIES

REMOVAL AND DISPOSAL OF PIPE CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
132+87.00	18" X 36' CM PIPE CULV'T ON LT.	1
133+73.00	18" X 77' CM PIPE CULV'T ON LT.	1
138+37.00	18" X 55' CM PIPE CULV'T ON LT.	1
151+07.00	18" X 25' CM PIPE CULV'T ON LT.	1
153+03.00	18" X 21' CM PIPE CULV'T ON LT.	1
153+07.00	18" X 20" CM PIPE CULV'T ON RT.	1
154+44.00	15" X 30' CAST IRON PIPE CULV'T ON LT.	1
155+16.00	18" X 24' CM PIPE CULV'T ON RT.	1
156+05.00	24" X 25' CM PIPE CULV'T ON LT.	1
156+05.00	18" X 22' RC PIPE CULV'T ON LT.	1
157+69.00	18" X 25' CM PIPE CULV'T ON RT.	1
158+99.00	36" X 21' CM PIPE CULV'T ON LT.	1
163+51.00	24" X 19' CM PIPIE CULV'T ON LT.	1
166+68.00	18" X 281' RC PIPE CULV'T ON LT.	1
167+93.00	18" X 34' PIPE CULV'T ON LT.	1
169+23.00	18" X 24' RC PIPE CULV'T ON LT.	1
170+13.00	18" X 25' RC PIPE CULV'T ON LT.	1
172+34.00	18" X 25' CORRAG. PL PIPE CULV'T ON LT.	1
174+64.00	18' X 25' CORRAG. PL PIPE CULV'T ON LT.	1
223+75.00	18" X 48' CM PIIPE CULV'T ON LT.	1
237+22.00	18" X 25' RC PIPE CULV'T ON LT.	1
240+55.00	18" X 21' CM PIPE CULV'T ON LT.	1
241+23.00	24" X 21' CM PIPE CULV'T ON RT.	1
241+26.00	18" X 21' CM PIPE CULV'T ON LT.	1
243+48.00	24" X 24' CM PIPE CULV'T ON RT	1
243+74.00	18" X 30'CM PIPE CULV'T ON LT	1
243+93.00	24" X 30' CM PIPE CULV'T ON LT.	1
253+42.00	24" X 25' RC PIPE CULV'T ON RT.	1
254+74.00	24" X 37' RC PIPE CULV'T ON LT.	1
255+26.00	42" X 31' CM PIPE CULV'T ON RT.	1
262+26.00	24" X 29' RC PIPE CULV'T ON LT.	1
268+42.00	18" X 25' CP PIPE CULV'T ON RT.	1
269+68.00	18" X 40' CM PIPE CULV'T ON LT.	1
272+26.00	18" X 29' RC PIPE CULV'T ON LT.	1
275+07.00	18" X 96' RC PIPE CULV'T ON LT.	1
257+95.00	18" X 25' CM PIPE CULV'T ON RT.	1
276+11.00	18" X 49' RC PIPE CULV'T ON LT.	1
281+74.00	18" X 33' RC PIPE CULV'T ON LT.	1
283+69.00	18" X 25' CM PIPE CULV'T ON LT.	1
284+90.00	18" X 25' RC PIPE CULV'T ON LT.	1
286+84.00	10" X 24' METAL PIPE CULV'T ON RT.	1
289+21.00	18" X 25' CP PIPE CULV'T ON LT.	1
289+71.00	18" X 49' RC PIPE CULV'T ON LT.	1
290+60.00	12" X 40' RC PIPE CULV'T ON RT.	1
291+17.00	18" X 49' RC PIPE CULV'T ON LT.	1
291+33.00	15" X 25' RC PIPE CULV'T ON RT.	1
296+87.00	18" X 40' RC PIPE CULV'T ON LT.	1
298+59.00	18" X 29' RC PIPE CULV'T ON LT.	1
300+27.00	18" X 25' RC PIPE CULV'T ON LT.	1
304+90.00	18" X 49' RM PIPE CULV'T ON RT.	1
313+68.00	18" X 25' CP PIPE CULV'T ON LT.	1
315+92.00	18" X 24' RC PIPE CULV'T ON LT.	1
316+66.00	12" X 34' RC PIPE CULV'T ON RT.	1
317+14.00	18" X 25' CM PIPE CULV'T ON LT.	1
317+49.00	12" X 25' CM PIPE CULV'T ON RT.	1
318+22.00	18" X 33' RC PIPE CULV'T ON RT.	1
319+53.00	18" X 21' CM PIPE CULV'T ON RT.	1
320+33.00	18" X 25' CP PIPE CULV'T ON RT.	1
320+54.00	18" X 25' CM PIPE CULV'T ON RT.	1
321+44.00	24" X 25' CP PIPE CULV'T ON RT.	1
324+01.00	18" X 25' CP PIPE CULV'T ON RT.	1
326+08.00	18" X 24' CM PIPE CULV'T ON RT.	1
332+69.00	12" X 23' CM PIPE CULV'T ON LT.	1
333+43.00	18" X 25' CP PIPE CULV'T ON RT.	1
335+48.00	18" X 25' CP PIPE CULV'T ON RT.	1
335+59.00	18" X 22' CM PIPE CULV'T ON LT.	1
335+90.00	18" X 25' CM PIPE CULV'T ON RT.	1
337+77.00	18" X 24' CM PIPE CULV'T ON LT.	1
340+50.00	18" X 30' CM PIPE CULV'T ON LT.	1
343+90.00	18" X 25' CM PIPE CULV'T ON LT.	1
350+56.00	20" X 82' CAST IRON PIPE CULV'T ON RT.	1
369+28.00	18" X 51' CAST IRON PIPE CULV'T ON LT.	1
387+34.00	18" X 25' RC PIPE CULV'T ON RT.	1
390+20.00	18" X 25' RC PIPE CULV'T ON LT.	1
396+74.00	18" X 30' CP PIPE CULV'T ON RT.	1
TOTAL:		75

NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.

CONCRETE CURB

STATION	STATION	LOCATION	TYPE B
			LIN. FT.
308+00	311+00	LT. OF MAIN LANES	300
TOTAL:			300

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
130+00.00	131+00.00	MAIN LANES	50	555.56
397+03.97	398+03.97	MAIN LANES	24	266.67
TOTAL:				822.23

NOTE: AVERAGE MILLING DEPTH 1".

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
159+21.00	LT. HEADWALL OF BOX CULV'T	1
179+72.00	RT. SIDE OF BRIDGE (SITE 1)	1
247+09.00	LT. SIDE OF BRIDGE (SITE 2)	1
267+21.00	RT. HEADWALL OF BOX CULV'T	1
272+90.00	LT. HEADWALL OF BOX CULV'T	1
296+09.00	RT. HEADWALL OF BOX CULV'T	1
330+41.00	LT. HEADWALL OF BOX CULV'T	1
352+09.00	RT. HEADWALL OF BOX CULV'T	1
383+90.00	LT. HEADWALL OF BOX CULV'T	1
TOTAL:		9

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS SHALL BE FURNISHED AND PLACED BY STATE FORCES.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CONCRETE PAVEMENT	CONCRETE SLABS	CONCRETE DRIVEWAYS	SIGNS	SIGN FOUNDATIONS	BUILDINGS	BILLBOARDS	CATTLE GUARD	LUMINAIRE POLE & FOUNDATION	PLANTERS	FENCE POSTS	WOOD POLE	POSTS	BRICK COLUMNS
			SQ. YD.	SQ. YD.	SQ. YD.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
134+18.00		LT.									1					
134+90.00		LT.									1					
136+66.00		RT.				1										
137+60.00		LT.					1									
150+00.00		LT.				1										
151+10.00		LT.								1						
151+43.00	152+92.00	RT.											29		2	2
153+12.00	155+77.00	LT.														2
152+06.00		LT.											8			
162+28.00	165+29.00	LT.														2
169+00.00		LT.										1				
171+70.00		RT.			390											
172+32.00	174+26.00	RT.	424													
172+50.00		RT.				1										
172+65.00		RT.				1										
186+49.00	191+33.00	RT.												30		
209+13.00		LT.	27													
215+35.00		RT.				1										
215+80.00		LT.				1										
219+87.00	229+15.00	RT.	966													
222+60.00		RT.				1										
223+75.00		LT.			211											
224+02.00	226+05.00	LT.	449													
224+10.00		LT.					3		1							
228+31.00	237+94.00	RT.	1273													
241+82.00		LT.									1					
244+98.00	246+63.00	LT.	221													
247+96.00		LT.					5		1							
263+72.00		RT.				1	1									
270+76.00		LT.		30												
275+81.00		LT.				1										
276+18.00		RT.					3		1							
281+55.00	281+95.00	LT.														4
286+20.00		RT.										1				
290+66.00		RT.				1	1									
292+20.00		RT.					2		1							
298+46.00	298+70.00	LT.									2					
312+08.00		LT.				2										
313+68.00		LT.						1								
319+80.00		LT.					3		1							
341+43.00		LT.						1								
380+13.00	380+36.00	RT.				1						1				
380+30.00		RT.				1	1									
395+84.00	396+24.00	RT.											5			
397+65.00	398+25.00	RT.											3			
398+32.00		RT.						1								
398+86.00		RT.						1								
399+00.00		RT.				1										
399+00.00		RT.						1								
399+18.00		RT.						1								
399+36.00		RT.						1								
399+92.00		LT.					3		1							
400+38.00		RT.						1								
TOTALS:			3360	30	601	15	23	8	6	1	5	3	45	30	2	10

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QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
09-23-2015				6	ARK.			
				JOB NO.		070280	95	336

(2) QUANTITIES

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION		COMPACTED EMBANKMENT		* SOIL STABILIZATION	* TOPSOIL FURNISHED AND PLACED
			NORM.	TOTAL	NORM.	TOTAL		
			CU. YD.		CU. YD.		TON	CU. YD.
ENTIRE	PROJECT	STAGE 1-MAIN LANES	26896	26896	74292	74292		
ENTIRE	PROJECT	STAGE 2-MAIN LANES	70978	70978	76465	76465		
ENTIRE	PROJECT	APPROACHES			3430	3430		
ENTIRE	PROJECT	CO. RDS. AND LANES	1128	1128	2330	2330		
		HWY. 335	5	5	70	70		
147+16.00		CHANNEL CHANGE-R.C. PIPE CULV'T	115	115				
159+21.00		CHANNEL CHANGE-R.C. BOX CULV'T	15	15	82	82		
179+60.50	180+71.50	CHANNEL CHANGE- BRIDGE	365	365				
189+73.00		CHANNEL CHANGE-R.C. PIPE CULV'T	27	27	3	3		
203+90.00		CHANNEL CHANGE-R.C. PIPE CULV'T	104	104				
217+68.00		CHANNEL CHANGE-R.C. PIPE CULV'T	65	65				
246+99.50	248+10.50	CHANNEL CHANGE- BRIDGE	330	330				
267+21.00		CHANNEL CHANGE-R.C. BOX CULV'T	116	116	1	1		
272+90.00		CHANNEL CHANGE-R.C. BOX CULV'T	82	82	30	30		
292+09.00		CHANNEL CHANGE-R.C. PIPE CULV'T	80	80				
293+58.00		CHANNEL CHANGE-R.C. PIPE CULV'T	96	96				
296+09.00		CHANNEL CHANGE-R.C. BOX CULV'T	79	79	18	18		
301+56.00		CHANNEL CHANGE-R.C. PIPE CULV'T	81	81	1	1		
311+81.00		CHANNEL CHANGE-R.C. PIPE CULV'T	101	101				
322+66.00		CHANNEL CHANGE-R.C. PIPE CULV'T	86	86	5	5		
330+41.00		CHANNEL CHANGE-R.C. BOX CULV'T	32	32	98	98		
345+89.00		CHANNEL CHANGE-R.C. PIPE CULV'T	92	92				
352+09.00		CHANNEL CHANGE-R.C. BOX CULV'T	82	82				
* ENTIRE	PROJECT	TO BE USED IF AND WHERE					2000	6000
		DIRECTED BY THE ENGINEER						
TOTALS:			100955	100955	156825	156825	2000	6000

* QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
130+00.00	132+00.00	MAIN LANES	2	2
136+00.00	147+00.00	MAIN LANES	11	11
148+00.00	223+00.00	MAIN LANES	75	75
224+00.00	251+00.00	MAIN LANES	27	27
253+00.00	261+00.00	MAIN LANES	8	8
263+00.00	273+00.00	MAIN LANES	10	10
275+00.00	277+00.00	MAIN LANES	2	2
280+00.00	282+00.00	MAIN LANES	2	2
284+00.00	297+00.00	MAIN LANES	13	13
298+00.00	313+00.00	MAIN LANES	15	15
314+00.00	316+00.00	MAIN LANES	2	2
317+00.00	339+00.00	MAIN LANES	22	22
341+00.00	350+00.00	MAIN LANES	9	9
351+00.00	354+00.00	MAIN LANES	3	3
365+00.00	370+00.00	MAIN LANES	5	5
383+00.00	385+00.00	MAIN LANES	2	2
387+00.00	388+00.00	MAIN LANES	1	1
390+00.00	391+00.00	MAIN LANES	1	1
394+00.00	400+00.00	MAIN LANES	6	6
TOTALS:			216	216



CULVERT CLEAN OUT

STATION	LOCATION	EACH
267+21.00	HWY. 167	1
272+90.00	HWY. 167	1
301+56.00	HWY. 167	1
311+81.00	HWY. 167	1
322+66.00	HWY. 167	1
365+62.00	HWY. 167	1
TOTAL:		6

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	150	300
DIRECTED BY THE ENGINEER		
TOTALS:	150	300

NOTE: QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

BASIS OF ESTIMATE:
ACHM PATCHING-----25 TONS PER MILE
TACK COAT----------50 GALLONS PER MILE

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	100
DIRECTED BY THE ENGINEER	
TOTAL:	100

NOTE: QUANTITY ESTIMATED
SEE SECTION 104.03 OF THE STD. SPECS.

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS	
		(SINGLE)	(DOUBLE)
	EACH		
ENTIRE PROJECT	81	69	6
TOTALS:	81	69	6

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	290
ENGINEER	
TOTAL:	290

NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING						102.00	102.00	2080.8	2684	369	16540			858
	PROJECT	STAGE 1	17.88	35.76	17.88	1823.8	17.88	52.00	52.00	1060.8	1232	150	19051	2522	2522	3334
ENTIRE	PROJECT	STAGE 2	14.74	29.48	14.74	1503.5	14.74	50.00	50.00	1020.0	1078	135		1291	1291	1385
																20
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			8.00	16.00	8.00	816.0	8.00	51.00	51.00	1040.4	220	30	500			19
TOTALS:			40.62	81.24	40.62	4143.3	40.62	255.00	255.00	5202.0	5214	684	36091	3813	3813	5616

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.
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./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.

*QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

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SOIL LOG

STATION	LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
138+00.00	36'RT	0-5'	22.00	7	A-4(1)	BROWN
138+00.00	19'RT	0-5'	21.00	5	A-4(0)	GRAY
138+00.00	6'RT	0-5'	23.00	6	A-4(1)	BROWN
145+85	30'LT	0-5'	20.00	3	A-4(0)	BROWN
146+00	18'LT	0-5'	22.00	6	A-4(0)	BROWN
154+00	30'RT	0-5'	27.00	11	A-6(3)	BROWN
154+00	18'RT	0-5'	29.00	14	A-6(5)	GR/BR
154+00	5'RT	0-5'	29.00	14	A-6(5)	BROWN
154+00	30'RT	0-5'	21.00	3	A-4(0)	BROWN
162+00	5'LT	0-5'	53.00	37	A-7-6(26)	BROWN
162+00	30'LT	0-5'	47.00	29	A-7-6(23)	BROWN
162+00	17'LT	0-5'	31.00	14	A-6(5)	BROWN
170+00	30'RT	0-5'	26.00	11	A-6(4)	BROWN
170+00	18'RT	0-5'	19.00	4	A-4(0)	GRAY
170+00	5'RT	0-5'	23.00	7	A-4(2)	BROWN
177+00	5'LT	0-5'	18.00	3	A-4(0)	GRAY
177+00	30'LT	0-5'	ND	NP	A-4(6)	BROWN
177+00	18'LT	0-5'	ND	NP	A-4(0)	GRAY
186+00	30'LT	0-5'	17.00	4	A-4(0)	BROWN
186+00	19'LT	0-5'	23.00	7	A-4(0)	RD/BR
186+00	5'LT	0-5'	34.00	19	A-6(5)	RD/BR
194+00	5'RT	0-5'	27.00	12	A-6(3)	BROWN
194+00	30'RT	0-5'	ND	NP	A-4(0)	GRAY
194+00	19'RT	0-5'	23.00	7	A-4(0)	GRAY
202+00	36'LT	0-5'	ND	NP	A-4(0)	BROWN
202+00	18'LT	0-5'	ND	NP	A-4(0)	BROWN
202+00	5'LT	0-5'	ND	NP	A-4(0)	BROWN
210+00	5'RT	0-5'	24.00	9	A-4(1)	BROWN
210+00	36'RT	0-5'	25.00	10	A-2-4(0)	BROWN
210+00	18'RT	0-5'	21.00	6	A-2-4(0)	GR/BR
218+00	36'LT	0-5'	ND	NP	A-4(0)	GRAY
218+00	16'LT	0-5'	ND	NP	A-4(0)	GRAY
218+00	5'LT	0-5'	ND	NP	A-4(0)	GRAY
226+00	5'RT	0-5'	24.00	9	A-4(0)	BROWN
226+00	36'RT	0-5'	23.00	8	A-4(0)	BROWN
226+00	17'RT	0-5'	ND	NP	A-2-4(0)	BROWN
234+00	36'RT	0-5'	33.00	17	A-6(6)	RD/GR
234+00	18'RT	0-5'	22.00	7	A-4(0)	BR/RD
234+00	5'RT	0-5'	ND	NP	A-4(0)	BROWN
234+00	36'RT	0-5'	25.00	8	A-4(0)	RD/GR
242+00	5'LT	0-5'	18.00	3	A-4(0)	BROWN
242+00	34'LT	0-5'	ND	NP	A-4(0)	BROWN
242+00	16'LT	0-5'	18.00	2	A-4(0)	BROWN
250+00	36'RT	0-5'	24.00	7	A-4(1)	RD/BR
250+00	17'RT	0-5'	22.00	4	A-4(0)	GRAY
250+00	5'RT	0-5'	20.00	6	A-4(1)	GRAY
257+70	37'LT	0-5'	22.00	7	A-4(1)	BROWN
257+90	19'LT	0-5'	ND	NP	A-4(0)	GRAY
257+90	5'LT	0-5'	ND	NP	A-4(0)	GRAY
266+00	5'LT	0-5'	26.00	11	A-6(2)	RD/GR
266+00	36'LT	0-5'	23.00	7	A-4(1)	GR/RD
266+00	18'LT	0-5'	26.00	11	A-6(5)	GRAY
266+00	36'LT	0-5'	19.00	5	A-4(1)	GRAY
274+00	15'LT	0-5'	ND	NP	A-2-4(0)	RD/BR
274+00	26'LT	0-5'	19.00	3	A-2-4(0)	RD/GR
274+00	21'LT	0-5'	ND	NP	A-2-4(0)	RD/BR
282+00	10'RT	0-5'	17.00	2	A-4(0)	BROWN
282+00	20'RT	0-5'	26.00	9	A-4(2)	BROWN
290+00	38'LT	0-5'	ND	NP	A-2-4(0)	BR/GR
290+00	21'LT	0-5'	ND	NP	A-2-4(0)	GR/BR
290+00	12'LT	0-5'	19.00	5	A-4(0)	GR/BR
298+00	24'LT	0-5'	ND	NP	A-2-4(0)	BR/GR
298+00	13'LT	0-5'	18.00	3	A-4(0)	GRAY
298+00	40'LT	0-5'	23.00	7	A-4(2)	BR/GR
306+00	22'LT	0-5'	20.00	4	A-4(0)	BROWN
306+00	12'LT	0-5'	29.00	13	A-6(1)	BROWN
306+00	36'LT	0-5'	ND	NP	A-2-4(0)	BROWN
314+00	21'LT	0-5'	25.00	10	A-4(2)	RD/GR
314+00	13'LT	0-5'	19.00	4	A-4(0)	BR/GR
314+00	38'LT	0-5'	32.00	15	A-6(8)	GR/BR
322+00	23'LT	0-5'	24.00	9	A-4(1)	GRAY
322+00	13'LT	0-5'	ND	NP	A-2-4(0)	GRAY
322+00	42'LT	0-5'	ND	NP	A-2-4(0)	BR/GR
330+00	20'RT	0-5'	ND	NP	A-4(0)	GRAY
330+00	10'RT	0-5'	24.00	9	A-4(1)	GRAY
338+00	37'LT	0-5'	28.00	12	A-6(2)	BROWN
338+00	21'LT	0-5'	ND	NP	A-2-4(0)	GRAY
338+00	12'LT	0-5'	19.00	4	A-2-4(0)	GRAY
338+00	37'LT	0-5'	ND	NP	A-2-4(0)	BROWN
346+20	36'LT	0-5'	27.00	11	A-6(1)	BROWN
346+20	22'LT	0-5'	23.00	6	A-2-4(0)	GRAY
346+20	14'LT	0-5'	21.00	5	A-2-4(0)	BROWN
354+00	32'LT	0-5'	ND	NP	A-2-4(0)	GR/BR
354+00	18'LT	0-5'	25.00	10	A-4(0)	BROWN
354+00	8'LT	0-5'	31.00	15	A-6(2)	BROWN
362+00	34'LT	0-5'	27.00	10	A-4(2)	GR/BR
362+00	22'LT	0-5'	33.00	17	A-6(6)	GR/BR
362+00	12'LT	0-5'	30.00	14	A-6(3)	GRAY
370+00	34'LT	0-5'	27.00	12	A-6(3)	BROWN
370+00	18'LT	0-5'	28.00	11	A-6(2)	RD/BR
370+00	5'LT	0-5'	39.00	23	A-6(11)	RD/BR
378+00	18'RT	0-5'	23.00	8	A-2-4(0)	RD/BR
378+00	6'RT	0-5'	ND	NP	A-4(0)	GRAY
386+00	36'LT	0-5'	40.00	23	A-6(10)	BROWN
386+00	21'LT	0-5'	24.00	9	A-2-4(0)	RD/GR
386+00	36'LT	0-5'	28.00	10	A-4(2)	BROWN
386+00	10'LT	0-5'	26.00	11	A-6(1)	RD/BR
394+00	5'RT	0-5'	20.00	4	A-4(0)	BROWN
394+00	40'RT	0-5'	25.00	10	A-4(1)	RED
394+00	17'RT	0-5'	31.00	16	A-6(3)	BROWN
400+00	36'LT	0-5'	28.00	13	A-6(3)	RD/BR
400+00	16'LT	0-5'	26.00	11	A-6(0)	BROWN
400+00	6'LT	0-5'	ND	NP	A-2-4(0)	BROWN

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

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
177+42.35	179+61.10	RT. SIDE	150	1	1
178+67.35	179+61.10	LT. SIDE	75	1	1
180+70.90	181+64.65	RT. SIDE	75	1	1
180+70.90	182+89.65	LT. SIDE	150	1	1
244+81.35	247+00.10	RT. SIDE	150	1	1
246+06.35	247+00.10	LT. SIDE	75	1	1
248+09.90	249+03.65	RT. SIDE	75	1	1
248+09.90	250+28.65	LT. SIDE	150	1	1
TOTAL:			900	8	8

APPROACH GUTTERS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE A)	REINFORCING STEEL-RDWY. (GR 60)
			CU.YD.	POUND
179+33.50	179+60.50	LT. SIDE	6.75	590
179+33.50	179+60.50	RT. SIDE	6.75	590
180+71.50	180+98.50	LT. SIDE	6.75	590
180+71.50	180+98.50	RT. SIDE	6.75	590
246+72.50	246+99.50	LT. SIDE	6.75	590
246+72.50	246+99.50	RT. SIDE	6.75	590
248+10.50	248+37.50	LT. SIDE	6.75	590
248+10.50	248+37.50	RT. SIDE	6.75	590
TOTALS:			54.00	4720

NOTE: USE T =17.5" FOR 8' SHOULDER.

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
134+00.00	135+00.00	LT. SIDE OF HWY. 167	100.0	88.9
142+00.00	145+00.00	RT. SIDE OF HWY. 167	300.0	266.7
143+00.00	144+00.00	LT. SIDE OF HWY. 167	100.0	88.9
148+00.00	149+00.00	RT. SIDE OF HWY. 167	100.0	88.9
150+00.00	151+74.00	LT. SIDE OF HWY. 167	174.0	154.7
150+00.00	151+74.00	RT. SIDE OF HWY. 167	174.0	154.7
166+00.00	170+00.00	RT. SIDE OF HWY. 167	400.0	355.6
189+00.00	189+73.00	RT. SIDE OF HWY. 167	73.0	64.9
189+00.00	189+73.00	LT. SIDE OF HWY. 167	73.0	64.9
194+00.00	195+00.00	LT. SIDE OF HWY. 167	100.0	88.9
235+00.00	242+00.00	RT. SIDE OF HWY. 167	700.0	622.2
235+00.00	242+00.00	LT. SIDE OF HWY. 167	700.0	622.2
255+00.00	259+00.00	LT. SIDE OF HWY. 167	400.0	355.6
261+21.00	268+00.00	LT. SIDE OF HWY. 167	679.0	603.6
275+00.00	278+00.00	RT. SIDE OF HWY. 167	300.0	266.7
280+00.00	282+00.00	LT. SIDE OF HWY. 167	200.0	177.8
291+00.00	292+09.00	LT. SIDE OF HWY. 167	109.0	96.9
301+00.00	304+00.00	LT. SIDE OF HWY. 167	300.0	266.7
301+00.00	302+00.00	RT. SIDE OF HWY. 167	100.0	88.9
301+00.00	304+00.00	LT. SIDE OF HWY. 167	300.0	266.7
309+63.00	310+53.00	RT. SIDE OF HWY. 167	90.0	80.0
318+00.00	320+00.00	LT. SIDE OF HWY. 167	200.0	177.8
343+00.00	345+00.00	LT. SIDE OF HWY. 167	200.0	177.8
349+00.00	351+00.00	LT. SIDE OF HWY. 167	200.0	177.8
358+00.00	359+00.00	RT. SIDE OF HWY. 167	100.0	88.9
358+00.00	359+00.00	LT. SIDE OF HWY. 167	100.0	88.9
363+00.00	364+00.00	RT. SIDE OF HWY. 167	100.0	88.9
368+00.00	370+00.00	LT. SIDE OF HWY. 167	200.0	177.8
368+00.00	370+00.00	RT. SIDE OF HWY. 167	200.0	177.8
374+00.00	376+00.00	RT. SIDE OF HWY. 167	200.0	177.8
374+00.00	375+00.00	LT. SIDE OF HWY. 167	100.0	88.9
393+00.00	395+00.00	RT. SIDE OF HWY. 167	200.0	177.8
393+00.00	395+00.00	LT. SIDE OF HWY. 167	200.0	177.8
TOTAL:				6642.4

NOTE: AVERAGE WIDTH = 8'-0"

DUMPED RIPRAP AND FILTER BLANKET

STATION	LOCATION	DUMPED RIPRAP	FILTER BLANKET
		CU. YDS.	SQ. YDS.
147+16.00	OUTLET OF PIPE CULVERT	11	22
159+21.00	OUTLET OF BOX CULVERT	10	19
189+73.00	OUTLET OF PIPE CULVERT	12	24
217+68.00	OUTLET OF PIPE CULVERT	22	43
301+56.00	OUTLET OF PIPE CULVERT	5	10
311+81.00	OUTLET OF PIPE CULVERT	13	26
345+89.00	OUTLET OF PIPE CULVERT	15	30
383+90.00	OUTLET OF BOX CULVERT	29	58
	TO BE USED IF AND WHERE		
	DIRECTED BY THE ENGINEER		
TOTALS:		117	232

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

NOTE: FILTER BLANKET SHALL BE GEOTEXTILE FABRIC (TYPE 5).

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11425 TIMOTHY D. SMITH 6-29-15

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		96	336

JOB NO. 070280

2 QUANTITIES

QUANTITIES

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.		070280	97	336

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			10000	110
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			10000	110

* NOTE: QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

REMOVAL AND DISPOSAL OF FENCE & GATES

STATION	STATION	LOCATION	FENCE	GATES
			LIN. FT.	EACH
147+60.00		LT.		1
150+00.00	150+65.00	LT.	65	
151+43.00	152+92.00	RT.	149	
151+51.00	152+73.00	LT.	122	
153+12.00	155+77.00	LT.	265	
158+08.00	171+82.00	RT.	1374	
162+28.00	165+29.00	LT.	306	
168+63.00	168+63.00	LT.	30	
175+09.00	178+32.00	LT.	330	
241+10.00		RT.	10	
241+36.00		RT.	10	
255+74.00	262+32.00	LT.	658	
264+92.00	268+48.00	RT.	368	
273+29.00	275+75.00	RT.	222	
281+78.00		LT.		1
282+56.00	285+00.00	RT.	244	
291+07.00	291+68.00	LT.	61	
292+35.00	295+00.00	RT.	473	
298+55.00	303+68.00	RT.	517	
299+20.00	299+21.00	LT.	26	
301+29.00	302+10.00	LT.	81	
304+80.00		RT.		1
316+70.00	317+50.00	RT.	46	
320+68.00	321+33.00	RT.	68	
321+58.00	323+37.00	RT.	186	
366+47.00	367+68.00	RT.	121	
369+88.00	370+23.00	RT.	90	
366+87.00	367+03.00	LT.		1
388+12.00	389+28.00	LT.	116	
395+86.00	396+25.00	RT.	39	
400+00.00	400+20.00	RT.		1
TOTALS:			5977	5

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
ENTIRE	PROJECT	IF AND WHERE DIRECTED BY THE ENGINEER	13300.00	6	8866.67	5911.11	74.5
TOTALS:					8866.67	5911.11	74.5

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

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE C)	WIRE FENCE (TYPE D)	WIRE FENCE (TYPE D-1)	* 4' CHAIN LINK FENCE	* 6' CHAIN LINK FENCE	* 16'-0" GATES	* 20'-0" GATES
			LIN. FT.					EACH	EACH
150+00.00	150+65.00	LT.	78						
151+52.00	152+78.00	LT.	126						
153+16.00	154+40.00	LT.	124						
154+65.00	155+78.00	LT.	113						
161+65.00	171+82.00	RT.	1017						
162+28.00	165+29.00	LT.				285		1	
175+09.00	178+32.00	LT.		321					
255+31.00	262+85.00	LT.			754			1	
291+11.00	291+72.00	LT.	61						
292+39.00	297+05.00	RT.	468						
298+55.00	303+73.00	RT.	583						1
299+21.00	302+09.00	LT.				291		1	
320+84.00	321+39.00	RT.					55		
321+68.00	323+44.00	RT.					176		
366+47.00	367+68.00	RT.					139		
369+88.00	370+23.00	RT.					38		
388+12.00	389+28.00	LT.			116				
TOTALS:			2570	321	870	576	408	3	1

* DENOTES ALTERNATE BID ITEM.

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS
			LIN.FT.
131+00.00	179+60.50	RT. OF MAIN LANES	3262
131+00.00	179+60.50	LT. OF MAIN LANES	2694
180+71.50	246+99.50	RT. OF MAIN LANES	4994
180+71.50	246+99.50	LT. OF MAIN LANES	4862
248+10.50	397+03.97	RT. OF MAIN LANES	9223
248+10.50	397+03.97	LT. OF MAIN LANES	9467
TOTAL:			34502

* QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 24"	(CLASS III) 30"	(CLASS III) 36"	(CLASS IV) 24"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 24"	30"	36"	TEMPORARY PIPE CULVERTS 18"	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL. EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.				EACH			LIN. FT.	LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL	
147+16.00	EXTEND 24" RC PIPE CULVERT W/FES LT. & RT.	64				2										16	0.2	FES-1, FES-2, PCC-1
159+21.00	EXTEND 3' x 2' RC BOX CULVERT									3	2	63	19.59	1854	18	6	0.1	SPECIAL DETAIL (USING 3:1 WINGS), RCB-1, RCB-2, RCB-3
189+73.00	EXTEND 36" RC PIPE CULVERT W/FES LT. & RT.			64				2								34	0.4	FES-1, FES-2, PCC-1
204+23.00	EXTEND 30" RC PIPE CULVERT W/FES LT. & RT.		70				2									34	0.4	FES-1, FES-2, PCC-1
217+68.00	EXTEND 36" RC PIPE CULVERT W/FES LT. & RT.			66				2								34	0.4	FES-1, FES-2, PCC-1
267+21.00	EXTEND 4' x 2' RC BOX CULVERT									3	3	72	26.74	2397	20	8	0.1	SPECIAL DETAIL (USING 3:1 WINGS), RCB-1, RCB-2, RCB-3
272+90.00	EXTEND 3' x 2' RC BOX CULVERT									3	2	64	19.84	1866	18	6	0.1	SPECIAL DETAIL (USING 3:1 WINGS), RCB-1, RCB-2, RCB-3
281+09.00	EXTEND 24" RC PIPE CULVERT W/FES LT. & RT.	48				2										16	0.2	FES-1, FES-2, PCC-1
292+09.00	EXTEND 24" RC PIPE CULVERT W/FES LT. & RT.	64				2										16	0.2	FES-1, FES-2, PCC-1
293+58.00	EXTEND 24" RC PIPE CULVERT W/FES LT. & RT.	64				2										16	0.2	FES-1, FES-2, PCC-1
296+09.00	EXTEND 4' x 2' RC BOX CULVERT									4	2	66	23.11	2931	19	10	0.1	RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-0
301+56.00	EXTEND 24" RC PIPE CULVERT W/FES LT. & RT.	66				2										16	0.2	FES-1, FES-2, PCC-1
311+81.00	EXTEND 24" RC PIPE CULVERT W/FES LT. & RT.	56				2										16	0.2	FES-1, FES-2, PCC-1
322+66.00	EXTEND 24" RC PIPE CULVERT W/FES LT. & RT.	74				2										16	0.2	FES-1, FES-2, PCC-1
330+41.00	EXTEND 8' x 5' RC BOX CULVERT									8	5	80	72.35	8519	41	18	0.2	RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-X3
345+89.00	EXTEND 24" RC PIPE CULVERT W/FES LT. & RT.				64	2										16	0.2	FES-1, FES-2, PCC-1
352+09.00	EXTEND 3' x 2' RC BOX CULVERT									3	2	66	20.35	1917	19	6	0.1	SPECIAL DETAIL (USING 3:1 WINGS), RCB-1, RCB-2, RCB-3
365+62.00	EXTEND 24" RC PIPE CULVERT W/FES LT. & RT.	60				2										16	0.2	FES-1, FES-2, PCC-1
383+90.00	EXTEND 8' x 5' RC BOX CULVERT									8	5	45	45.96	5050	29	18	0.2	RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-X3
396+06.00	EXTEND 4' x 3' RC BOX CULVERT									4	3	58	22.62	2798	18	12	0.2	RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-0
	ENTIRE PROJECT - AS DIRECTED BY THE ENGINEER								200									
TOTALS:		496	70	130	64	18	2	4	200				250.56	27332	182	330	4.1	

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.

NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

4/9/2015

R070280.DGN

DRIVEWAYS & TURNOUTS

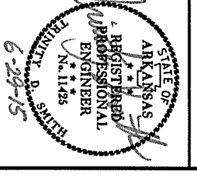
STATION	SIDE	LOCATION	WIDTH	PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS					STANDARD DRAWINGS
								18"	24"	36"	42"	21"X15"	
			FEET	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.					
132+79.00	LT.	DRIVEWAY	16		102.10	11.23	41.69	32					PCC-1, PCM-1, PCP-1, PCP-2
133+91.00	LT.	DRIVEWAY	40	243.50				58					PCC-1, PCM-1, PCP-1, PCP-2
136+30.00	LT.	DRIVEWAY	40	259.40				60					PCC-1, PCM-1, PCP-1, PCP-2
138+35.00	LT.	DRIVEWAY	40	222.40				60					PCC-1, PCM-1, PCP-1, PCP-2
147+50.00	LT.	DRIVEWAY	16		108.20	11.90	44.18						
149+54.00	RT.	DRIVEWAY	16		73.40	8.07	29.97						
151+18.00	LT.	DRIVEWAY	16		97.60	10.74	39.85	36					PCC-1, PCM-1, PCP-1, PCP-2
151+74.00	RT.	DRIVEWAY	16		82.80	9.11	33.81	32					PCC-1, PCM-1, PCP-1, PCP-2
153+00.00	LT.	DRIVEWAY	16		71.80	7.90	29.32	64					PCC-1, PCM-1, PCP-1, PCP-2
153+08.00	RT.	DRIVEWAY	16		87.80	9.66	35.85	36					PCC-1, PCM-1, PCP-1, PCP-2
154+49.00	LT.	DRIVEWAY	16		84.40	9.28	34.46	28					PCC-1, PCM-1, PCP-1, PCP-2
155+25.00	RT.	DRIVEWAY	16		87.80	9.66	35.85	32					PCC-1, PCM-1, PCP-1, PCP-2
156+03.00	LT.	DRIVEWAY	16		73.90	8.13	30.18		60				PCC-1, PCM-1, PCP-1, PCP-2
157+65.00	RT.	DRIVEWAY	16		87.80	9.66	35.85	28					PCC-1, PCM-1, PCP-1, PCP-2
158+95.00	LT.	DRIVEWAY	16	101.90						38			PCC-1, PCM-1, PCP-1, PCP-2
160+18.00	LT.	DRIVEWAY	16		115.80	12.74	47.29						
160+94.00	RT.	DRIVEWAY	16		67.10	7.38	27.40						
163+48.00	LT.	DRIVEWAY	16	98.10					36				PCC-1, PCM-1, PCP-1, PCP-2
166+41.00	LT.	UNION 800 PVT.	16						42				PCC-1, PCM-1, PCP-1, PCP-2
167+93.00	LT.	DRIVEWAY	16		99.60	10.96	40.67		34				PCC-1, PCM-1, PCP-1, PCP-2
169+21.00	LT.	DRIVEWAY	16		96.00	10.56	39.20		34				PCC-1, PCM-1, PCP-1, PCP-2
170+25.00	LT.	DRIVEWAY	16		94.70	10.42	38.67		34				PCC-1, PCM-1, PCP-1, PCP-2
172+35.00	LT.	DRIVEWAY	16		96.70	10.64	39.49		36				PCC-1, PCM-1, PCP-1, PCP-2
220+50.00	RT.	OLD CALION RD. NORTH	20					82					PCC-1, PCM-1, PCP-1, PCP-2
225+50.00	LT.	O'REAR CUTOFF	20					62					PCC-1, PCM-1, PCP-1, PCP-2
237+30.00	LT.	DRIVEWAY	16		74.70	8.22	30.50	28					PCC-1, PCM-1, PCP-1, PCP-2
239+32.00	RT.	DRIVEWAY	16		94.50	10.40	38.59	32					PCC-1, PCM-1, PCP-1, PCP-2
240+81.00	LT.	DRIVEWAY	16		72.70	8.00	29.69	30					PCC-1, PCM-1, PCP-1, PCP-2
241+29.00	RT.	DRIVEWAY	16	100.50					32				PCC-1, PCM-1, PCP-1, PCP-2
241+38.00	LT.	DRIVEWAY	16		82.80	9.11	33.81	30					PCC-1, PCM-1, PCP-1, PCP-2
243+48.00	RT.	DRIVEWAY	16		90.20	9.92	36.83		30				PCC-1, PCM-1, PCP-1, PCP-2
243+87.00	LT.	DRIVEWAY	16		108.60	11.95	44.35		38				PCC-1, PCM-1, PCP-1, PCP-2
253+43.00	RT.	DRIVEWAY	16		111.60	12.28	45.57				36		PCC-1, PCM-1, PCP-1, PCP-2
255+02.00	LT.	TIMBER RIDGE LANE	20						64				PCC-1, PCM-1, PCP-1, PCP-2
255+26.00	RT.	DRIVEWAY	16		110.90	12.20	45.28				38		PCC-1, PCM-1, PCP-1, PCP-2
258+10.00	RT.	DRIVEWAY	16		122.50	13.48	50.02						
259+47.00	RT.	DRIVEWAY	16		123.70	13.61	50.51						
260+08.00	RT.	DRIVEWAY	20		168.60	18.55	68.85						
260+72.00	LT.	DRIVEWAY	16		110.30	12.13	45.04		38				PCC-1, PCM-1, PCP-1, PCP-2
262+30.00	LT.	DRIVEWAY	16		240.50	26.46	98.20		38				PCC-1, PCM-1, PCP-1, PCP-2
263+32.00	RT.	DRIVEWAY	16		132.40	14.56	54.06						
264+02.00	RT.	DRIVEWAY	20		382.30	42.05	156.11						
265+47.00	LT.	DRIVEWAY	16		164.10	18.05	67.01						
268+38.00	RT.	DRIVEWAY	16		173.80	19.12	70.97	46					PCC-1, PCM-1, PCP-1, PCP-2
269+73.00	LT.	QUINN HILL DRIVE	16	245.30				42					PCC-1, PCM-1, PCP-1, PCP-2
271+28.00	LT.	DRIVEWAY	20		114.70	12.62	46.84						
272+27.00	LT.	DRIVEWAY	16		82.20	9.04	33.57	32					PCC-1, PCM-1, PCP-1, PCP-2
275+21.00	LT.	DRIVEWAY	16		81.60	8.98	33.32	30					PCC-1, PCM-1, PCP-1, PCP-2
275+65.00	RT.	DRIVEWAY	16		154.20	16.96	62.97	36					PCC-1, PCM-1, PCP-1, PCP-2
276+72.00	LT.	DRIVEWAY	16		106.10	11.67	43.32	40					PCC-1, PCM-1, PCP-1, PCP-2
281+93.00	LT.	DRIVEWAY	16		83.10	9.14	33.93	38					PCC-1, PCM-1, PCP-1, PCP-2
283+58.00	RT.	DRIVEWAY	16		111.40	12.25	45.49	48					PCC-1, PCM-1, PCP-1, PCP-2
284+91.00	LT.	DRIVEWAY	16		120.70	13.28	49.29	38					PCC-1, PCM-1, PCP-1, PCP-2
286+82.00	RT.	DRIVEWAY	16		102.50	11.28	41.85	38					PCC-1, PCM-1, PCP-1, PCP-2
287+99.00	RT.	DRIVEWAY	16		84.10	9.25	34.34	28					PCC-1, PCM-1, PCP-1, PCP-2
288+76.00	LT.	DRIVEWAY	16		109.00	11.99	44.51	38					PCC-1, PCM-1, PCP-1, PCP-2
289+54.00	LT.	DRIVEWAY	16		98.20	10.80	40.10	38					PCC-1, PCM-1, PCP-1, PCP-2
289+66.00	RT.	DRIVEWAY	28		113.50	12.49	46.35						
290+53.00	RT.	DRIVEWAY	20		81.50	8.97	33.28					32	PCC-1, PCM-1
290+97.00	LT.	DRIVEWAY	16		91.10	10.02	37.20	36					PCC-1, PCM-1, PCP-1, PCP-2
291+30.00	RT.	DRIVEWAY	16		78.90	8.68	32.22	30					PCC-1, PCM-1, PCP-1, PCP-2
292+27.00	LT.	DRIVEWAY	16		105.60	11.62	43.12						
293+78.00	LT.	DRIVEWAY	16		105.60	11.62	43.12						
296+83.00	LT.	UNION 802	20					42					PCC-1, PCM-1, PCP-1, PCP-2
298+61.00	LT.	DRIVEWAY	16		78.90	8.68	32.22	34					PCC-1, PCM-1, PCP-1, PCP-2
300+34.00	LT.	DRIVEWAY	16		78.90	8.68	32.22	36					PCC-1, PCM-1, PCP-1, PCP-2
301+30.00	LT.	DRIVEWAY	16		110.90	12.20	45.28						
301+90.00	RT.	DRIVEWAY	20		135.70	14.93	55.41						
304+88.00	RT.	DRIVEWAY	16		82.10	9.03	33.52	32					PCC-1, PCM-1, PCP-1, PCP-2
313+58.00	RT.	DRIVEWAY	40		215.20	23.67	87.87	54					PCC-1, PCM-1, PCP-1, PCP-2
314+04.00	LT.	DRIVEWAY	18		90.10	9.91	36.79	34					PCC-1, PCM-1, PCP-1, PCP-2
314+90.00	RT.	DRIVEWAY	20		92.70	10.20	37.85						
315+92.00	LT.	DRIVEWAY	16		83.20	9.15	33.97	28					PCC-1, PCM-1, PCP-1, PCP-2
316+62.00	RT.	DRIVEWAY	20		107.30	11.80	43.81	44					PCC-1, PCM-1, PCP-1, PCP-2
318+25.00	LT.	DRIVEWAY	16		123.10	13.54	50.27	38					PCC-1, PCM-1, PCP-1, PCP-2
317+49.00	RT.	DRIVEWAY	16		88.10	9.69	35.97	42					PCC-1, PCM-1, PCP-1, PCP-2
318+25.00	RT.	DRIVEWAY	20	94.40	30.10	3.31	12.29	44					PCC-1, PCM-1, PCP-1, PCP-2
319+56.00	RT.	DRIVEWAY	16		103.80	11.42	42.39	38					PCC-1, PCM-1, PCP-1, PCP-2
320+61.00	LT.	DRIVEWAY	16		88.00	9.68	35.93	36					PCC-1, PCM-1, PCP-1, PCP-2
320+65.00	RT.	DRIVEWAY	16	138.00				40					PCC-1, PCM-1, PCP-1, PCP-2
321+53.00	RT.	DRIVEWAY	16		101.20	11.13	41.32		30				PCC-1, PCM-1, PCP-1, PCP-2
324+04.00	LT.	DRIVEWAY	16		91.20	10.03	37.24	34					PCC-1, PCM-1, PCP-1, PCP-2
326+10.00	RT.	DRIVEWAY	16		119.50	13.15	48.80		32				PCC-1, PCM-1, PCP-1, PCP-2
332+79.00	LT.	DRIVEWAY	16		89.40	9.83	36.51	34					PCC-1, PCM-1, PCP-1, PCP-2
333+46.00	RT.	DRIVEWAY	16		95.50	10.51	39.00	44					PCC-1, PCM-1, PCP-1, PCP-2
335+26.00	LT.	DRIVEWAY	16		90.90	10.00	37.12	34					PCC-1, PCM-1, PCP-1, PCP-2
335+48.00	RT.	DRIVEWAY	20		127.40	14.01	52.02	44					PCC-1, PCM-1, PCP-1, PCP-2
335+96.00	RT.	DRIVEWAY	20		122.70	13.50	50.10	40					PCC-1, PCM-1, PCP-1, PCP-2
337+69.00	LT.	DRIVEWAY	16		149.00	16.39	60.84	54					PCC-1, PCM-1, PCP-1, PCP-2
341+70.00	RT.	DRIVEWAY	16		89.40	9.83	36.51						
342+25.00	LT.	DRIVEWAY	16		87.20	9.59	35.61	46					PCC-1, PCM-1, PCP-1, PCP-2
343+95.00	LT.	DRIVEWAY	16		131.80	14.50	53.82	60					PCC-1, PCM-1, PCP-1, PCP-2
348+69.00	LT.	DRIVEWAY	16		96.70	10.64	39.49						
350+58.00	RT.	DRIVEWAY	40	204.40					56				PCC-1, PCM-1, PCP-1, PCP-2
365+00.00	RT.	DRIVEWAY	16		81.60	8.98	33.32						
366+87.00	LT.	DRIVEWAY	16		101.10	11.12	41.28						
369+38.00	RT.	DRIVEWAY	20		167.70	18.45	68.48	36					PCC-1, PCM-1, PCP-1, PCP-2
379+72.00	RT.	DRIVEWAY	32		174.90	19.24	71.42	50					PCC-1, PCM-1, PCP-1, PCP-2
387+35.00	RT.	DRIVEWAY	16		74.40	8.18	30.38	30					PCC-1, PCM-1, PCP-1, PCP-2
390+19.00	LT.	DRIVEWAY	16		199.80	21.98	81.59	38					PCC-1, PCM-1, PCP-1, PCP-2
392+30.00	LT.	DRIVEWAY	16		125.50	13.81	51.25						
396+71.00	RT.	DRIVEWAY	16		157.20	17.29	64.19	48					PCC-1, PCM-1, PCP-1, PCP-2
* ENTIRE PROJECT TEMPORARY DRIVES							2000.00						
TOTALS:				1707.90		1066.84	5960.02	2422	634	38	74	32	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

* QUANTITY ESTIMATED
SEE SECTION 104.03 OF THE STD. SPECS.
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

** FOR INFORMATION ONLY

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.



2 QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD DIV.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	070280	98	336

QUANTITIES

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.		070280	99	336

(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")							
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON
MAIN LANES																					
130+00.00	131+00.00	TRANSITION	100.00			47.00	522.22	0.10	52.22									47.00	522.22	220.00	57.44
131+00.00	154+49.00	HWY. 167-NOTCH AND WIDENING-M.L.	2349.00	438.50	10300.37	102.77	26822.97	0.03	804.69	39.52	10314.72	495.00	2552.89	39.25	10244.25	220.00	1126.87	75.00	19575.00	220.00	2153.25
154+49.00	157+00.00	HWY. 167-FULL DEPTH	251.00	578.50	1452.04	126.80	3536.31	0.03	106.09	63.50	1770.94	495.00	438.31	63.30	1765.37	220.00	194.19	75.00	2091.67	220.00	230.08
157+00.00	170+00.00	HWY. 167-NOTCH AND WIDENING-M.L.	1300.00	438.50	5700.50	102.77	14844.56	0.03	445.34	39.52	5708.44	495.00	1412.84	39.25	5669.44	220.00	623.64	75.00	10833.33	220.00	1191.67
170+00.00	175+00.00	HWY. 167-NOTCH AND WIDENING-LT. M.L.	500.00	348.75	1743.75	102.77	5709.44	0.03	171.28	39.30	2183.33	495.00	540.37	39.10	2172.22	220.00	238.94	75.00	4166.67	220.00	458.33
175+00.00	179+60.00	HWY. 167-FULL DEPTH	460.00	578.50	2661.10	126.80	6480.89	0.03	194.43	39.52	2019.91	495.00	499.93	63.30	3235.33	220.00	355.89	75.00	3833.33	220.00	421.67
180+71.50	183+00.00	HWY. 167-FULL DEPTH	228.50	578.50	1321.87	126.80	3219.31	0.03	96.58	39.52	1003.37	495.00	248.33	63.30	1607.12	220.00	176.78	75.00	1904.17	220.00	209.46
183+00.00	189+73.00	HWY. 167-NOTCH AND WIDENING-LT. M.L.	673.00	348.75	2347.09	102.77	7684.91	0.03	230.55	39.30	2938.77	495.00	727.35	39.10	2923.81	220.00	321.62	75.00	5608.33	220.00	616.92
189+73.00	224+00.00	HWY. 167-NOTCH AND WIDENING-M.L.	3427.00	438.50	15027.40	102.77	39132.53	0.03	1173.98	39.52	15048.34	495.00	3724.46	39.25	14945.53	220.00	1644.01	75.00	28558.33	220.00	3141.42
224+00.00	237+00.00	HWY. 167-NOTCH AND WIDENING-LT. M.L.	1300.00	348.75	4533.75	102.77	14844.56	0.03	445.34	39.30	5676.67	495.00	1404.98	39.10	5647.78	220.00	621.26	75.00	10833.33	220.00	1191.67
237+00.00	239+00.00	HWY. 167-NOTCH AND WIDENING-M.L.	200.00	348.75	697.50	102.77	2283.78	0.03	68.51	39.52	878.22	495.00	217.36	39.25	872.22	220.00	95.94	75.00	1666.67	220.00	183.33
239+00.00	243+48.00	HWY. 167-NOTCH AND WIDENING-RT. M.L.	448.00	348.75	1562.40	102.77	5115.66	0.03	153.47	39.30	1956.27	495.00	484.18	39.10	1946.31	220.00	214.09	75.00	3733.33	220.00	410.67
243+48.00	246+99.50	HWY. 167-FULL DEPTH	351.50	578.50	2033.43	126.80	4952.24	0.03	148.57	39.52	1543.48	495.00	382.01	63.30	2472.22	220.00	271.94	75.00	2929.17	220.00	322.21
248+10.50	256+00.00	HWY. 167-FULL DEPTH	789.50	578.50	4567.26	126.80	11123.18	0.03	333.70	39.52	3466.78	495.00	858.03	63.30	5552.82	220.00	610.81	75.00	6579.17	220.00	723.71
256+00.00	266+00.00	HWY. 167-NOTCH AND WIDENING-RT. M.L.	1000.00	348.75	3487.50	102.77	11418.89	0.03	342.57	39.30	4366.67	495.00	1080.75	39.10	4344.44	220.00	477.89	75.00	8333.33	220.00	916.67
266+00.00	267+00.00	HWY. 167-NOTCH AND WIDENING-M.L.	100.00	348.75	348.75	102.77	1141.89	0.03	34.26	39.52	439.11	495.00	108.68	39.25	436.11	220.00	47.97	75.00	833.33	220.00	91.67
267+00.00	281+50.00	HWY. 167-NOTCH AND WIDENING-LT. M.L.	1450.00	348.75	5056.88	102.77	16557.39	0.03	496.72	39.30	6331.67	495.00	1567.09	39.10	6299.44	220.00	692.94	75.00	12083.33	220.00	1329.17
281+50.00	308+00.00	HWY. 167-NOTCH AND WIDENING-RT. M.L.	2650.00	348.75	9241.88	102.77	30260.06	0.03	907.80	39.52	11636.44	495.00	2880.02	39.25	11556.94	220.00	1271.26	75.00	22083.33	220.00	2429.17
308+00.00	311+00.00	HWY. 167-NOTCH AND WIDENING (TYPE B CURB)-RT. M	300.00	397.75	1193.25	78.77	2625.67	0.03	78.77	39.25	1308.33	495.00	323.81	39.52	1317.33	220.00	144.91	75.00	2500.00	220.00	275.00
311+00.00	326+00.00	HWY. 167-NOTCH AND WIDENING-RT. M.L.	1500.00	348.75	5231.25	102.77	17128.33	0.03	513.85	39.52	6586.67	495.00	1630.20	39.25	6541.67	220.00	719.58	75.00	12500.00	220.00	1375.00
326+00.00	335+26.00	HWY. 167-FULL DEPTH	926.00	578.50	5356.91	126.80	13046.31	0.03	391.39	63.50	6533.44	495.00	1617.03	63.30	6512.87	220.00	716.42	75.00	7716.67	220.00	848.83
335+26.00	393+00.00	HWY. 167-NOTCH AND WIDENING-RT. M.L.	5774.00	348.75	20136.83	102.77	65932.66	0.03	1977.98	39.30	25213.13	495.00	6240.25	39.10	25084.82	220.00	2759.33	75.00	48116.67	220.00	5292.83
393+00.00	397+03.97	HWY. 167-NOTCH AND WIDENING-M.L.	403.97	438.50	1771.41	102.77	4612.89	0.03	138.39	39.52	1773.88	495.00	439.04	39.25	1761.76	220.00	193.79	75.00	3366.42	220.00	370.31
397+03.97	398+03.97	TRANSITION	100.00			24.00	266.67	0.10	26.67									24.00	266.67	220.00	29.33
ADDITIONAL FOR LEVELING																					
131+00.00	154+49.00	LEVELING	2349.00			24.00	6264.00	0.10	626.40									24.00	6264.00	220.00	689.04
157+00.00	175+00.00	LEVELING	1800.00			24.00	4800.00	0.10	480.00									24.00	4800.00	220.00	528.00
183+00.00	243+00.00	LEVELING	6000.00			24.00	16000.00	0.10	1600.00									24.00	16000.00	220.00	1760.00
256+00.00	326+00.00	LEVELING	7000.00			24.00	18666.67	0.10	1866.67									24.00	18666.67	220.00	2053.33
335+00.00	397+03.97	LEVELING	6203.97			24.00	16543.92	0.10	1654.39									24.00	16543.92	220.00	1819.83
131+00.00	154+49.00	GRADE RAISE	2349.00			24.00	6264.00	0.03	187.92	24.00	6264.00	660.00	2067.12								
157+00.00	175+00.00	GRADE RAISE	1800.00			24.00	4800.00	0.03	144.00	24.00	4800.00	440.00	1056.00								
183+00.00	243+00.00	GRADE RAISE	6000.00			24.00	16000.00	0.03	480.00	24.00	16000.00	330.00	2640.00								
256+00.00	326+00.00	GRADE RAISE	7000.00			24.00	18666.67	0.03	560.00	24.00	18666.67	330.00	3080.00								
335+00.00	397+03.97	GRADE RAISE	6203.97			24.00	16543.92	0.03	496.32	24.00	16543.92	935.00	7734.28								
ADDITIONAL FOR GUARDRAIL WIDENING																					
176+89.75	177+31.75	RT. SIDE (6:1 TAPER)	42.00	30.50	12.81													3.50	16.33	220.00	1.80
177+31.75	177+41.75	RT. SIDE (10' BEYOND GR)	10.00	59.00	5.90													7.00	7.78	220.00	0.86
177+41.75	179+16.75	RT. SIDE (50:1 TAPER)	175.00	45.00	78.75													5.30	103.06	220.00	11.34
179+16.75	179+60.50	RT. SIDE	43.75	30.50	13.34													3.50	17.01	220.00	1.87
176+89.75	177+31.75	LT. SIDE (6:1 TAPER)	42.00	24.75	10.40													3.50	16.33	220.00	1.80
177+31.75	177+41.75	LT. SIDE (10' BEYOND GR)	10.00	59.00	5.90													7.00	7.78	220.00	0.86
177+41.75	179+16.75	LT. SIDE (50:1 TAPER)	175.00	45.00	78.75													5.30	103.06	220.00	11.34
179+16.75	179+60.50	LT. SIDE	43.75	30.50	13.34													3.50	17.01	220.00	1.87
180+71.50	181+15.25	RT. SIDE	43.75	30.50	13.34													3.50	17.01	220.00	1.87
181+15.25	182+90.25	RT. SIDE (50:1 TAPER)	175.00	45.00	78.75													5.30	103.06	220.00	11.34
182+90.25	183+00.25	RT. SIDE (10' BEYOND GR)	10.00	59.00	5.90													7.00	7.78	220.00	0.86
183+00.25	183+44.00	RT. SIDE (6:1 TAPER)	43.75	30.50	13.34													3.50	17.01	220.00	1.87
180+71.50	181+15.25	LT. SIDE	43.75	30.50	13.34													3.50	17.01	220.00	1.87
181+15.25	182+90.25	LT. SIDE (50:1 TAPER)	175.00	45.00	78.75													5.30	103.06	220.00	11.34
182+90.25	183+00.25	LT. SIDE (10' BEYOND GR)	10.00	59.00	5.90													7.00	7.78	220.00	0.86
183+64.25	184+06.25	LT. SIDE (6:1 TAPER)	42.00	30.50	12.81													3.50	16.33	220.00	1.80
244+06.75	244+48.75	RT. SIDE (6:1 TAPER)	42.00	30.50	12.81													3.50	16.33	220.00	1.80
244+48.75	244+58.75	RT. SIDE (10' BEYOND GR)	10.00	59.00	5.90													7.00	7.78	220.00	0.86
244+58.75	246+33.75	RT. SIDE (50:1 TAPER)	175.00	45.00	78.75													5.30	103.06	220.00	11.34
246+33.75	246+77.55	RT. SIDE	43.80	30.50	13.36													3.50	17.03	220.00	1.87
245+46.75	245+88.75	LT. SIDE (6:1 TAPER)	42.00	30.50	12.81													3.50	16.33	220.00	1.80
245+88.75	245+98.75	LT. SIDE (10' BEYOND GR)	10.00	59.00	5.90													7.00	7.78	220.00	0.86
245+98.75	247+73.75	LT. SIDE (50:1 TAPER)	175.00	45.00	78.75													5.30	103.06	220.00	11.34
247+73.75	248+17.55	LT. SIDE	43.80	30.50	13.36													3.50	17.03	220.00	1.87
248+10.50	248+54.30	RT. SIDE	43.80	30.50	13.36													3.50	17.03	220.00	1.87
248+54.30	250+29.30	RT. SIDE (50:1 TAPER)	175.00	45.00	78.75													5.30	103.06	220.00	11.34
250+29.30	250+39.30	RT. SIDE (10' BEYOND GR)	10.00	59.00	5.90													7.00	7.78	220.00	0.86
250+39.30	250+81.30	RT. SIDE (6:1 TAPER)	42.00	30.50	12.81													3.50	16.33	220.00	1.80
248+10.50	248+54.30	LT. SIDE	43.80	30.50	13.36													3.50	17.03	220.00	1.87
248+54.30	250+29.30	LT. SIDE (50:1 TAPER)	175.00	45.00	78.75													5.30	103.06	220.00	11.34
250+29.30	250+39.30	LT. SIDE (10' BEYOND GR)	10.00	59.00	5.90													7.00	7.78	220.00	0.86
250+39.30	250+81.30	LT. SIDE (6:1 TAPER)	42.00	30.50	12.81													3.50	16.33	220.00	1.80
COUNTY TURNOUTS																					
	132+69.00	CO. RD	125.00	VAR.	119.36	VAR.	230.00	0.03	6.90									VAR.	292.30	220.00	32.15
	166+41.00	UNION PVT	56.00	VAR.	42.59	VAR.	104.30	0.03	3.13									VAR.	104.30	220.00	11.47
	174+00.00	OLD CALION RD SOUTH	108.00	VAR.	227.52	VAR.	557.20	0.03	16.72									VAR.	557.20	220.00	61.29
	209+13.00	UNION 801 PVT	55.00	VAR.	62.92	VAR.	154.10	0.03	4.62									VAR.	154.10	220.00	16.95
	220+50.00	OLD CALION RD NORTH	121.00	VAR.	281.30	VAR.	688.90	0.03	20.67									VAR.	688.90	220.00	75.78
	225+50.00	O'REAR CUTOFF	102.00	VAR.	253.21	VAR.	620.10	0.03	18.60									VAR.	620.10	220.00	68.21
	255+02.00	TIMBER RIDGE LANE	112.00	VAR.	78.89	VAR.	193.20	0.03	5.80									VAR.	193.20	220.00	21.25
	296+83.00	UNION 802	100.00	VAR.	52.51	VAR.	128.60	0.03	3.86									VAR.	128.60	220.00	14.15
	310+53.00	UNION CO. 320	110.00	VAR.	162.93	VAR.	399.00	0.03	11.97									VAR.	399.00	220.00	43.89
	312+31.00	O'REAR RD	102.00	VAR.	56.84	VAR.	144.10	0.03	4.32									VAR.	144.10	220.00	15.85
ADDITIONAL FOR SUPERELEVATION																					
131+00.00	139+00.00	SUPER TRANSITION-RT. M.L.	800.00	20.50	164.00																
140+00.00	143+00.00	SUPER TRANSITION-RT. M.L.	300.00	20.50	61.50																
222+00.00	243+48.00	SUPER TRANSITION-LT. M.L.	2148.00	31.50	676.62																
262+00.00	271+00.00	SUPER TRANSITION-LT. M.L.	900.00	34.25	308.25																
278+00.00	286+00.00	SUPER TRANSITION-LT. M.L.	800.00	124.75	998.00																
309+63.00	320+00.00	SUPER TRANSITION-LT. M.L.	1037.00	138.75	1438.84																
336+00.00	346+00.00	SUPER TRANSITION-RT. M.L.	1000.00	137.75	1377.50																
TOTALS:					113022.50		437032.00		17525.44		180973.17		45955.31		122909.80		13520.07		287345.06		31608.03

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

4/9/2015

R070280.DGN

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.		070280	100	336
				①		07261, 07262 - QUANTITIES - 53066		

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 070280

BRIDGE NO.	CODE NO.	BRIDGE NAME PLATE TITLE	ITEM NO.	205	801	802	802	803	804	804	805	805	805	805	805	807	812	816	816
			UNIT OF STRUCTURE / ITEM / UNIT	REMOVAL OF EXISTING BRIDGE STUCTURES (SITE NO.)	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE -BRIDGE	CLASS S(AE) CONCRETE -BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL -BRIDGE (GR. 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	CONCRETE PILING (16" SQ.)	CONCRETE PILING (20" SQ.)	TEST PILE (16" SQ.)	TEST PILE (20" SQ.)	PREBORING	STRUCTURAL STEEL IN BEAM SPANS (M270-GR50W)	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP
				LUMP SUM	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LB.	EA.	SQ. YD.	CU. YD.
07261	X071	FLAT CREEK	BENT 1 & 4		52	51.80			5,350	2,000	680		45		180			843	452
			BENT 2 & 3			66.60			6,145			850		55					
			110' CONT. COMP. INTEGRAL W-BEAM UNIT				287.50	20.6		65,100						107,910	1		
			EXISTING BRIDGE NO. 02835 (SITE 1)	1															
			TOTAL FOR BRIDGE 07261	1	52	118.40	287.50	20.6	11,495	67,100	680	850	45	55	180	107.910	1	843	452
07262	X071	SALT CREEK	BENT 1 & 4		44	51.80			5,350	2,000	680		45		180			795	428
			BENT 2 & 3			66.60			6,145			680		45					
			110' CONT. COMP. INTEGRAL W-BEAM UNIT				287.50	20.6		65,100						107.910	1		
			EXISTING BRIDGE NO. 02836 (SITE 2)	1															
			TOTAL FOR BRIDGE 07262	1	44	118.40	287.50	20.6	11,495	67,100	680	680	45	45	180	107.910	1	795	428
			TOTAL FOR JOB 070280	-	96	236.80	575.00	41.2	22,990	134,200	1,360	1,530	90	100	360	215,820	2	1,638	880

JIM TRIBO
DESIGN SECTION SUPERVISOR

STATE OF ARKANSAS
Carl T. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL 3/14/14 FUSELIER

BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
EL DORADO - HWY. 335 (S)
UNION COUNTY

ROUTE 167 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 12-07-12 FILENAME: b070280_ql.dgn
CHECKED BY: LJB DATE: 5/22/13 SCALE: No Scale
DESIGNED BY: — DATE:

BRIDGE NOS. 07261, 07262 DRAWING NO. 53066

PRINT DATE: 14-MAR-2014

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		216	STATION
201	GRUBBING		216	STATION
202	REMOVAL AND DISPOSAL OF FENCE		5977	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES		5	EACH
202	REMOVAL AND DISPOSAL OF POSTS		2	EACH
202	REMOVAL AND DISPOSAL OF FENCE POSTS		45	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE SLABS		30	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT		3360	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS		601	SQ. YD.
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		23	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		75	EACH
202	REMOVAL AND DISPOSAL OF WOOD POLE		30	EACH
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION		5	EACH
202	REMOVAL AND DISPOSAL OF BUILDINGS		8	EACH
202	REMOVAL AND DISPOSAL OF BILLBOARDS		6	EACH
202	REMOVAL AND DISPOSAL OF CATTLE GUARD		1	EACH
202	REMOVAL AND DISPOSAL OF SIGNS		15	EACH
202	REMOVAL AND DISPOSAL OF PLANTERS		3	EACH
202	REMOVAL AND DISPOSAL OF BRICK COLUMNS		10	EACH
210	UNCLASSIFIED EXCAVATION		100955	CU. YD.
210	COMPACTED EMBANKMENT		156825	CU. YD.
SP & 210	SOIL STABILIZATION		2000	TON
303	AGGREGATE BASE COURSE (CLASS 7)		118983	TON
401	TACK COAT		17825	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		43933	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")		2022	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		43793	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		2402	TON
412	COLD MILLING ASPHALT PAVEMENT		822	SQ. YD.
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		150	TON
SP & 415	ACHM PATCHING OF EXISTING ROADWAY		100	TON
504	APPROACH GUTTERS		54.00	CU. YD.
505	PORTLAND CEMENT CONCRETE DRIVEWAY		1707.90	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
603	18" TEMPORARY CULVERT		200	LIN. FT.
SS & 604	SIGNS		874	SQ. FT.
SS & 604	BARRICADES		176	LIN. FT.
SS & 604	TRAFFIC DRUMS		876	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		2674	LIN. FT.
604	RELOCATING PRECAST CONCRETE BARRIER		1622	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS		223844	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		1776	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		3280	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		9665	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS (WORDS)		2	EACH
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS (ARROWS)		3	EACH
SS & 604	VERTICAL PANELS		211	EACH
605	CONCRETE DITCH PAVING (TYPE B)		8867	SQ. YD.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		496	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		64	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		70	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		130	LIN. FT.
SP, SS & 606	18" SIDE DRAIN		2422	LIN. FT.
SP, SS & 606	24" SIDE DRAIN		634	LIN. FT.
SP, SS & 606	36" SIDE DRAIN		38	LIN. FT.
SP, SS & 606	42" SIDE DRAIN		74	LIN. FT.
SS & 606	21" X 15" SIDE DRAIN		32	LIN. FT.
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		18	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		4	EACH
606	SELECTED PIPE BEDDING		290	CU. YD.
611	UNDERDRAIN OUTLET PROTECTORS		110	EACH
611	4" PIPE UNDERDRAINS		10000	LIN. FT.
617	GUARDRAIL (TYPE A)		900	LIN. FT.
617	GUARDRAIL TERMINAL (TYPE 2)		8	EACH
617	THRIE BEAM GUARDRAIL TERMINAL		8	EACH
619	WIRE FENCE (TYPE C)		2570	LIN. FT.
619	WIRE FENCE (TYPE D)		321	LIN. FT.
619	WIRE FENCE (TYPE D-1)		870	LIN. FT.
* 619	4' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	576	LIN. FT.
* 619	4' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	576	LIN. FT.
* 619	6' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	408	LIN. FT.
* 619	6' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	408	LIN. FT.
* 619	16' STEEL GATES	(ALTERNATE NO. 1)	3	EACH
* 619	16' ALUMINUM GATES	(ALTERNATE NO. 2)	3	EACH
* 619	20' STEEL GATES	(ALTERNATE NO. 1)	1	EACH
* 619	20' ALUMINUM GATES	(ALTERNATE NO. 2)	1	EACH
620	LIME		81	TON
620	SEEDING		40.62	ACRE
SS & 620	MULCH COVER		295.62	ACRE
620	WATER		9423.9	M.GAL.
621	TEMPORARY SEEDING		255.00	ACRE
621	SILT FENCE		36091	LIN. FT.
621	SAND BAG DITCH CHECKS		5214	BAG
621	SEDIMENT BASIN		3813	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		3813	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		5616	CU. YD.
621	ROCK DITCH CHECKS		684	CU. YD.
623	SECOND SEEDING APPLICATION		40.62	ACRE
624	SOLID SODDING		6241	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)		6642	SQ. YD.
628	TOPSOIL FURNISHED AND PLACED		6000	CU. YD.
634	CONCRETE CURB (TYPE B)		300	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
637	MAILBOXES		81	EACH
637	MAILBOX SUPPORTS (SINGLE)		69	EACH
637	MAILBOX SUPPORTS (DOUBLE)		6	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS		34502	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")		71435	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")		70633	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4")	(ALTERNATE NO. 1)	120	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4")	(ALTERNATE NO. 2)	120	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING YELLOW (4")	(ALTERNATE NO. 1)	564	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE YELLOW (4")	(ALTERNATE NO. 2)	564	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)		1430	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER		3	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		3	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY		182	CU. YD.
802	CLASS S CONCRETE-ROADWAY		250.56	CU. YD.
804	REINFORCING STEEL-ROADWAY (GRADE 60)		32052	POUND
816	FILTER BLANKET		232	SQ. YD.
816	DUMPED RIPRAP		117	CU. YD.
SP	CULVERT CLEAN OUT		6	EACH
	STRUCTURES OVER 20' SPAN			
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)		1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)		1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL		1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE		96	CU. YD.
802	CLASS S CONCRETE-BRIDGE		236.80	CU. YD.
802	CLASS S(AE) CONCRETE-BRIDGE		575.00	CU. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT		41.2	GAL.
804	REINFORCING STEEL-BRIDGE (GRADE 60)		22990	POUND
804	EPOXY COATED REINFORCING STEEL (GRADE 60)		134200	POUND
805	CONCRETE PILING (16" SQUARE)		1360	LIN. FT.
805	CONCRETE PILING (20" SQUARE)		1530	LIN. FT.
805	TEST PILE (16" SQUARE)		90	LIN. FT.
805	TEST PILE (20" SQUARE)		100	LIN. FT.
805	PREBORING		360	LIN. FT.
807	STRUCTURAL STEEL IN BEAM SPANS (M270-GR50W)		215820	POUND
812	BRIDGE NAME PLATE (TYPE D)		2	EACH
816	FILTER BLANKET		1638	SQ. YD.
816	DUMPED RIPRAP		880	CU. YD.

*DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
9/23/2015	REVISED EARTHWORK QUANTITIES	95,101,328-336
10/6/2015	REVISED SPECIAL PROVISION "PRICE ADJUSTMENT FOR ASPHALT BINDER"	101

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11485
DANIEL P. SMITH
10-7-15

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
09-23-2015			
10-06-2015			

(2) SUMMARY OF QUANTITIES AND REVISIONS

FED.ROD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.	070280		101	336

SUMMARY OF QUANTITIES AND REVISIONS

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.		070280	102	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

SURVEY CONTROL COORDINATES

Project Name: s070280
Date: 6/30/2011
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL.
PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	1526455.3698	1113791.9034	212.119	CTL	5/8" REBAR W/ 2" ALUM CAP
2	1527229.7885	1114841.5926	188.440	CTL	5/8" REBAR W/ 2" ALUM CAP
3	1527824.9853	1115073.9403	193.555	CTL	5/8" REBAR W/ 2" ALUM CAP
4	1528550.2076	1115658.2171	184.922	CTL	5/8" REBAR W/ 2" ALUM CAP
5	1529201.0993	1116250.8045	167.030	CTL	5/8" REBAR W/ 2" ALUM CAP
6	1530008.4718	1116854.9937	150.637	CTL	5/8" REBAR W/ 2" ALUM CAP
7	1530911.2271	1117593.4387	135.905	CTL	5/8" REBAR W/ 2" ALUM CAP
8	1531714.4477	1118311.1058	136.147	CTL	5/8" REBAR W/ 2" ALUM CAP
9	1532557.5834	1118944.0178	138.252	CTL	5/8" REBAR W/ 2" ALUM CAP
10	1533547.2381	1119813.2689	158.565	CTL	5/8" REBAR W/ 2" ALUM CAP
11	1534089.8282	1120197.0207	157.108	CTL	5/8" REBAR W/ 2" ALUM CAP
12	1534671.9311	1120736.2586	155.224	CTL	5/8" REBAR W/ 2" ALUM CAP
13	1535337.2902	1121342.2222	160.706	CTL	5/8" REBAR W/ 2" ALUM CAP
14	1535861.9084	1122230.6172	133.047	CTL	5/8" REBAR W/ 2" ALUM CAP
15	1536273.8817	1123306.7059	128.510	CTL	5/8" REBAR W/ 2" ALUM CAP
16	1536746.3525	1124344.9254	152.340	CTL	5/8" REBAR W/ 2" ALUM CAP
17	1537385.8989	1125316.1477	159.009	CTL	5/8" REBAR W/ 2" ALUM CAP
18	1538018.2716	1126147.3334	172.760	CTL	5/8" REBAR W/ 2" ALUM CAP
19	1538759.4684	1126975.1320	166.978	CTL	5/8" REBAR W/ 2" ALUM CAP
20	1539518.5193	1127828.7472	193.810	CTL	5/8" REBAR W/ 2" ALUM CAP
21	1540104.1331	1128354.8825	193.020	CTL	5/8" REBAR W/ 2" ALUM CAP
22	1541093.4062	1128917.7099	155.472	CTL	5/8" REBAR W/ 2" ALUM CAP
23	1542127.3964	1129591.1294	187.293	CTL	5/8" REBAR W/ 2" ALUM CAP
24	1542837.6093	1130421.9274	179.836	CTL	5/8" REBAR W/ 2" ALUM CAP
25	1543435.4035	1131145.6862	200.875	CTL	5/8" REBAR W/ 2" ALUM CAP
26	1543935.8632	1131751.5697	191.431	CTL	5/8" REBAR W/ 2" ALUM CAP
27	1544626.2490	1132586.7353	163.704	CTL	5/8" REBAR W/ 2" ALUM CAP
28	1545390.4302	1133508.1584	174.462	CTL	5/8" REBAR W/ 2" ALUM CAP
29	1546028.6020	1134247.8121	179.243	CTL	5/8" REBAR W/ 2" ALUM CAP
30	1546723.3278	1134974.8737	189.450	CTL	5/8" REBAR W/ 2" ALUM CAP
31	1547584.4406	1135735.5433	172.932	CTL	5/8" REBAR W/ 2" ALUM CAP
32	1548380.9178	1136439.3333	165.793	CTL	5/8" REBAR W/ 2" ALUM CAP
33	1549187.0590	1137153.7836	179.272	CTL	5/8" REBAR W/ 2" ALUM CAP
34	1549720.2743	1137626.1112	201.957	CTL	5/8" REBAR W/ 2" ALUM CAP
35	1550433.0162	1138278.8103	193.959	CTL	5/8" REBAR W/ 2" ALUM CAP
36	1551092.5569	1139101.1275	167.052	CTL	5/8" REBAR W/ 2" ALUM CAP
37	1551671.3756	1140066.9680	145.488	CTL	5/8" REBAR W/ 2" ALUM CAP
38	1552173.1032	1140931.5325	144.515	CTL	5/8" REBAR W/ 2" ALUM CAP
39	1552708.7513	1141851.7141	126.037	CTL	5/8" REBAR W/ 2" ALUM CAP
40	1553027.8288	1142491.9170	113.415	CTL	5/8" REBAR W/ 2" ALUM CAP
41	1553775.6136	1143384.6142	100.630	CTL	5/8" REBAR W/ 2" ALUM CAP
42	1554475.1038	1144198.4012	100.180	CTL	5/8" REBAR W/ 2" ALUM CAP
43	1555107.9491	1145137.5308	99.870	CTL	5/8" REBAR W/ 2" ALUM CAP
44	1555715.2790	1146067.4579	100.345	CTL	5/8" REBAR W/ 2" ALUM CAP
45	1556300.3809	1146991.5898	99.358	CTL	5/8" REBAR W/ 2" ALUM CAP
46	1556965.6172	1147762.8361	102.649	CTL	5/8" REBAR W/ 2" ALUM CAP
47	1558343.1512	1148677.8031	106.894	CTL	5/8" REBAR W/ 2" ALUM CAP
100	1538040.8741	1126213.0063	170.496	GPS	AHTD GPS 700025
101	1539705.4915	1128066.7946	194.877	GPS	AHTD GPS 700025A
102	1547669.7575	1135777.9886	169.341	GPS	AHTD GPS 700026
103	1549554.6745	1137441.2147	198.555	GPS	AHTD GPS 700026A
104	1558505.0475	1148779.7157	111.729	GPS	AHTD GPS 700022
900	1526451.5470	1113618.3876	213.579	BM	AHTD DISK L325 2009
901	1529721.7886	1116675.7478	148.673	TBM	CHL SQ IN HW
902	1532104.6451	1118579.7320	133.452	BM	K 325 2009
903	1534274.3265	1120341.9564	154.794	TBM	CHL SQ IN HW
904	1536096.0577	1122267.7583	128.286	BM	AHTD DISK J 325 2009
906	1538637.7961	1126753.5938	165.084	BM	AHTD DISK H 325 2009
907	1539612.1880	1128447.4125	199.821	BM	AHTD DISK G 325 2009
908	1541207.4221	1128973.8444	154.119	TBM	CHL SQ IN HW
909	1542393.0727	1129958.1037	178.634	BM	AHTD DISK F 325 2009
910	1544005.8904	1131738.6300	190.393	TBM	CHL SQ BASE OF TOWER
911	1546313.2028	1133788.9026	189.689	BM	AHTD DISK E 325 2009
912	1547982.7798	1136068.3707	165.130	TBM	SQ CUT CENTER HDWL
913	1549361.0892	1137526.0053	206.482	BM	USGS X 198 1960
914	1551370.3033	1139550.8576	150.711	TBM	SQ CUT IN HDWL
915	1552852.9262	1142102.0092	128.389	BM	USGS Y 198 1960
916	1554236.4036	1143977.3099	99.721	BM	D 325 2009
917	1558487.1585	1148832.4860	117.932	BM	CAP IN PARAPET WL
918	1558498.5644	1148702.2646	105.485	BM	CAP IN BASE WATERLINE
919	1558642.9125	1147736.2825	95.613	BM	CAP SET IN CONC. BASE TOWER
920	1544852.3949	1132846.0170	161.238	BM	CHL SQ IN HW
966	1547973.0821	1152794.0779	201.560	BM	CALION RM 1
967	1547973.0821	1152794.0779	203.036	BM	CALION RM 2
968	1548037.0596	1152789.1199	204.035	BM	CALION 1952
972	1552336.6202	1151383.3105	103.647	BM	A 201 1960
973	1554141.0902	1150038.1595	90.198	BM	Z 198 1960
975	1545643.6756	1152695.6522	157.211	BM	TT 6 T 1933
981	1511424.3560	1108666.5763	273.588	BM	EL DORADO 1934
982	1510538.5251	1108436.9168	283.835	BM	Z 121 1934
983	1511129.0790	1109093.0871	276.460	BM	Y 121 1934

Note - Rebar and Cap - Standard -" 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).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999933467 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 s070280gi.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 - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 700022, 700025-700025A, and 700026-700026A
CONVERGENCE ANGLE: 0-17-59.06 LEFT AT LT: 33-20-31.07 LG: 092-32-07.95
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 167

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	111+06.04	1526409.8415	1113409.3855
8001	PC	115+56.02	1526490.6147	1113852.0571
8003	PT	125+43.49	1527040.0167	1114635.8826
8004	PC	129+97.49	1527432.0587	1114864.8432
8006	PT	139+02.76	1528174.5348	1115381.1106
8007	PC	168+58.65	1530460.6639	1117254.8494
8009	PT	173+67.45	1530846.8892	1117586.0069
8010	PC	173+86.65	1530861.1892	1117598.8296
8012	PT	179+02.75	1531253.0596	1117934.6108
8013	PC	181+13.56	1531416.1905	1118068.1412
8015	PT	185+97.09	1531796.7001	1118366.4256
8016	PC	186+49.11	1531838.3081	1118397.6480
8018	PT	191+33.18	1532219.2403	1118696.2782
8019	PC	222+45.72	1534627.6883	1120667.9001
8021	PT	244+37.76	1535934.2050	1122402.0175
8064	PC	262+81.48	1536663.3283	1124095.4438
8066	PT	269+78.59	1536995.7429	1124707.0871
8067	PC	278+43.72	1537476.4016	1125426.4059
8069	PT	283+82.29	1537806.1558	1125851.6651
8028	PC	311+65.52	1539662.3538	1127925.5220
8030	PT	318+08.20	1540152.0779	1128338.4420
8031	PC	338+32.84	1541867.1392	1129414.4268
8033	PT	344+48.38	1542327.3161	1129819.2168
8034	PC	402+63.44	1546020.7298	1134310.7282
8036	PT	407+81.01	1546379.6255	1134682.9015

OLD CALION RD (SOUTH)

POINT NO.	TYPE	STATION	NORTHING	EASTING
8059	POB	10+00.00	1530871.9076	1117606.8298
8060	PC	10+93.87	1530809.6275	1117677.0639
8061	CC		1530988.2478	1117835.4556
8062	PT	12+66.58	1530749.5158	1117834.9739
8063	POE	14+33.50	1530749.1790	1118001.8982

OLD CALION RD (NORTH)

POINT NO.	TYPE	STATION	NORTHING	EASTING
8054	POB	10+00.00	1534476.3665	1120544.0240
8055	PC	11+07.64	1534408.1844	1120627.3123
8056	CC		1534223.4560	1120476.0886
8057	PT	13+24.98	1534217.3440	1120714.7428
8058	POE	13+46.82	1534195.5143	1120714.1837

O REAR CUTOFF

POINT NO.	TYPE	STATION	NORTHING	EASTING
8049	POB	10+00.00	1534856.1230	1120869.0662
8050	PC	10+89.20	1534917.2612	1120804.1143
8051	CC		1535091.0968	1120967.7429
8052	PT	12+93.09	1535100.2691	1120729.1868
8053	POE	13+20.83	1535127.9829	1120730.2523

3/31/2015

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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.		070280	103	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 131+00.00
BEGIN JOB 070280
LOG MILE 0.23

N

P. T. 125+43.49

8003

N 30°17'09" E
454.00'

8004

SURVEY BASELINE N 21°19'27" E
638.94'

P. C. 129+97.49

PN#2 PD5/8"REBAR W/ 2"ALUM CAP

PN#00 PD600

PN#01 PD600

P. I. 134+51.07

PN#3 PD5/8"REBAR W/ 2"ALUM CAP

HWY. 167 C.L.

PN#02 PD600

SURVEY BASELINE N 38°51'24" E
931.30'

N 39°20'18" E
2955.89'

8006

P. T. 139+02.76

PN#03 PD600

PN#04 PD600

PN#05 PD600

PN#06 PD600

PN#07 PD600

P. I. 134+51.07
Δ = 9°03'10" RT.
D = 1°00'00"
T = 453.58'
L = 905.27'
P. C. 129+97.49
P. T. 139+02.76
e = 0.030'/'
Ls = 540

N

SURVEY BASELINE N 38°51'24" E
931.30'

PN#07 PD600

PN#08 PD600

PN#09 PD600

PN#10 PD600 DL FIRST 1109

PN#4 PD5/8"REBAR W/ 2"ALUM CAP

PN#11 PD600

PN#12 PD600

PN#113 PD1200

PN#114 PD1200

PN#115 PD1200

SURVEY BASELINE N 42°18'56" E
880.24'

SURVEY BASELINE N 39°20'18" E
2955.89'

SURVEY BASELINE N 36°48'32" E
1008.41'

PN#5 PD5/8"REBAR W/ 2"ALUM CAP

3/31/2015

R070280.DGN

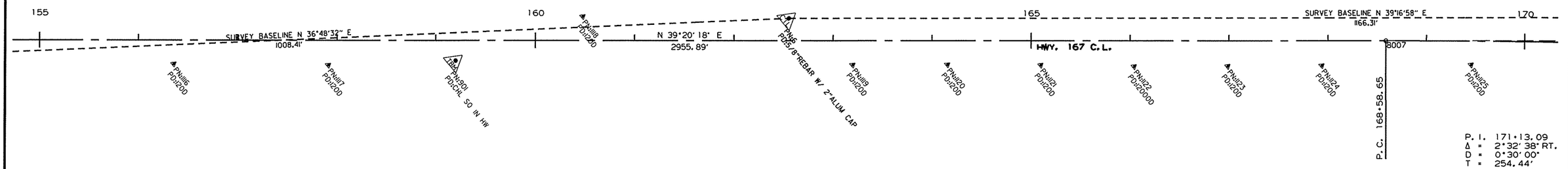
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

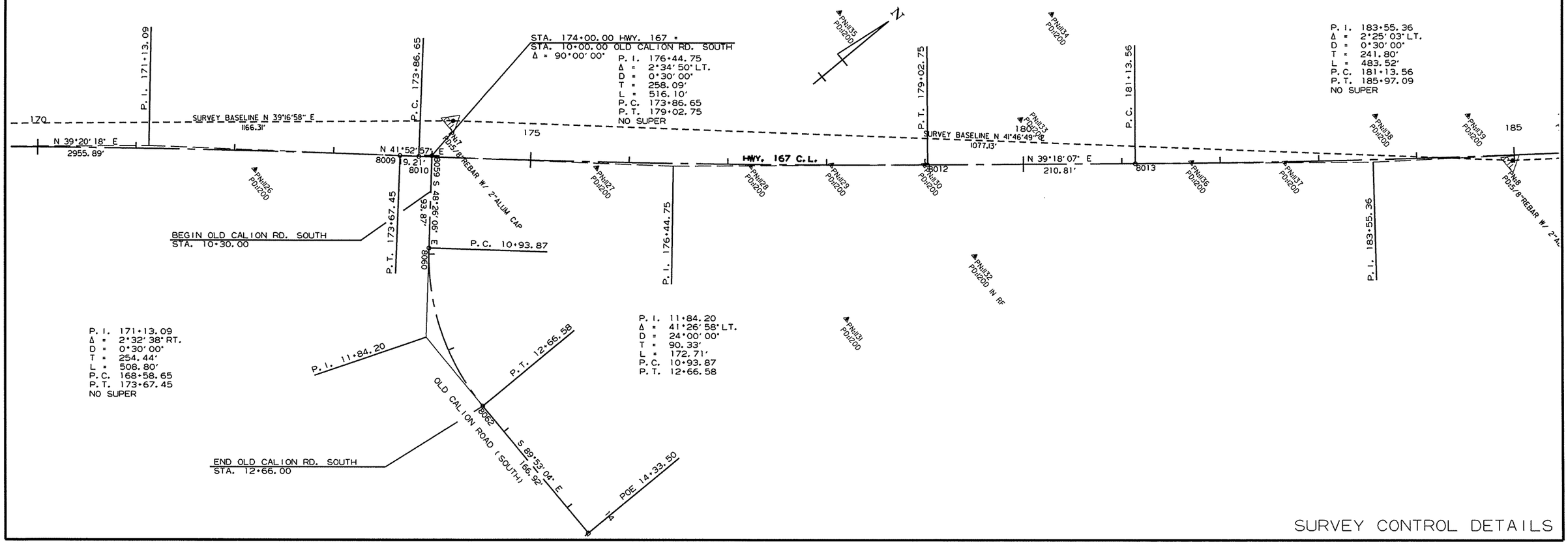
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070280	104	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



P. I. 171+13.09
Δ = 2°32' 38" RT.
D = 0°30' 00"
T = 254.44'
L = 508.80'
P. C. 168+58.65
P. T. 173+67.45
NO SUPER



3/31/2015

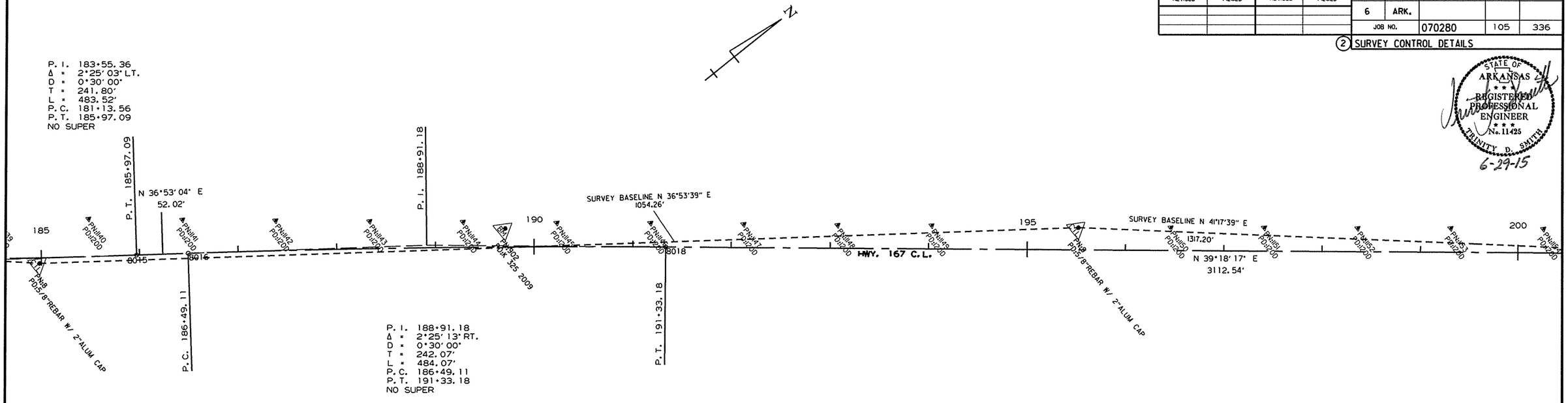
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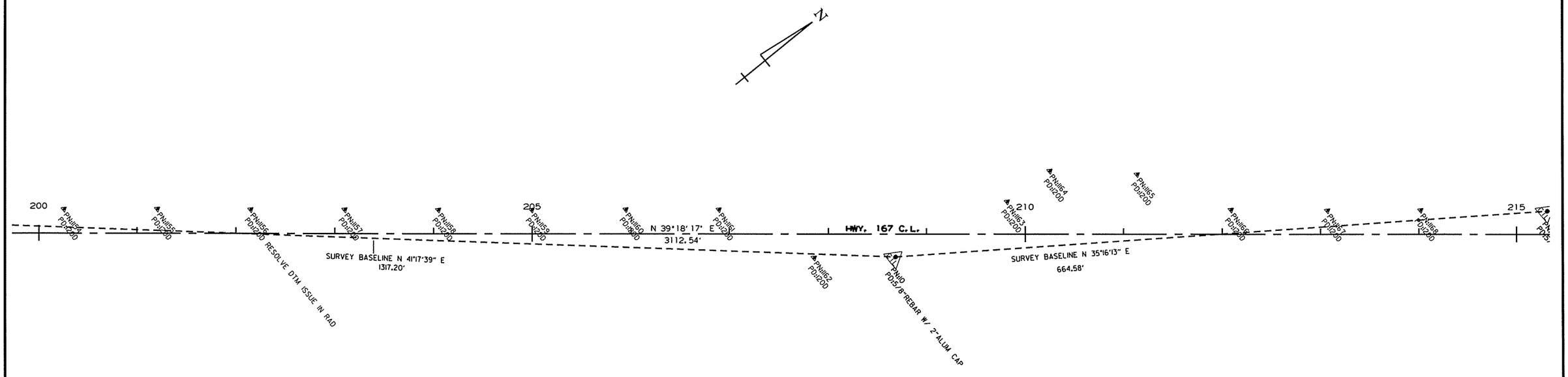
SURVEY CONTROL DETAILS

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.		070280	105	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15





3/31/2015

R070280.DGN

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.		070280	106	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

N

END 0' REAR CUTOFF
STA. 12+93.00

POE 13+20.83

P.I. 11+97.83

8053

8052

N 2°12'07" E
27.73'

PN:762 PD1500 W/NAIL

PN:761 PD1500 W/SHINER

PN:760 PD1500 W/SHINER

60.59'

PN:763 PD1500 W/SHINER

STA. 220+50.00 HWY. 167 =
STA. 10+00.00 OLD CALION RD. NORTH
Δ = 90°00'00"

BEGIN 0' REAR CUTOFF
STA. 10+30.00

0' REAR CUTOFF

8050

P.C. 10+89.20

P.I. 11+97.83
Δ = 48°56'04" RT.
D = 24°00'00"
T = 108.63'
L = 203.89'
P.C. 10+89.20
P.T. 12+93.09

N 46°43'57" W
89.20'

8049

SURVEY BASELINE N 42°48'39" E
793.49'

215

PNW PD5/8"REBAR W/ 2"ALUM CAP

PN:759 PD1200

N 39°18'17" E
3112.54'

PN:758 PD1200

PN:757 PD1200

PN:756 PD1200

PN:755 PD1200

220

PN:754 PD1200

PN:753 PD1200

HWY. 167 C.L.

8019

225

PN:752 PD1200

PN:751 PD1200

PN:750 PD1200

PN:749 PD1200

PN:748 PD1200

230

SURVEY BASELINE N 42°19'30" E
899.94'

BEGIN OLD CALION RD. NORTH
STA. 10+25.00

8054

S 50°41'43" E
107.64'

P.C. 222+45.72

PN2 PD5/8"REBAR W/ 2"ALUM CAP

P.I. 233+63.12
Δ = 27°24'02" RT.
D = 1°15'00"
T = 1117.40'
L = 2192.04'
P.C. 222+45.72
P.T. 244+37.76
e = 0.037'/'
Ls = 540'

P.I. 12+24.49
Δ = 52°09'44" RT.
D = 24°00'00"
T = 116.86'
L = 217.34'
P.C. 11+07.64
P.T. 13+24.98

P.C. 11+07.64

8055

OLD CALION ROAD (NORTH)

STA. 225+50.00 HWY. 167 =
STA. 10+00.00 0' REAR CUTOFF
Δ = 90°00'00"

P.T. 13+24.98

PN:756 PD1500 W/SHINER

P.I. 12+24.49

PN:757 PD1500 W/SHINER

PN:758 PD1500 W/SHINER

8057

END OLD CALION RD. NORTH
STA. 13+25.00

8058

PN:759 PD1500 W/SHINER

POE 13+46.82

P.I. 12+82.10

3/31/2015

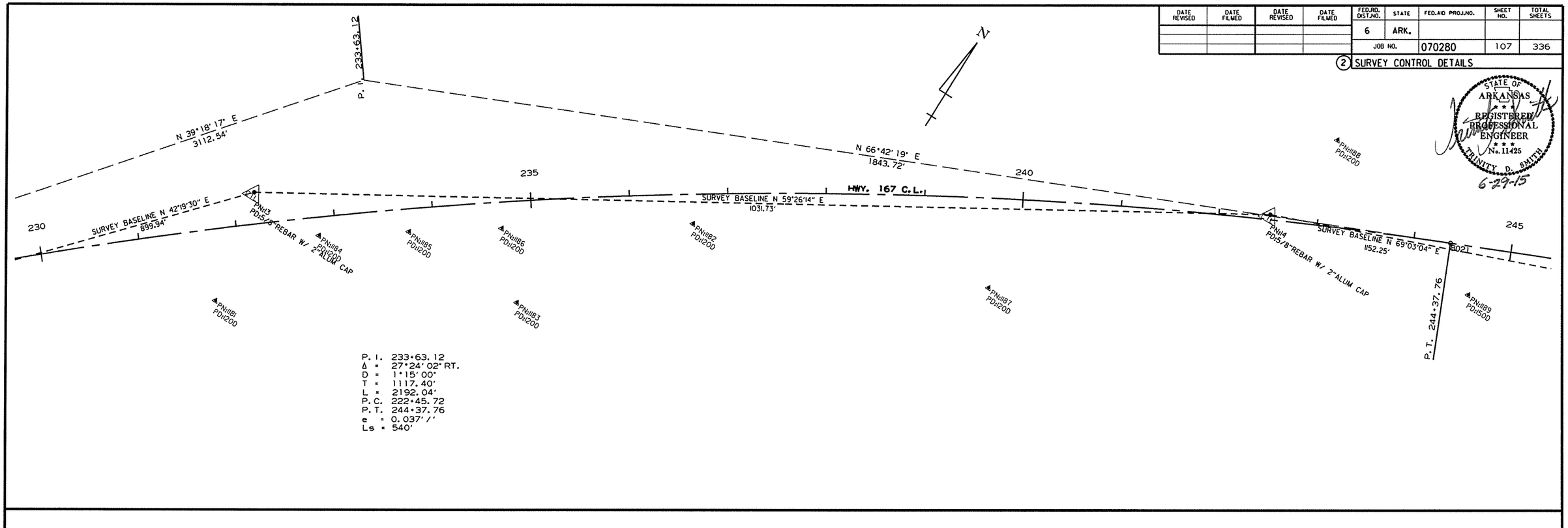
R070280.DGN

SURVEY CONTROL DETAILS

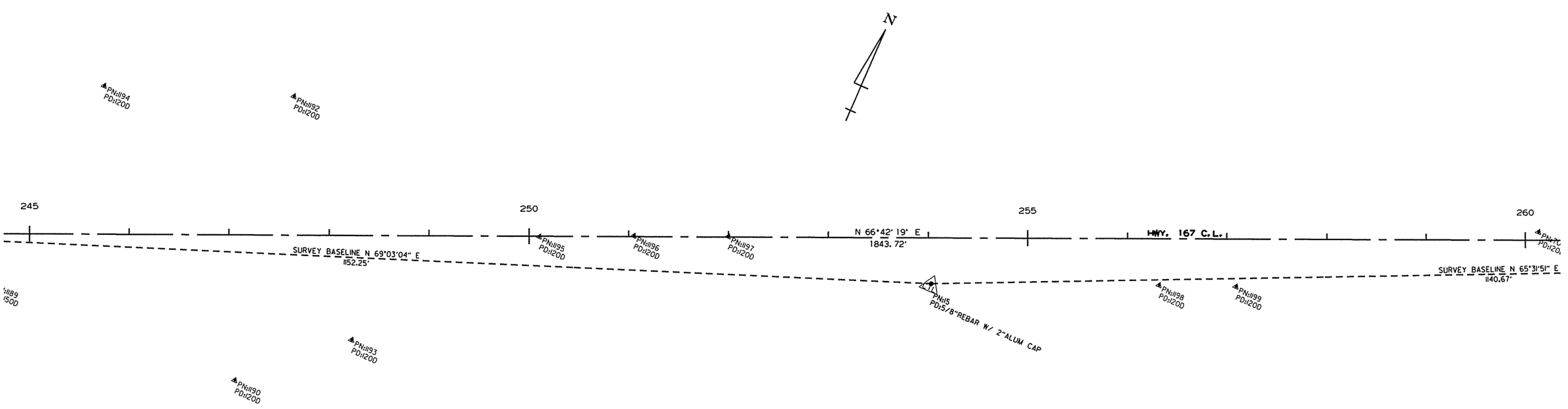
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070280	107	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



P. I. 233+63.12
Δ = 27°24'02" RT.
D = 1°15'00"
T = 1117.40'
L = 2192.04'
P. C. 222+45.72
P. T. 244+37.76
e = 0.037'/'
Ls = 540'



3/31/2015

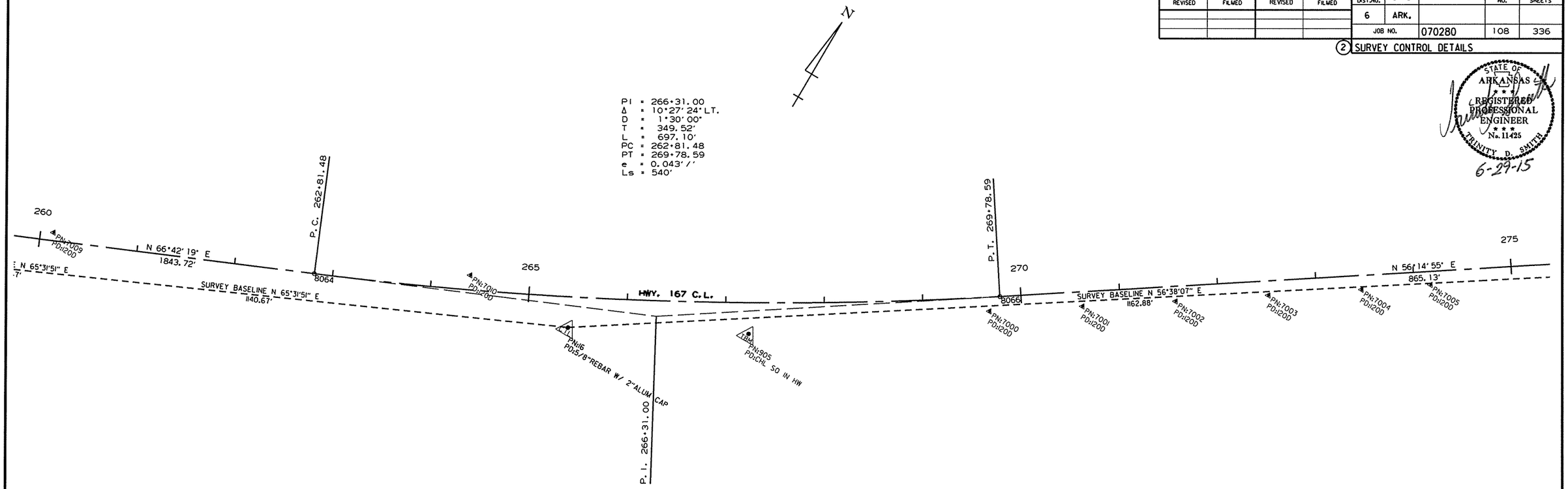
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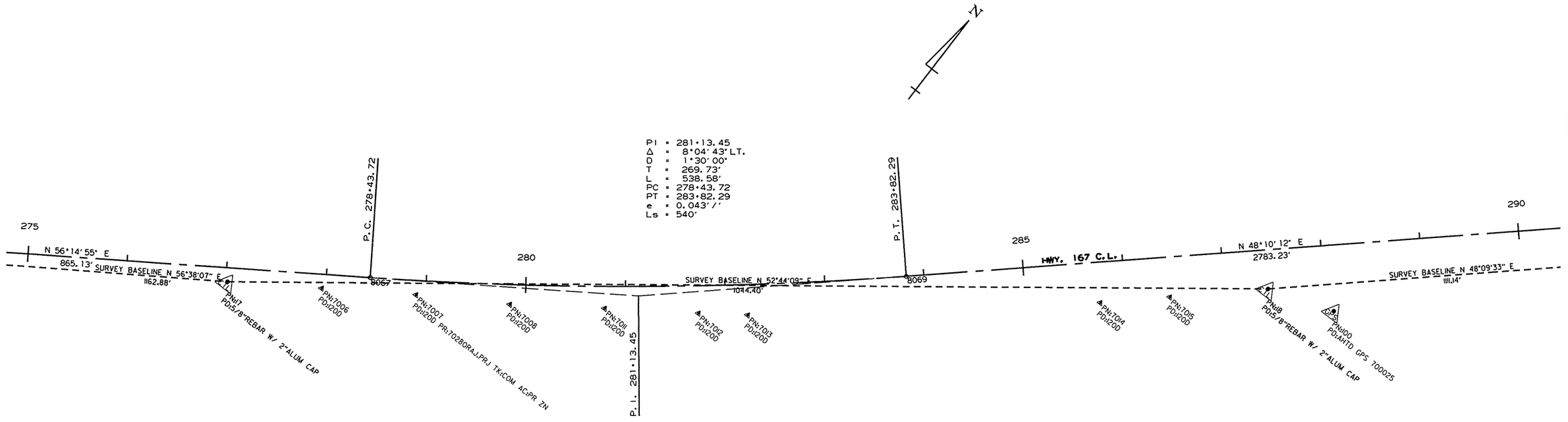
SURVEY CONTROL DETAILS

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.		070280	108	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15





SURVEY CONTROL DETAILS

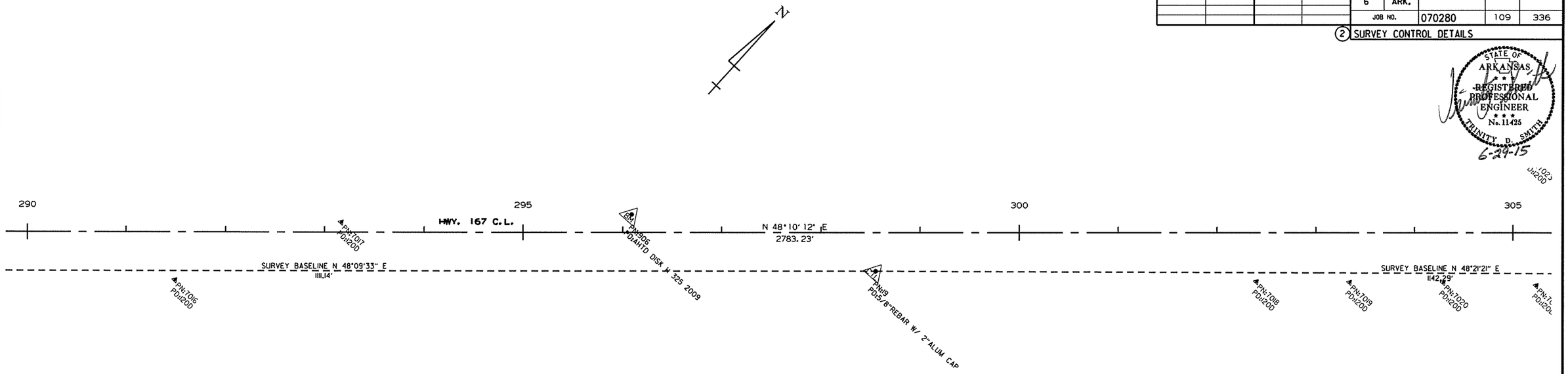
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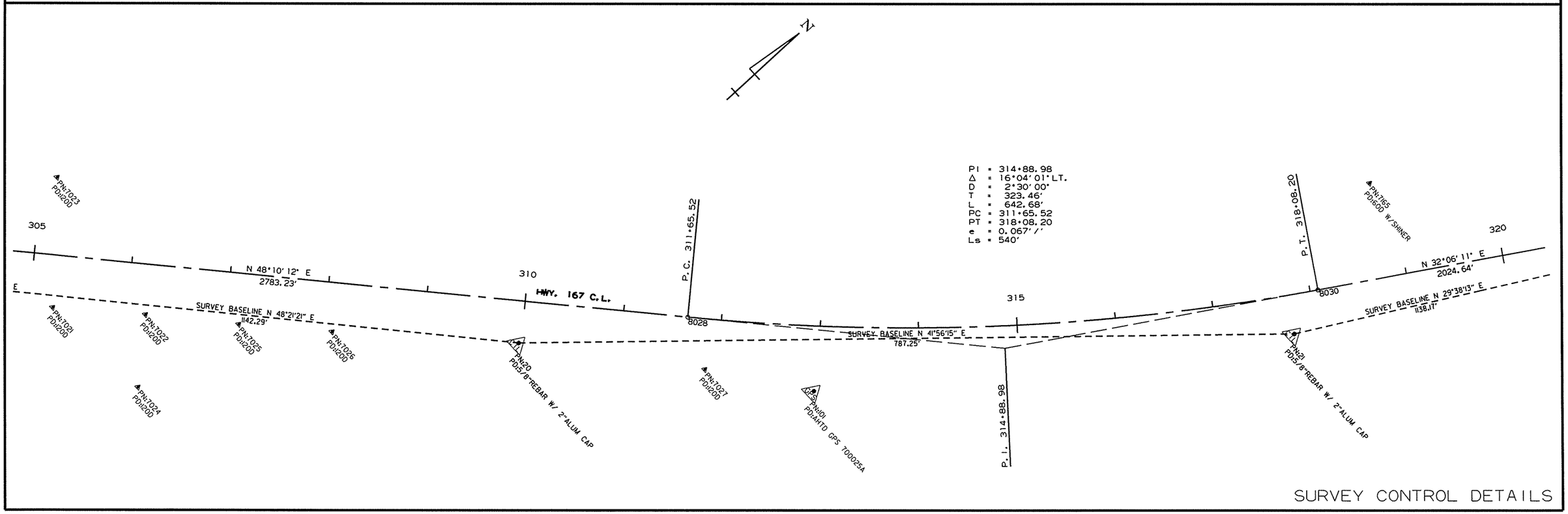
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070280	109	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15





SURVEY CONTROL DETAILS

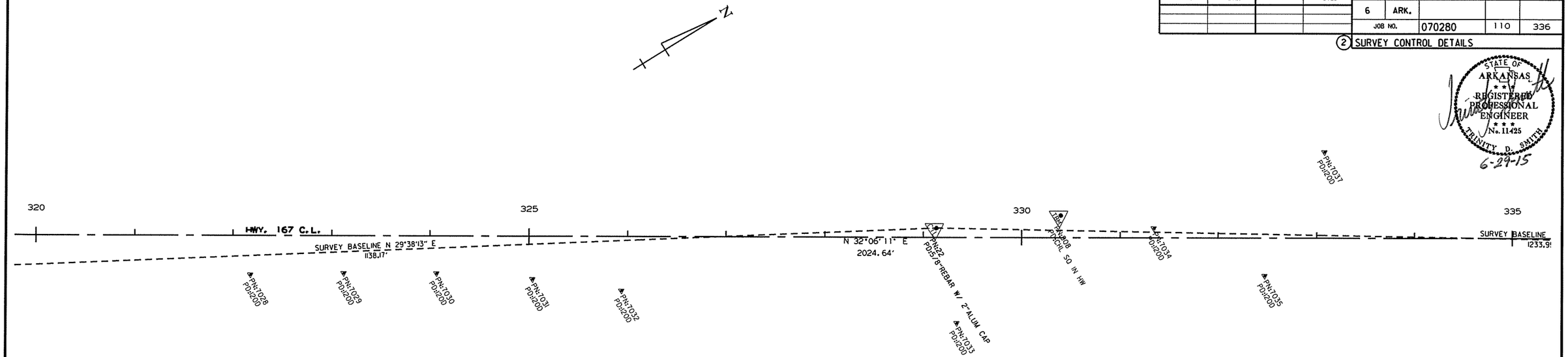
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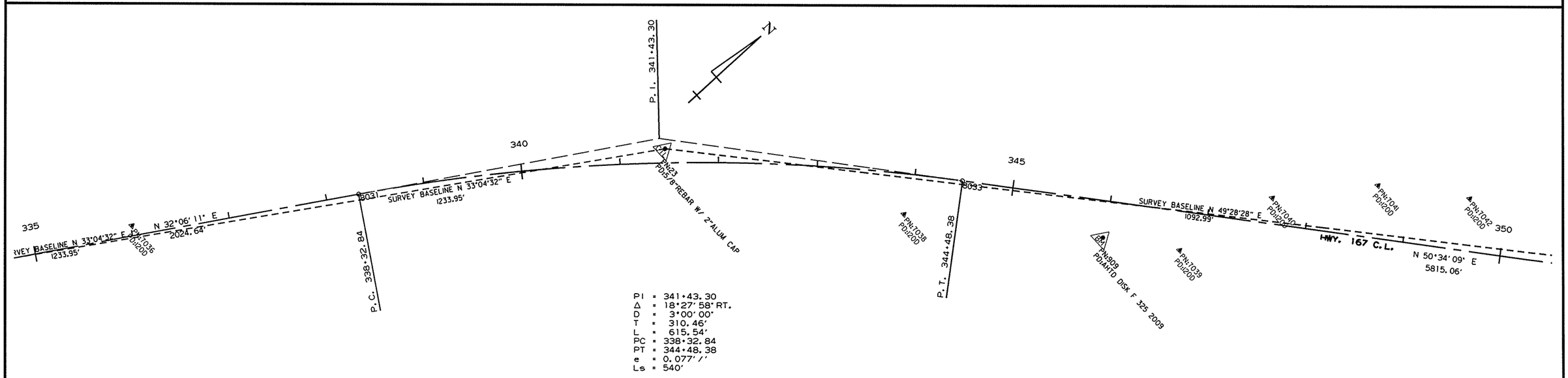
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070280	110	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15





PI = 341+43.30
Δ = 18°27' 58" RT.
D = 3°00' 00"
T = 310.46'
L = 615.54'
PC = 338+32.84
PT = 344+48.38
e = 0.077'/'
Ls = 540'

3/31/2015

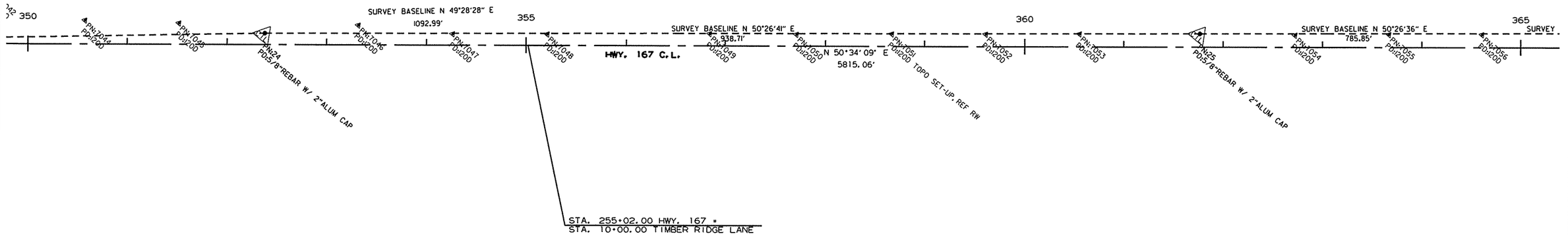
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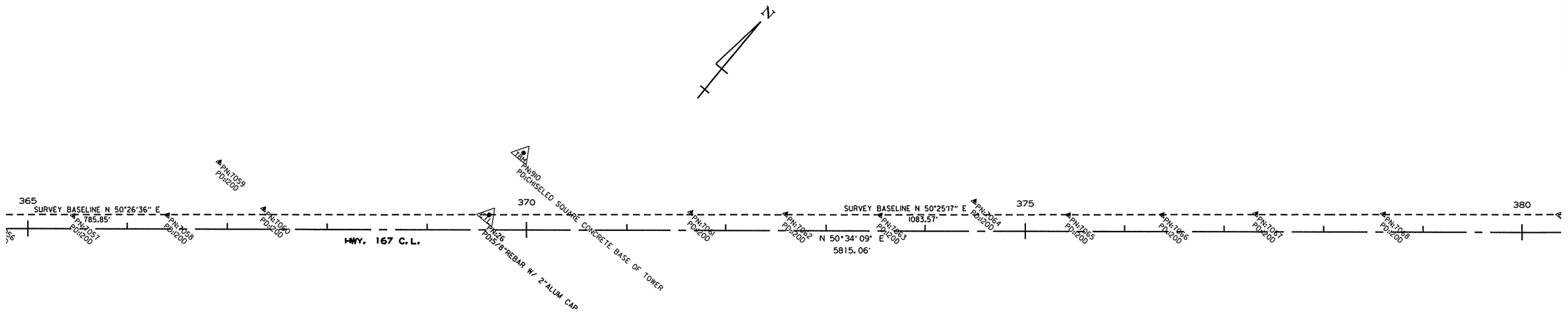
SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		070280	111	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15





3/31/2015

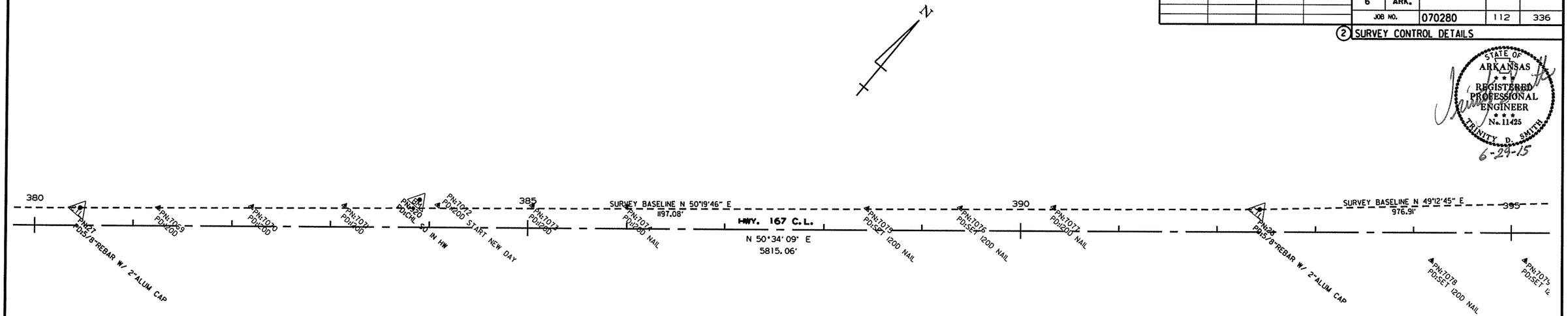
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SURVEY CONTROL DETAILS

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.		070280	112	336

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15



STA. 397+03.97
END JOB 070280
BEGIN JOB 070281
LOG MILE 5.27

3/31/2015

R070280.DGN

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.	070280		113	336

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 132+87 IN PLACE
18" x 36' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +79
18" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 133+73 IN PLACE
18" x 77' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +91
18" x 58' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 125 CU. YDS.

STA. 136+30 INSTALL
18" x 60' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 135 CU. YDS.

STA. 138+37 IN PLACE
18" x 55' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @+35
18" x 60' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 130 CU. YDS.

720' TAPER

PARKING
CONCRETE
PAVED PARKING
EXIST. R/W
P.T. 125+43.49
P.C. 129+97.49
P.I. 134+51.07
P.T. 139+02.76
HWY. 167
N 30°17'09" E
N 39°20'18" E
100' TRANSITION
CONST. LIMITS
PROP. R/W
ALL CURB
CANOPY
CATCH BASIN

16' 40' 135 CONST. LIMITS 40' CONST. LIMITS 40' CONST. LIMITS 40'
8' 12' 24' 24' 24' 24' 8'
30'

+00 +20 +60.14 81.00 +79.48 90.00 +69.79 +69.79 +74.97 70.00

FND #3 RDS 8"REBAR W/ 2"ALUM CAP

STA. 131+00.00
BEGIN JOB 070280
LOG MILE 0.23

STA. 132+69 CONSTRUCT COUNTY RD. ON RT. = 95 CU. YDS.

HWY. 167
P. I. 134+51.07
Δ = 9°03'10" RT.
D = 1°00'00"
T = 453.58'
L = 905.27'
P. C. 129+97.49
P. T. 139+02.76
e = 0.030'/'
Ls = 540

HWY. 167

STA. 131+00.00 BEGIN SUPERELEVATION (MATCH EXIST.)
STA. 131+32.49 MAX SUPERELEVATION 0.030'/'
STA. 137+67.76 MAX SUPERELEVATION 0.030'/'
STA. 143+07.76 END SUPERELEVATION N.C.

P.V.I. 131+00.00
ELEV. 188.92

1.29%

RT. DITCH GRADE 1.00%

133+00.00 RT.
186.96

135+00.00 RT.
188.96

P.V.I. 138+40.00
ELEV. 198.50

K=223.25
VC=800'
e=-3.58'

240 230 220 210 200 190 180 170 160 150

125+00 126+00 127+00 128+00 129+00 130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00

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				6	ARK.			
				JOB NO.		070280	114	336

(2) PLAN AND PROFILE SHEETS

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
150+00	150+65	LT.	78
151+43	152+92	RT.	181
151+51	152+73	LT.	121
153+12	155+77	LT.	277

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
150+00	150+65	LT.	TYPE C	78
151+52	152+78	LT.	TYPE C	126
153+16	154+40	LT.	TYPE C	124
154+65	155+78	LT.	TYPE C	113

STA. 147+50 IN PLACE
24" x 41' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH ON LT. = 55 CU. YDS.

STA. 151+07 IN PLACE
18" x 25' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @+18
18" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

STA. 153+03 IN PLACE
18" x 21' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +00
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT DRIVEWAY = 35 CU. YDS.

STA. 154+44 IN PLACE
15" x 30' CAST IRON PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +49
18" x 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
6-29-15

PROP. R/W
CONST. LIMITS
EXIST. R/W
HWY. 167
N 39°20' 18" E
2" ALUM. CAP
PDS 5/8"REBAR W/
16'
8'
24'

STA. 147+16 - IN PLACE
24" x 78' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 28' LT. & 28' RT. (CL. III)
TO A COMPLETED LENGTH OF 134'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
050 = 18 C.F.S.; D.A. = 8 AC.
24" R.C. PIPE (CL. III) = 64 LIN.FT.
24" F.E.S.= 2 EA.

STA. 149+54 CONSTRUCT
APPROACH ON RT. = 25 CU. YDS.

STA. 151+74 INSTALL
18" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 153+07 IN PLACE
18" x 20' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +08
18" x 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

SHED

HWY. 167

K=464.17
VC=450'
e=0.55'

K=223.25
VC=800'
e=-3.58'

K=163.85
VC=420'
e=-1.35'

K=136.91
VC=570'
e=2.97'

-2.29%
-1.32%
-3.88%
RT. D.G. -4.45%
LT. DITCH GRADE -3.02%
LT. DITCH GRADE -5.00%

145+00.00 RT.
179.02

146+00.00 LT.
174.50

P.V.I. 146+00.00
ELEV. 181.10

147+16.00 RT.
169.40

147+16.00 LT.
171.00

+16
F.L. INLET LT. 171.00
F.L. OUTLET RT. 169.40

P.V.I. 151+00.00
ELEV. 174.50

153+00.00 LT.
162.19

155+00.00 LT.
152.17

210
200
190
180
170
160
150
140
130
120

140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00 155+00

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				6	ARK.			
				JOB NO.		070280	115	336

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 156+05 IN PLACE
24" x 25' CM & 18" x 22' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +03
DBL. 24" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 158+99 IN PLACE
36" x 21' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +95
36" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

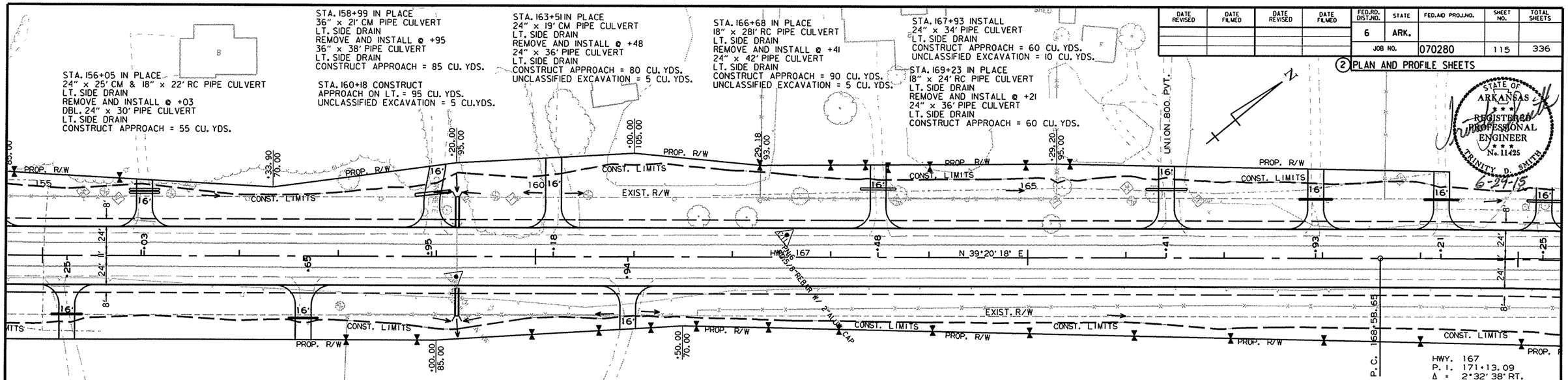
STA. 160+18 CONSTRUCT
APPROACH ON LT. = 95 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU.YDS.

STA. 163+51 IN PLACE
24" x 19' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +48
24" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 80 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

STA. 166+68 IN PLACE
18" x 28' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +41
24" x 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 90 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

STA. 167+93 INSTALL
24" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.
UNCLASSIFIED EXCAVATION = 10 CU. YDS.

STA. 169+23 IN PLACE
18" x 24' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +21
24" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.



STA. 155+16 IN PLACE
18" x 24' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +25
18" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 157+69 IN PLACE
18" x 25' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +65
18" x 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 159+21 - IN PLACE
3' X 2' x 62' R.C. BOX CULV'T.
RETAIN AND EXTEND 31' LT. & 28' RT.
W/ 3:1 WINGS
TO A COMPLETED LENGTH OF 121'
Q50 = 84 C.F.S.; D.A. = 47 AC.

STA. 160+94 CONSTRUCT
APPROACH ON RT. = 25 CU. YDS.

HWY. 167
P. I. 171+13.09
Δ = 2°32' 38" RT.
D = 0°30' 00"
T = 254.44'
L = 508.80'
P.C. 168+58.65
P.T. 173+67.45
NO SUPER

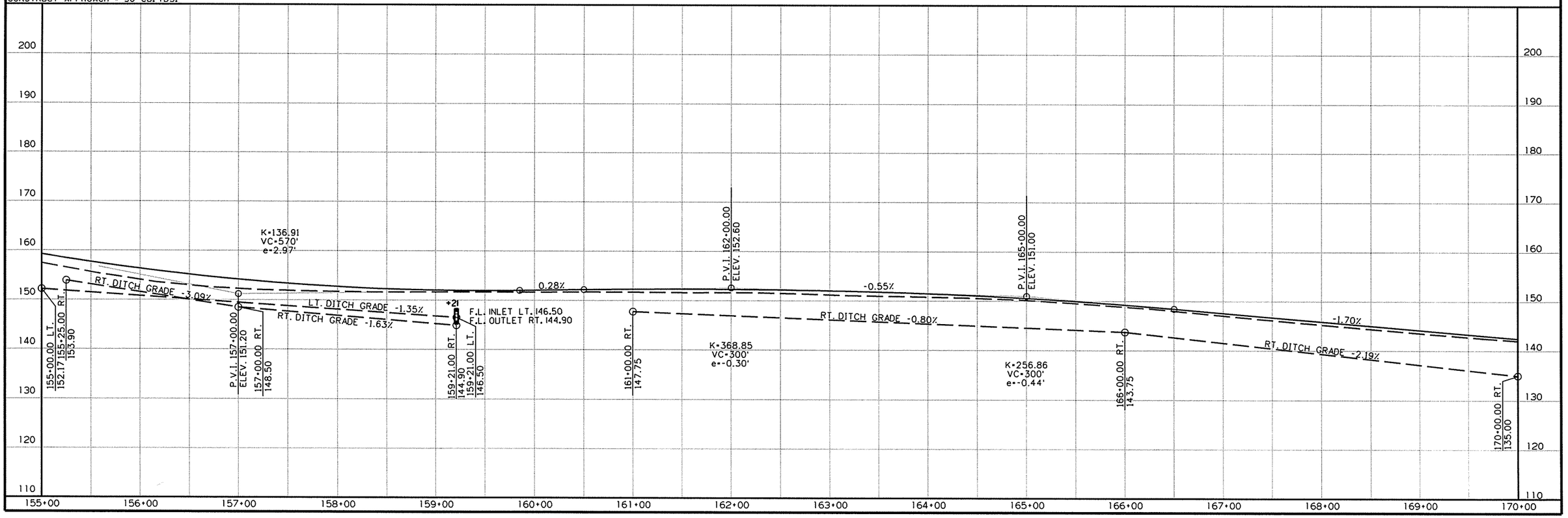
REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
158+08	171+82	RT.	1384
162+28	165+29	LT.	371
168+63	168+63	LT.	31

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE EACH
162+28	165+29	LT.	4' CHAIN LINK	285	1
161+65	171+82	RT.	TYPE C	1017	

HWY. 167



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HWY. 167

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				6	ARK.			
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(2) PLAN AND PROFILE SHEETS

STA. 170+13 IN PLACE
18" x 25' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +25
24" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 172+34 IN PLACE
18" x 25' CORRAG. PL PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +35
24" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 75 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

STA. 174+64 IN PLACE
18" x 25' CORRAG. PL PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +62
24" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
175+09	178+32	LT.	333

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
175+09	178+32	LT.	TYPE D	321

STA. 174+00 HWY. 67 =
STA. 10+00 OLD CALION RD. SOUTH
Δ = 90°00'00"

FLOOD HAZARD LIMITS BOUNDARY

HWY. 167
P. I. 176+44.75
Δ = 2°34'50" LT.
D = 0°30'00"
T = 258.09'
L = 516.10'
P. C. 173+86.65
P. T. 179+02.75
NO SUPER

HWY. 167
P. I. 183+55.36
Δ = 2°25'03" LT.
D = 0°30'00"
T = 241.80'
L = 483.52'
P. C. 181+13.56
P. T. 185+97.09
NO SUPER

HWY. 167
P. I. 171+13.09
Δ = 2°32'38" RT.
D = 0°30'00"
T = 254.44'
L = 508.80'
P. C. 168+58.65
P. T. 173+67.45
NO SUPER

STA. 174+00 CONSTRUCT
APPROACH ON RT. = 955 CU. YDS.

STA. 179+60.50 BRIDGE END

GUARDRAIL (TYPE A)

STA.	STA.	SIDE	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
177+42.35	179+61.10	RT.	150	1	1
178+67.35	179+61.10	LT.	75	1	1
180+70.90	181+64.65	RT.	75	1	1
180+70.90	182-89.65	LT.	150	1	1

STA. 179+72 - STA. 180+61-IN PLACE
88'x26' BRIDGE (L.M. 0.99)
CONSISTING OF CONC. TEE BEAMS SUPPORTED BY CONC. PILE BENTS
REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1) = 1.00 LUMP SUM
BR. NO. 02835

STA. 179+60.50 TO STA. 180+71.50 - CONSTRUCT
111.00' x 75' CLEAR RDWY. BRIDGE
CONTINUOUS COMP. INTEGRAL W-BEAM UNIT (34'-42'-34')
BR. NO. 07261

STA. 180+71.50 BRIDGE END

HWY. 167

APPROXIMATE FLOOD HAZARD LIMITS BOUNDARY
STA. 174+50 TO STA. 190+20

NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS. THIS STREAM IS CLASSIFIED AS A PERENNIAL STREAM. THE STREAM BANK ELEVATION IS 130 FEET MSL BETWEEN STATIONS 179+80 AND 180+40. REFER TO SECTION 110.06(d) OF THE 2014 STANDARD SPECIFICATIONS.

170+00.00 RT. 135.00
K=239.81
VC=500'
e=1.30'
P.V.I. 172+70.00
ELEV. 137.90
173+60.00 RT. 132.00
174+00.00 LT. 132.50
P.V.I. 177+00.00
ELEV. 139.55
K=521.21
VC=200'
e=-0.10'
179+80.00 LT. 125.00
180+30.00 RT. 125.50
181+00.00 LT. 128.00
P.V.I. 183+00.00
ELEV. 139.55
K=397.30
VC=200'
e=0.13'
K 408.31
VC=200'
e=-0.12'

-1.70%
RT. DITCH GRADE -0.83%
0.38%
LT. DITCH GRADE -1.29%
0.00%
Q50 DESIGN H.W. ELEV. 134.9
LT. DITCH GRADE 0.02%
RT. DITCH GRADE 0.58%
-0.49%

STATE OF ARKANSAS
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6-29-15

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(2) PLAN AND PROFILE SHEETS

HWY. 167
P. I. 183+55.36
Δ = 2°25'03" LT.
D = 0°30'00"
T = 241.80'
L = 483.52'
P. C. 181+13.56
P. T. 185+97.09
NO SUPER

HWY. 167
P. I. 188+91.18
Δ = 2°25'13" RT.
D = 0°30'00"
T = 242.07'
L = 484.07'
P. C. 186+49.11
P. T. 191+33.18
NO SUPER

STA. 189+73 - IN PLACE
36" x 64' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 28' LT. & 28' RT. (CL. III)
TO A COMPLETED LENGTH OF 120'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
Q50 = 162 C.F.S.; D.A. = 91 AC.
36" R.C. PIPE (CL. III) = 64 LIN.FT.
36" F.E.S. = 2 EA.

HWY. 167

APPROXIMATE FLOOD HAZARD LIMITS BOUNDARY
STA. 174+50 TO STA. 190+20

K-397.30
VC-200'
e-0.13'

K-187.23
VC-300'
e-0.60'

-0.49%
0.01%
1.62%
LT. D.G. 0.02%
LT. DITCH GRADE 0.28%
RT. DITCH GRADE 0.58%
LT. DITCH GRADE 0.73%
RT. DITCH GRADE 1.17%

+73 F.L. OUTLET LT. 129.00
F.L. INLET RT. 129.80

185+50.00 LT. 128.07
P.V.I. 186+00.00 ELEV. 138.08
187+00.00 LT. 128.50
188+00.00 RT. 130.00
189+73.00 RT. 129.80
189+73.00 LT. 129.00
191+00.00 LT. 129.93
193+00.00 RT. 133.64
P.V.I. 194+80.00 ELEV. 138.20

BM: 902 K 325 2009
18.74 LT. OF STA. 189+70.94
ELEVATION = 133.45

185+00 186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+00 196+00 197+00 198+00 199+00 200+00

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 209+13 CONSTRUCT
APPROACH ON LT. = 60 CU. YDS.
UNCLASSIFIED EXCAVATION = 75 CU. YDS.

N

UNION 801 PVT.

+00.00 80.00 | +70.00 75.00 | +75.30 95.00 | +90.00 90.00 | +45.00 125.00 | +00.00 90.00 | +50.00 120.00 | +00.00 90.00

PROP. R/W — CONST. LIMITS — 200 — 205 — 210 — 215 — PROP. R/W

16'

OBLITERATE EXIST. PAVEMENT

8' — 24' — 24' W — 24' — 8'

N 39°18'17" E — HWY. 167 — 13

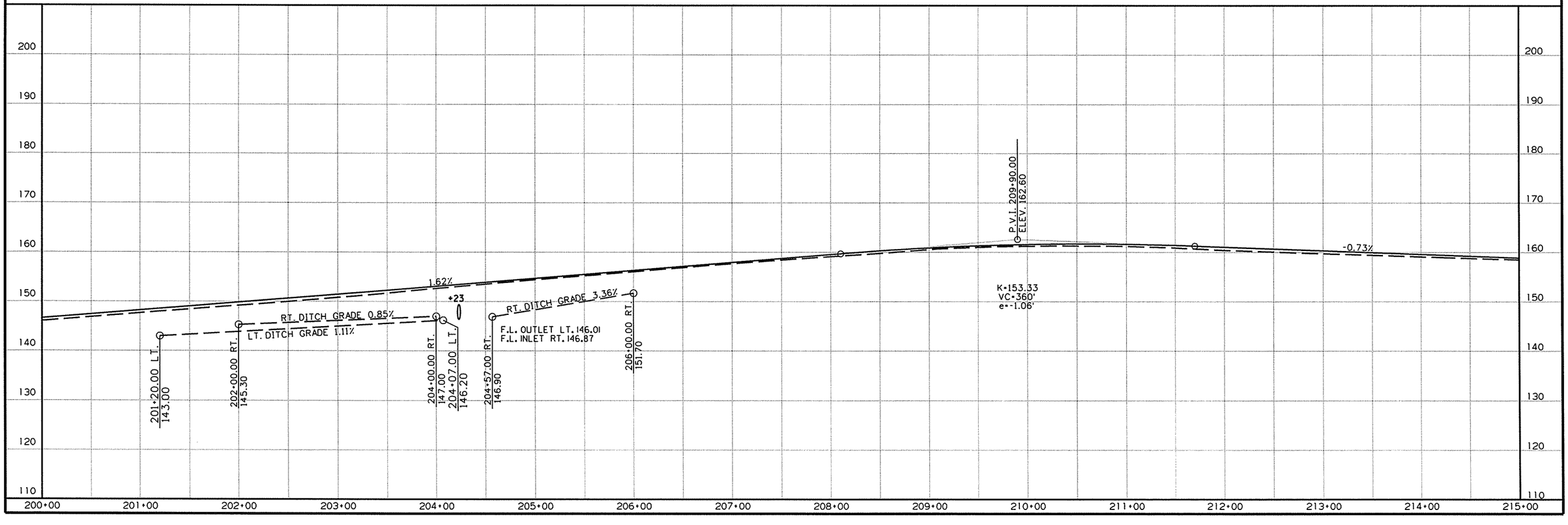
CONST. LIMITS — PROP. R/W — EXIST. R/W — CONST. LIMITS — PROP. R/W

+39.67 95.00 | +00.00 75.00 | +00.89 100.00 | +31.01 110.00 | +35.00

STA. 204+23 - IN PLACE
30" x 65' R.C. PIPE CULV'T.
(30° RT. FWD. SKEW)
WITH HDWLS. LT. & RT.
EXTEND 30' LT. & 32' RT. (CL. III)
TO A COMPLETED LENGTH OF 127'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
Q50 = 77 C.F.S.; D.A. = 37 AC.
30" R.C. PIPE (CL. III) = 70 LIN. FT.
30" F.E.S. = 2 EA.

FND. PDSTR REBAR W/ 2" ALUM CAP

HWY. 167



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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 223+75 IN PLACE
18" x 48' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 225+50 INSTALL
18" x 62' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 255 CU. YDS.
UNCLASSIFIED EXCAVATION = 405 CU. YDS.

OBLITERATE EXIST. PAVEMENT

STA. 220+50 HWY. 67 =
STA. 10+00 OLD CALION RD. NORTH
Δ = 90°00'00"

N 39°18'17" E HWY. 167

STA. 217+68 - IN PLACE
36" x 57' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 28' LT. & 30' RT. (CL. III)
TO A COMPLETED LENGTH OF 115'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
Q50 = 22 C.F.S.; D.A. = 11AC.
36" R.C. PIPE (CL. III) = 66 LIN. FT.
36" F.E.S. = 2 EA.

OBLITERATE EXIST. PAVEMENT

STA. 222+90 IN PLACE
18" x 36' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE

OBLITERATE EXIST. PAVEMENT

STA. 225+50 HWY. 67 =
STA. 10+00 O'REAR CUTOFF
Δ = 90°00'00"

HWY. 167
P. I. 233+63.12
Δ = 27°24'02" RT.
D = 1°15'00"
T = 1117.40'
L = 2192.04'
P.C. 222+45.72
P.T. 244+37.76
e = 0.037'/'
Ls = 540'

HWY. 167

STA. 218+40.72 BEGIN SUPERELEVATION N.C.
STA. 223+80.72 MAX SUPERELEVATION 0.037'/'
STA. 241+30.00 MAX SUPERELEVATION 0.037'/'
STA. 246+70.00 END SUPERELEVATION N.C.

-0.73%
LT. DITCH GRADE -1.79%
RT. DITCH GRADE -1.73%
+68
LT. DITCH GRADE 0.11%
RT. DITCH GRADE -0.06%
0.59%
LT. DITCH GRADE 0.88%
0.52%
LT. DITCH GRADE 0.63%

F.L. INLET LT. 150.50
F.L. OUTLET RT. 149.67

K-188.98
VC-250'
e-0.41'

P.V.I. 224+00.00
ELEV. 158.10

K-7279.41
VC-500'
e--0.04'

K-200.68
VC-700'
e--3.05'

215+00.00 RT. 154.30
216+00.00 LT. 153.50
217+68.00 LT. 150.50
217+68.00 RT. 149.67
P.V.I. 219+60.00 ELEV. 155.50
220+00.00 LT. 150.75
221+00.00 RT. 149.47
225+00.00 LT. 155.14
230+00.00 LT. 158.30

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				6	ARK.			
				JOB NO.		070280	120	336

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

STA. 237+22 IN PLACE
18" x 25' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +30
18" x 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 240+55 IN PLACE
18" x 21' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +81
18" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 241+26 IN PLACE
18" x 21' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +38
18" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 243+74 IN PLACE
18" x 30' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 243+93 IN PLACE
24" x 30" CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +87
24" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 110 CU. YDS.

N 39°18' 17" E
N 66°42' 19" E
233+63.12 P.I.
PROP. R/W
CONST. LIMITS
EXIST. R/W
HWY. 167
70.00 85.00
12.23 75.00
03.61 77.06
58.59 80.00
74.00 91.58-97.
65.00 92.00
00.00 90.40-97.00
100.00 73.00
RUINS
T.C.E.
PNH3 PDS 5/8"REBAR W/ 2" ALUM CAP
PNH4 PDS 5/8"REBAR W/ 2" ALUM CAP
OBLITERATE EXIST. PAVEMENT
8' 24' 24' 8'
16'
230 235 240
.30 .32 .81 .38 .29 .87 .48

HWY. 167
P. I. 233+63.12
Δ = 27°24' 02" RT.
D = 1°15' 00"
T = 1117.40'
L = 2192.04'
P.C. 222+45.72
P.T. 244+37.76
e = 0.037'/'
Ls = 540'

STA. 239+32 INSTALL
18" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.
UNCLASSIFIED EXCAVATION = 10 CU. YDS.

STA. 241+23 IN PLACE
24" x 21' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @+29
24" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

STA. 243+48 IN PLACE
24" x 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" x 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

11.57 86.04
93.64 79.49
P.T. 244+87.76
CANOPY
SHED
POND
FLOOD HAZARD LIMITS BOUNDARY
HWY. 167

STA. 218+40.72 BEGIN SUPERELEVATION N.C.
STA. 223+80.72 MAX SUPERELEVATION 0.037'/'
STA. 241+30.00 MAX SUPERELEVATION 0.037'/'
STA. 246+70.00 END SUPERELEVATION N.C.

APPROXIMATE FLOOD HAZARD LIMITS BOUNDARY
STA. 245+50 TO STA. 255+80

P.V.I. 233+00.00
ELEV. 162.80
K=200.68
VC=700'
e=-3.05'

236+75.00 LT.
148.00

LT. DITCH GRADE -2.39%
-2.97%

239+00.00 LT.
142.62

K=168.59
VC=500'
e=1.85'

P.V.I. 243+38.49
ELEV. 132.00

BM: 904 AHTD DISK J 325 2009
202.12 LT. OF STA. 243+80.95
ELEVATION = 128.29

180 170 160 150 140 130 120 110 100 90

230+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00 241+00 242+00 243+00 244+00 245+00

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				6	ARK.			
				JOB NO.		070280	121	336

(2) PLAN AND PROFILE SHEETS

GUARDRAIL (TYPE A)

STA.	STA.	SIDE	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE II)
244+81.35	247+00.10	RT.	150	1	1
246+06.35	247+00.10	LT.	75	1	1
248+09.90	249+03.65	RT.	75	1	1
248+09.90	250+28.65	LT.	150	1	1

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-30-15

N

CANOPY

FLOOD HAZARD BOUNDARY

FLOOD HAZARD LIMITS

TIMBER RIDGE LANE

STA. 254+74 IN PLACE
24" x 37' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ 255+02
24" x 64' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 240 CU. YDS.

+60.00 85.00 OBLITERATE EXIST. PAVEMENT

+21.35 95.00

+65.04 95.00

+31.37 93.86

+55.00 90.00

PROP. R/W

CONST. LIMITS

EXIST. R/W

245

250

255

20'

24' W. 24'

8"

N 66°42'19" E HWY. 167

+43 +02 +26 +10 +47 +08

16'

20'

SALT CREEK

STA. 246+99.50 BRIDGE END

STA. 248+10.50 BRIDGE END

STA. 247+09 - STA. 247+98 - IN PLACE
88'x26' BRIDGE (L.M. 2.26)
CONSISTING OF CONC. TEE BEAMS SUPPORTED BY CONC. PILE BENTS
REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2) = 1.00 LUMP SUM
BR. NO. 02836

STA. 246+99.50 TO 248+10.50 - CONSTRUCT
111.00' x 75' CLEAR RDWY. BRIDGE
CONTINUOUS COMP. INTEGRAL W-BEAM UNIT (34'-42'-34')
BR. NO. 07262

STA. 253+42 IN PLACE
24" x 25' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +43
42" x 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

1" PINS FOUND 5/8"REBAR W/ 2"ALUM. CAP

STA. 255+26 IN PLACE
42" x 31' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
42" x 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

FLOOD HAZARD LIMITS

STA. 258+10 CONSTRUCT
APPROACH ON RT. = 70 CU. YDS.

STA. 259+47 CONSTRUCT
APPROACH ON RT. = 75 CU. YDS.

STA. 260+08 CONSTRUCT
APPROACH ON RT. = 120 CU. YDS.

HWY. 167

+91.00 104.00-82.38 T.C.E.

+25.00 104.00-82.31 T.C.E.

+25.00 105.00-82.09 T.C.E.

+58.91 105.00+69.15 81.94 T.C.E.

+65.00 110.00-81.82 T.C.E.

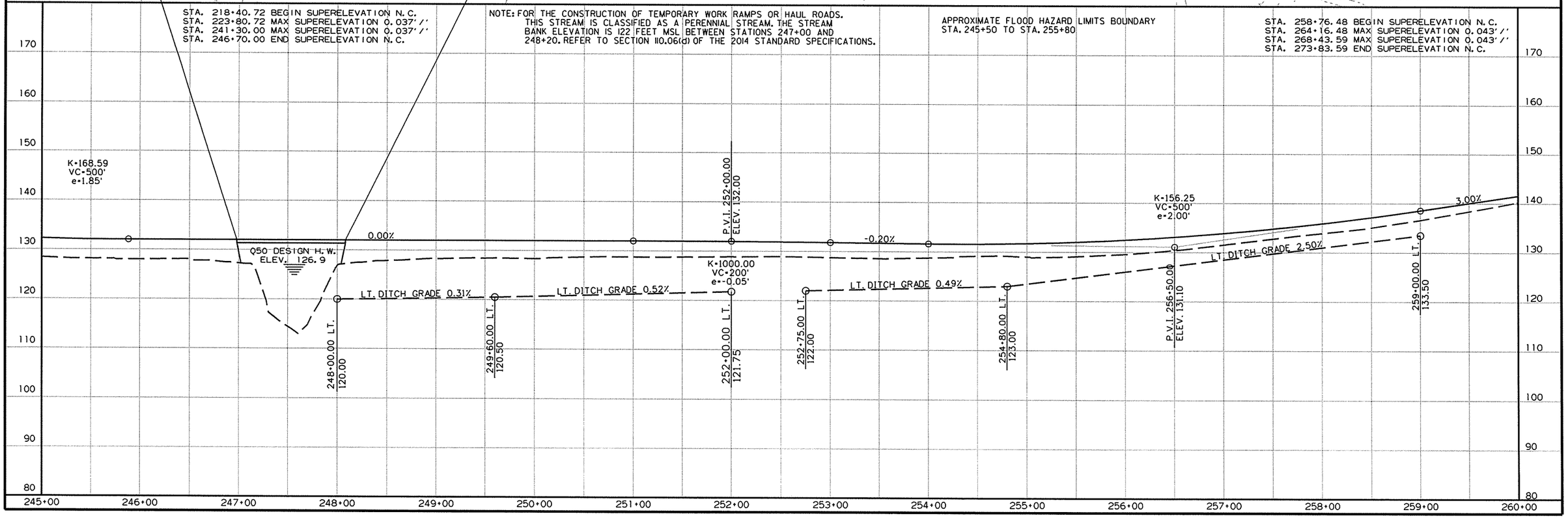
+35.00 110.00-81.15 T.C.E.

STA. 218+40.72 BEGIN SUPERELEVATION N.C.
STA. 223+80.72 MAX SUPERELEVATION 0.037'/'
STA. 241+30.00 MAX SUPERELEVATION 0.037'/'
STA. 246+70.00 END SUPERELEVATION N.C.

NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS. THIS STREAM IS CLASSIFIED AS A PERENNIAL STREAM. THE STREAM BANK ELEVATION IS 122 FEET MSL BETWEEN STATIONS 247+00 AND 248+20. REFER TO SECTION 110.06(d) OF THE 2014 STANDARD SPECIFICATIONS.

APPROXIMATE FLOOD HAZARD LIMITS BOUNDARY
STA. 245+50 TO STA. 255+80

STA. 258+76.48 BEGIN SUPERELEVATION N.C.
STA. 264+16.48 MAX SUPERELEVATION 0.043'/'
STA. 268+43.59 MAX SUPERELEVATION 0.043'/'
STA. 273+83.59 END SUPERELEVATION N.C.



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				6	ARK.			
				JOB NO.	070280		122	336

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 260+72 INSTALL
24" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 90 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

HWY. 167
PI = 266+31.00
Δ = 10°27'24" LT.
D = 1°30'00"
T = 349.52'
L = 697.10'
PC = 262+81.48
PT = 269+78.59
e = 0.043'/'
Ls = 540'

STA. 262+26 IN PLACE
24" x 29' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +30
24" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 95 CU. YDS.
UNCLASSIFIED EXCAVATION = 155 CU. YDS.

STA. 263+32 CONSTRUCT
APPROACH ON RT. = 90 CU. YDS.

STA. 264+02 CONSTRUCT
QUINN RD. ON RT. = 920 CU. YDS.

STA. 265+47 CONSTRUCT
APPROACH ON LT. = 95 CU. YDS.
UNCLASSIFIED EXCAVATION = 60 CU. YDS.

STA. 269+68 IN PLACE
18" x 40' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +73
18" x 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 95 CU. YDS.
UNCLASSIFIED EXCAVATION = 15 CU. YDS.

STA. 267+21- IN PLACE
3' x 3' x 64' R.C. BOX CULV'T.
RETAIN AND EXTEND 29' LT. & 39' RT.
WITH 3:1 WING WALLS LT. & RT.
TO A COMPLETED LENGTH OF 132'
050 = 26 C.F.S.; D.A. = 12 AC.

STA. 271+28 CONSTRUCT
APPROACH ON LT. = 105 CU. YDS.

STA. 272+26 IN PLACE
18" x 29' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +27
18" x 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 268+42 IN PLACE
18" x 25' CP PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @+38
18" x 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 300 CU. YDS.

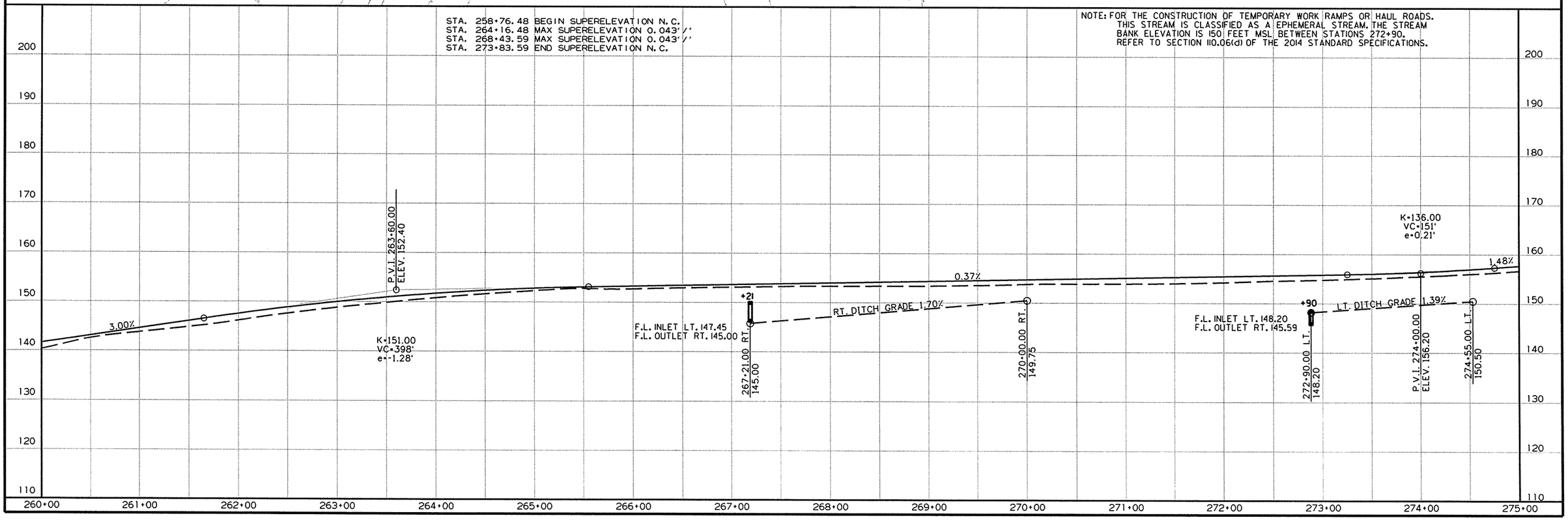
STA. 272+90 - IN PLACE
3' x 2' x 74' R.C. BOX CULV'T.
RETAIN AND EXTEND 17' LT. & 43' RT.
WITH 3:1 WINGS LT. & RT.
WITH CDP RT. SIDE OUTLET
TO A COMPLETED LENGTH OF 134'
050 = 37 C.F.S.; D.A. = 17 AC.

HWY. 167

END FLOOD HAZARD AREA

STA. 258+76.48 BEGIN SUPERELEVATION N.C.
STA. 264+16.48 MAX SUPERELEVATION 0.043'/'
STA. 268+43.59 MAX SUPERELEVATION 0.043'/'
STA. 273+83.59 END SUPERELEVATION N.C.

NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS. THIS STREAM IS CLASSIFIED AS A EPHEMERAL STREAM. THE STREAM BANK ELEVATION IS 150 FEET MSL BETWEEN STATIONS 272+90. REFER TO SECTION 110.06(d) OF THE 2014 STANDARD SPECIFICATIONS.



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				6	ARK.			
				JOB NO.		070280	123	336

(2) PLAN AND PROFILE SHEETS

STA. 275+07 IN PLACE
18" x 96' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +21
18" x 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 276+11IN PLACE
18" x 49' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @+72
18" x 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 75 CU. YDS.
UNCLASSIFIED EXCAVATION = 10 CU. YDS.

HWY. 167
PI = 281+13.45
Δ = 8°04'43" LT.
D = 1°30'00"
T = 269.73'
L = 538.58'
PC = 278+43.72
PT = 283+82.29
e = 0.043'/'
Ls = 540'

STA. 281+09 - IN PLACE
24" x 105' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 12' LT. & 28' RT. (CL. III)
TO A COMPLETED LENGTH OF 145'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
Q50 = 5 C.F.S.; D.A. = 2 AC.
24" R.C. PIPE (CL. III) = 48 LIN. FT.
24" F.E.S. = 2 EA.

STA. 281+74 IN PLACE
18" x 33' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @+93
18" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

STA. 284+90 IN PLACE
18" x 25' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +91
18" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 90 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

STA. 289+21IN PLACE
18" x 25' CP PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ 288+76
18" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 80 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

STA. 289+71IN PLACE
18" x 49' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +54
18" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 275+95 IN PLACE
18" x 25' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +65
18" x 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 120 CU. YDS.

STA. 283+69 IN PLACE
18" x 25' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +58
18" x 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 180 CU. YDS.

STA. 286+84 IN PLACE
10" x 24' METAL PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +82
18" x 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 80 CU. YDS.

STA. 287+99 INSTALL
18" x 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 289+66 CONSTRUCT
APPROACH ON RT. = 40 CU. YDS.

HWY. 167

STA. 274+38.72 BEGIN SUPERELVATION N.C.
STA. 279+78.72 MAX SUPERELEVATION 0.043'/'
STA. 282+47.29 MAX SUPERELEVATION 0.043'/'
STA. 287+87.29 END SUPERELEVATION N.C.

P.V.I. 278+00.00
ELEV. 162.10

P.V.I. 288+00.00
ELEV. 175.80

1.48%
RT. DITCH GRADE 2.20%
1.37%
RT. DITCH GRADE 1.68%
LT. DITCH GRADE -2.24%
LT. D.G. 5.16%

275+00.00 RT. 150.80
277+00.00 RT. 155.20
K=2857.14
VC=300'
e=-0.04'
280+00.00 LT. 160.24
281+09.00 LT. 157.80
F.L. INLET LT. 157.80
F.L. OUTLET RT. 154.70
282+00.00 LT. 162.50
283+00.00 RT. 161.70
288+00.00 RT. 170.09
K=169.77
VC=400'
e=-1.18'

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 291+17 IN PLACE
18" x 49' RC. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ 290+97
18" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 292+27 CONSTRUCT
APPROACH ON LT. = 65 CU. YDS.

STA. 293+78 CONSTRUCT
APPROACH ON LT. = 70 CU. YDS.

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	8' GATE EACH	10' GATE EACH
291+11	291+72	LT.	TYPE C	61		
292+39	297+05	RT.	TYPE C	468		
298+55	303+73	RT.	TYPE C	583		2
299+21	302+09	LT.	4' CHAIN LINK	291	2	

STA. 296+87 IN PLACE
18" x 40' RC. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +83
18" x 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT CO. ROAD = 65 CU. YDS.

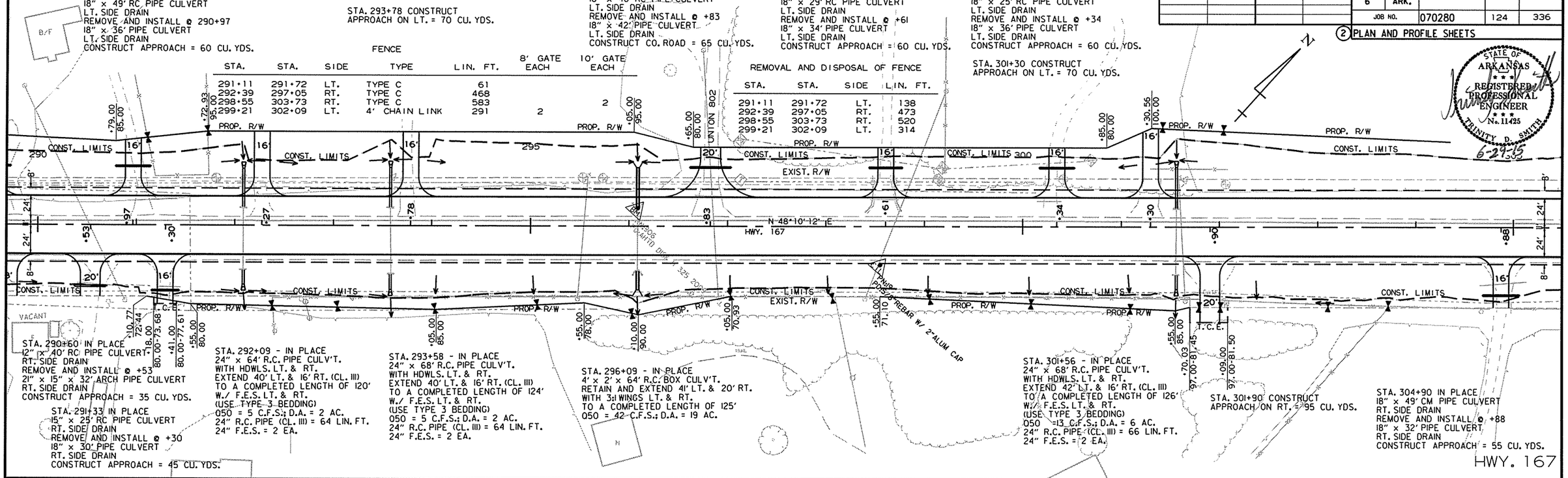
STA. 298+59 IN PLACE
18" x 29' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +61
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
291+11	291+72	LT.	138
292+39	297+05	RT.	473
298+55	303+73	RT.	520
299+21	302+09	LT.	314

STA. 300+27 IN PLACE
18" x 25' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +34
18" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 301+30 CONSTRUCT
APPROACH ON LT. = 70 CU. YDS.



STA. 290+60 IN PLACE
12" x 40' RC. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +53
21" x 15" x 32' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 291+33 IN PLACE
15" x 25' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +30
18" x 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 292+09 - IN PLACE
24" x 64' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 40' LT. & 16' RT. (CL. III)
TO A COMPLETED LENGTH OF 120'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
050 = 5 C.F.S.; D.A. = 2 AC.
24" R.C. PIPE (CL. III) = 64 LIN. FT.
24" F.E.S. = 2 EA.

STA. 293+58 - IN PLACE
24" x 68' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 40' LT. & 16' RT. (CL. III)
TO A COMPLETED LENGTH OF 124'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
050 = 5 C.F.S.; D.A. = 2 AC.
24" R.C. PIPE (CL. III) = 64 LIN. FT.
24" F.E.S. = 2 EA.

STA. 296+09 - IN PLACE
4' x 2' x 64' R.C. BOX CULV'T.
RETAIN AND EXTEND 41' LT. & 20' RT.
WITH 3:1 WINGS LT. & RT.
TO A COMPLETED LENGTH OF 125'
050 = 42 C.F.S.; D.A. = 19 AC.

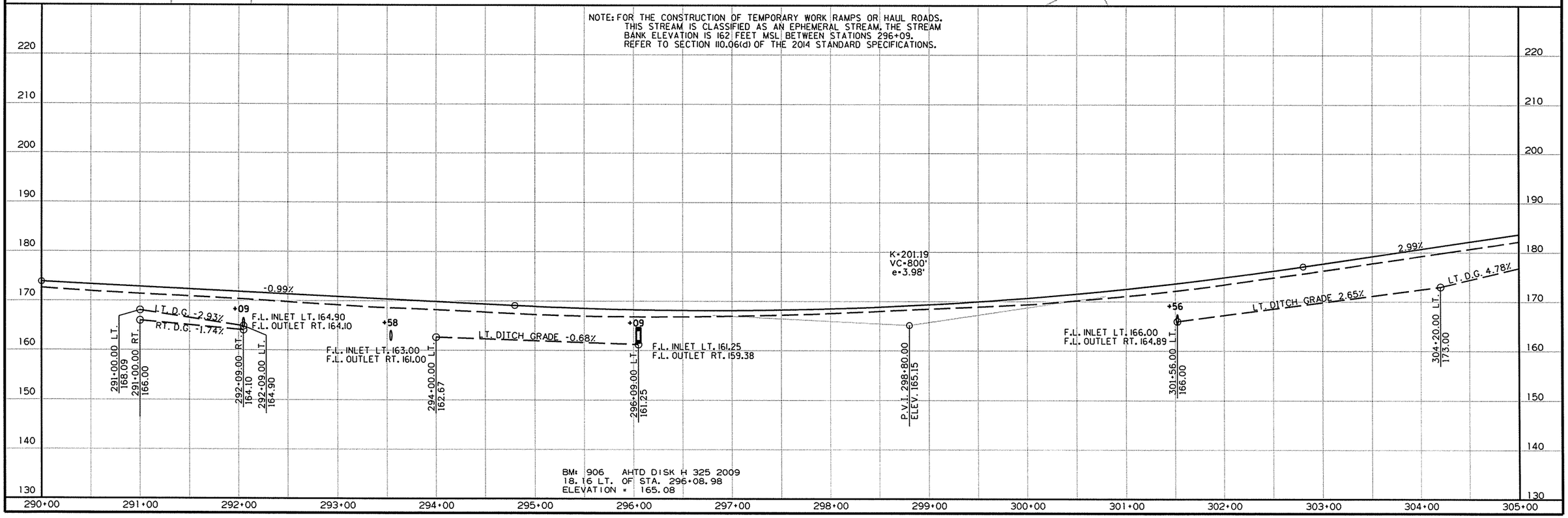
STA. 301+56 - IN PLACE
24" x 68' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 42' LT. & 16' RT. (CL. III)
TO A COMPLETED LENGTH OF 126'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
050 =13 C.F.S.; D.A. = 6 AC.
24" R.C. PIPE (CL. III) = 66 LIN. FT.
24" F.E.S. = 2 EA.

STA. 301+90 CONSTRUCT
APPROACH ON RT. = 95 CU. YDS.

STA. 304+90 IN PLACE
18" x 49' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +88
18" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

HWY. 167

NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS.
THIS STREAM IS CLASSIFIED AS AN EPHEMERAL STREAM. THE STREAM BANK ELEVATION IS 162 FEET MSL BETWEEN STATIONS 296+09. REFER TO SECTION 110.06(d) OF THE 2014 STANDARD SPECIFICATIONS.



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				6	ARK.			
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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA.308+00-311+00 37.5' LT. OF C.L.
CONST. CONCRETE CURB (TYPE B) = 300 LIN.FT.

STA. 312+31 CONSTRUCT
O'REAR RD. ON LT. = 95 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

HWY. 167
PI = 314+88.98
Δ = 16°04'01" LT.
D = 2°30'00"
T = 323.46'
L = 642.68'
PC = 311+65.52
PT = 318+08.20
e = 0.067'/'
Ls = 540'

STA. 317+14 IN PLACE
18" x 25' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 318+25 INSTALL
18" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 75 CU. YDS.
UNCLASSIFIED EXCAVATION = 20 CU. YDS.

STA. 311+81 - IN PLACE
24" x 94' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 34' LT. & 14' RT. (CL. III)
TO A COMPLETED LENGTH OF 142'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
050 =5 C.F.S.; D.A. = 2 AC.
24" R.C. PIPE (CL. III) = 56 LIN. FT.
24" F.E.S. = 2 EA.

STA. 313+68 IN PLACE
18" x 25' CP PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ 314+04
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 315+92 IN PLACE
18" x 24' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" x 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

STA. 310+53 CONSTRUCT
APPROACH ON RT. = 345 CU. YDS.

STA. 313+58 INSTALL
18" x 54' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 130 CU. YDS.

STA. 314+90 CONSTRUCT
APPROACH ON RT. = 85 CU. YDS.

STA. 316+66 IN PLACE
12" x 34' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +62
18" x 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 115 CU. YDS.

STA. 317+49 IN PLACE
12" x 25' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 115 CU. YDS.

STA. 318+22 IN PLACE
18" x 33' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +25
18" x 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 140 CU. YDS.

STA. 319+53 IN PLACE
18" x 21' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +56
18" x 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 100 CU. YDS.

HWY. 167

STA. 307+60.52 BEGIN SUPERELEVATION N.C.
STA. 313+00.52 MAX SUPERELEVATION 0.067'/'
STA. 316+73.20 MAX SUPERELEVATION 0.067'/'
STA. 322+13.20 END SUPERELEVATION N.C.

P.V.I. 314+00.00
ELEV. 210.60

2.99%
LT. D.G. 4.78%
306+00.00 LT. 181.60
311+00.00 LT. 191.71
LT. DITCH GRADE 1.74%
311+81.00 LT. 190.30
+81
312+00.00 LT. 191.99
LT. DITCH GRADE 0.11%
F.L. INLET LT. 190.30
F.L. OUTLET RT. 185.89
313+15.00 LT. 192.12
LT. D.G. -0.24%
314+00.00 LT. 191.92
K=234.99
VC=1600'
e=-13.62'
315+86.00 LT. 190.41
316+00.00 RT. 195.50
RT. DITCH GRADE -3.56%
LT. DITCH GRADE -1.49%
317+44.00 LT. 188.05
317+49.00 RT. 190.20
RT. DITCH GRADE -3.08%
319+50.00 RT. 184.00
RT. D.G. -5.00%

BM: 907 AHTD DISK G 325 2009
408.93 RT. OF STA. 314+68.00
ELEVATION = 199.82

240 230 220 210 200 190 180 170 160 150

305+00 306+00 307+00 308+00 309+00 310+00 311+00 312+00 313+00 314+00 315+00 316+00 317+00 318+00 319+00 320+00

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				6	ARK.			
				JOB NO.		070280	126	336

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-22-15

STA. 320+33 IN PLACE
18" x 25' CP PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +61
18" x 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

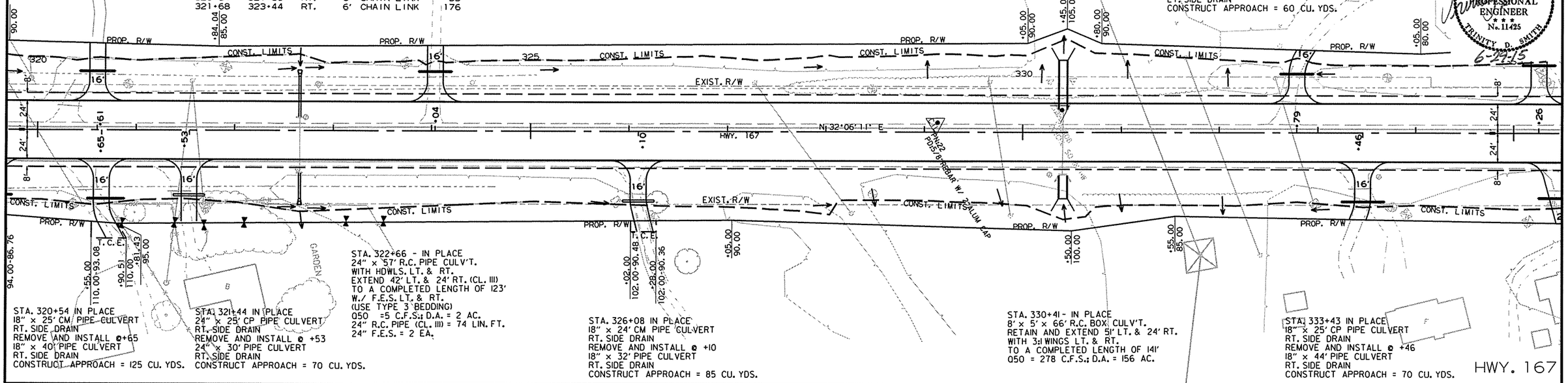
STA.	STA.	SIDE	LIN. FT.
320+72	321+37	RT.	102
321+58	323+35	RT.	218

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
320+84	321+39	RT.	6' CHAIN LINK	55
321+68	323+44	RT.	6' CHAIN LINK	176

STA. 324+01IN PLACE
18" x 25' CP PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +04
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 332+69 IN PLACE
12" x 23' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +79
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.



STA. 320+54 IN PLACE
18" x 25' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @+65
18" x 40' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 125 CU. YDS.

STA. 321+44 IN PLACE
24" x 25' CP PIPE CULVERT
REMOVE AND INSTALL @ +53
24" x 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.

STA. 322+66 - IN PLACE
24" x 57' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 42' LT. & 24' RT. (CL. III)
TO A COMPLETED LENGTH OF 123'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
Q50 =5 C.F.S.; D.A. = 2 AC.
24" R.C. PIPE (CL. III) = 74 LIN. FT.
24" F.E.S. = 2 EA.

STA. 326+08 IN PLACE
18" x 24' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +10
18" x 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 85 CU. YDS.

STA. 330+41 - IN PLACE
8' x 5' x 66' R.C. BOX CULV'T.
RETAIN AND EXTEND 51' LT. & 24' RT.
WITH 31 WINGS LT. & RT.
TO A COMPLETED LENGTH OF 141'
Q50 = 278 C.F.S.; D.A. = 156 AC.

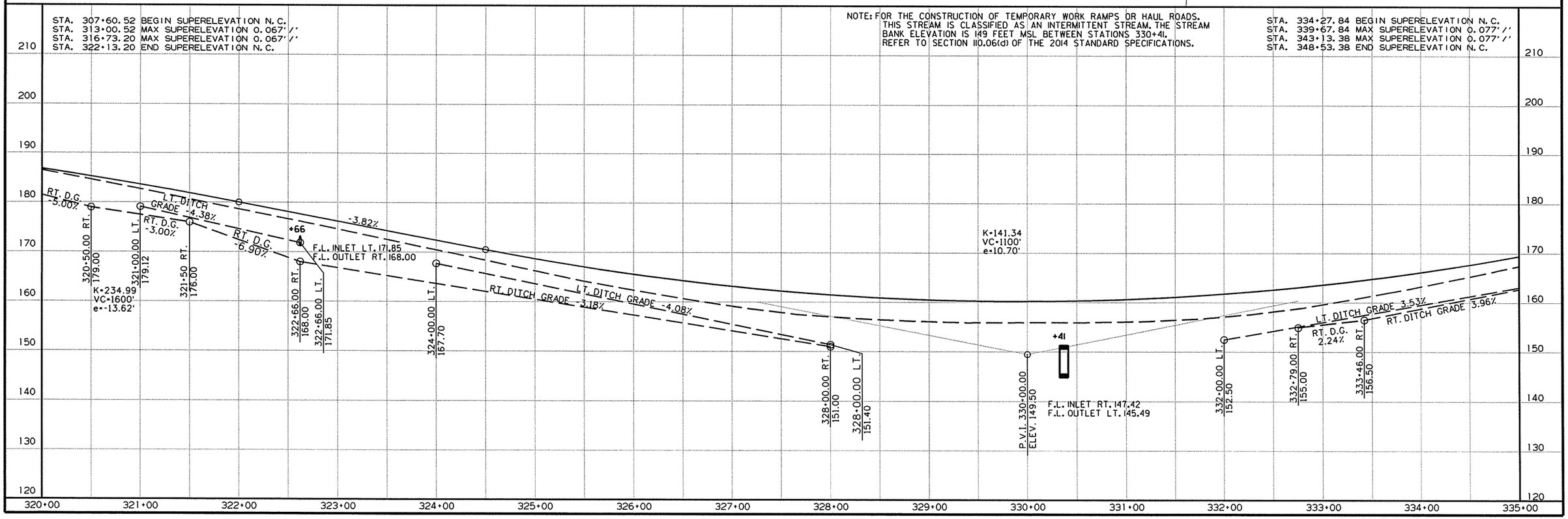
STA. 333+43 IN PLACE
18" x 25' CP PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +46
18" x 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.

HWY. 167

STA. 307+60.52 BEGIN SUPERELEVATION N.C.
STA. 313+00.52 MAX SUPERELEVATION 0.067'/'
STA. 316+73.20 MAX SUPERELEVATION 0.067'/'
STA. 322+13.20 END SUPERELEVATION N.C.

NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS. THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM BANK ELEVATION IS 149 FEET MSL BETWEEN STATIONS 330+41. REFER TO SECTION 110.06(d) OF THE 2014 STANDARD SPECIFICATIONS.

STA. 334+27.84 BEGIN SUPERELEVATION N.C.
STA. 339+67.84 MAX SUPERELEVATION 0.077'/'
STA. 343+13.38 MAX SUPERELEVATION 0.077'/'
STA. 348+53.38 END SUPERELEVATION N.C.



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				JOB NO.		070280	127	336

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 335+59 IN PLACE
18" x 22' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +26
18" x 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 65 CU. YDS.

STA. 337+77 IN PLACE
18" x 24' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +69
18" x 54' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 330 CU. YDS.

STA. 340+50 IN PLACE
18" x 30' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 342+25 INSTALL
18"X46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 150 CU. YDS.

STA. 343+90 IN PLACE
18" x 25' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +95
18" x 60' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 340 CU. YDS.

STA. 348+69 CONSTRUCT
APPROACH ON LT. = 50 CU. YDS.

HWY. 167
PI = 341+43.30
Δ = 18°27'58" RT.
D = 3°00'00"
T = 310.46'
L = 615.54'
PC = 338+32.84
PT = 344+48.38
e = 0.077'/'
Ls = 540'

STA. 335+48 IN PLACE
18" x 25' CP PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" x 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 105 CU. YDS.

STA. 335+90 IN PLACE
18" x 25' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +96
18" x 40' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 110 CU. YDS.

STA. 341+70 CONSTRUCT
APPROACH ON RT. = 55 CU. YDS.
UNCLASSIFIED EXCAVATION = 5 CU. YDS.

STA. 345+89 - IN PLACE
24" x 100' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 46' LT. & 10' RT. (CL. III)
TO A COMPLETED LENGTH OF 156'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
050 = 19 C.F.S.; D.A. = 9 AC.
24" R.C. PIPE (CL. IV) = 64 LIN. FT.
24" F.E.S. = 2 EA.

HWY. 167

STA. 334+27.84 BEGIN SUPERELEVATION N.C.
STA. 339+67.84 MAX SUPERELEVATION 0.077'/'
STA. 343+13.38 MAX SUPERELEVATION 0.077'/'
STA. 348+53.38 END SUPERELEVATION N.C.

K=141.34
VC=1100'
e=10.70'

P.V.I. 341+00.00
ELEV. 193.10

K=159.41
VC=850'
e=-5.67'

K=137.49
VC=720'
e=4.71'

3.96%
RT. DITCH GRADE 3.62%
LT. DITCH GRADE 3.53%
RT. DITCH GRADE 3.65%
RT. DITCH GRADE 1.35%
RT. D.G. -0.19%
LT. D.G. -4.54%
LT. D.G. -6.02%
-1.37%
RT. D.G. -3.96%

335+48.00 RT. 164.50
337+00.00 RT. 170.00
338+00.00 LT. 173.66
340+00.00 RT. 180.95
341+70.00 RT. 183.25
341+70.00 LT. 189.09
342+25.00 LT. 186.59
343+00.00 RT. 183.00
344+86.00 LT. 180.00
345+89.00 LT. 173.80
346+00.00 LT. 173.25

+89 LT. D.G.F.L. INLET RT. 176.00
-5.00% F.L. OUTLET LT. 173.80

BM: 909 AHTD DISK F 325 2009
37.42 RT. OF STA. 345+97.42
ELEVATION = 178.63

220 210 200 190 180 170 160 150 140 130

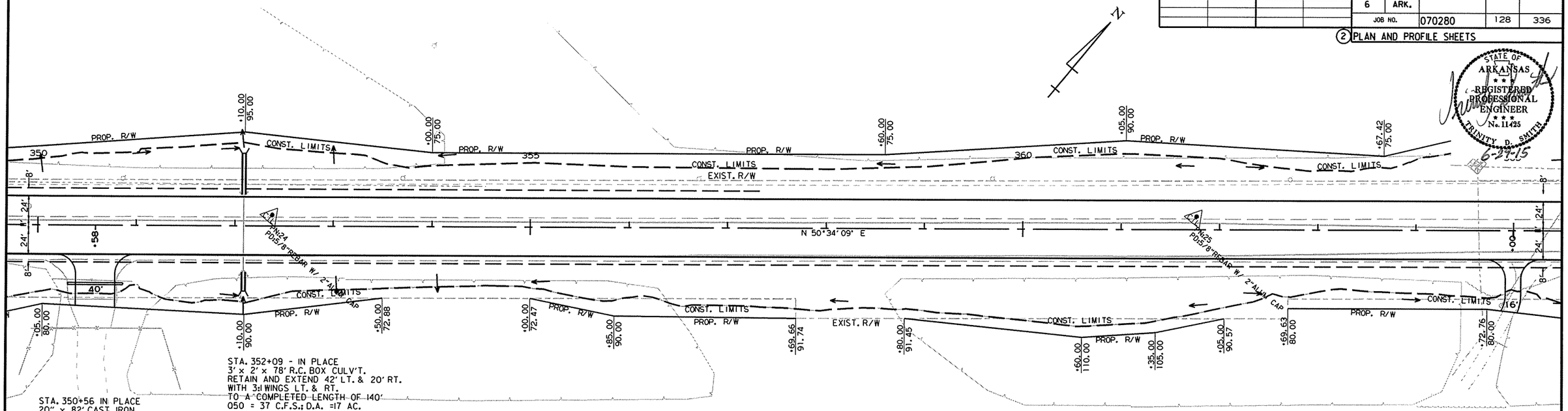
335+00 336+00 337+00 338+00 339+00 340+00 341+00 342+00 343+00 344+00 345+00 346+00 347+00 348+00 349+00 350+00

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

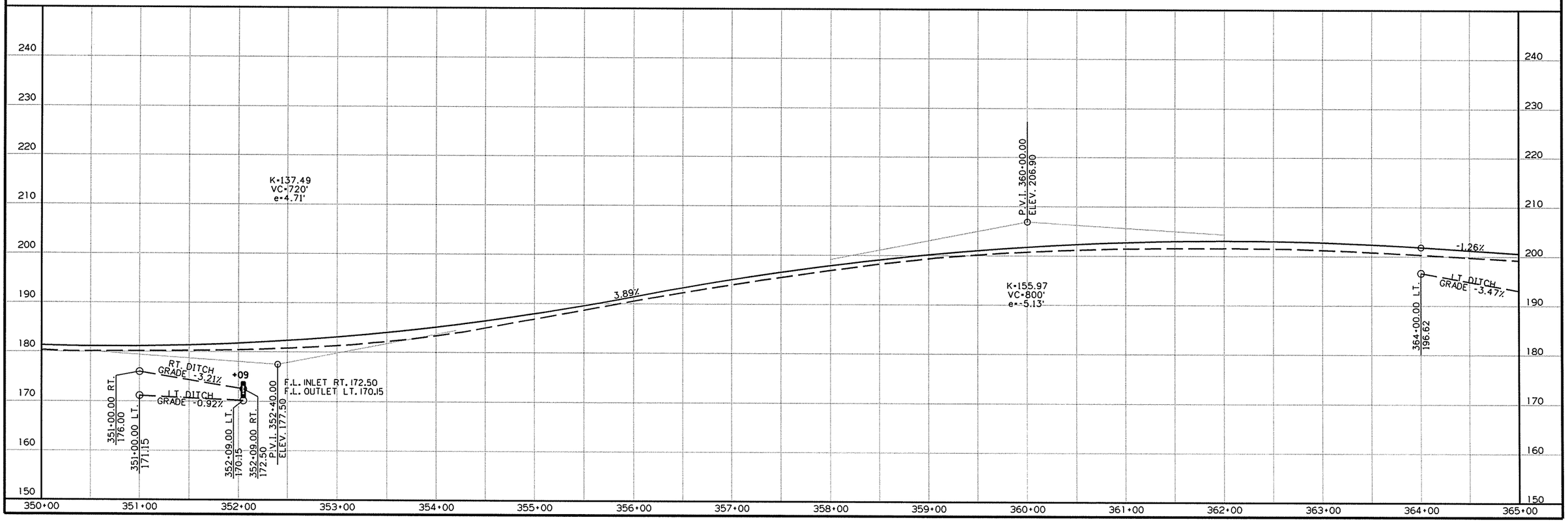


STA. 350+56 IN PLACE
20" x 82' CAST IRON
PIPE CULVERT RT. SIDE DRAIN
DROP INLET ON RT.
REMOVE AND INSTALL @ +58
24" x 56' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 100 CU. YDS.

STA. 352+09 - IN PLACE
3' x 2' x 78' R.C. BOX CULV'T.
RETAIN AND EXTEND 42' LT. & 20' RT.
WITH 3:1 WINGS LT. & RT.
TO A COMPLETED LENGTH OF 140'
Q50 = 37 C.F.S.; D.A. =17 AC.

STA. 365+00 CONSTRUCT
APPROACH ON RT. = 25 CU. YDS.

HWY. 167



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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

STA. 366+87 CONSTRUCT APPROACH ON LT. = 80 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.	GATE EACH
366+47	367+68	RT.	125	
369+88	370+23	RT.	45	
366+87	367+03	LT.		1

STA. 365+62 - IN PLACE
24" x 80' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 40' LT. & 12' RT. (CL. III)
TO A COMPLETED LENGTH OF 132'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
050 = 2 C.F.S.; D.A. = 1AC.
24" R.C. PIPE (CL. III) = 60 LIN. FT.
24" F.E.S. = 2 EA.

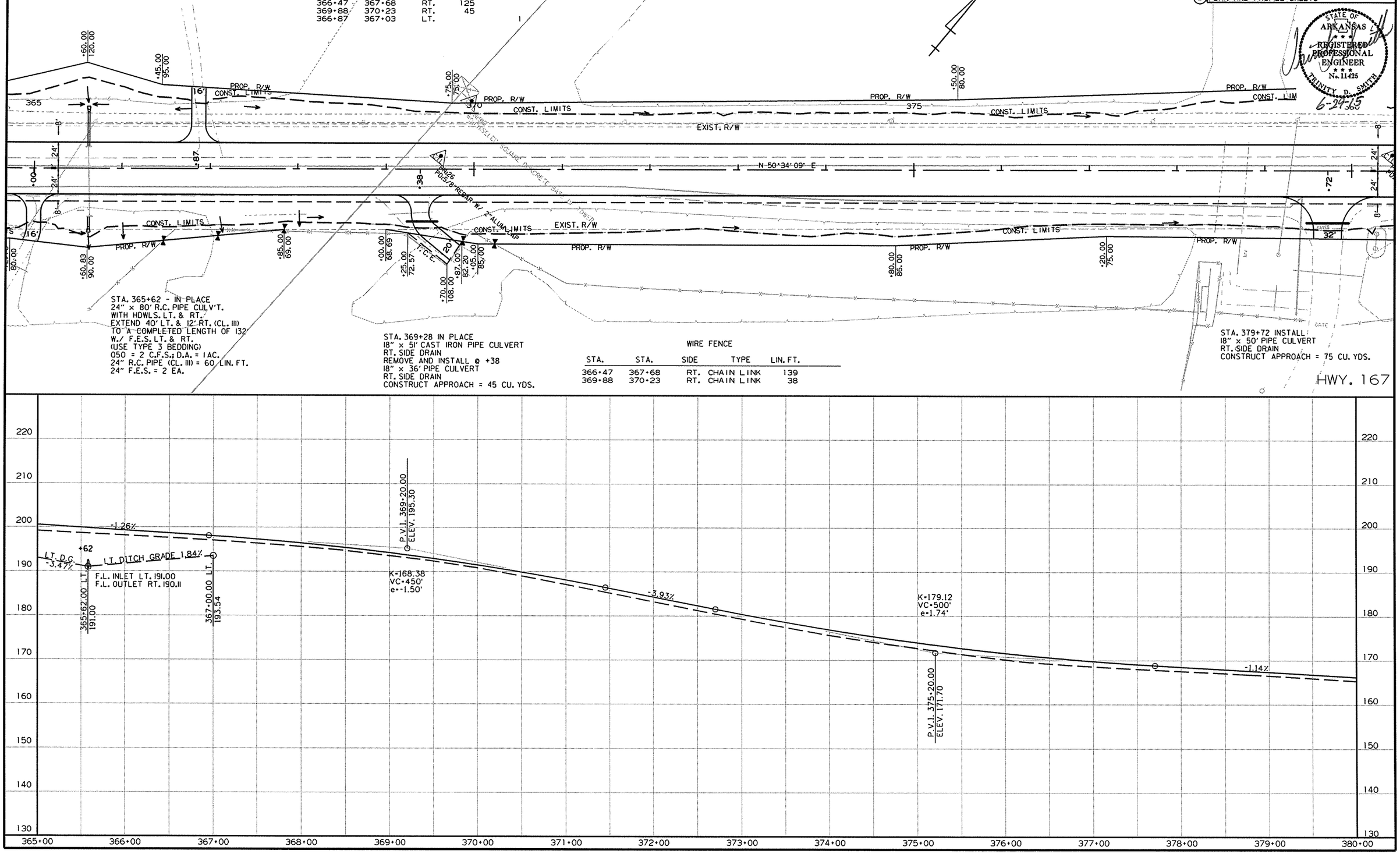
STA. 369+28 IN PLACE
18" x 51' CAST IRON PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +38
18" x 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 45 CU. YDS.

WIRE FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
366+47	367+68	RT.	CHAIN LINK	139
369+88	370+23	RT.	CHAIN LINK	38

STA. 379+72 INSTALL
18" x 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 75 CU. YDS.

HWY. 167



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(2) PLAN AND PROFILE SHEETS

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
388+12	389+28	LT.	116

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
388+12	389+28	LT.	TYPE D-1	116

STA. 390+20 IN PLACE
18" x 25' RC
PIPE CULVERT LT. SIDE DRAIN
REMOVE AND INSTALL @ +19
18" x 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 95 CU. YDS.
UNCLASSIFIED EXCAVATION = 155 CU. YDS.

STA. 392+30 CONSTRUCT
APPROACH ON LT. = 170 CU. YDS.
UNCLASSIFIED EXCAVATION = 10 CU. YDS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-24-15

STA. 383+90 - IN PLACE
8' x 5' x 86' R.C. BOX CULV'T.
RETAIN AND EXTEND 33' LT. & 7' RT.
WITH 3:1 WINGS LT. & RT.
TO A COMPLETED LENGTH OF 126'
Q50 = 104 C.F.S.; D.A. = 52 AC.

STA. 387+34 IN PLACE
18" x 25' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +35
18" x 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

HWY. 167

K-149.26
VC-400'
e-1.34'

K-281.81
VC-400'
e--0.71'

-1.14%

-1.44%

7.00%

1.54%

0.12%

P.V.I. 382+60.00
ELEV. 163.25

383+00.00 LT.
156.00

383+90.00 LT.
154.70

+90

F.L. INLET LT. 154.70
F.L. OUTLET RT. 153.50

385+00.00 LT.
162.40

P.V.I. 390+50.00
ELEV. 175.40

BM: 920 CHL SQ IN HW
27.89 LT. OF STA. 383+90.05
ELEVATION = 161.24

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				6	ARK.			
				JOB NO.		070280	131	336

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

STA. 396+06 - IN PLACE
4' x 3' x 114' R.C. BOX CULV'T.
RETAIN AND EXTEND 24' LT. & 29' RT.
WITH 3:1 WINGS LT. & RT.
TO A COMPLETED LENGTH OF 167'
050 = 51C.F.S.; D.A. = 25 AC.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	LIN. FT.
395+86	396+25	RT.	72

HWY. 167
PI = 405+22.76
Δ = 9°03'27" LT.
D = 1°45'00"
T = 259.32'
L = 517.57'
PC = 402+63.44
PT = 407+81.01
e = 0.049'/'
Ls = 540'

STA. 396+74 IN PLACE
18" x 30' CP PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +71
18" x 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 210 CU. YDS.

STA. 397+03.97
END JOB 070280
BEGIN JOB 070281
L.M. 5.27

HWY. 167

R070280.DGN 3/31/2015

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				JOB NO.		070280	132	336

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15

P. I. 11+84.20
Δ = 41°26'58" LT.
D = 24°00'00"
T = 90.33'
L = 172.71'
P.C. 10+93.87
P.T. 12+66.58
NO SUPER

P.O.E. 14+33.50

S 89°53'04" E

P.T. 12+66.58

EXIST. R/W

P.C. 10+93.87

CONST. LIMITS

S 48°26'06" E

N 41°52'57" E

P.I. 11+84.20

END OLD CALION RD. SOUTH
STA. 12+66.00

STA. 174+00 CONSTRUCT
APPROACH ON RT. = 955 CU. YDS.

BEGIN OLD CALION RD. SOUTH
STA. 10+30.00

STA. 174+00 C.L. HWY. 67 =
STA. 10+00 C.L. OLD CALION RD. SOUTH
Δ = 90°00'00"

FLOODWAY BOUNDARY

PROP. R/W

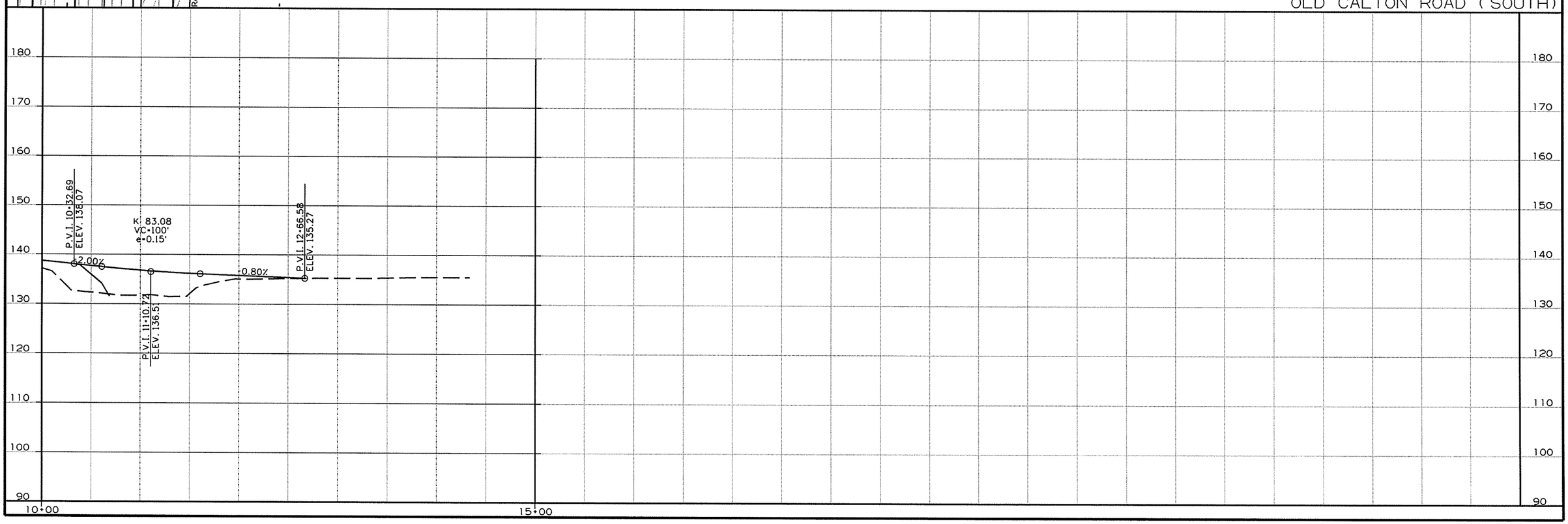
EXIST. R/W

ALUM CAP

PK NAIL

PK5/8" REBAR W

OLD CALION ROAD (SOUTH)



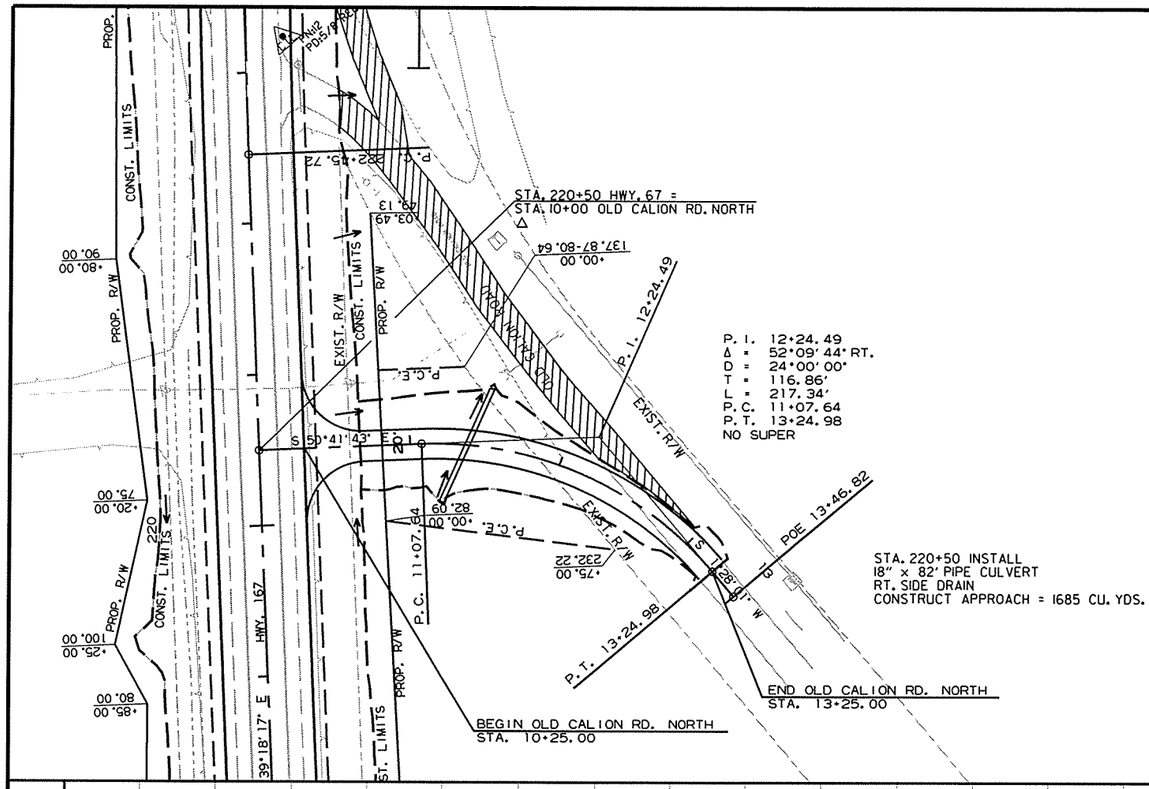
3/31/2015

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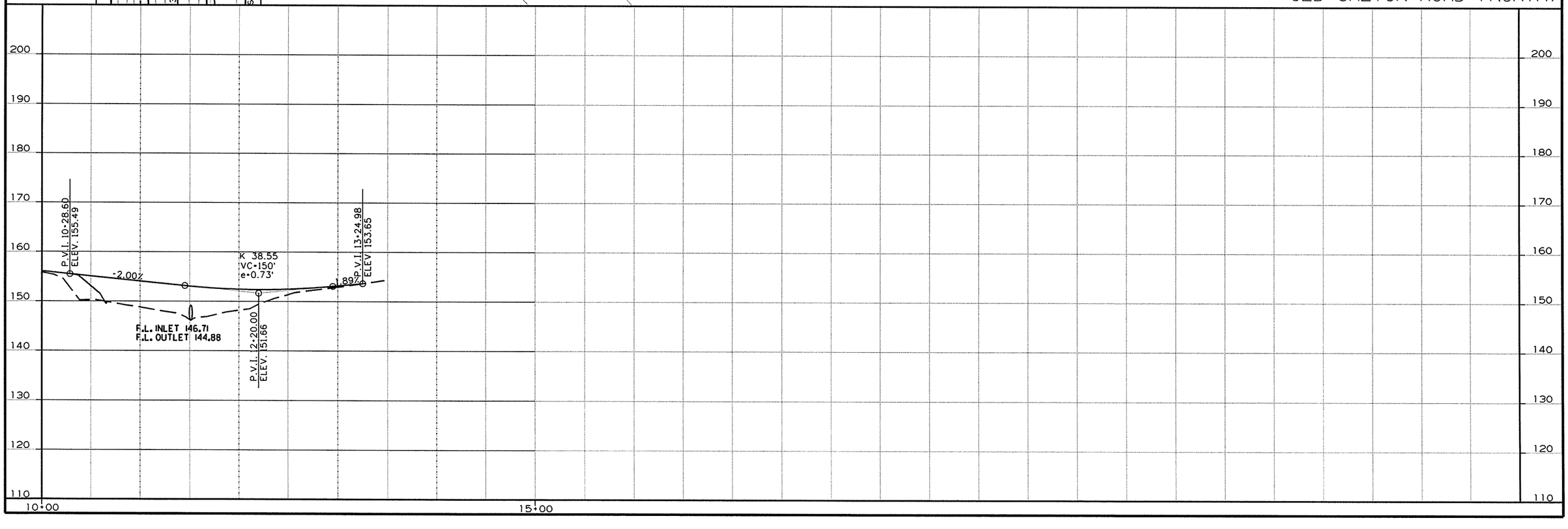
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070280	133	336

(2) PLAN AND PLOT SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TIMOTHY D. SMITH
6-29-15



OLD CALION ROAD (NORTH)



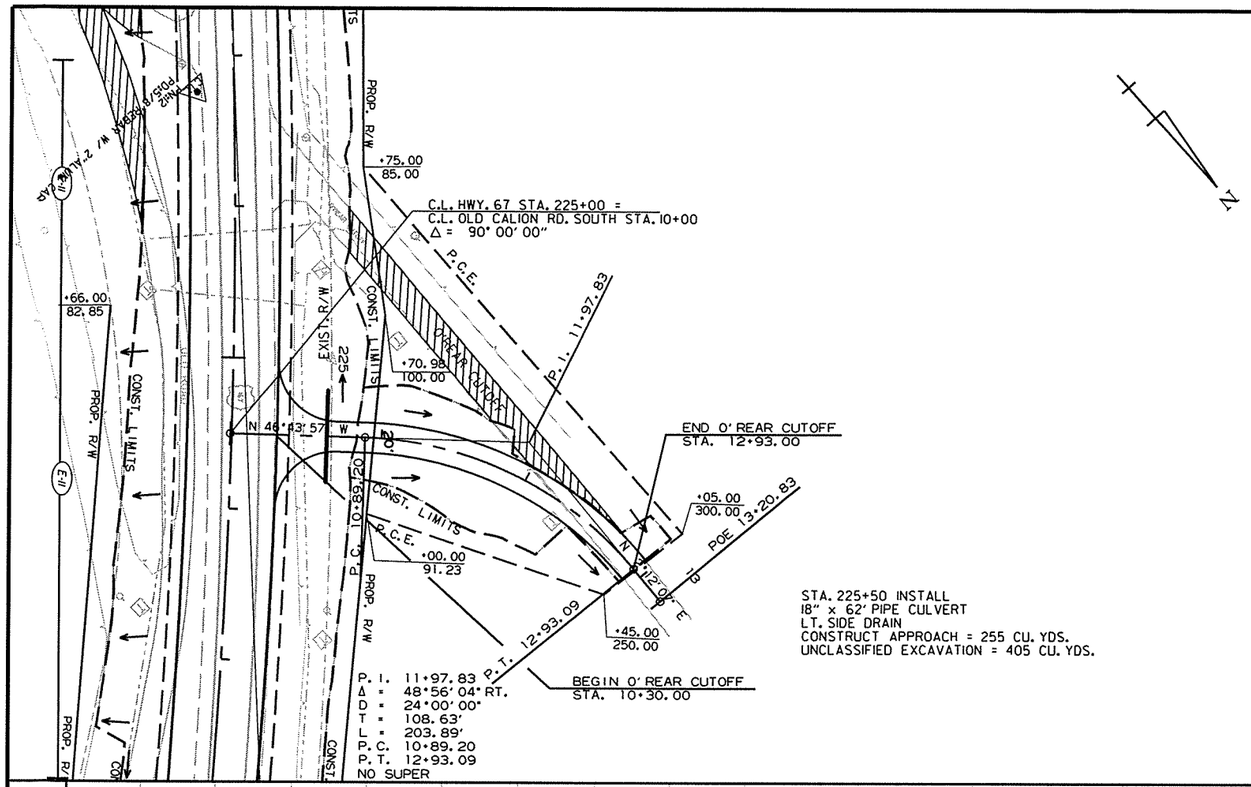
3/31/2015

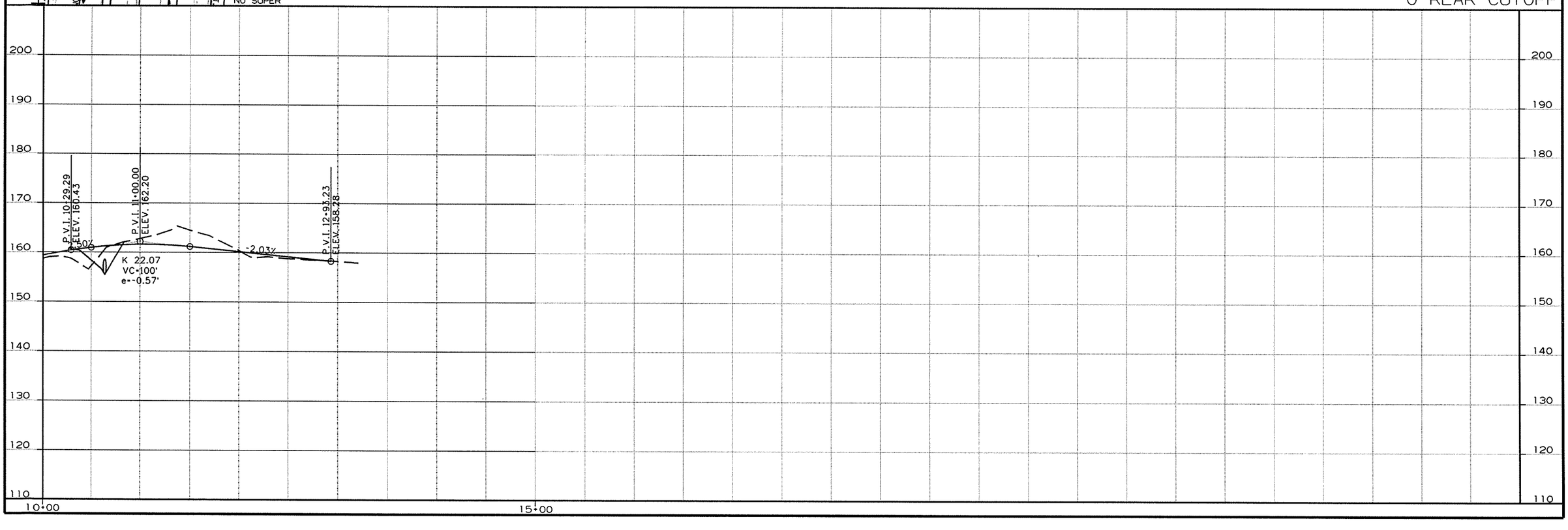
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070280	134	336

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
6-29-15



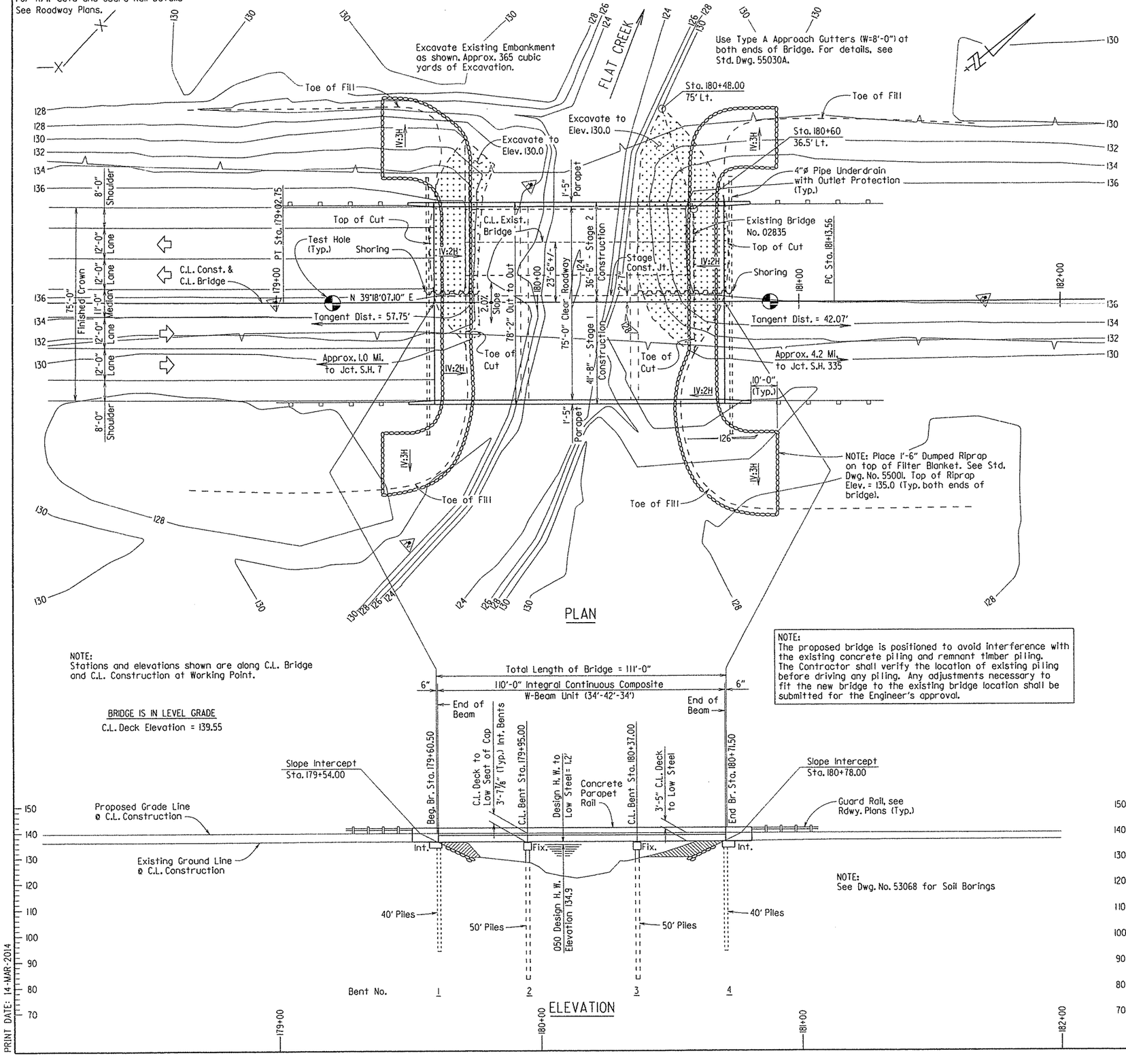


3/31/2015

R070280.DGN

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.		070280	135	336
				①	07261 - LAYOUT - 53067			

For R/W data and Guard Rail Details
See Roadway Plans.



PLAN

NOTE:
Stations and elevations shown are along C.L. Bridge and C.L. Construction at Working Point.

NOTE:
The proposed bridge is positioned to avoid interference with the existing concrete piling and remnant timber piling. The Contractor shall verify the location of existing piling before driving any piling. Any adjustments necessary to fit the new bridge to the existing bridge location shall be submitted for the Engineer's approval.

BRIDGE IS IN LEVEL GRADE
C.L. Deck Elevation = 139.55

NOTE:
See Dwg. No. 53068 for Soil Borings

PRINT DATE: 14-MAR-2014

GENERAL NOTES

BENCH MARK: BM902, AHTD Disk K325 2009, 18.74' Lt. of Sta. 189+70.94, Elev. 133.45.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2014 edition, with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications Sixth Edition (2012).

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 (Grade 60, AASHTO M31 or M322, Type A)	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.

CONCRETE PILING: Piling for Bents 1 and 4 shall be 16" square prestressed concrete and shall be driven to an ultimate bearing capacity of 155 tons per pile. Piling in Bents 2 and 3 shall be 20" square prestressed concrete and shall be driven to an ultimate bearing capacity of 242 tons per pile. All piling shall be driven with an approved air, steam, or diesel hammer. Piling in end bents shall be driven after embankment to bottom of cap is in place. Piling in Bents 1 and 4 shall have a minimum tip elevation of 110.0 or lower. Piling in Bents 2 and 3 shall have a minimum tip elevation of 100.0 or lower. Lengths of piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. Drive one 55' test pile in Bent 2, and one 45' test pile in Bent 4.

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b), "Method B – Wave Equation Analysis (WEAP)". It is estimated that the minimum required rated energy of the hammer to obtain the minimum ultimate bearing capacity on 16" sq. piles will be 40,000 foot pounds per blow and on 20" sq. piles shall be 60,000 foot pounds per blow.

PREBORING: Preboring is required for all piling at bents 1 and 4. Prebored holes at bents 1 and 4 shall have a diameter 6 inches greater than the greatest cross-sectional dimension of the pile for a depth of 10 feet below the bottom of cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling, which may require the use of casing or other approved methods. Any related costs for backfilling and temporary casing will not be paid for separately but shall be considered subsidiary to the item "Preboring". Preboring will be paid for in accordance with Section 805. Preboring or other methods approved by the Engineer may be required to achieve the minimum pile penetration. Any cost associated with achieving the minimum pile penetration shall be incidental to "Concrete Piling".

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

PIPE UNDERDRAIN: One Pipe Underdrain with Outlet Protectors shall be installed behind each bridge end in accordance with Section 611. Pipe Underdrains and Outlet Protectors will not be paid for directly but shall be considered subsidiary to "Unclassified Excavation".

DETAIL DRAWINGS:	DRAWING NO.
End Bents	53070, 53072
Intermediate Bents	53071
110' Integral W-Beam Unit	53074-53079
Concrete Piling	55022, 53073
Type A Approach Gutters	55030A

EXISTING BRIDGE: Existing Bridge No. 02835 (LM 0.99) is 88' in length and 29.5' wide and is comprised of Continuous R. C. Slab Spans supported by concrete pile bents.

SHORING: Shoring may be required for Stage One Construction. No direct payment will be made for shoring. See Special Provision Job No. 070280 "Shoring".

REMOVAL AND SALVAGE: After Stage I Construction is completed and opened to traffic, existing Bridge No. 02835 shall be removed in accordance with Section 205. The removal of existing concrete and remnant timber piling and concrete and asphalt riprap shall be considered subsidiary to removal of existing bridge. All material from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	①NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEVATION W/ BACKWATER
	YEARS	CFS	FEET	FEET
Design	050	3,520	132.0	135.1
Base	0100	4,340	132.4	136.4
Extreme	0500	5,200	132.8	137.0
Overtopping	>0500	—	—	—

①Unconstricted water surface elevation without structure and roadway approaches.

Estimated 100-Year backwater elevation with Existing Structure in place is 136.5

Proposed Low Bridge Member Elevation = 136.1

Drainage area = 9.9 square miles

Historical H.W. Elev. = 142.0

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
3/4/14
CARL J. FUSELIER

BRIDGE ENGINEER

LAYOUT OF BRIDGE OVER FLAT CREEK
EL DORADO - HWY. 335 (S)
UNION COUNTY

ROUTE 167 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 2-29-12 FILENAME: b070280xl_ll.dgn
CHECKED BY: LJB DATE: 5/22/13 SCALE: 1" = 20'-0"
DESIGNED BY: SWP DATE: 12-2011

BRIDGE NO. 07261 DRAWING NO. 53067

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				6	ARK.			
				JOB NO.		070280	136	336
				(1)		07261 - LAYOUT - 53068		

BORING LEGEND

AI-Moist, Medium Stiff, Gray Clay with Sand and some Organic Matter
BI-Moist, Medium Stiff, Gray Clay with some Organic Matter
CI-Moist, Medium Dense, Gray and Brown Sandy Silt
DI-Wet, Medium Dense, Gray Sand with Silt
EI-Moist, Medium Dense, Gray Silt
FI-Moist, Dense, Gray Sandy Silt
GI-Wet, Very Dense, Gray Sand with Silt
HI-Moist, Hard, Gray Clay with Sand
JI-Moist, Loose, Brown Sand with Clay and some Organic Matter (Wood)
KI-Wet, Very Loose, Gray Sand with Trace of Clay
LI-Moist, Very Stiff, Gray Clay with Sand
MI-Wet, Loose, Gray Sand with Trace of Clay
NI-Wet, Medium Dense, Gray Sand with Clay
PI-Wet, Medium Dense, Gray Sand
QI-Moist, Medium Dense, Gray Sand with Clay Layers
RI-Moist, Very Stiff, Gray Clay with Sand Seams
SI-Moist, Hard, Gray Sandy Clay
TI-Moist, Hard, Gray Clay with some Sand

"N" VALUES

Sta. 179+21.5 - C. L. of Const.

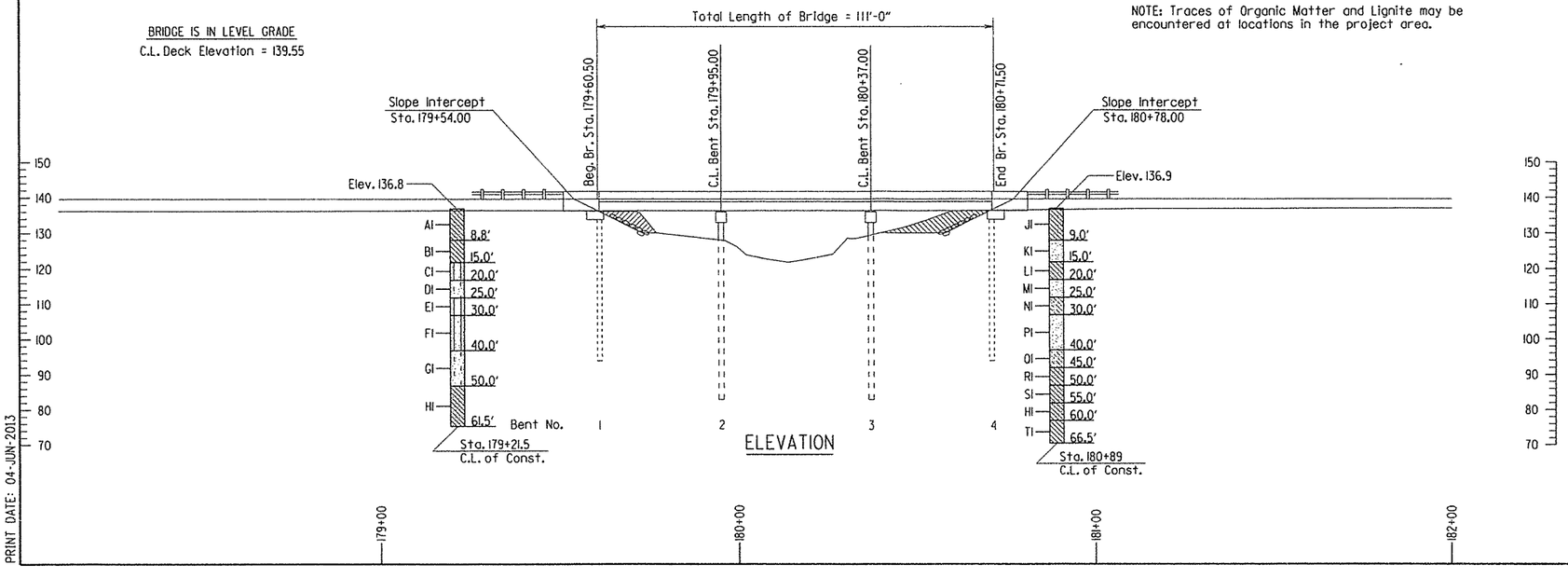
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9.3- 10.3, N=6
15.5- 16.5, N=14
20.5- 21.5, N=11
25.5- 26.5, N=23
30.5- 31.5, N=41
35.5- 36.5, N=39
40.5- 41.5, N=81
45.5- 46.5, N=59
50.5- 51.5, N=42
55.5- 56.5, N=35
60.5- 61.5, N=57

Sta. 180+89 - C.L. of Const.

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9.5- 10.5, N=1
15.5- 16.5, N=16
20.5- 21.5, N=10
25.5- 26.5, N=12
30.5- 31.5, N=19
35.5- 36.5, N=21
40.5- 41.5, N=24
45.5- 46.5, N=27
50.5- 51.5, N=64
55.5- 56.5, N=34
60.5- 61.5, N=35
65.5- 66.5, N=50

BRIDGE IS IN LEVEL GRADE
C.L. Deck Elevation = 139.55

NOTE: Traces of Organic Matter and Lignite may be encountered at locations in the project area.



ELEVATION

PRINT DATE: 04-JUN-2013

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
4/3/13
CARL J. FUSELIER

BRIDGE ENGINEER

SOIL BORINGS
FLAT CREEK
EL DORADO - HWY. 335 (S)
UNION COUNTY

ROUTE 167 SEC. 2

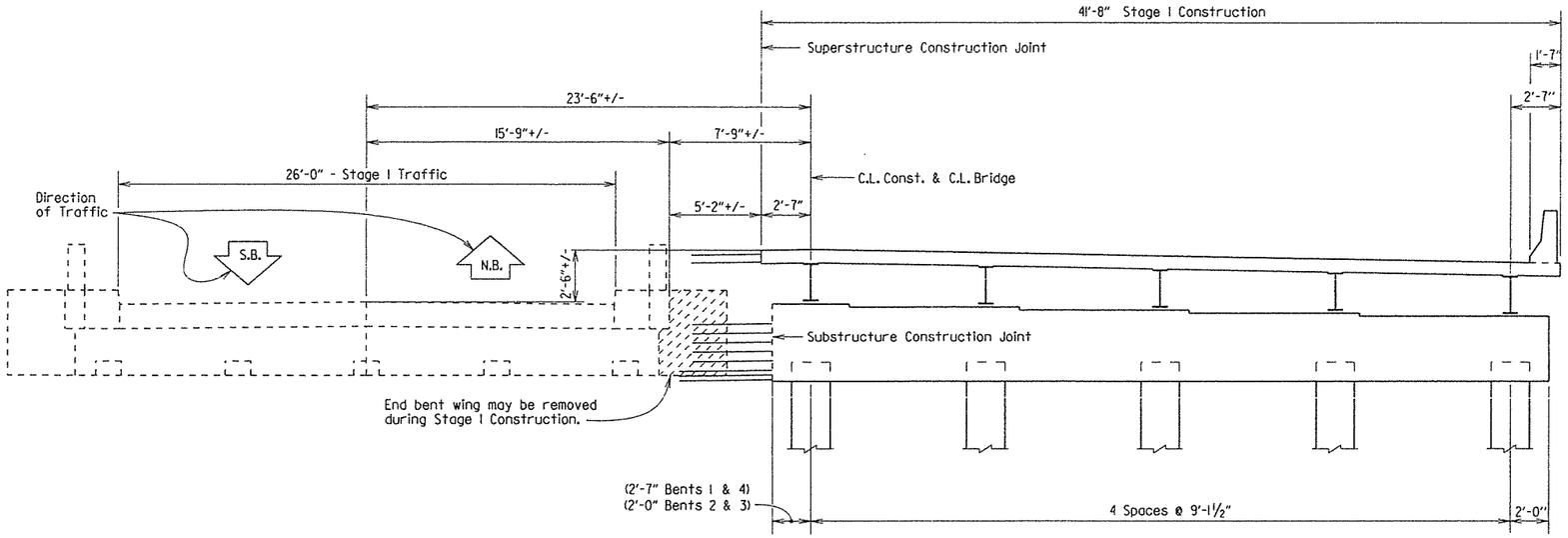
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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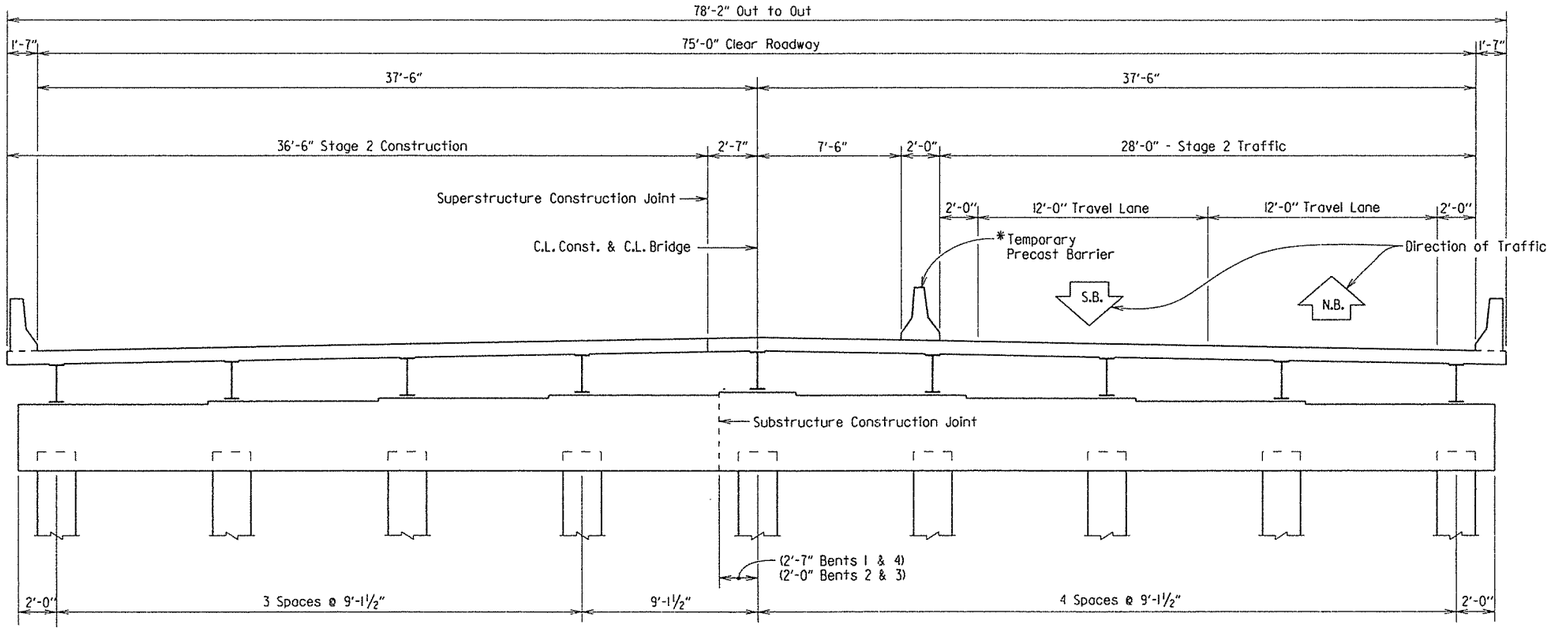
BRIDGE NO. 07261 DRAWING NO. 53068

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				6	ARK.			
				JOB NO.		070280	137	336
				(1)	07261 - STAGE CONSTRUCTION - 53069			



STAGE 1
Looking Ahead

NOTE: After Stage 1 Construction is complete and open to traffic the Existing Bridge No. 02835 shall be removed and Stage 2 Construction completed.



STAGE 2
Looking Ahead

*Do not connect temporary precast barrier to deck. See Std. Dwg. TC-4.

NOTE: Details which relate to Maintenance of Traffic are shown on Bridge Plans for information only. See Roadway Plans for Maintenance of Traffic and additional information.

STATE OF ARKANSAS
Carl J. Puseller
REGISTERED PROFESSIONAL ENGINEER
No. 7510
4/3/13
CARL J. PUSELLER

BRIDGE ENGINEER

DETAILS OF STAGE CONSTRUCTION
FLAT CREEK
EL DORADO - HWY. 335 (S)

ROUTE 167 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

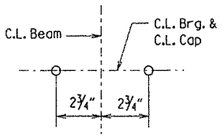
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DESIGNED BY: SMP DATE: 12-2011

BRIDGE NO. 07261 DRAWING NO. 53069

PRINT DATE: 04-JUN-2013

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				6	ARK.			
				JOB NO.		070280	138	336
				①		07261 - END BENT - 53070		



NOTE: For Details of Anchor Bolts and ½" Plates, See Dwg. No. 53079.

TYPICAL ANCHOR BOLT LAYOUT
No Scale

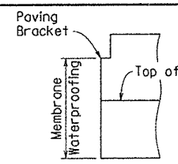
NOTES:
All concrete shall be Class "S" with a minimum 28-day compressive strength f'c = 3500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

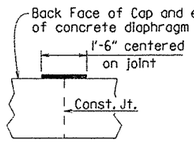
All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

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

Granular backfill and pipe underdrain required behind end bent cap. See Dwg. No. 53079.

For additional information, see Layout.

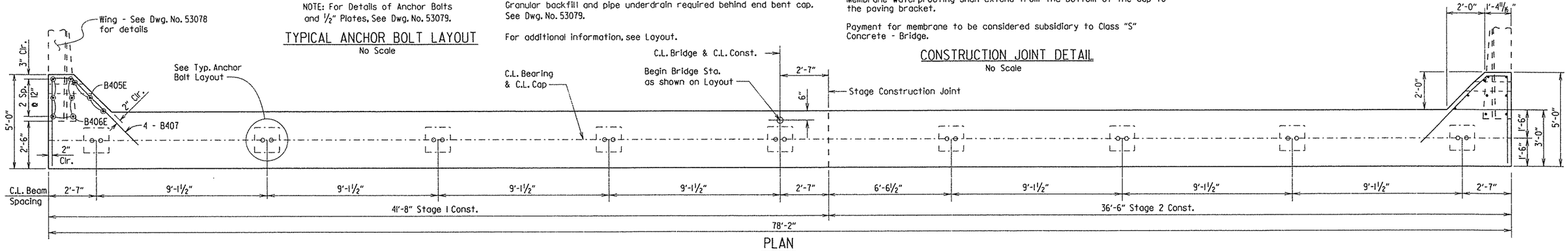




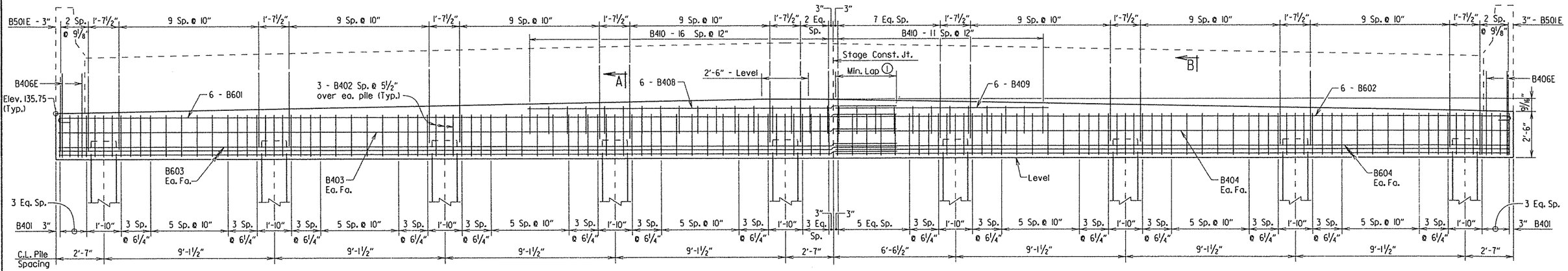
Membrane waterproofing Type "C" or approved equal, see Section 815. Membrane waterproofing shall extend from the bottom of the cap to the paving bracket.

Payment for membrane to be considered subsidiary to Class "S" Concrete - Bridge.

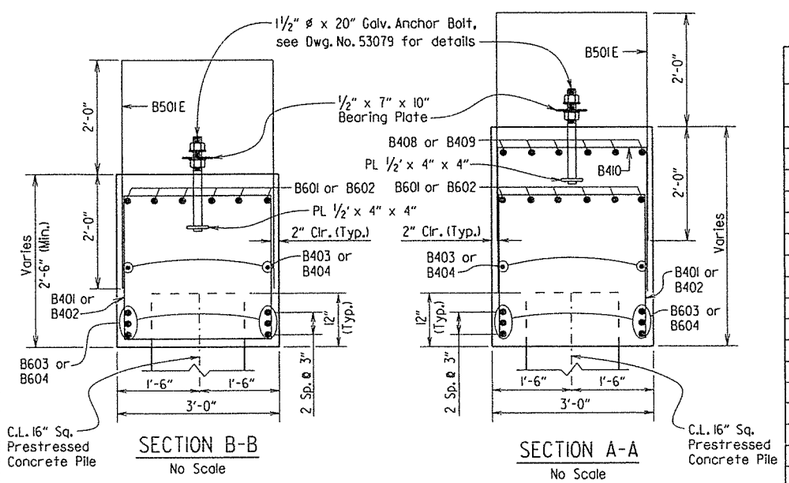
CONSTRUCTION JOINT DETAIL
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PLAN



ELEVATION
Looking Back



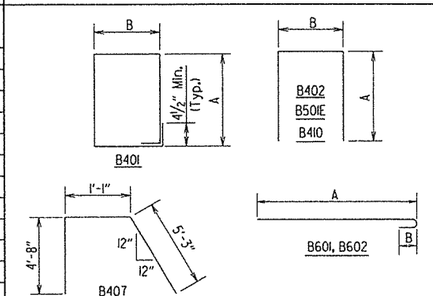
SECTION B-B
No Scale

SECTION A-A
No Scale

BAR LIST

MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	A	B	P.D.
B401	56	49	10'-0"	2'-2"	2'-8"	2"
B402	15	12	6'-10"	2'-2"	2'-8"	2"
B403	2	-	43'-5"	-	-	Str.
B404	-	2	36'-2"	-	-	Str.
B405E	3	3	5'-4"	-	-	Str.
B406E	6	6	4'-4"	-	-	Str.
B407	4	4	11'-0"	SEE DIAGRAM		2"
B408	6	-	18'-0"	-	-	Str.
B409	-	6	11'-3"	-	-	Str.
B410	17	12	5'-6"	1'-6"	2'-8"	2"
B501E	46	41	10'-6"	4'-0"	2'-8"	2½"
B601	6	-	44'-10"	44'-2"	6"	4½"
B602	-	6	36'-10"	36'-2"	6"	4½"
B603	6	-	44'-2"	-	-	Str.
B604	-	6	36'-2"	-	-	Str.

BENDING DIAGRAMS (Dimensions are out to out of bars.)



NOTE: All Bars Designated With An "E" Suffix Are To Be Epoxy Coated.

① Lap #4 Bar = 1'-9"
Lap #6 Bar = 2'-7"

STATE OF ARKANSAS
Carl J. Puseller
REGISTERED PROFESSIONAL ENGINEER
No. 7510
4/3/13
CARL J. PUSELLER

BRIDGE ENGINEER

DETAILS OF END BENT NO. 1
FLAT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

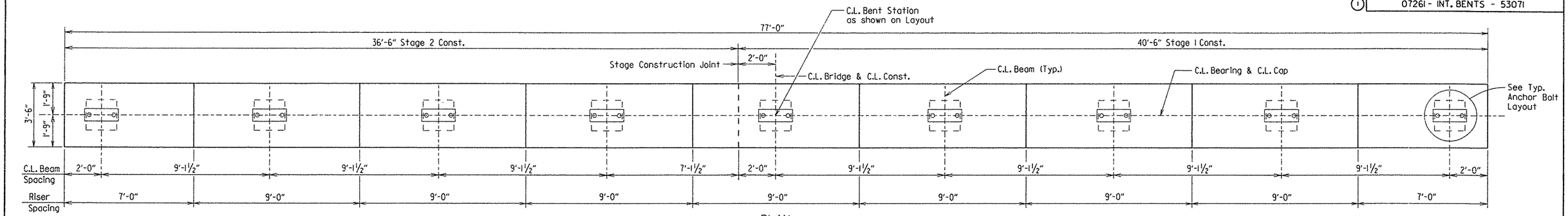
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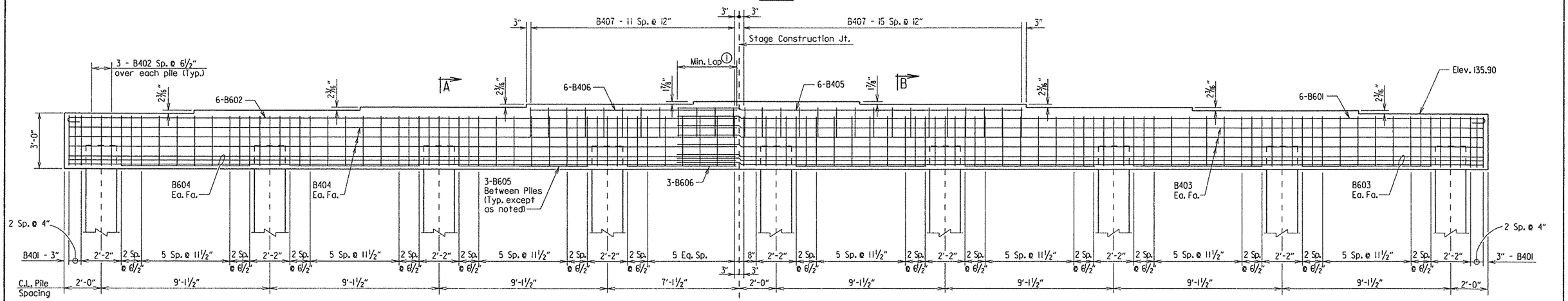
BRIDGE NO. 07261 DRAWING NO. 53070

PRINT DATE: 04-JUN-2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		070280	139	336
				①		07261 - INT. BENTS - 53071		

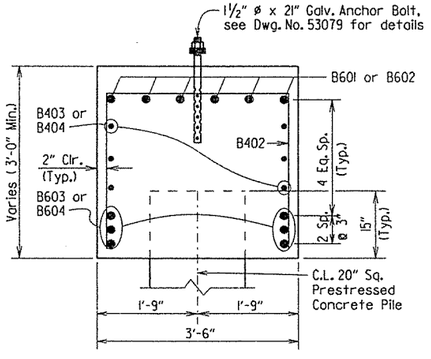


PLAN

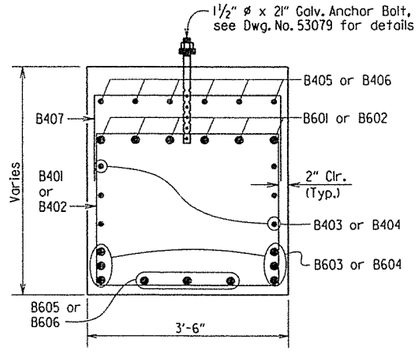


ELEVATION
Looking Ahead

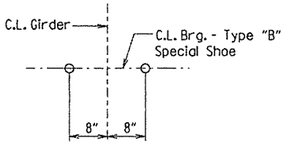
① Lap #4 Bars = 1'-9"
Lap #6 Bars = 2'-7"



SECTION A-A
¾" = 1'-0"



SECTION B-B
¾" = 1'-0"



NOTE: For Detail "TYPE "B" SPECIAL SHOE AT INTERMEDIATE BENTS" See Dwg. No. 53079.

TYPICAL ANCHOR BOLT LAYOUT
¾" = 1'-0"

NOTES:
All concrete shall be Class "S" with a minimum 28-day compressive strength f'c = 3500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

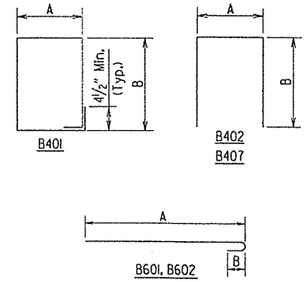
Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts.

For additional information, see Layout.

BAR LIST (PER BENT)

MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	A	B	P.D.
B401	45	41	12'-0"	3'-2"	2'-8"	2"
B402	15	12	8'-4"	3'-2"	2'-8"	2"
B403	6	-	42'-3"	-	-	Str.
B404	-	6	36'-3"	-	-	Str.
B405	6	-	17'-3"	-	-	Str.
B406	-	6	11'-3"	-	-	Str.
B407	16	12	5'-6"	2'-8"	1'-6"	2"
B601	6	-	43'-9"	43'-1"	6"	4½"
B602	-	6	36'-11"	36'-3"	6"	4½"
B603	6	-	43'-1"	-	-	Str.
B604	-	6	36'-3"	-	-	Str.
B605	12	9	7'-1"	-	-	Str.
B606	-	3	6'-0"	-	-	Str.

BENDING DIAGRAMS
Dimensions are out to out of bars.



STATE OF ARKANSAS
Carl L. Fusellier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/13/13
CARL L. FUSELLIER
BRIDGE ENGINEER

DETAILS OF INTERMEDIATE BENTS FLAT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

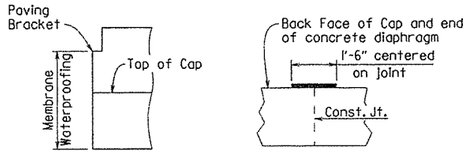
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DESIGNED BY: LJB DATE: 5/12

FILENAME: b070280xl_b2.dgn
SCALE: ⅜" = 1'-0" or as shown

BRIDGE NO. 07261 DRAWING NO. 53071

PRINT DATE: 04-JUN-2013

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.		070280	140	336
				①		07261 - END BENT - 53072		



Membrane waterproofing Type "C" or approved equal, see Section 815. Membrane waterproofing shall extend from the bottom of the cap to the paving bracket.

Payment for membrane to be considered subsidiary to Class "S" Concrete - Bridge.

CONSTRUCTION JOINT DETAIL
No Scale

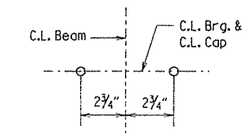
NOTES:
All concrete shall be Class "S" with a minimum 28-day compressive strength f'c = 3500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

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

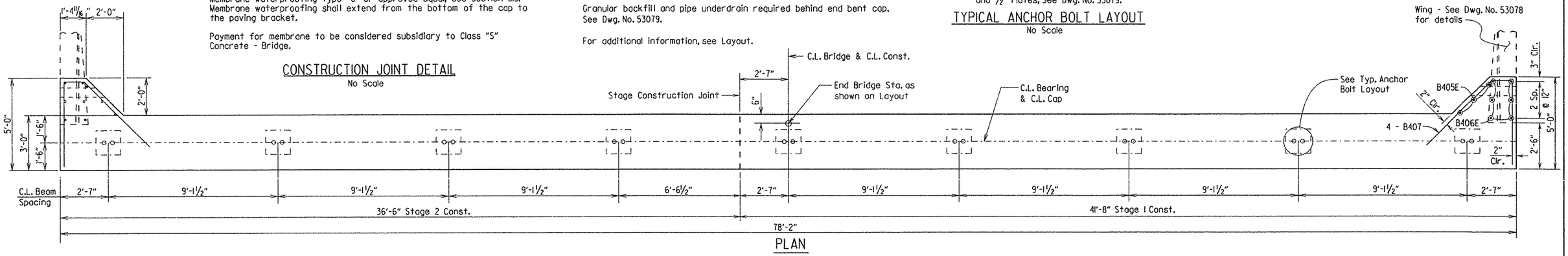
Granular backfill and pipe underdrain required behind end bent cap. See Dwg. No. 53079.

For additional information, see Layout.

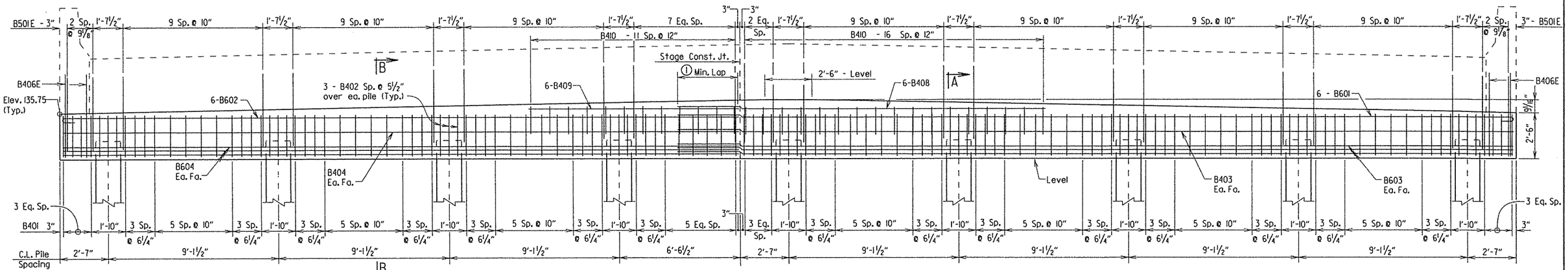


NOTE: For Details of Anchor Bolts and ½" Plates, See Dwg. No. 53079.

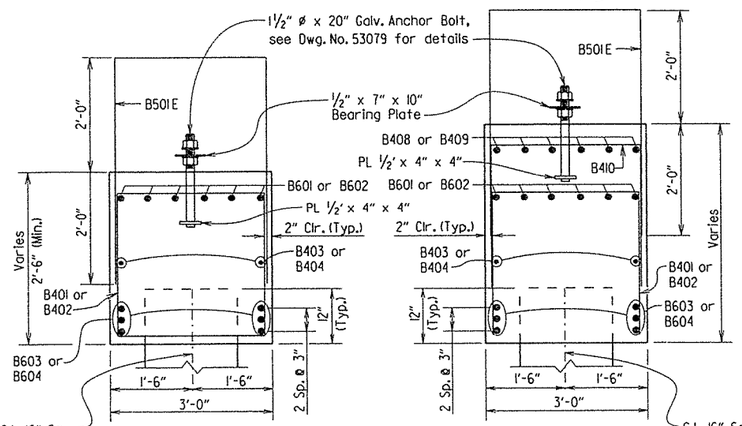
TYPICAL ANCHOR BOLT LAYOUT
No Scale



PLAN



ELEVATION
Looking Ahead



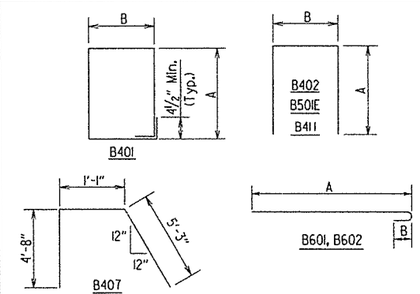
SECTION B-B
No Scale

SECTION A-A
No Scale

BAR LIST

MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	A	B	P.D.
B401	56	49	10'-0"	2'-2"	2'-8"	2"
B402	15	12	6'-10"	2'-2"	2'-8"	2"
B403	2	-	43'-5"	-	-	Str.
B404	-	2	36'-2"	-	-	Str.
B405E	3	3	5'-4"	-	-	Str.
B406E	6	6	4'-4"	-	-	Str.
B407	4	4	11'-0"	SEE DIAGRAM		2"
B408	6	-	18'-0"	-	-	Str.
B409	-	6	11'-3"	-	-	Str.
B410	17	12	5'-6"	1'-6"	2'-8"	2"
B501E	46	41	10'-6"	4'-0"	2'-8"	2½"
B601	6	-	44'-10"	44'-2"	6"	4½"
B602	-	6	36'-10"	36'-2"	6"	4½"
B603	6	-	44'-2"	-	-	Str.
B604	-	6	36'-2"	-	-	Str.

BENDING DIAGRAMS (Dimensions are out to out of bars.)



NOTE: All Bars Designated With An "E" Suffix Are To Be Epoxy Coated.

① Lap #4 Bar = 1'-9"
Lap #6 Bar = 2'-7"

STATE OF ARKANSAS
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6/3/13
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DETAILS OF END BENT NO. 4
FLAT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 06-04-12
CHECKED BY: LJB DATE: 5/22/13
DESIGNED BY: LJB DATE: 5/13

FILENAME: b070280x1_bl.dgn
SCALE: ⅜" = 1'-0" or as shown

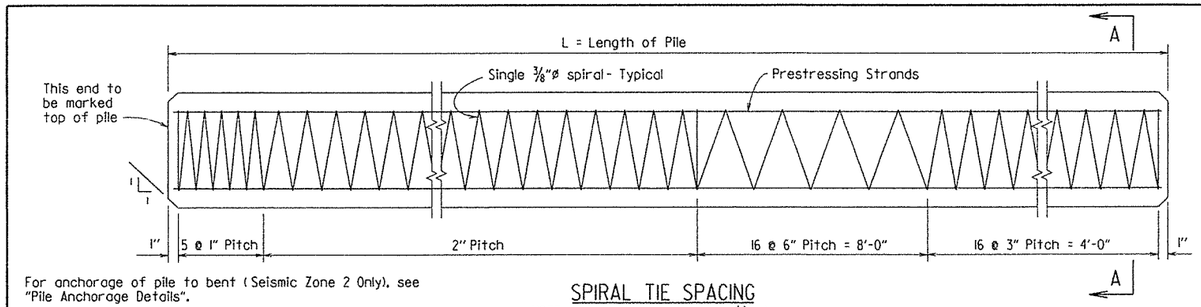
BRIDGE NO. 07261

DRAWING NO. 53072

PRINT DATE: 04-JUN-2013

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.		070280	141	336

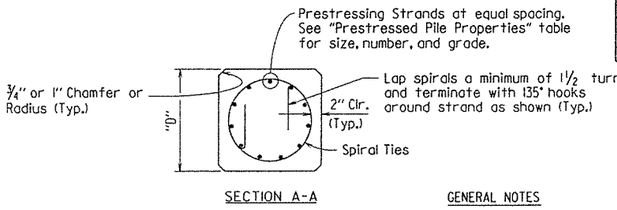
(1) 07261, 07262 - CONCRETE PILES - 53073



For anchorage of pile to bent (Seismic Zone 2 Only), see "Pile Anchorage Details".

SPIRAL TIE SPACING

NOTE: Spirals terminate with 1½ turns



SECTION A-A

PRESTRESSED CONCRETE PILES

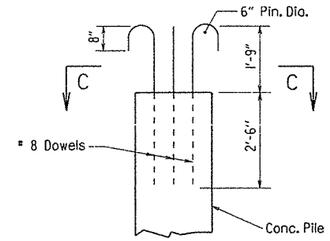
NOTE: Strand location shall be symmetrical about the axis of the pile. Circular spiral ties are required for all piles.

PRESTRESSED PILE PROPERTIES

	Grade	Strand Diameter	No. of Strands * per Size "D" 20" Sq.	No. of Strands * per Size "D" 24" Sq.	Minimum Ultimate Tensile Strength Per Strand (Lbs.)	Intial Prestressing Force Per Strand (Lbs.)
Low Relaxation	250	7/16"	16	23	27,000	20,200
		½"	12	17	36,000	27,000
	270	7/16"	14	20	31,000	23,300
		½"	11	15	41,300	31,000

* Number based on initial prestress force of "B" x Ultimate Tensile Stress, Prestress Losses, and Min. 700 psi Unit Prestress on concrete after Losses.

"B" — 0.75 Low Relaxation



PILE ANCHORAGE DETAILS FOR SEISMIC ZONE 2

No Scale

After driving, drill and grout # 8 dowels 2'-6" into piles using an approved non-shrink grout or an epoxy grout listed on the OPL. Diameter of holes and installation procedure shall be as recommended by the grout manufacturer. Dowels, drilling and grouting shall not be paid for separately but shall be included in the price bid for Piling. Pile anchorage is not required for Seismic Zone 1 unless otherwise noted on the plans.

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, 4th Edition.

SEISMIC ZONE: Zone 1 and Zone 2

The contractor shall use prestressed piles ONLY. Piles will be measured and paid for at the contract unit price bid for "Concrete Piling".

CONCRETE: Concrete in Precast Prestressed Piles shall be Class S (AE) and shall have a Minimum Compressive Strength (f'c) of 5000 psi at 28 days. Compressive strength at transfer of the Prestressing Force shall be not less than 4000 psi. Concrete in Build-Ups shall have a minimum Compressive Strength of 4000 psi. and shall be cured for a minimum of 10 days.

REINFORCING STEEL: Reinforcing Steel for Pile anchorage and build-up shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

PRESTRESSING REINFORCING: Seven wire low relaxation strands shall conform to the general requirements of AASHTO M203. Broken wires within individual strands will be permitted up to 2% of the total number of wires in each pile, providing that there is not more than one broken wire per strand. Two or more broken wires per strand will be cause for replacement of the strand, even though the two broken wires are within the 2% limitation.

SPIRAL REINFORCING: Spiral reinforcing shall be steel wire meeting the requirements of AASHTO M32 or M225 or shall be plain round steel bars meeting the requirements of AASHTO M31 or M322 Type A, Gr. 60, with mill test reports.

MANUFACTURE, TRANSPORTATION AND STORAGE: See Section 802 "Concrete for Structures".

FORMS: For forming exterior of piles, the use of steel forms on concrete founded casting beds is required unless otherwise approved by the Engineer. Side forms may have a maximum drift on each side not exceeding ¼" per foot.

TOLERANCES: Pile ends shall be plane surfaces and perpendicular to axis of pile with a maximum tolerance of ⅛" per foot transversely.

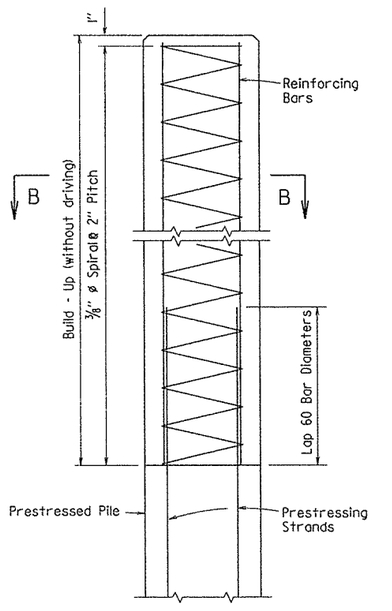
The maximum sweep (deviation from straightness measured along two perpendicular faces of the pile, while not subject to bending forces) shall not exceed ⅛" in 10 Ft.

Shipment of piles from the plant site or pile driving will not be permitted until the required minimum compressive strength is reached, and in no case less than 10 days after pouring the concrete. Prestressed piles may be removed from the casting bed to nearby storage any time after transfer of stress.

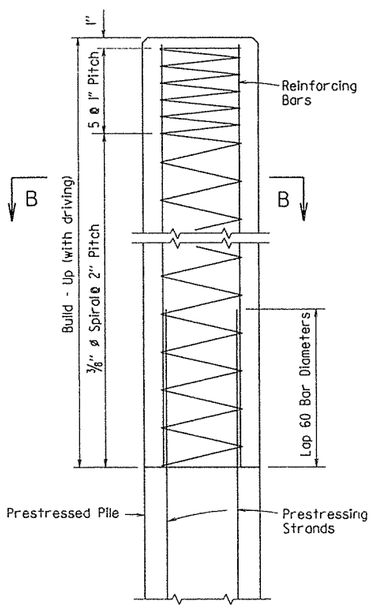
BUILD-UPS: To provide for Build-Ups of piles where authorized by the Engineer, concrete shall be cut back to expose the strands for a distance sufficient to provide a lap of 60 diameters of the reinforcing bars required for build-up.

INSTALLATION, MEASUREMENT AND PAYMENT: See Section 805 "Piling".

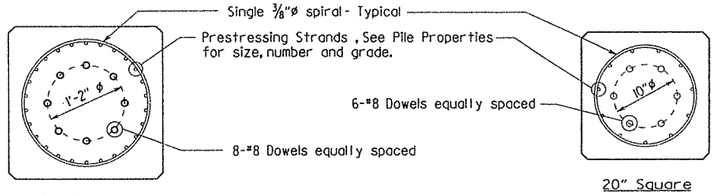
COARSE AGGREGATE: Maximum size of coarse aggregate shall be ¾".



DETAILS FOR BUILD-UP WITHOUT DRIVING



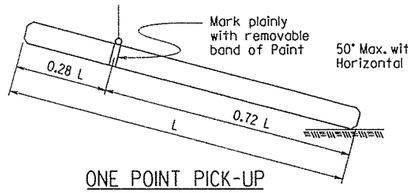
DETAILS FOR BUILD-UP WITH DRIVING



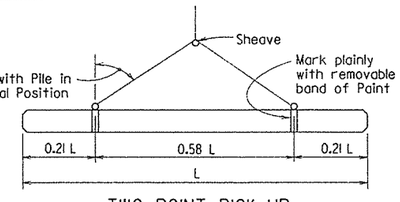
BUILD-UP PILE REINFORCING

Pile Size	No. Req'd.	Bar Size
20" Sq.	8	# 9
24" Sq.	12	# 9

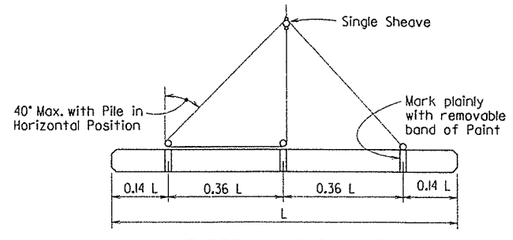
PILE BUILD-UP



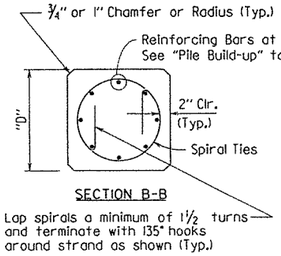
ONE POINT PICK-UP



TWO POINT PICK-UP



THREE POINT PICK-UP



SECTION B-B

Lap spirals a minimum of 1½ turns and terminate with 135° hooks around strand as shown (Typ.)

MAXIMUM PICKUP LENGTHS L

Type of Pick - Up	Prestressed 20" Sq.	Prestressed 24" Sq.
One - Point	63'	69'
Two - Point	95'	104'
Three - Point	128'	138'

STATE OF ARKANSAS
Carl J. Fugelier
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No. 7510
3/14/14
CARL J. FUGELIER

BRIDGE ENGINEER

DETAILS OF 20" & 24" SQUARE PRESTRESSED CONCRETE PILES

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 10-10-12 FILENAME: b070280xl_cp.dgn

CHECKED BY: LJB DATE: 5/22/13 SCALE: 1" = 1'-0"

DESIGNED BY: STD. DATE:

BRIDGE NOS. 07261, 07262 DRAWING NO. 53073

PRINT DATE: 14-MAR-2014

Class I Protective Surface Treatment shall be applied to the Roadway Surface and to the Roadway Face and Top of the Concrete Parapet Rail.

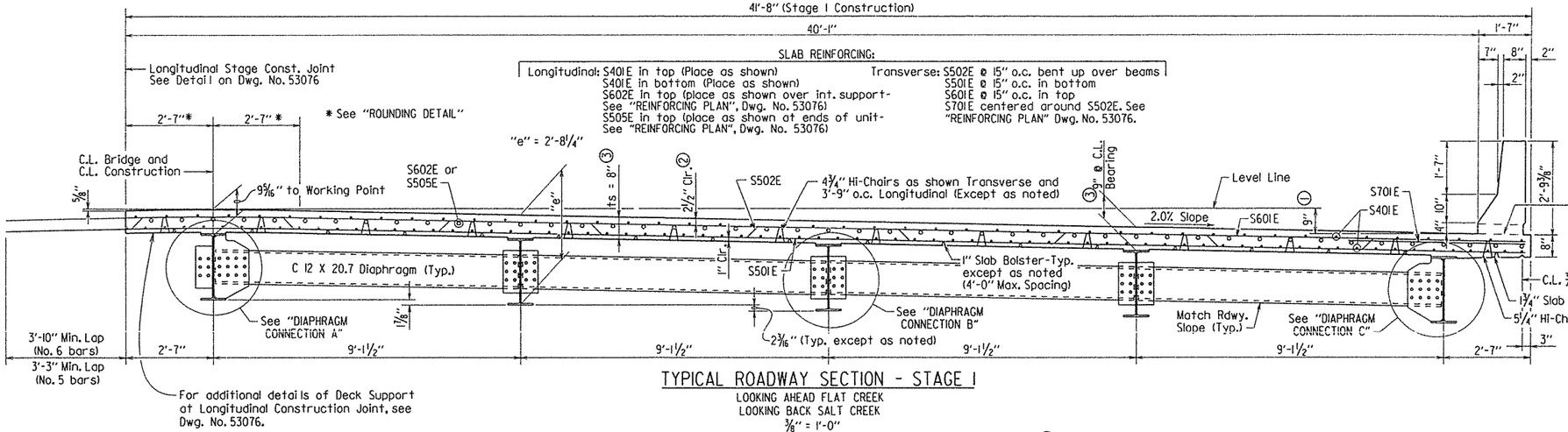
At Contractor's option, in lieu of providing Bar S502E and S504E, one epoxy coated #5 bar top and bottom may be substituted for each bar. Payment for Reinforcing will be based on the Weight of bar S502E and S504E.

All bars designated with a "E" suffix are to be Epoxy Coated.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete.

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.		070280	142	336

(1) 07261, 07262 - SPAN DETAILS - 53074



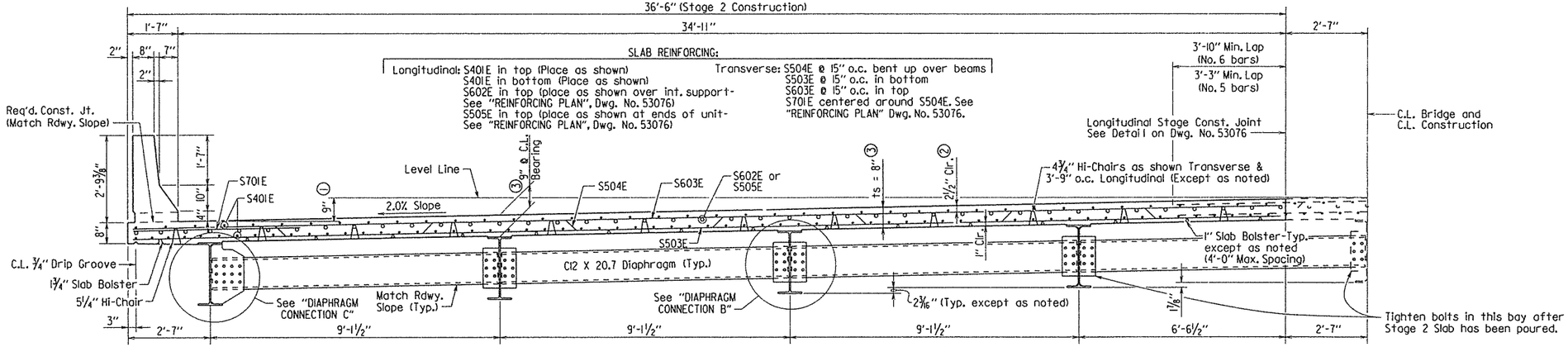
TYPICAL ROADWAY SECTION - STAGE I

LOOKING AHEAD FLAT CREEK
LOOKING BACK SALT CREEK
⅜" = 1'-0"

① Working Point to Gutterline

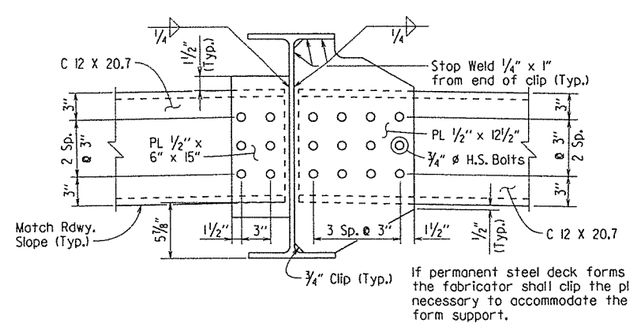
② Tolerance: Minus = ¼"
Plus = Equal to amount of slab thickening used to meet slab thickness tolerance - see "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".

③ See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".



TYPICAL ROADWAY SECTION - STAGE 2

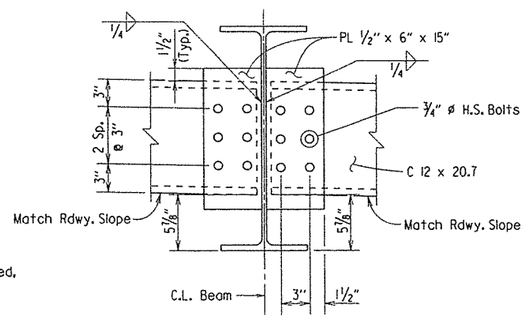
LOOKING AHEAD FLAT CREEK
LOOKING BACK SALT CREEK
⅜" = 1'-0"



If permanent steel deck forms are used, the fabricator shall clip the plate as necessary to accommodate the deck form support.

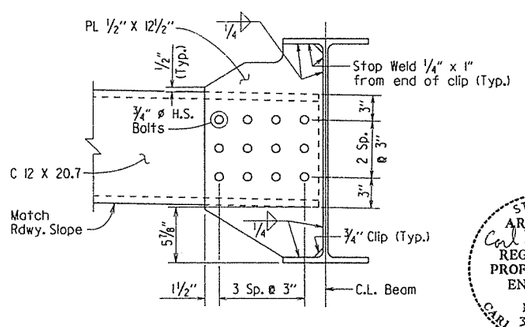
DIAPHRAGM CONNECTION A

No Scale



DIAPHRAGM CONNECTION B

No Scale

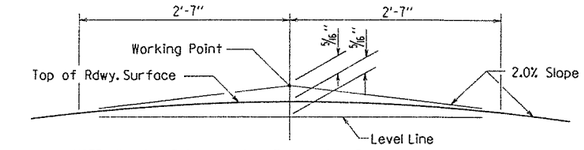


DIAPHRAGM CONNECTION C

No Scale

STATE OF ARKANSAS
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BRIDGE ENGINEER

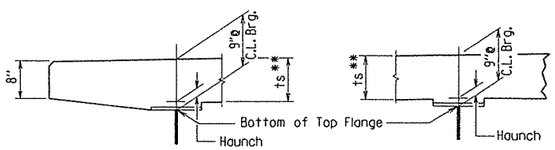


NOTE: Working Point matches Theoretical Roadway Grade.

ROUNDING DETAIL

No Scale

NOTE: ts = slab thickness as shown in "TYPICAL ROADWAY SECTION".



EXTERIOR BEAM — INTERIOR BEAM

** 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. 55005 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

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"	⅜"	

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.

SHEET 1 OF 6

DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 05-07-12
CHECKED BY: LJB DATE: 5/22/13
DESIGNED BY: LJB DATE: 5/12
FILENAME: b070280x1_sl.dgn
SCALE: ½" = 1'-0" or as shown

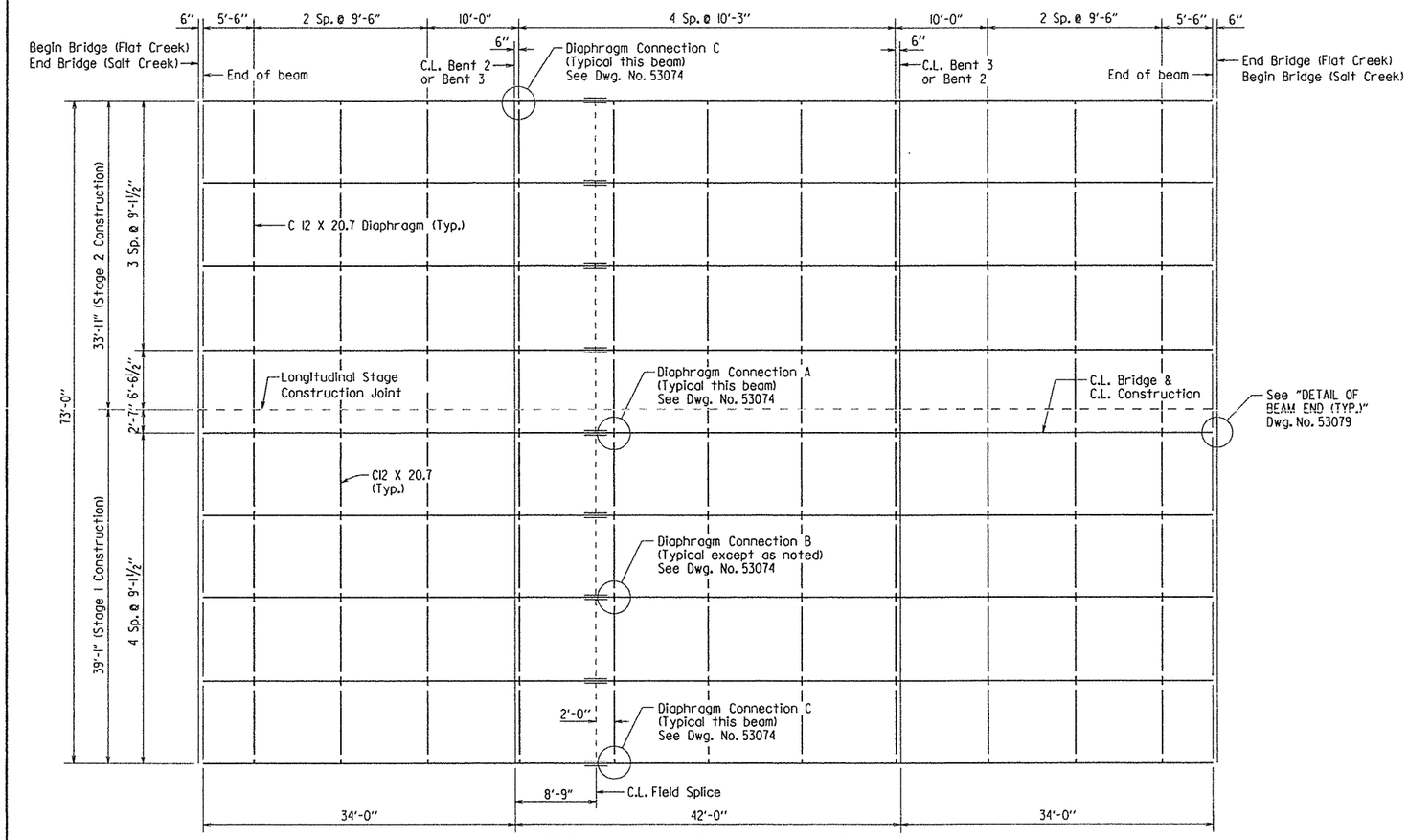
BRIDGE NOS. 07261, 07262 DRAWING NO. 53074

PRINT DATE: 14-MAR-2014

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.		070280	143	336

(1) 07261, 07262 - SPAN DETAILS - 53075

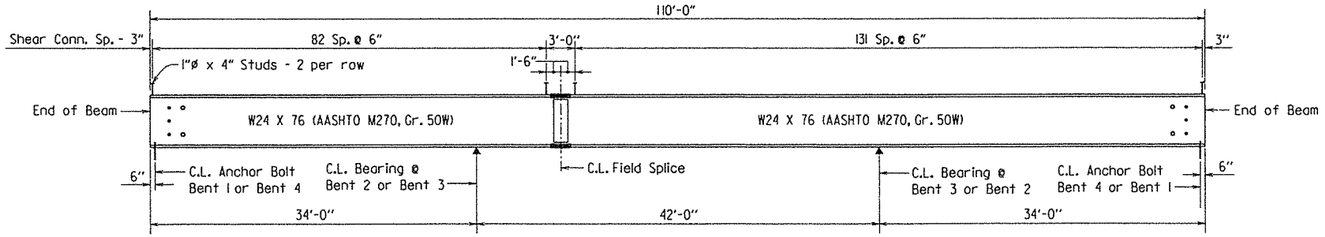


NOTE: Diaphragm spacing is measured along C.L. Bridge.

FRAMING PLAN

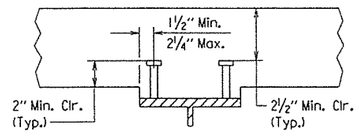
1/8" = 1'-0"

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



BEAM ELEVATION

No Scale



SHEAR CONNECTOR DETAIL

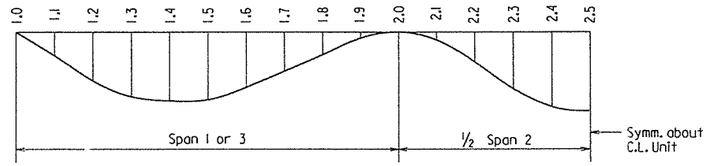
No Scale

Stud Shear Connectors shown shall be 1"ø x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the Manufacturer.

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

Span	Point of Deflection	Structural Steel	Structural Steel + Slab	Structural Steel + Slab + Parapet
1 or 3	1.0	0.000	0.000	0.000
	1.1	0.007	0.071	0.072
	1.2	0.013	0.131	0.134
	1.3	0.017	0.172	0.175
	1.4	0.018	0.188	0.192
	1.5	0.018	0.180	0.184
	1.6	0.015	0.151	0.154
	1.7	0.010	0.106	0.108
	1.8	0.006	0.056	0.057
	1.9	0.002	0.015	0.015
2	2.0	0.000	0.000	0.000
	2.1	0.003	0.036	0.037
	2.2	0.010	0.105	0.107
	2.3	0.017	0.177	0.181
	2.4	0.022	0.229	0.234
	2.5	0.024	0.248	0.253

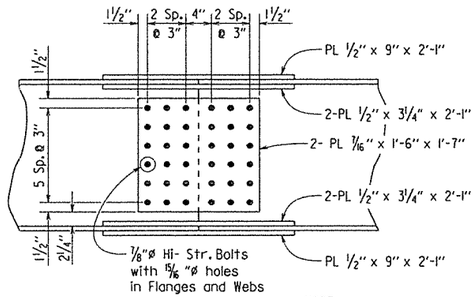
Symm. about C.L. Unit



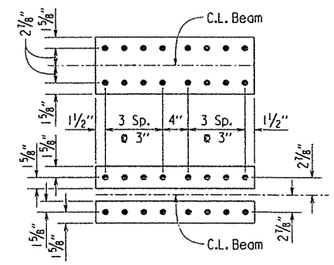
DEAD LOAD DEFLECTION DIAGRAM

No Scale

NOTE: Camber for Dead Load Deflections +/- ¼" tolerance. Deflections shown are from a chord from C.L. Anchor Bolt to C.L. Anchor Bolt.



WEB SPLICE



FLANGE SPLICE

NOTE:
All splice plates shall be AASHTO M270, Gr. 50W

FIELD SPLICE DETAIL

Scale: 1" = 1'-0"

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SHEET 2 OF 6

DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 05-07-12
CHECKED BY: LJB DATE: 5/22/13
DESIGNED BY: LJB DATE: 5/12

FILENAME: b070280xl_sl.dgn
SCALE: 1/8" = 1'-0" or as shown

BRIDGE NOS. 07261, 07262 DRAWING NO. 53075

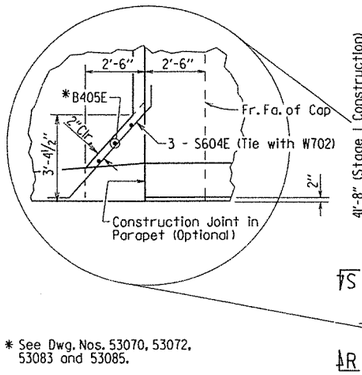
PRINT DATE: 04-JUN-2013

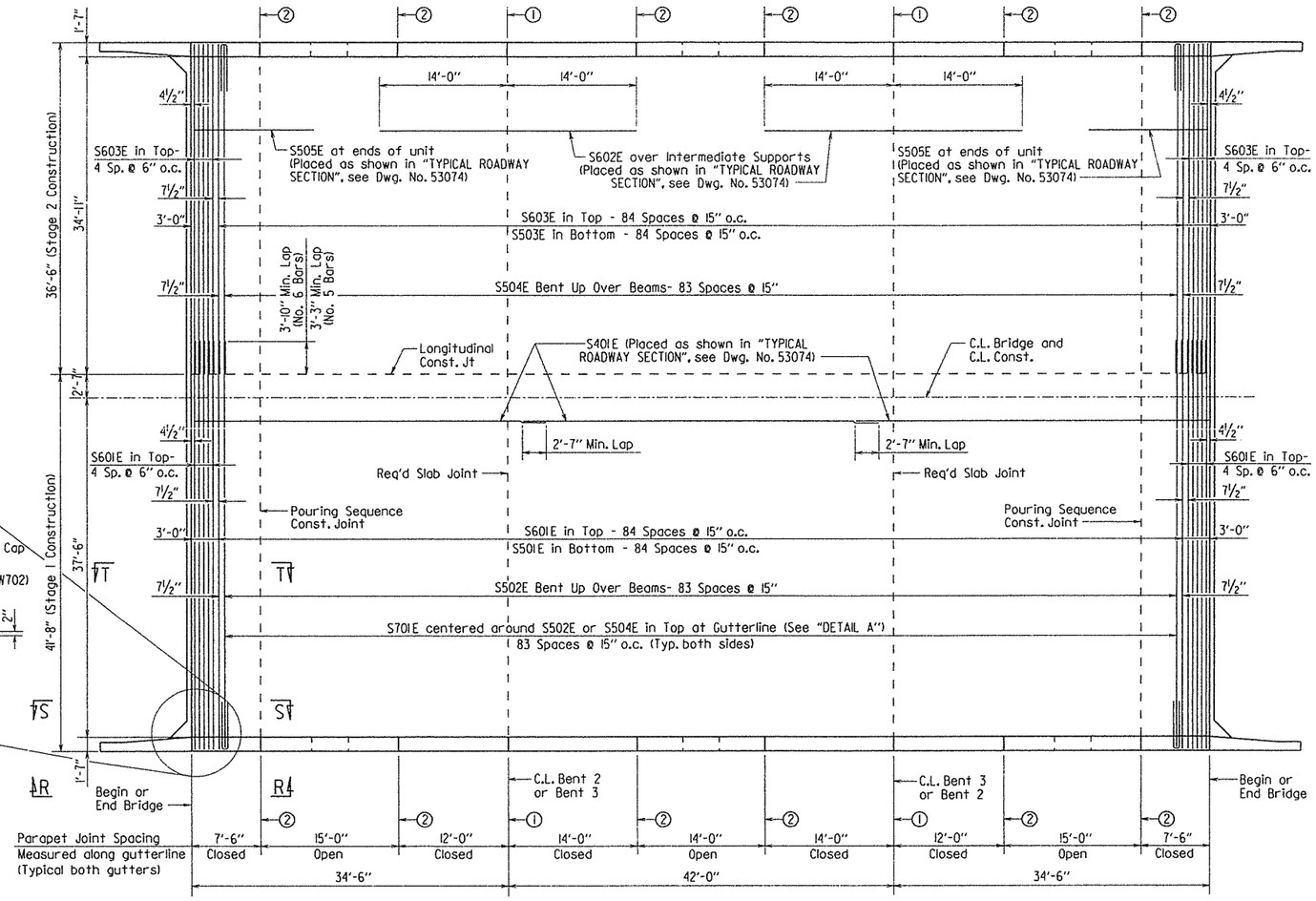
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070280	144	336

① 07261, 07262 - SPAN DETAILS - 53076

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.





* See Dwg. Nos. 53070, 53072, 53083 and 53085.

REINFORCING PLAN

1/8" = 1'-0"

NOTES:
Rails and wings are included in span construction and included in span quantities.

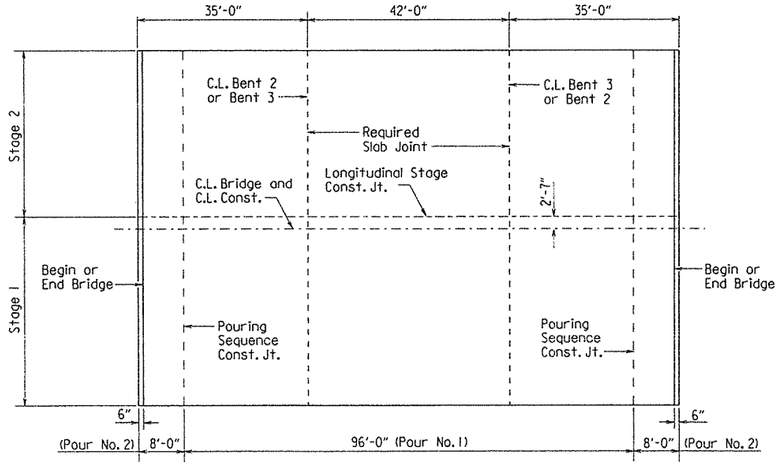
Required slab joints and pouring sequence joints shall align with parapet open joints at the gutterline.

For "VIEW R-R", "SECTION S-S" and "SECTION T-T", see Dwg. No. 53078.

Pours with the same number may be poured simultaneously or separately. Pour (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. All construction joints shall be prepared in accordance with subsection 802.12.

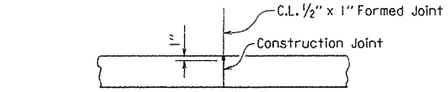
Any railing pours shall not be made before the entire slab unit of that stage has been placed unless approval of the Engineer has been obtained. The Contractor must obtain approval from the Engineer for any deviation from the pouring sequence.

Concrete in bridge superstructure must be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The Contractor must obtain approval from the Engineer for any deviations from the Pouring Sequences shown.



POURING SEQUENCE

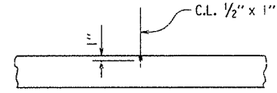
No Scale



Use ½" 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. This joint shall be formed. Sealant must be gray or other color similar to concrete.

LONGITUDINAL SLAB CONSTRUCTION JOINT DETAIL

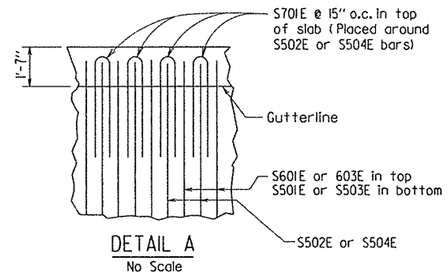
No Scale



Use ½" X 1" Type 3 or 4 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. Slab joints shall align between each stage.

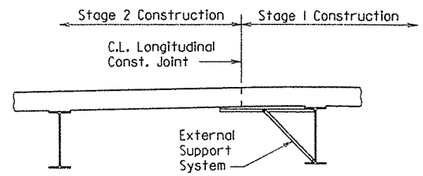
SLAB JOINT DETAIL

No Scale



DETAIL A

No Scale



Stage 1 external supports in this bay shall remain in place until after completion of the Stage 2 deck pour. See subsection 802.15 for additional information regarding their removal.

DECK SUPPORT AT LONGITUDINAL CONSTRUCTION JOINT

LOOKING AHEAD FLAT CREEK
LOOKING BACK SALT CREEK
No Scale

STATE OF ARKANSAS
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3/14/14
CARL J. FUSSELIER

BRIDGE ENGINEER

SHEET 3 OF 6

DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 05-07-12
CHECKED BY: LJB DATE: 5/22/13
DESIGNED BY: LJB DATE: 5/12

FILENAME: b070280xl_sl.dgn
SCALE: 1/8" = 1'-0" or as noted

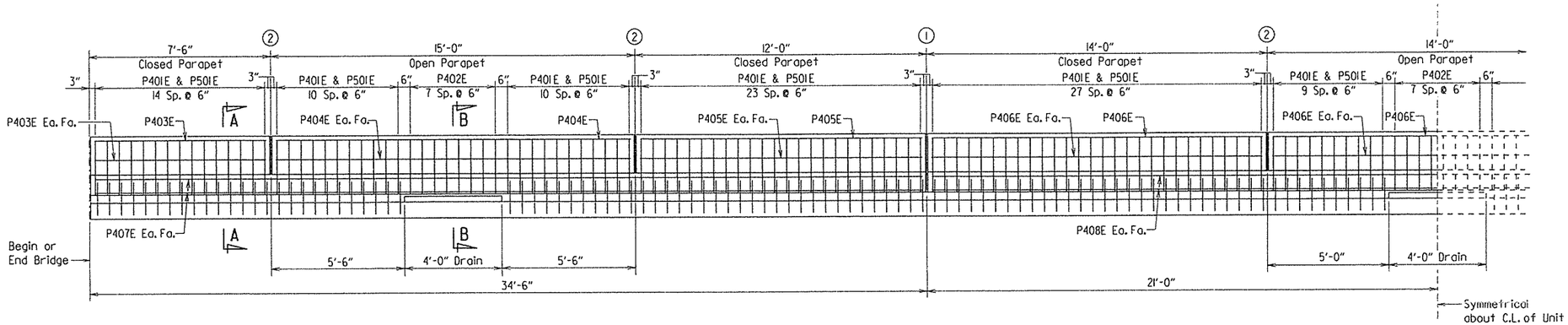
BRIDGE NOS. 07261, 07262 DRAWING NO. 53076

PRINT DATE: 14-MAR-2014

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.		070280	145	336
				(1)	07261, 07262 - SPAN DETAILS - 53077			

① C.L. Full-Depth Parapet Joint (¼" to 1" Max.) Stop 4" from top of slab.

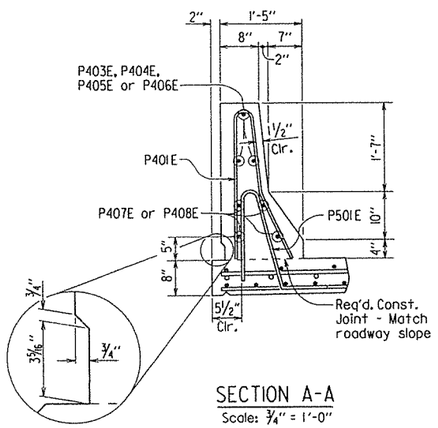
② C.L. Partial-Depth Parapet Joint (¼" to 1" Max.) Stop 1'-2" from top of slab.



DETAILS OF PARAPET RAIL

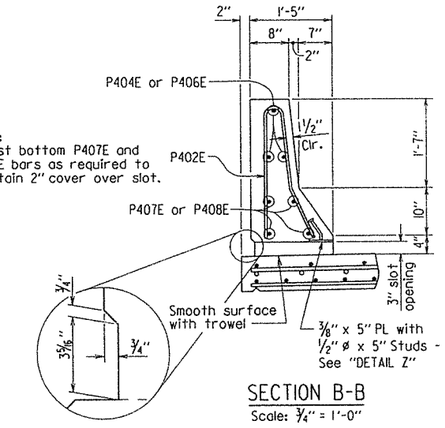
No Scale

NOTE: See Dwg. No. 53078 for Bar List.



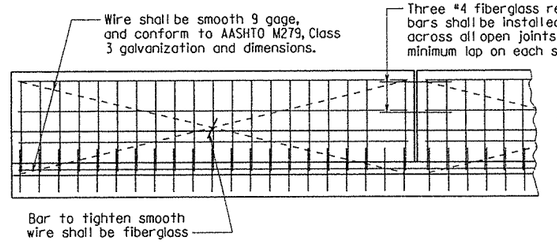
SECTION A-A

Scale: ¾" = 1'-0"



SECTION B-B

Scale: ¾" = 1'-0"

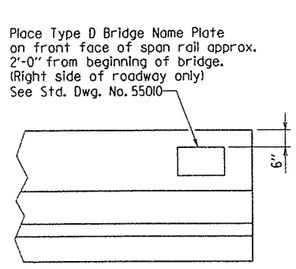


All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of ¼". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

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.

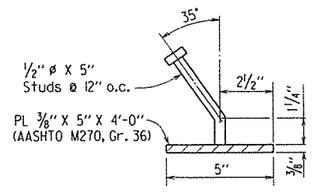
DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

No Scale



NAME PLATE DETAIL

No Scale



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)". All components of Drain Plate Assembly shall be galvanized according to AASHTO M111.

STATE OF ARKANSAS
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SHEET 4 OF 6

DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 05-08-12 FILENAME: b070280x1_sl.dgn

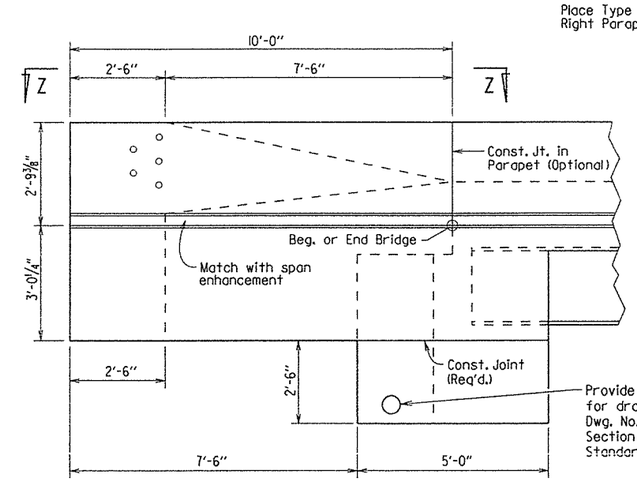
CHECKED BY: LJB DATE: 5/12/13 SCALE: As Shown

DESIGNED BY: LJB DATE: 5/12

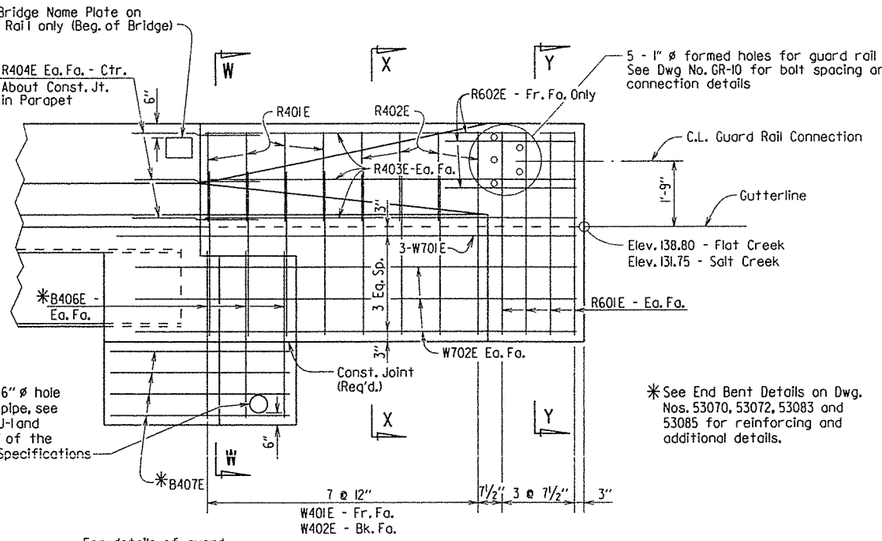
BRIDGE NOS. 07261, 07262 DRAWING NO. 53077

PRINT DATE: 14-MAR-2014

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.		070280	146	336
				(1) 07261, 07262 - SPAN DETAILS - 53078				

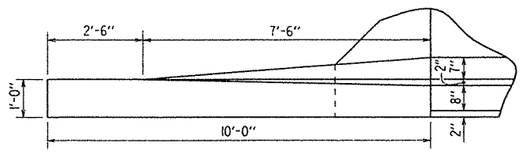


VIEW R-R
No Scale

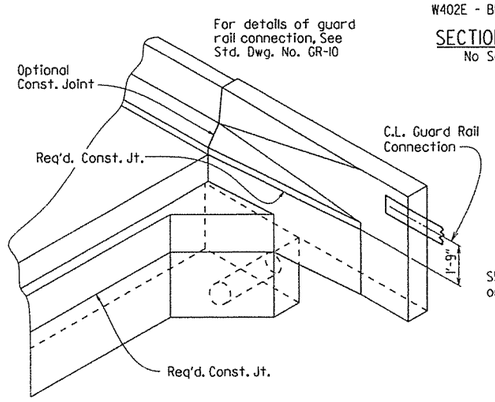


*See End Bent Details on Dwg. Nos. 53070, 53072, 53083 and 53085 for reinforcing and additional details.

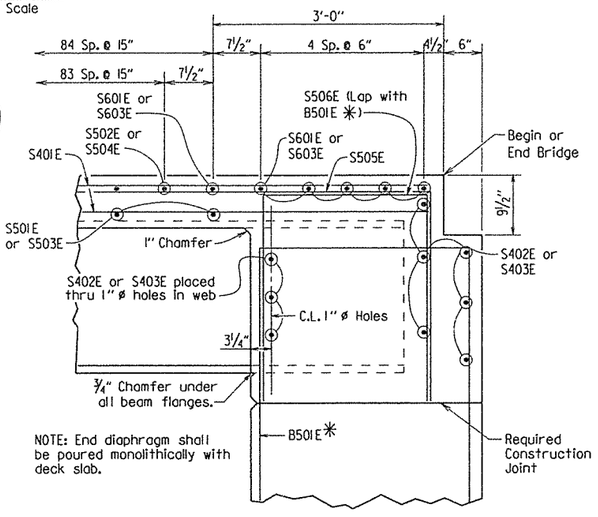
SECTION S-S
No Scale



VIEW Z-Z
No Scale

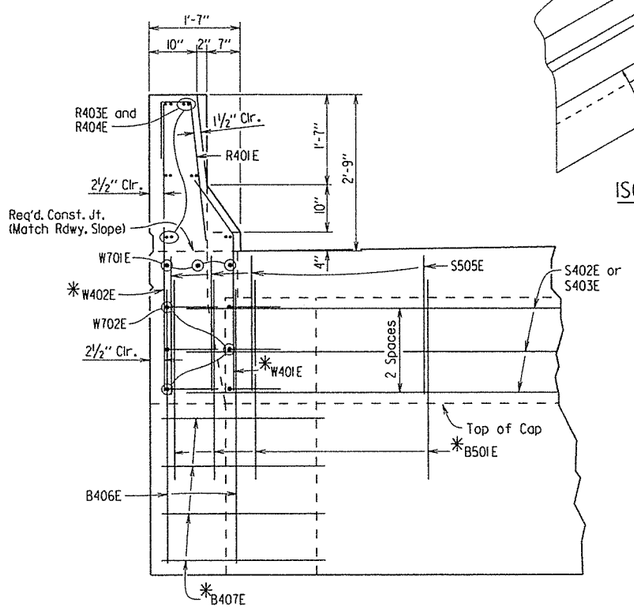


ISOMETRIC VIEW OF INTEGRAL BENT
No Scale

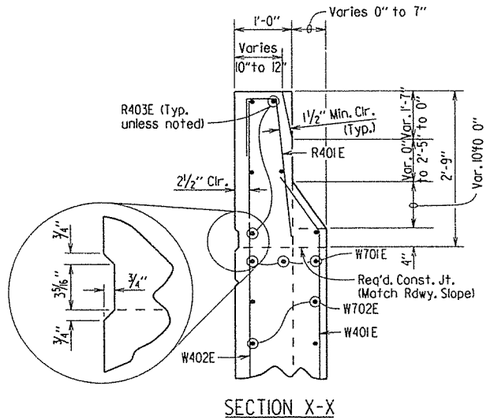


NOTE: End diaphragm shall be poured monolithically with deck slab.

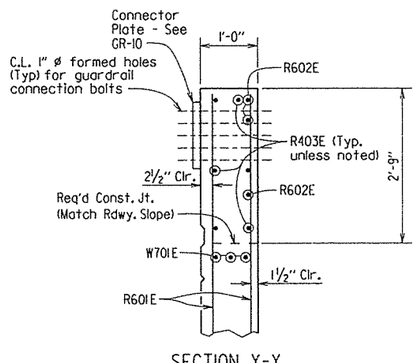
SECTION T-T
1"= 1'-0"



SECTION W-W
¾"=1'-0"



SECTION X-X
¾" = 1'-0"



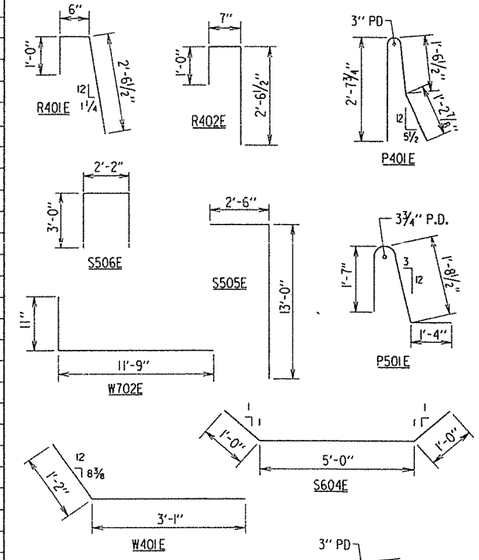
SECTION Y-Y
¾" = 1'-0"

BAR LIST - PER BRIDGE

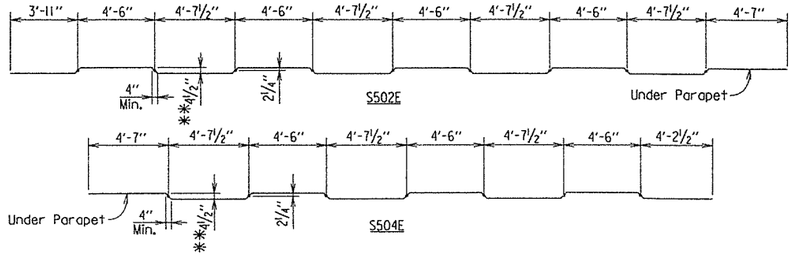
MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	P.D.
P401E	198	198	5'-6"	3"
P402E	24	24	4'-10"	3"
P403E	6	6	7'-2"	Str.
P404E	6	6	14'-8"	Str.
P405E	6	6	11'-8"	Str.
P406E	9	9	13'-8"	Str.
P407E	8	8	34'-2"	Str.
P408E	4	4	41'-8"	Str.
P501E	198	198	4'-9"	3¾"
R401E	8	8	3'-11"	2"
R402E	8	8	4'-0"	2"
R403E	12	12	9'-8"	Str.
R404E	12	12	4'-0"	Str.
R601E	16	16	5'-5"	Str.
R602E	6	6	5'-0"	Str.
S401E	360	312	38'-6"	Str.
S402E	18	—	44'-3"	Str.
S403E	—	18	36'-4"	Str.
S501E	85	—	44'-9"	Str.
S502E	84	—	46'-1"	3"
S503E	—	85	36'-4"	Str.
S504E	—	84	37'-0"	3"
S505E	88	82	15'-5"	3¾"
S506E	45	41	7'-11"	2½"
S601E	95	—	45'-4"	Str.
S602E	88	82	28'-0"	Str.
S603E	—	95	36'-4"	Str.
S604E	6	6	7'-0"	4½"
S701E	84	84	10'-9"	6"
W401E	16	16	4'-3"	2"
W402E	10	10	5'-5"	Str.
W701E	6	6	12'-0"	Str.
W702E	12	12	12'-6"	5¼"

BENDING DIAGRAMS

Dimensions are out to out of bars.



** ½" Overtolerance, No Undertolerance.



NOTE: Bars designated with an "E" suffix are to be epoxy coated.

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SHEET 5 OF 6

DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 05-09-12 FILENAME: b070280xl_sl.dgn
CHECKED BY: LJB DATE: 5/22/13 SCALE: As Shown
DESIGNED BY: LJB DATE: 5/12

BRIDGE NOS. 07261, 07262 DRAWING NO. 53078

PRINT DATE: 04-JUN-2013

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.		070280	147	336
				①	07261, 07262 - SPAN DETAILS - 53079			

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2014 edition, with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications 6th Edition (2012).

MATERIALS AND STRENGTHS:

Class S(AE) Concrete	f'c =	4,000 psi
Reinforcing Steel (Gr. 60, AASHTO M31 or M322, Type A)	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. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

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

The concrete deck shall be given a 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 beam. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection due to the railing. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the parapet railing.

REINFORCING STEEL :

All reinforcing steel shall be Grade 60 (Yield Strength = 60,000 PSI) conforming to AASHTO M31 or M322, Type A, with Mill Test Reports. 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 Beam 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.

Beams and field splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in subsection 807.05.

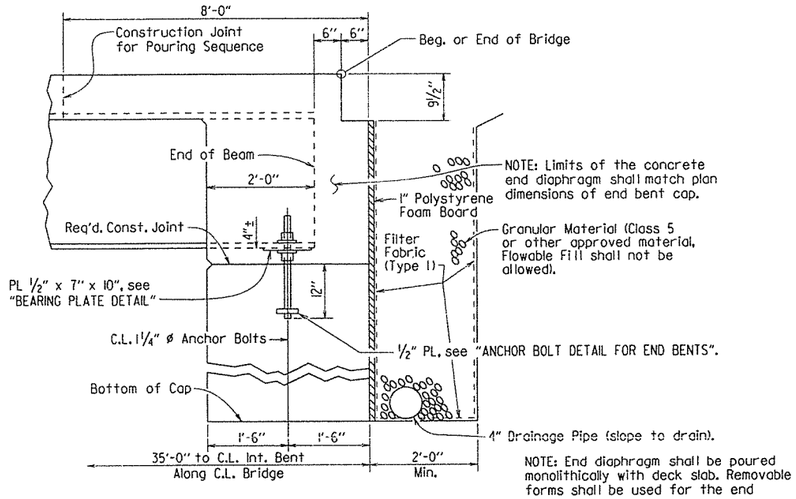
All beams shall be blocked in their true position in the shop with the webs horizontal. The camber, length of sections, distance between bearings and openings of joints shall be measured with the beams in their true position and this information shall become part of the permanent records for this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of ¼" +/- is allowed for camber.

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

Field connections shall be bolted with high-strength bolts and shall be ¾" ø bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam webs and on the bottom of the beam 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.

Unless otherwise noted, diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring the concrete deck unless otherwise noted.

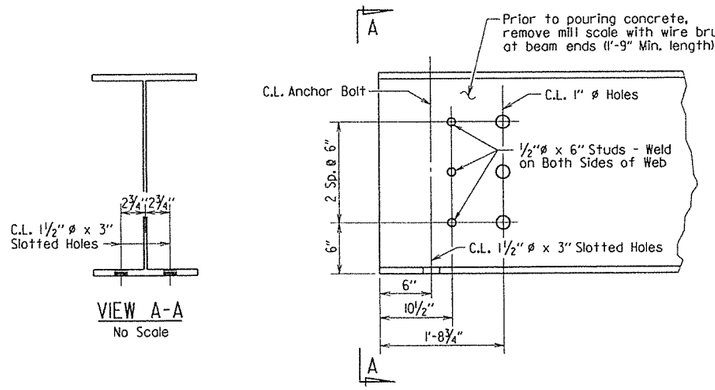
Bearings shall be seated in accordance with subsection 807.66. This work and material are to be considered as subsidiary to the item "Structural Steel in Beam Spans (M270, Gr. 50W)" and will not be paid for directly.



SECTION AT END BENT

No Scale

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, filter fabric and polystyrene foam board will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation".

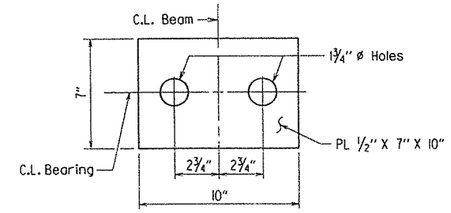


VIEW A-A

No Scale

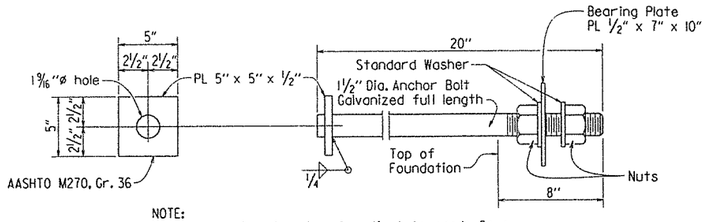
DETAIL OF BEAM END (TYP.)

No Scale



BEARING PLATE DETAIL

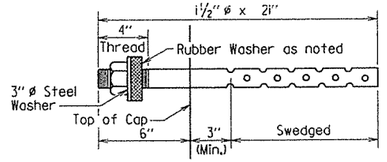
No Scale



NOTE:
Use lower nut and washer to adjust to grade. Snug tight top nut and washer after grade is adjusted.

ANCHOR BOLT DETAIL FOR END BENTS

No Scale



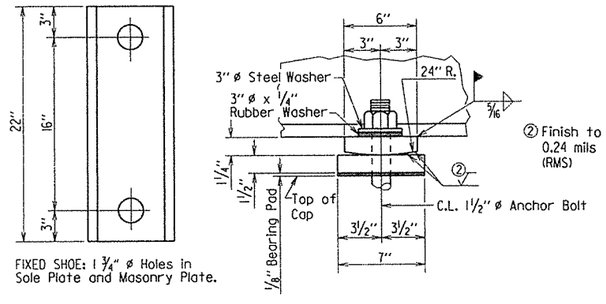
ANCHOR BOLT DETAIL FOR INTERMEDIATE BENTS

No Scale

NOTE: (Applies to all bents)

Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts for bolts shall be as specified in Subsection 807.07. Rubber washers at intermediate bents shall be closed cell expanded rubber, meeting the requirements of ASTM D1056 - 85 2B2 E2.

Anchor bolts, plate, washers, and nuts shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M270, Gr. 50W)".



TYPE "B" SPECIAL SHOE AT INTERMEDIATE BENTS

No Scale

NOTE: Plates for Type "B" Special Shoes shall be M270, GR. 50W and shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50W)."

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
3/19/14

BRIDGE ENGINEER

SHEET 6 OF 6

DETAILS OF 110' INTEGRAL CONTINUOUS COMPOSITE W-BEAM UNITS FLAT CREEK AND SALT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

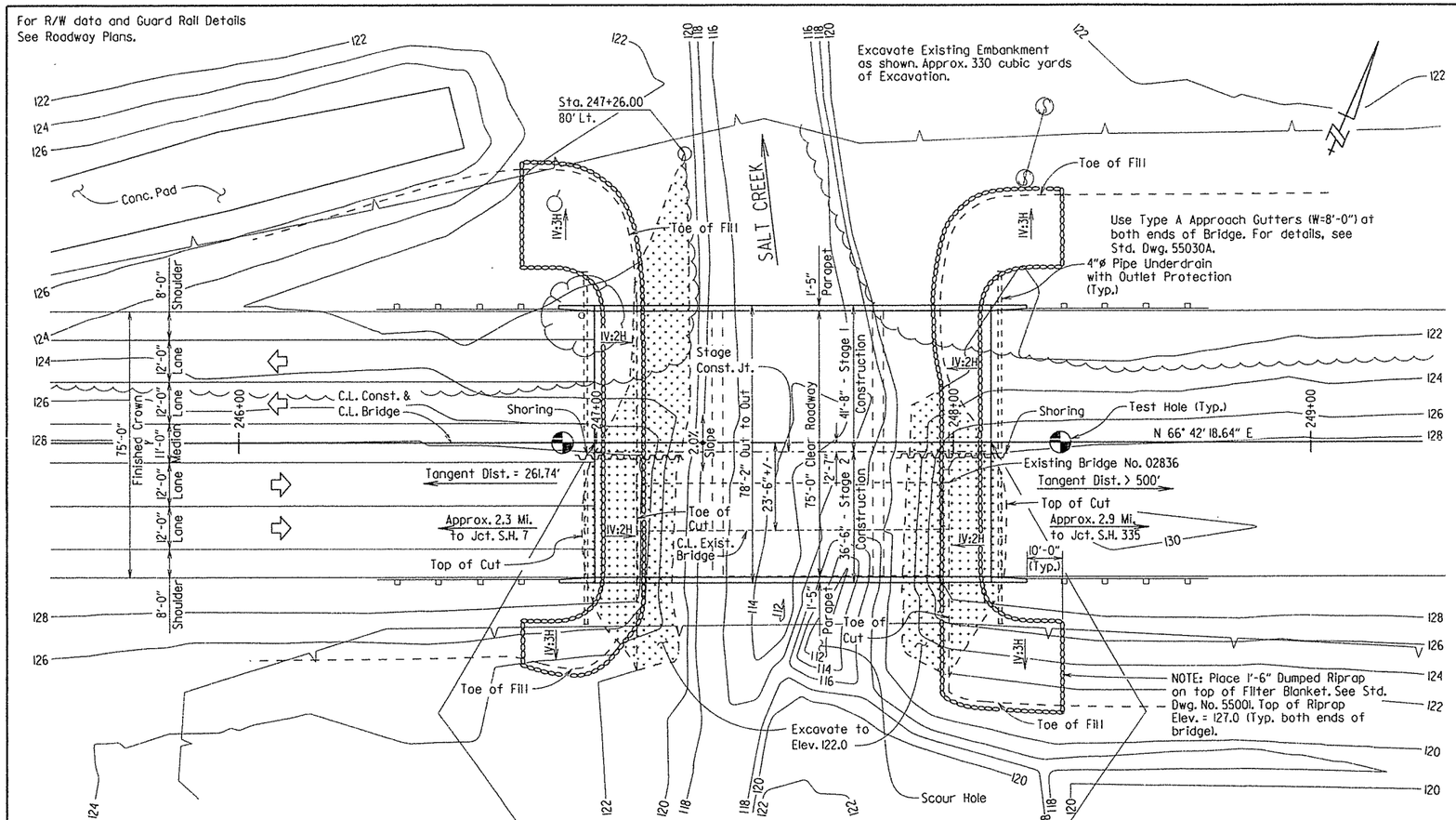
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DESIGNED BY: LJB DATE: 5/12

BRIDGE NOS. 07261, 07262 DRAWING NO. 53079

PRINT DATE: 14-MAR-2014

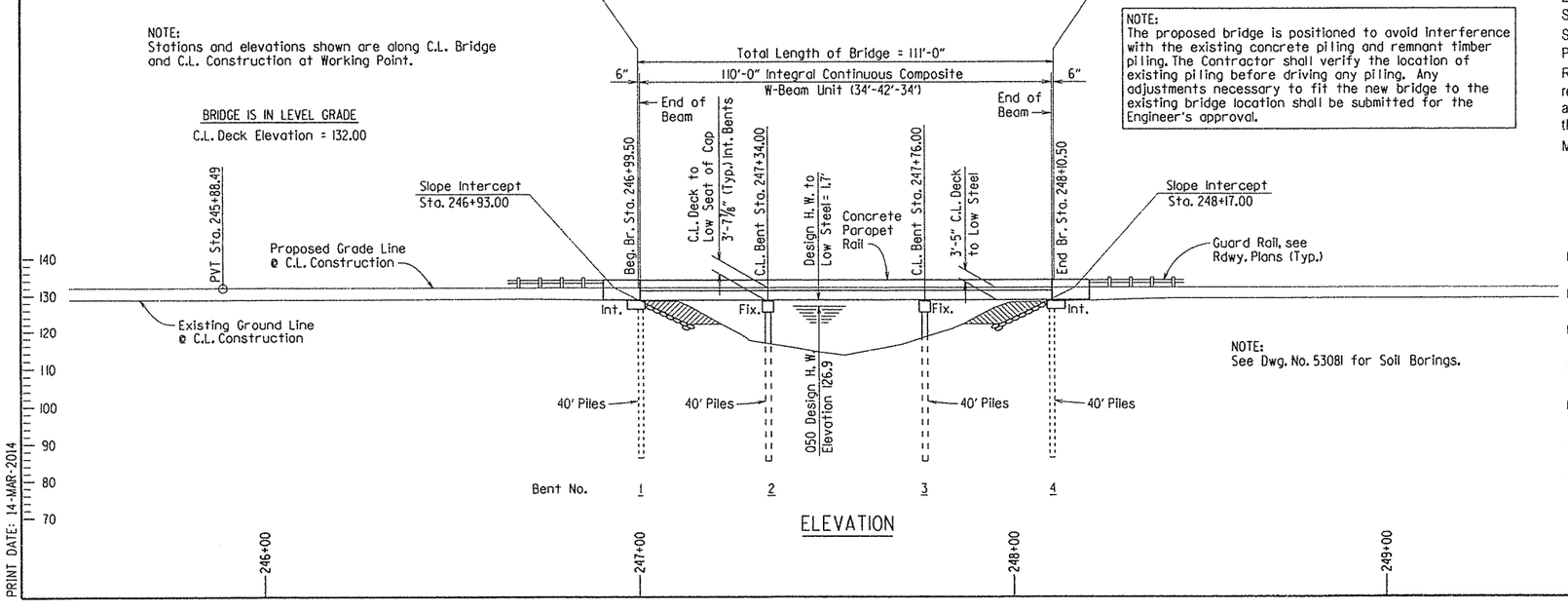
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				6	ARK.			
				JOB NO.		070280	148	336
				①		07262 - LAYOUT - 53080		

For R/W data and Guard Rail Details
See Roadway Plans.



NOTE:
Stations and elevations shown are along C.L. Bridge and C.L. Construction at Working Point.

NOTE:
The proposed bridge is positioned to avoid interference with the existing concrete piling and remnant timber piling. The Contractor shall verify the location of existing piling before driving any piling. Any adjustments necessary to fit the new bridge to the existing bridge location shall be submitted for the Engineer's approval.



NOTE:
See Dwg. No. 53081 for Soil Borings.

PRINT DATE: 14-MAR-2014

GENERAL NOTES:

BENCH MARK: BM904, AHTD Disk J325 2009, 202.12' Lt. of Sta. 243+80.95, Elev. 128.29.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2014 edition, with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans Section and Subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications Sixth Edition (2012).

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 (Grade 60, AASHTO M31 or M322, Type A)	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.

CONCRETE PILING: Piling for Bents 1 and 4 shall be 16" square prestressed concrete and shall be driven to an ultimate bearing capacity of 155 tons per pile. Piling in Bents 2 and 3 shall be 20" square prestressed concrete and shall be driven to an ultimate bearing capacity of 242 tons per pile. All piling shall be driven with an approved air, steam, or diesel hammer. Piling in end bents shall be driven after embankment to bottom of cap is in place. Piling in Bents 1 and 4 shall have a minimum tip elevation of 100.0 or lower. Piling in Bents 2 and 3 shall have a minimum tip elevation of 90.0 or lower. Lengths of piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. Drive one 45' test pile in Bent 2, and one 45' test pile in Bent 4.

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b), "Method B – Wave Equation Analysis (WEAP)". It is estimated that the minimum required rated energy of the hammer to obtain the minimum ultimate bearing capacity on 16" sq. piles will be 40,000 foot pounds per blow and on 20" sq. piles shall be 60,000 foot pounds per blow.

PREBORING: Preboring is required for all piling at bents 1 and 4. Prebored holes at bents 1 and 4 shall have a diameter 6 inches greater than the greatest cross-sectional dimension of the pile for a depth of 10 feet below the bottom of cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling, which may require the use of casing or other approved methods. Any related costs for backfilling and temporary casing will not be paid for separately but shall be considered subsidiary to the item "Preboring". Preboring will be paid for in accordance with Section 805. Preboring or other methods approved by the Engineer may be required to achieve the minimum pile penetration. Any cost associated with achieving the minimum pile penetration shall be incidental to "Concrete Piling".

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

PIPE UNDERDRAIN: One Pipe Underdrain with Outlet Protectors shall be installed behind each bridge end in accordance with Section 611. Pipe Underdrains and Outlet Protectors will not be paid for directly but shall be considered subsidiary to "Unclassified Excavation".

DETAIL DRAWINGS:	DRAWING NO.
End Bents	53083, 53085
Intermediate Bents	53084
110' Integral W-Beam Unit	53074-53079
Concrete Piling	55022, 53073
Type A Approach Gutters	55030A

EXISTING BRIDGE: Existing Bridge No. 02836 (LM 2.26) is 88' in length and 29.5' wide and is comprised of Continuous R. C. Slab Spans supported by concrete pile bents.

SHORING: Shoring may be required for Stage One Construction. No direct payment will be made for shoring. See Special Provision Job No. 070280 "Shoring".

REMOVAL AND SALVAGE: After Stage I Construction is completed and opened to traffic, existing Bridge No. 02836 shall be removed in accordance with Section 205. The removal of tree stump, existing concrete and remnant timber piling and concrete and asphalt riprap shall be considered subsidiary to removal of existing bridge. All material from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	①NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEVATION W/ BACKWATER
	YEARS	CFS	FEET	FEET
Design	050	3,690	126.1	127.7
Base	0100	4,560	126.6	128.6
Extreme	0500	5,450	127.0	129.9
Overtopping	>0500	—	—	—

①Unconstricted water surface elevation without structure and roadway approaches.

Estimated 0100 backwater elevation with Existing Structure in place is 129.9

Proposed Low Bridge Member Elevation = 128.6

Drainage area = 14.0 square miles

Historical H.W. Elev. = 138.0

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
3/14/14
CARL J. FUSELIER

BRIDGE ENGINEER

LAYOUT OF BRIDGE OVER SALT CREEK
EL DORADO - HWY. 335 (S)
UNION COUNTY

ROUTE 167 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 2-29-12 FILENAME: b070280x2_11.dgn
CHECKED BY: LJB DATE: 5/12/13 SCALE: 1" = 20'-0"
DESIGNED BY: SWP DATE: 12 2011

BRIDGE NO. 07262 DRAWING NO. 53080

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.		070280	149	336
①	07262 - LAYOUT - 53081			

BORING LEGEND

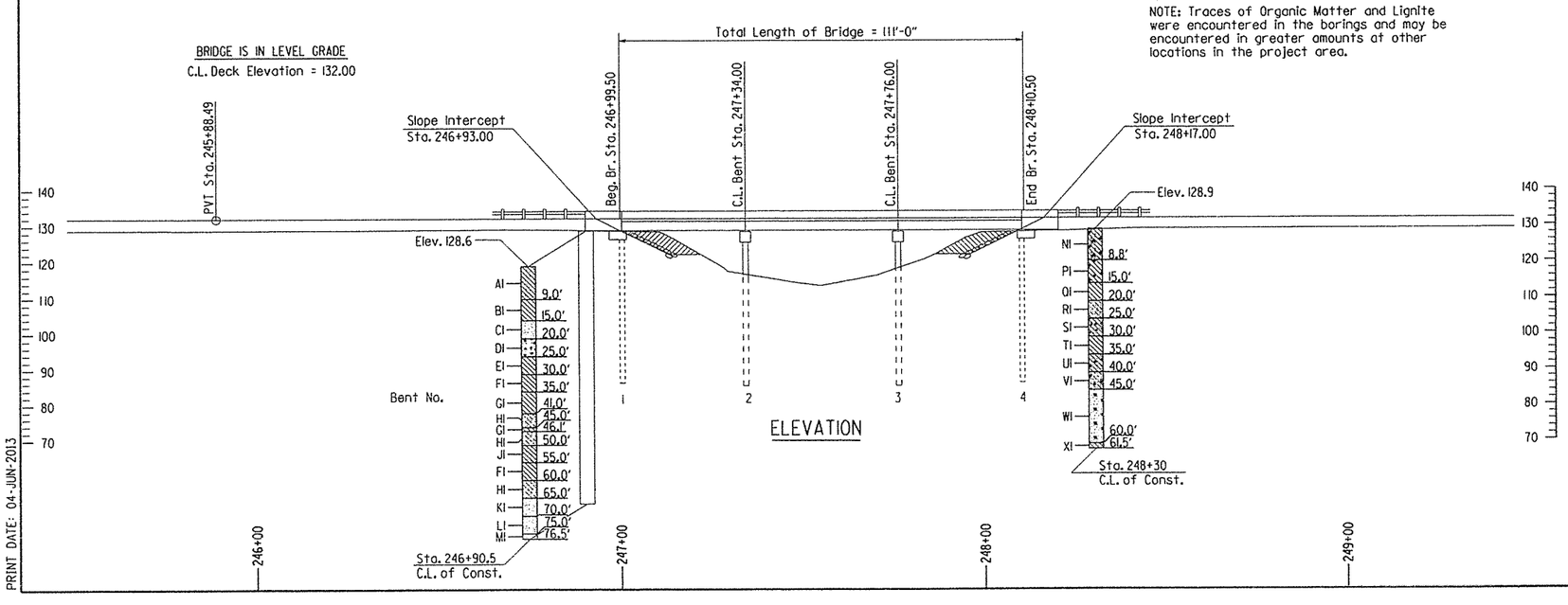
AI-Moist, Stiff, Brown and Gray Clay with Sand and some Organic Matter
BI-Moist, Soft, Brown and Gray Clay with Trace of Sand and Organic Matter
CI-Moist, Dense, Light Gray Sand
DI-Wet, Medium Dense, Light Gray Gravelly Sand
EI-Wet, Very Stiff, Gray Clay with Trace of Gravel
FI-Moist, Very Stiff, Gray Clay
GI-Moist, Very Stiff, Gray Clay with Sand Partings
HI-Moist, Dense, Gray Sand with Clay
JI-Moist, Very Stiff, Gray Clay with Sand
KI-Moist, Very Dense, Gray Sand with some Clay
LI-Moist, Very Dense, Gray Sand with Trace of Organic Matter
MI-Wet, Very Dense, Gray Sand with Trace of Organic Matter
NI-Moist, Stiff, Brown and Gray Silty Clay with Organic Matter (Grassroots)
PI-Moist, Soft, Brown and Black Clay with Organic Matter
QI-Moist, Very Stiff, Reddish Brown and Gray Clay with Iron Nodules
RI-Wet, Medium Dense, Gray Clayey Sand
SI-Moist, Stiff, Gray Sandy Clay with Gravel
TI-Moist, Very Stiff, Gray Clay with some Sand, Gravel and Lignite
UI-Moist, Very Stiff, Gray Sandy Clay with Lignite
VI-Moist, Dense, Gray Sand with Clay and Lignite
WI-Moist, Very Dense, Gray Sand with Lignite
XI-Moist, Hard, Gray Clay with sand and Trace of Lignite

"N" VALUES

Sta. 246+90.5 - C.L. of Const.
4.5- 5.5, N=10
9.5- 10.5, N=4
15.5- 16.5, N=31
20.5- 21.5, N=16
25.5- 26.5, N=21
30.5- 31.5, N=24
35.5- 36.5, N=24
40.5- 41.5, N=36
45.5- 46.5, N=41
50.5- 51.5, N=19
55.5- 56.5, N=26
60.5- 61.5, N=41
65.5- 66.5, N=59
70.5- 71.5, N=55
75.5- 76.5, N=72

Sta. 248+30 - C.L. of Const.
4.3- 5.3, N=10
9.3- 10.3, N=4
15.5- 16.5, N=18
20.5- 21.5, N=13
25.5- 26.5, N=11
30.5- 31.5, N=19
35.5- 36.5, N=27
40.5- 41.5, N=32
45.5- 46.5, N=52
50.5- 51.5, N=51
55.5- 56.5, N=53
60.5- 61.5, N=39

NOTE: Traces of Organic Matter and Lignite were encountered in the borings and may be encountered in greater amounts at other locations in the project area.



ELEVATION

PRINT DATE: 04-JUN-2013

STATE OF ARKANSAS
Carl J. Fusselier
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No. 7510
6/12/13
CARL J. FUSSELIER

BRIDGE ENGINEER

SOIL BORINGS
SALT CREEK
EL DORADO - HWY. 335 (S)
UNION COUNTY

ROUTE 167 SEC. 2

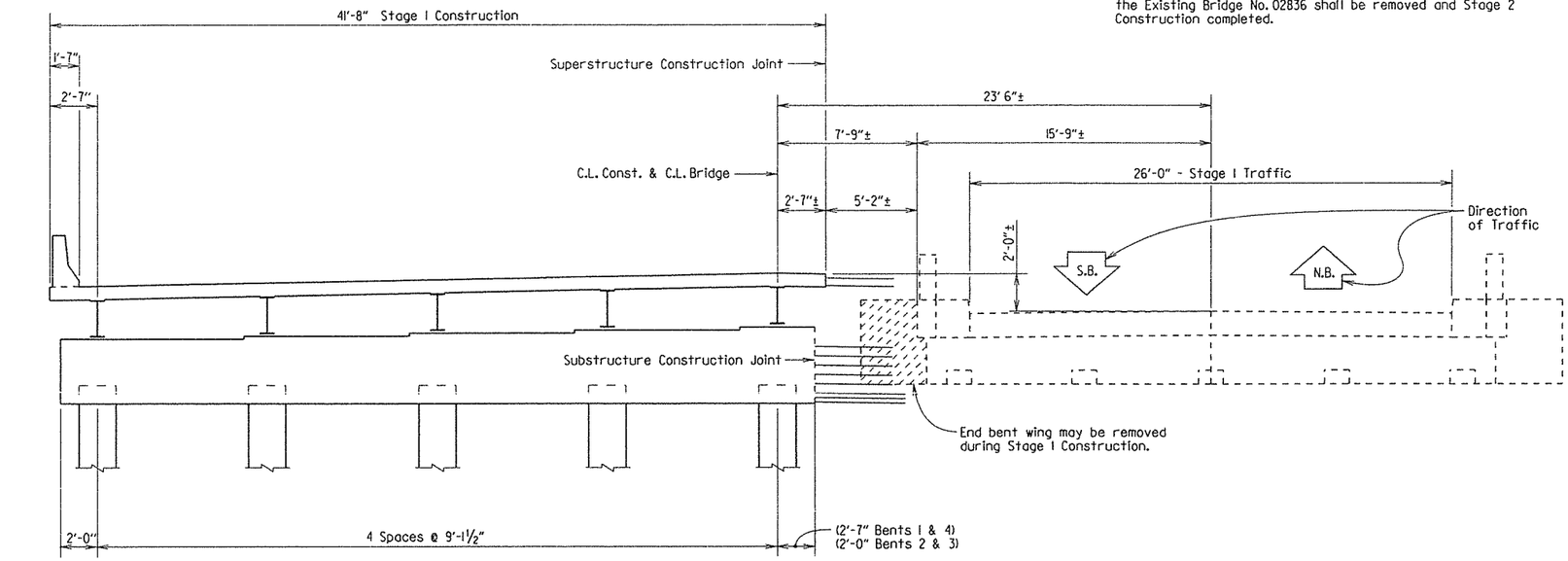
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

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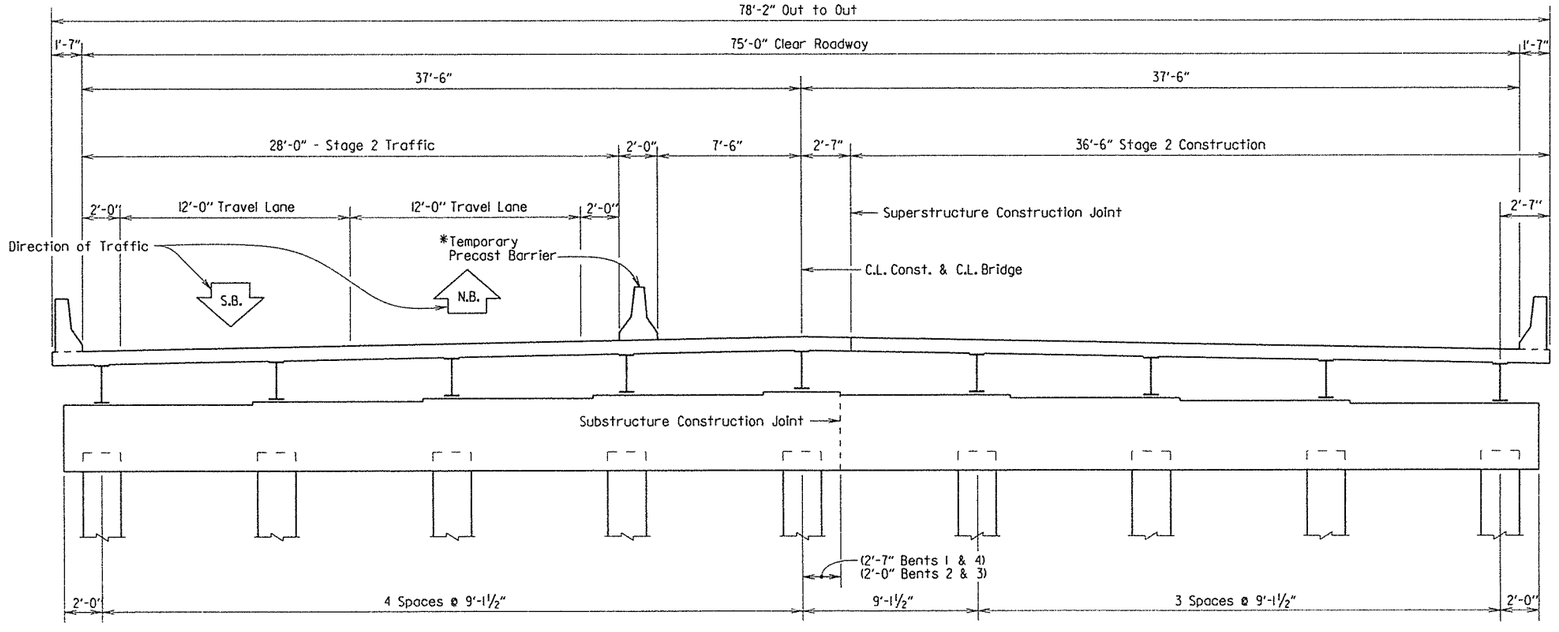
BRIDGE NO. 07262 DRAWING NO. 53081

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				6	ARK.			
				JOB NO.		070280	150	336
				(1)	07262 - STAGE CONSTRUCTION - 53082			

NOTE: After Stage 1 Construction is complete and open to traffic the Existing Bridge No. 02836 shall be removed and Stage 2 Construction completed.



STAGE 1
Looking Ahead



STAGE 2
Looking Ahead

*Do not connect temporary precast barrier to deck. See Std. Dwg. TC-4.

NOTE: Details which relate to Maintenance of Traffic are shown on Bridge Plans for information only. See Roadway Plans for Maintenance of Traffic and additional information.

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/12/12
BRIDGE ENGINEER

DETAILS OF STAGE CONSTRUCTION
SALT CREEK
EL DORADO - HWY. 335 (S)

ROUTE 167 SEC. 2

ARKANSAS STATE HIGHWAY COMMISSION

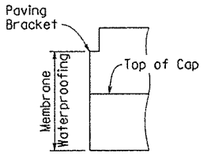
LITTLE ROCK, ARK.

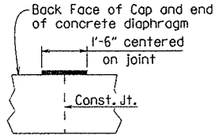
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BRIDGE NO. 07262 DRAWING NO. 53082

PRINT DATE: 04-JUN-2013

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				6	ARK.			
				JOB NO.		070280	151	336
				①		07262 - END BENT - 53083		





Membrane waterproofing Type "C" or approved equal, see Section 815. Membrane waterproofing shall extend from the bottom of the cap to the paving bracket.

Payment for membrane to be considered subsidiary to Class "S" Concrete - Bridge.

CONSTRUCTION JOINT DETAIL
No Scale

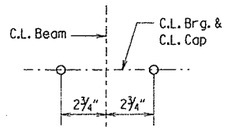
NOTES:
All concrete shall be Class "S" with a minimum 28-day compressive strength f'c = 3500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

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

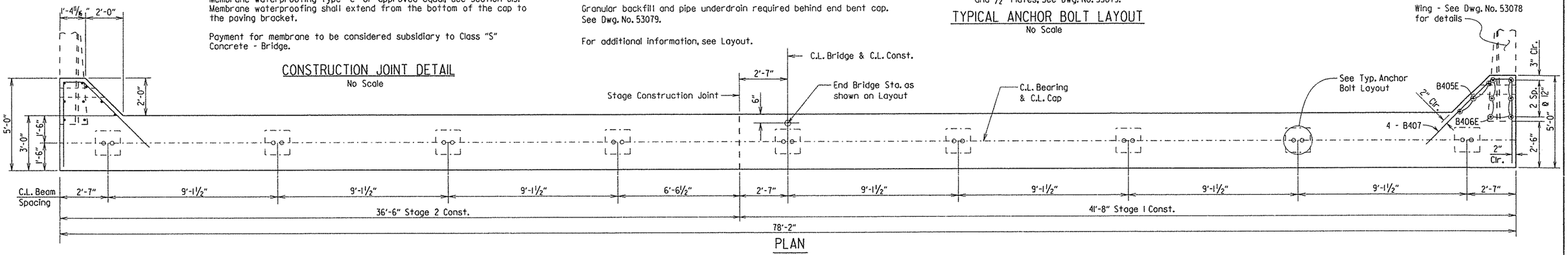
Granular backfill and pipe underdrain required behind end bent cap. See Dwg. No. 53079.

For additional information, see Layout.

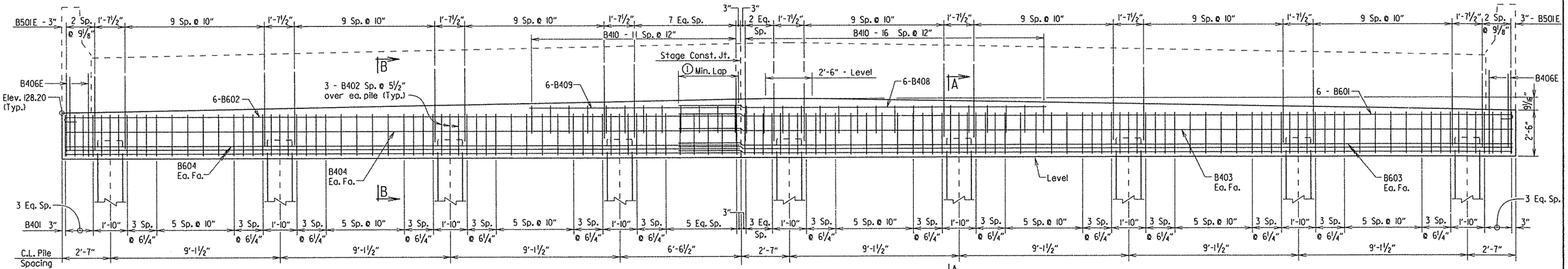


NOTE: For Details of Anchor Bolts and ½" Plates, See Dwg. No. 53079.

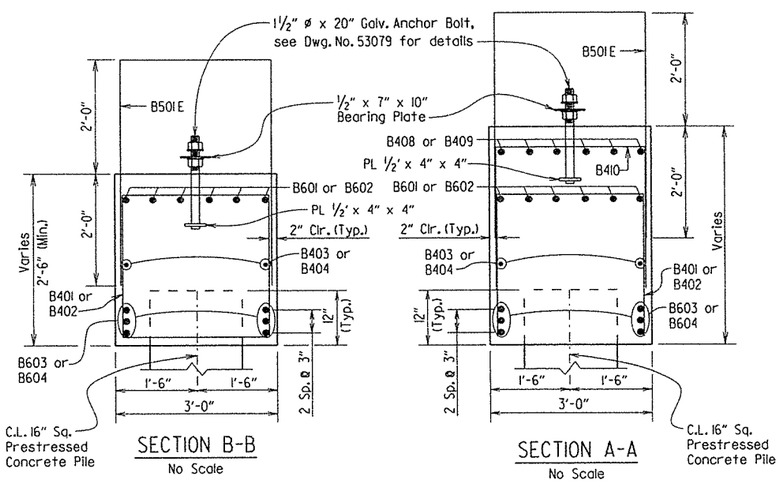
TYPICAL ANCHOR BOLT LAYOUT
No Scale



PLAN



ELEVATION
Looking Back



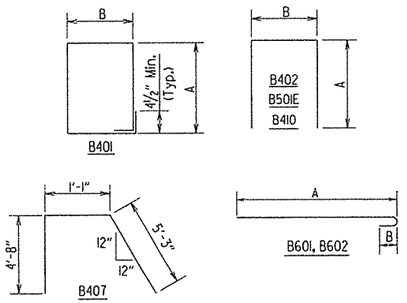
SECTION B-B
No Scale

SECTION A-A
No Scale

BAR LIST

MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	A	B	P.D.
B401	56	49	10'-0"	2'-2"	2'-8"	2"
B402	15	12	6'-10"	2'-2"	2'-8"	2"
B403	2	-	43'-5"	-	-	Str.
B404	-	2	36'-2"	-	-	Str.
B405E	3	3	5'-4"	-	-	Str.
B406E	6	6	4'-4"	-	-	Str.
B407	4	4	11'-0"	SEE DIAGRAM		2"
B408	6	-	18'-0"	-	-	Str.
B409	-	6	11'-3"	-	-	Str.
B410	17	12	5'-6"	1'-6"	2'-8"	2"
B501E	46	41	10'-6"	4'-0"	2'-8"	2½"
B601	6	-	44'-10"	44'-2"	6"	4½"
B602	-	6	36'-10"	36'-2"	6"	4½"
B603	6	-	44'-2"	-	-	Str.
B604	-	6	36'-2"	-	-	Str.

BENDING DIAGRAMS (Dimensions are out to out of bars.)



NOTE: All Bars Designated With An "E" Suffix Are To Be Epoxy Coated.

① Lap #4 Bar = 1'-9"
Lap #6 Bar = 2'-7"

STATE OF ARKANSAS
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No. 7510
4/5/13
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DETAILS OF END BENT NO. 1
SALT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

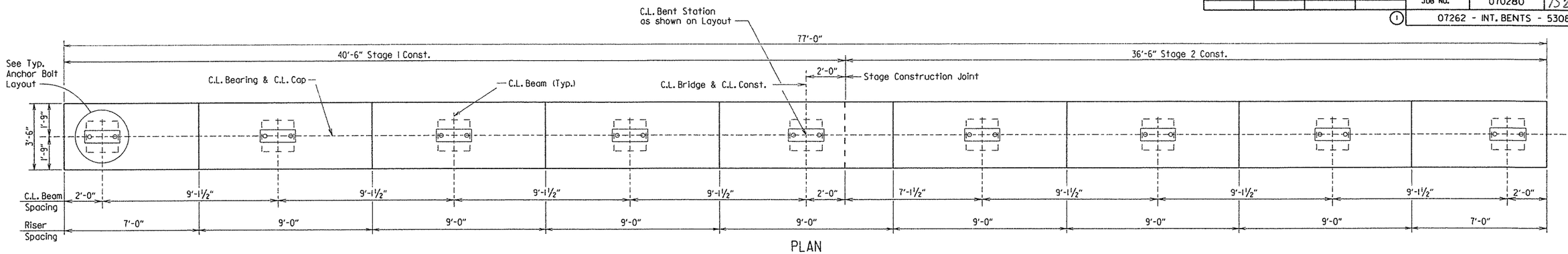
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BRIDGE NO. 07262 DRAWING NO. 53083

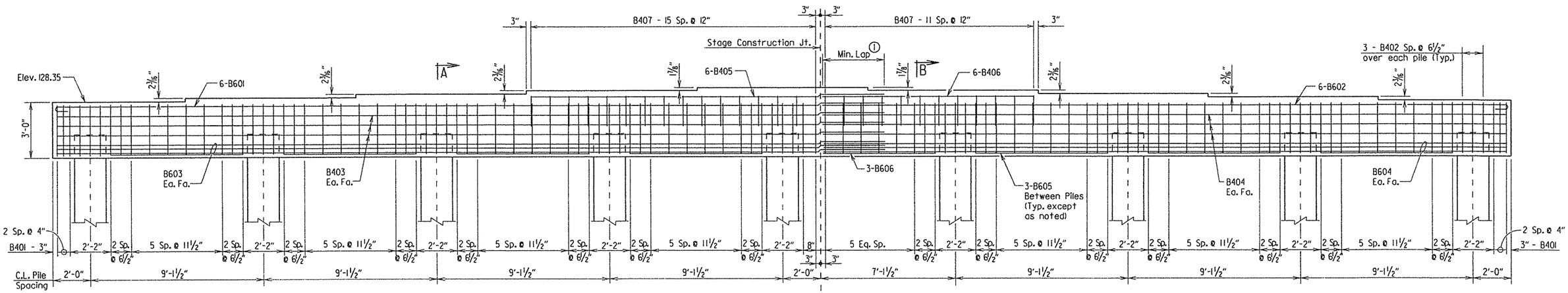
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

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6	ARK.			
JOB NO.		070280	152	336
①	07262 - INT. BENTS - 53084			

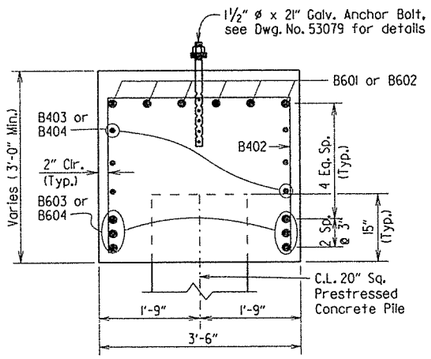


PLAN

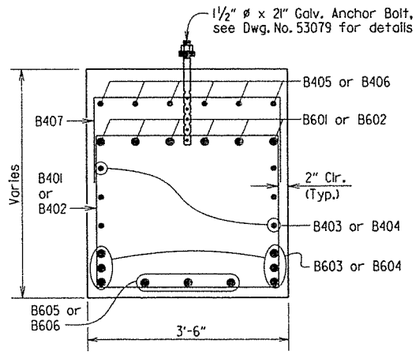


ELEVATION
Looking Ahead

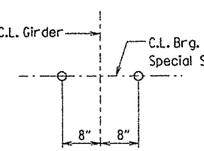
① Lap #4 Bars = 1'-9"
Lap #6 Bars = 2'-7"



SECTION A-A
¾" = 1'-0"



SECTION B-B
¾" = 1'-0"



NOTE: For Detail "TYPE "B" SPECIAL SHOE AT INTERMEDIATE BENTS" See Dwg. No. 53079.

TYPICAL ANCHOR BOLT LAYOUT
¾" = 1'-0"

NOTES:
All concrete shall be Class "S" with a minimum 28-day compressive strength f'c = 3500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

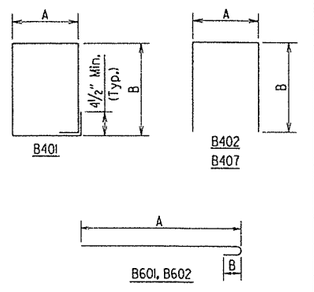
Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts.

For additional information, see Layout.

BAR LIST (PER BENT)

MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	A	B	P.D.
B401	45	41	12'-0"	3'-2"	2'-8"	2"
B402	15	12	8'-4"	3'-2"	2'-8"	2"
B403	8	-	42'-3"	-	-	Str.
B404	-	8	36'-3"	-	-	Str.
B405	6	-	17'-3"	-	-	Str.
B406	-	6	11'-3"	-	-	Str.
B407	16	12	5'-6"	2'-8"	1'-6"	2"
B601	6	-	43'-9"	43'-1"	6"	4½"
B602	-	6	36'-11"	36'-3"	6"	4½"
B603	6	-	43'-1"	-	-	Str.
B604	-	6	36'-3"	-	-	Str.
B605	12	9	7'-1"	-	-	Str.
B606	-	3	6'-0"	-	-	Str.

BENDING DIAGRAMS
Dimensions are out to out of bars.



STATE OF ARKANSAS
Carl L. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
6/21/13
CARL L. FUSELIER
BRIDGE ENGINEER

DETAILS OF INTERMEDIATE BENTS SALT CREEK

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 06-06-12
CHECKED BY: LJB DATE: 5/22/13
DESIGNED BY: LJB DATE: 5/22

FILENAME: b070280x2_b2.dgn
SCALE: ⅜" = 1'-0" or as shown

BRIDGE NO. 07262 DRAWING NO. 53084

PRINT DATE: 04-JUN-2013

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.		070280	153	336
				①	07262 - END BENT - 53085			

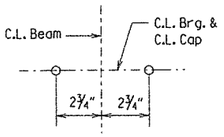
NOTES:
All concrete shall be Class "S" with a minimum 28-day compressive strength f'c = 3500 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

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

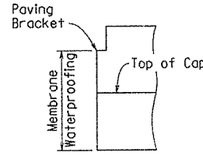
Granular backfill and pipe underdrain required behind end bent cap. See Dwg. No. 53079.

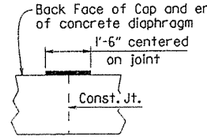
For additional information, see Layout.



NOTE: For Details of Anchor Bolts and ½" Plates, See Dwg. No. 53079.

TYPICAL ANCHOR BOLT LAYOUT
No Scale

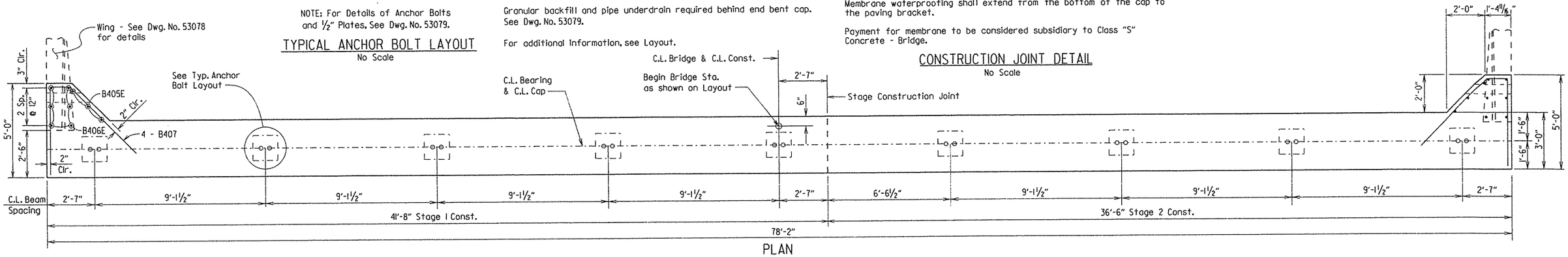




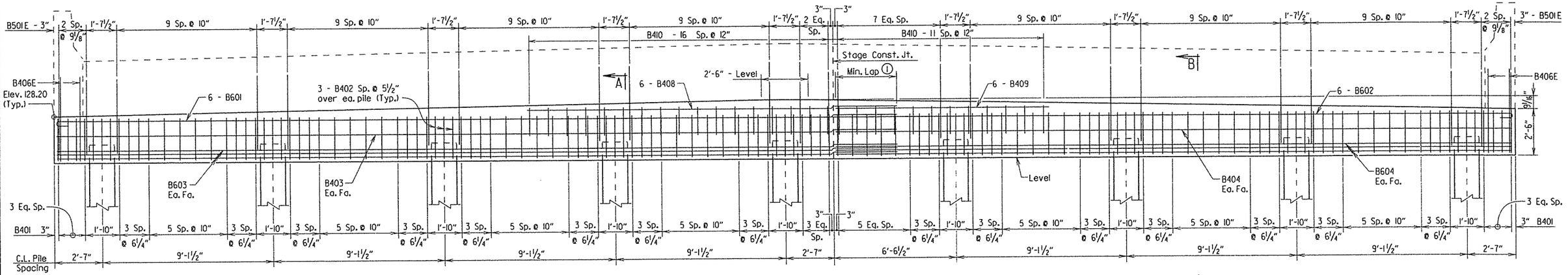
Membrane waterproofing Type "C" or approved equal, see Section 815. Membrane waterproofing shall extend from the bottom of the cap to the paving bracket.

Payment for membrane to be considered subsidiary to Class "S" Concrete - Bridge.

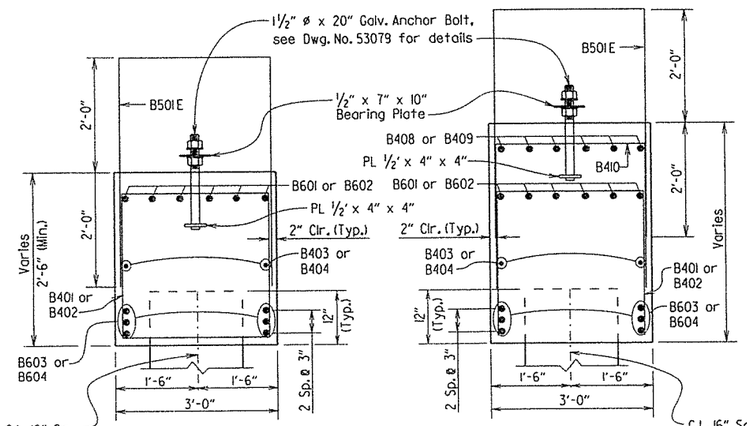
CONSTRUCTION JOINT DETAIL
No Scale



PLAN



ELEVATION
Looking Ahead



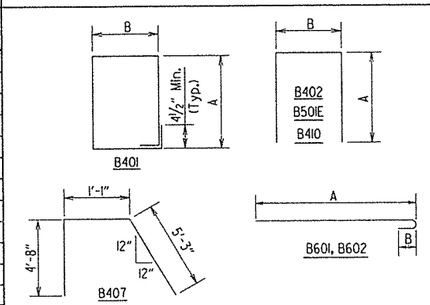
SECTION B-B
No Scale

SECTION A-A
No Scale

BAR LIST

MARK	NO. REQ'D. STAGE 1	NO. REQ'D. STAGE 2	LENGTH	A	B	P.D.
B401	56	49	10'-0"	2'-2"	2'-8"	2"
B402	15	12	6'-10"	2'-2"	2'-8"	2"
B403	2	-	43'-5"	-	-	Str.
B404	-	2	36'-2"	-	-	Str.
B405E	3	3	5'-4"	-	-	Str.
B406E	6	6	4'-4"	-	-	Str.
B407	4	4	11'-0"	SEE DIAGRAM		2"
B408	6	-	18'-0"	-	-	Str.
B409	-	6	11'-3"	-	-	Str.
B410	17	12	5'-6"	1'-6"	2'-8"	2"
B501E	46	41	10'-6"	4'-0"	2'-8"	2½"
B601	6	-	44'-10"	44'-2"	6"	4½"
B602	-	6	36'-10"	36'-2"	6"	4½"
B603	6	-	44'-2"	-	-	Str.
B604	-	6	36'-2"	-	-	Str.

BENDING DIAGRAMS (Dimensions are out to out of bars.)



NOTE: All Bars Designated With An "E" Suffix Are To Be Epoxy Coated.

① Lap #4 Bar = 1'-9"
Lap #6 Bar = 2'-7"

STATE OF ARKANSAS
Carl J. Fuselier
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No. 7510
4/3/13
CARL J. FUSELIER

BRIDGE ENGINEER

DETAILS OF END BENT NO. 4
SALT CREEK

ROUTE SEC.

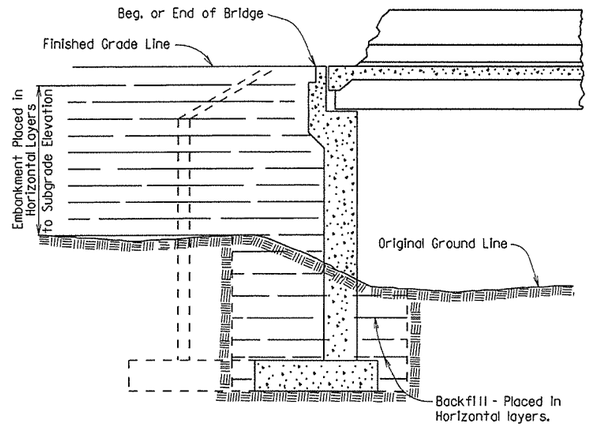
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 06-04-12
CHECKED BY: LJB DATE: 5/23/13
DESIGNED BY: LJB DATE: 5/12
FILENAME: b070280x2_bl.dgn
SCALE: ¾" = 1'-0" or as shown

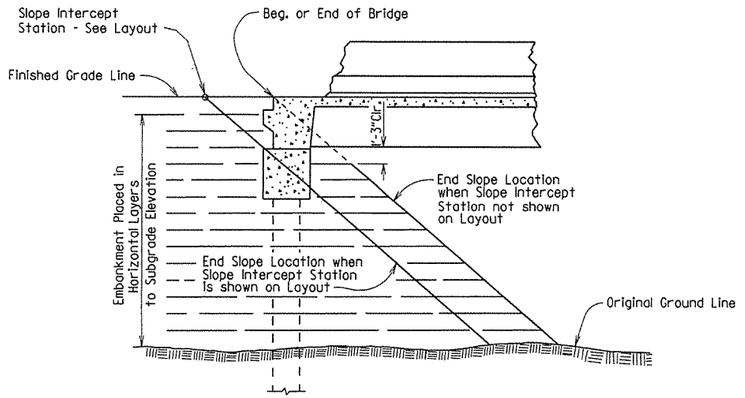
BRIDGE NO. 07262 DRAWING NO. 53085

PRINT DATE: 04-JUN-2013

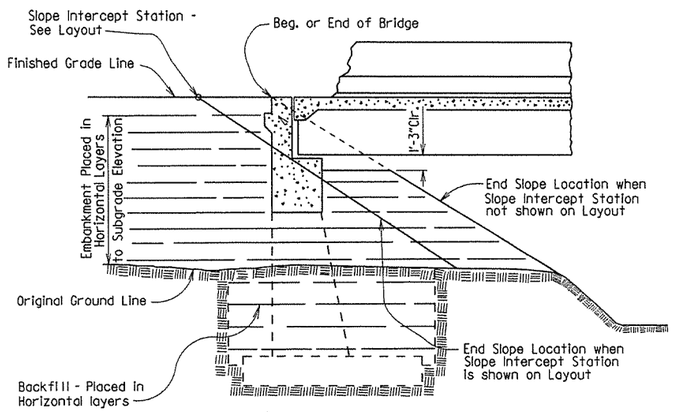
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				JOB NO.				
				① EMBANKMENT & BACKFILL		55000		



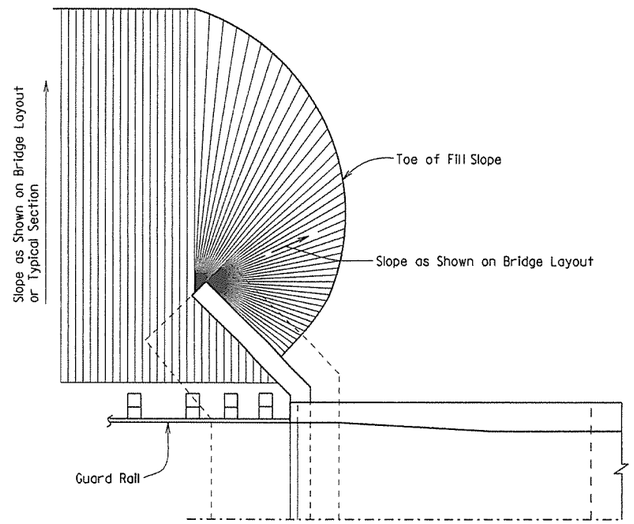
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



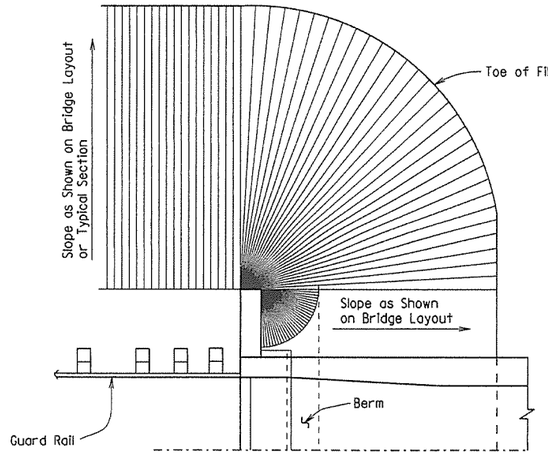
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



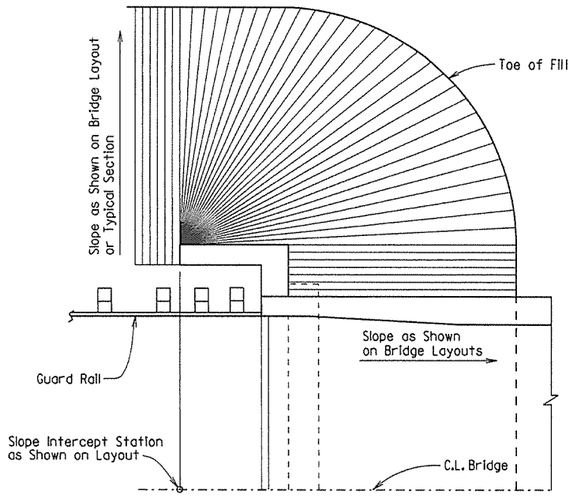
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



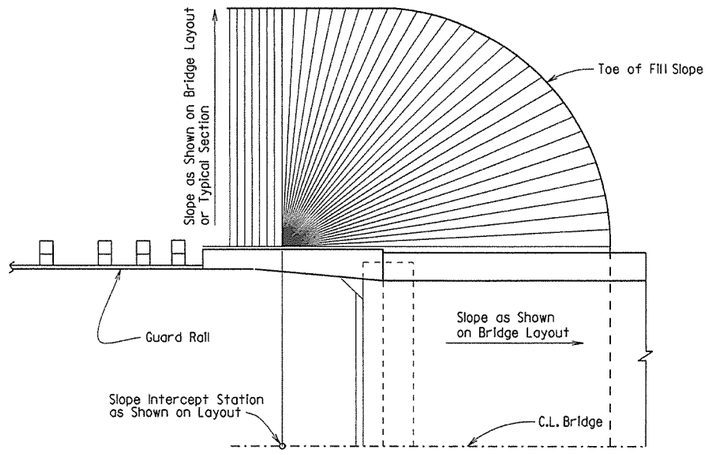
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

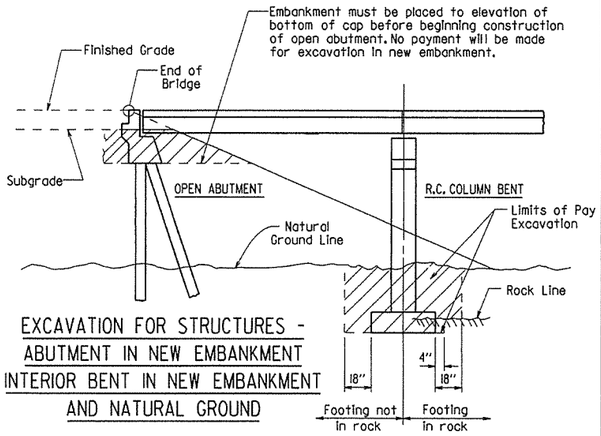
STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

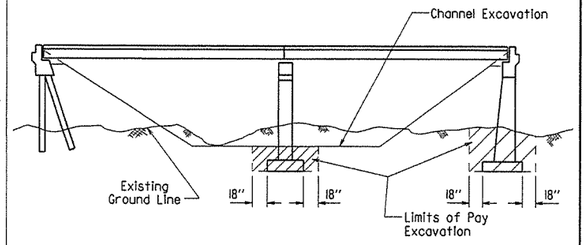
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CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE: -

DRAWING NO. 55000

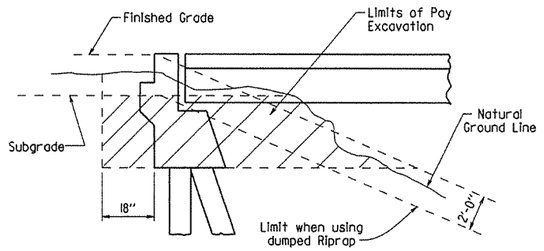
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		155	
				JOB NO.				
				(1)	RIPRAP & EXCAV. 55001			



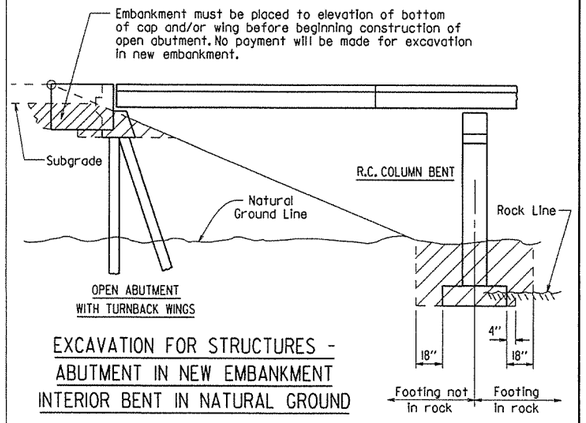
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



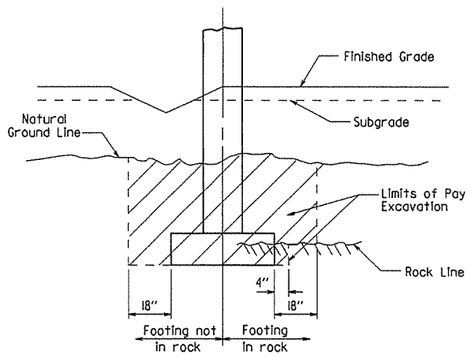
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



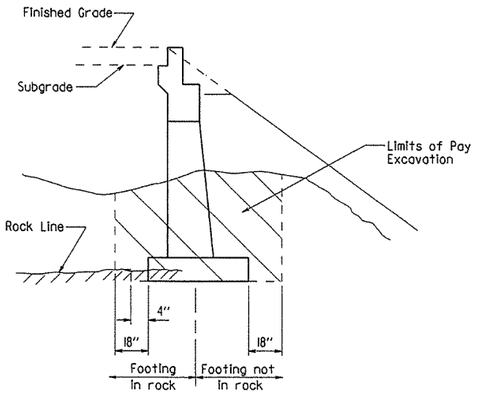
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



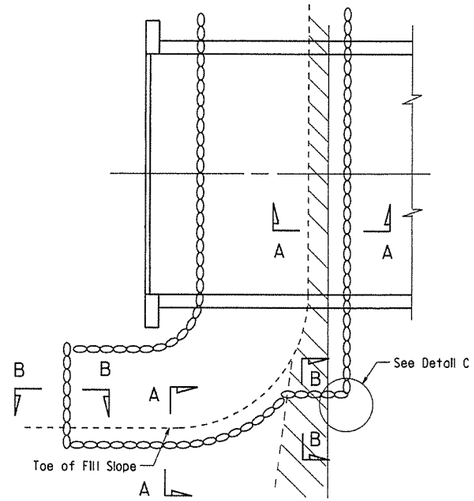
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



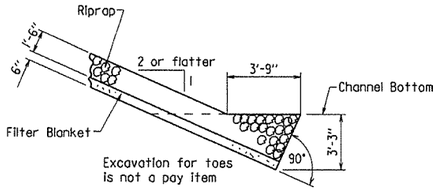
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



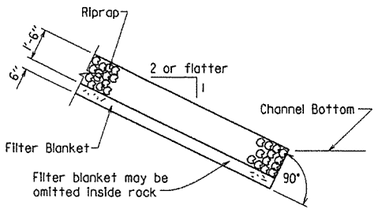
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT



PLAN OF DUMPED RIPRAP



SECTION A-A
(Toe Excavation in Soil)

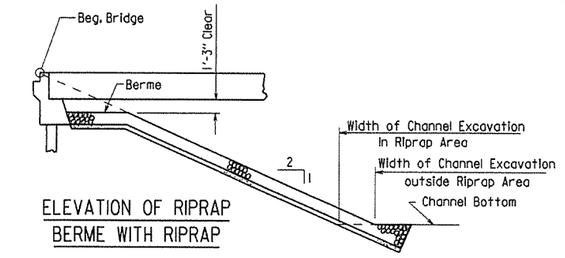


SECTION A-A
(Toe Excavation in Rock)

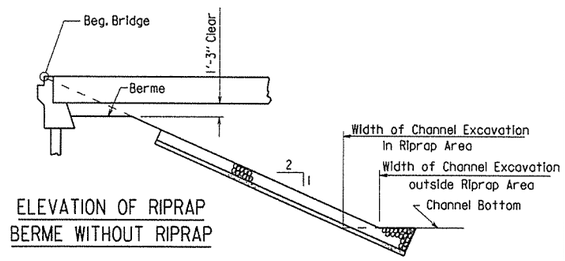
Note : Use this type of toe when rock is encountered which is in a stable condition.

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.

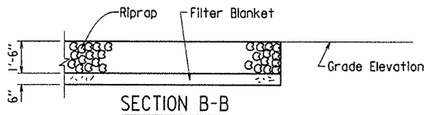
Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



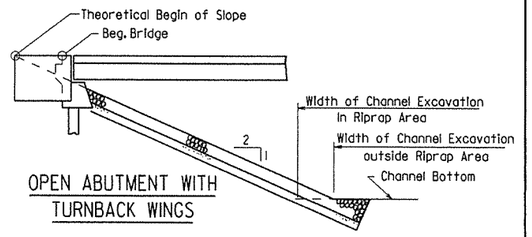
ELEVATION OF RIPRAP BERME WITH RIPRAP



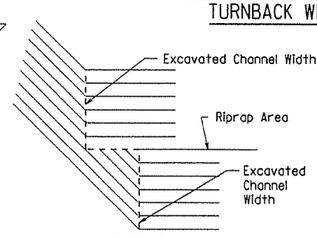
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55001.dgn

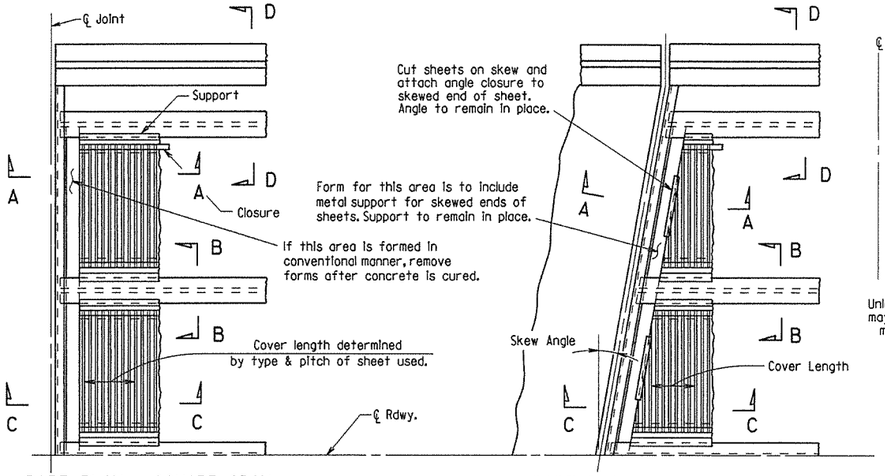
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE:

DRAWING NO. 55001

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		156	
				JOB NO.				

① BRIDGE DECK FORMS 55005

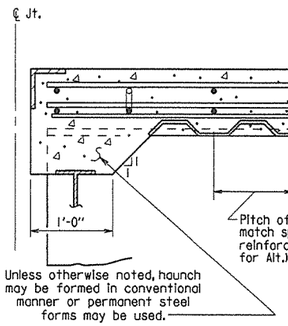


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

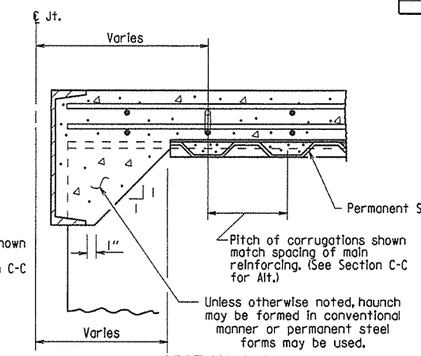
3/8" = 1'-0"



SECTION A-A

N.T.S.

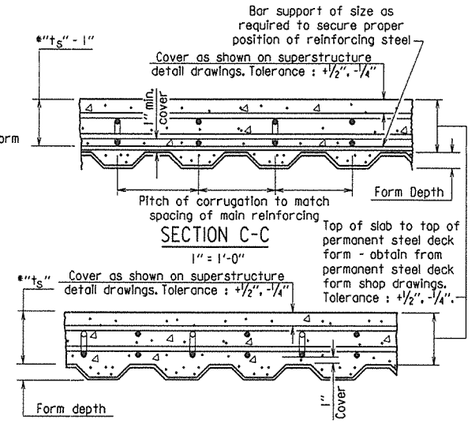
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



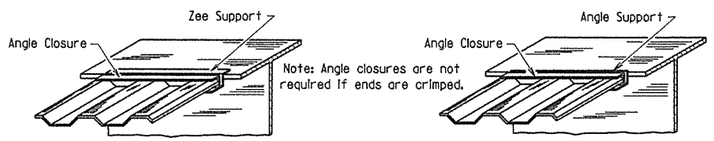
SECTION C-C

1" = 1'-0"

SECTION C-C - ALTERNATE

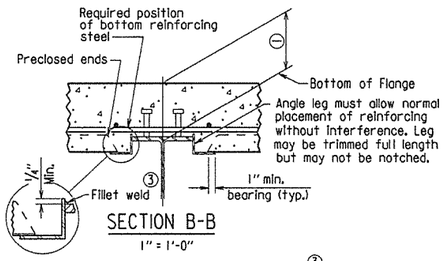
1" = 1'-0"

(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

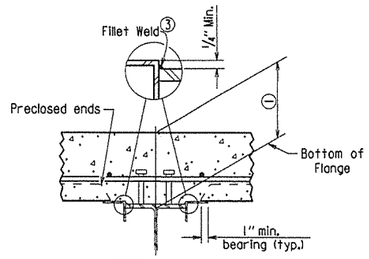


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

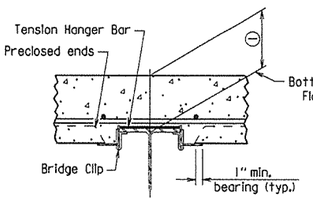
③ Minimum weld: ⅛" x 1' ℄ 18". More weld may be required; maximum length per weld = 1½" (typ.)



SECTION B-B

1" = 1'-0"

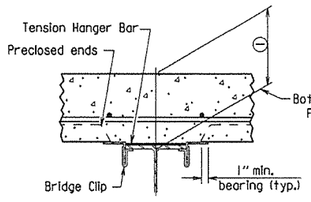
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

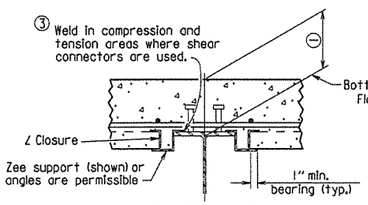
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

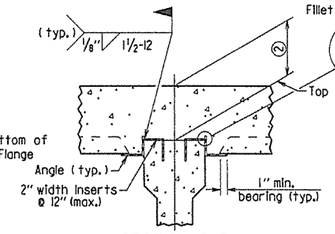
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

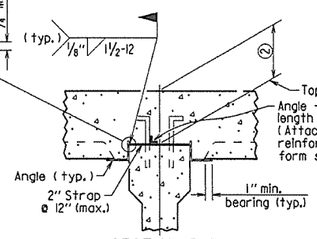


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by insert cast in girder)

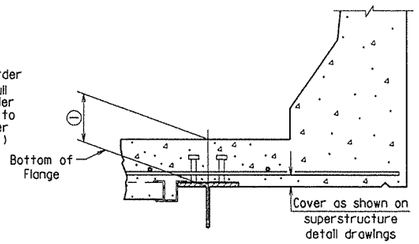


SECTION B-B

(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 + 1¾" + 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.

*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). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition), with applicable Supplemental Specifications and Special Provisions.

STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55005.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NONE

DESIGNED BY: STD. DATE: —

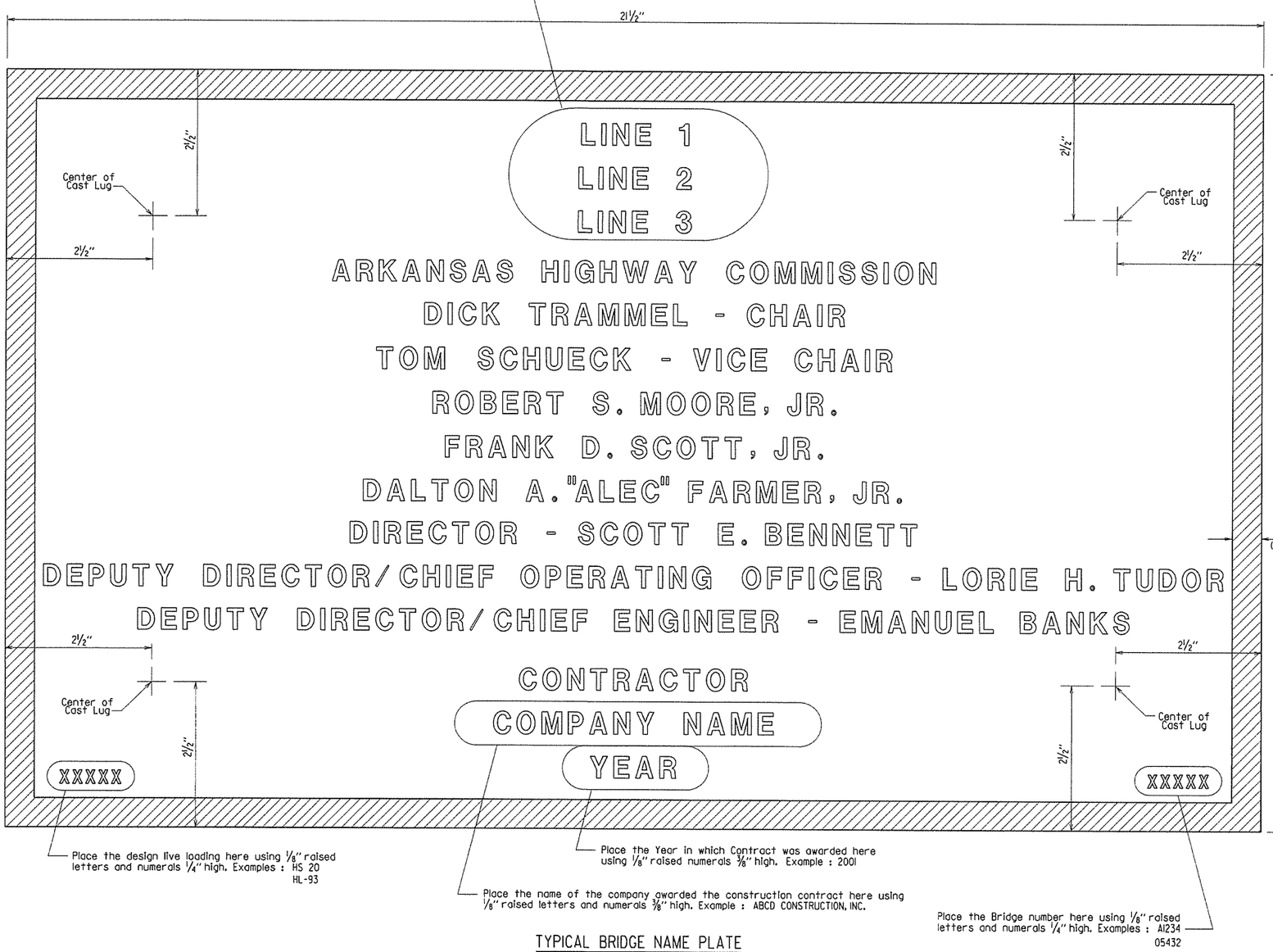
DRAWING NO. 55005

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12-1-14				6	ARK.		157	
1-14-15				JOB NO.				

① TYPE D NAME PLATE 55010

The name of the bridge as shown on the plans shall be placed on Lines 1 - 3 using 1/8" raised letters and numerals 3/8" high.

	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	



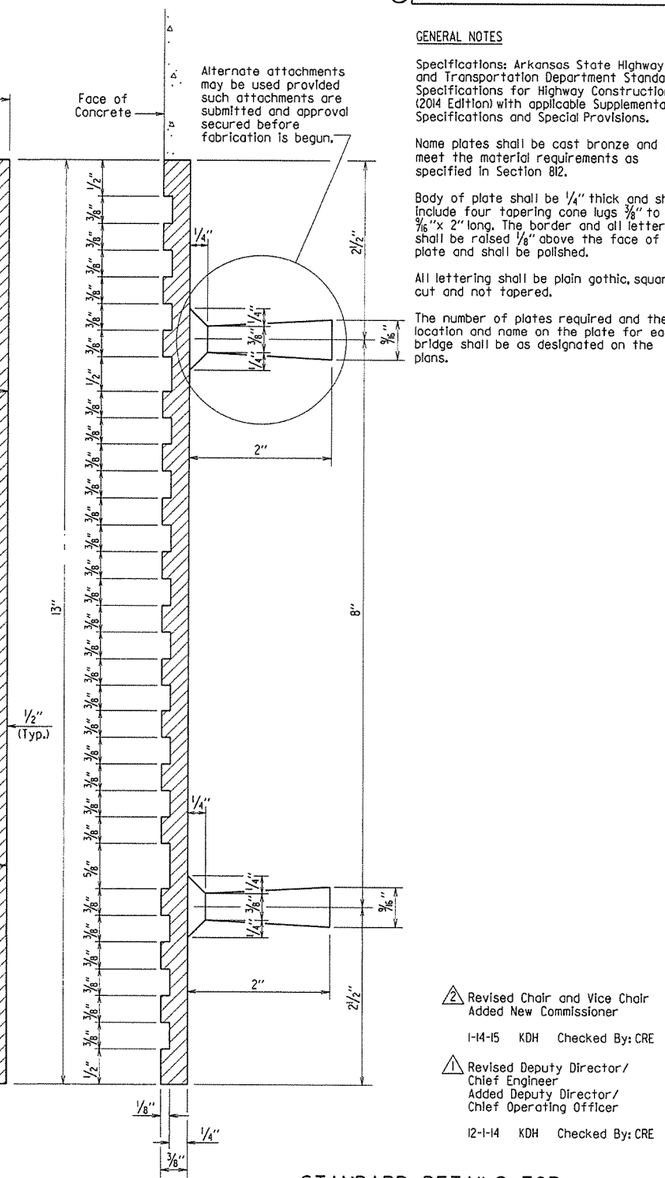
Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples : HS 20, HL-93

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 : A1234, 05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 7/16" 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.

⚠2 Revised Chair and Vice Chair
Added New Commissioner
1-14-15 KDH Checked By: CRE

⚠1 Revised Deputy Director/
Chief Engineer
Added Deputy Director/
Chief Operating Officer
12-1-14 KDH Checked By: CRE

STANDARD DETAILS FOR
TYPE D BRIDGE NAME PLATE

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

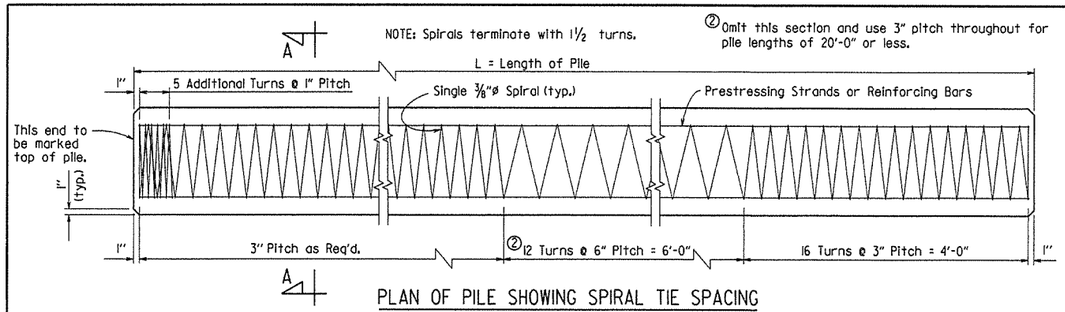
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE: —

DRAWING NO. 55010

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		158	
				JOB NO.				
				①	CONC. PILES	55022		

NOTE: Spirals terminate with 1½ turns.

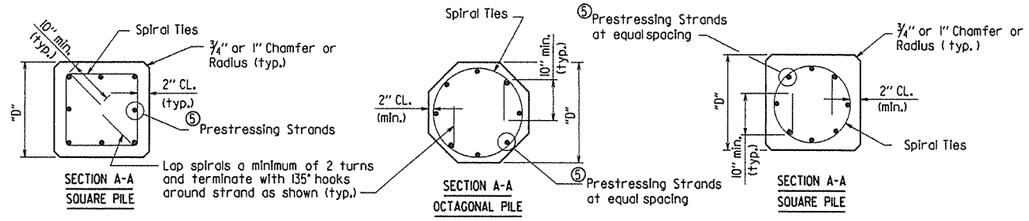
② Omit this section and use 3" pitch throughout for pile lengths of 20'-0" or less.



PLAN OF PILE SHOWING SPIRAL TIE SPACING

For anchorage of pile to bent, see Bent Details.

NOTE: Strand location shall be symmetrical about the axis of the pile with no more than one strand difference between any two adjacent sides. Circular spiral ties are required for odd number of strands.



PRESTRESSED CONCRETE PILES

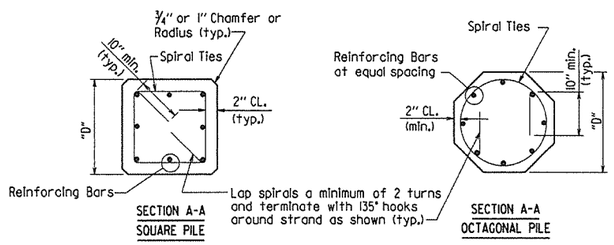
① Number based on initial pre-stress force of "B" x Ultimate Tensile Stress, Prestress Losses and min. 700 psi Unit Prestress on concrete after Losses.

"B" — 0.75 Low Relaxation
0.70 Stress-Relieved

⑤ See table "Prestressed Concrete Pile Properties" for actual number of strands per pile size.

PRESTRESSED CONCRETE PILE PROPERTIES

	Grade	Strand Diameter	① Number of Strands per Size "D" 16" Oct.	18" Oct.	④ 14" Sq.	16" Sq.	18" Sq.	Minimum Ultimate Tensile Strength Per Strand (Lbs.)	Initial Prestressing Force Per Strand (Lbs.)
Stress-Relieved	250	7/16"	11	13	10	13	16	27,000	18,900
		½"	8	10	8	10	12	36,000	25,200
	270	7/16"	9	11	8	12	14	31,000	21,700
		½"	7	9	6	8	10	41,300	28,900
Low Relaxation	250	7/16"	9	11	8	11	14	27,000	20,200
		½"	7	9	6	8	10	36,000	27,000
	270	7/16"	8	10	7	9	12	31,000	23,300
		½"	6	8	6	7	9	41,300	31,000

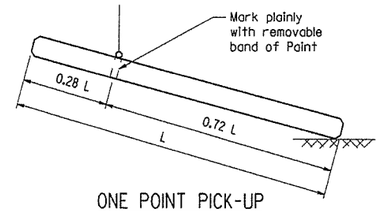


NON-PRESTRESSED CONCRETE PILES

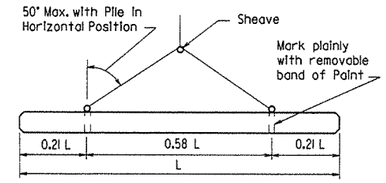
NON-PRESTRESSED PILE REINFORCING

Pile Size	No. Req'd.	Bar Size
16" Oct.	8	# 7
18" Oct.	8	# 7
④ 14" Sq.	8	# 7
16" Sq.	8	# 7
18" Sq.	8	# 8

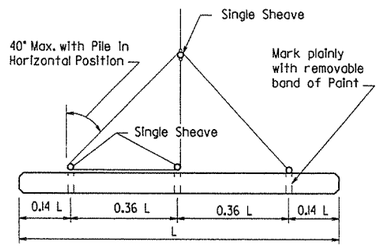
④ 14" sq. piles to be used in Seismic Performance Zone 1 only.



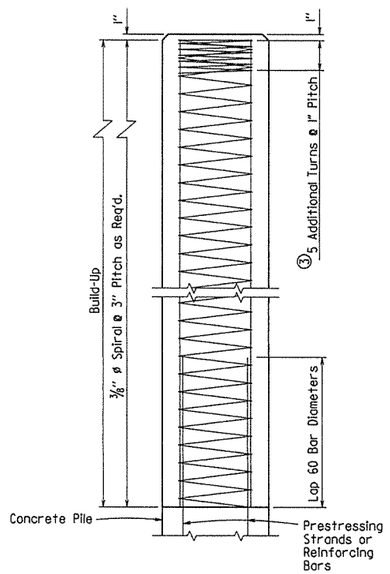
ONE POINT PICK-UP



TWO POINT PICK-UP



THREE POINT PICK-UP



BUILD-UP

③ The five additional turns of spiral reinforcing may be omitted for build-up without additional driving.

MAXIMUM PICKUP LENGTHS "L"

Type of Pick-Up	Prestressed 16" Oct.	18" Oct.	Non-Prestressed 16" or 18" Oct.	Prestressed ④ 14" Sq.	16" Sq.	18" Sq.	Non-Prestressed ④ 14" Sq.	16" Sq.	18" Sq.
One Point	52'	55'	46'	55'	59'	63'	52'	51'	55'
Two Point	75'	80'	67'	79'	84'	90'	75'	74'	79'
Three Point	105'	112'	93'	110'	117'	126'	104'	103'	111'

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, current Edition with Interim Specifications.

SEISMIC PERFORMANCE ZONES: 1 & 2

Unless otherwise noted, the Contractor may use prestressed piles or non-prestressed piles. Either type will be measured and paid for at the contract unit price bid for "Concrete Piling".

SPIRAL REINFORCING: Spiral reinforcing shall be steel wire meeting the requirements of AASHTO M 32 or M 225 or shall be plain round steel bars meeting the requirements of Grade 60, AASHTO M31 or M322, Type A.

MANUFACTURE, TRANSPORTATION AND STORAGE: Shipment of piles from the plant site or pile driving will not be permitted until the required minimum compressive strength is reached, and in no case less than 10 days after pouring the concrete. Prestressed piles may be removed from the casting bed to nearby storage any time after transfer of stress. See Section 802 "Concrete for Structures" for additional information.

Unless otherwise approved by the Engineer, all protruding or exposed pile lifting or transporting devices above the finished ground shall be removed after pile driving is complete. Removal shall be a minimum of 1" below the surface of the pile and the cavity shall be filled with a non-shrink grout listed on the Department's QPL.

FORMS: For forming exterior of piles, the use of steel forms on concrete-founded casting beds is required unless otherwise approved by the Engineer. Side forms may have a maximum drift on each side not exceeding ¼" per foot.

TOLERANCES: Pile ends shall be plane surfaces perpendicular to the longitudinal axis of pile with a maximum tolerance of ⅛" per foot transversely.

The maximum sweep (deviation from straightness measured from end to end of the pile, while not subject to bending forces) shall not exceed ⅛" in 10 feet.

BUILD-UPS: To provide for build-ups of piles where authorized by the Engineer, concrete shall be cut back to expose the reinforcing steel for a distance sufficient to provide a lap of 60 diameters of the reinforcing bars required for build-up. Reinforcing for build-ups shall be the reinforcing shown for non-prestressed piles.

INSTALLATION, MEASUREMENT AND PAYMENT: See Section 805 "Piling".

ADDITIONAL NOTES FOR PRESTRESSED PILES ONLY:

CONCRETE: Concrete in prestressed piles shall be Class S(AE) and shall have a minimum compressive strength (f'c) of 5,000 psi at 28 days. Compressive strength at transfer of the prestressing force shall be not less than 4,000 psi. Concrete in build-ups shall have a minimum compressive strength of 4,000 psi and shall be cured for a minimum of 10 days.

PRESTRESSING REINFORCING: Seven-wire stress-relieved or low relaxation strands shall conform to the general requirements of AASHTO M 203. Broken wires within individual strands will be permitted up to 2% of the total number of wires in each pile, providing that there is not more than one broken wire per strand. Two or more broken wires per strand will be cause for replacement of the strand, even though the two broken wires are within the 2% limitation.

ADDITIONAL NOTES FOR NON-PRESTRESSED PILES ONLY:

All concrete shall be Class S(AE) and shall have a minimum compressive strength (f'c) of 4,000 psi at 28 days.

All longitudinal reinforcing bars shall be deformed bars and shall conform to the requirements of Grade 60, AASHTO M31 or M322, Type A.

This document was originally issued and sealed by Carl J. Fuselier, PE No. 7510, on February 27, 2014. This copy is not a signed and sealed document.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER

BRIDGE ENGINEER

STANDARD DETAILS FOR CONCRETE PILES

ARKANSAS STATE HIGHWAY COMMISSION

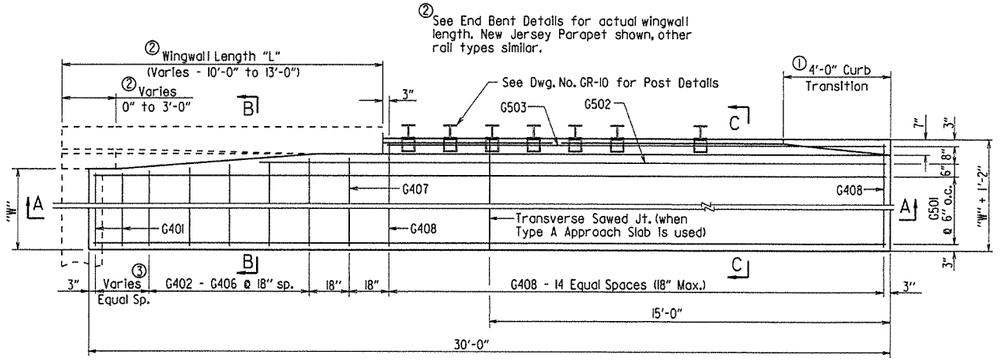
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55022.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE: ——

DRAWING NO. 55022

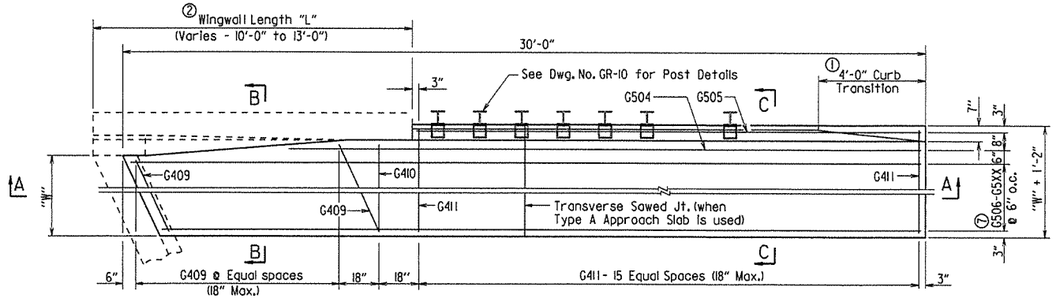
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				6	ARK.		159	
				JOB NO.				

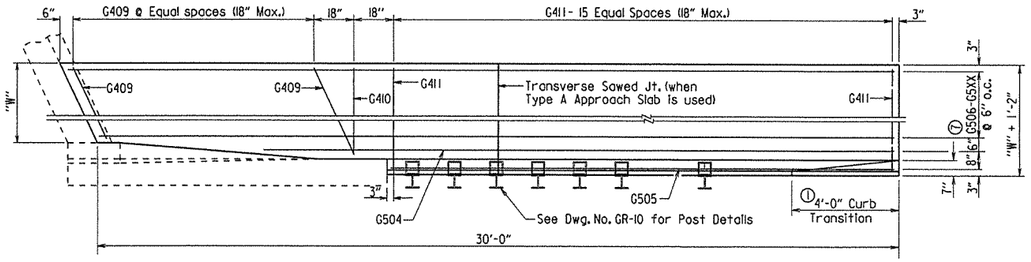
(1) TYPE A GUTTERS 55030A



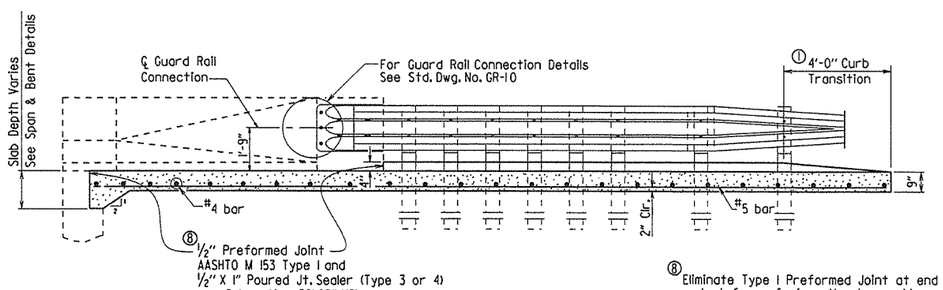
(3) Number of G401 bars vary with wingwall length - See Bar List

HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE





PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE

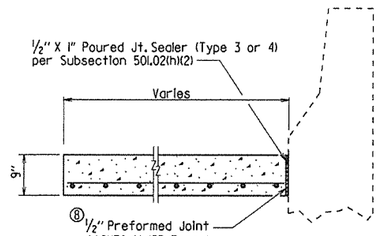


SECTION A-A

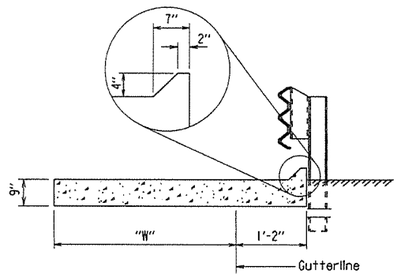
(8) Eliminate Type I Preformed Joint at end bent backwall and at face of wingwalls when gutters used with Type A Approach Slabs. Poured joint sealer is required, however backer rod shall be eliminated.

(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 B-B
N.T.S.



SECTION C-C
N.T.S.

Note:
All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

BAR LIST FOR ONE TYPE A GUTTER

	Mark	No. Req'd. for Width "W" 3'-0"	4'-0"	6'-0"	8'-0"	Length
Square Bridge	G401	(4)	(4)	(4)	(4)	"W"- 4"
	G402-G406	1 each	1 each	1 each	1 each	"W"-3" to "W"+2"
	G407	1	1	1	1	"W"+3"
	G408	15	15	15	15	"W"+ 10"
	G501	6	8	12	16	29'-8"
	G502	1	1	1	1	(35'-5") - "L"
	G503	1	1	1	1	30'-8"-"L"
Skewed Bridge	G409	(6)	(6)	(6)	(6)	(5)
	G410	1	1	1	1	"W"+3"
	G411	16	16	16	16	"W"+ 10"
	G504	1	1	1	1	(5)
	G505	1	1	1	1	(5)
	G506 - G5XX (7)	1 each	1 each	1 each	1 each	(5)

(4) 0 for "L" = 10'
1 for "L" = 11'
2 for "L" = 12'
2 for "L" = 13'

(7) G511 for "W" = 3'
G513 for "W" = 4'
G517 for "W" = 6'
G521 for "W" = 8'

(5) Bar Lengths vary with Skew and Wingwall Length.

(6) No. Req'd. varies with Skew and Wingwall length.

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

(FOR INFORMATION ONLY)

"W" Width (ft.)	Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
3	285	3.40
4	360	4.25
6	515	5.90
8	665	7.55

Quantities are based on "L" = 10'-0".

GENERAL NOTES

All concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Gutters will be measured and paid for in accordance with Section 504.

STANDARD DETAILS FOR TYPE A APPROACH GUTTERS

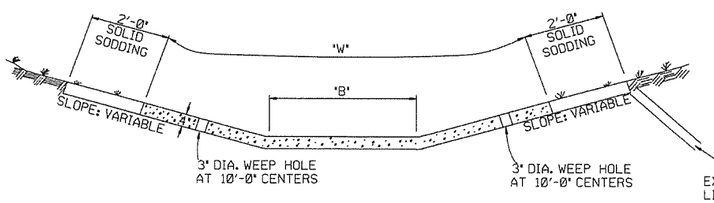
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55030a.dgn
CHECKED BY: K.W.Y. DATE: 2/27/2014 SCALE: 3/8" = 1'-0" or As Shown
DESIGNED BY: STD. DATE:

DRAWING NO. 55030A

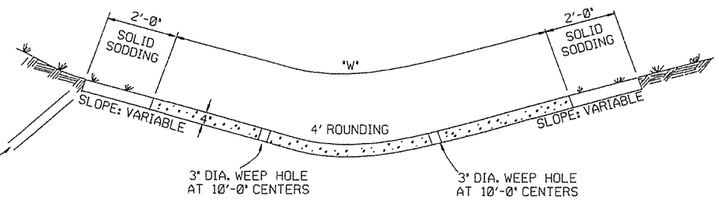
REFER TO TABULATION OF QUANTITIES
FOR 'W' & 'B' DIMENSIONS



EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

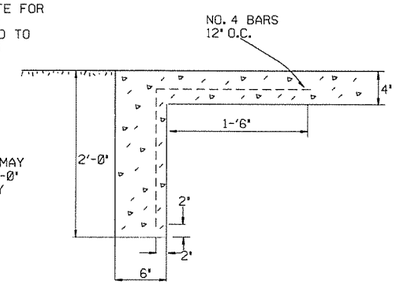
TYPE A

REFER TO TABULATION OF QUANTITIES
FOR 'W' DIMENSIONS



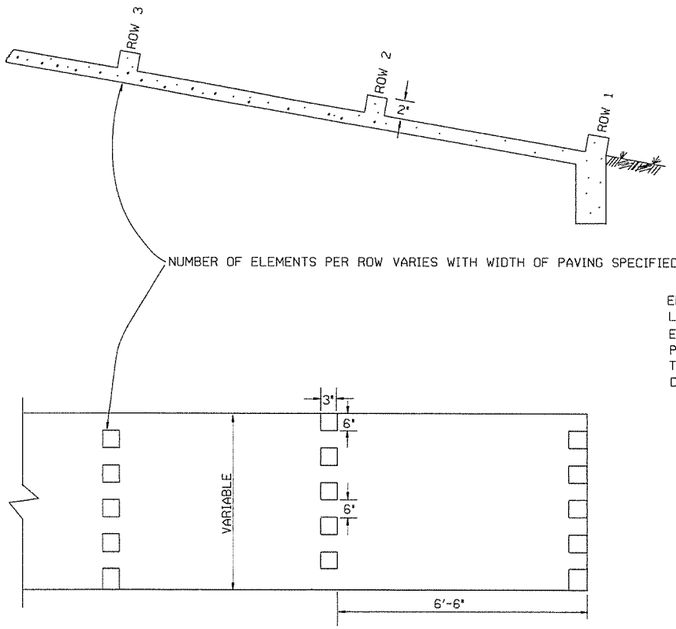
TYPE B

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.

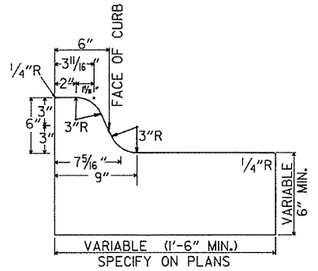
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

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

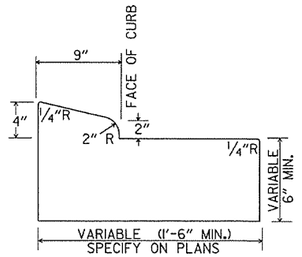
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

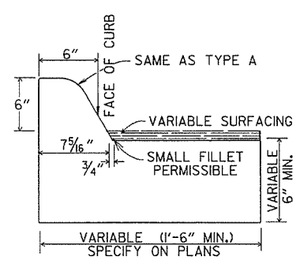
STANDARD DRAWING CDP-1



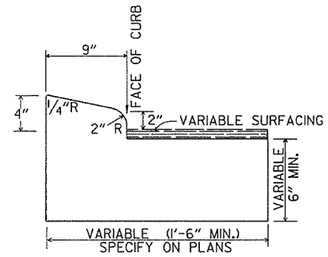
TYPE A



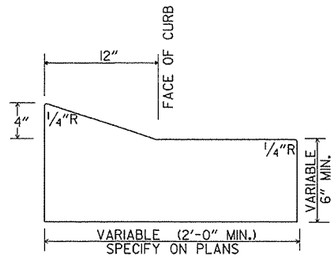
TYPE B-1



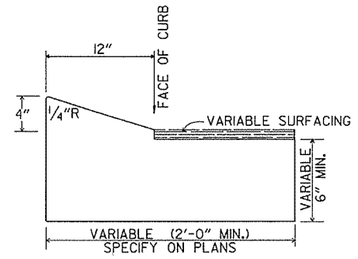
TYPE C



TYPE B-2

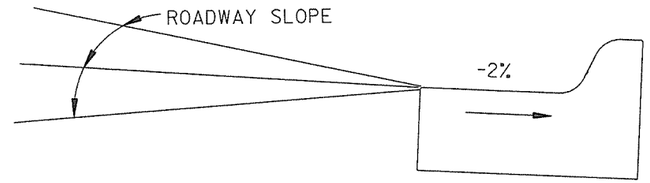


TYPE E-1



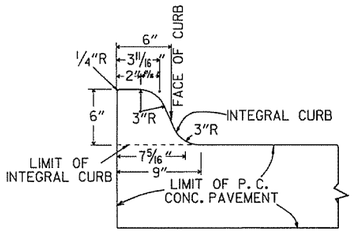
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

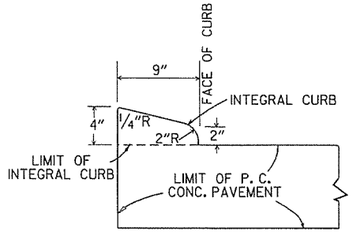


DETAIL OF GUTTER SLOPE

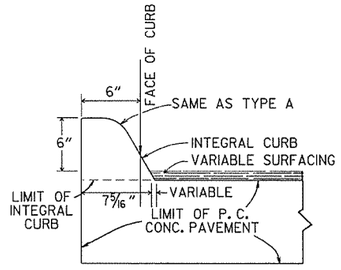
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

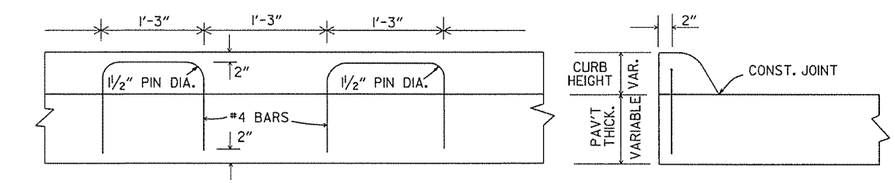


TYPE B



TYPE C

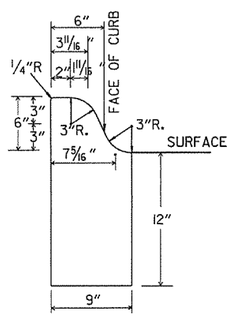
INTEGRAL CURB



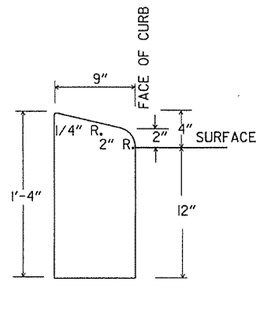
LONGITUDINAL SECTION

ELEVATION

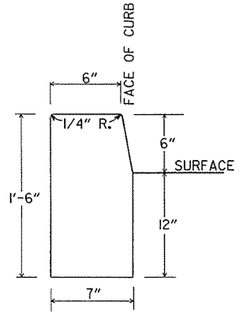
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



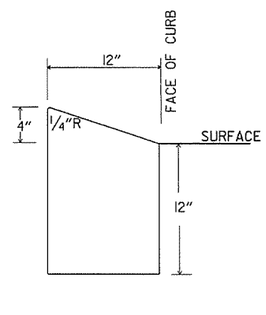
TYPE A



TYPE B

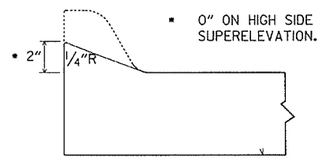


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

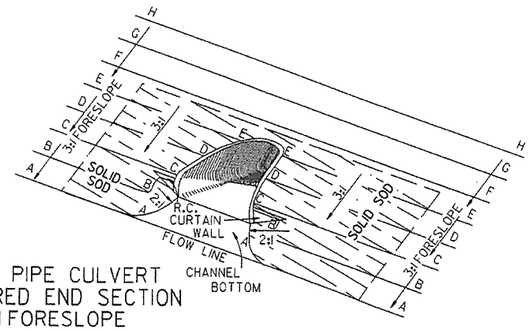
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

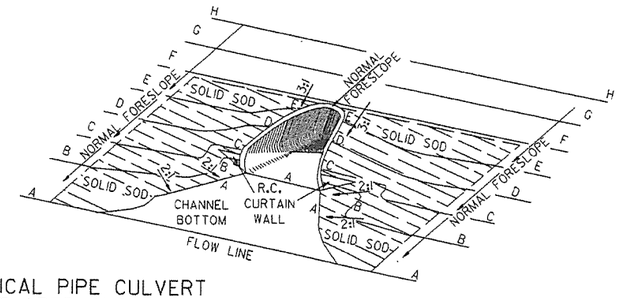
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

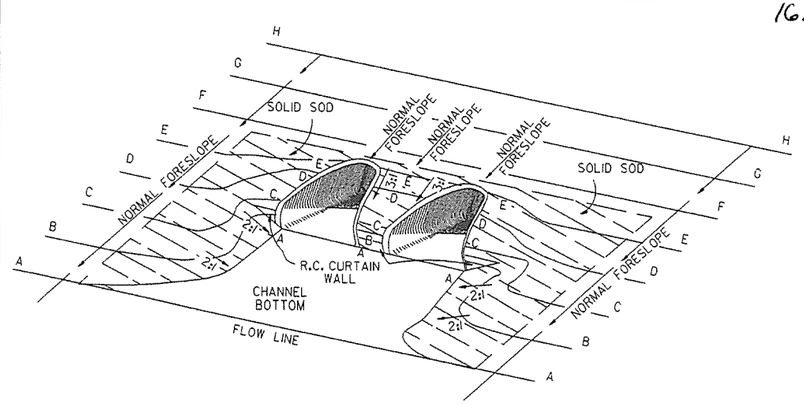
STANDARD DRAWING CG-1



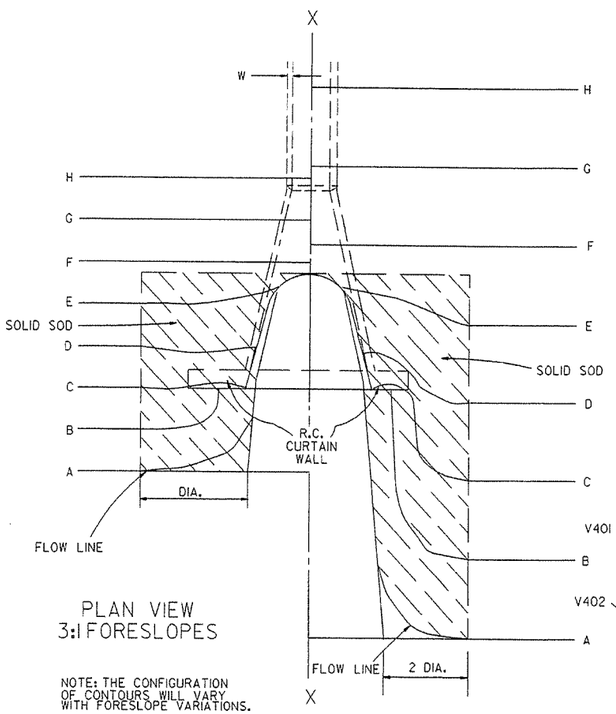
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES



PLAN VIEW
3:1 FORESLOPES

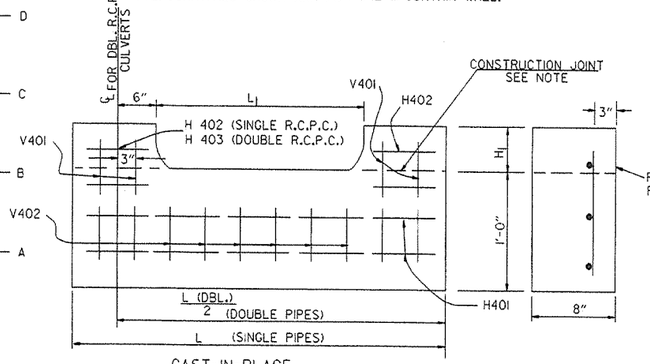
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

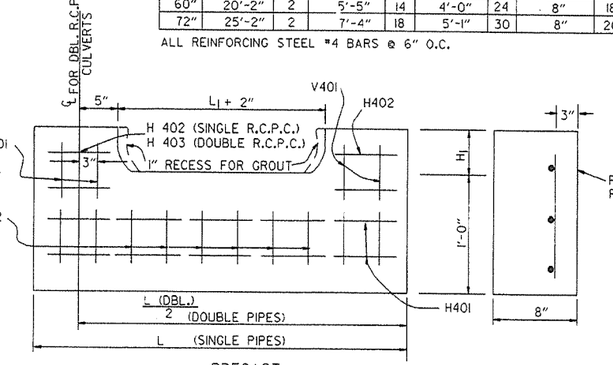
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	1'-11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	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.



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.

R.C. CURTAIN WALL DETAILS

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402 L	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403 L	H403 NO.	V401 L	V401 NO.	V402 L	V402 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.

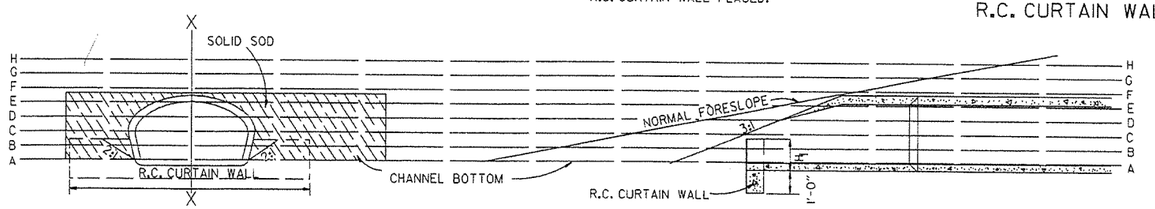
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C. 3:1	4:1	6:1	DOUBLE R.C.P.C. 3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

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 W/10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



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

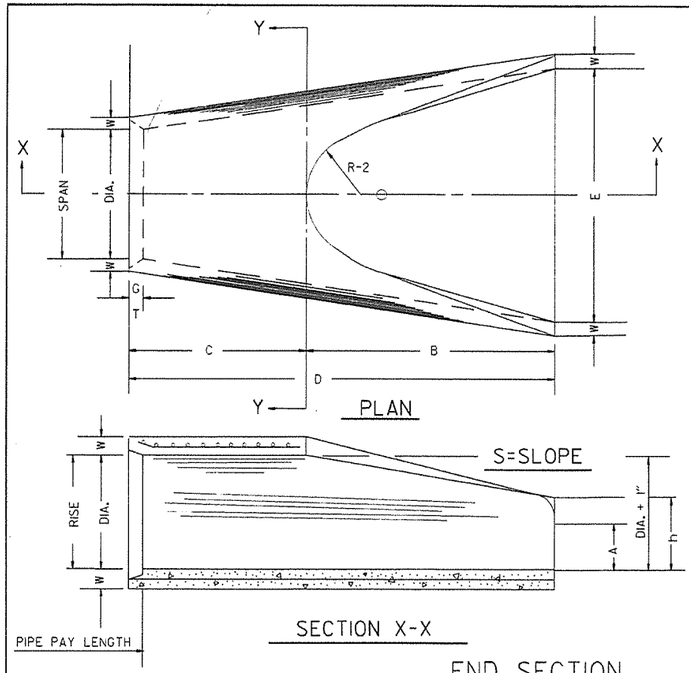
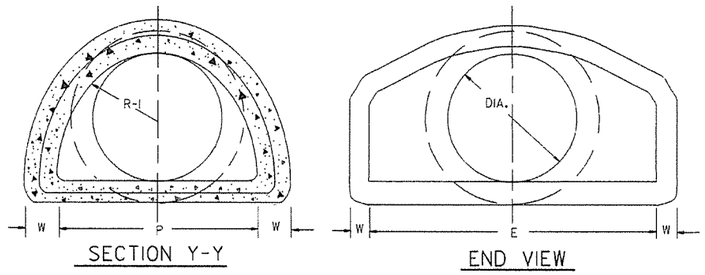


TABLE OF DIMENSIONS

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"	33¾"	16¹¹⁄₁₆"	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'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47¹³⁄₁₆"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅛"	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"	36¹¹⁄₁₆"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77¹³⁄₁₆"	38⅝"	24"	5"	13250	4'-6"



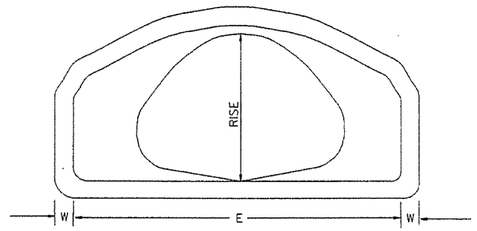
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

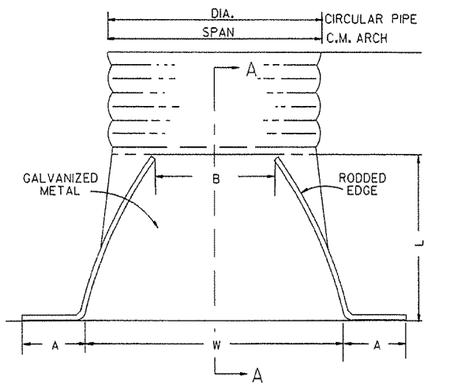
ARCH PIPE

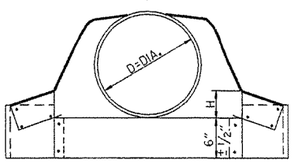
EQUIV. DIA.	* SPAN AASHTO M 206	* SPAN AHD NOMINAL	* RISE AASHTO M 206	* RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36¹¹⁄₁₆"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47¹³⁄₁₆"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-11½"	6'-1½"	6'-6"	54⅜"	22"	3½"	2½:1
42	51⅛	51	31⅝	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"	70⅝"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72¹/₁₆"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77¹³⁄₁₆"	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

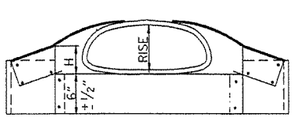




CIRCULAR PIPE

CIRCULAR PIPE

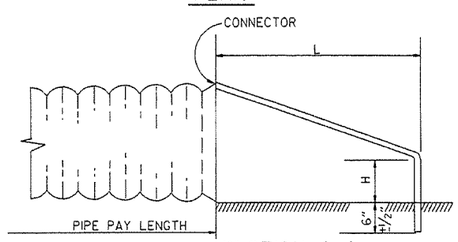
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	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

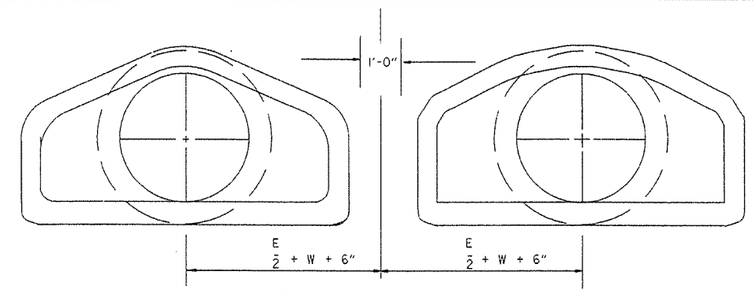
C.M. ARCH PIPE

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

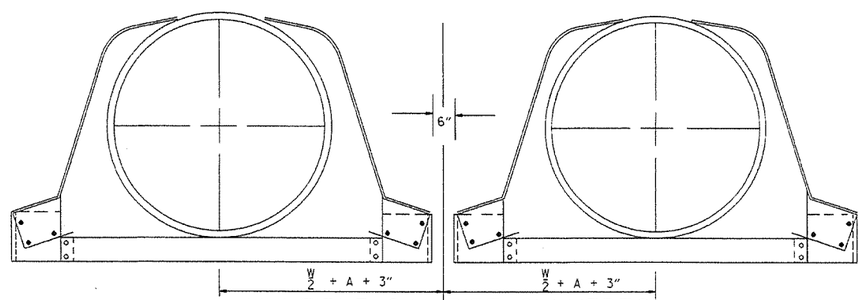


NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

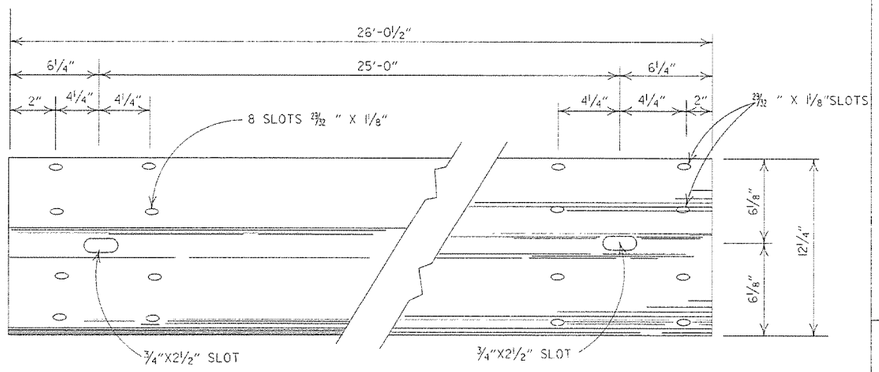
DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73
10-2-72	REVISED AND REDRAWN	760-10-2-72

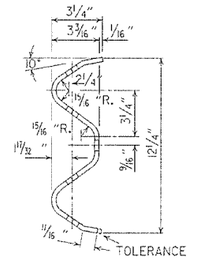
ARKANSAS STATE HIGHWAY COMMISION

FLARED END SECTION

STANDARD DRAWING FES-2

stdfes2.dgn

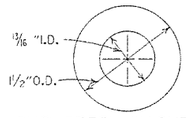




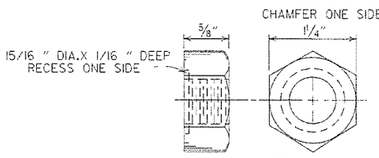
DETAILS OF W-BEAM GUARD RAIL

RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.

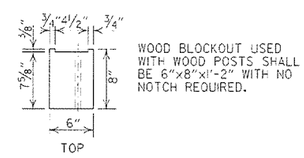
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



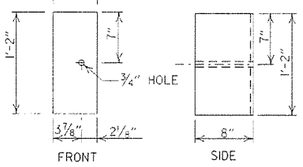
CUT STEEL WASHER



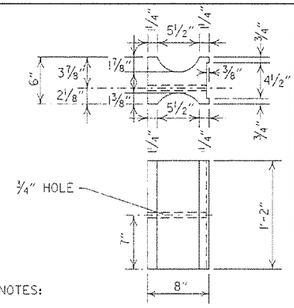
NUT



WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.



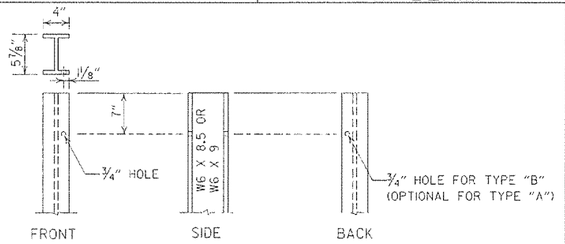
WOOD BLOCKOUT (W-BEAM)



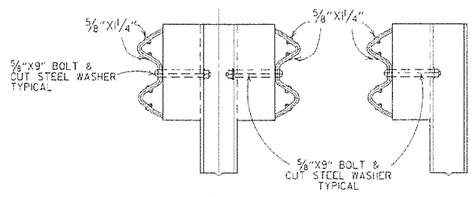
NOTES:

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)

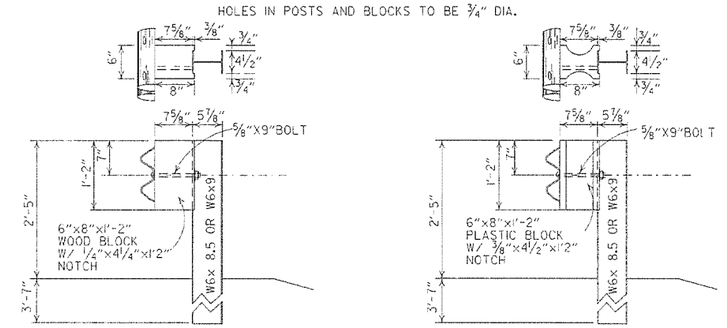


STEEL POST



DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.



WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"x8" WITH A TOLERANCE OF + OR - 1/4".

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 3/4" 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.

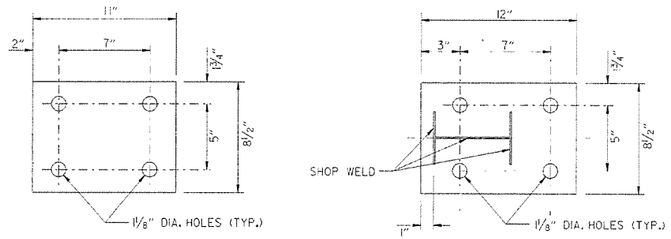
CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

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 M.T. 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	8-15-91
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

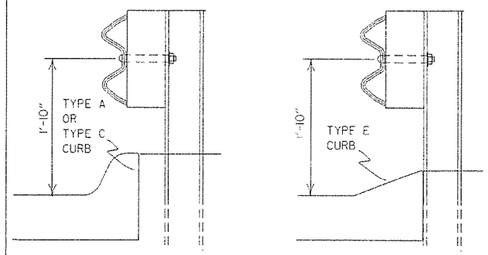
STANDARD DRAWING GR-8



WASHER PLATE

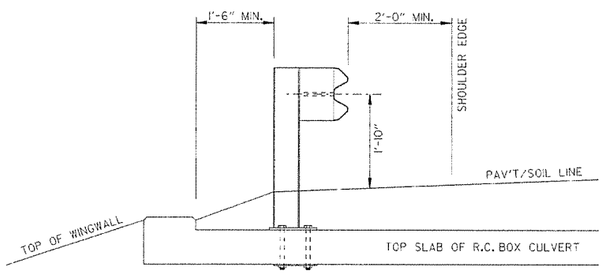
BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

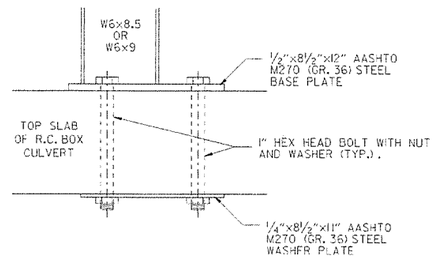


DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB (W-BEAM)

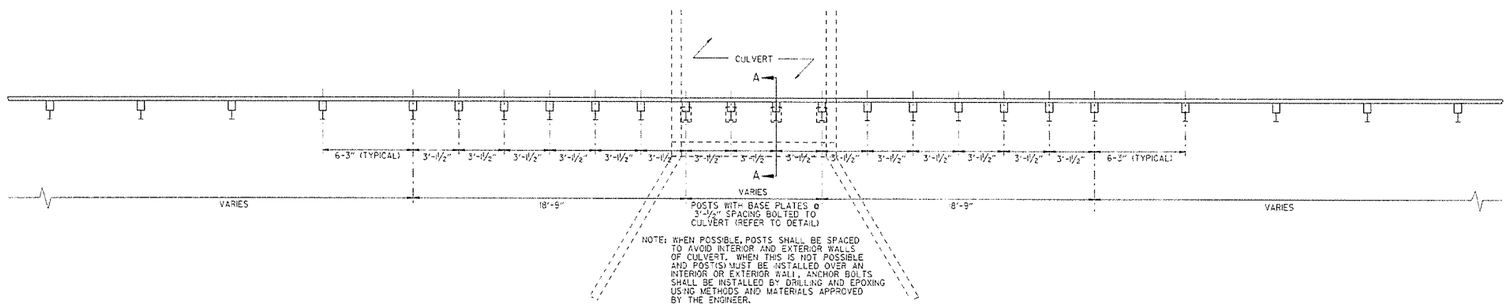
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A



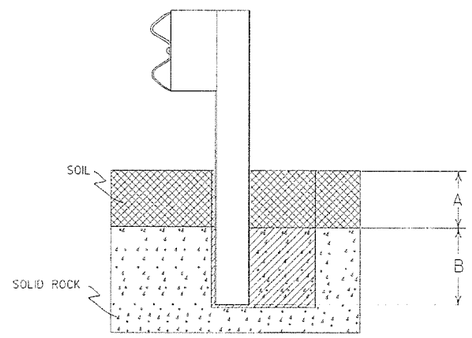
DETAIL OF CONNECTION



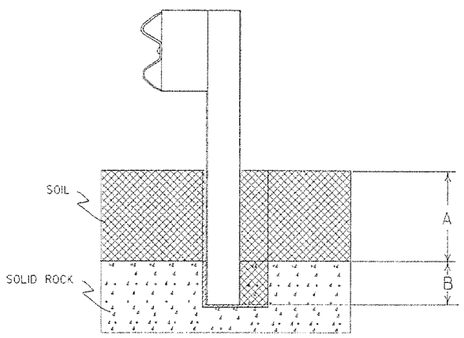
PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARD RAIL POSTS AS SHOWN ON STD. DWG. GR-8.

Case 1

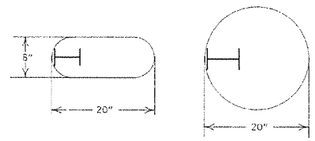


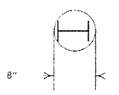
Case 2



Plan View Steel Posts

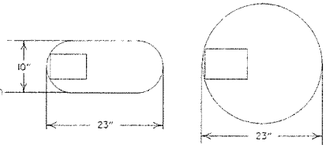
Either hole configuration acceptable

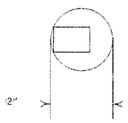




Plan View Wood Posts

Either hole configuration acceptable





Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

Zone A:
Backfill according to Section 617.03(a).

Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)

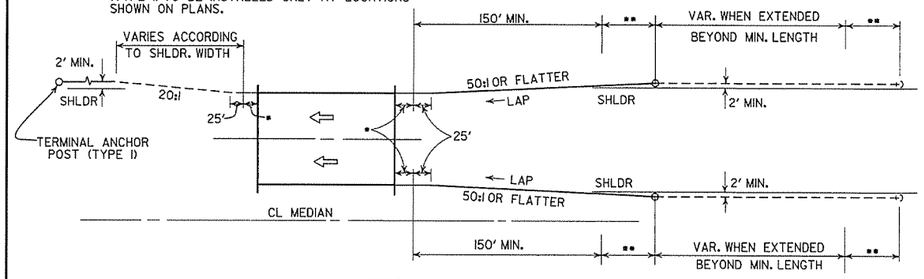
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
4-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS, ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
3-30-00	REMOVED CONCRETE INSERT ANCHOR	
8-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADD. DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULV'T. DELETED DET. OF STEEL LINE POST CONN.& ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK	
4-3-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
6-2-94	REVISED ALTERNATE POST SIZE	
8-6-93	REVISED STEEL POST SIZE	
10-1-92	REDRAWN & REVISED	10-1-92
8-2-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
7-15-88	CONFORMED TO 1988 SPECS	
3-4-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	742-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-9-87	REDRAWN & REVISED	803-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

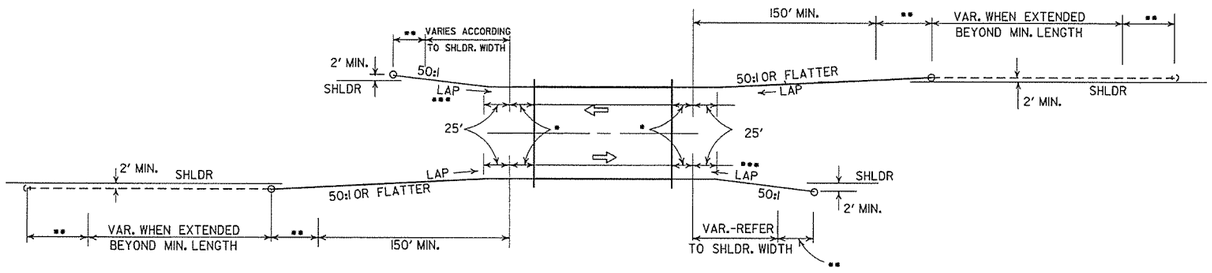
STANDARD DRAWING GR-8A

NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

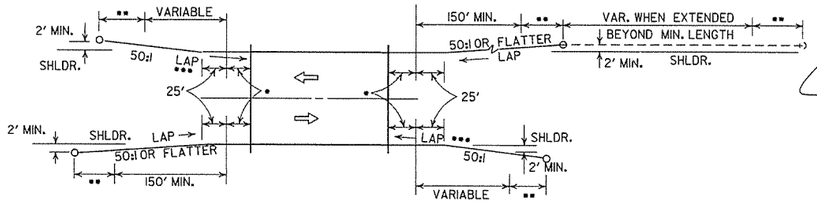
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

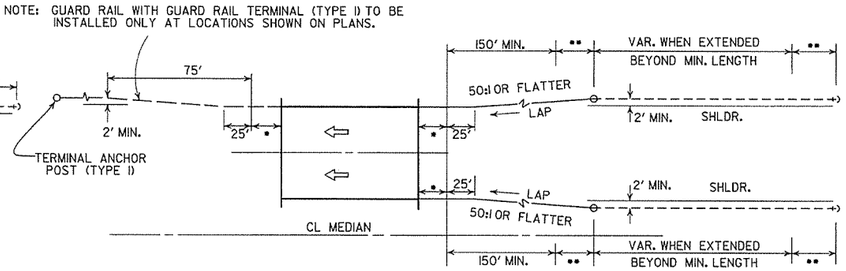
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• 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

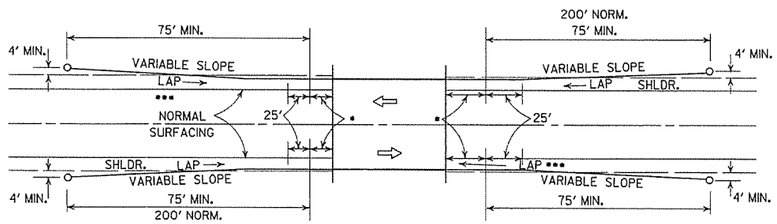
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



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

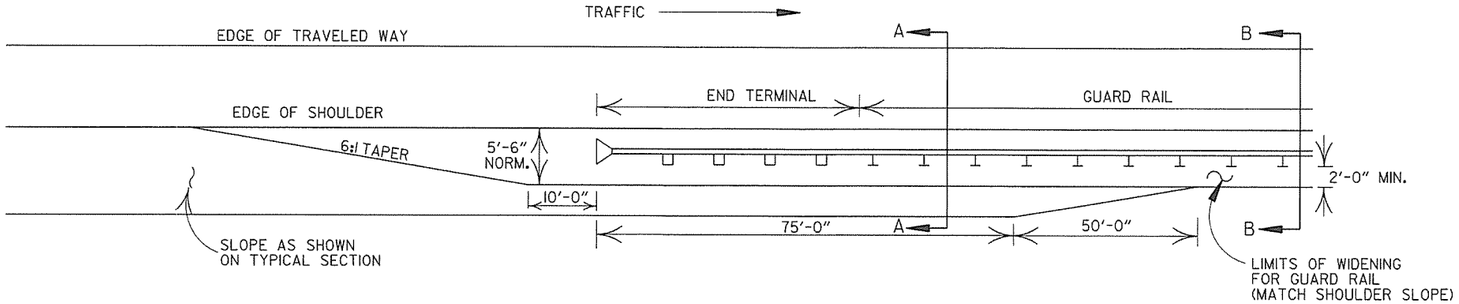
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

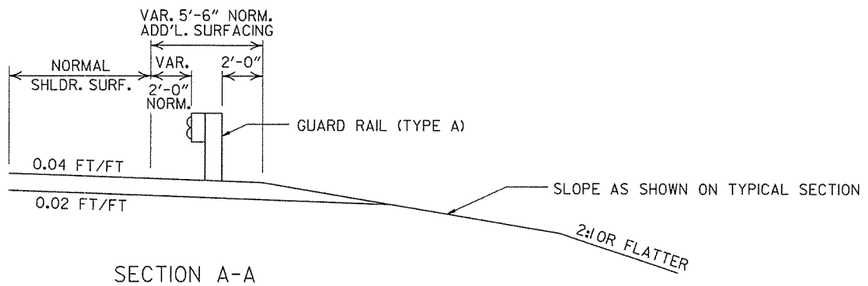
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

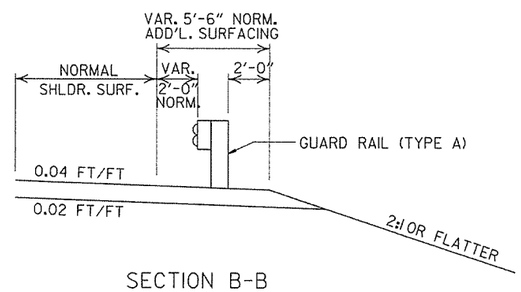
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





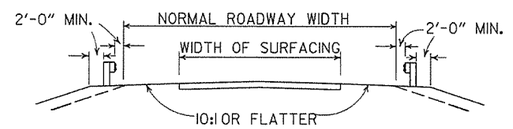
SECTION A-A



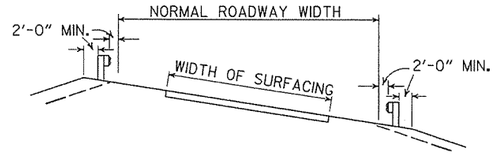
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

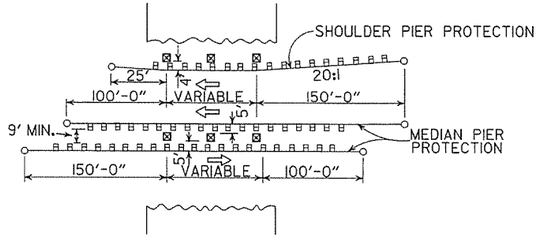


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



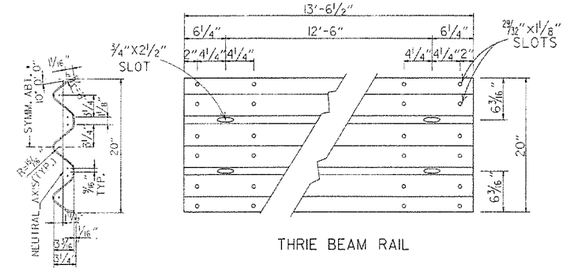
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

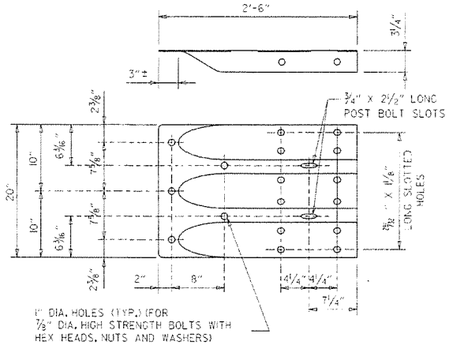
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A

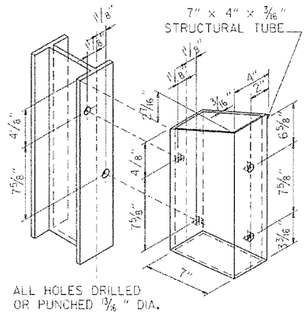


THRIE BEAM RAIL

SECTION THRU THRIE BEAM RAIL



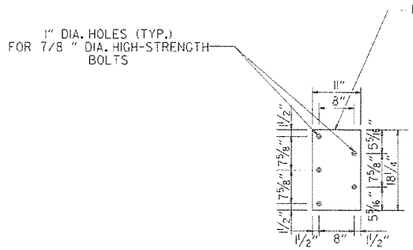
SPECIAL END SHOE



ALL HOLES DRILLED OR PUNCHED ⅜" DIA.

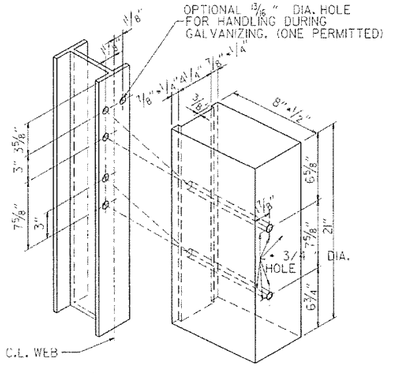
ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.

STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



CONNECTOR PLATE

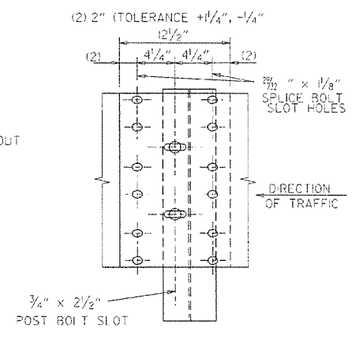
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



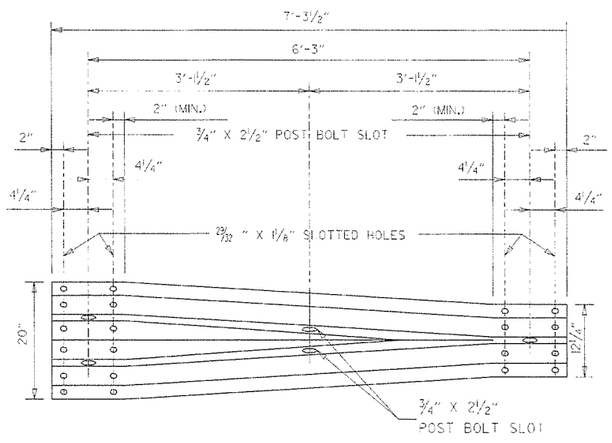
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

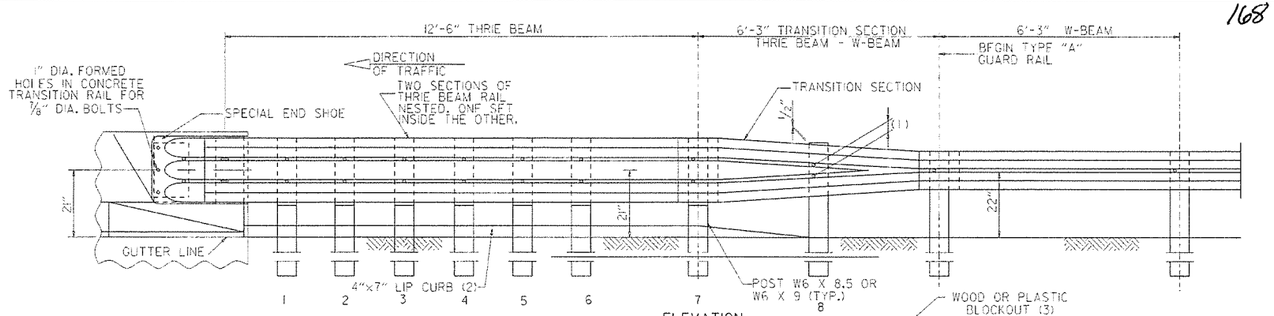
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



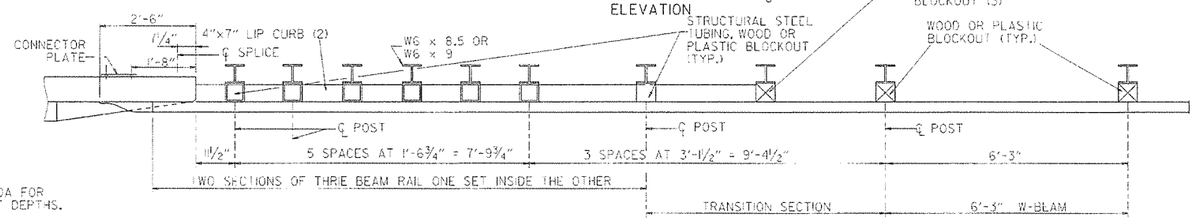
THRIE BEAM RAIL SPLICE AT POST



TRANSITION SECTION

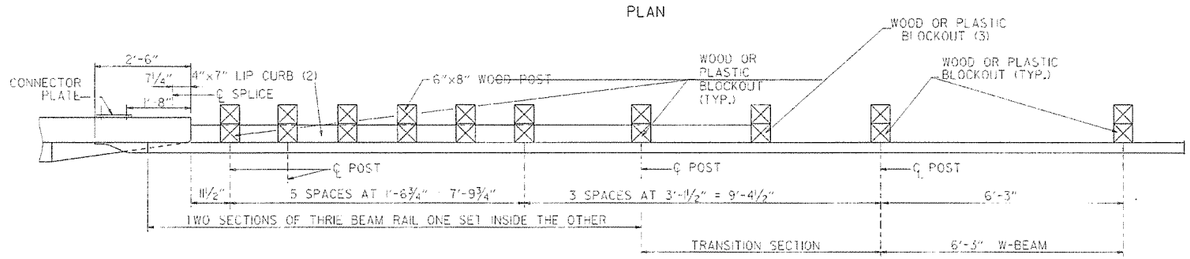


ELEVATION



PLAN

NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.



PLAN

(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 ¼" 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# (M100 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.

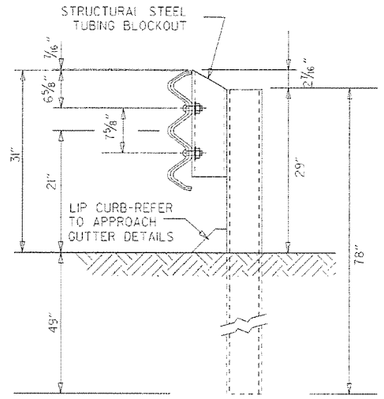
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W BEAM POSTS FOR ENTIRE JOB.

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	

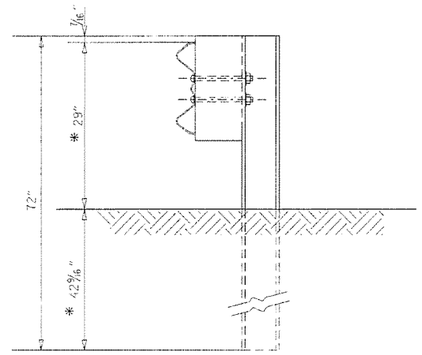
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

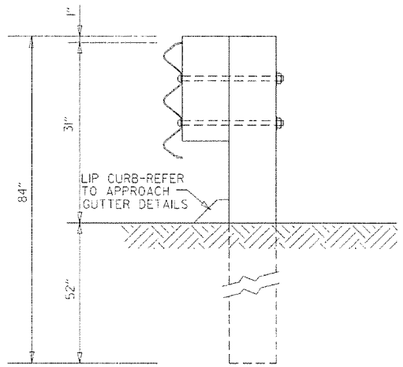


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

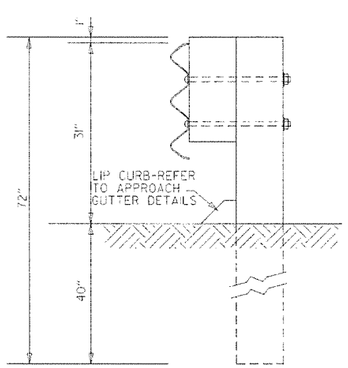


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

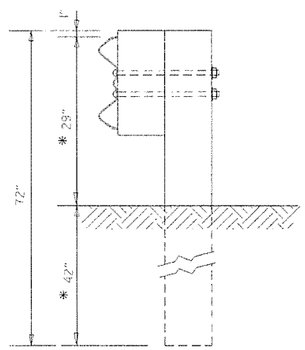
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



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.

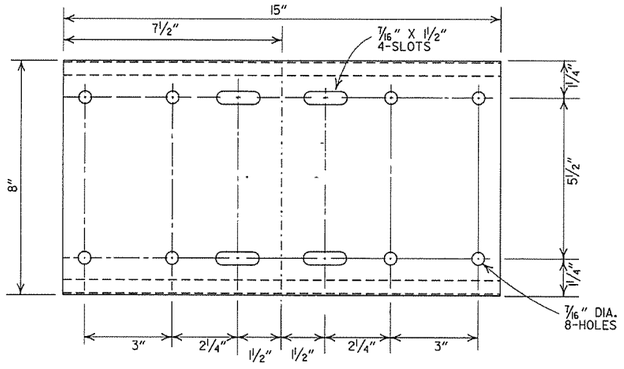
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

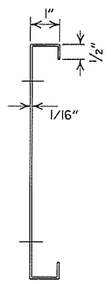
ARKANSAS STATE HIGHWAY COMMISSION

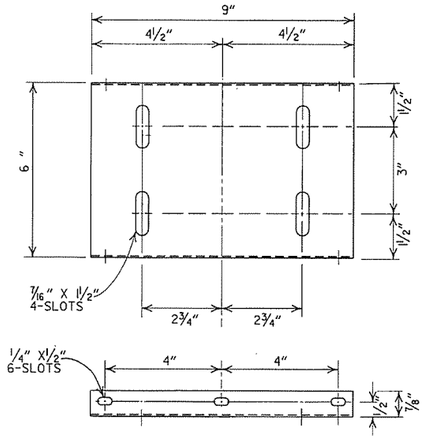
GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

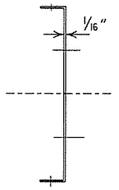


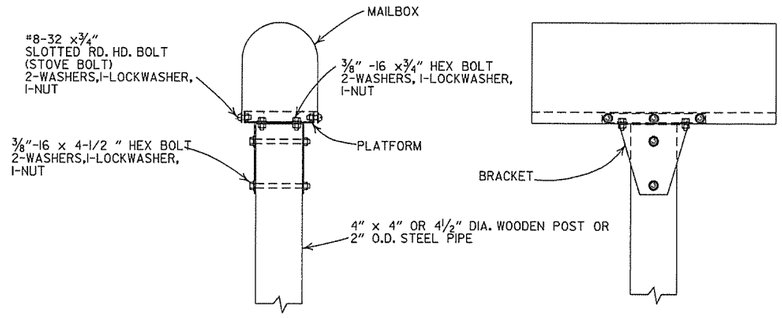
SHELF



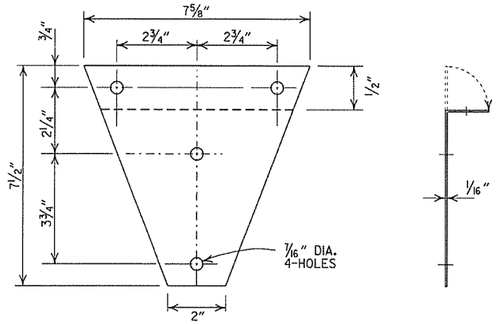


PLATFORM





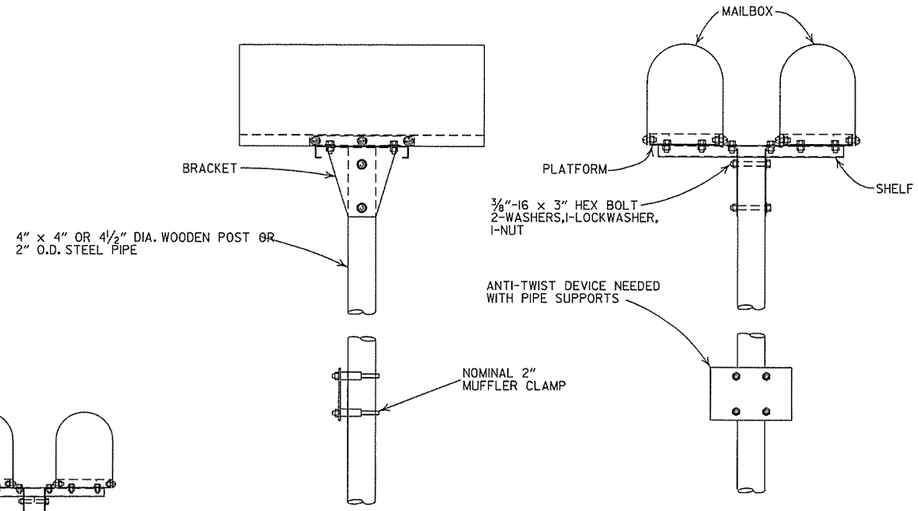
SINGLE INSTALLATION



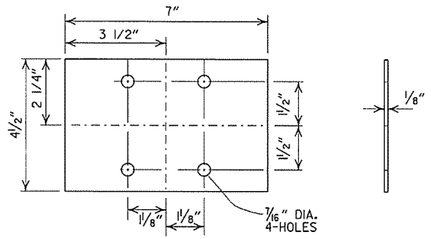
BRACKET

GENERAL NOTES

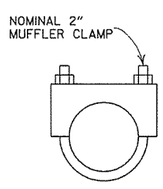
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X ¾" 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.



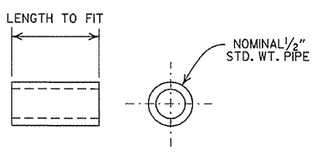
DOUBLE INSTALLATION



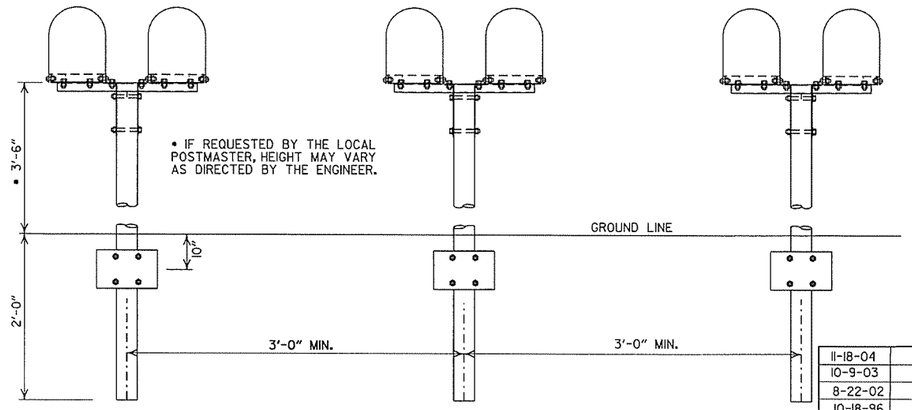
ANTI-TWIST PLATE



CLAMP



SPACER



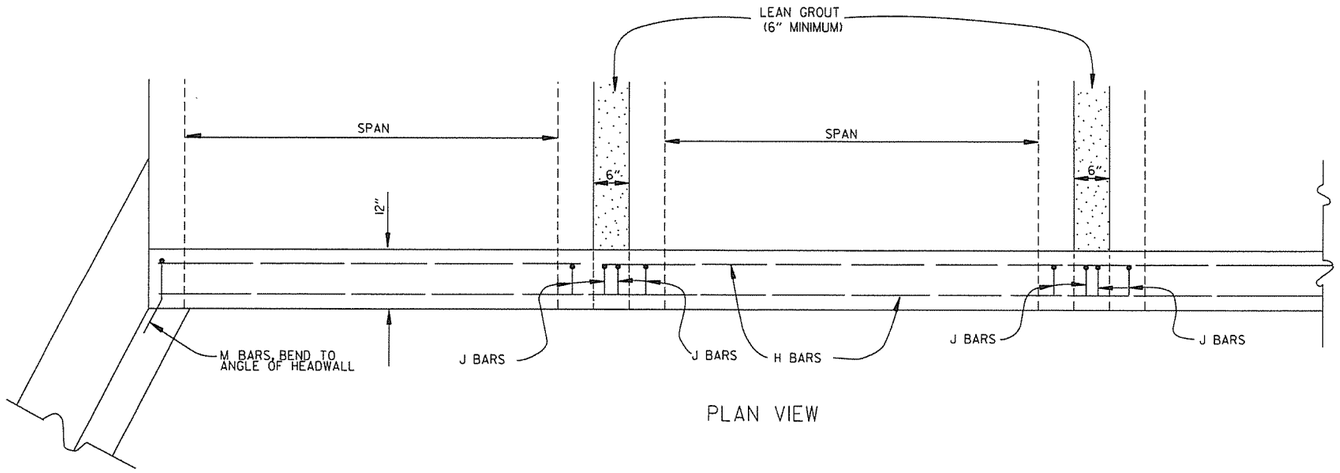
SPACING FOR MULTIPLE POST INSTALLATION

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	10-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

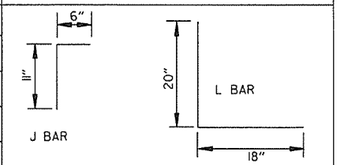
STANDARD DRAWING MB-1



PLAN VIEW

BAR LIST

BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	



• NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF 10" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING. STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, MEMBRANE WATERPROOFING, DRAINAGE FILL MATERIAL, GEOTEXTILE FILTER FABRIC, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS.
THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE.
THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

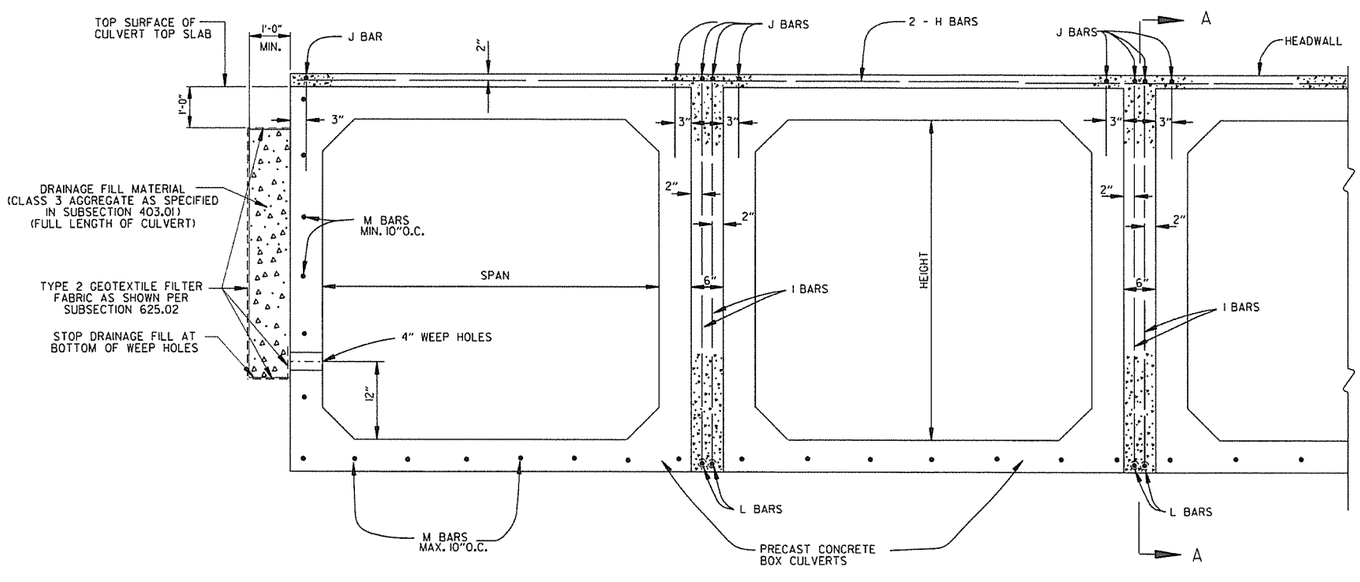
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER BARRELS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

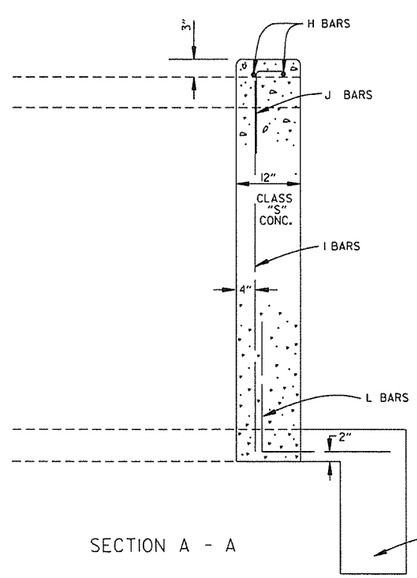
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.



END VIEW



SECTION A - A

DATE	REVISION	DATE FILMED
1-28-15	REVISED GEOTEXTILE FABRIC PLACEMENT	
12-15-11	ADDED NOTE & DTLS FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11- 8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED: JABE	

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-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	31⅞	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.

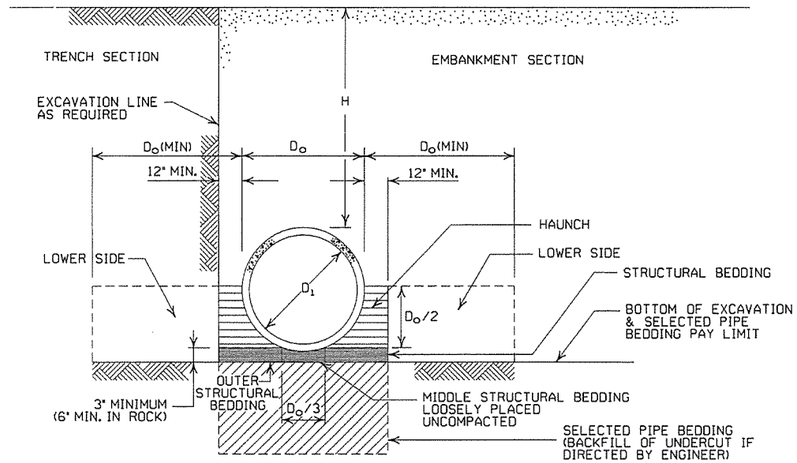
- LEGEND -

D_1 = 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 (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	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
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① 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
		2 ⅔ 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.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 ⅔ 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

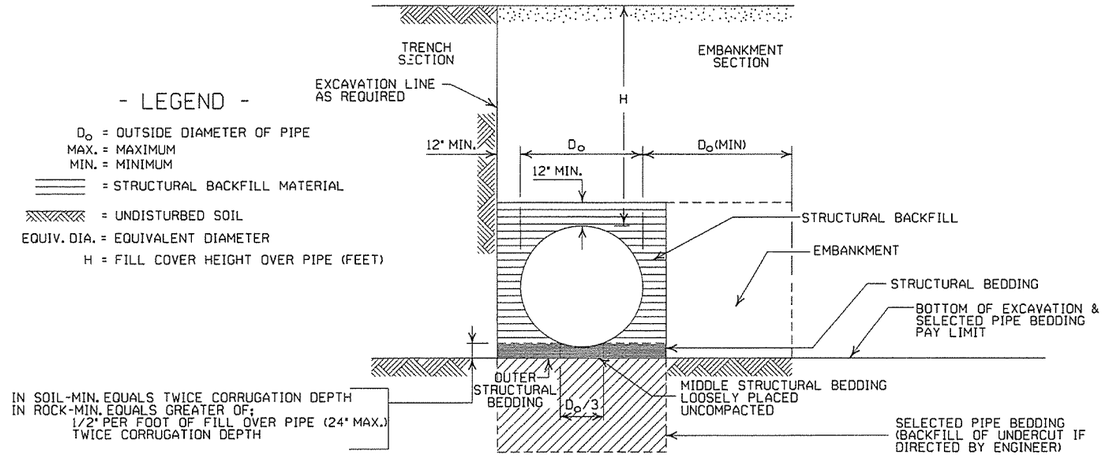
③ SM-3 WILL NOT BE ALLOWED.

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

- LEGEND -

D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. 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 (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

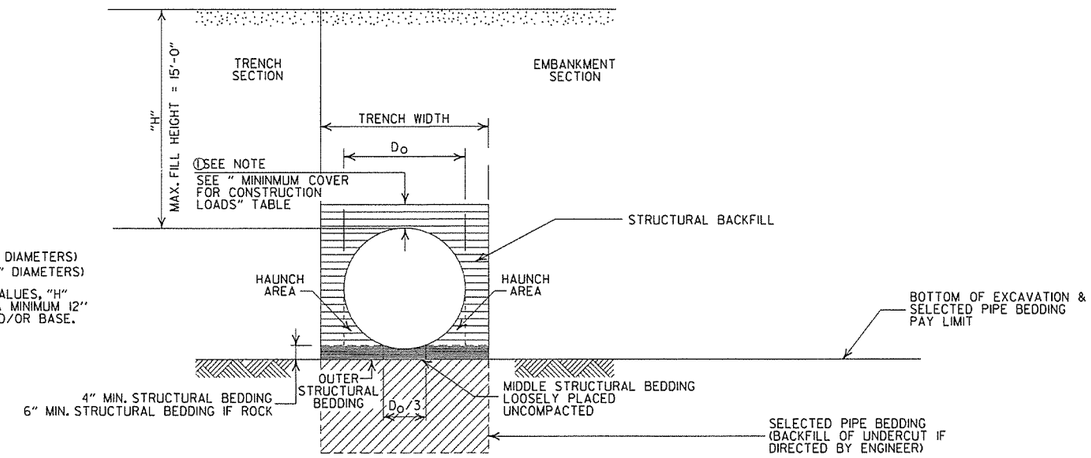
STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



TYPE 2 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.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

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. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. 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.
5. 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."
6. 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 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."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
Ø = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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 PVC PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

MULTIPLE INSTALLATION OF PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

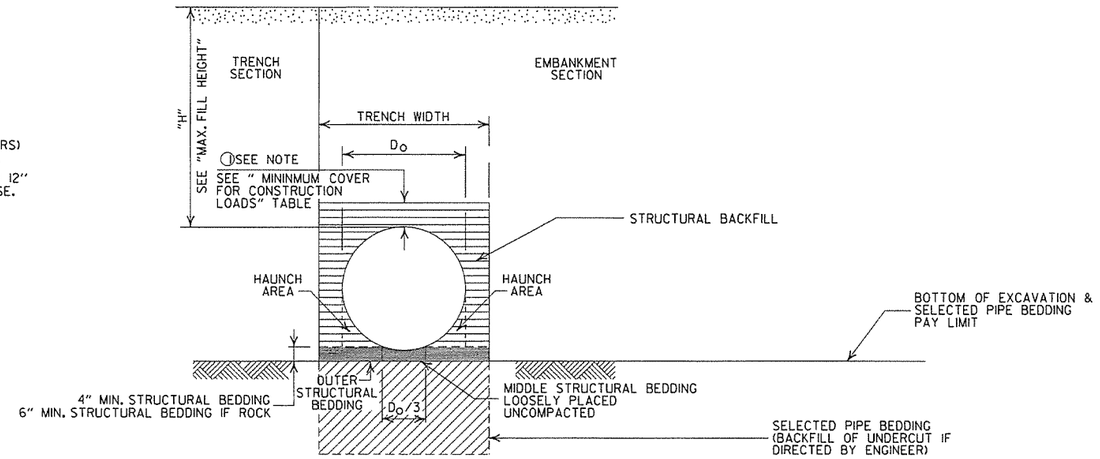
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 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.

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. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. 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.
5. 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."
6. 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 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."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_O = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

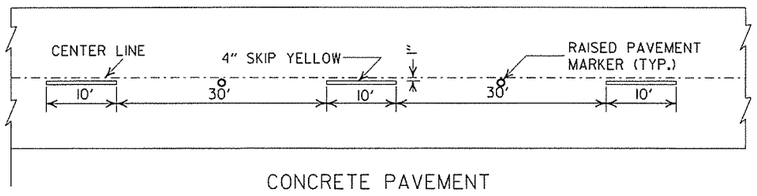
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

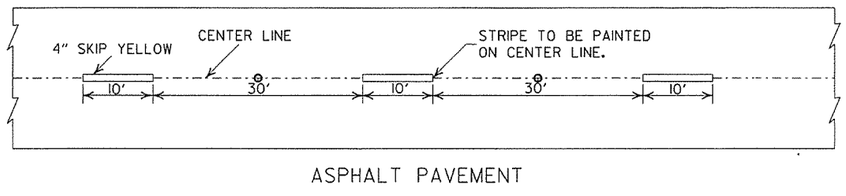
STANDARD DRAWING PCP-2

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.

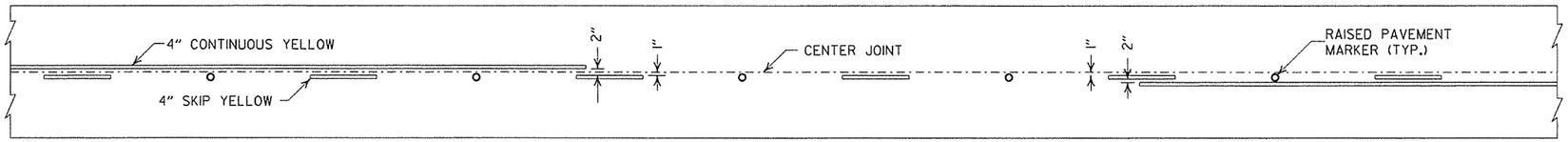


CONCRETE PAVEMENT

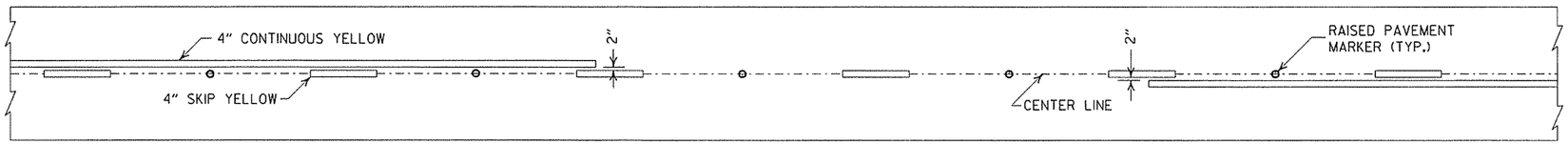


ASPHALT PAVEMENT

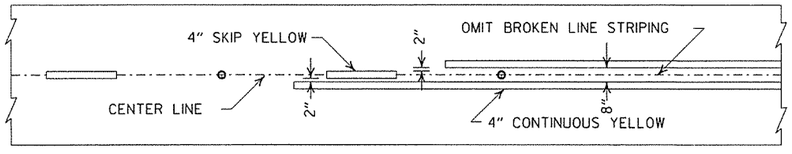
BROKEN LINE STRIPING



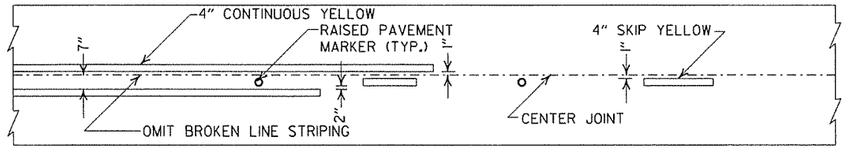
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

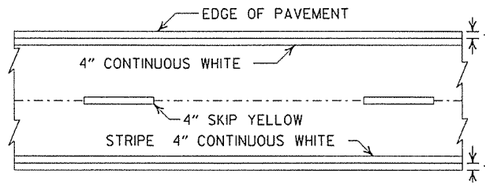


ASPHALT PAVEMENT

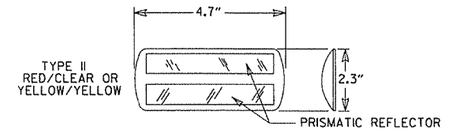


CONCRETE PAVEMENT

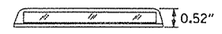
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING



NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

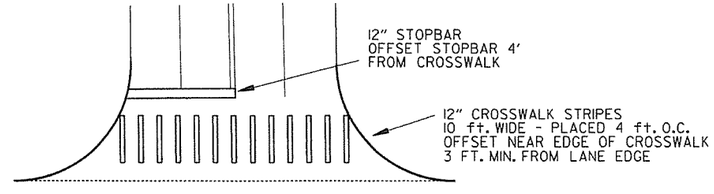
GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS

DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

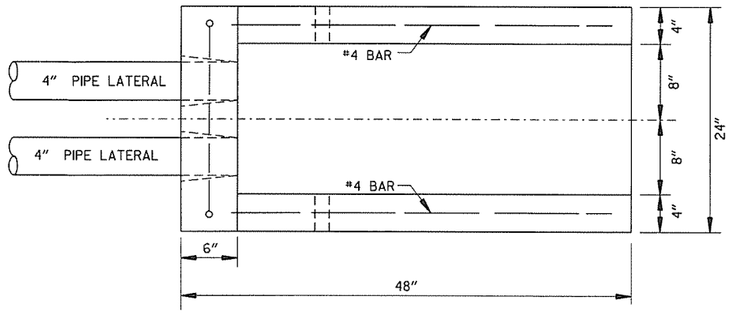
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

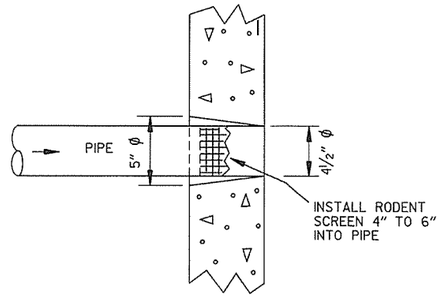
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

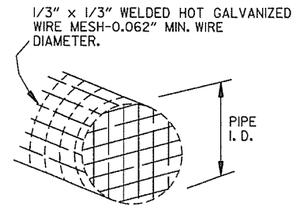
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



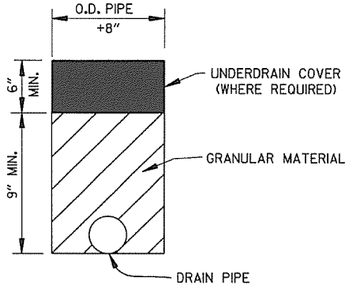
PLAN VIEW

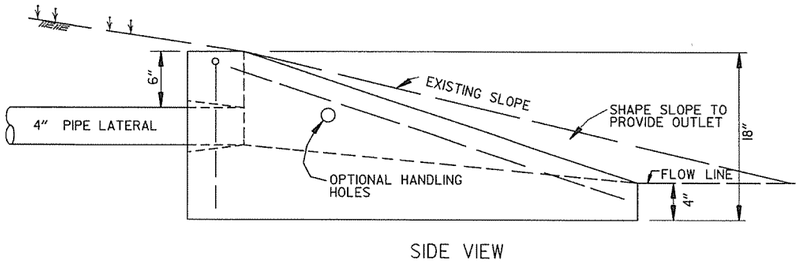


DETAIL OF HOLE FOR 4" PIPE

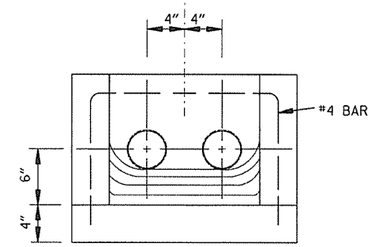


DETAIL OF RODENT SCREEN

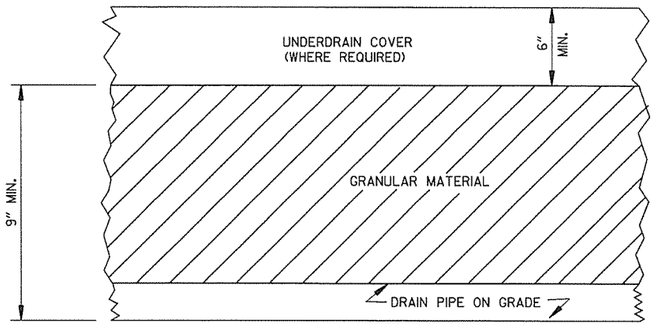




SIDE VIEW

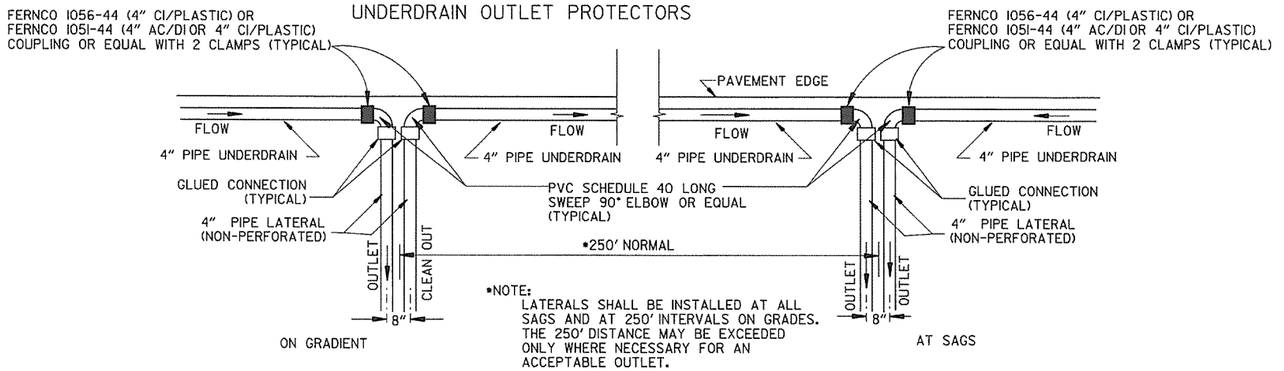


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



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

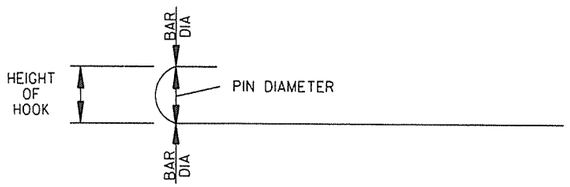
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

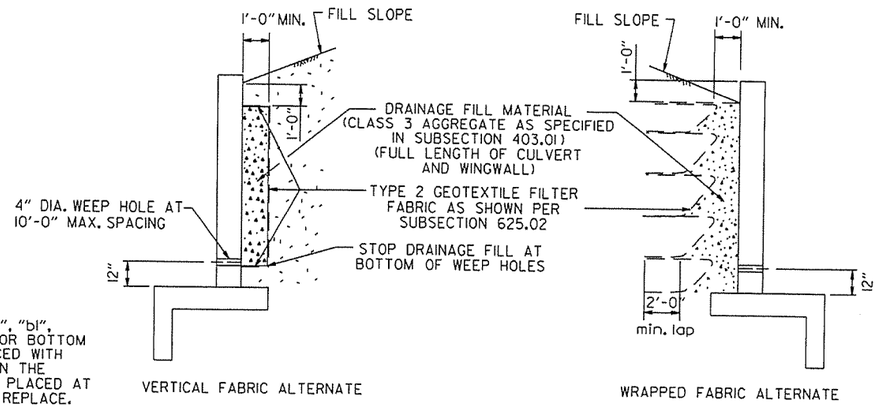
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

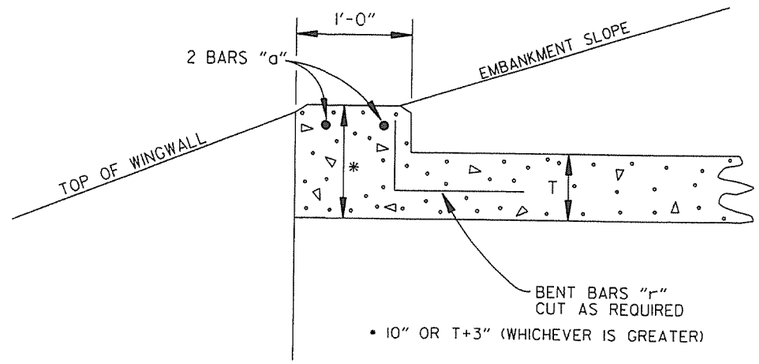
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

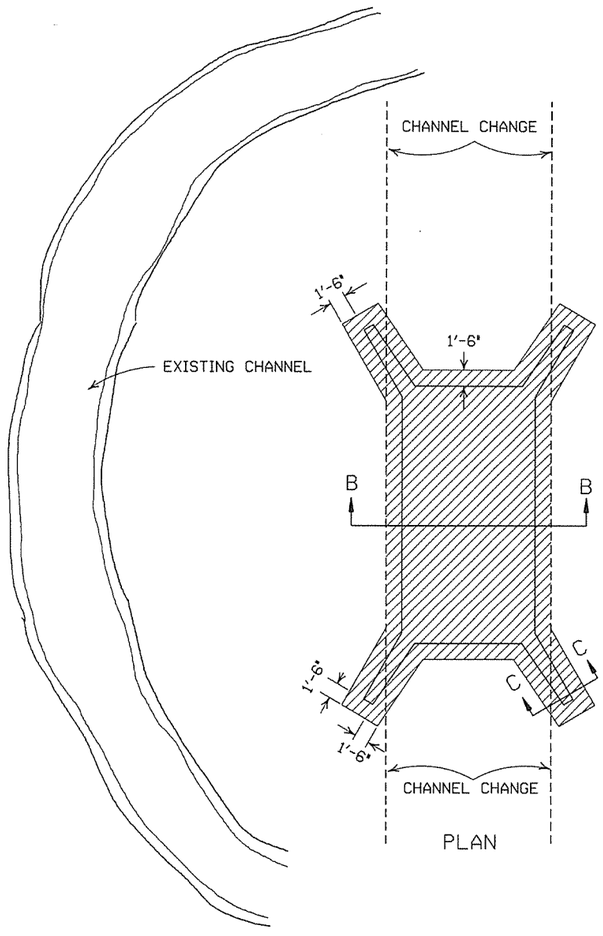
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

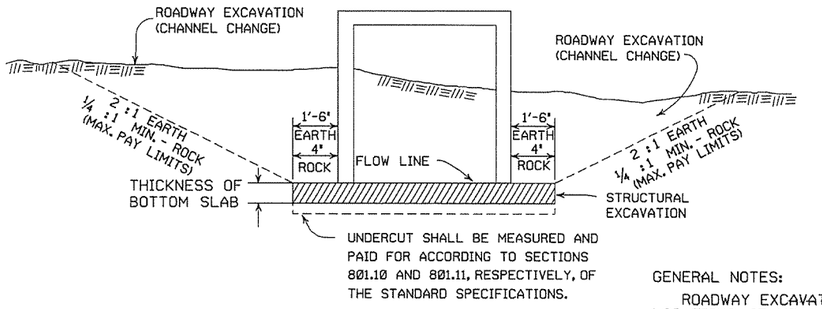
ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



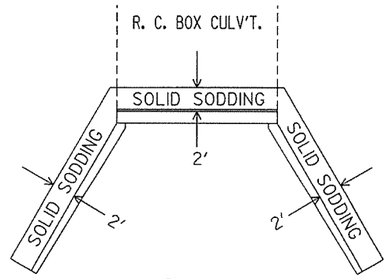
PLAN



SECTION B-B

DETAILS FOR NEW CHANNELS

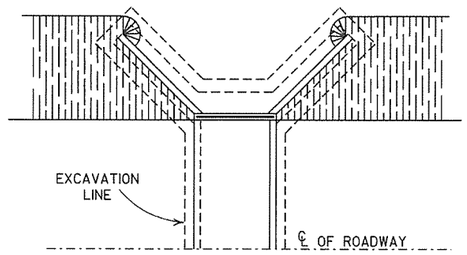
SOLID SODDING



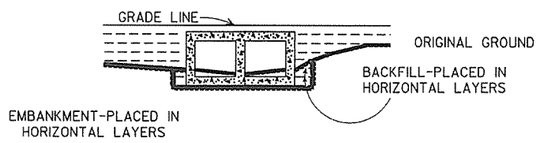
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

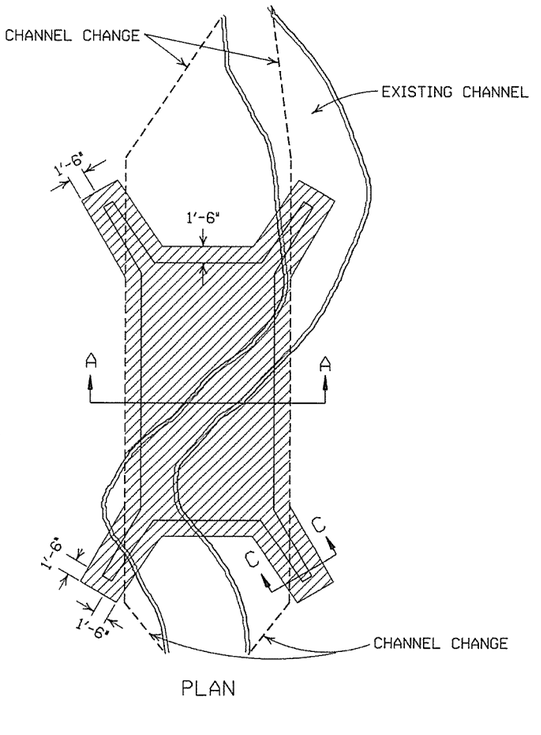


PLAN

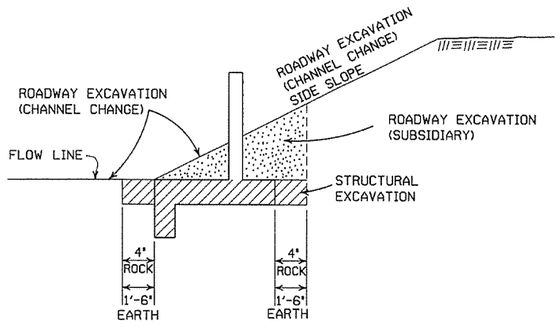


LONGITUDINAL SECTION

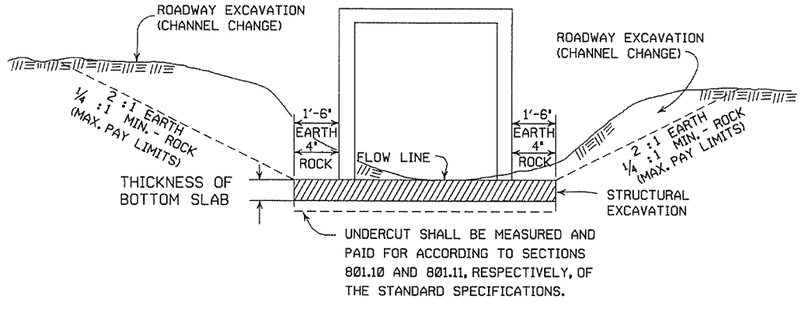
BACKFILL DETAILS FOR BOX CULVERT



PLAN



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

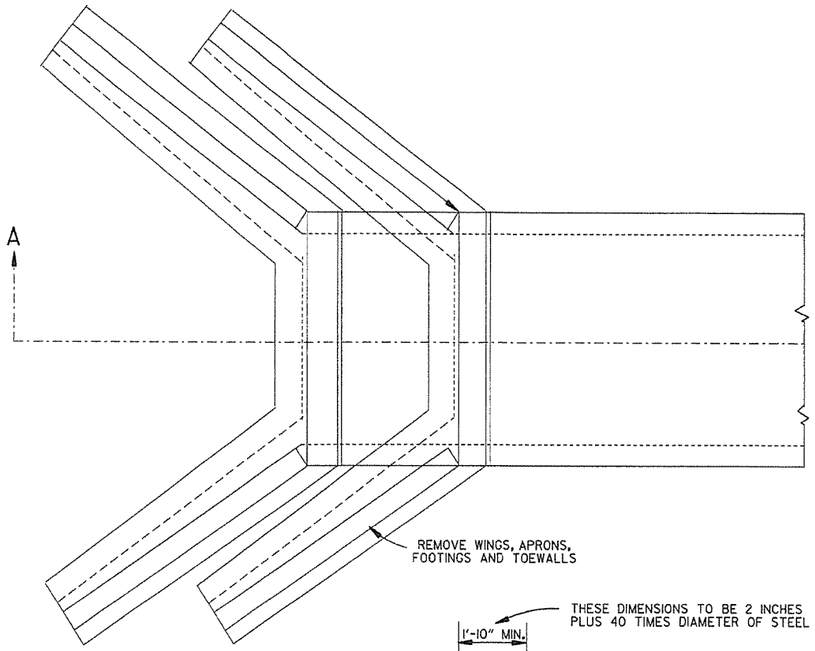
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES	674-1-4-83
	AND ADDED MAXIMUM PAY	
	LIMIT NOTES.	
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

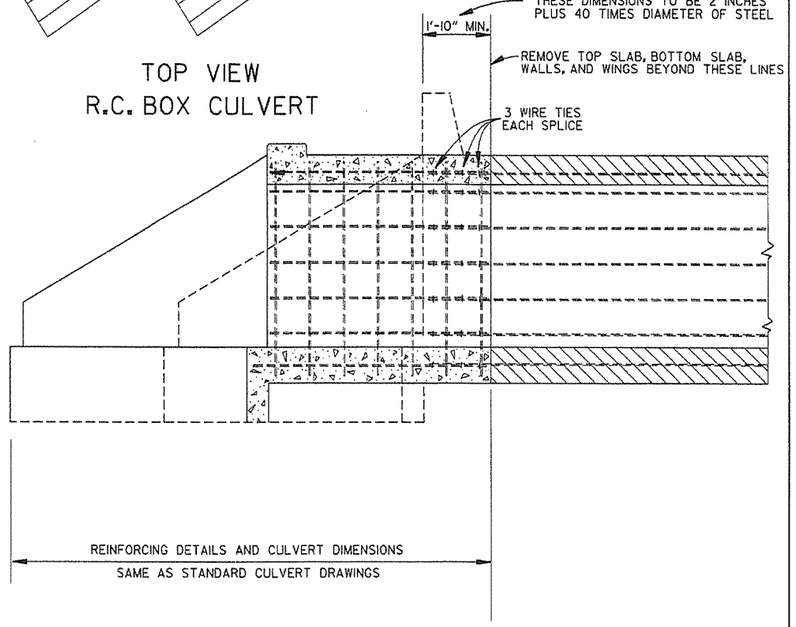
ARKANSAS STATE HIGHWAY COMMISSION

EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2

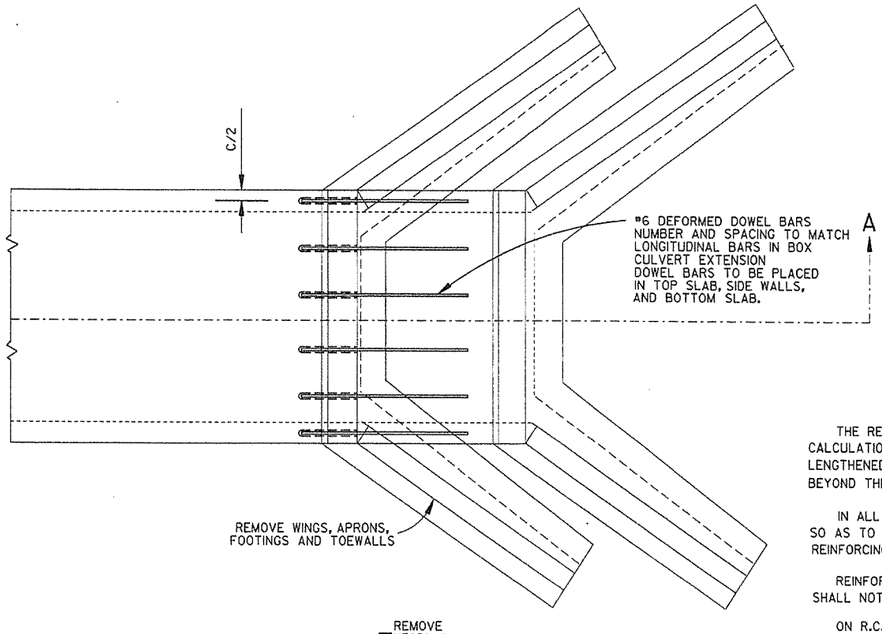


TOP VIEW
R.C. BOX CULVERT

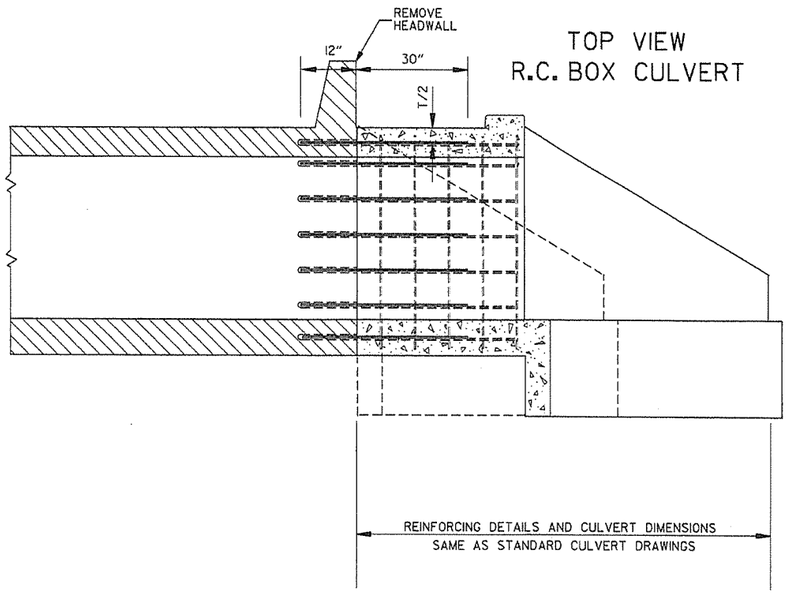


SECTION A-A

METHOD 1



TOP VIEW
R.C. BOX CULVERT



SECTION A-A

METHOD 2

GENERAL NOTES

	USE FOR METHOD
THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.	1
IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.	1
REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.	1&2
ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.	1&2
MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.	2
DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER, AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.	2
THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2. REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.	1&2

NOTE:
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.

SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

DATE	REVISION	DATE FILM
10-12-95	CHANGED DRAWING # FROM 144-A	
4-1-93	ADDED GENERAL NOTE	
10-1-92	ADDED ALT. METHOD OF EXTENSION	
11-30-89	REDRAWN	
1-4-83	ELIMINATED CONCRETE CLASS	
12-20-56	RETRACED	

ARKANSAS STATE HIGHWAY COMMISSION

METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

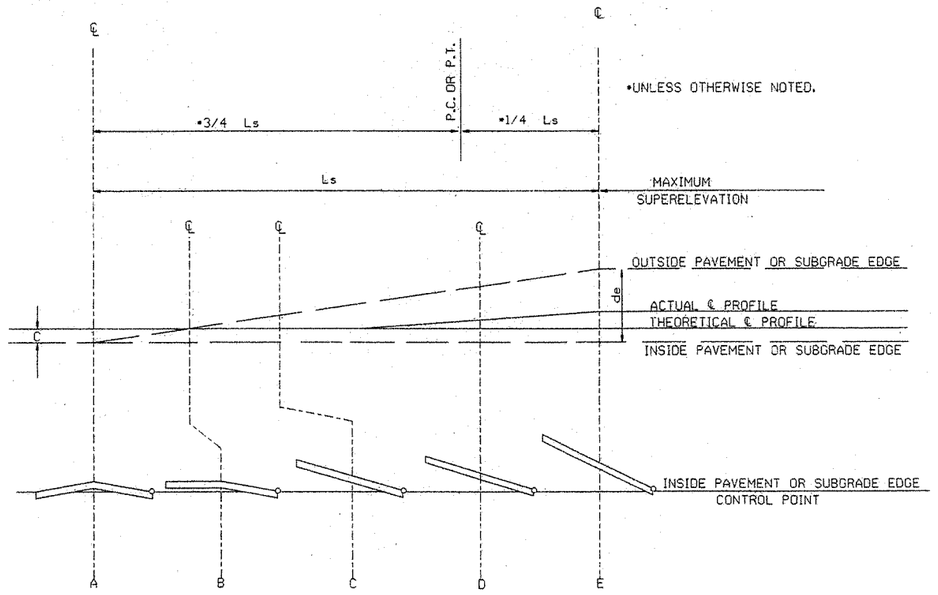
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

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		250	0.053			0.061			0.078	300	350
2° 30′	0.021			0.034			0.049			0.056			0.067			0.085	315	
2° 45′	0.023			0.037		200	0.053			0.063			0.072			0.091	335	
3° 00′	0.025	150		0.040			0.057			0.067	230		0.077	260		0.096	350	400
3° 15′	0.027			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	350	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				
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315				
5° 00′	0.040			0.061			0.083	250		0.091	295		0.098	320				
5° 30′	0.043			0.066	185		0.088	260		0.094	300	350						
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.

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

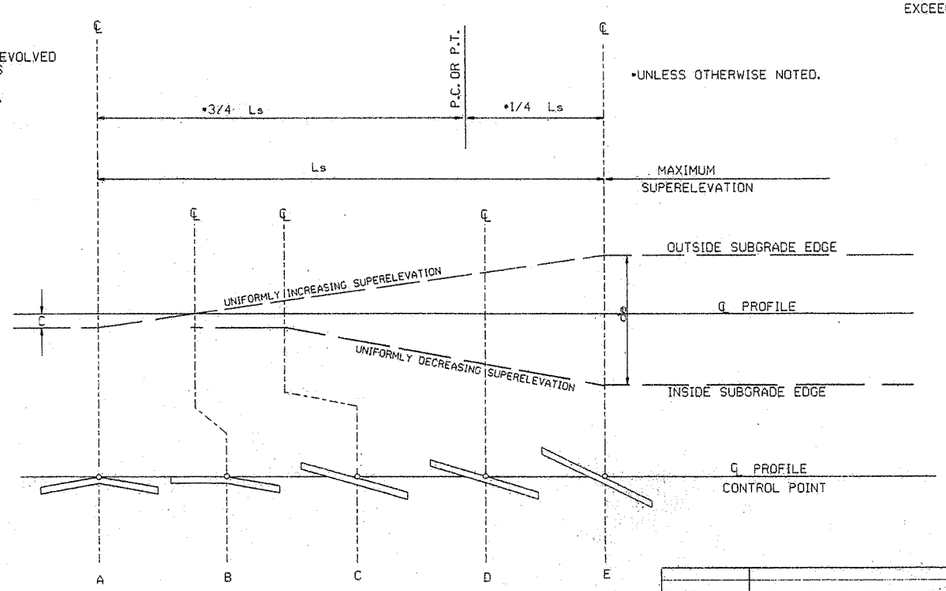
GENERAL NOTES

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

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

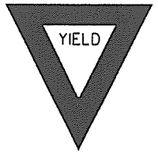
FILE STDSE2.DGN

R1-1



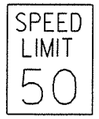
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

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"

W3-5



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1



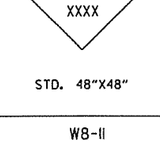
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2



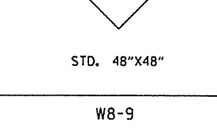
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



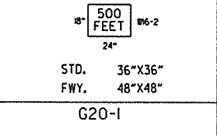
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



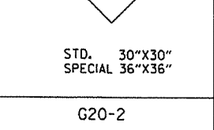
48"X30"

RII-3A



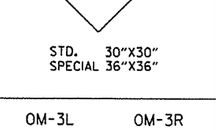
60"X30"

RII-4



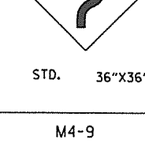
60"X30"

RSP-1



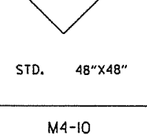
48"X30"

WI-1



STD. 36"X36"
FWY. 48"X48"

WI-2



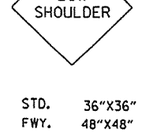
STD. 36"X36"
FWY. 48"X48"

WI-3



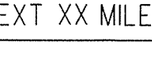
STD. 48"X48"

WI-4



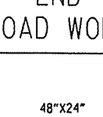
STD. 48"X48"

WI-6



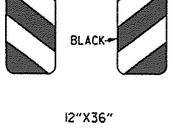
STD. 48"X24"
SPECIAL 60"X30"

WI-8



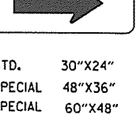
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



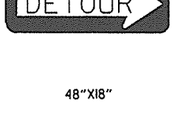
STD. 36"X36"
SPECIAL 48"X48"

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"

WI3-1



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



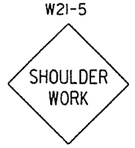
STD. 36"X36"
FWY. 48"X48"

W21-2



STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

WI-4b



STD. 48"X48"

R56-1



STD. 18"X18"

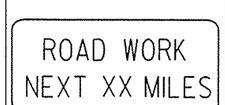
W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

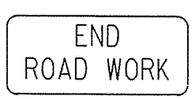
STD. 36"X36"
FWY. 48"X48"

G20-1



60"X24"

G20-2

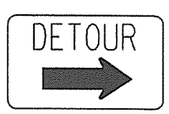


48"X24"

OM-3L OM-3R

12"X36"

M4-9



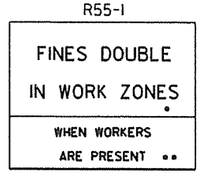
STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

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 REFAIRED 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.

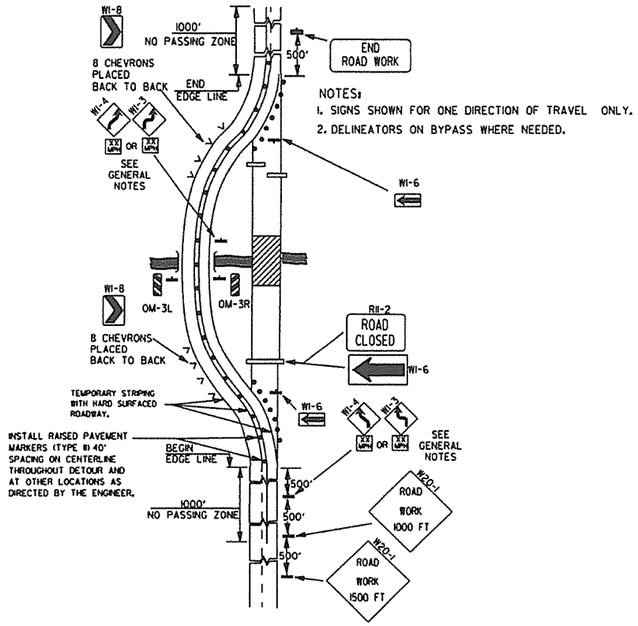
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
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

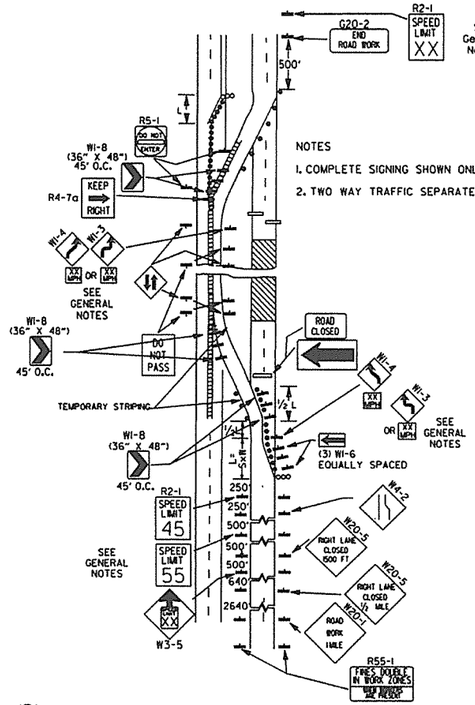
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



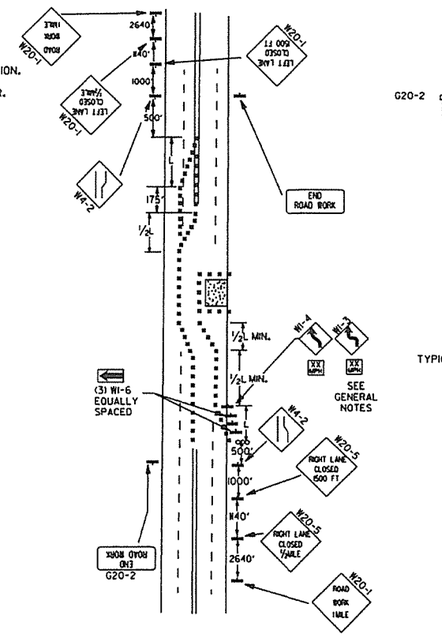
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

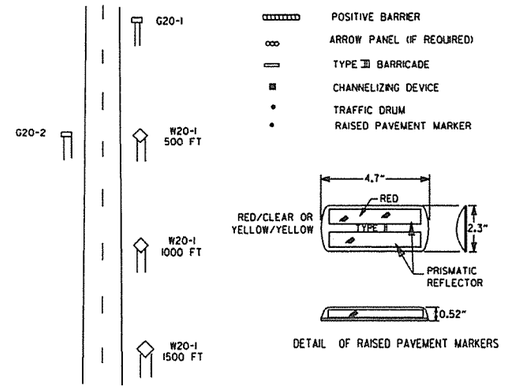


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(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.



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

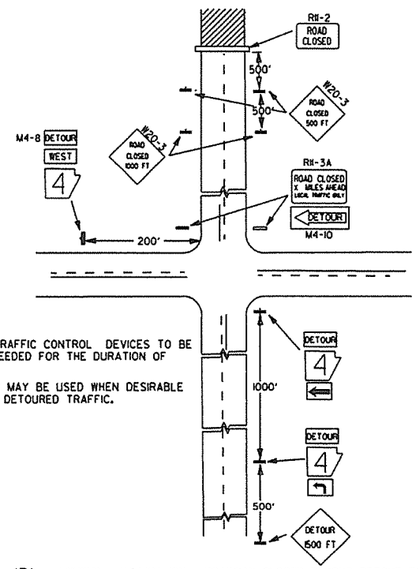
L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ 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.

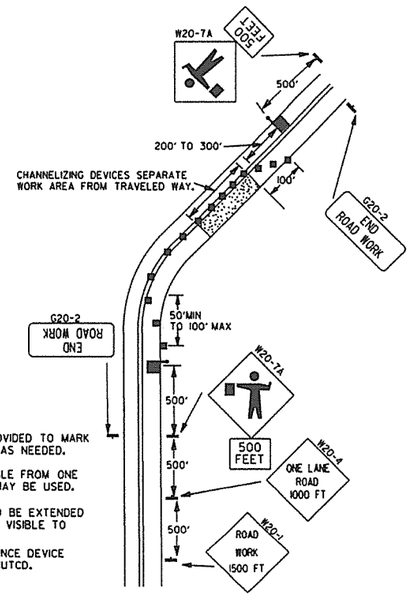
GENERAL NOTES:

1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.



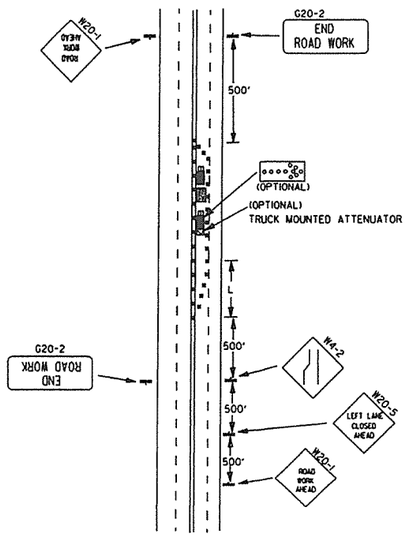
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(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.



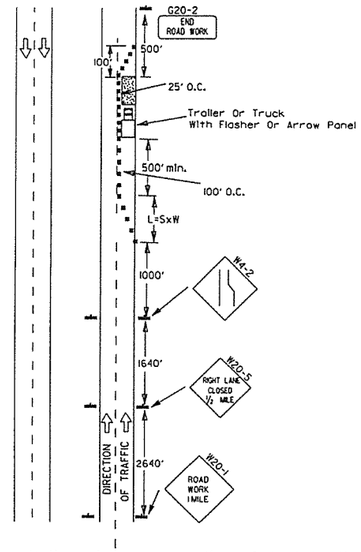
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	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 W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

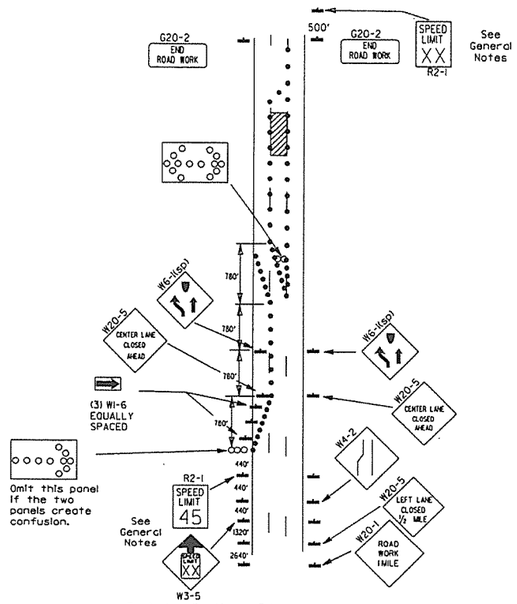
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

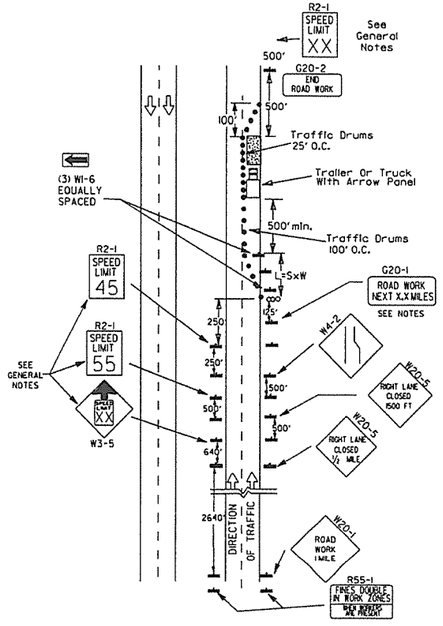
STANDARD DRAWING TC-2



(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 operatipns of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

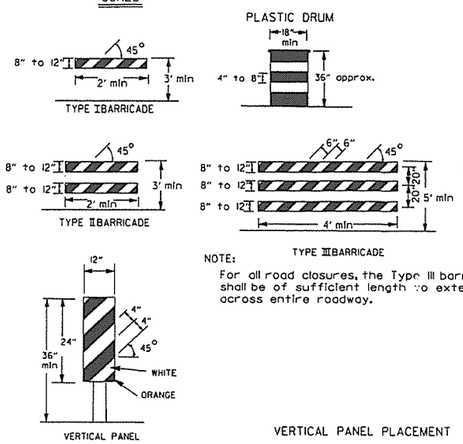
KEY:

- ooo Arrow Panel (If Required)
- ■ Channelizing Device
- ● Traffic drum

GENERAL NOTES:

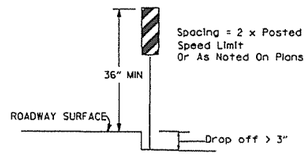
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional 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. 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



NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

VERTICAL PANEL PLACEMENT



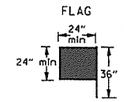
TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

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.

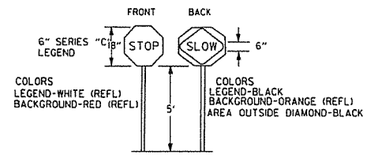
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

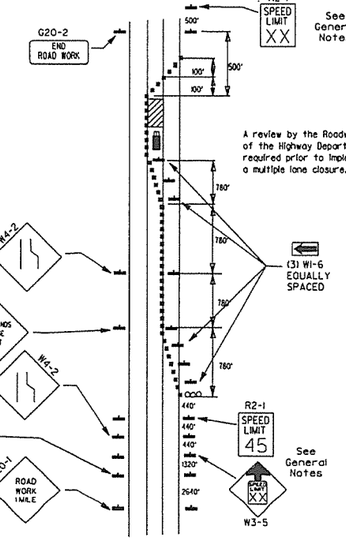
FLAG



Flag shall be of good grade red material

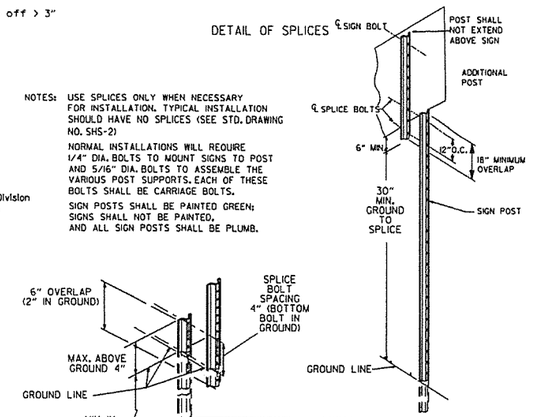
STOP SLOW PADDLE





(D) Typical application - closing multiple lanes of a multilane highway.

DETAIL OF SPLICES



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.

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (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	

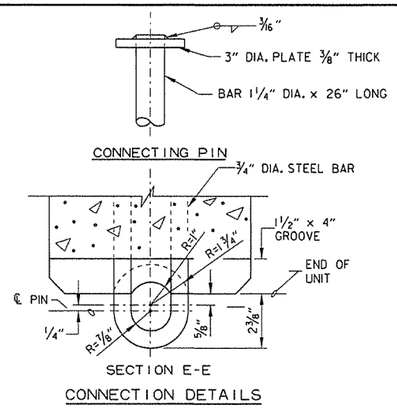
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

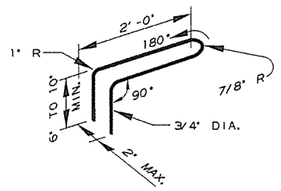
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

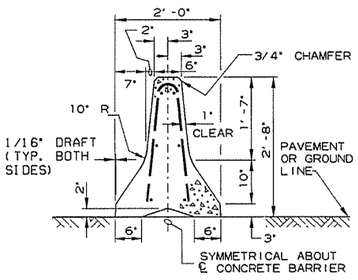
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2. TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1" MIN. CLEAR TO BAR, 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP, 1'-6"
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 1 1/2", 9", 4 3/8", 2'-1 3/8"



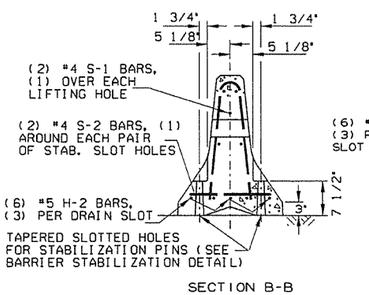
CONNECTION DETAILS



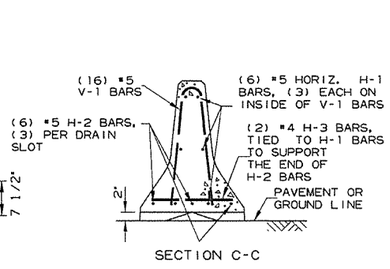
CONNECT ION LOOP



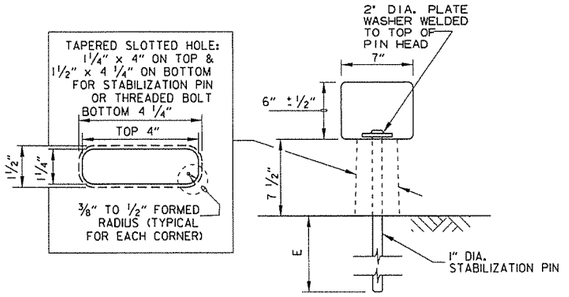
SECTION A-A



SECTION B-B



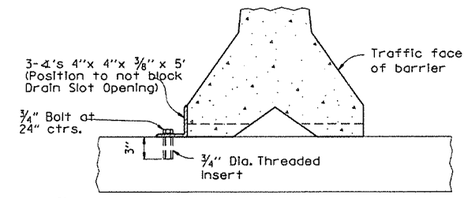
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

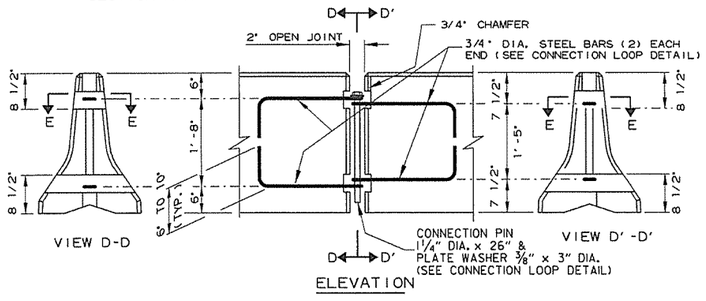
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



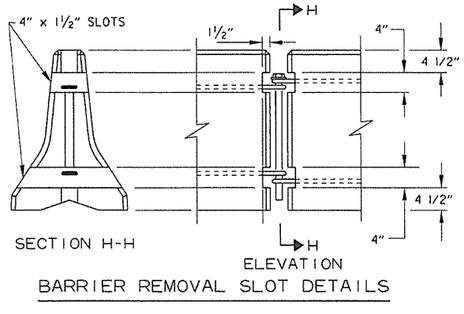
NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the Inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

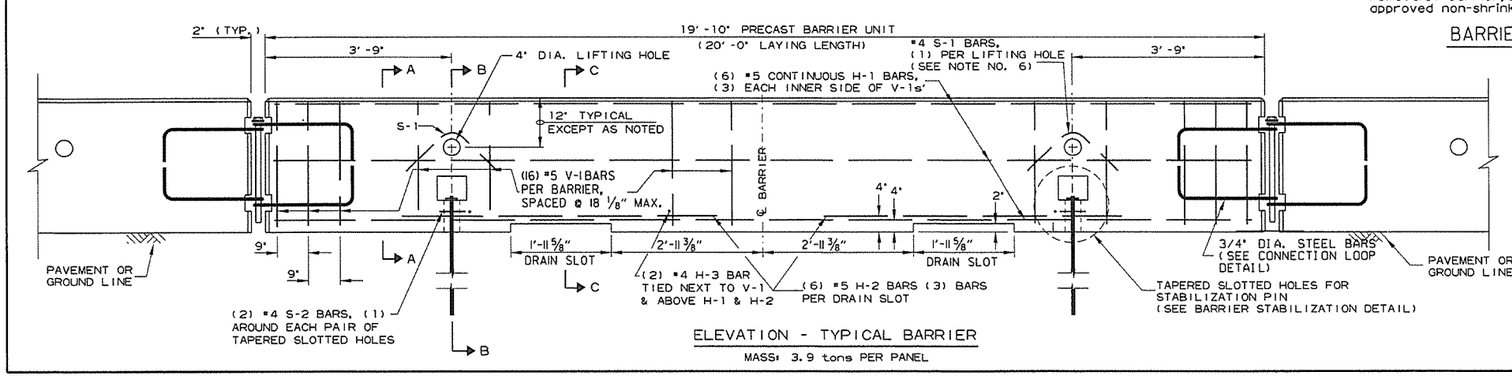
BRIDGE DECKS



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.

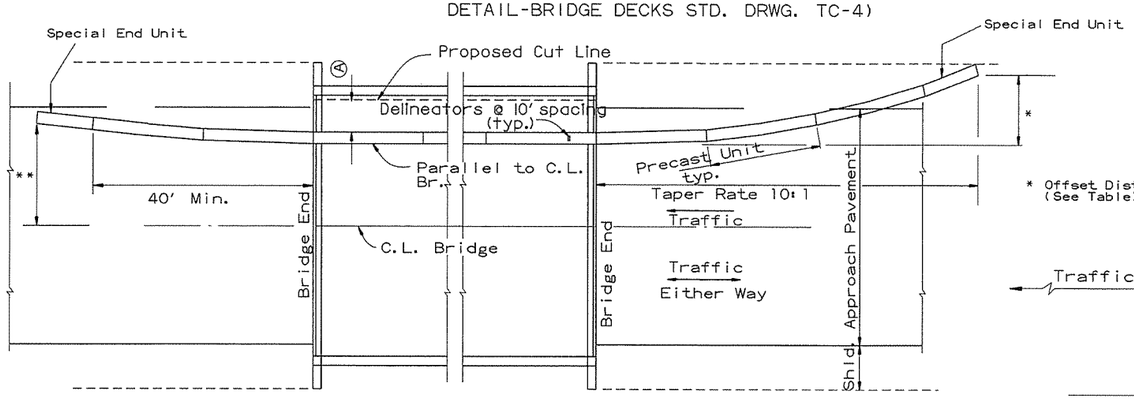
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

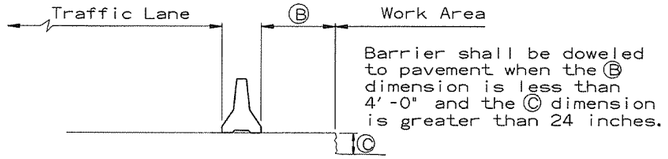
STANDARD DRAWING TC-4

Ⓐ 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

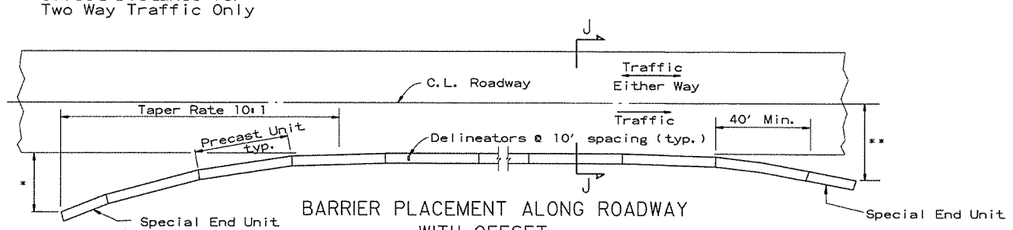


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

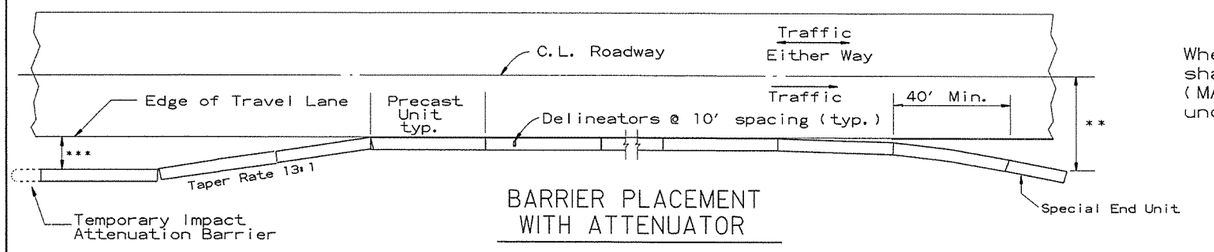
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

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.

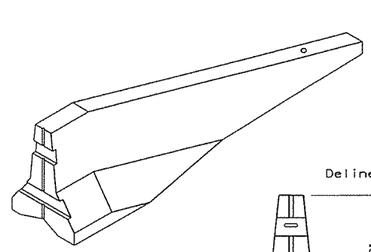


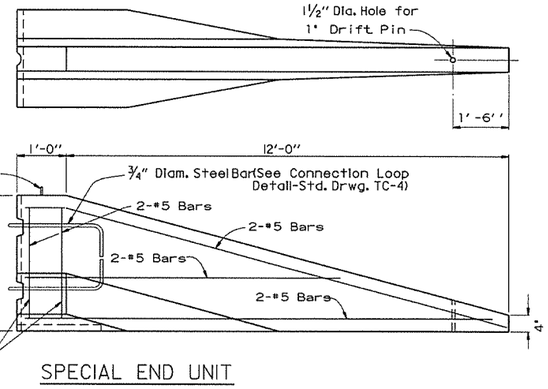
BARRIER PLACEMENT WITH ATTENUATOR

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	

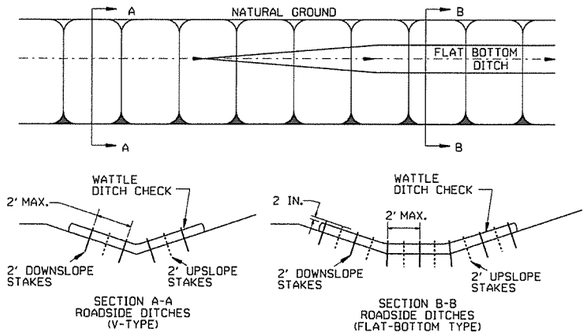
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

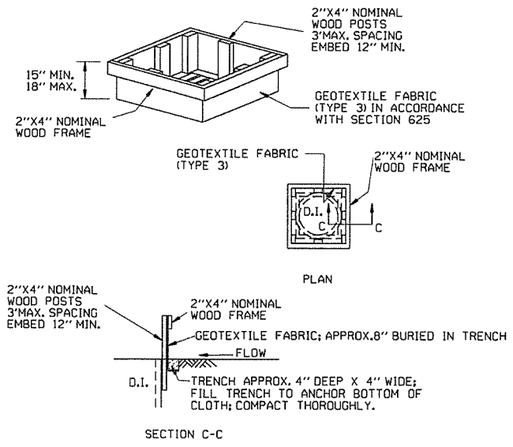
STANDARD DRAWING TC-5

GENERAL NOTES

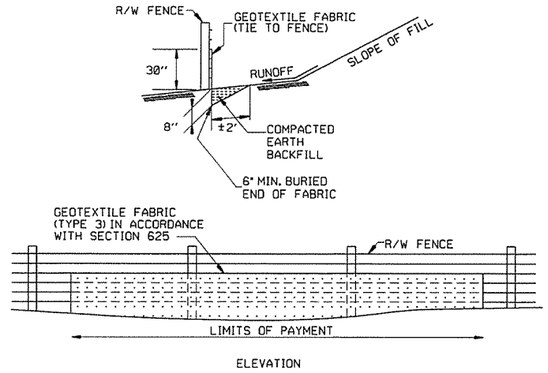
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

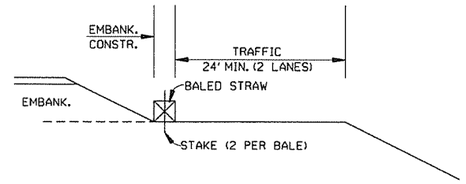
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

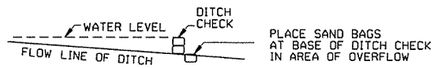
2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

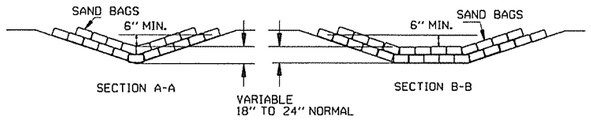


BALED STRAW FILTER BARRIER (E-2)

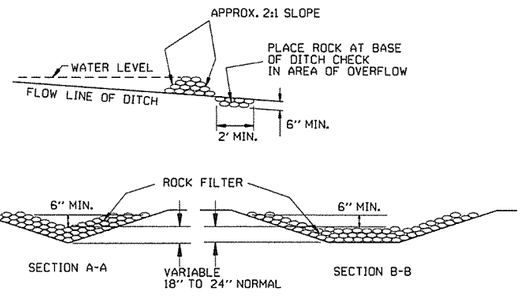
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.



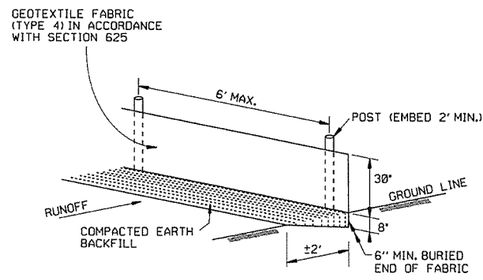
PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

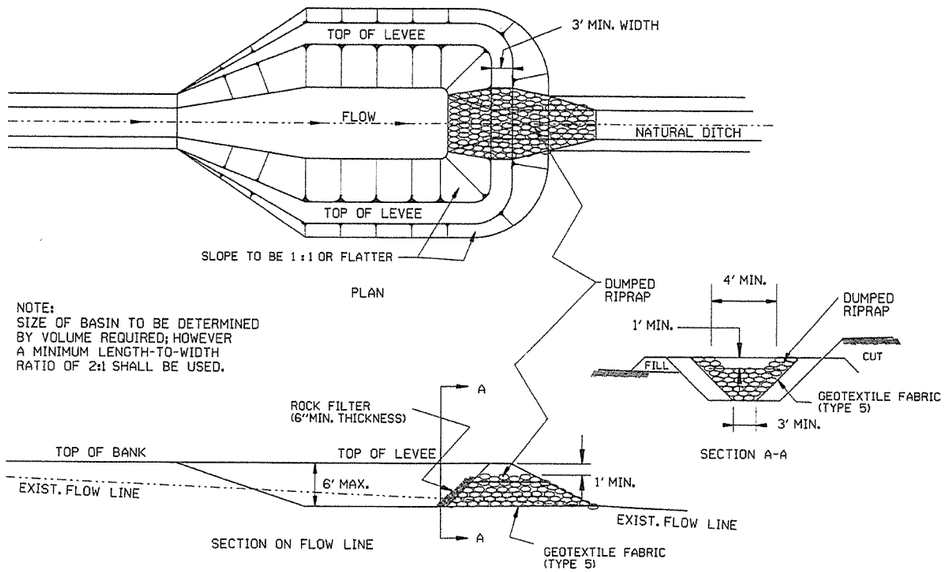
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

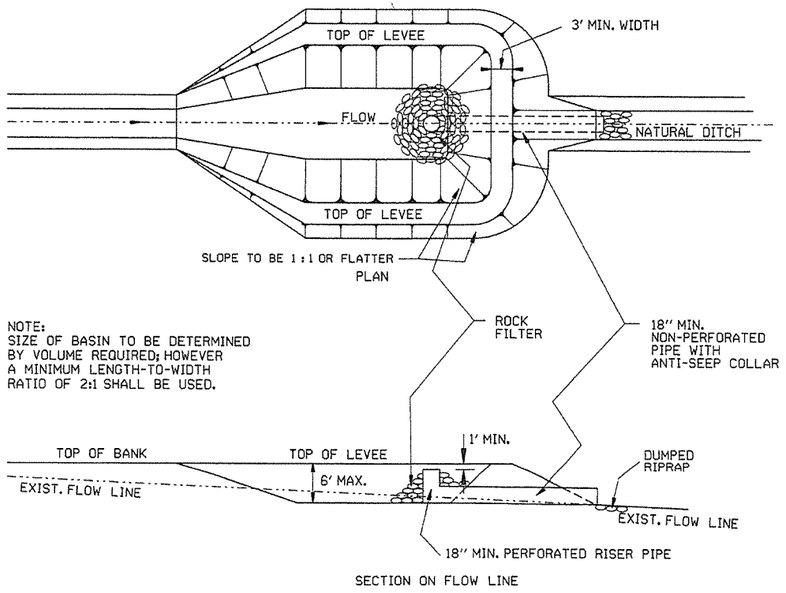
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

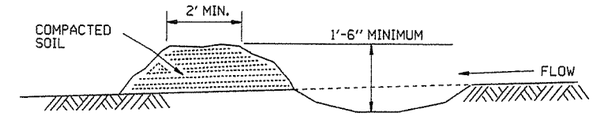
STANDARD DRAWING TEC-1



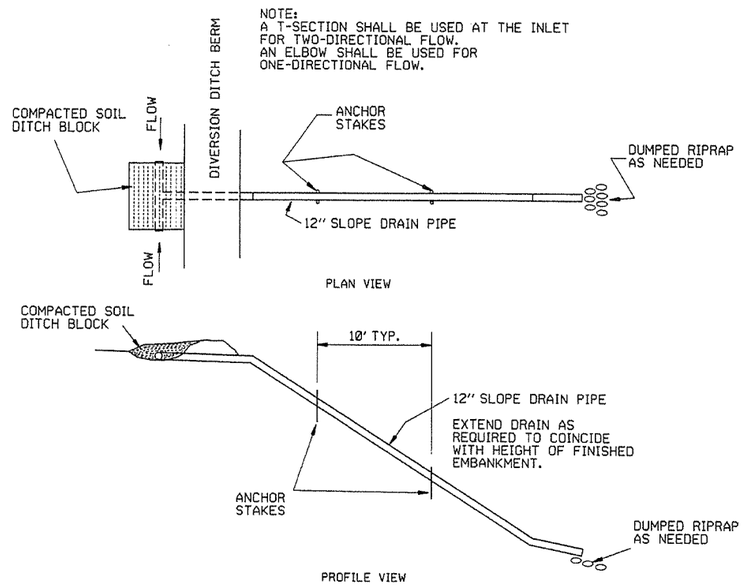
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



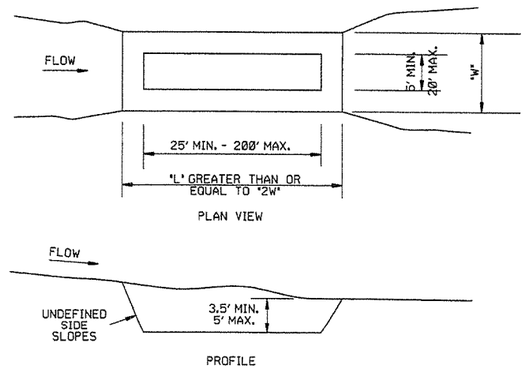
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



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

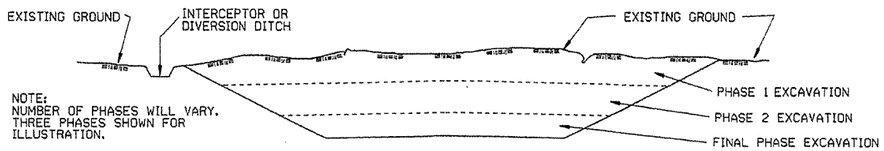
STANDARD DRAWING TEC-2

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



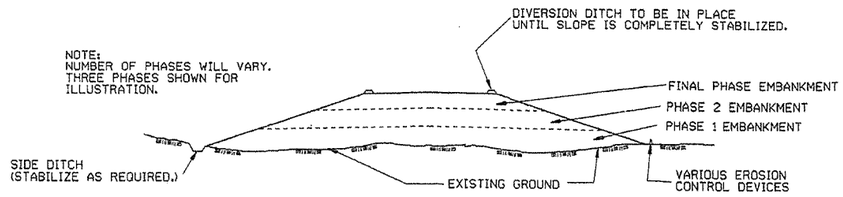
GENERAL NOTE

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.

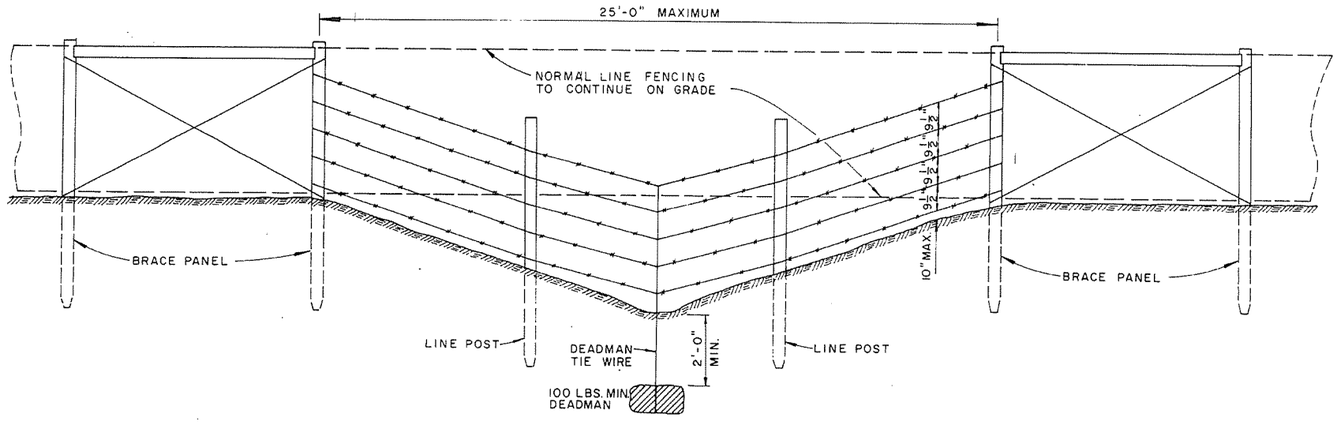
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

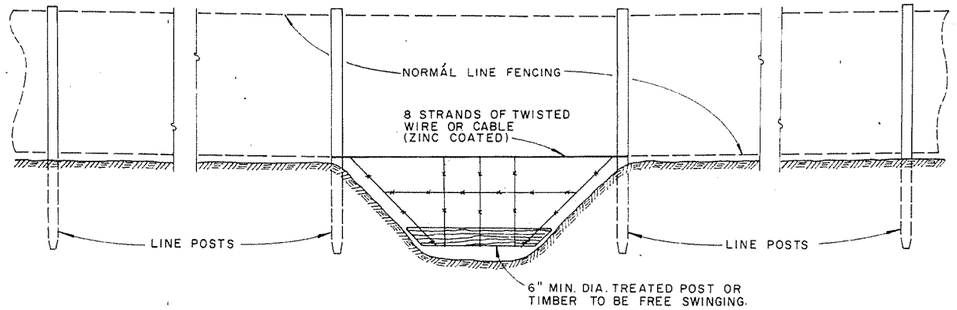
ARKANSAS STATE HIGHWAY COMMISSION

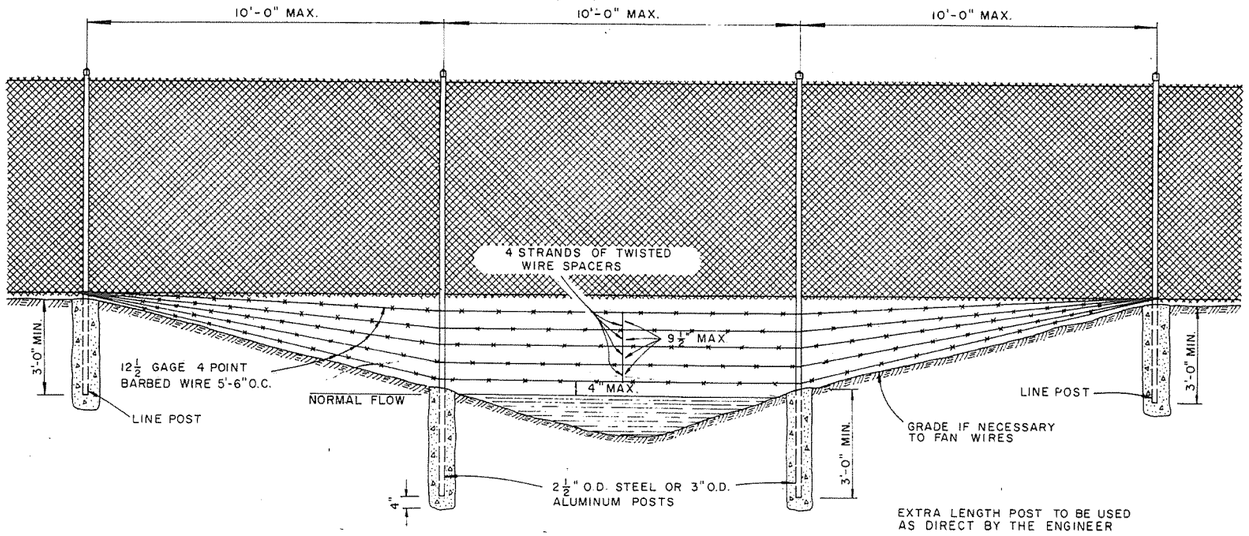
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

stdtec3.dgn







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	676-4-20-79
10-2-72	REVISED & REDRAWN	529-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

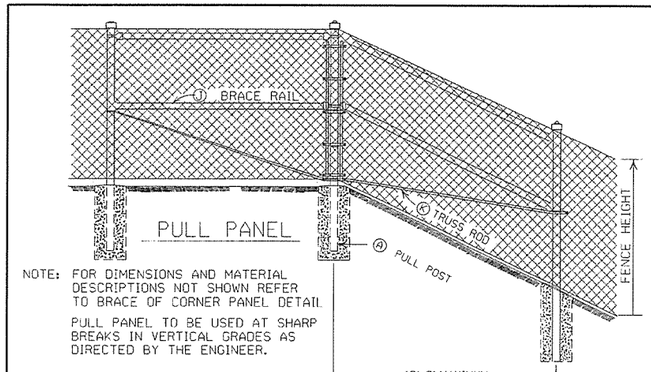
WIRE FENCE WATER GAPS

STANDARD DRAWING

WF-2

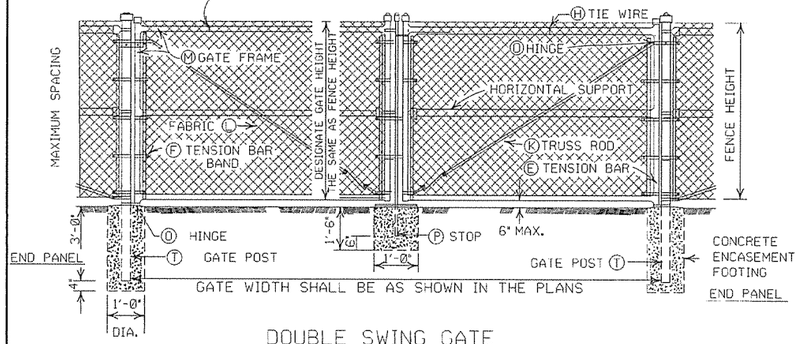
73

(M—11-71—4700)—PPASCo



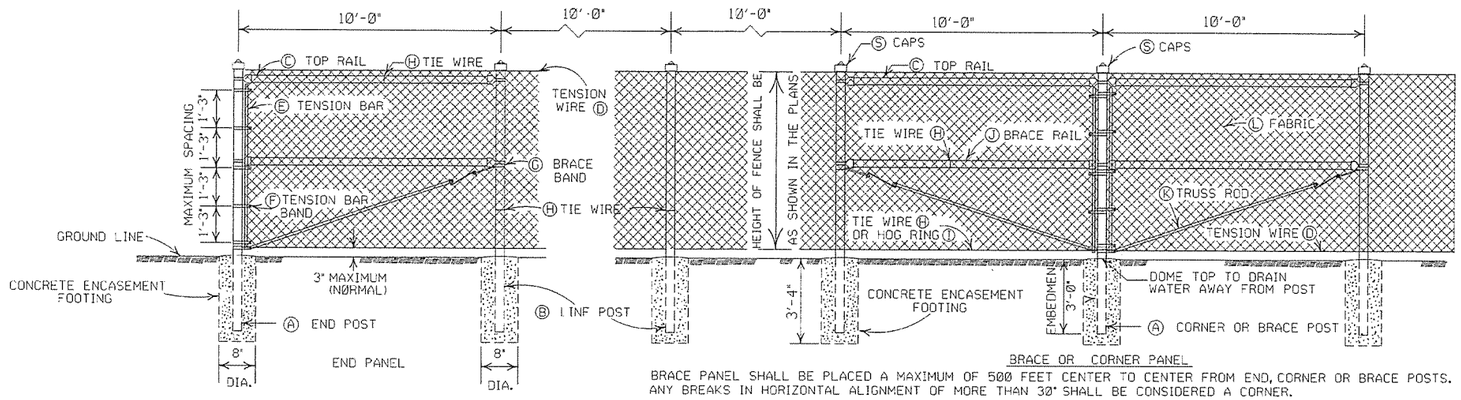
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL.

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.



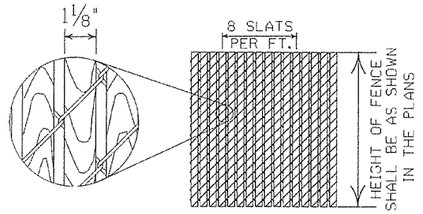
DOUBLE SWING GATE

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.

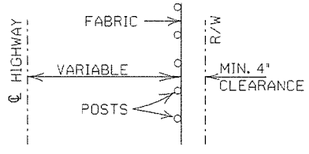
HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST	(B) LINE POSTS SIZE	(B) LINE POSTS TIE SPACING	(C) TOP RAIL SIZE	(C) TOP RAIL TIE SPACING	(C) TOP RAIL MIN. LENGTH	(D) TENSION WIRE SIZE	(D) TENSION WIRE TIE SPACING	(E) TENSION BAR SIZE	(E) TENSION BAR LENGTH	(F) TENSION BAR BAND SIZE	(F) TENSION 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 TYPE	(T) GATE POST GATE WIDTH GATE WIDTH OVER 12' AND LESS	(T) GATE POST 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.



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

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	0.122	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

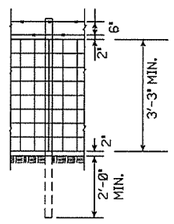
TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

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

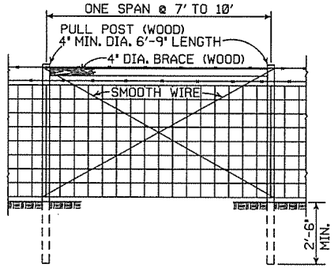
ARKANSAS STATE HIGHWAY COMMISSION

CHAIN LINK FENCE

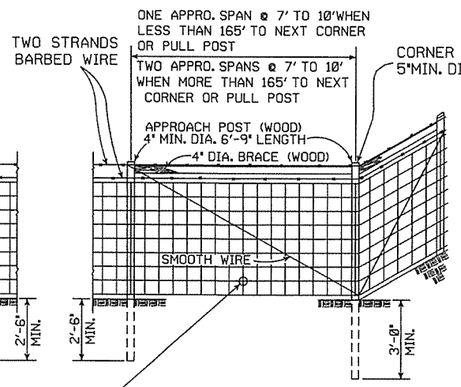
STANDARD DRAWING WF-3

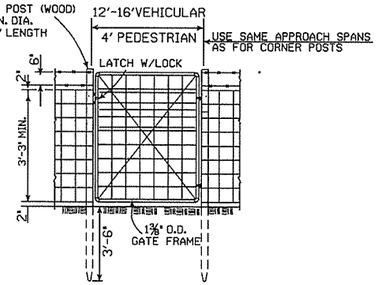


LINE POST
3" MIN. DIA. 6'-3" LENGTH
MAX. SPACING TO BE 10'-0"

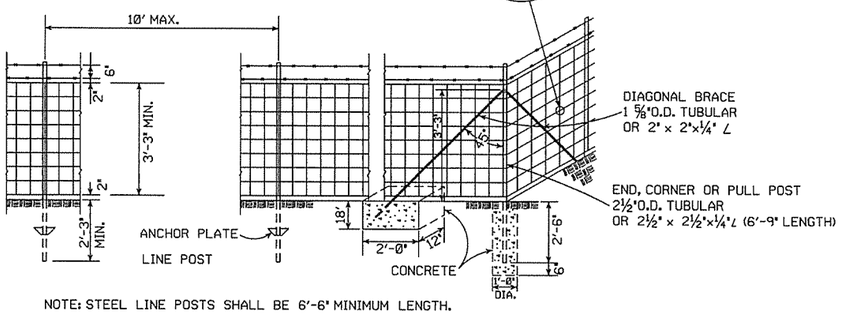


LINE BRACE ASSEMBLY
MAX. SPACING TO BE 330'

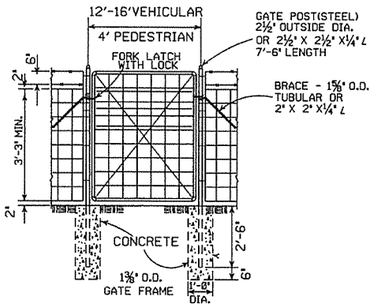


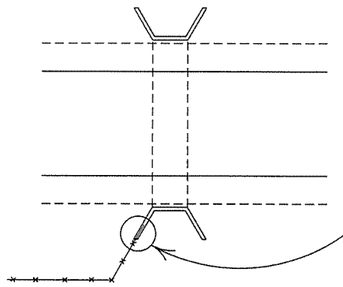


TYPE C FENCE (WOOD POSTS)

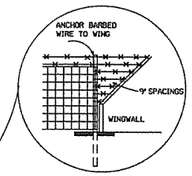


NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.





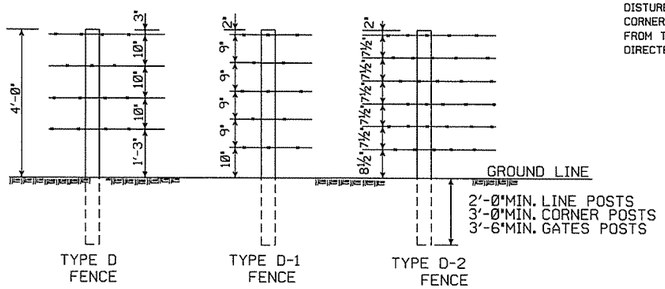
NOTE: USE ¾" X 1½" LAG BOLT & SHIELD OR AS APPROVED BY THE ENGINEER.



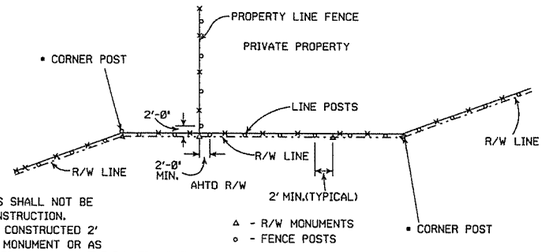
DETAIL OF FENCE CONSTRUCTION
AT LARGE CULVERTS
(5' IN HEIGHT AND OVER)

TYPE C FENCE (STEEL POSTS)

4 STRANDS BARBED WIRE (D)
5 STRANDS BARBED WIRE (D-1)
6 STRANDS BARBED WIRE (D-2)

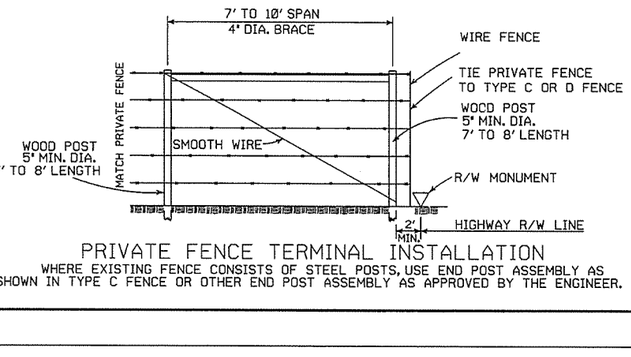


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



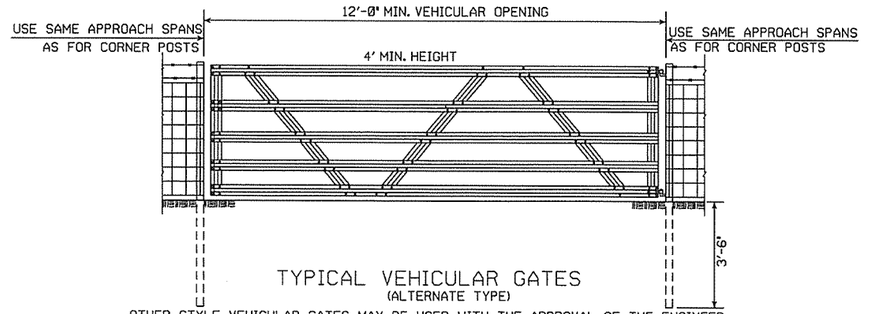
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

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.

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.

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	6-2-94
	ADDED CORNER POST NOTES	
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

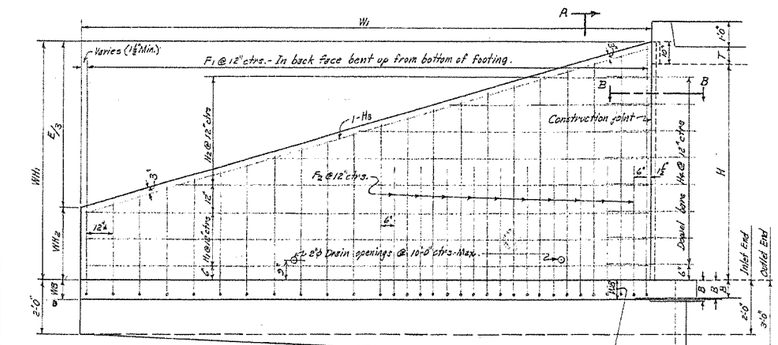
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

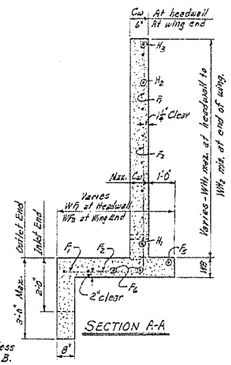
STANDARD DRAWING WF-4

FED. ROAD PROJ. NO. | STATE PROJECT NO. | FED. AID PROJECT NO. | SHEET NO. 193 | TOTAL SHEETS NO.

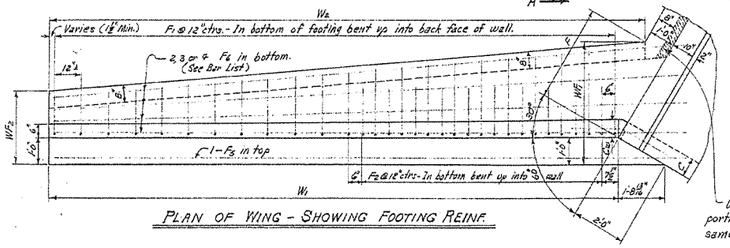
JOB NO.



REAR ELEVATION OF WING - SHOWING BACK FACE REINF.

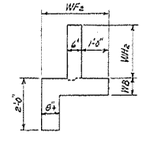


SECTION A-A

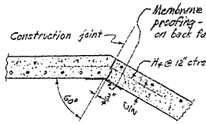


PLAN OF WING - SHOWING FOOTING REINF.

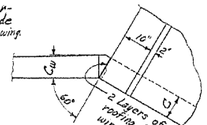
When B is more than W2, the shaded portion of the apron shall be made the same thickness as the barrel base B.



END VIEW OF WING



SECTION B-B THRU CONSTRUCTION JOINT



DETAIL AT TOP OF WING

Note:- Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.

WING DIMENSIONS

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADWALL = C	WINGWALL HEIGHTS AT HEADWALL	WINGWALL HEIGHTS AT END OF WING	WIDTHS OF WING FOOTINGS AT HEADWALL	WIDTHS OF WING FOOTINGS AT END OF WING	PERPENDICULAR FOOTING DIMENSION	PERPENDICULAR FOOTING DIMENSION FROM HDWL TO END OF WING	LENGTH OF WING WALLS	INSIDE FOOTING DIMENSION	* QUANTITY PER WING CLASS S CONCRETE: INLET END	* QUANTITY PER WING CLASS S CONCRETE: OUTLET END
H	WB	C_W	WH_1	WH_2	W_{F1}	W_{F2}	F	E	W_1	W_2	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-9"	2'-0"	0'-11⅝"	6'-6"	7'-6"	7'-1⅝"	0.889	0.996
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1½"	1'-3⅞"	8'-6"	9'-3⅝"	9'-2⅝"	1.338	1.466
4'	7"	6"	4'-10"	1'-4"	3'-0"	2'-3"	1'-9"	10'-6"	12'-1⅝"	12'-1⅛"	1.866	2.027
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-6⅝"	2'-1⅝"	12'-6"	14'-7⅝"	14'-7⅛"	2.478	2.668
		7"	5'-10"	1'-8"	3'-4"	2'-6⅝"	2'-1⅝"	12'-6"	14'-5⅝"	14'-4⅞"	2.582	2.772
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6⅛"	14'-6"	16'-9"	17'-1⅝"	3.440	3.661
		7½"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6⅛"	14'-6"	16'-9"	17'-1⅛"	3.511	3.732
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-6⅛"	14'-6"	16'-9"	17'-1⅛"	3.582	3.803
7'	8½"	7½"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1⅛"	16'-6"	19'-0⅝"	19'-0⅝"	4.505	4.758
		8"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1⅛"	16'-6"	19'-0⅝"	19'-0⅝"	4.597	4.851
8'	9"	8"	8'-10"	2'-8"	4'-8"	2'9"	3'-8"	18'-6"	21'-0⅝"	22'-4"	5.761	6.049

* Quantity per wing does not include headwall or that portion of apron or footwall for the length W_3.

APRON DIMENSION W_3

$W_3 = (OW - 2F)$

CLEAR SPAN	CLEAR HEIGHT	FOOTING DIMENSION	SINGLE BARREL CULVERT		DOUBLE BARREL CULVERT		TRIPLE BARREL CULVERT		QUADRUPLE BARREL CULVERT		QUINTUPLE BARREL CULVERT	
S	H	2 F	OW	W_3	OW	W_3	OW	W_3	OW	W_3	OW	W_3
4'	2'	1'-11⅝"	5'-0"	3'-0⅛"	9'-8"	7'-0⅝"	14'-4"	12'-0⅝"	19'-0"	17'-0⅝"	23'-8"	21'-8⅝"
	3'	2'-8⅝"	5'-0"	2'-3⅜"	9'-8"	6'-11⅛"	14'-4"	11'-7⅝"	19'-0"	16'-3¾"	23'-8"	20'-11⅝"
	4'	3'-6"	5'-0"	1'-6"	9'-8"	6'-2"	14'-4"	10'-10"	19'-0"	15'-6"	23'-8"	20'-2"
	5'	4'-3⅜"	5'-0"	0'-8⅝"	9'-8"	5'-4⅜"	14'-4"	10'-0⅝"	19'-0"	14'-8⅝"	23'-8"	19'-8⅜"
	6'	5'-0⅛"	5'-2"	0'-1½"	9'-11"	4'-10⅝"	14'-8"	9'-7½"	19'-5"	14'-0⅝"	24'-2"	19'-1⅝"
5'	3'	2'-8⅝"	6'-0"	3'-3⅜"	11'-8"	8'-11⅝"	17'-4"	14'-7⅝"	23'-0"	20'-3⅛"	28'-8"	25'-8⅝"
	4'	3'-6"	6'-0"	2'-6"	11'-8"	8'-2"	17'-4"	13'-10"	23'-0"	19'-6"	28'-8"	25'-2"
	5'	4'-3⅜"	6'-0"	1'-8⅝"	11'-8"	7'-4⅜"	17'-4"	13'-0⅝"	23'-0"	18'-8⅜"	28'-8"	24'-8⅝"
	6'	5'-0⅛"	6'2"	1'-1½"	11'-11"	6'-10⅝"	17'8"	12'-7½"	23'-5"	18'-0⅝"	29'-2"	24'-1⅝"
	7'	6'-2⅝"	6'-3"	0'-0⅝"	12'-1"	5'-10⅝"	17'-11"	11'-8½"	23'-9"	17'-1⅝"	29'-7"	23'-1⅝"
6'	3'	2'-8⅝"	7'-0"	4'-3⅜"	13'-8"	10'-11⅛"	20'-4"	17'-7⅝"	27'-0"	24'-3⅛"	33'-8"	30'-11⅝"
	4'	3'-6"	7'-0"	3'-6"	13'-8"	10'-2"	20'-4"	16'-10"	27'-0"	23'-6"	33'-8"	30'-2"
	5'	4'-3⅜"	7'-0"	2'-8⅝"	13'-8"	9'-4⅜"	20'-4"	16'-0⅝"	27'-0"	22'-8⅜"	33'-8"	29'-8⅝"
	6'	5'-0⅛"	7'-2"	2'-1½"	13'-11"	8'-10⅝"	20'-8"	15'-7½"	27'-5"	22'-0⅝"	34'-2"	29'-1⅝"
	7'	6'-2⅝"	7'-3"	1'-0⅝"	14'-1"	7'-10⅝"	20'-11"	14'-8½"	27'-9"	21'-1⅝"	34'-7"	28'-1⅝"
	8"	7'-4"	7'-6"	0'-0"	14'-2"	6'-10"	21'-0"	13'-8"	27'-10"	20'-0"	34'-8"	27'-10"
7'	4'	3'-6"	8'-0"	4'-0"	15'-8"	12'-0"	23'-4"	19'-10"	31'-0"	27'-6"	38'-8"	35'-2"
	5'	4'-3⅜"	8'-0"	3'-8⅝"	15'-8"	11'-4⅜"	23'-4"	19'-0⅝"	31'-0"	26'-8⅜"	38'-8"	34'-8⅝"
	6'	5'-0⅛"	8'-2"	3'-1½"	15'-11"	10'-10⅝"	23'-8"	18'-7½"	31'-5"	26'-0⅝"	39'-2"	34'-1⅝"
	7'	6'-2⅝"	8'-3"	2'-0⅝"	16'-1"	9'-10⅝"	23'-11"	17'-8½"	31'-9"	25'-1⅝"	39'-7"	33'-1⅝"
	8"	7'-4"	8'-4"	1'-0"	16'-2"	8'-10"	24'-0"	16'-8"	31'-10"	24'-0"	39'-8"	32'-4"
8'	4'	3'-6"	9'-0"	5'-0"	17'-8"	14'-2"	26'-4"	22'-10"	35'-0"	31'-6"	43'-8"	40'-2"
	5'	4'-3⅜"	9'-2"	4'-10⅜"	17'-11"	13'-7⅜"	26'-8"	22'-0⅜"	35'-5"	31'-1⅜"	44'-2"	39'-10⅜"
	6'	5'-0⅛"	9'-2"	4'-1½"	17'-11"	12'-10⅝"	26'-8"	21'-0⅝"	35'-5"	30'-0⅝"	44'-2"	39'-1⅝"
	7'	6'-2⅝"	9'-3"	3'-0⅝"	18'1"	11'-10⅝"	26'-11"	20'-8½"	35'-9"	29'-1⅝"	44'-7"	38'-1⅝"
	8"	7'-4"	9'-4"	2'-0"	18'-2"	10'-10"	27'-0"	19'-8"	35'-10"	28'-0"	44'-8"	37'-0"
9'	5'	4'-3⅜"	10'-2"	5'-10⅜"	19'-11"	15'-7⅜"	29'-8"	25'-0⅜"	39'-5"	35'-1⅜"	49'-2"	44'-10⅜"
	6'	5'-0⅛"	10'-3"	5'-1½"	20'1"	15'-0⅝"	29'-11"	24'-0⅝"	39'-9"	34'-0⅝"	49'-7"	44'-1⅝"
	7'	6'-2⅝"	10'-3"	4'-0⅝"	20'1"	14'-0⅝"	29'-11"	23'-0⅝"	39'-5"	33'-1⅝"	49'-7"	43'-1⅝"
	8"	7'-4"	10'-4"	3'-0"	20'-2"	13'-0"	30'-0"	22'-0"	39'-10"	32'-0"	49'-8"	42'-0"
10'	5'	4'-3⅜"	11'-2"	6'-10⅜"	21'-11"	17'-7⅜"	32'-8"	28'-4⅜"	43'-5"	39'-1⅜"	54'-2"	49'-10⅜"
	6'	5'-0⅛"	11'-3"	6'-2½"	22'-1"	17'-0⅝"	32'-11"	27'-10½"	43'-9"	38'-0⅝"	54'-7"	49'-1⅝"
	7'	6'-2⅝"	11'-3"	5'-0⅝"	22'-1"	15'-10⅝"	32'-11"	26'-0⅝"	43'-9"	37'-1⅝"	54'-7"	48'-1⅝"
	8"	7'-4"	11'-4"	4'-0"	22'-2"	14'-10"	33'-0"	25'-0"	43'-10"	36'-0"	54'-8"	47'-0"
11'	6'	5'-0⅛"	12'-4"	7'-3⅜"	24'-2"	19'-1⅛"	36'-0"	30'-11⅜"	47'-10"	42'-9⅛"		
	7'	6'-2⅝"	12'-4"	6'-1⅝"	24'-2"	17'-11⅝"	36'-0"	29'-9⅝"	47'-10"	41'-7⅛"		
	8"	7'-4"	12'-5"	5'-0"	24'-3"	16'-10"	36'-0"	28'-8"	47'-11"	40'-6"		
12'	6'	5'-0⅛"	13'-4"	8'-3⅜"	26'-2"	21'-1⅛"	39'-0"	33'-11⅜"	51'-10"	46'-9⅛"		
	7'	6'-2⅝"	13'-4"	7'-1⅝"	26'-2"	19'-11⅝"	39'-0"	32'-9⅝"	51'-10"	45'-7⅛"		
	8'	7'-4"	13'-4"	6'-0"	26'-2"	18'-10"	39'-0"	31'-8"	51'-10"	44'-6"		

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING FOOTING	REINFORCING STEEL - FOR 4 WINGS ⊗	CLASS S CONCRETE - 4 WINGS: HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS				
					SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	C_W	WB	LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
4'	2'	6"	7"	108.0	4.50	5.46	6.42	7.38	8.34
	3'	6"	7"	169.9	6.26	7.21	8.17	9.13	10.09
	4'	6"	7"	255.6	8.33	9.28	10.24	11.20	12.16
	5'	6"	7"	357.8	10.72	11.68	12.64	13.60	14.56
	6'	7"	8"	583.1	14.55	15.53	16.52	17.51	18.49
5'	3'	6"	7"	164.9	6.97	7.63	8.29	9.96	11.12
	4'	6"	7"	254.6	8.54	9.70	10.87	10.03	18.20
	5'	6"	7"	357.8	10.94	12.10	13.26	14.43	15.59
	6'	7"	8"	583.1	14.77	15.96	17.15	18.34	19.54
	7'	7½	8½	1136.6	18.94	20.15	21.37	22.59	23.80
6'	3'	6"	7"	164.9	6.68	8.06	9.42	10.80	12.18
	4'	6"	7"	254.6	8.75	10.14	11.49	12.87	14.25
	5'	6"	7"	357.8	11.15	12.53	13.89	15.27	16.65
	6'	7"	8"	583.1	14.98	16.39	17.78	19.18	20.59
	7'	7½	8½	1136.6	19.15	20.58	22.00	23.43	24.86
	8'	8"	9"	1925.6	24.09	25.53	26.96	28.39	29.83
7'	4'	6"	7"	254.6	8.97	10.58	12.15	13.76	15.36
	5'	6"	7"	357.8	11.36	12.97	14.58	16.15	17.75
	6'	7"	8"	583.1	15.20	16.82	18.42	20.04	21.66
	7'	7½	8½	1136.6	19.38	21.02	22.69	24.28	25.92
	8'	8"	9"	1925.6	24.32	25.97	27.60	29.25	30.89
8'	4'	6"	7"	254.6	9.19	11.03	12.82	14.65	16.45
	5'	7"	7"	357.8	12.03	13.89	15.70	17.55	19.34
	6'	7"	8"	583.1	15.92	17.27	19.09	20.93	22.75
	7'	7½	8½	1136.6	19.59	21.46	23.30	25.16	26.93
	8'	8"	9"	1925.6	24.54	26.41	28.24	30.11	31.96
9'	5'	7"	7"	357.8	12.26	14.39	16.87	18.95	20.97
	6'	7½	8"	583.1	15.94	18.04	20.09	22.19	24.23
	7'	7½	8½	1136.6	19.81	21.91	23.96	26.06	28.10
	8'	8"	9"	1925.6	24.76	26.86	28.91	31.00	33.05
10'	5'	7"	7"	357.8	12.49	14.80	17.05	19.26	21.52
	6'	7½	8"	583.1	16.17	18.50	20.77	22.99	25.28
	7'	7½	8½	1136.6	20.09	22.37	24.64	26.87	29.15
	8'	8"	9"	1925.6	24.98	27.31	29.58	31.81	34.10
11'	6'	8"	8"	583.1	16.69	19.27	21.76	24.33	
	7'	8"	8½	1136.6	20.64	23.22	25.71	28.18	
	8'	8"	9"	1925.6	25.19	27.77	30.27	32.74	
12'	6'	8"	8"	583.1	16.92	19.75	22.95	25.18	
	7'	8"	8½	1136.6	20.87	23.69	26.50	29.13	
	8'	8"	9"	1925.6	25.42	28.25	30.96	33.69	

⊗ For reinforcing steel in Headwalls and Aprons, See Details of Standard Barrel Sections for R.C. Box Culverts for the desired Span and Height.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾ chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

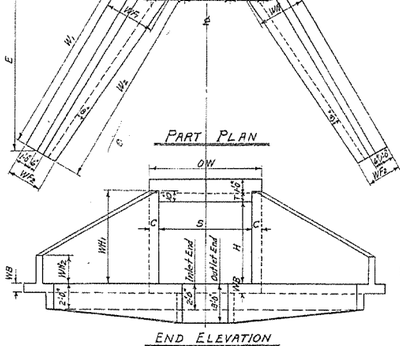
UNIT STRESSES:-

Class S Concrete (n=10) 1200#/□"
Reinforcing Steel 20,000#/□"

NOTE:- This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos. as listed below.

SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-100X-0	R-200X-0	R-300X-0	R-400X-0	R-500X-0
R-100X-X1	R-200X-X1	R-300X-X1	R-400X-X1	R-500X-X1
R-100X-X2	R-200X-X2	R-300X-X2	R-400X-X2	
	R-200X-X3	R-300X-X3		

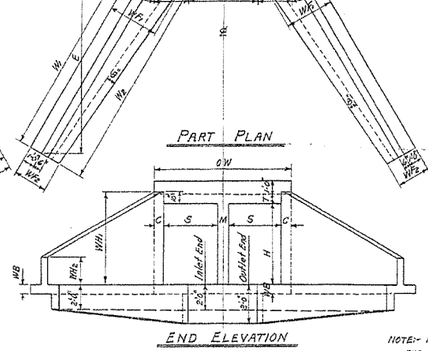
CLASS S CONCRETE



PART PLAN

END ELEVATION

SINGLE BARREL CULVERT

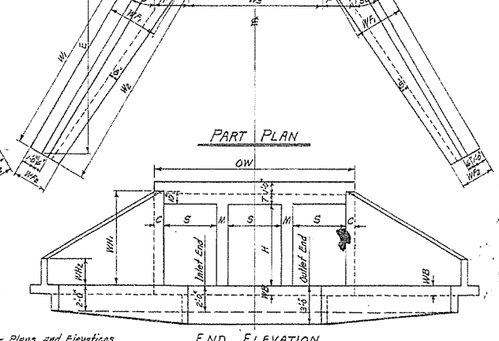


PART PLAN

END ELEVATION

DOUBLE BARREL CULVERT

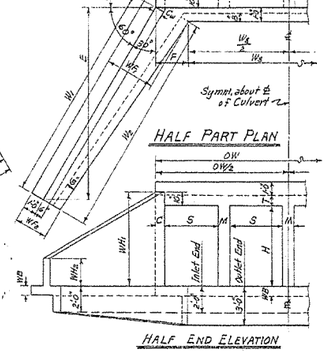
NOTE:- Plans and Elevations are not to scale.



PART PLAN

END ELEVATION

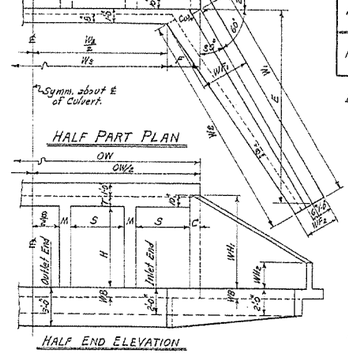
TRIPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION

QUADRUPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION

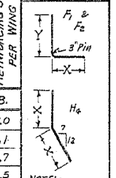
QUINTUPLE BARREL CULVERT

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three mopings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints in wings.

BAR LIST FOR ONE WING - 4 REQUIRED

CLEAR HEIGHT	F_1 Bent: In bottom of footing, bent up into back face of wing. One bar of each length.						F_2 Bent: In bottom of footing, bent up into back face of wing. Alt. with F_1 bars.						F_3 Straight: Longitudinal in top of wing footing heel.			F_4 Straight: Longitudinal in bottom of wing footing toe.			H_1 Straight: Horizontal in back face of wing.			H_2 Straight: Horizontal in back face of wing. One bar of each length.				H_3 Straight: In back face of wing at top-on slope.			H_4 Bent: Dowels thru construction joint at headwall.				QUANTITY REINFORCING STEEL PER WING
	Size	Spacing	No. Reqd	Lengths Vary Min.	Lengths Vary Max.	X Min.	X Max.	Y Min.	Y Max.	Size	Spacing	No. Reqd	Length	X	Y	Size	No. Reqd	Length	Size	No. Reqd	Length	Size	Spacing	No. Reqd	Length	Size	Spacing	No. Reqd	Lengths Vary Max.	Lengths Vary Min.	Size	No. Reqd	Length	Size	Spacing	No. Reqd	Length	
H																																					LB.
2'	#3	12"	8	1'-6"	3'-10"	0'-8"	1'-0"	0'-11"	2'-11"	—	—	—	—	—	—	#3	1	9'-8"	#3	2	6'-6"	#3	12"	1	7'-8"	#3	12"	1	—	4'-6"	#3	1	7'-6"	#3	12"	2	2'-8"	1'-9"	27.0
3'	#3	12"	10	2'-2"	5'-2"	0'-10"	1'-3"	1'-5"	3'-5"	—	—	—	—	—	—	#3	1	12'-0"	#3	2	11'-0"	#3	12"	1	9'-6"	#3	12"	2	7'-6"	4'-0"	#3	1	9'-3"	#3	12"	3	2'-8"	1'-9"	41.1
4'	#3	12"	13	2'-9"	6'-6"	0'-11"	1'-7"	1'-6"	5'-0"	—	—	—	—	—	—	#3	1	15'-9"	#3	3	13'-6"	#3	12"	1	11'-10"	#3	12"	3	10'-11"	4'-0"	#3	1	12'-2"	#3	12"	4	2'-8"	1'-9"	63.7
5'	#3	12"	15	2'-11"	7'-10"	1'-1"	1'-11"	1'-11"	6'-10"	#3	12"	4	3'-6"	1'-1"	2'-6"	#3	1	16'-8"	#3	3	16'-0"	#5	12"	2	14'-2"	#3	12"	3	10'-11"	4'-0"	#3	1	14'-7"	#3	12"	5	2'-8"	1'-9"	89.5
6'	#4	12"	17	3'-6"	9'-3"	1'-2"	2'-3"	2'-5"	7'-1"	#3	12"	4	4'-6"	1'-6"	3'-3"	#3	1	19'-0"	#3	3	18'-6"	#3	12"	2	16'-6"	#3	12"	4	14'-4"	4'-0"	#3	1	17'-0"	#3	12"	6	2'-8"	1'-9"	145.8
7'	#4	12"	20	3'-9"	10'-5"	1'-3"	2'-9"	2'-7"	8'-1"	#4	12"	7	5'-6"	1'-7"	4'-3"	#4	1	21'-4"	#4	4	21'-0"	#4	12"	2	18'-3"	#4	12"	5	17'-3"	4'-0"	#4	1	19'-5"	#4	12"	7	3'-6"	1'-9"	283.7
8'	#4	12"	22	4'-6"	12'-3"	1'-5"	3'-2"	3'-0"	9'-2"	#4	12"	10	6'-6"	1'-10"	4'-9"	#4	1	23'-8"	#4	4	23'-9"	#4	12"	3	21'-1"	#4	12"	5	17'-9"	4'-0"	#4	1	21'-10"	#4	12"	8	3'-6"	1'-9"	356.4

BAR BENDING DIAGRAMS



NOTE:- Dimensions are to bar centers.

REVISIONS:- Membrane added. 5-10-66 W.C.H.

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 SLOPES

SINGLES, DOUBLES, TRIPLES, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER FOR H= 8'-0" OR LESS

STANDARD DRAWING NO. W-X003-1

Designed By:- W.C.H. 6-20-62. Checked By:- RHS - 1-9-63
Drawn By:- W.C.H. 12-9-62. Checked By:- RHS - 1-31-63
Quantities By:- W.C.H. 12-17-62. Checked By:- RHS - 3-20-63
Rechecked By:-

MVL 58

RESHOT 3-4-93

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			194	
JOB No.					

BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	'a' bars STRAIGHT In Top and Bottom Slabs of Barrel. 2 Addl. in Apron and Headwall- Each. SIZE	'a' bars SPACING	'a' bars NUMBER REQ'D 3:1	'a' bars NUMBER REQ'D 4:1	'a' bars LENGTH	'b' bars BENT - See Diagram below. In Top and Bottom Slabs of Barrel. Alternate with 'a' bars. SIZE	'b' bars SPACING	'b' bars NUMBER REQ'D 3:1	'b' bars NUMBER REQ'D 4:1	'b' bars LENGTH	'b' bars X	'd' bars STRAIGHT Longitudinal in Top Slab of Barrel SIZE	'd' bars SPACING	'd' bars NUMBER REQ'D	'd' bars LENGTH	'd1' bars STRAIGHT Longitudinal in Sidewalls SIZE	'd1' bars SPACING	'd1' bars NUMBER REQ'D	'd1' bars LENGTH	'e' bars. Longitudinal in Bottom Slab of Barrel SIZE	'e' bars. SPACING	'e' bars. NUMBER REQ'D	'e' bars. LENGTH	'f' bars STRAIGHT Verticals in Side walls SIZE	'f' bars SPACING	'f' bars NUMBER REQ'D 3:1	'f' bars NUMBER REQ'D 4:1	'f' bars LENGTH
D	S	H	Size	Spacing	Number Req'd 3:1	Number Req'd 4:1	Length	Size	Spacing	Number Req'd 3:1	Number Req'd 4:1	Length	X	Size	Spacing	No. Req'd	Length	Size	Spacing	No. Req'd	Length	Size	Spacing	No. Req'd	Length	Size	Spacing	No. Req'd	Length	Size	Spacing	Number Req'd 3:1	Number Req'd 4:1	Length
0'-0" to 5'-0" Maximum	1 @ 4'	2'	#5	13"	120	120	4'-9"	#6	13"	110	110	5'-10"	4'-8"	#5	10½"	6		#4	12"	4		#4	12"	5		#4	12"	5		#4	12"	120	120	2'-11"
		3'			120	120	4'-9"			110	110	5'-10"	4'-8"			6				5				6				5				120	120	3'-11"
		4'			120	120	4'-9"			110	110	5'-10"	4'-8"			6				8				5				5				120	120	4'-11"
		5'			120	120	4'-9"			110	110	5'-10"	4'-8"			6				10				5				5				120	120	5'-11"
		6'			120	120	4'-11"			110	110	6'-0"	4'-10"			6				12				5				5				120	120	6'-11"
	1 @ 5'	3'			120	120	5'-9"			110	110	6'-10"	5'-8"			7				6				6				6				120	120	4'-5"
		4'			120	120	5'-9"			110	110	6'-10"	5'-8"			7				8				6				6				120	120	5'-0"
		5'	#6	13"	120	120	5'-9"	#6	13"	110	110	6'-10"	5'-8"	#5	10½"	7		#4	12"	10		#4	12"	6		#4	12"	6		#4	12"	120	120	5'-6"
		6'			120	120	5'-11"			110	110	7'-0"	5'-10"			7				12				6				6				120	120	6'-0"
		7'			120	120	6'-0"			110	110	7'-1"	5'-11"			7				15				6				6				120	120	8'-0"
		3'			128	128	6'-9"			118	118	7'-10"	6'-8"			8				6				7				7				120	120	4'-1"
		4'			128	128	6'-9"			118	118	7'-10"	6'-8"			8				8				7				7				120	120	5'-1"
	1 @ 6'	5'	#6	12"	128	128	6'-9"	#6	12"	118	118	7'-10"	6'-8"	#5	10½"	8		#4	12"	10		#4	12"	7		#4	12"	7		#4	12"	120	120	6'-1"
		6'			128	128	6'-11"			118	118	8'-0"	6'-10"			8				12				7				7				120	120	7'-1"
		7'			128	128	7'-0"			118	118	8'-1"	6'-11"			8				14				7				7				120	120	8'-1"
		8'			128	128	7'-1"			118	118	8'-2"	7'-0"			8				16				7				7		#5	12"	120	120	9'-1"
		4'			140	140	7'-9"			130	130	8'-10"	7'-8"			9				8				8				8				120	120	5'-2"
		5'			140	140	7'-9"			130	130	8'-10"	7'-8"			9				10				8				8	#4	12"	120	120	6'-2"
	1 @ 7'	6'	#6	11"	140	140	7'-11"	#6	11"	130	130	9'-1"	7'-10"	#5	10½"	9	2 @ 30'-6" for 60'-0" Length Barrel. (1'-3" Lap)	#4	12"	12	2 @ 30'-6" for 60'-0" Length Barrel. (1'-3" Lap)	#4	12"	8	2 @ 30'-6" for 60'-0" Length Barrel. (1'-3" Lap)	#4	12"	8		#4	12"	120	120	7'-2"
		7'			140	140	8'-0"			130	130	9'-1"	7'-11"			9				14				8				8				120	120	8'-2"
		8'			140	140	8'-1"			130	130	9'-2"	8'-0"			9				16				8				8				10"	144	144	9'-2"
		9'			140	140	8'-3"			130	130	9'-4"	8'-2"			9				18				8				8				#5	12"	120	120	10'-2"
		4'			128	128	8'-9"			118	118	9'-10"	8'-8"			11				8				9				9				120	120	5'-9"
		5'			128	128	8'-11"			118	118	10'-0"	8'-10"			11				10				9				9				120	120	6'-9"
	1 @ 8'	6'	#7	12"	128	128	8'-11"	#6	12"	118	118	10'-0"	8'-10"	#5	10"	11		#4	12"	12		#4	12"	9		#4	12"	9		#4	12"	125	120	7'-5"
		7'			128	128	9'-0"			118	118	10'-1"	8'-11"			11				14				9				9				120	120	8'-5"
		8'			128	128	9'-1"			118	118	10'-2"	9'-0"			11				16				9				9				10"	144	144	9'-5"
		9'			128	128	9'-3"			118	118	10'-4"	9'-2"			11				18				9				9				12"	120	120	10'-5"
		10'			128	128	9'-5"			118	118	10'-6"	9'-4"			11				20				9				9				11"	132	132	11'-5"
		5'			140	140	9'-11"			130	130	11'-0"	9'-10"			12				10				10				10				12"	120	120	6'-5"
		6'			140	140	10'-0"			130	130	11'-1"	9'-11"			12				12				10				10	#4	12"	120	120	7'-5"
		7'			140	140	10'-0"			130	130	11'-1"	9'-11"			12				14				10				10				120	120	8'-5"
	1 @ 9'	8'	#7	11"	140	140	10'-1"	#6	11"	130	130	11'-2"	10'-0"	#5	10"	12		#4	12"	16		#4	12"	10		#4	12"	10		#4	12"	10"	144	144	9'-5"
		9'			140	140	10'-3"			130	130	11'-4"	10'-2"			12				18				10				10				12"	120	120	10'-5"
		10'			140	140	10'-5"			130	130	11'-6"	10'-4"			12				20				10				10				#5	11"	132	132	11'-5"
		11'			140	140	10'-7"			130	130	11'-8"	10'-6"			12				22				10				10				10"	144	144	12'-5"
		5'			128	128	10'-11"			118	118	12'-2"	10'-10"			13				10				11				11				12"	120	120	6'-6"
		6'			128	128	11'-0"			118	118	12'-3"	10'-11"			13				12				11				11				120	120	7'-6"
	1 @ 10'	7'			128	128	11'-0"			118	118	12'-3"	10'-11"			13				14				11				11				120	120	8'-6"
		8'	#7	12"	128	128	11'-1"	#7	12"	118	118	12'-4"	11'-0"	#5	10"	13		#4	12"	16		#4	12"	11		#4	12"	11		#4	12"	10"	144	144	9'-6"
		9'			128	128	11'-3"			118	118	12'-6"	11'-2"			13				18				11				11				12"	120	120	10'-6"
		10'			128	128	11'-5"			118	118	12'-8"	11'-4"			13				20				11				11				#5	11"	132	132	11'-6"
		11'			128	128	11'-7"			118	118	12'-10"	11'-6"			13				22				11				11				10"	144	144	12'-6"
		12'			128	128	11'-9"			118	118	13'-0"	11'-8"			13				24				11				11				#6	12"	120	120	13'-6"
		6'			140	140	12'-1"			130	130	13'-5"	12'-0"			15				12				12				12				12"	120	120	7'-7"
		7'			140	140	12'-1"			130	130	13'-5"	12'-0"			15				14				12				12							
	1 @ 11'	8'			140	140	12'-1"			130	130	13'-5"	12'-0"			15				16				12				12				#4	12"	120	120	8'-7"
		9'	#7	11"	140	140	12'-3"	#7	11"	130	130	13'-6"	12'-2"	#5	9½"	15		#4	12"	18		#4	12"	12								10"	144	144	9'-7"
		10'			140	140	12'-5"			130	130	13'-8"	12'-4"			15				20				12				12				#5	11"	132	132	11'-7"
		11'			140	140	12'-7"			130	130	13'-10"	12'-6"			15				22				12				12				10"	144	144	12'-7"
		12'			140	140	12'-9"			130	130	14'-0"	12'-8"			15				24				12				12				#6	12"	120	120	13'-7"
		6'			128	128	13'-1"			118	118	14'-4"	13'-0"			16				12				13				13				12"	120	120	7'-9"
		7'			128	128	13'-1"			118	118	14'-5"	13'-0"			16				14				13				13							
	1 @ 12'	8'			128	128	13'-1"			118	118	14'-6"	13'-0"			16				16				13				13				#4	12"	120	120	8'-9"
		9'	#8	12"	128	128	13'-3"	#7	12"	118	118	14'-6"	13'-2"	#5	9½"	16		#4	12"	18		#4	12"	13								10"	144	144	9'-9"
		10'			128	128	13'-5"			118	118	14'-8"	13'-4"			16				20				13				13				#5	11"	132	132	11'-9"
		11'			128	128	13'-7"			118	118	14'-10"	13'-6"			16				22				13				13				10"	144	144	12'-9"
		12'			128	128	13'-9"			118	118	15'-0"	13'-8"			16				24				13				13				#6	12"	120	120	13'-9"

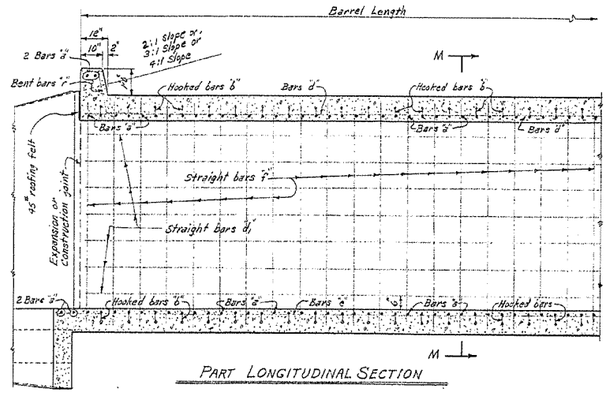
DIMENSIONS AND QUANTITIES

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	BARREL DIMENSIONS STRAIGHT Sq. Ft. Opening	Overall Width	Thickness of Top Slab	Thickness of Sidewalls	Thickness of Bottom Slab	Overall Height	UNIT QUANTITIES Class S Conc. per Lin. Ft. of Barrel	Reinforcing Steel per Lin. Ft. of Barrel	Reinforcing Steel Additional per Lap	Reinforcing Steel Additional Two Headwalls & Wingwalls
D	S	H	A	OW	T	C	B	OH	Cu.Yd.	Lb.	Lb.	Lb.
5'-0"	1 @ 4'	2'	8	5'-0"		6"		3'-1½"	0.282	41.89	17.95	46.35
		3'	12	5'-0"		6"		4'-1½"	0.319	44.16	18.62	46.35
		4'	16	5'-0"	7"	6"	6½"	5'-1½"	0.356	46.83	21.29	46.35
		5'	20	5'-0"		6"		6'-1½"	0.396	49.50	22.96	46.35
		6'	24	5'-2"		7"		7'-1½"	0.474	52.96	24.63	67.75
	1 @ 5'	3'	15	6'-0"		6"		4'-2½"	0.380	55.55	22.19	101.27
		4'	20	6'-1"		6"		5'-2½"	0.417	58.23	23.86	101.27
		5'	25	6'-0"	7½"	6"	7"	6'-2½"	0.459	60.90	25.53	101.27
		6'	30	6'-2"		7"		7'-2½"	0.535	64.93	27.20	109.27
		7'	35	6'-3"		7½"		8'-2½"	0.604	67.63	28.87	109.27
	1 @ 6'	3'	18	7'-0"		6"		4'-3½"	0.446	66.23	26.76	118.94
		4'	24	7'-0"		6"		5'-3½"	0.483	68.96	26.93	118.94
		5'	30	7'-0"	8"	6"	7½"	6'-3½"	0.520	71.64	28.10	118.96
		6'	36	7'-2"		7"		7'-3½"	0.602	75.31	29.77	120.96
		7'	42	7'-3"		7½"		8'-3½"	0.671	78.98	31.94	121.97
		8'	48	7'-4"		8"		9'-3½"	0.746	88.97	33.11	122.97
	1 @ 7'	4'	28	8'-0"		6"		5'-5"	0.568	81.32	29.01	136.89
		5'	35	8'-0"		6"		6'-5"	0.605	84.00	30.68	136.88
		6'	42	8'-2"		7"		7'-5"	0.688	87.76	32.35	138.88
		7'	49	8'-3"	8½"	7½"	8½"	8'-5"	0.757	94.38	34.02	139.88
		8'	56	8'-4"		8"		9'-5"	0.832	96.65	35.69	140.88
		9'	63	8'-6"		9"		10'-5"	0.966	105.59	37.36	142.89
	1 @ 8'	4'	32	9'-0"		6"		5'-7"	0.676	95.26	33.32	189.67
		5'	40	9'-2"		7"		6'-7"	0.759	99.12	34.99	196.80
		6'	48	9'-2"		7"		7'-7"	0.797	101.79	36.66	196.80
		7'	56	9'-3"	9½"	7½"	9½"	8'-7"	0.867	105.05	38.33	198.16
		8'	64	9'-4"		8"		9'-7"	0.942	110.81	40.00	199.52
		9'	72	9'-6"		9"		10'-7"	1.057	119.92	41.67	202.25
		10'	80	9'-8"		10"		11'-7"	1.189	126.67	43.34	204.97
	1 @ 9'	5'	45	10'-2"		7"		6'-8"	0.849	119.72	37.56	219.61
		6'	54	10'-3"		7½"		7'-8"	0.910	118.04	39.23	220.97
		7'	63	10'-3"		7½"		8'-8"	0.957	120.71	40.90	220.97
		8'	72	10'-4"	10"	8"	10"	9'-8"	1.033	126.54	42.57	222.33
		9'	81	10'-6"		9"		10'-8"	1.148	135.80	44.24	223.04
		10'	90	10'-8"		10"		11'-8"	1.276	142.68	45.91	223.78
		11'	99	10'-10"		11"		12'-8"	1.416	150.40	47.58	230.51
	1 @ 10'	5'	50	11'-2"		7"		6'-9½"	0.957	130.69	40.13	242.64
		6'	60	11'-3"		7½"		7'-9½"	1.024	133.99	41.80	244.00
		7'	70	11'-3"		7½"		8'-9½"	1.071	136.66	43.47	244.00
		8'	80	11'-4"	10½"	8"	11"	9'-9½"	1.147	142.55	45.14	245.36
		9'	90	11'-6"		9"		10'-9½"	1.263	151.92	46.81	248.09
		10'	100	11'-8"		10"		11'-9½"	1.391	158.89	48.98	250.81
		11'	110	11'-10"		11"		12'-9½"	1.532	166.71	50.15	253.54
		12'	120	12'-0"		12"		13'-9½"	1.685	178.67	51.82	256.26
	1 @ 11'	6'	66	12'-4"		8"		7'-10½"	1.153	156.16	46.12	268.62
		7'	77	12'-4"		8"		8'-10½"	1.202	157.83	47.79	268.62
		8'	88	12'-5"	11"	8"	11⅝"	9'-10½"	1.253	162.06	49.46	268.62
		9'	99	12'-6"		9"		10'-10⅝"	1.368	172.60	51.13	271.39
		10'	110	12'-8"		10"		11'-10⅝"	1.497	179.70	52.80	274.07
		11'	121	12'-10"		11"		12'-10⅝"	1.638	187.07	54.47	276.79
		12'	132	13'-0"		12"		13'-10⅝"	1.792	193.79	56.14	279.52
	1 @ 12'	6'	72	13'-4"		8"		8'-0"	1.284	172.20	48.69	357.62
		7'	84	13'-4"		8"		9'-0"	1.333	174.87	50.36	357.62
		8'	96	13'-4"		8"		10'-0"	1.383	180.15	52.03	357.62
		9'	108	13'-6"	11½"	9"	12⅝"	11'-0"	1.500	183.35	53.70	361.18
		10'	120	13'-8"		10"		12'-0"	1.630	197.07	55.37	364.74
		11'	132	13'-10"		11"		13'-0"	1.772	205.16	57.04	368.30
		12'	144	14'-0"		12"		14'-0"	1.926	217.95	58.71	371.86

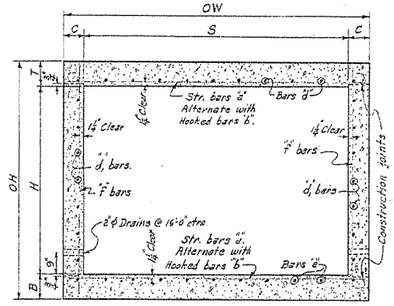
W-X002-1, W-X003-2 or W-X004-2.

W-X002-2-1 or W-X003-1 or W-X004-1 and

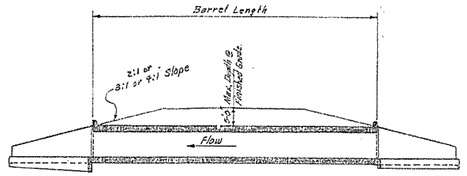
Note:- For details of wings and bar lists, see Drawing Nos.



PART LONGITUDINAL SECTION



TYPICAL SECTION M-M



LONGITUDINAL SECTION

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS	BENDING DIAGRAM Bars 'b'.
#6	3"	5"	1'-2"	K, Pin Diam., X
#7	3½"	5⅝"	1'-4"	

NOTE:- Dimensions are to centers of bars.

DOWEL BARS FOR TWO HEADWALLS

SPAN	SIZE	SPACING	No. REQD	LENGTH	X	Bars 'r' Dowel bars in Headwalls.
4'	#4	11⅛	12	2'-6"	1'-3"	
5'	#4	11⅛	14	2'-7"	1'-3⅝"	
6'	#4	11⅛	16	2'-8"	1'-4"	
7'	#4	11⅛	18	2'-9"	1'-4⅝"	
8'	#4	11⅝	20	2'-11"	1'-5⅝"	
9'	#4	11⅝	22	3'-0"	1'-6"	
10'	#4	11⅞	24	3'-1"	1'-6⅝"	
11'	#4	12⅛	26	3'-2"	1'-7"	
12'	#4	12⅛	28	3'-3"	1'-7⅝"	

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961
AND
SPECIAL MILITARY LOADING
Two 24,000 Lb. Axles @ 9'-0" ctrs.

UNIT STRESSES:-
Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

GENERAL NOTES:-
CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.
REINFORCING STEEL:- Reinforcing to be deformed bars of intermediate or hard grade.
BAR LAP:- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diameters.
CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls and slabs shall be only where shown on plans.
SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

Note:- This drawing to be used in conjunction with Standard Drawing Nos. W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2. Also Drawing Nos. W-X002-1 or W-X002-2.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 OR 4:1 SLOPES
SINGLES — UNDER 5'-0" COVER

STANDARD DRAWING NO. R-100X-0

Designed By:- W.C.H. 1-23-63. Checked By:- RWS - 5-26-63.
Drawn By:- W.C.H. 2-8-63. Checked By:- RWS - 5-29-63.
Quantities By:- W.C.H. 2-18-63. Checked By:- RWS - 5-24-63.

BAR LIST FOR VARIOUS SECTIONS OF BARREL

FED. ROAD NO.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			195	
JOB No.					

SECTION & BAR GROUP	LENGTH OF SECTION	DEPTH OF COVER D	CLEAR SPAN S	CLEAR HEIGHT H	"a" bars STRAIGHT — In Top and Bottom Slabs of Barrel. 2 Rail in Apron and Headwall - Each. SIZE	SPACING	NUMBER REQ'D 2:1	3:1	4:1	LENGTH	"b" bars BENT - See Diagram at Right — In top and Bottom Slabs of Barrel - Hooked. Alternate with "a" bars. SIZE	SPACING	NUMBER REQ'D 2:1	3:1	4:1	LENGTH	X	"d" bars STRAIGHT — Longitudinal in Top Slab of Barrel SIZE	SPACING	"d1" bars STRAIGHT — Longitudinal in Sidewalls. SIZE	SPACING	"e" bars STRAIGHT — Longitudinal in Bottom Slab of Barrel. SIZE	SPACING	"f" bars STRAIGHT — Verticals in Sidewalls SIZE	SPACING	NUMBER REQ'D 2:1	3:1	4:1	LENGTH
"A"	21'-4.26", 21'-8.26", 22'-0.26"	0' TO 10'-0"	4'	2'	#4	12"	28	48	68	4'-9"	#4	12"	24	44	64	5'-1"	4'-8½"	#4	12"	5	#4	12"	4	#4	12"	5	#4	12"	5	#4	12"	24	44	64	2'-10"
			6'	3'	#5	12"	28	48	68	6'-9"	#6	12"	24	44	64	7'-10"	6'-8"	#4	12"	6	#4	12"	6	#4	12"	7	#4	12"	7	#4	12"	24	44	64	4'-10"
			7'	4'	#5	12"	28	48	68	7'-9"	#6	12"	24	44	64	8'-10"	7'-8"	#4	12"	8	#4	12"	8	#4	12"	8	#4	12"	8	#4	12"	24	44	64	5'-1"
			8'	4'	#6	12"	28	48	68	8'-9"	#6	12"	24	44	64	9'-10"	8'-8"	#4	12"	9										#4	12"	24	44	64	5'-8"
			9'	5'	#6	12"	28	48	68	9'-11"	#6	12"	24	44	64	10'-10"	9'-10"													#4	12"	24	44	64	6'-5"
			9'	2'	#6	11"	30	52	74	9'-11"	#7	11"	24	48	70	11'-2"	9'-10"	#4	12"	10										#4	12"	24	44	66	6'-5"
			6'	1'			30	52	74	10'-0"			26	48	70	11'-2"	9'-11"														24	44	66	7'-2"
			5'	1'			28	48	68	10'-11"			24	44	64	12'-1"	10'-10"														24	44	64	6'-7"
			6'	1'	#7	12"	28	48	68	11'-0"	#7	12"	24	44	64	12'-3"	10'-11"	#4	12"	11										#4	12"	24	44	64	7'-7"
			7'				28	48	68	11'-0"			24	44	64	12'-3"	10'-11"														24	44	64	8'-9"
"B"	21'-4.26", 21'-8.26", 22'-0.26"	10'-0" TO 15'-0"	4'	2'	#4	12"	12	22	32	4'-9"	#5	12"	12	22	32	5'-8"	5'-2½"	#4	12"	5	#4	12"	4	#4	12"	5	#4	12"	5	#4	12"	12	22	32	3'-1"
			6'	3'	#4	12"	12	22	32	6'-9"	#6	12"	12	22	32	8'-10"	7'-8"	#4	12"	6	#4	12"	6	#4	12"	6	#4	12"	6	#4	12"	12	22	32	4'-7"
			7'	4'	#4	11"	14	24	36	7'-9"	#6	11"	12	24	34	8'-10"	7'-8"	#4	12"	8	#4	12"	8	#4	12"	8	#4	12"	8	#4	12"	12	22	32	5'-3"
			8'	4'	#7	12"	12	22	32	8'-9"	#7	12"	12	22	32	9'-10"	8'-8"	#4	12"	9	#4	12"	9	#4	12"	9	#4	12"	9	#4	12"	12	22	32	5'-8"
			9'	5'	#7	12"	12	22	32	9'-11"	#7	12"	12	22	32	10'-11"	9'-10"	#4	12"	10	#4	12"	10	#4	12"	10	#4	12"	10	#4	12"	12	22	32	6'-2"
			10'	5'	#8	12"	12	22	32	10'-11"	#7	12"	12	22	32	11'-11"	10'-11"	#4	12"	11	#4	12"	11	#4	12"	11	#4	12"	11	#4	12"	12	22	32	6'-10"
				6'			12	22	32	12'-0"			12	22	32	12'-11"	11'-10"			12			12			12			12			12	22	32	7'-7"
				7'			12	22	32	13'-0"			12	22	32	13'-11"	12'-10"			12			12			12			12			12	22	32	8'-5"
"C"	21'-4.26", 21'-8.26", 22'-0.26"	15'-0" TO 20'-0"	4'	2'	#5	12"	12	22	32	4'-9"	#5	12"	12	22	32	5'-8"	5'-2½"	#4	12"	5	#4	12"	5	#4	12"	5	#4	12"	5	#4	12"	12	22	32	2'-10"
			6'	3'	#6	11"	14	24	36	6'-9"	#6	11"	12	24	34	9'-10"	8'-8"	#4	12"	7				#4	12"	7	#4	12"	7	#4	12"	12	22	32	4'-2"
			7'	4'	#7	12"	12	20	30	7'-9"	#7	12"	10	20	30	9'-10"	8'-8"	#4	12"	8	#4	12"	8	#4	12"	8	#4	12"	8	#4	12"	12	22	32	5'-5"
			8'	4'	#7	12"	12	22	32	8'-9"	#7	12"	12	22	32	10'-0"	8'-8"	#4	11"	10				#4	12"	9	#4	12"	9	#4	12"	12	22	32	5'-7"
			9'	5'	#8	12"	12	22	32	9'-11"	#7	12"	12	22	32	11'-0"	9'-10"	#4	11"	11				#4	12"	10	#4	12"	10	#4	12"	12	22	32	6'-0"
			10'	6'	#8	12"	12	22	32	10'-11"	#8	12"	12	22	32	12'-0"	10'-10"	#4	11"	12				#4	12"	11	#4	12"	11	#4	12"	12	22	32	6'-7"
				7'			12	22	32	12'-0"			12	22	32	12'-11"	11'-10"			13			13			13			13			12	22	32	7'-5"
				8'			12	22	32	13'-0"			12	22	32	13'-11"	12'-10"			13			13			13			13			12	22	32	8'-3"
"D"	21'-4.26", 21'-8.26", 22'-0.26"	20'-0" TO 25'-0"	4'	2'	#5	11"	14	24	36	4'-9"	#5	11"	12	24	34	5'-8"	5'-2½"	#4	12"	5				#4	12"	5	#4	12"	5	#4	12"	12	22	32	2'-11"
			6'	3'	#7	12"	12	22	32	6'-9"	#5	12"	12	22	32	7'-10"	6'-8"	#4	11"	8				#4	12"	6	#4	12"	6	#4	12"	12	22	32	4'-5"
			7'	4'	#7	12"	12	22	32	7'-9"	#7	12"	12	22	32	9'-10"	8'-8"	#4	11"	9				#4	12"	8	#4	12"	8	#4	12"	12	22	32	5'-0"
			8'	4'	#8	12"	12	22	32	8'-9"	#7	12"	12	22	32	10'-0"	8'-8"	#4	11"	10				#4	12"	9	#4	12"	9	#4	12"	12	22	32	5'-6"
			9'	5'	#8	12"	12	22	32	9'-11"	#8	12"	12	22	32	11'-1"	9'-10"	#4	11"	11				#4	12"	10	#4	12"	10	#4	12"	12	22	32	6'-1"
			10'	5'	#8	12"	12	22	32	10'-11"	#8	12"	12	22	32	12'-1"	10'-11"	#4	11"	12				#4	12"	11	#4	12"	11	#4	12"	12	22	32	6'-9"
				6'			12	22	32	12'-0"			12	22	32	12'-11"	11'-10"			13			13			13			13			12	22	32	7'-4"
				7'			12	22	32	13'-0"			12	22	32	13'-11"	12'-10"			13			13			13			13			12	22	32	8'-2"
"E"	21'-4.26", 21'-8.26", 22'-0.26"	25'-0" TO 30'-0"	4'	2'	#4	12"	12	22	32	4'-9"	#5	12"	12	22	32	5'-8"	5'-2½"	#4	12"	5	#4	12"	5	#4	12"	5	#4	12"	5	#4	12"	12	22	32	3'-0"
			6'	3'	#7	11"	14	24	36	6'-9"	#6	11"	12	24	34	7'-10"	6'-8"	#4	11"	8	#4	9½"	9	#4	12"	6	#4	12"	6	#4	12"	12	22	32	4'-5"
			7'	4'	#7	11"	14	24	36	7'-9"	#7	11"	12	24	34	9'-0"	7'-10"	#4	11"	9	#4	9½"	9	#4	12"	8	#4	12"	8	#4	12"	12	22	32	5'-0"
			8'	4'	#8	11"	14	24	36	8'-10"	#7	11"	12	24	34	10'-1"	8'-9"	#4	11"	10	#4	9½"	10	#4	12"	9	#4	12"	9	#4	12"	12	22	32	5'-11"
			9'	5'	#8	11"	14	24	36	9'-11"	#8	11"	12	24	34	11'-2"	9'-11"	#4	11"	11	#4	9½"	11	#4	12"	10	#4	12"	10	#4	12"	12	22	32	6'-11"
			10'	5'	#8	11"	14	24	36	10'-10"	#8	11"	12	24	34	12'-3"	11'-1"	#4	11"	12	#4	9½"	12	#4	12"	11	#4	12"	11	#4	12"	12	22	32	7'-5"
				6'			14	28	38	7'-11"			12	24	34	9'-0"	7'-10"			10			10			10			10			12	22	32	4'-10"
				7'			14	28	38	8'-10"			12	24	34	10'-1"	8'-9"			10			10			10			10			12	22	32	5'-5"
				8'			14	28	38	9'-10"			12	24	34	11'-2"	9'-11"			10			10			10			10			12	22	32	6'-0"
				9'			14	28	38	10'-9"			12	24	34	12'-3"	10'-11"			10			10			10			10			12	22	32	6'-7"
				10'			14	28	38	11'-9"			12	24	34	13'-4"	12'-0"			10			10			10			10			12	22	32	7'-2"
"F"	21'-4.26", 21'-8.26", 22'-0.26"	30'-0" TO 35'-0"	4'	2'	#4	12"	12	22	32	4'-9"	#5	12"	12	22	32	5'-8"	5'-2½"	#4	12"	5	#4	12"	5	#4	12"	5	#4	12"	5	#4	12"	12	22	32	3'-1"
			6'	3'	#7	11"	14	24	36	6'-9"	#6	11"	12	24	34	7'-10"	6'-8"	#4	11"	8	#4	9½"	9	#4	12"	6	#4	12"	6	#4	12"	12	22	32	4'-7"
			7'	4'	#7	11"	14	24	36	7'-9"	#7	11"	12	24	34	9'-0"	7'-10"	#4	11"	9	#4	9½"	9	#4	12"	8	#4	12"	8	#4	12"	12	22	32	5'-2"
			8'	4'	#8	11"	14	24	36	8'-10"	#7	11"	12	24	34	10'-1"	8'-9"	#4	11"	10	#4	9½"	10	#4	12"	9	#4	12"	9	#4	12"	12	22	32	5'-9"
			9'	5'	#8	11"	14	24	36	9'-11"	#8	11"	12	24	34	11'-2"	9'-11"	#4	11"	11	#4	9½"	11	#4	12"	10	#4	12"	10	#4	12"	12	22	32	6'-5"
			10'	5'	#8	11"	14	24	36	10'-10"	#8	11"	12	24	34	12'-3"	11'-1"	#4	11"	12	#4	9½"	12	#4	12"	11	#4	12"	11	#4	12"	12	22	32	7'-1"
				6'			14	28	38	8'-10"			12	24	34	10'-1"	8'-9"			10			10			10			10			12	22	32	4'-11"
				7'			14	28	38	9'-10"			12	24	34	11'-2"	9'-11"			10			10			10			10			12	22	32	5'-6"
				8'			14	28	38	10'-9"			12	24	34	12'-3"	10'-11"			10			10			10			10			12	22	32	6'-1"
				9'			14	28	38	11'-9"			12	24	34	13'-4"	12'-0"			10			10			10			10			12	22	32	6'-8"
				10'			14	28	38	12'-8"			12	24	34	14'-5"	13'-0"			10			10			10			10			12	22	32	7'-3"
"G"	Varies with Length of Barrel / 35'-0" TO 40'-0"	Varies	4'	2'	#4	12"	12	22	32	4'-9"	#6	12"	12	22	32	5'-8"	5'-2½"	#4	12"	5	#4	12"	4	#4	12"	5	#4	12"	5	#4	12"	12	22	32	3'-2"
			6'	3'	#7	11"	14	24	36	6'-9"	#6	11"	12	24	34	7'-10"	6'-8"	#4	11"	8	#4	9½"	9	#4	12"	6	#4	12"	6	#4	12"	12	22	32	4'-8"
			7'	4'	#7	11"	14	24	36	7'-9"	#7	11"	12	24	34	9'-0"	7'-10"	#4	11"	9	#4	9½"	9	#4	12"	8	#4	12"	8	#4	12"	12	22	32	5'-3"
			8'	4'	#8	11"	14	24	36	8'-10"	#7	11"	12	24	34	10'-1"	8'-9"	#4	11"	10	#4	9½"	10	#4	12"	9	#4	12"	9	#4	12"	12	22	32	5'-9"
			9'	5'	#8	11"	14	24	36	9'-11"	#8	11"	12	24	34	11'-2"	9'-11"	#4	11"	11	#4	9½"	11	#4	12"	10	#4	12"	10	#4	12"	12	22	32	6'-4"
			10'	5'	#8	11"	14	24	36	10'-10"	#8	11"	12	24	34	12'-3"	11'-1"	#4	11"	12	#4	9½"	12	#4	12"	11	#4	12"	11	#4	12"	12	22	32	7'-0"
				6'			14	28	38	8'-10"			12	24	34	10'-1"	8'-9"			10			10			10			10			12	22	32	4'-10"
				7'			14	28	38	9'-10"			12	24	34	11'-2"	9'-11"			10			10			10			10			12	22	32	5'-5"
				8'			14	28	38	10'-9"			12	24	34	12'-3"	10'-11"			10			10			10			10			12	22	32	6'-0"
				9'			14	28	38	11'-9"			12	24	34	13'-4"	12'-0"			10			10			10			10			12	22	32	6'-7"
				10'			14	28	38	12'-8"			12	24	34	14'-5"	13'-0"			10			10			10			10			12	22	32	7'-2"

NOTE:- Bars for each Section to be marked with the Section Letter, thus for Section B, the bars should be marked "Ba, Bb, Bd, Be and Bf".

Varies with Length of Barrel — Varies with Length of Barrel. — Varies with Length of Barrel. — Varies with Length of Barrel. — Varies with Length of Barrel. — Varies with Length of Barrel. — Varies with Length of Barrel. — Varies with Length of Barrel. — Varies with Length of Barrel. — Varies with Length of Barrel. — Varies with Length of Barrel. — Varies with Length of Barrel.

Designed By:- W.C.H. 12-9-64 Checked By:-
Drawn By:- W.C.H. 12-11-64 Checked By:-
Quantities By:- W.C.H. 12-12-64 Checked By:-

DIMENSIONS

MIN. DESIGN DEPTH OF COVER D	BARREL DIMENSIONS: CLEAR SPAN S	CLEAR HEIGHT H	SQ.FT. OPENING A	OVERALL WIDTH OW	THICKNESS OF TOP SLAB T	THICKNESS OF SIDEWALLS C	THICKNESS OF BOTTOM SLAB B	OVERALL HEIGHT OH
SECTION "A" - 10'-0"	1@							
	4'	2'	8	5'-0"	6½"	6"	6½"	3'-1"
	6'	3'	18	7'-0"	7½"	6"	7½"	4'-3"
	7'	4'	28	8'-0"	8"	6"	8½"	5'-1½"
	8'	4'	32	9'-0"	8½"	6"	9½"	5'-6"
	9'	5'	45	10'-0"	9½"	7"	10½"	6'-1"
		5'	49	10'-2"		7"	10½"	6'-3"
	10'	5'	50	10'-3"	10½"	7"	11½"	6'-4"
		6'	60	11'-3"		7½"		6'-10"
		7'	70	11'-3"		7½"		8'-10"
SECTION "B" - 15'-0"	4'	2'	8	5'-0"	6½"	6"	6½"	3'-1"
	6'	3'	18	7'-0"	7½"	6"	7½"	4'-3"
	7'	4'	28	8'-0"	8½"	6"	9½"	5'-6"
	8'	4'	32	9'-0"	9½"	6"	10½"	5'-8½"
	9'	5'	45	10'-6"	10½"	7"	11½"	6'-10½"
		5'	49	10'-8"		7"	11½"	7'-0"
	10'	5'	50	10'-9"	11½"	7"	12½"	7'-1"
		6'	60	11'-9"		7½"		8'-2½"
		7'	70	11'-9"		7½"		9'-2½"
SECTION "C" - 20'-0"	4'	2'	8	5'-0"	6½"	6"	6½"	3'-1"
	6'	3'	18	7'-0"	8½"	6"	9"	4'-5½"
	7'	4'	28	8'-0"	9½"	6"	10½"	5'-10"
	8'	4'	32	9'-0"	11"	6"	11½"	5'-10½"
	9'	5'	45	10'-6"	12"	7"	13"	7'-1"
		5'	49	10'-8"		7"	13"	7'-3"
	10'	5'	50	10'-9"	13½"	7"	14½"	7'-4½"
		6'	60	11'-9"		7½"		8'-6½"
		7'	70	11'-9"		7½"		9'-6½"
SECTION "D" - 25'-0"	4'	2'	8	5'-0"	6½"	6"	8½"	3'-3"
	6'	3'	18	7'-0"	9½"	6"	11½"	5'-10"
	8'	4'	32	9'-0"	12"	6"	12½"	6'-10½"
	9'	5'	45	10'-6"	13½"	7"	14½"	7'-3½"
		5'	49	10'-8"		7"	14½"	7'-5½"
	10'	5'	50	10'-9"	14½"	7"	15½"	7'-6½"
		6'	60	11'-9"		7½"		8'-6½"
		7'	70	11'-9"		7½"		9'-6½"
SECTION "E" - 30'-0"	4'	2'	8	5'-0"	7½"	6"	8½"	3'-3"
	6'	3'	18	7'-0"	10"	6"	10½"	4'-8½"
	8'	4'	32	9'-0"	13"	6"	13½"	6'-2½"
	9'	5'	45	10'-6"	14½"	7"	15½"	7'-2½"
		5'	49	10'-8"		7"	15½"	7'-4½"
	10'	5'	50	10'-9"	15½"	7"	16½"	7'-5½"
		6'	60	11'-9"		7½"		8'-5½"
		7'	70	11'-9"		7½"		9'-5½"
SECTION "F" - 35'-0"	4'	2'	8	5'-0"	7½"	6"	8½"	3'-3"
	6'	3'	18	7'-0"	10"	6"	10½"	4'-8½"
	8'	4'	32	9'-0"	13"	6"	13½"	6'-2½"
	9'	5'	45	10'-6"	14½"	7"	15½"	7'-2½"
		5'	49	10'-8"		7"	15½"	7'-4½"
	10'	5'	50	10'-9"	15½"	7"	16½"	7'-5½"
		6'	60	11'-9"		7½"		8'-5½"
		7'	70	11'-9"		7½"		9'-5½"
SECTION "G" - 40'-0"	4'	2'	8	5'-0"	8½"	6"	9½"	3'-5"
	6'	3'	18	7'-0"		6"		4'-10½"
		4'	28	7'-2"		7"		5'-11½"
		5'	30	7'-9"	11½"	8"	12"	6'-1½"
		6'	36	7'-6"		9"		7'-11½"
		7'	42	7'-8"		10"		8'-11½"
		8'	48	7'-10"		11"		9'-11½"
	7'	4'	28	8'-3"		7½"		6'-8½"
		5'	35	8'-4½"		8½"		7'-8½"
		6'	42	8'-6½"	12"	9½"	13½"	8'-2½"
		7'	49	8'-8½"		10½"		9'-2½"
		8'	56	8'-10½"		11½"		10'-2½"
		9'	63	9'-0½"		12½"		11'-2½"
	8'	4'	32	9'-3"		7½"		6'-6½"
		5'	40	9'-5"		8½"		7'-6½"
		6'	48	9'-7"	12½"	9½"	13½"	8'-6½"
		7'	56	9'-9"		10½"		9'-6½"
		8'	64	9'-11"		11½"		10'-6½"
		9'	72	10'-1"		12½"		11'-6½"
		10'	80	10'-3½"		13½"		12'-6½"

QUANTITIES

UNIT QUANTITIES: CLASS 'S' CONC. PER LIN. FT OF BARREL CU.YD.	REINFORCING STEEL PER LIN. FT. OF BARREL LB.	REINFORCING STEEL ADDITIONAL PER LAP LB.	REINFORCING STEEL ADDITIONAL TWO HEADWALLS & APRONS LB.
0.275	24.96	11.69	51.93
0.435	54.32	16.70	93.29
0.556	65.53	20.04	107.92
0.698	80.21	21.71	156.96
0.725	83.86	23.38	156.95
0.844	110.91	25.05	176.61
0.911	116.23	26.72	177.61
0.974	124.54	26.72	203.97
1.042	128.22	28.39	205.86
1.088	130.56	30.06	205.86
0.275	31.30	11.69	51.93
0.442	62.62	16.70	118.07
0.593	77.39	20.04	136.58
0.718	89.91	21.71	192.88
0.796	93.77	23.38	195.61
0.932	115.02	25.05	219.61
0.990	118.35	26.72	220.97
1.060	139.74	28.39	298.64
1.128	143.22	30.06	300.92
1.175	152.45	31.73	300.92
0.279	34.87	11.69	
0.483	66.72	16.70	
0.642	86.68	20.04	
0.793	102.81	23.38	
0.853	106.85	25.05	
1.001	129.11	26.72	
1.069	134.64	28.39	
1.146	157.56	30.06	
1.233	164.24	31.73	
1.298	170.54	38.40	
0.290	36.95	11.69	
0.522	70.27	16.70	
0.691	93.30	20.04	
0.859	115.93	25.05	
0.909	119.57	26.72	
1.079	144.54	28.39	
1.149	155.10	30.06	
1.250	175.16	31.73	
1.393	181.05	33.40	
1.483	190.98	35.07	
0.306	39.95	11.69	
0.554	74.37	16.70	
0.728	99.69	21.71	
0.903	124.37	25.05	
0.977	128.94	26.72	
1.165	160.30	30.06	
1.250	168.15	31.73	
1.340	195.95	55.63	
1.460	202.10	53.10	
1.578	210.29	62.58	
1.697	228.26	66.06	
1.836	232.03	69.53	
1.969	250.99	73.01	
0.321	42.82	11.69	
0.586	82.95	20.04	
0.803	110.80	23.38	
0.868	113.79	25.05	
0.969	123.56	26.72	
1.073	131.96	28.39	
1.194	149.80	30.06	
1.327	160.89	31.73	
0.962	139.57	26.72	
1.049	192.02	28.39	
1.189	150.95	30.06	
1.261	157.78	31.73	
1.385	179.62	33.40	
1.521	183.51	35.07	
1.670	220.58	36.74	
1.244	177.60	52.15	
1.396	184.70	53.43	
1.461	189.03	53.10	
1.588	207.30	62.58	
1.728	220.59	66.06	
0.336	45.38	11.69	
0.619	88.05	20.04	
0.693	92.21	21.71	
0.779	98.15	25.38	
0.877	106.27	25.05	
0.988	119.14	26.72	
1.111	130.77	28.39	
0.860	115.80	25.05	
0.990	121.18	26.72	
1.041	123.45	28.39	
1.155	128.51	30.06	
1.281	151.76	31.73	
1.420	166.92	33.40	
1.089	149.19	28.39	
1.192	152.91	30.06	
1.247	159.53	31.73	
1.346	160.81	33.40	
1.496	179.73	35.07	
1.636	192.77	36.74	
1.810	210.12	38.41	

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#4	2"	4"	0'-10½"
#5	2½"	4½"	0'-11½"
#6	3"	5"	1'-2"
#7	3½"	5½"	1'-4"
#8	4"	6½"	1'-6"

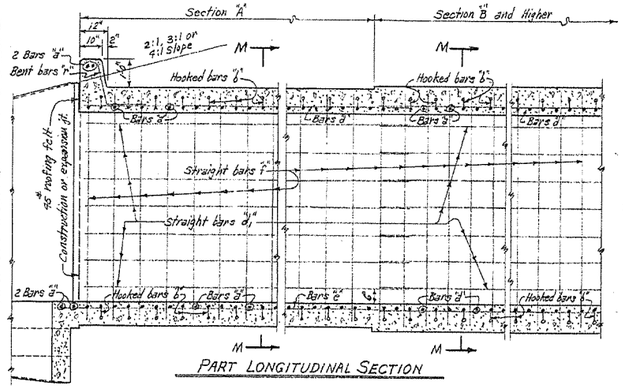
Bars "b" — K — Pin Diam. — X

NOTE:- Dimensions are to centers of bars.

DOWEL BARS FOR TWO HEADWALLS

SPANS	SIZE	SPACING	No. REQ'D	LENGTH	X
4'	#6	11"	12	2'-5"	1'-0½"
6'	#6	12"	16	2'-7"	1'-3½"
7'	#6	12"	18	2'-8"	1'-4"
8'	#6	12"	20	2'-10"	1'-5"
9'	#6	12"	22	3'-0"	1'-6"
10'	#6	12"	24	3'-2"	1'-7"

Bars "f" — Dowel bars in Headwalls — 12 — X — 2" Pin

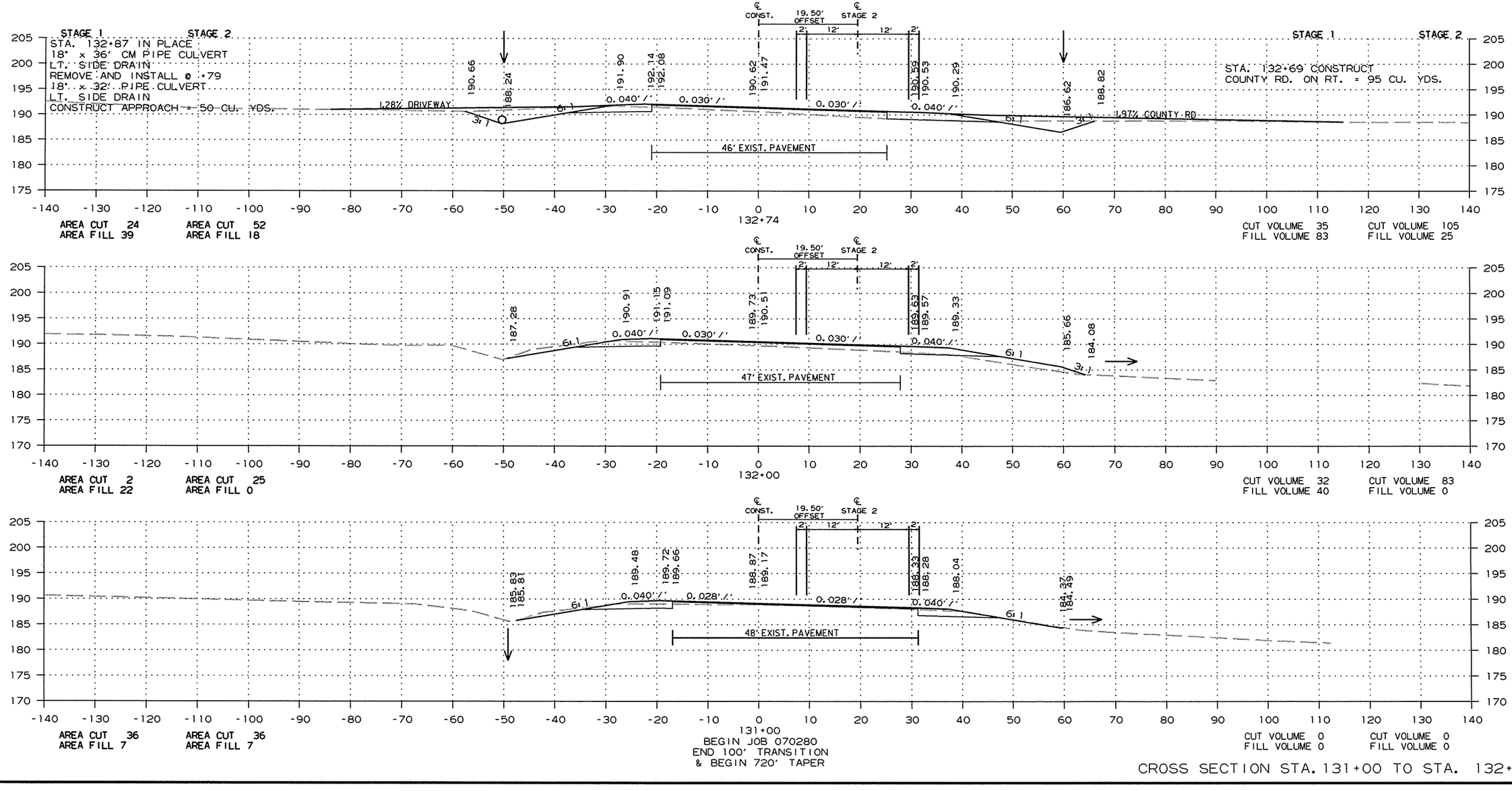


PART LONGITUDINAL SECTION

NOTE:- For details of wings and bar lists, see Drawing Nos. W-X002-1 or W-X002-2, W-X003-1 or W-X003-2, & W-X004-1 or W-X004-2.

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.		070280	196	336

(2) CROSS SECTIONS



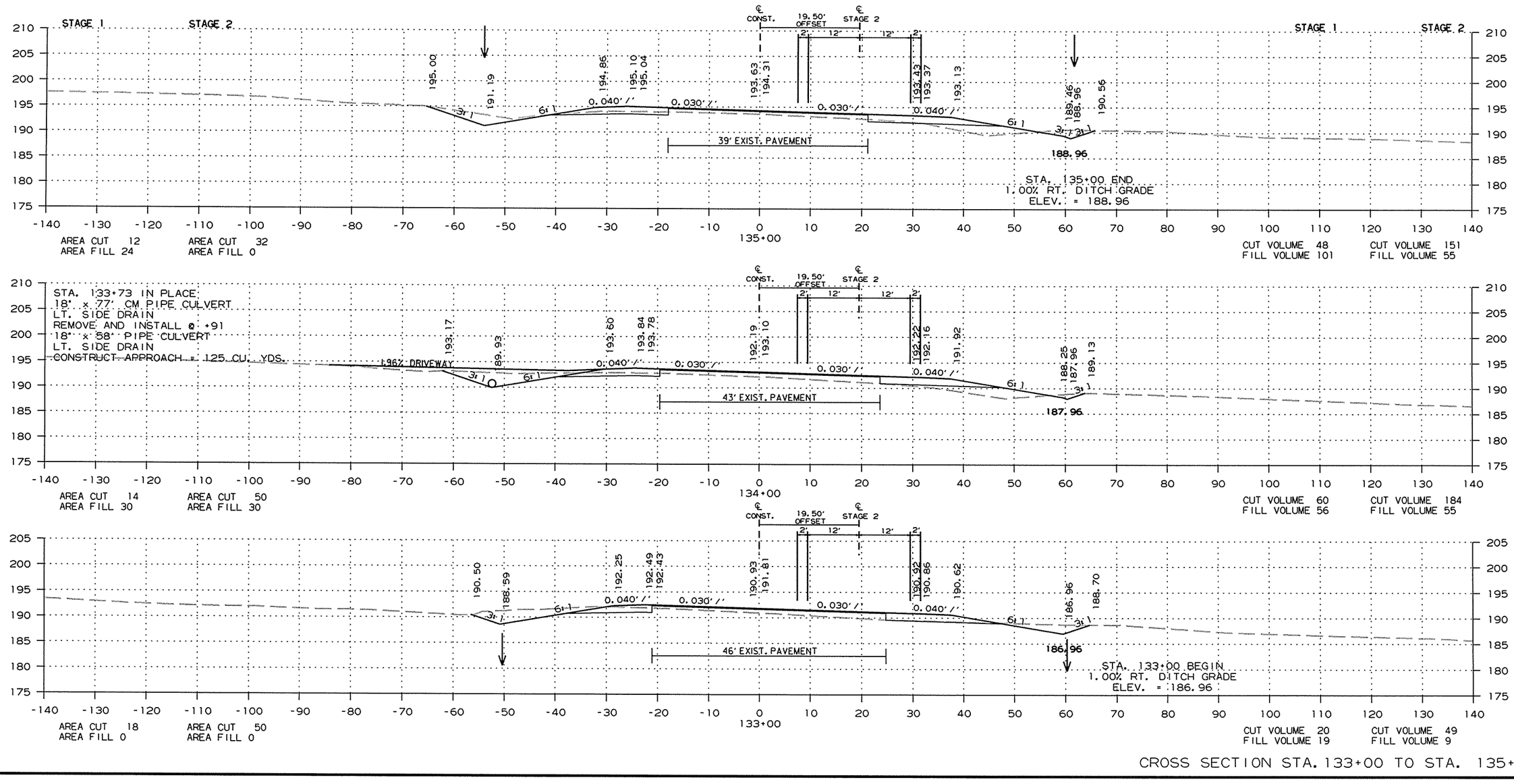
CROSS SECTION STA. 131+00 TO STA. 132+74

3/31/2015

R070280.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.		070280	197	336

(2) CROSS SECTIONS



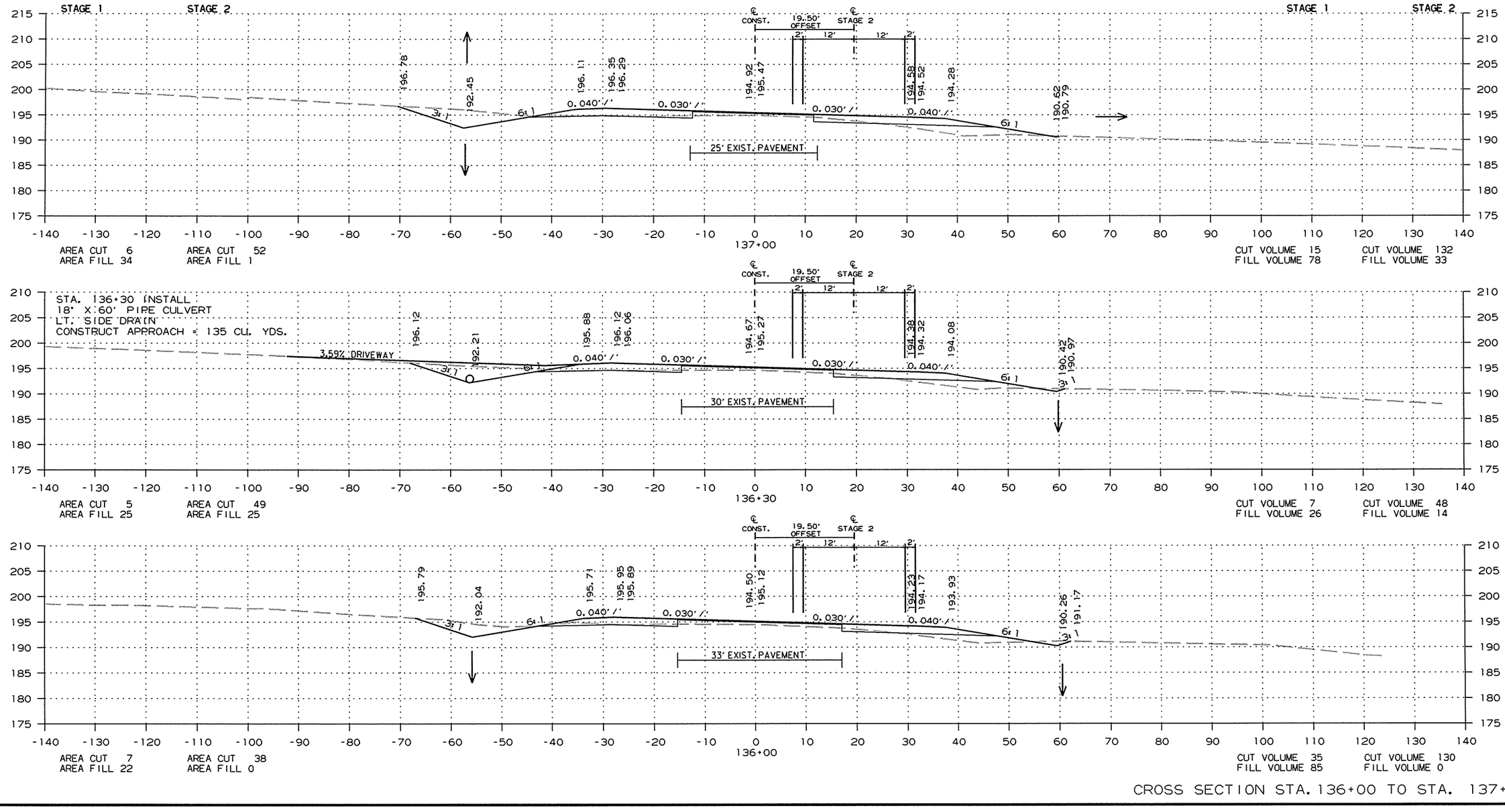
CROSS SECTION STA. 133+00 TO STA. 135+00

3/31/2015

R070280.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.		070280	198	336

(2) CROSS SECTIONS



CROSS SECTION STA. 136+00 TO STA. 137+00

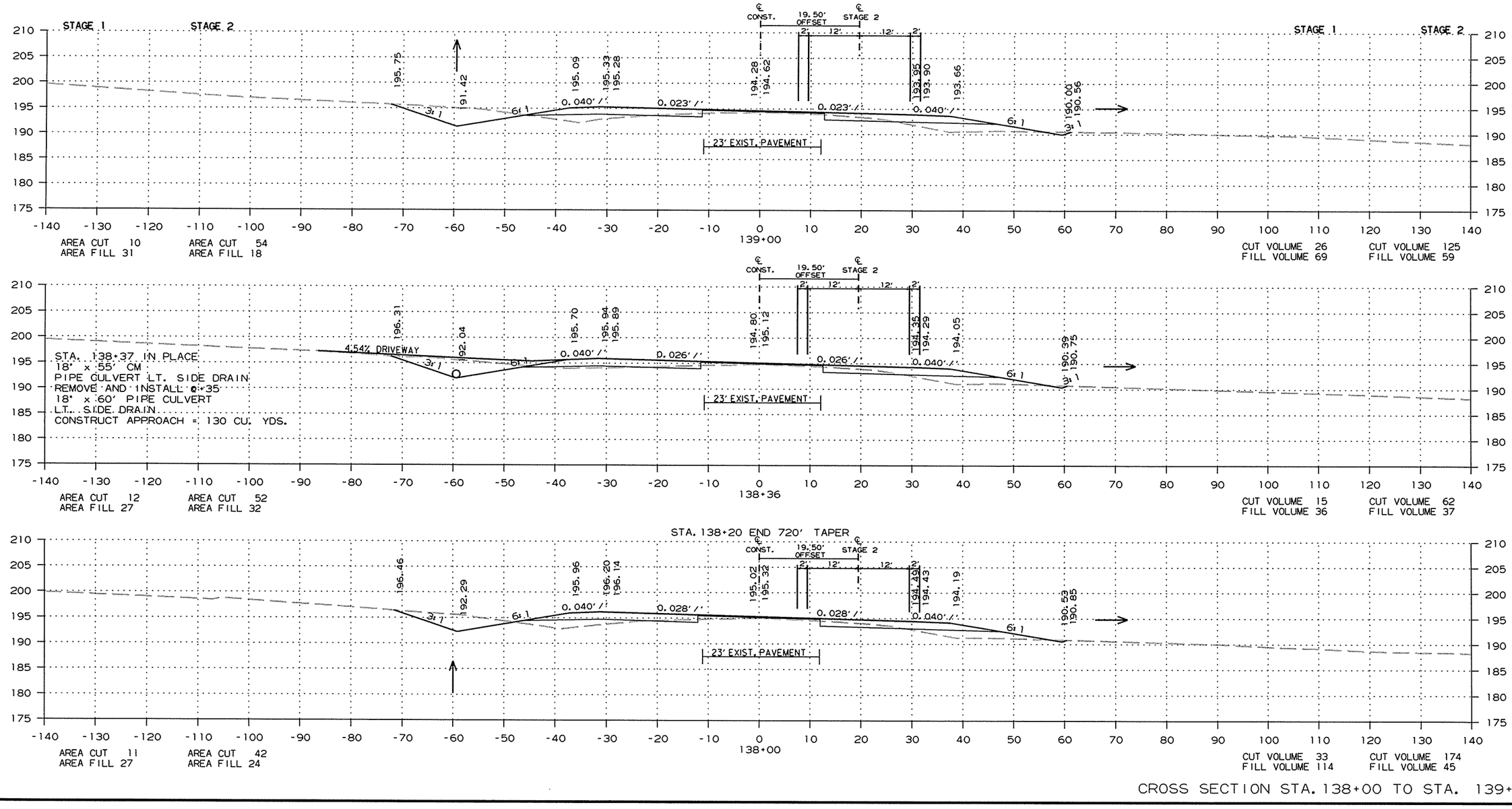
3/31/2015

R070280.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.		070280	199	336

(2) CROSS SECTIONS



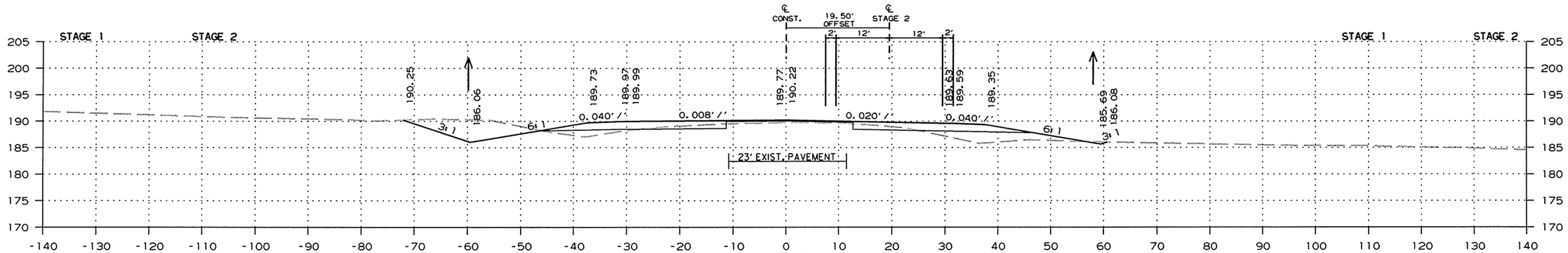
CROSS SECTION STA. 138+00 TO STA. 139+00

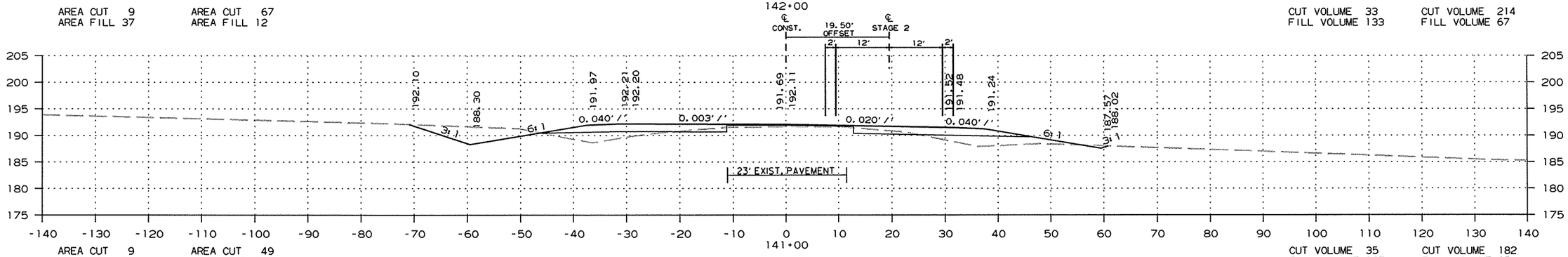
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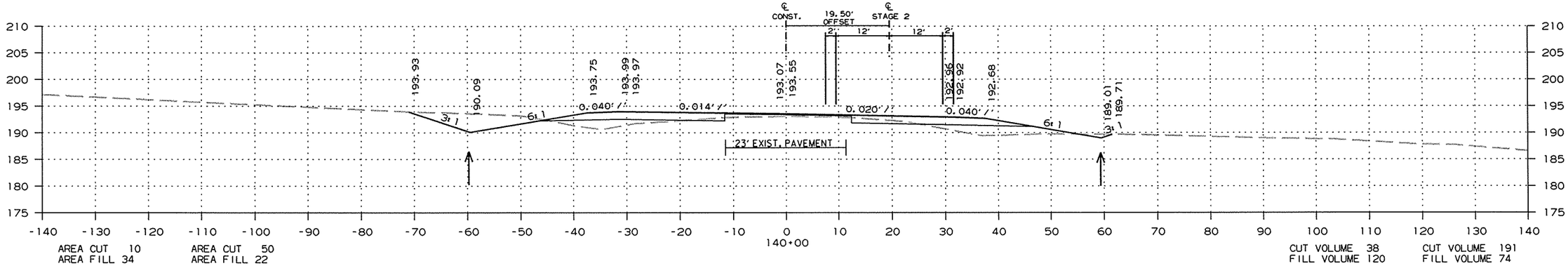
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070280	200	336

(2) CROSS SECTIONS







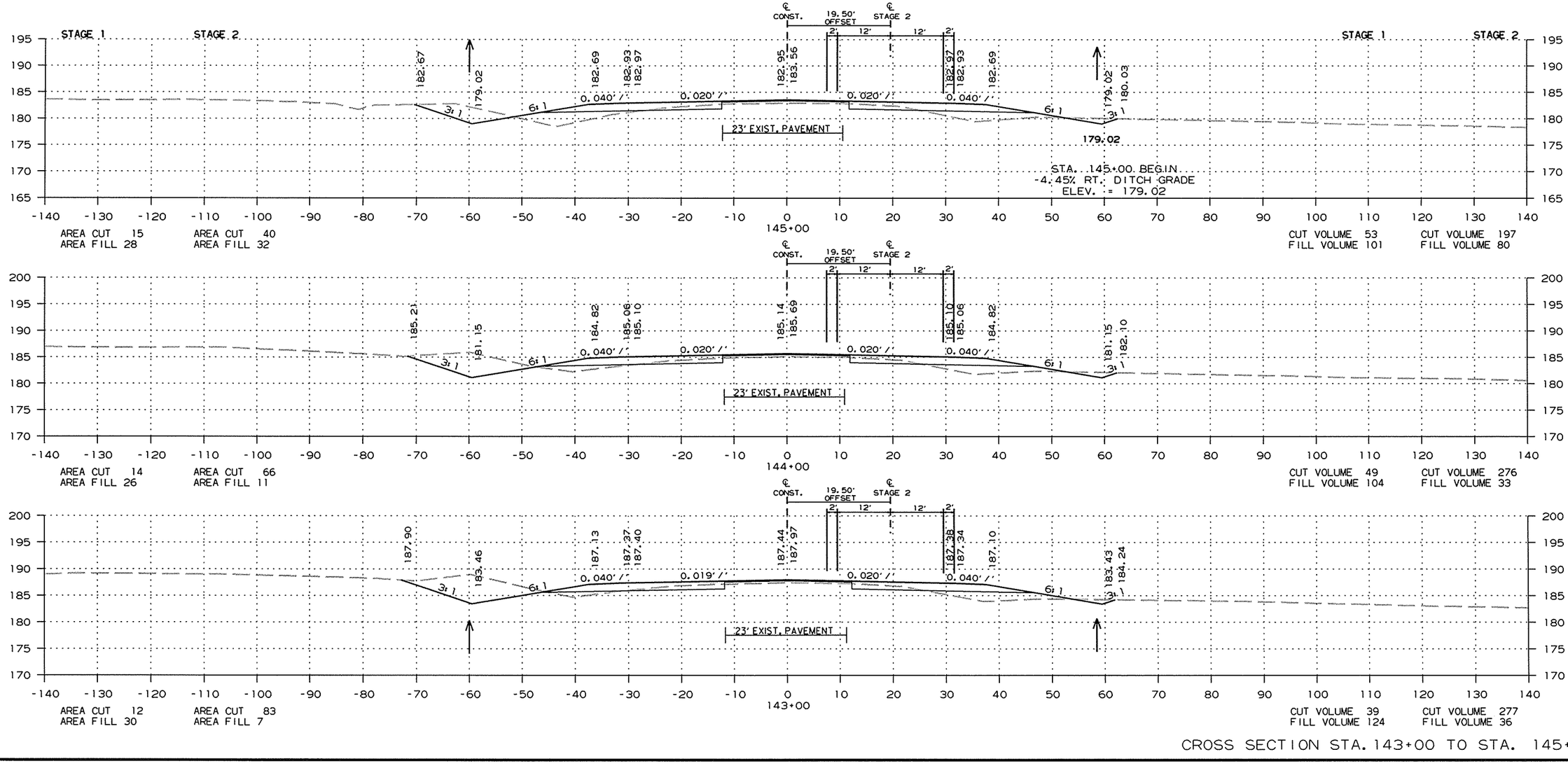
CROSS SECTION STA. 140+00 TO STA. 142+00

3/31/2015

R070280.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.		070280	201	336

(2) CROSS SECTIONS



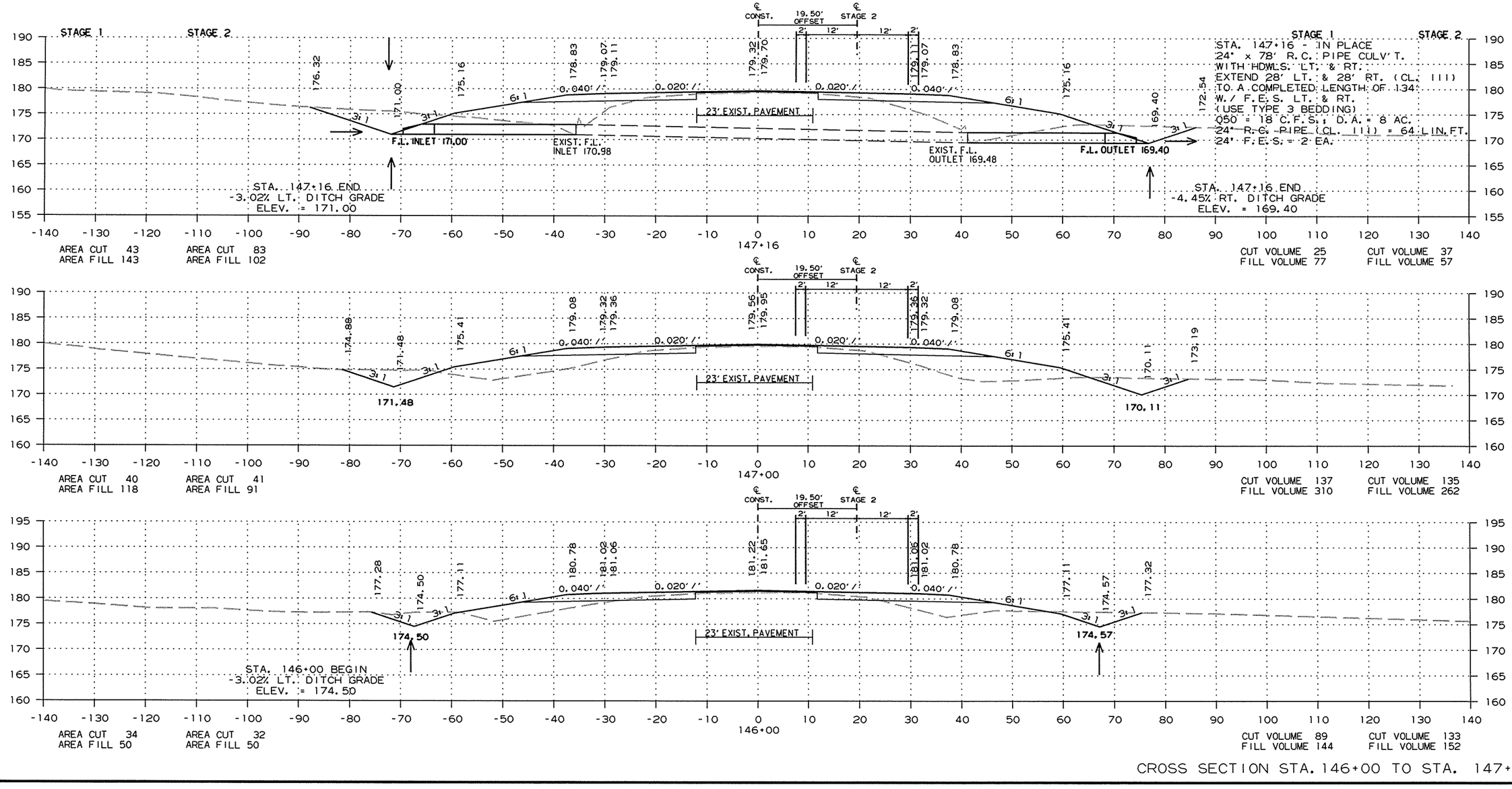
CROSS SECTION STA. 143+00 TO STA. 145+00

3/31/2015

R070280.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.		070280	202	336

(2) CROSS SECTIONS



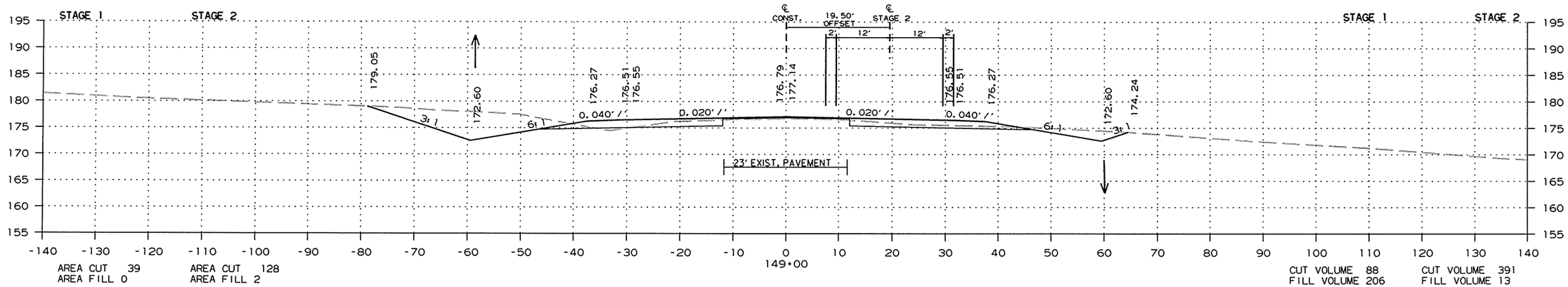
CROSS SECTION STA. 146+00 TO STA. 147+16

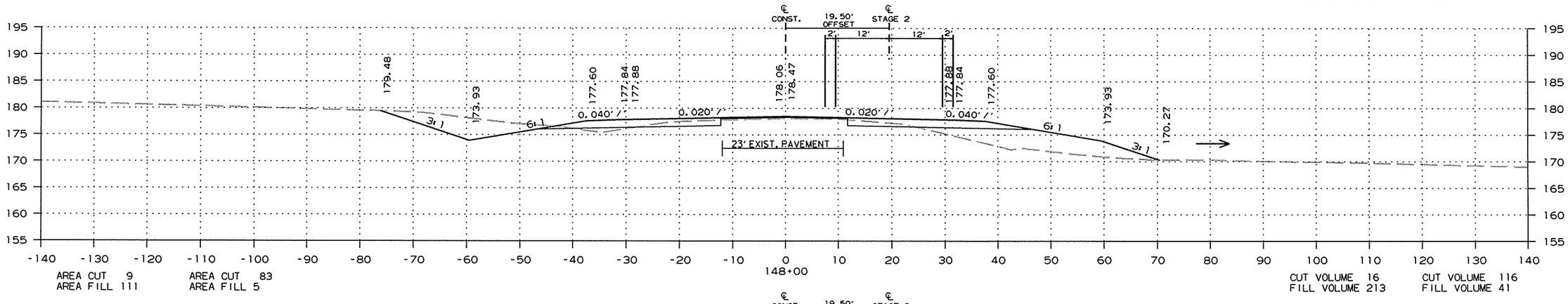
3/31/2015

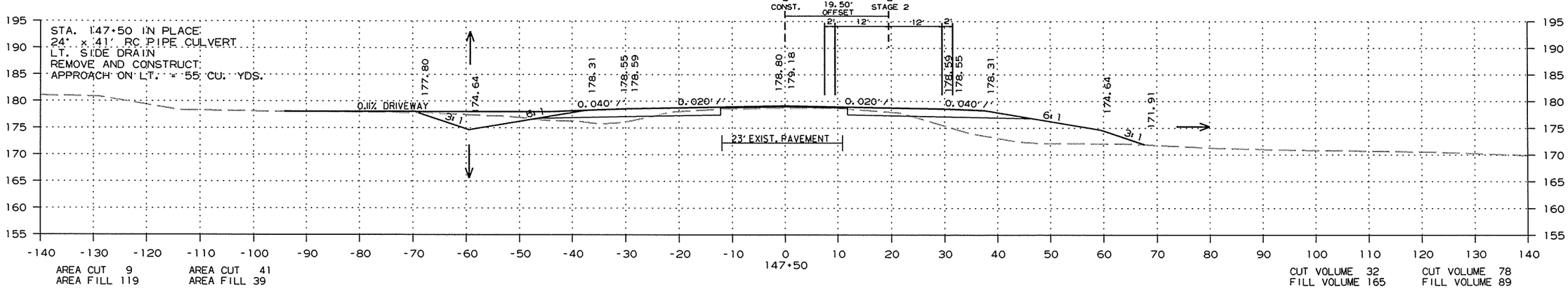
R070280.DGN

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.		070280	203	336

(2) CROSS SECTIONS







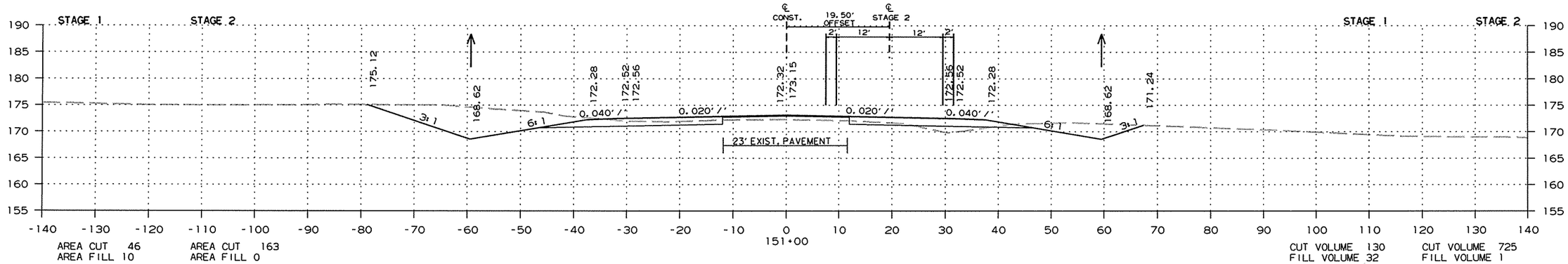
CROSS SECTION STA. 147+50 TO STA. 149+00

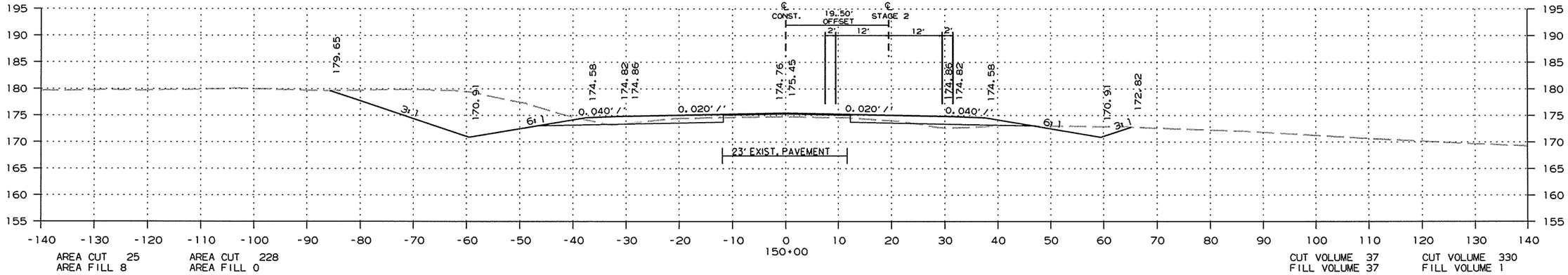
3/31/2015

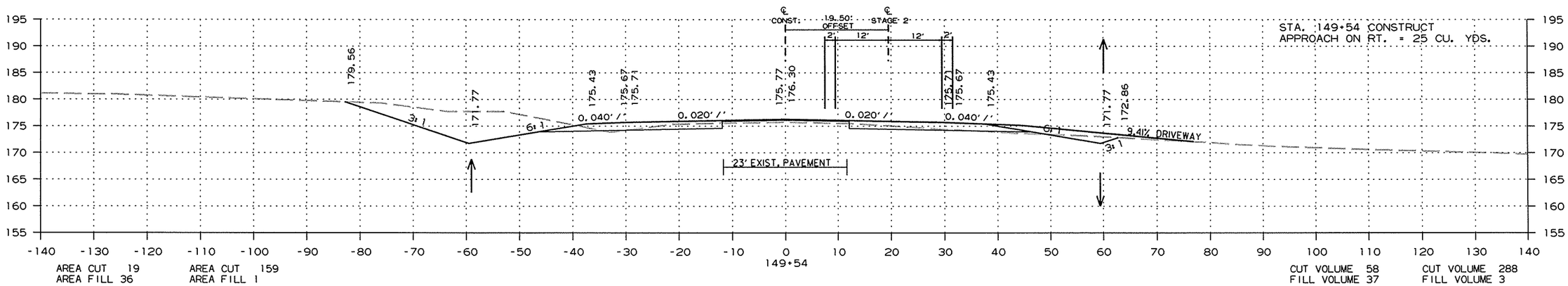
R070280.DGN

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.		070280	204	336

(2) CROSS SECTIONS







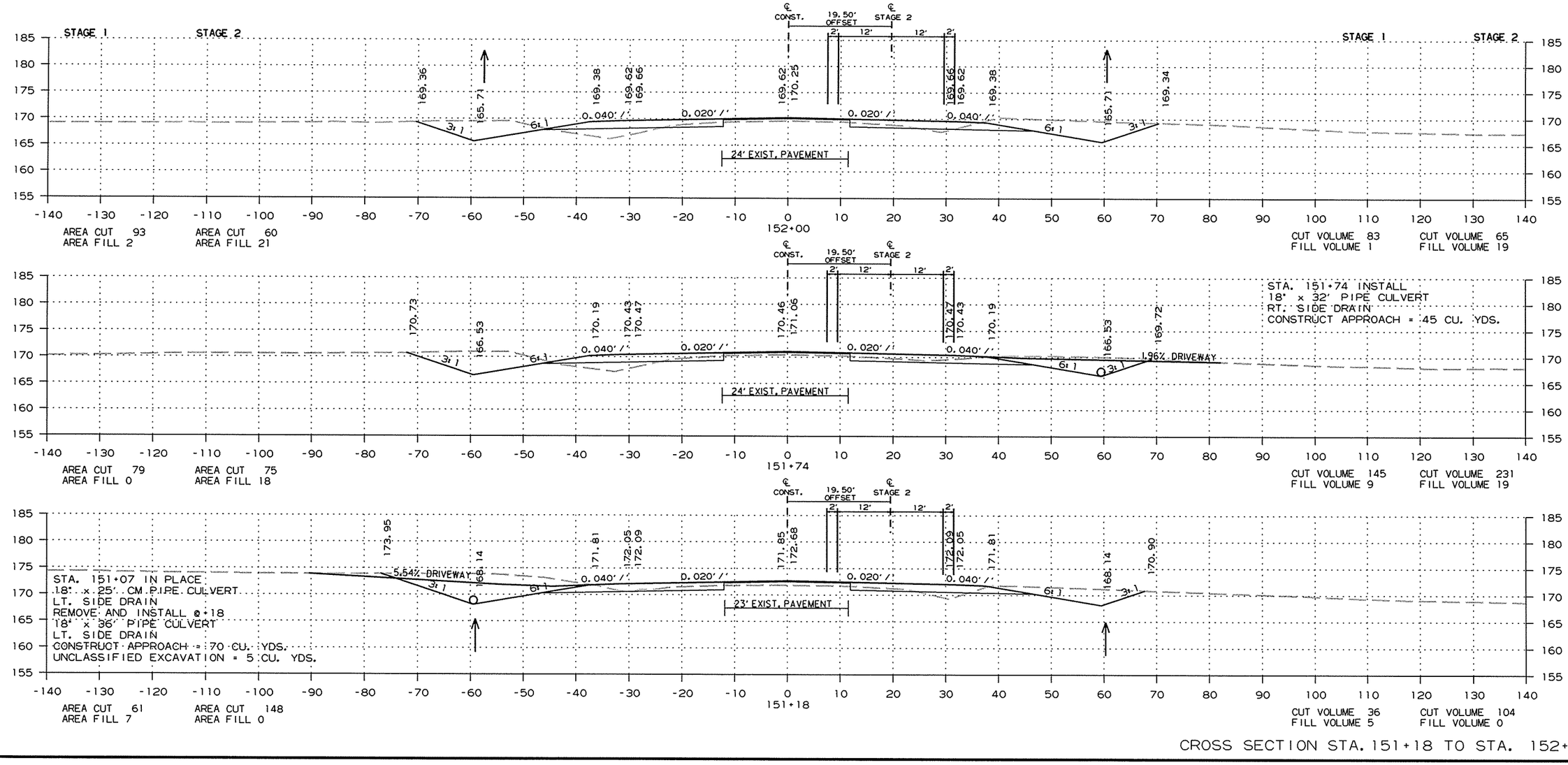
CROSS SECTION STA. 149+54 TO STA. 151+00

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R070280.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.		070280	205	336

(2) CROSS SECTIONS



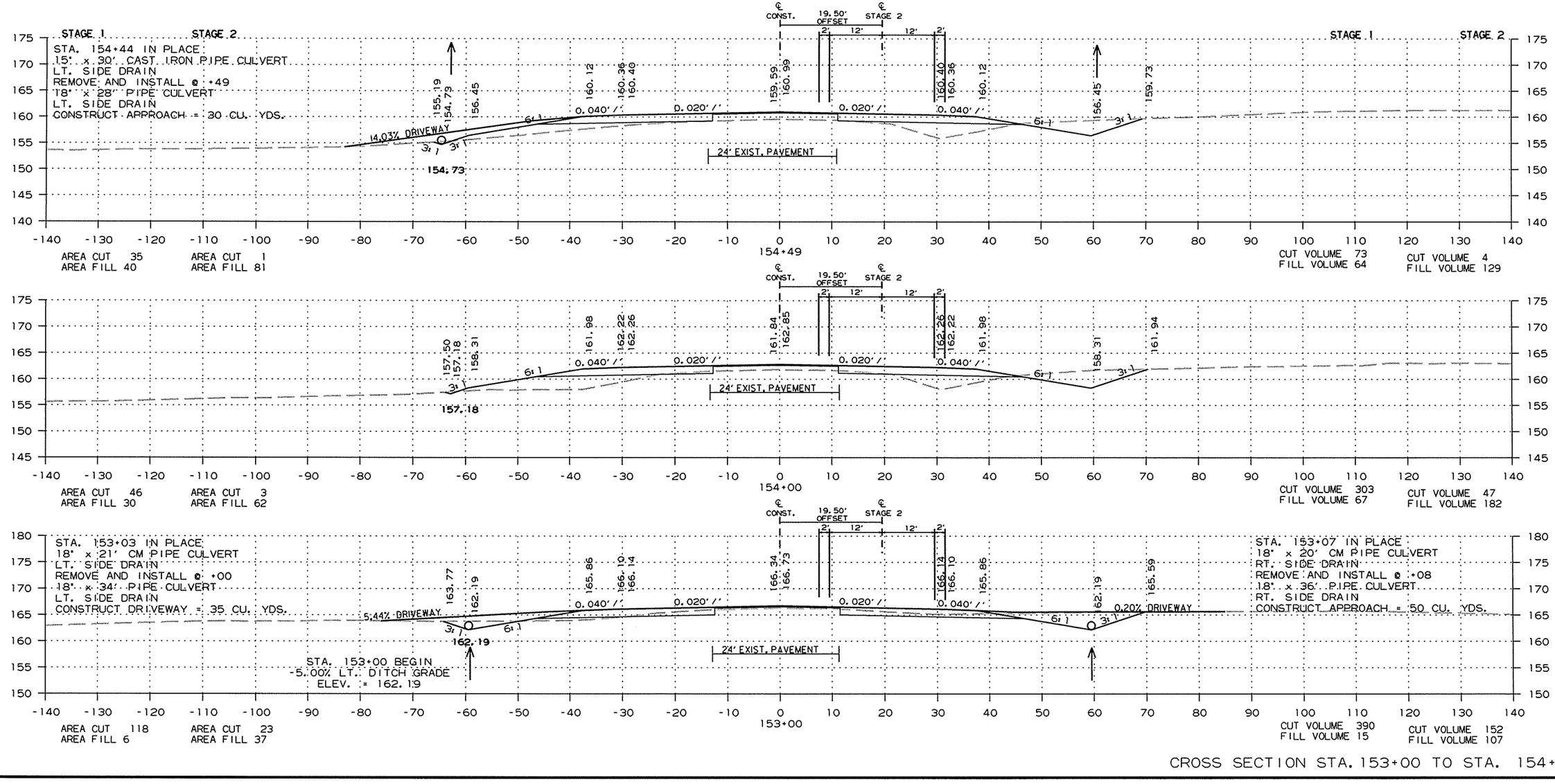
CROSS SECTION STA. 151+18 TO STA. 152+00

3/31/2015

R070280.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.		070280	206	336

(2) CROSS SECTIONS



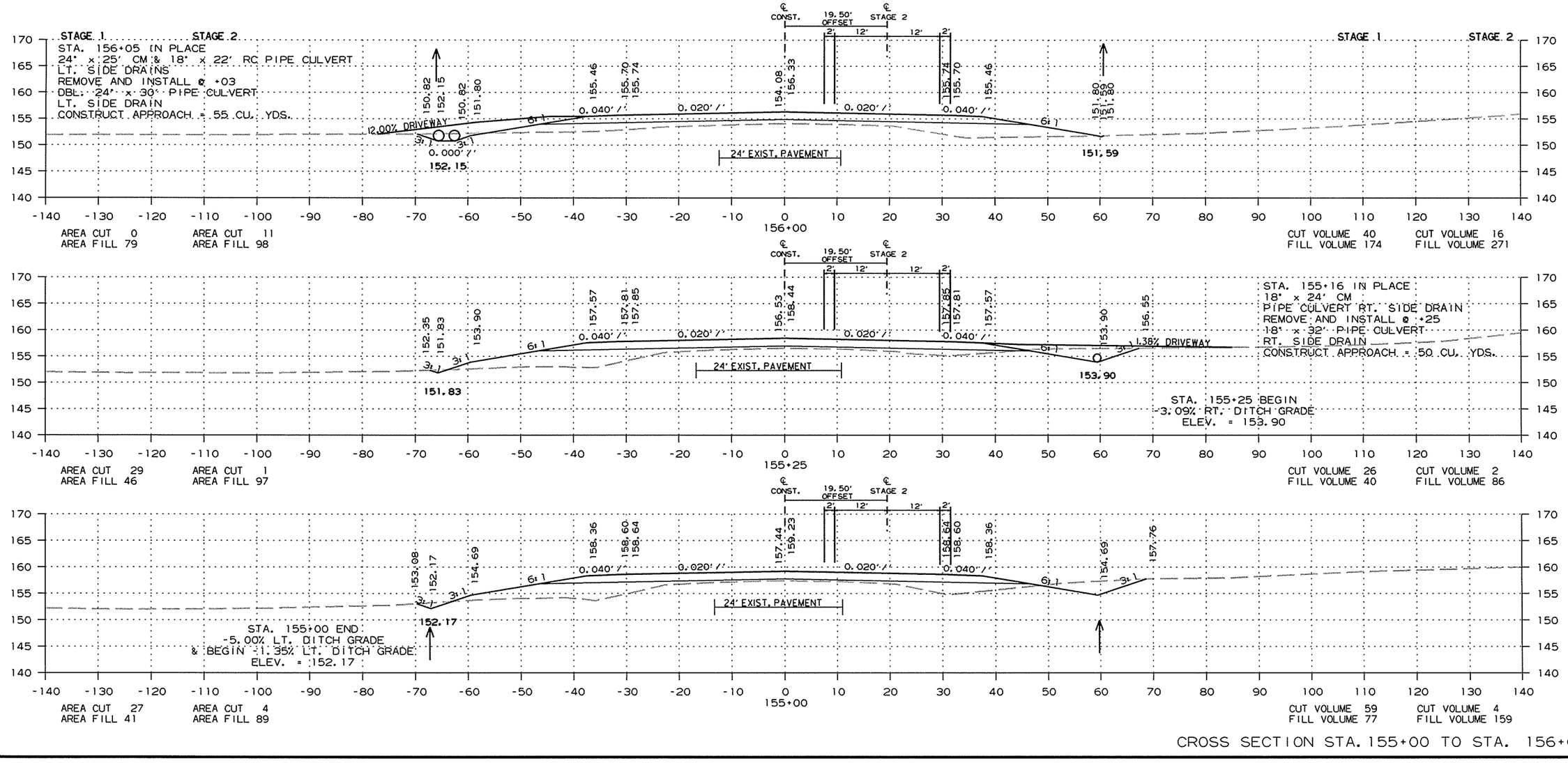
CROSS SECTION STA. 153+00 TO STA. 154+49

3/31/2015

R070280.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.		070280	207	336

(2) CROSS SECTIONS



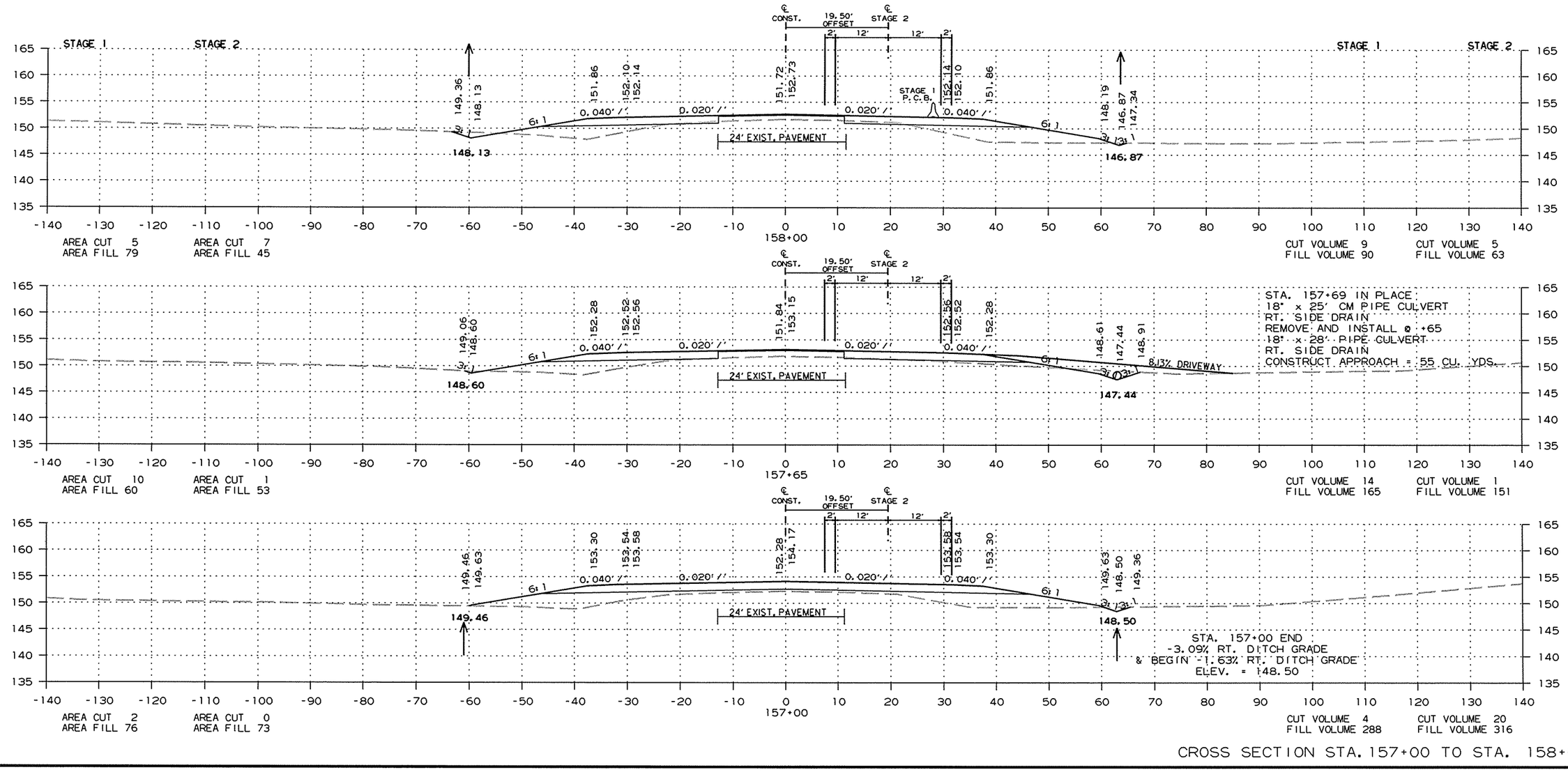
CROSS SECTION STA. 155+00 TO STA. 156+00

3/31/2015

R070280.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.		070280	208	336

(2) CROSS SECTIONS



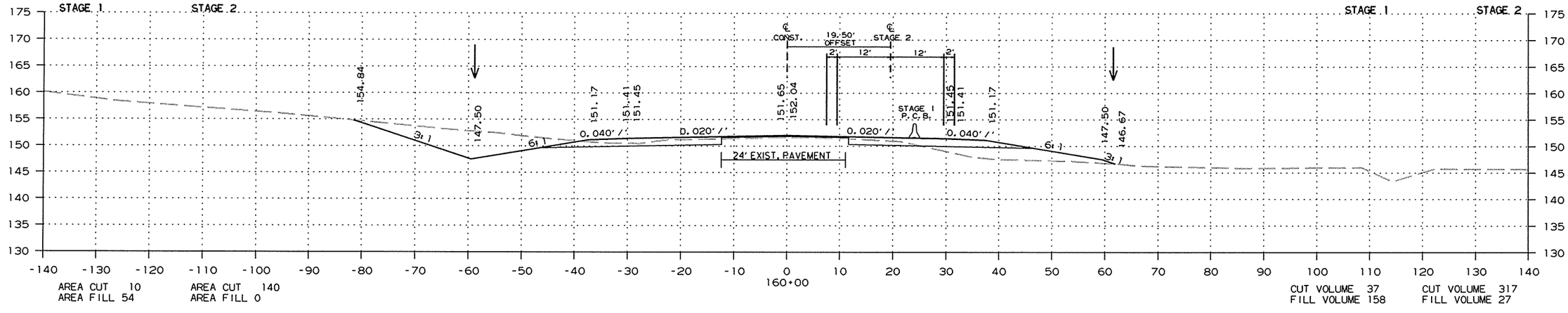
CROSS SECTION STA. 157+00 TO STA. 158+00

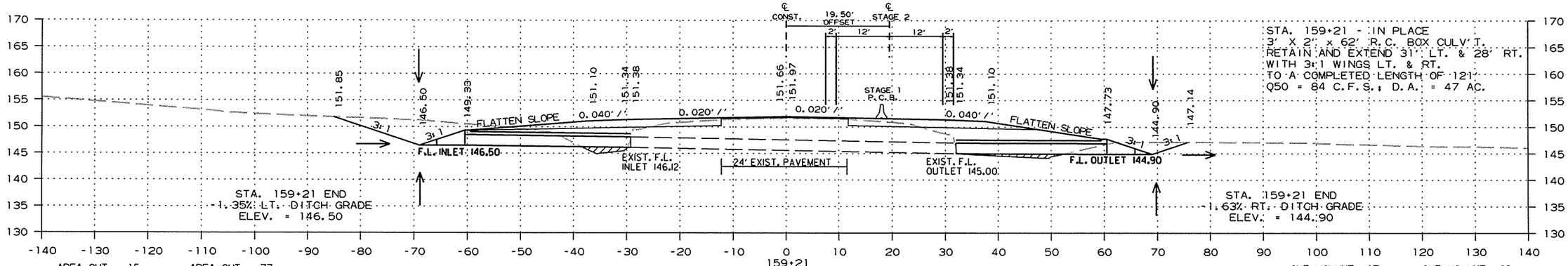
3/31/2015

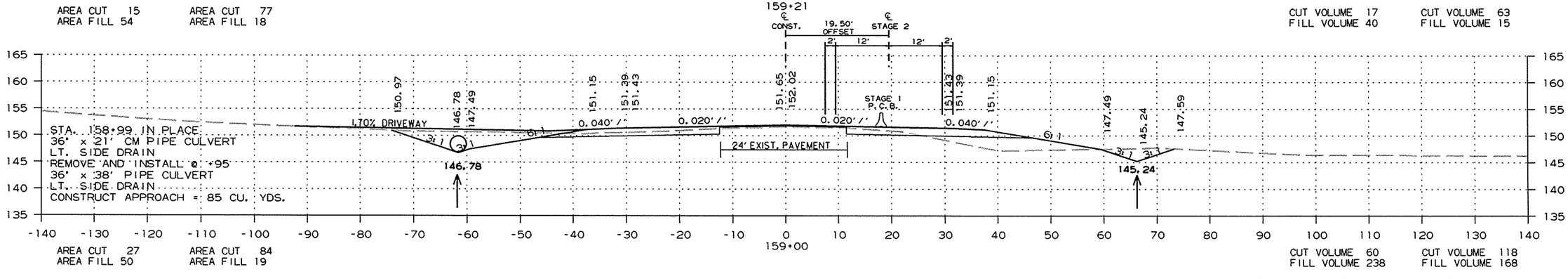
R070280.DGN

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.		070280	209	336

(2) CROSS SECTIONS







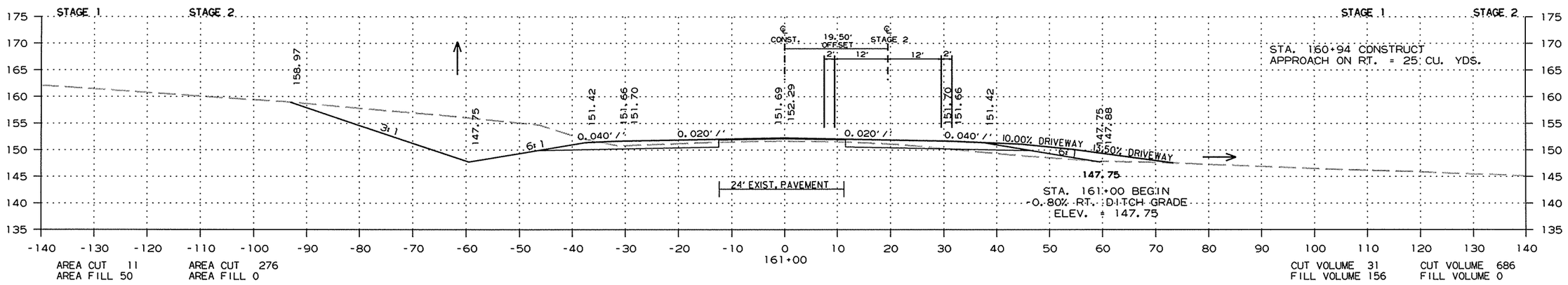
CROSS SECTION STA. 159+00 TO STA. 160+00

3/31/2015

R070280.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.		070280	210	336

(2) CROSS SECTIONS



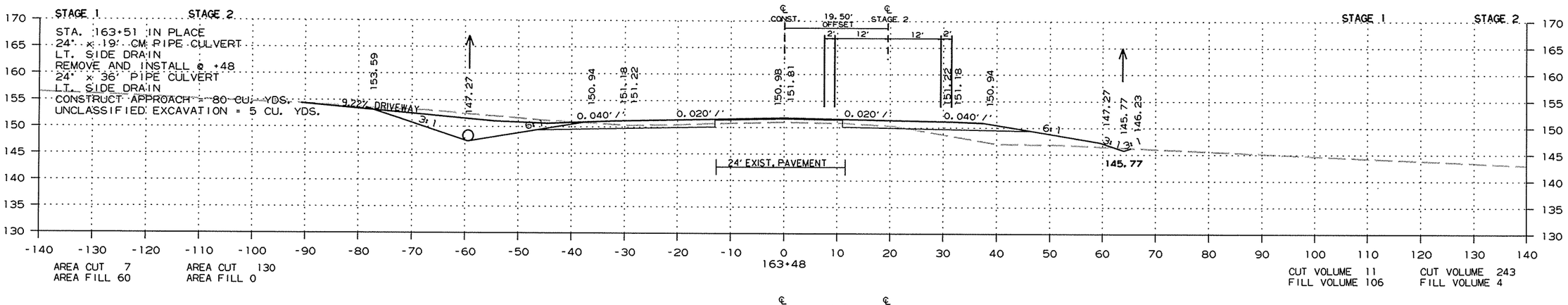
CROSS SECTION STA. 160+18 TO STA. 161+00

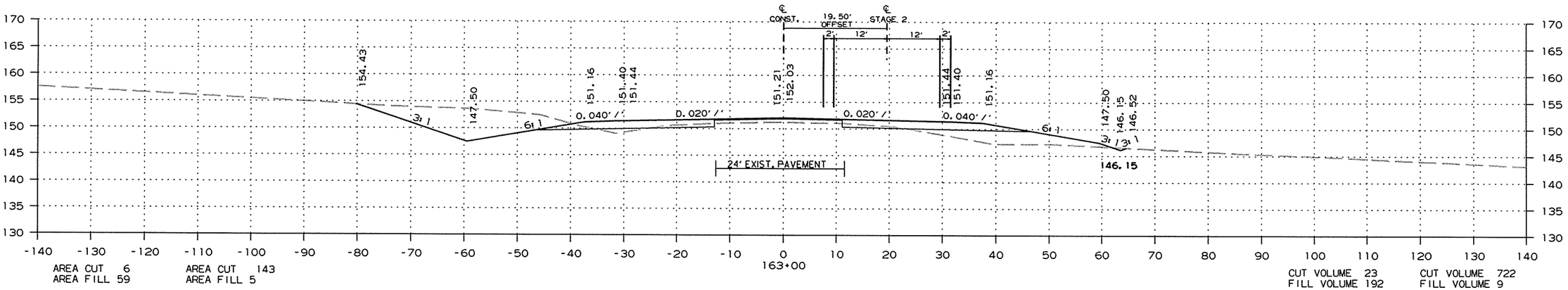
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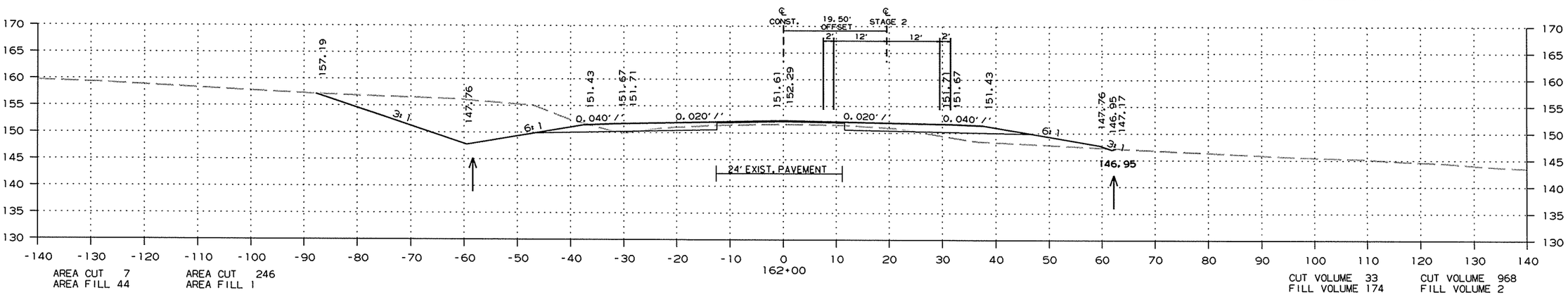
R070280.DGN

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.		070280	211	336

(2) CROSS SECTIONS







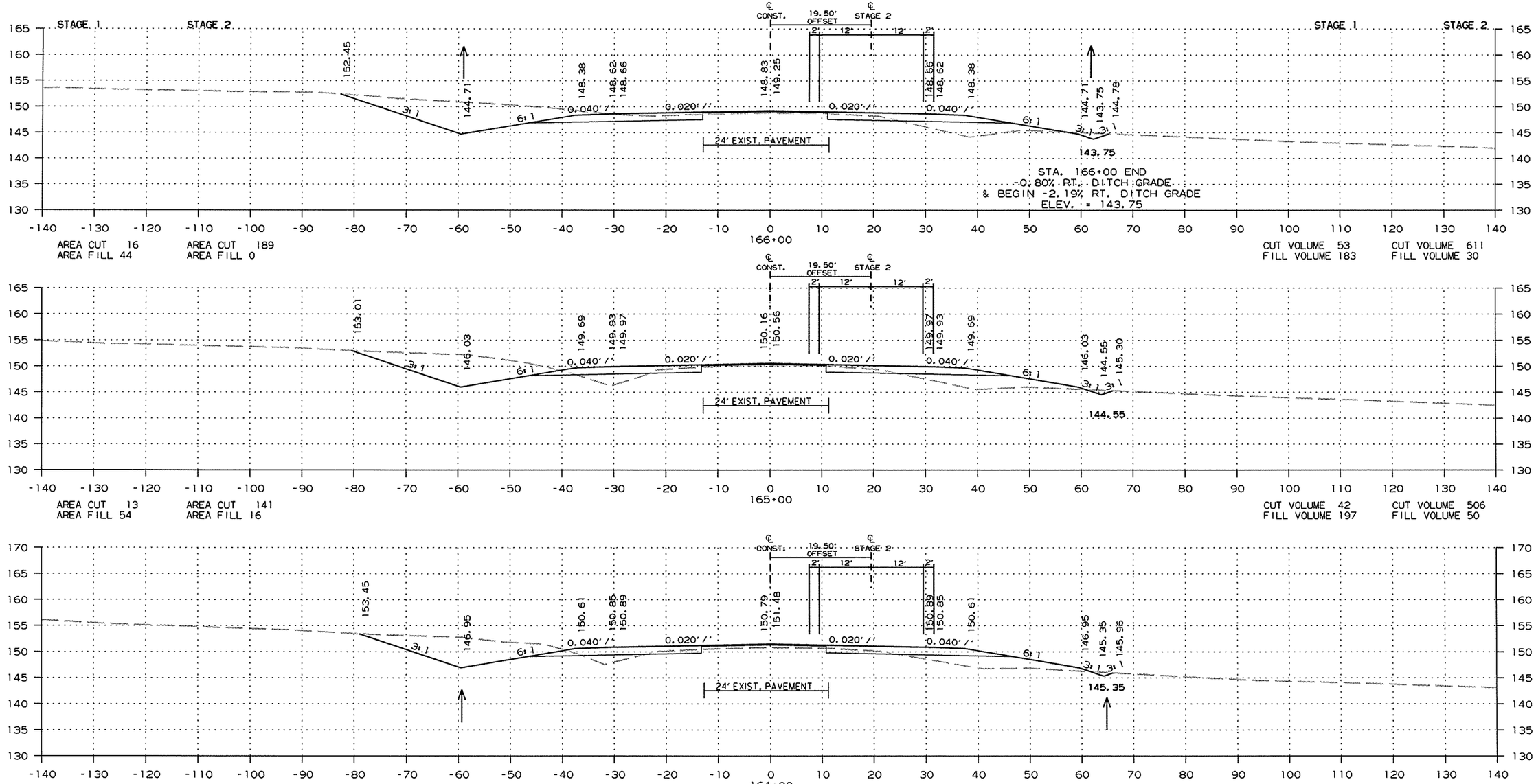
CROSS SECTION STA. 162+00 TO STA. 163+48

3/31/2015

R070280.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.		070280	212	336

(2) CROSS SECTIONS



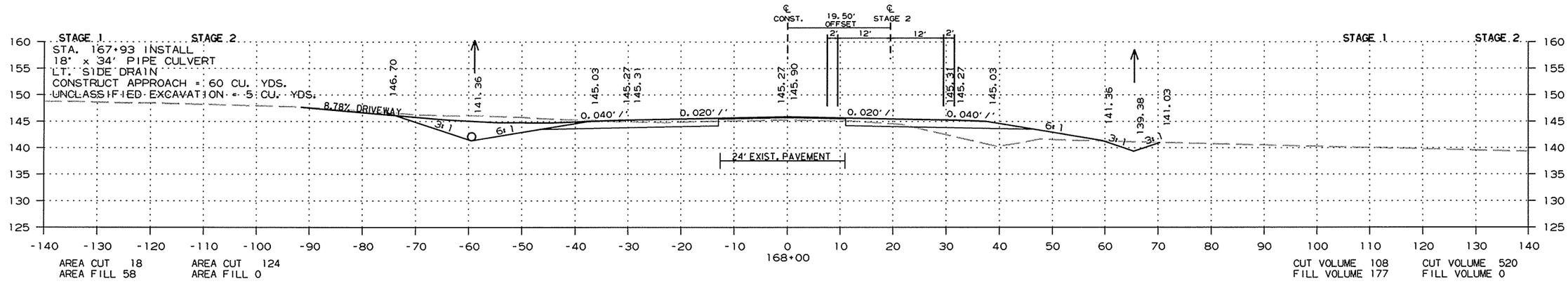
CROSS SECTION STA. 164+00 TO STA. 166+00

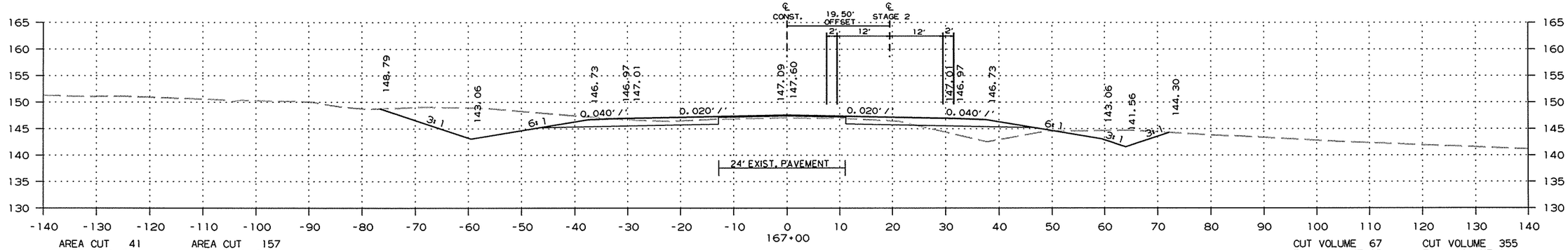
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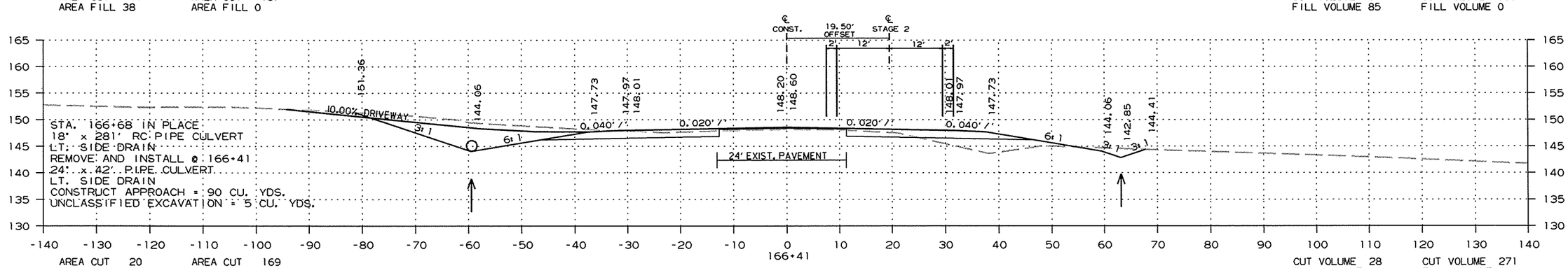
R070280.DGN

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.		070280	213	336

(2) CROSS SECTIONS







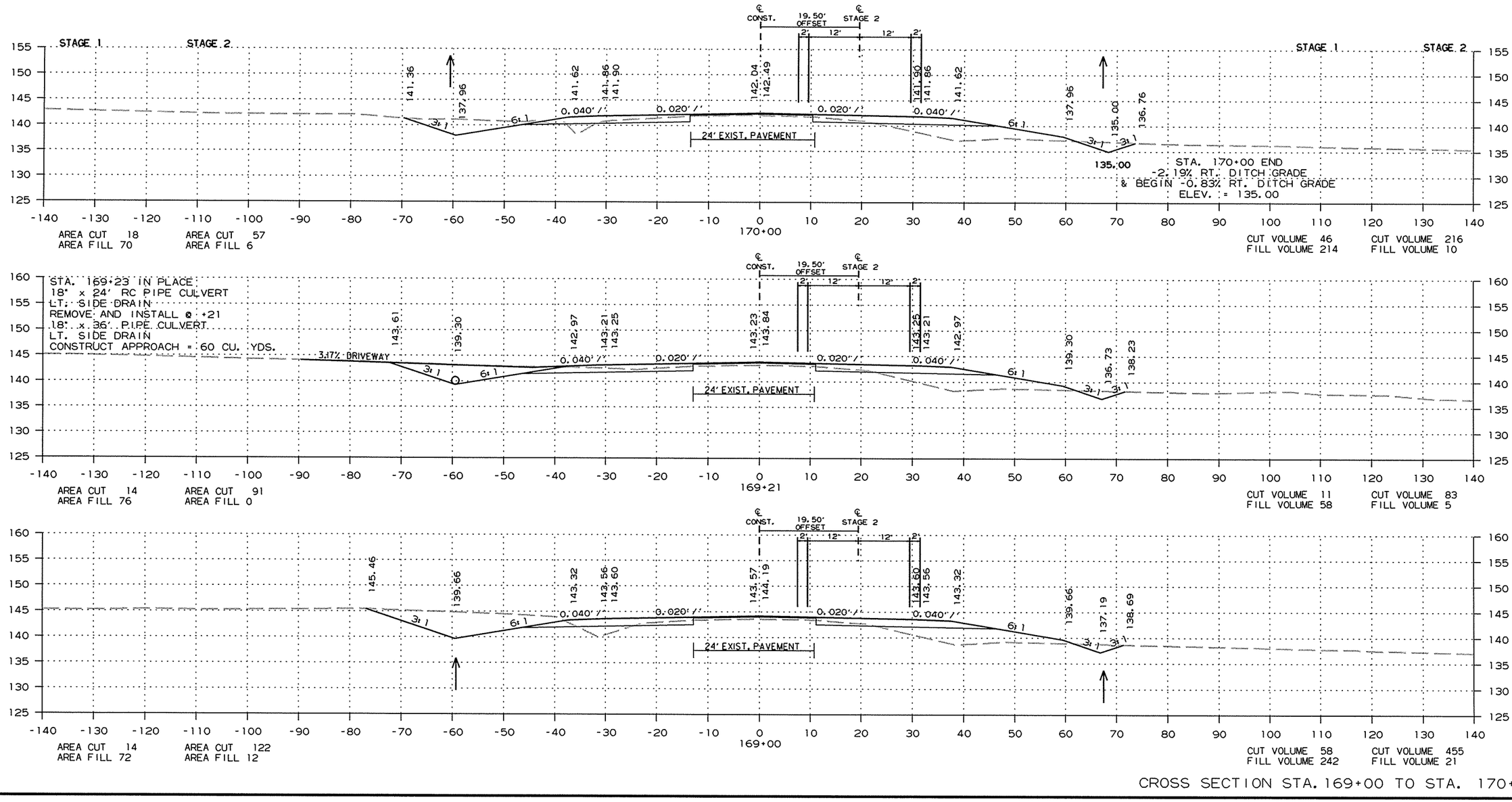
CROSS SECTION STA. 166+41 TO STA. 168+00

3/31/2015

R070280.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.		070280	214	336

(2) CROSS SECTIONS



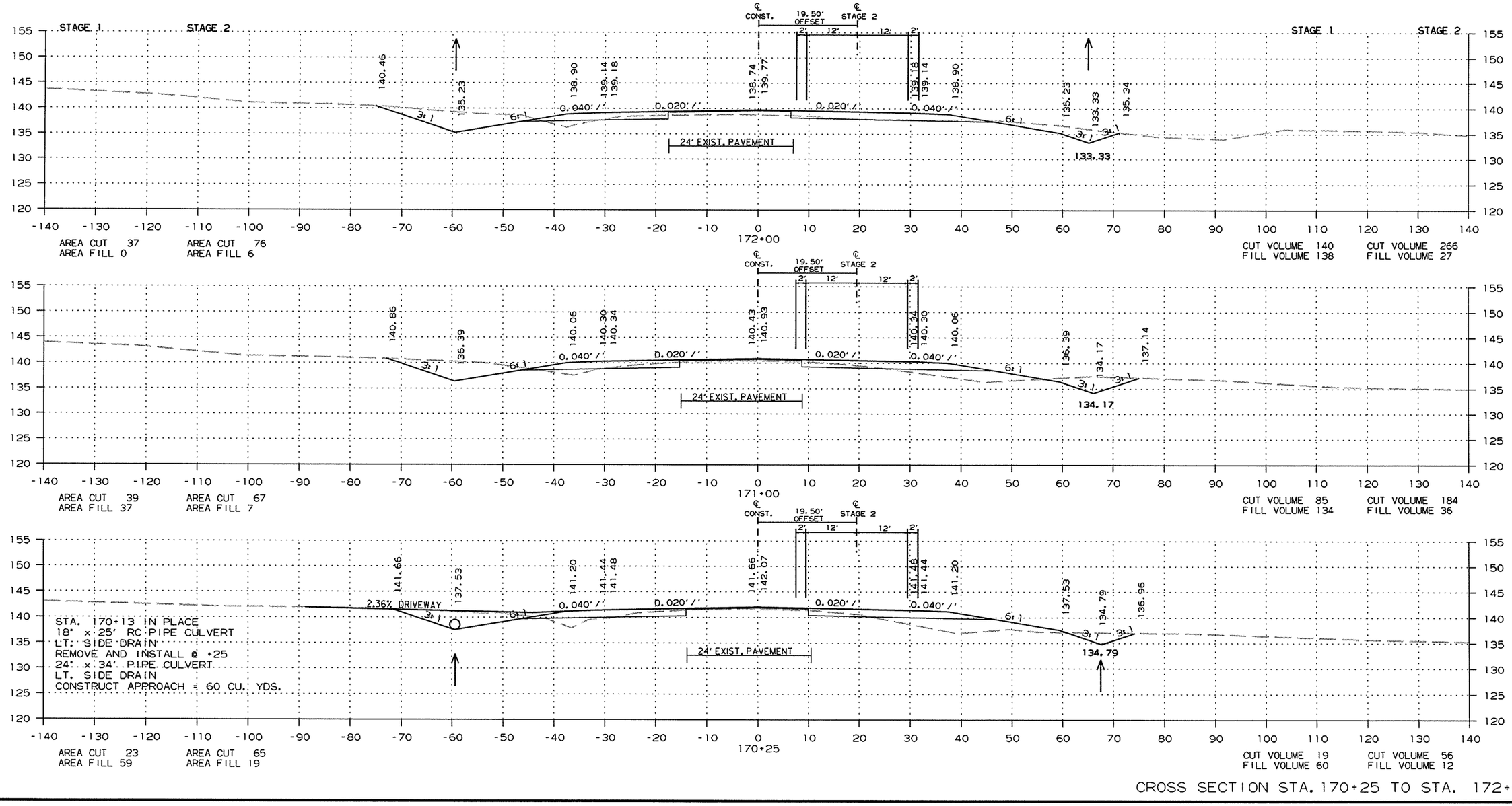
CROSS SECTION STA. 169+00 TO STA. 170+00

3/31/2015

R070280.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.		070280	215	336

(2) CROSS SECTIONS



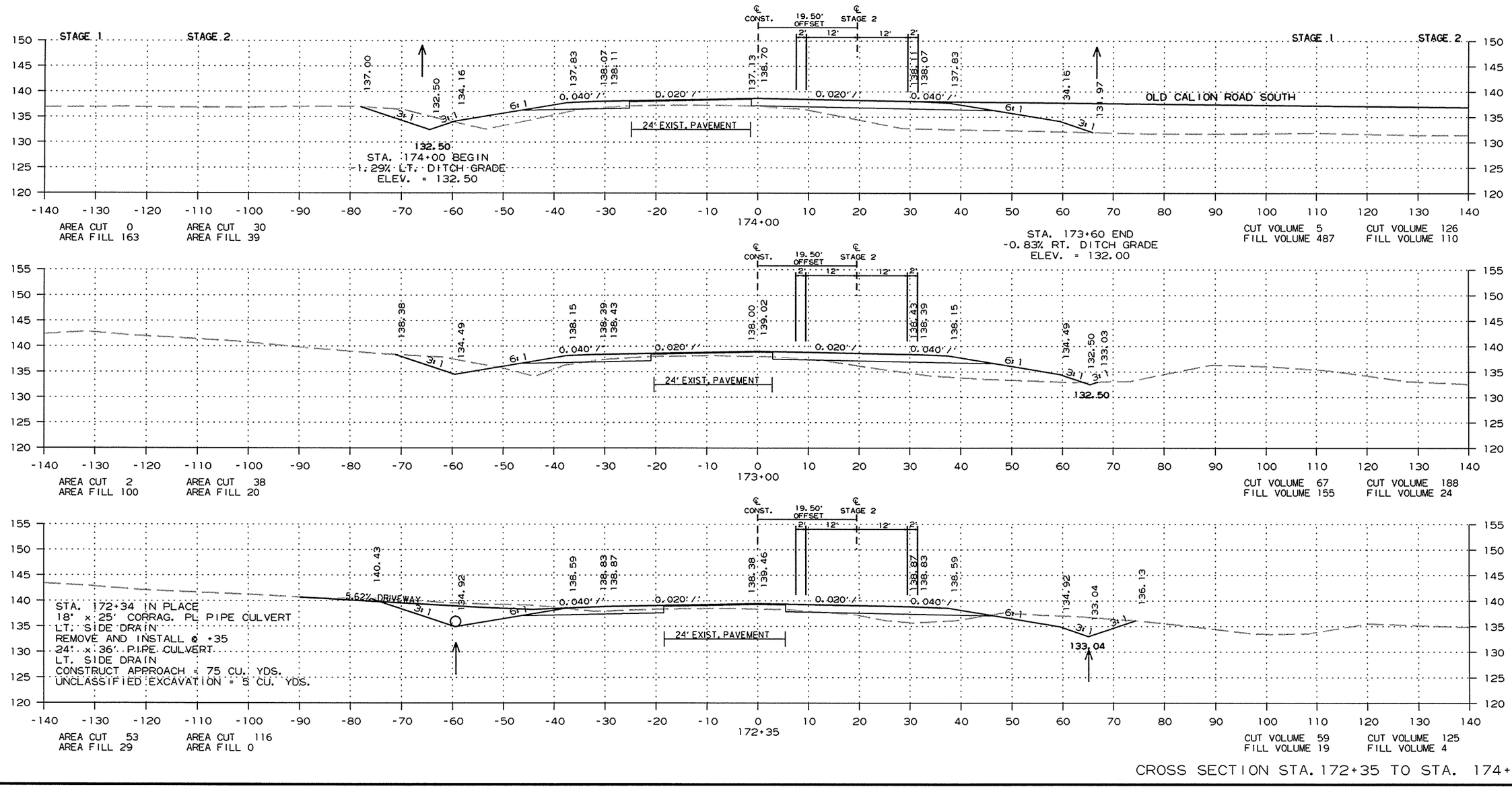
CROSS SECTION STA. 170+25 TO STA. 172+00

3/31/2015

R070280.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.		070280	216	336

(2) CROSS SECTIONS



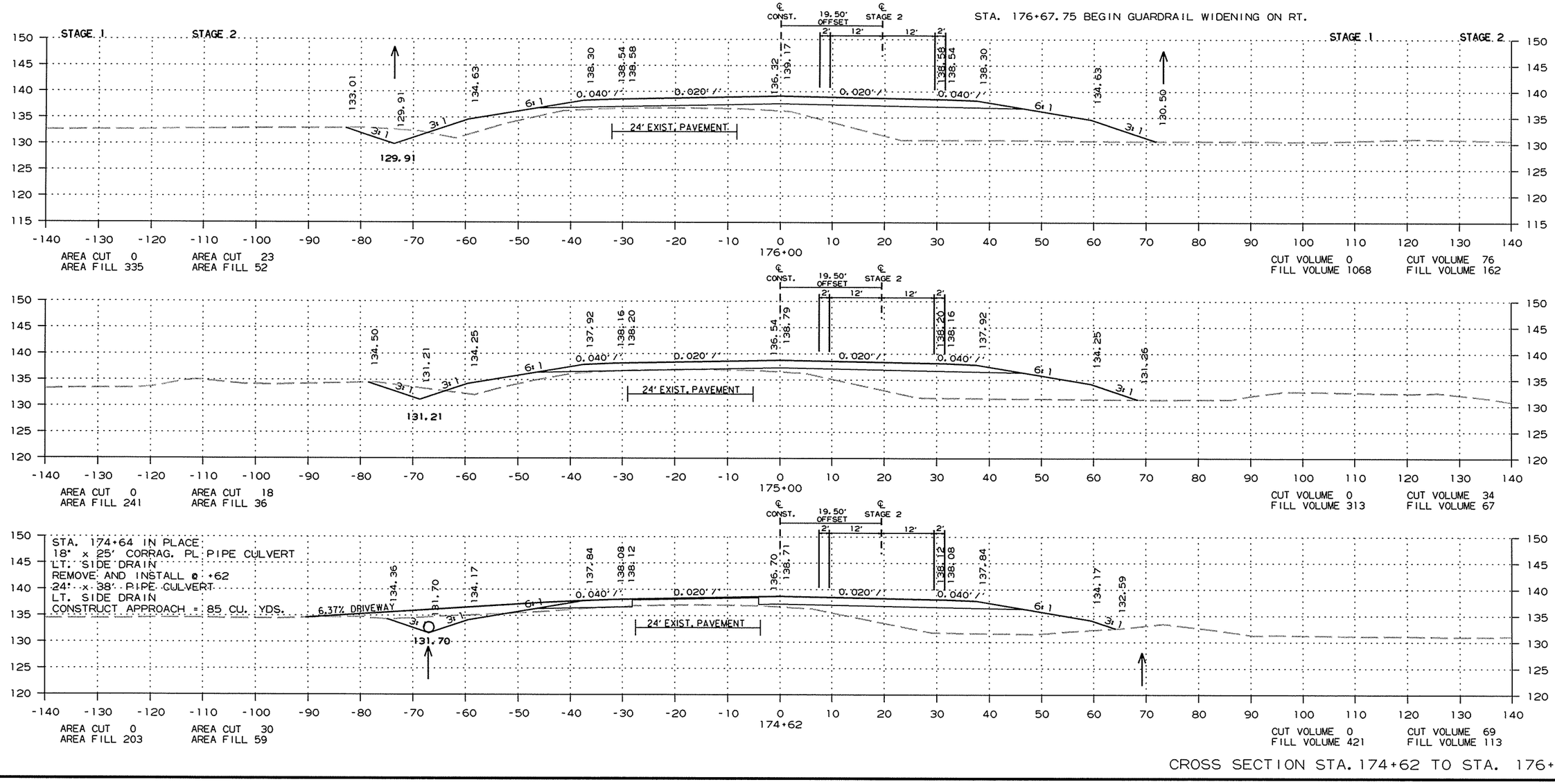
CROSS SECTION STA. 172+35 TO STA. 174+00

3/31/2015

R070280.DGN

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.		070280	217	336

(2) CROSS SECTIONS



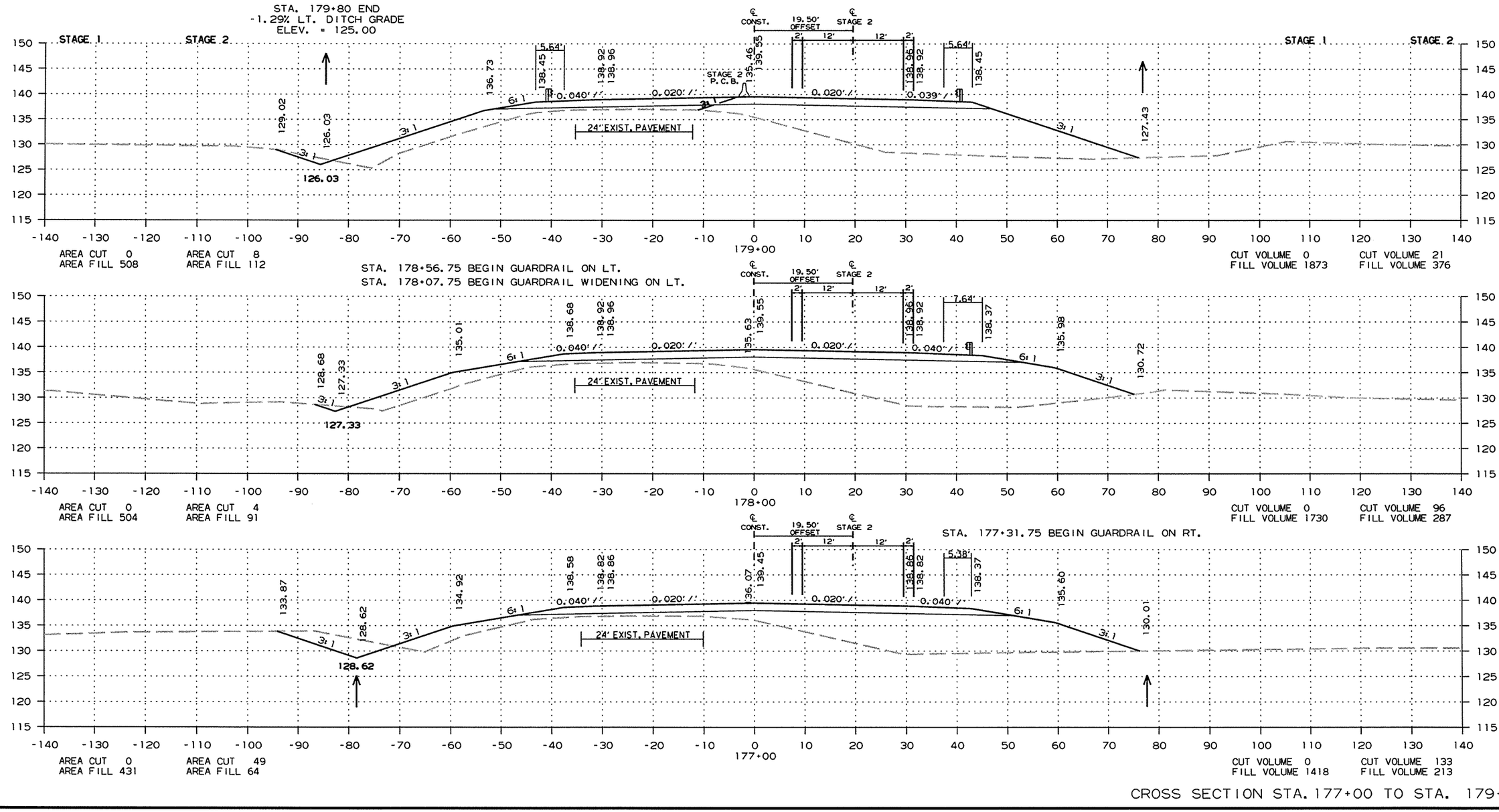
CROSS SECTION STA. 174+62 TO STA. 176+00

3/31/2015

R070280.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.		070280	218	336

(2) CROSS SECTIONS



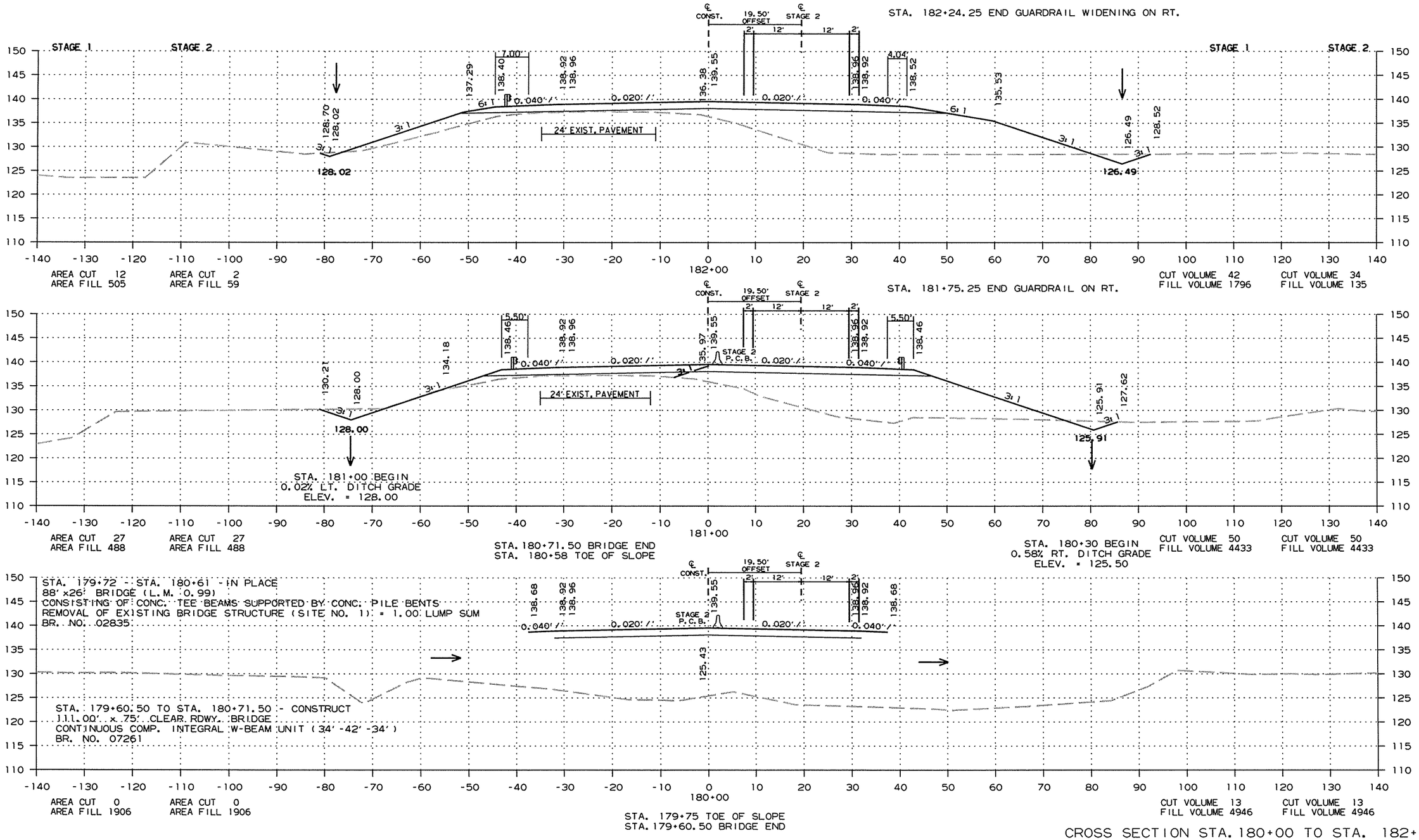
CROSS SECTION STA. 177+00 TO STA. 179+00

3/31/2015

R070280.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.		070280	219	336

(2) CROSS SECTIONS



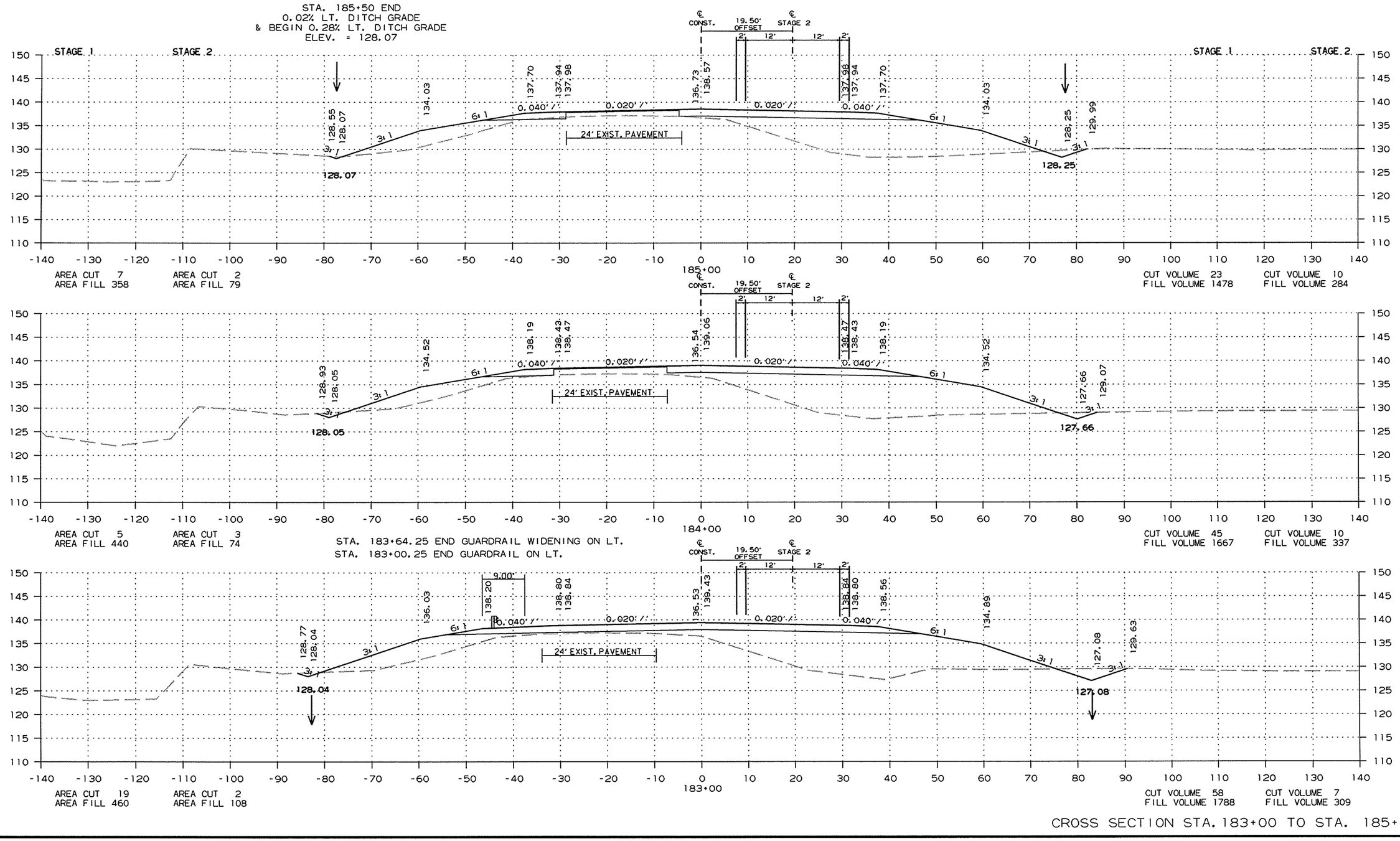
CROSS SECTION STA. 180+00 TO STA. 182+00

3/31/2015

R070280.DGN

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.		070280	220	336

(2) CROSS SECTIONS



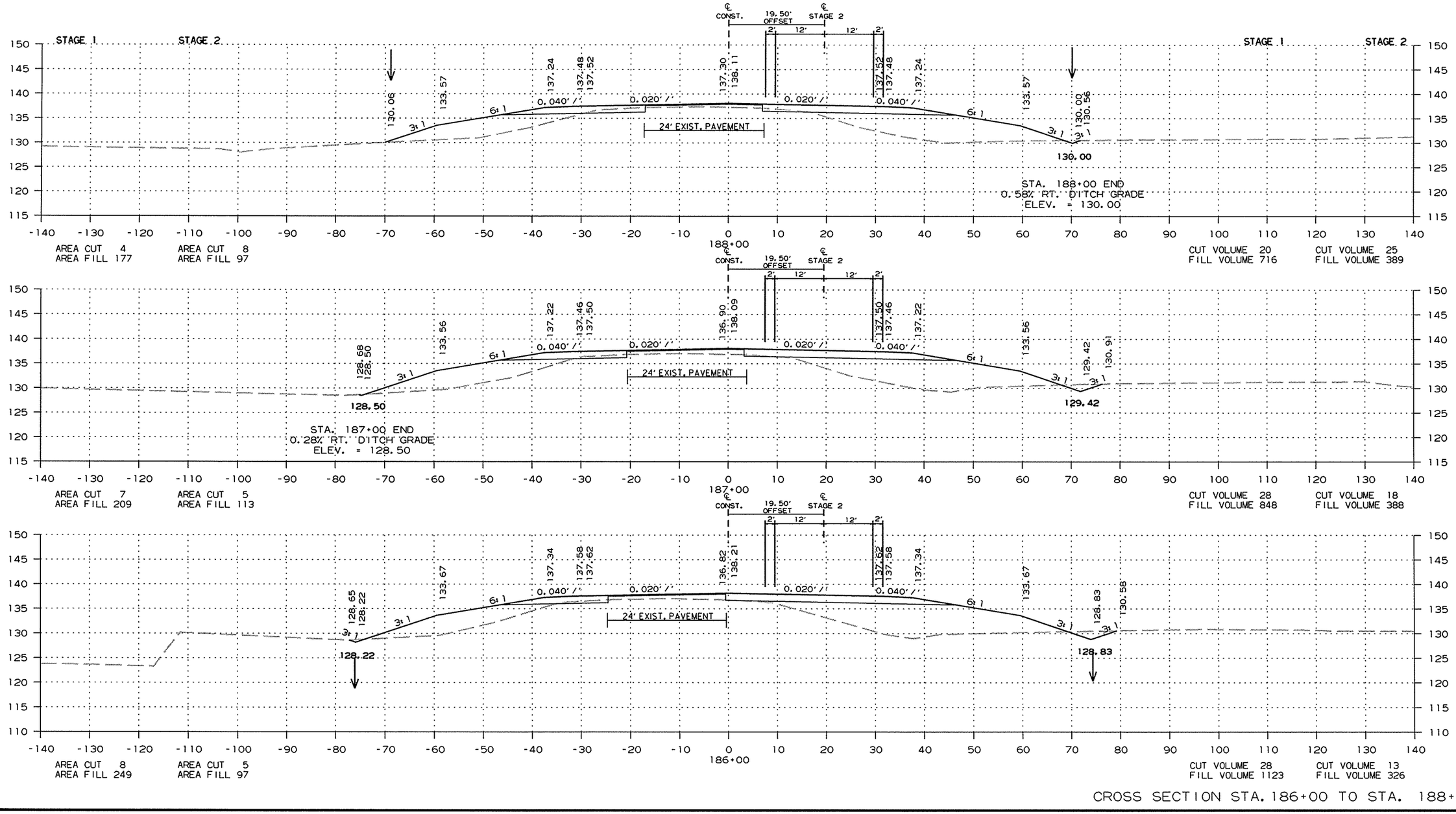
CROSS SECTION STA. 183+00 TO STA. 185+00

3/31/2015

R070280.DGN

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.		070280	221	336

(2) CROSS SECTIONS



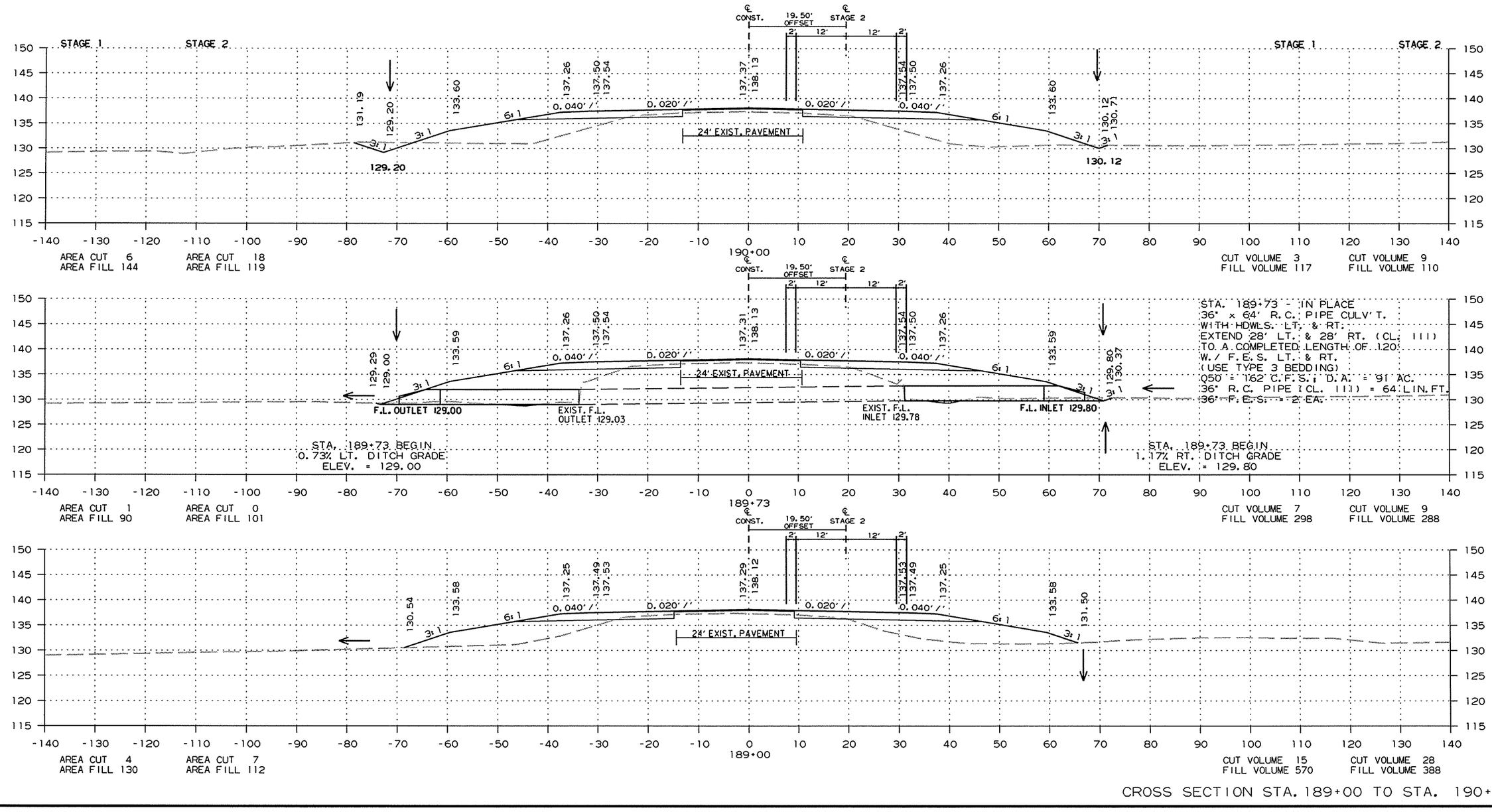
CROSS SECTION STA. 186+00 TO STA. 188+00

3/31/2015

R070280.DGN

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.		070280	222	336

(2) CROSS SECTIONS



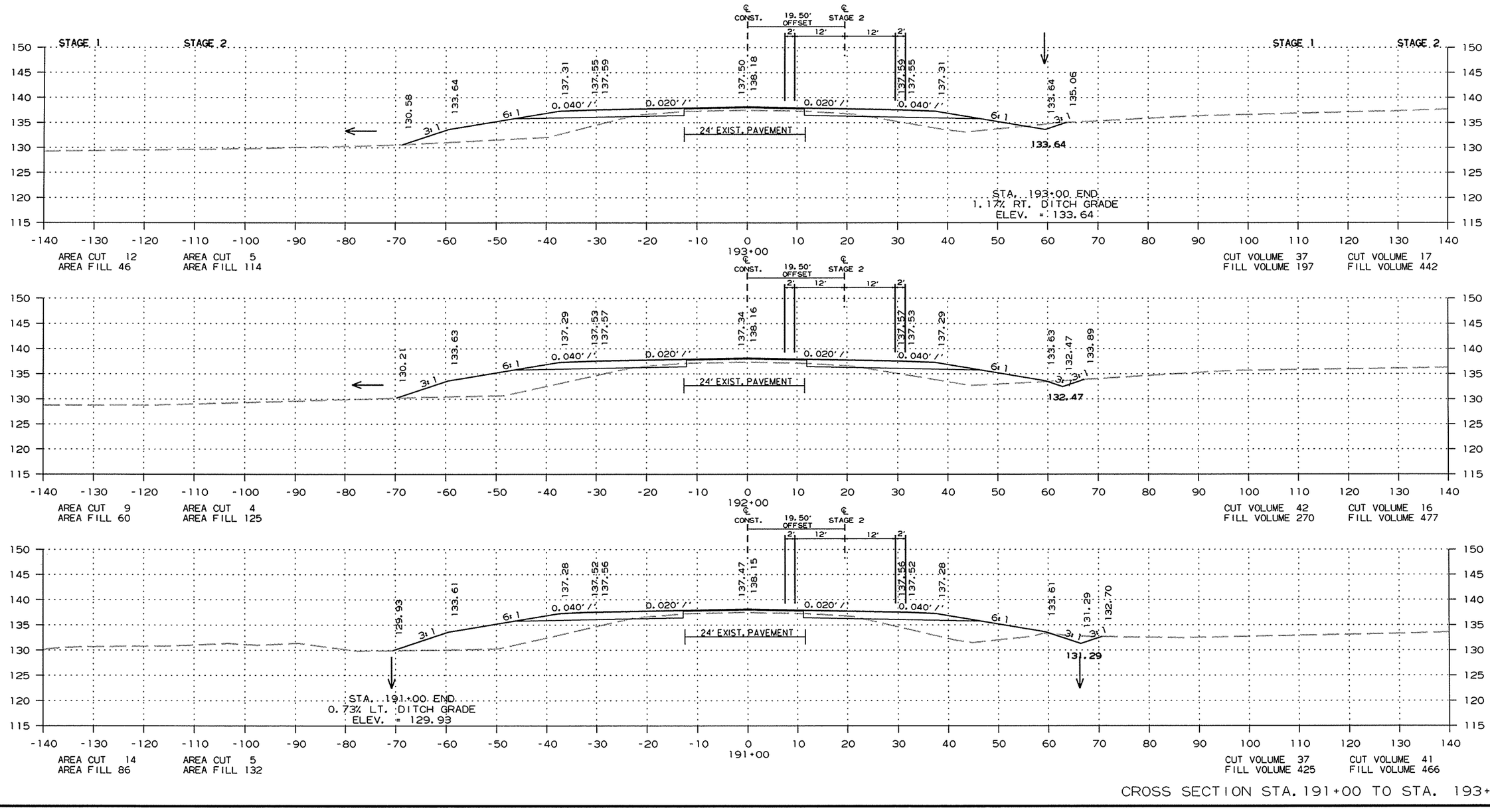
CROSS SECTION STA. 189+00 TO STA. 190+00

3/31/2015

R070280.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.		070280	223	336

(2) CROSS SECTIONS



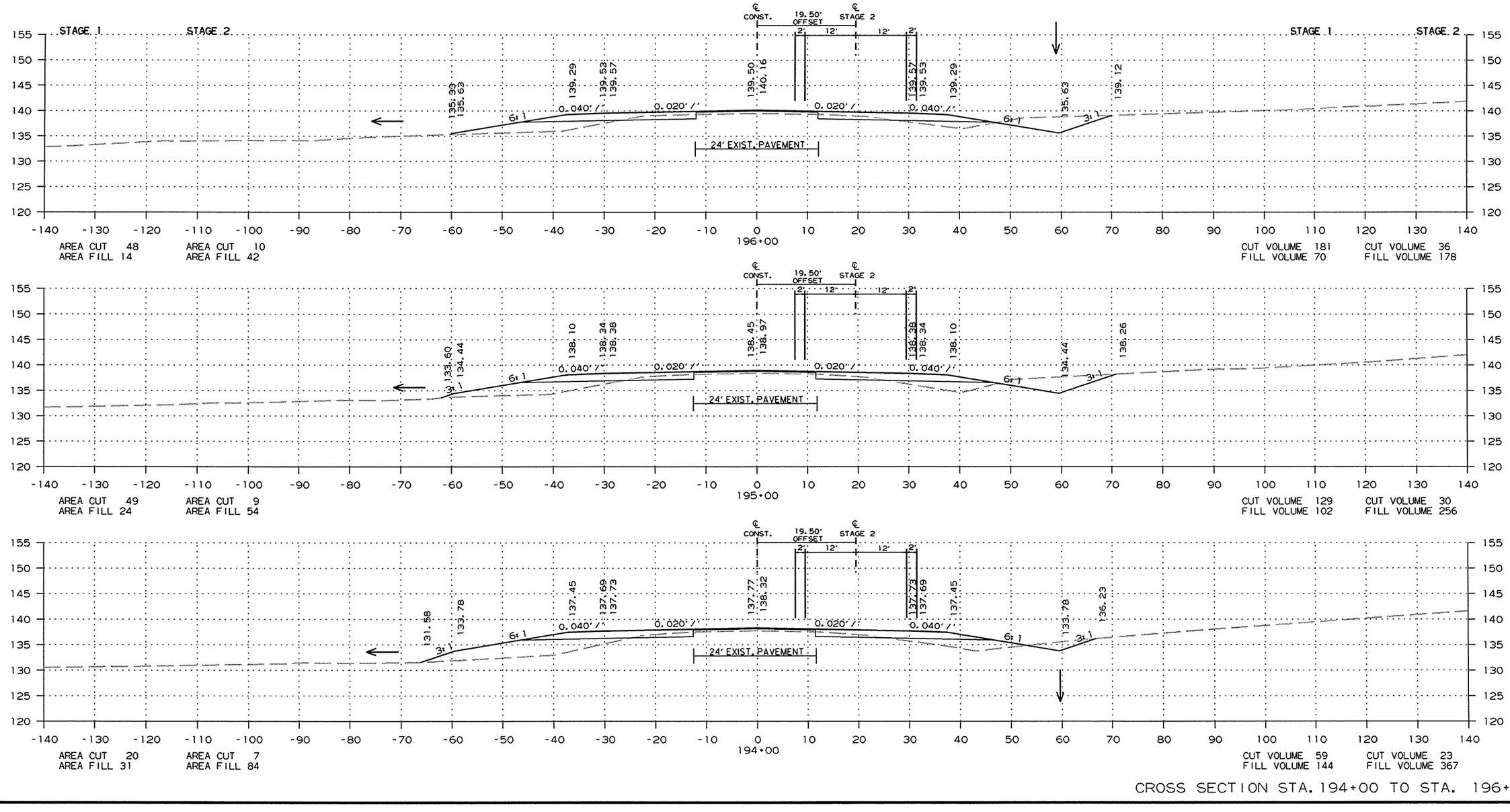
CROSS SECTION STA. 191+00 TO STA. 193+00

3/31/2015

R070280.DGN

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.		070280	224	336

(2) CROSS SECTIONS



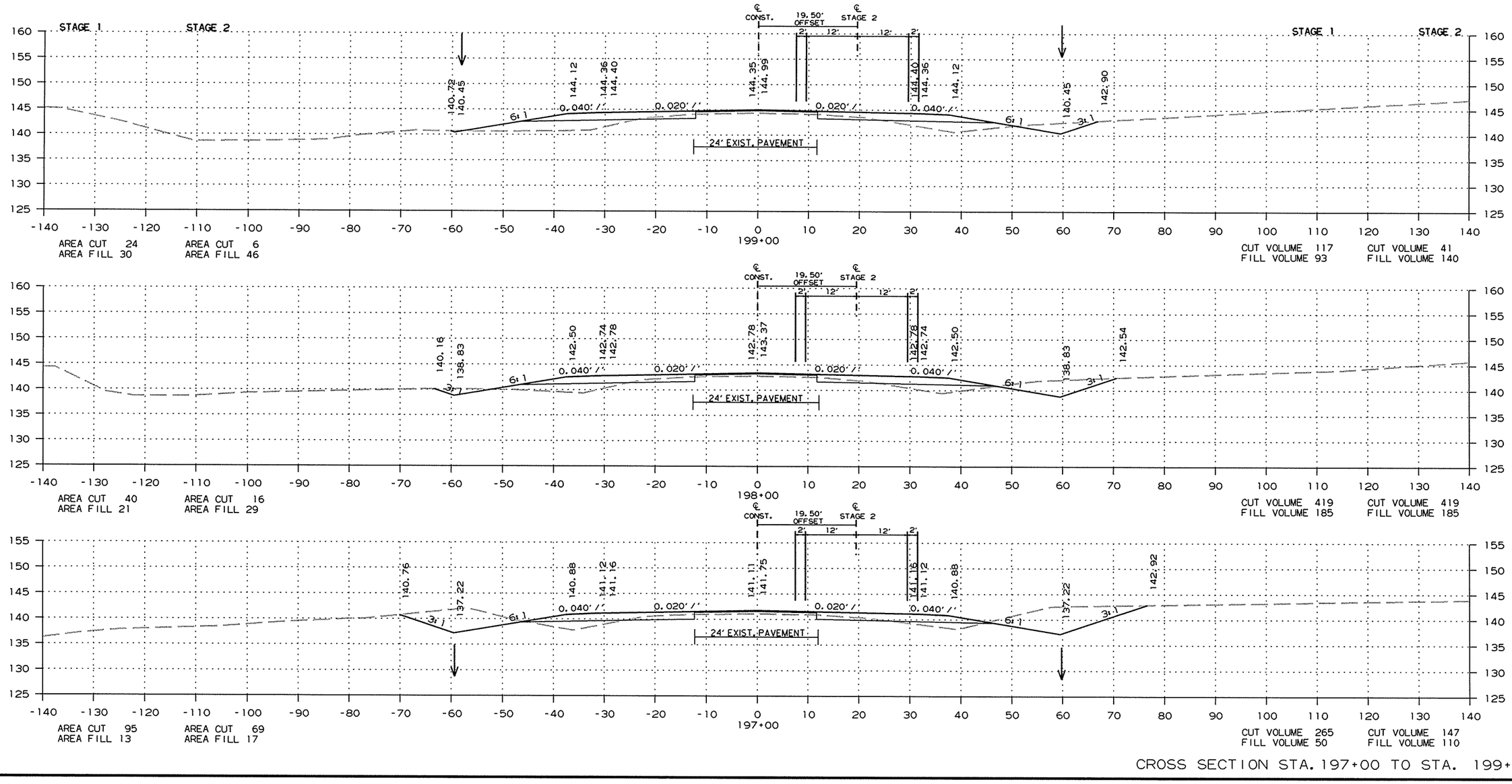
CROSS SECTION STA. 194+00 TO STA. 196+00

3/31/2015

R070280.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.		070280	225	336

(2) CROSS SECTIONS



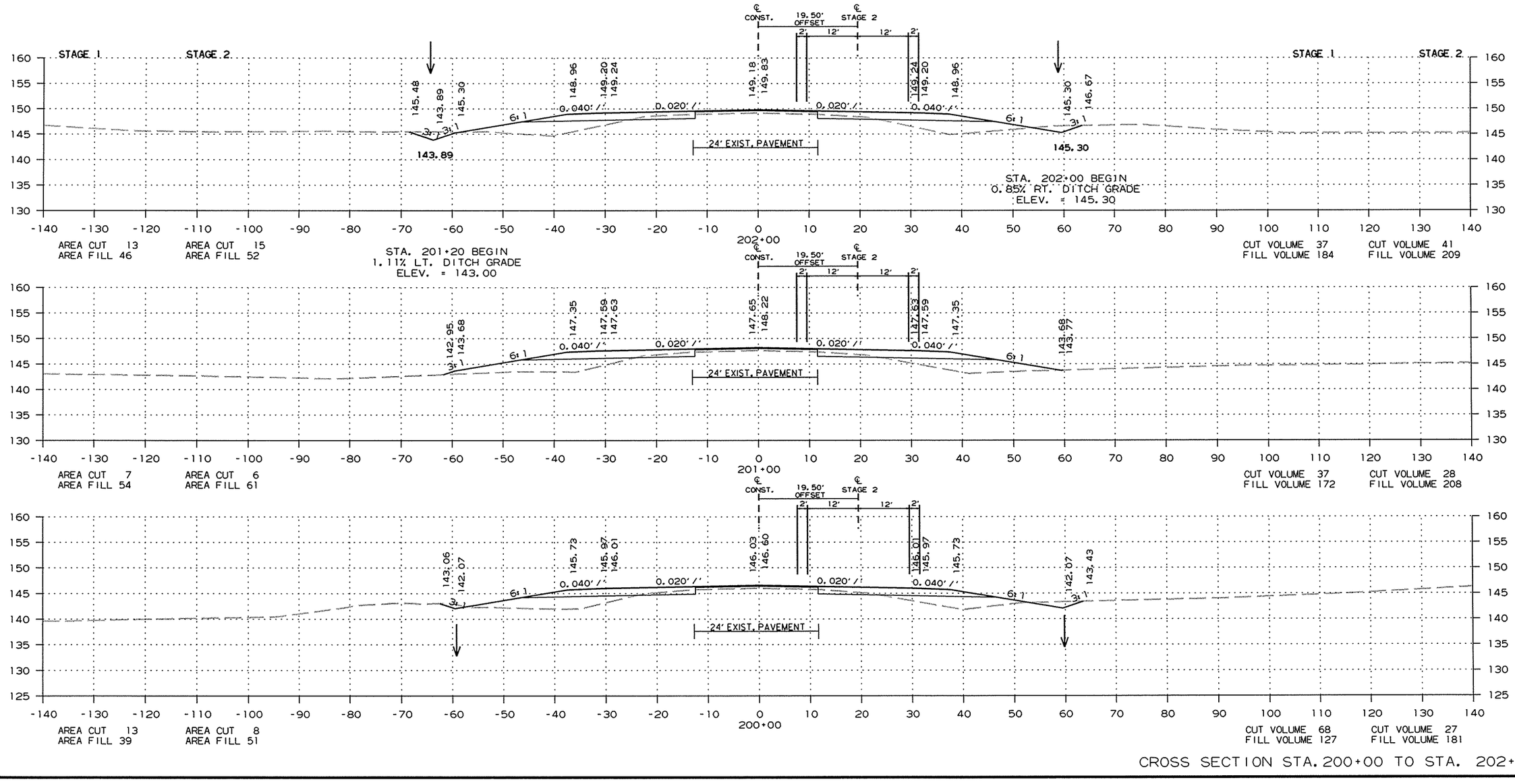
CROSS SECTION STA. 197+00 TO STA. 199+00

3/31/2015

R070280.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.		070280	226	336

(2) CROSS SECTIONS



CROSS SECTION STA. 200+00 TO STA. 202+00

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R070280.DGN

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

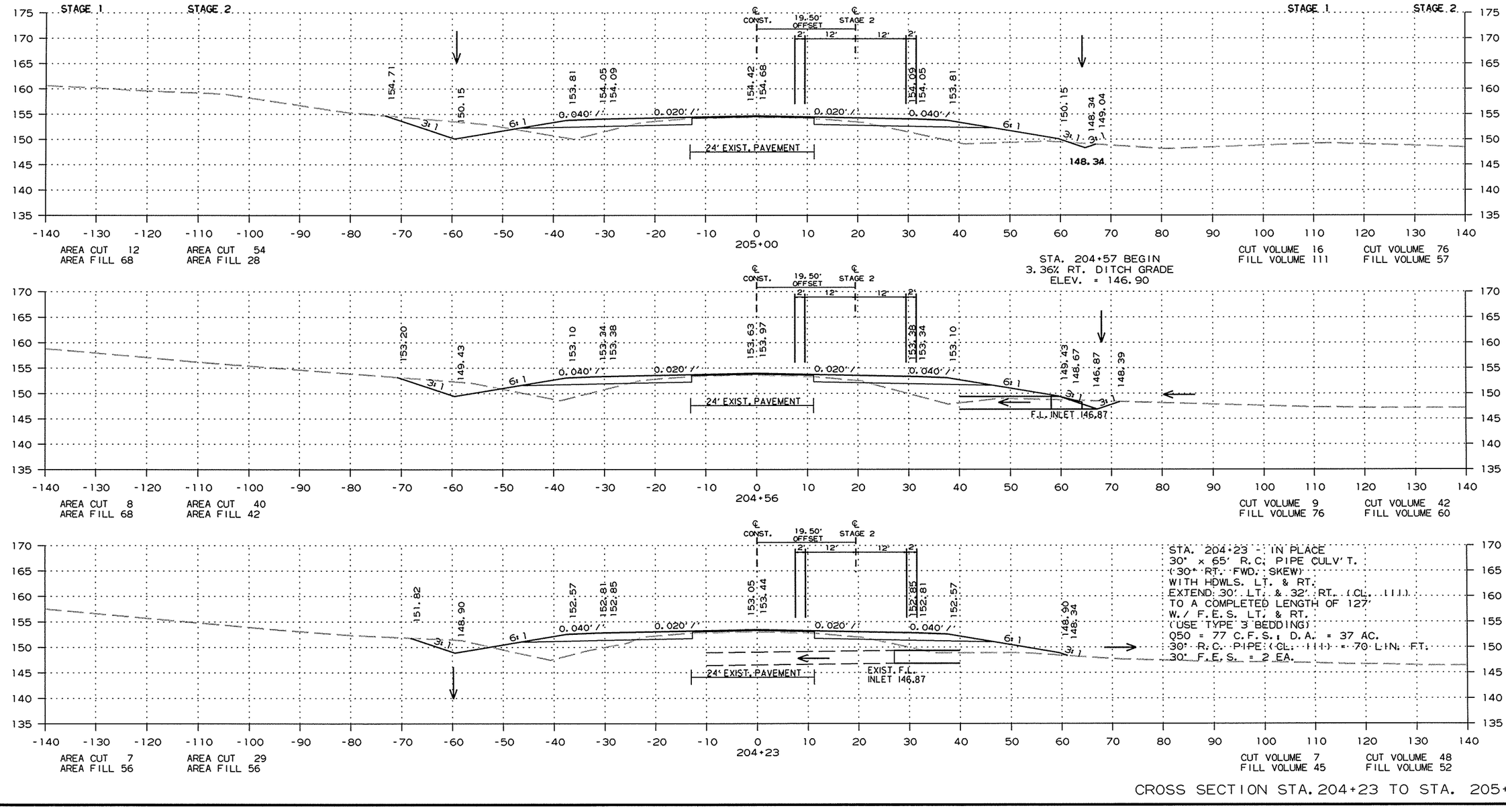
CROSS SECTION STA. 203+00 TO STA. 204+00

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R070280.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.		070280	228	336

(2) CROSS SECTIONS



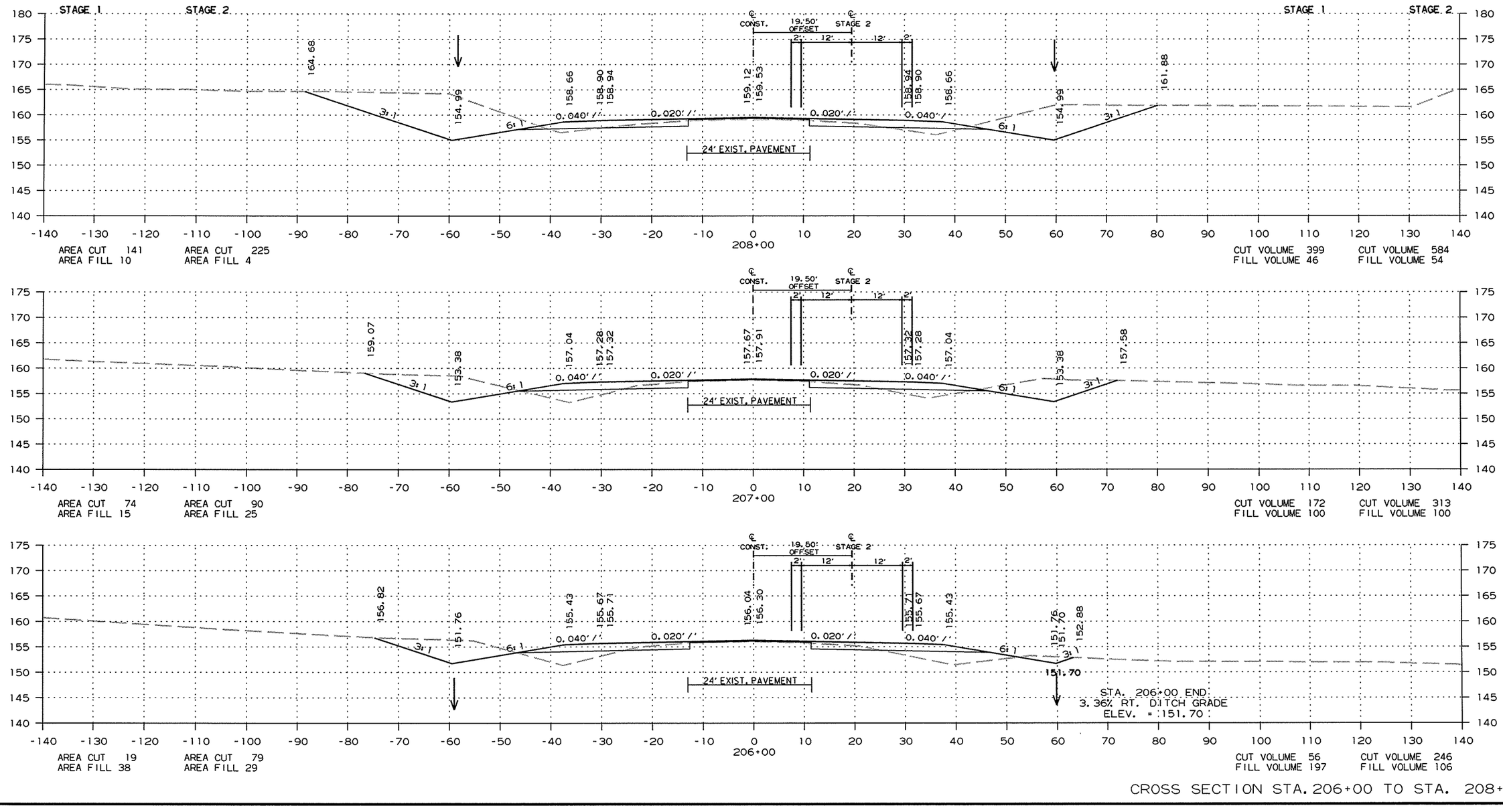
CROSS SECTION STA. 204+23 TO STA. 205+00

3/31/2015

R070280.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.		070280	229	336

(2) CROSS SECTIONS



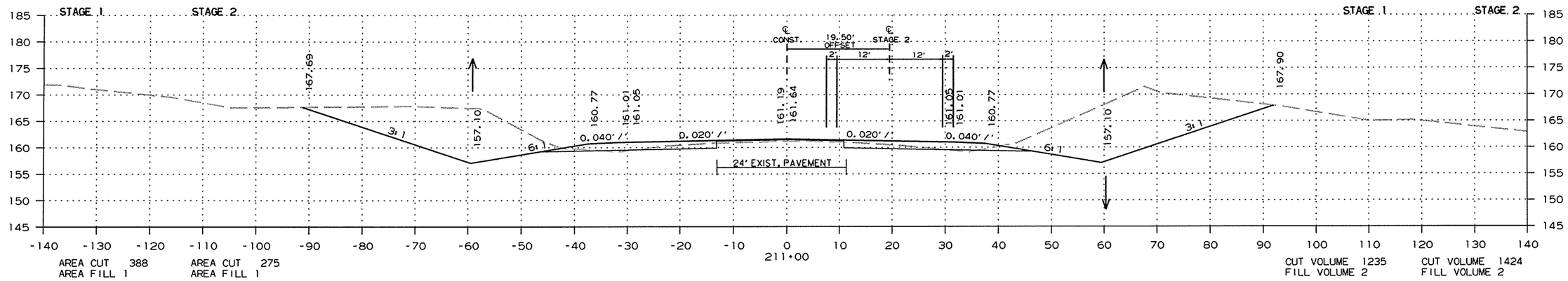
CROSS SECTION STA. 206+00 TO STA. 208+00

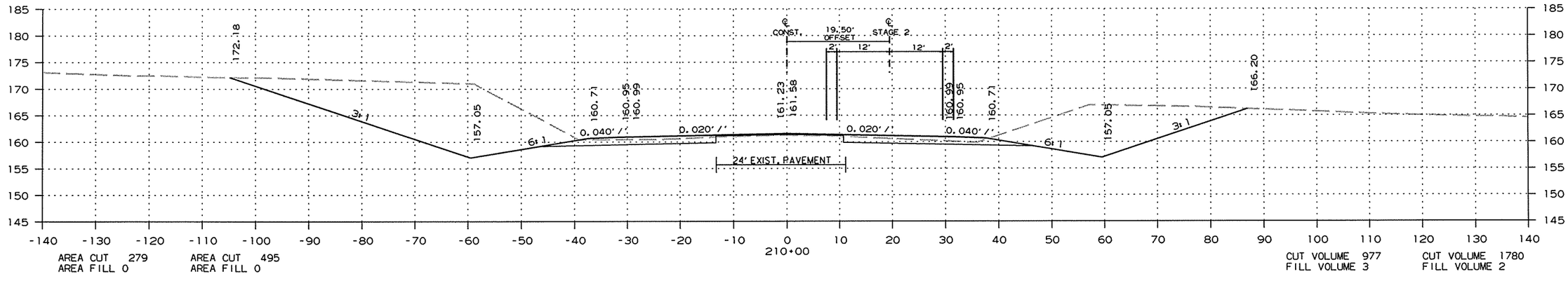
3/31/2015

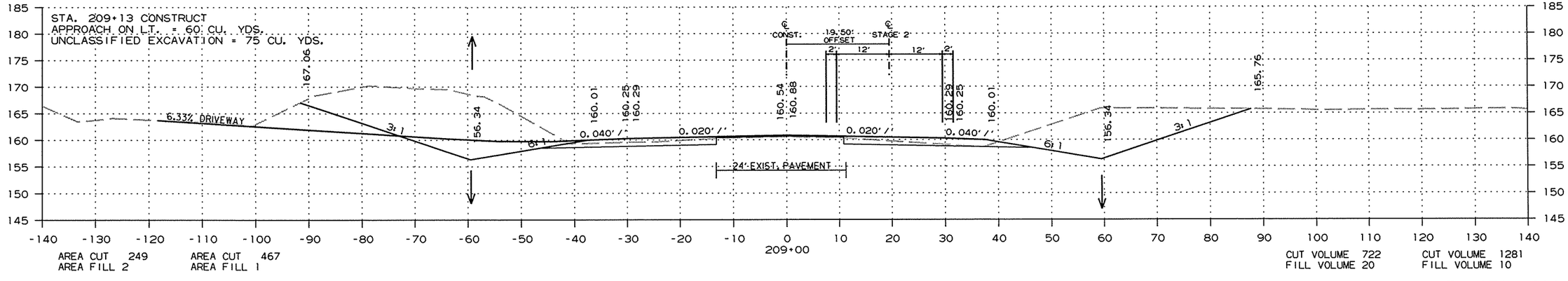
R070280.DGN

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.		070280	230	336

(2) CROSS SECTIONS







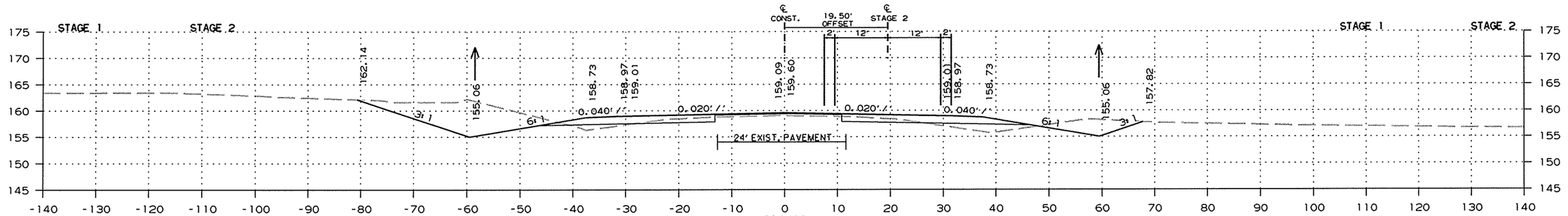
CROSS SECTION STA. 209+00 TO STA. 211+00

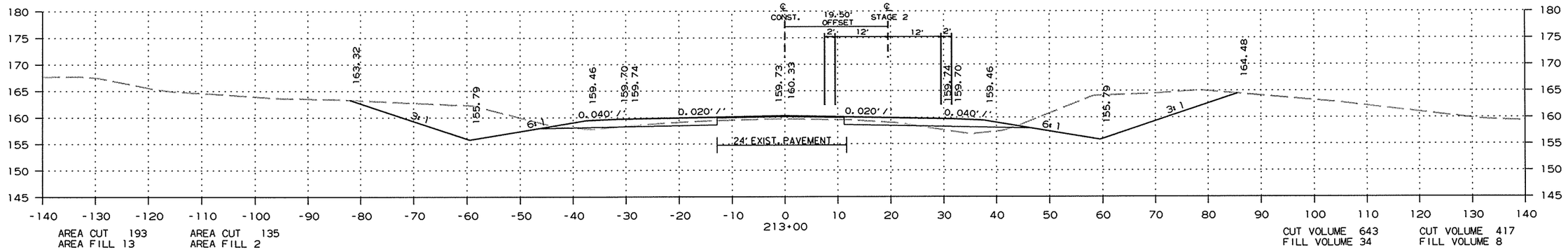
3/31/2015

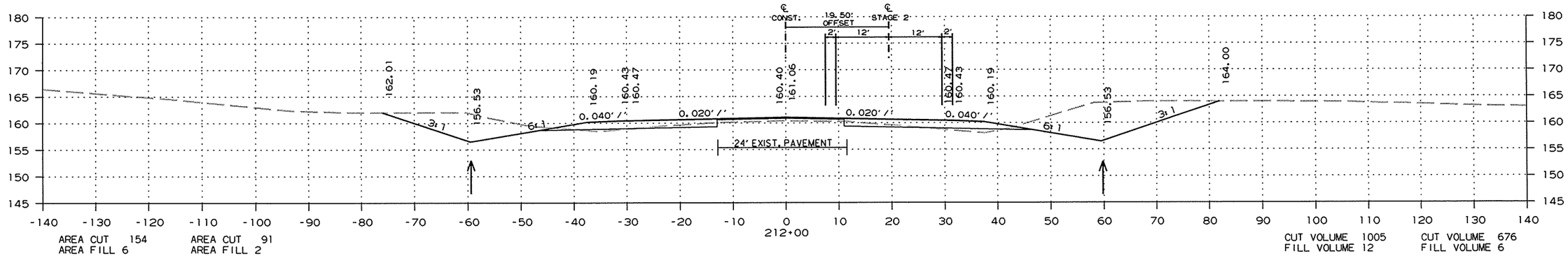
R070280.DGN

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.		070280	231	336

(2) CROSS SECTIONS







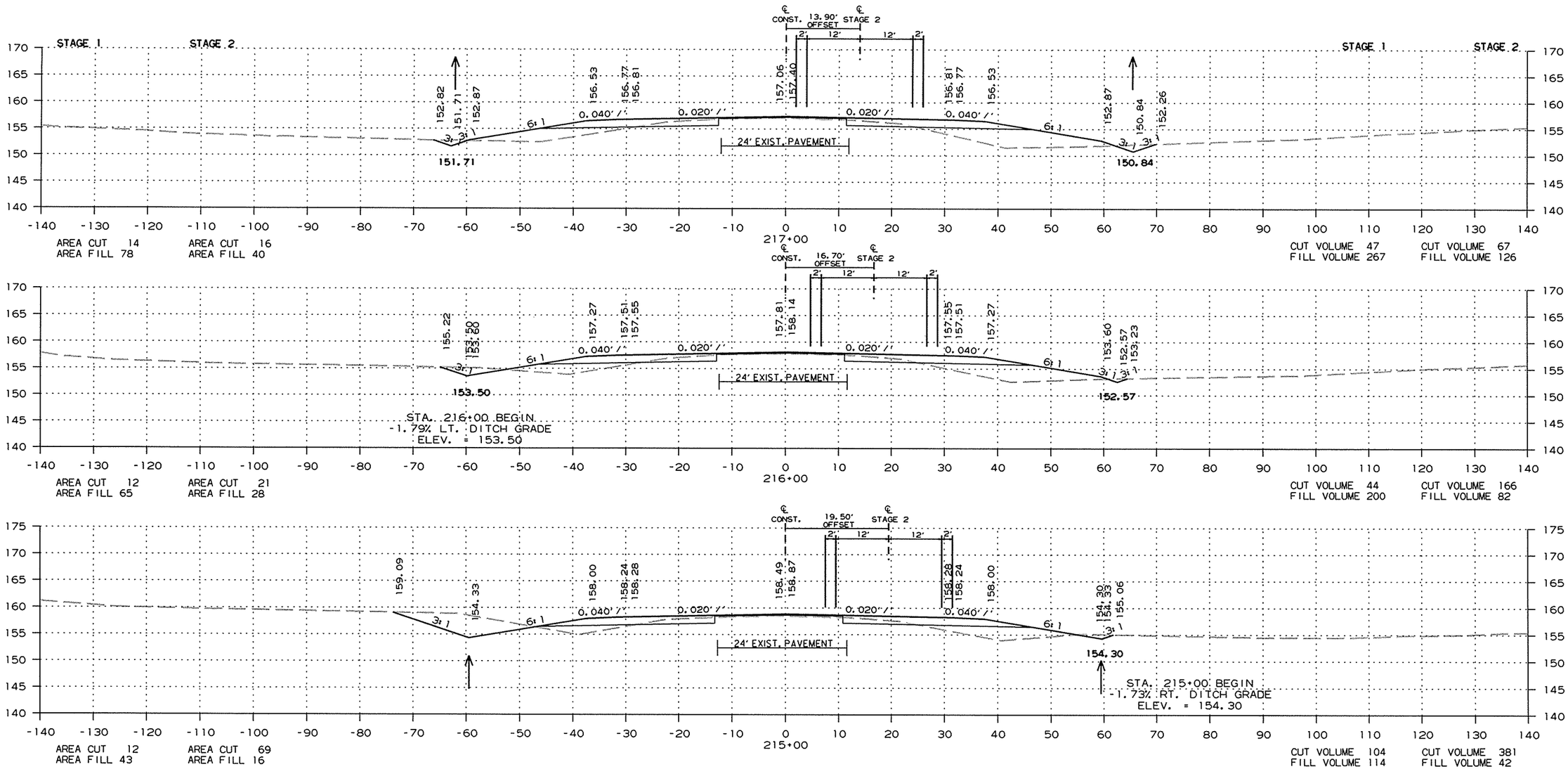
CROSS SECTION STA. 212+00 TO STA. 214+00

3/31/2015

R070280.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.		070280	232	336

(2) CROSS SECTIONS



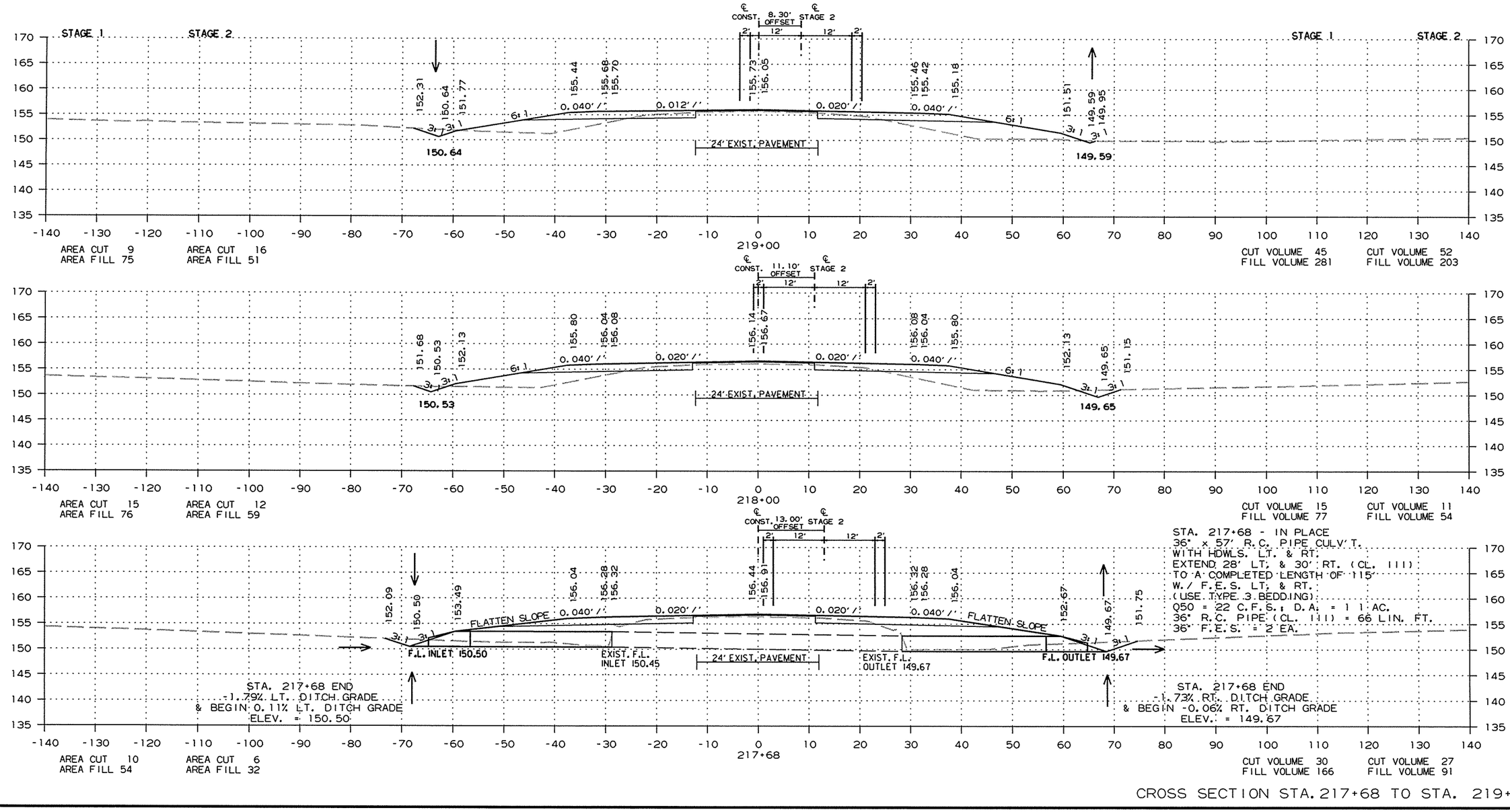
CROSS SECTION STA. 215+00 TO STA. 217+00

3/31/2015

R070280.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.		070280	233	336

(2) CROSS SECTIONS



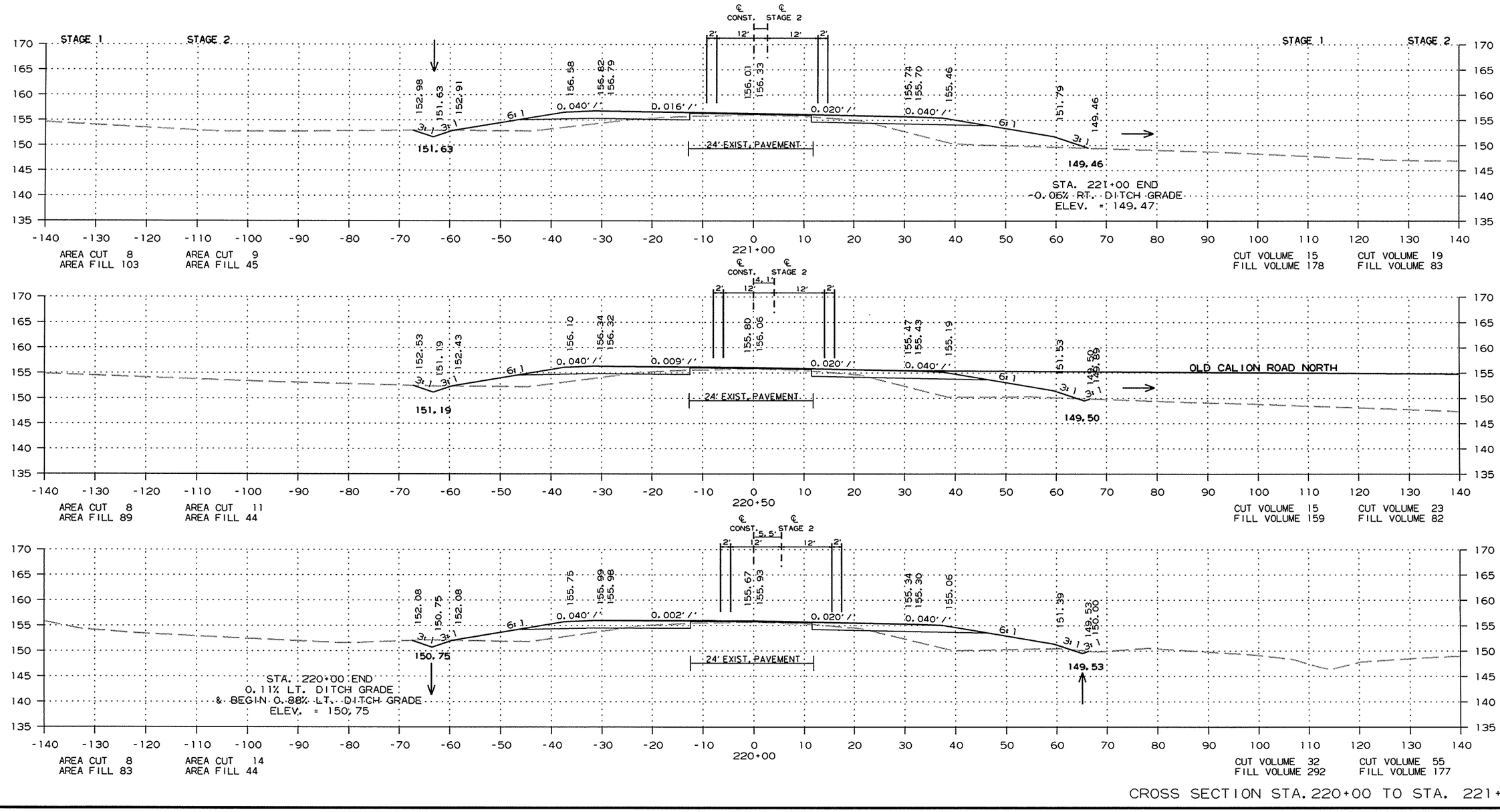
CROSS SECTION STA. 217+68 TO STA. 219+00

3/31/2015

R070280.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.		070280	234	336

(2) CROSS SECTIONS



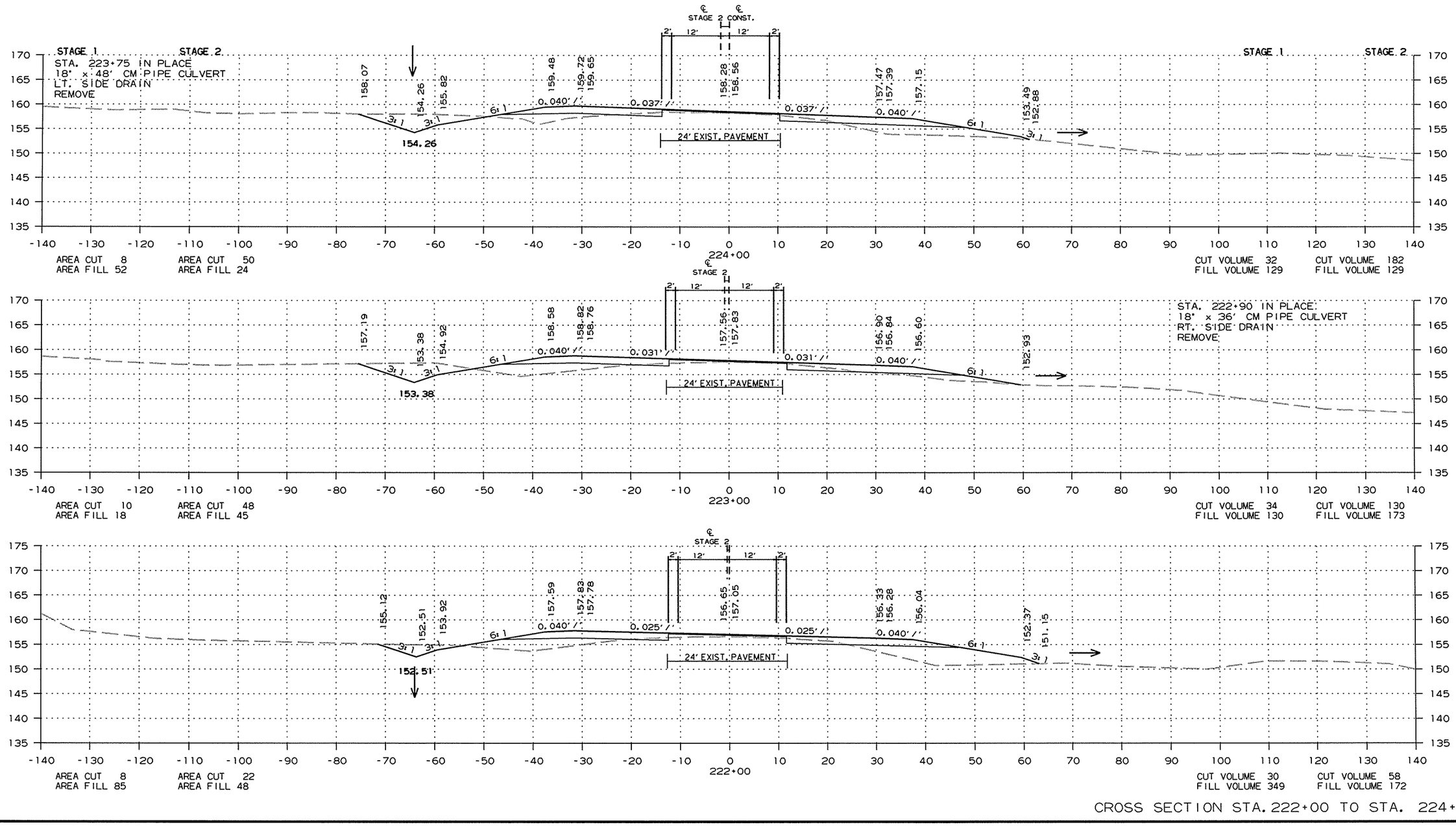
CROSS SECTION STA. 220+00 TO STA. 221+00

3/31/2015

R070280.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.		070280	235	336

(2) CROSS SECTIONS



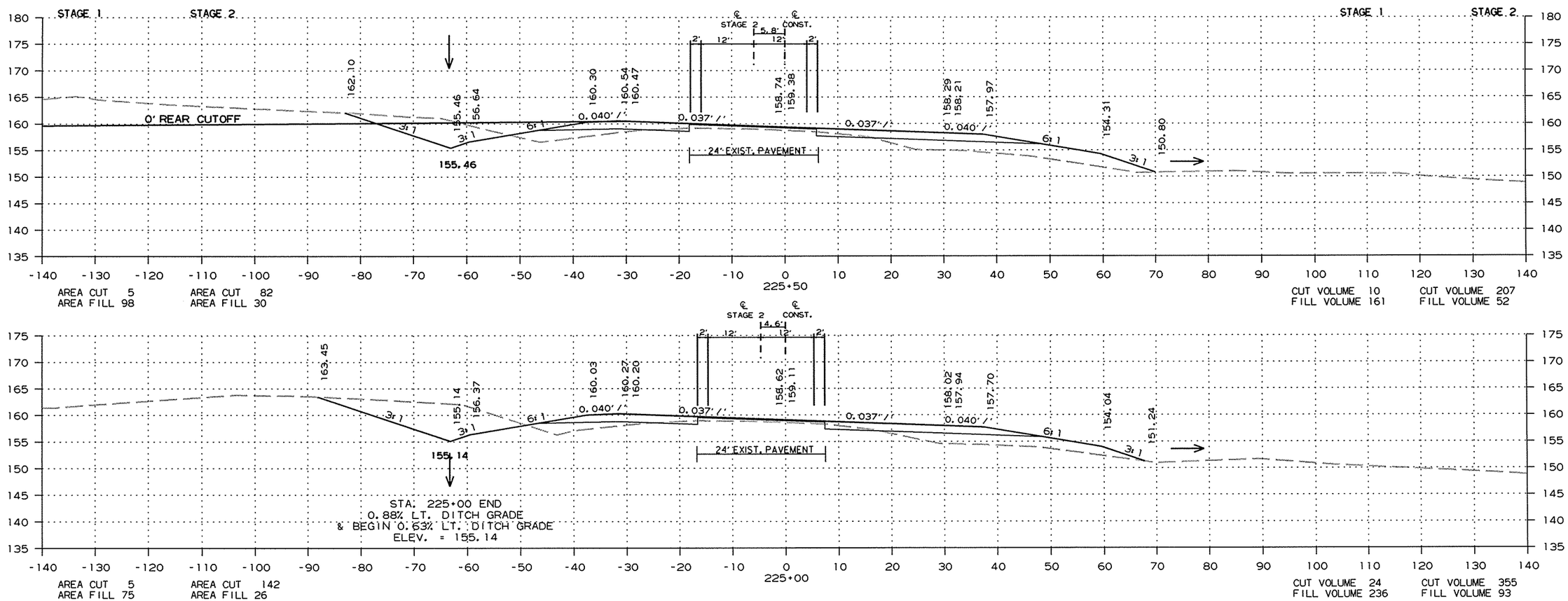
CROSS SECTION STA. 222+00 TO STA. 224+00

3/31/2015

R070280.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.		070280	236	336

(2) CROSS SECTIONS



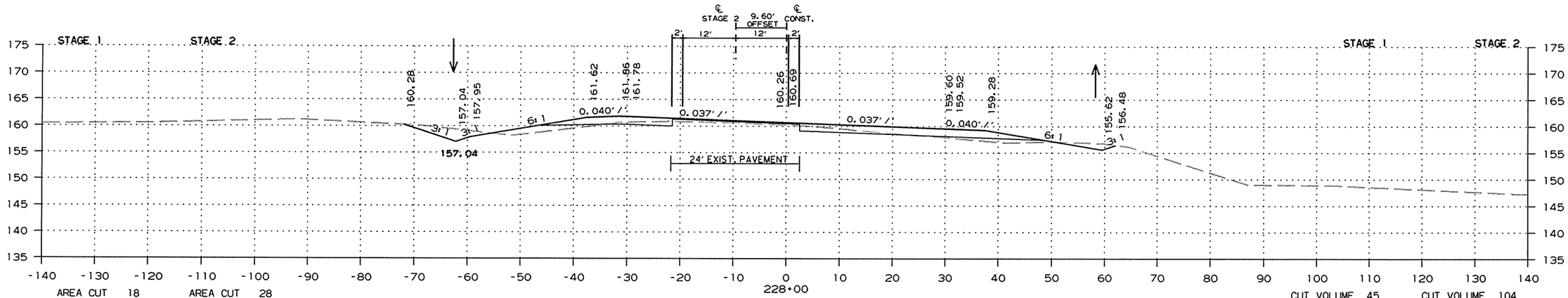
CROSS SECTION STA. 225+00 TO STA. 225+50

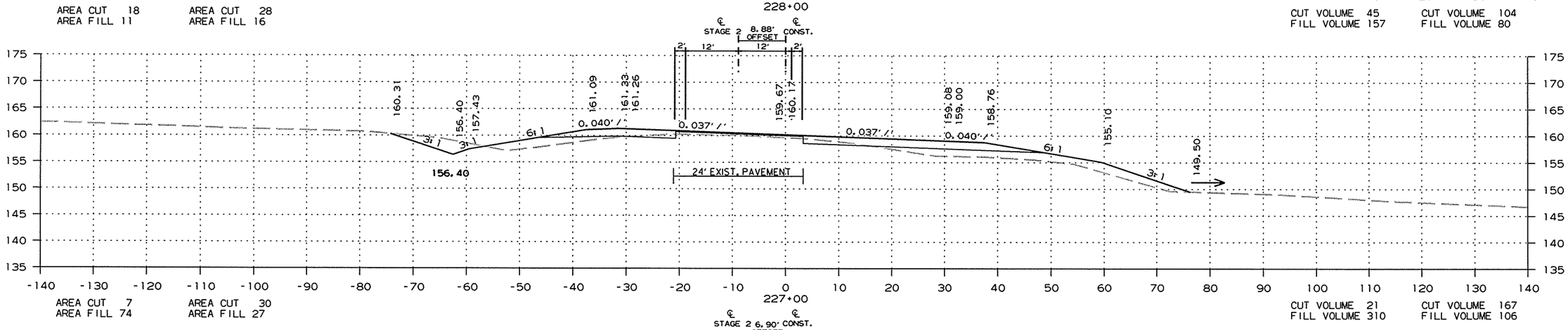
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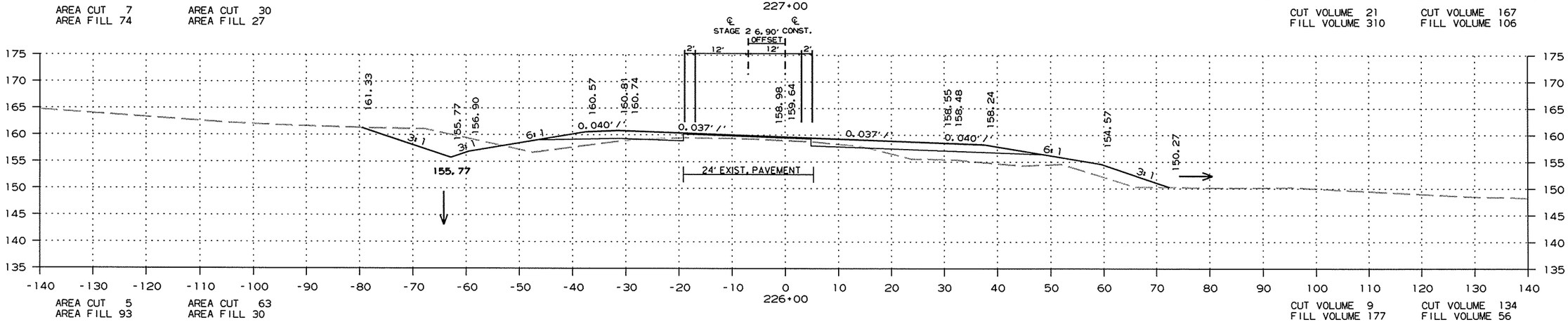
R070280.DGN

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.		070280	237	336

(2) CROSS SECTIONS







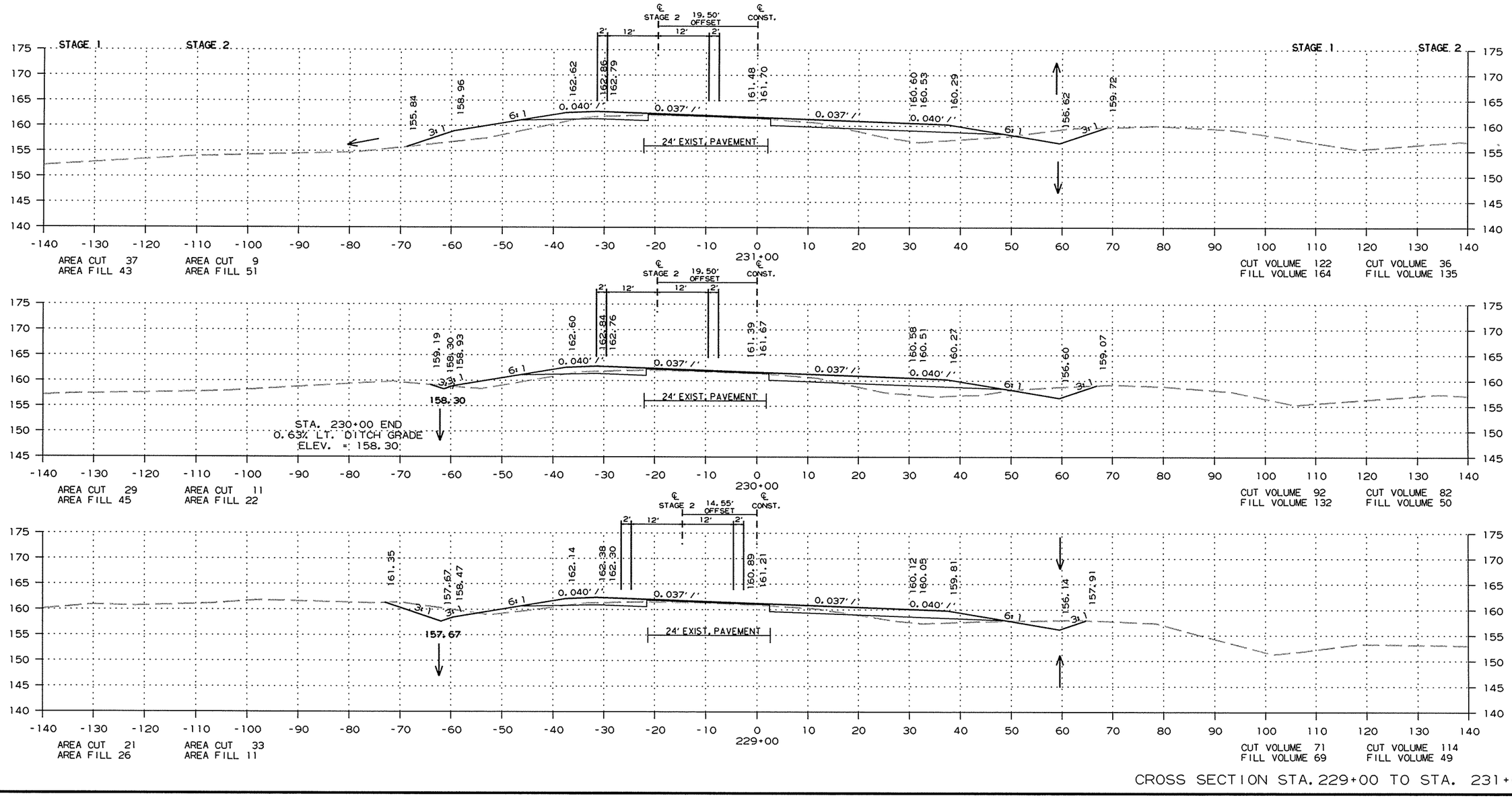
CROSS SECTION STA. 226+00 TO STA. 228+00

3/31/2015

R070280.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.		070280	238	336

(2) CROSS SECTIONS



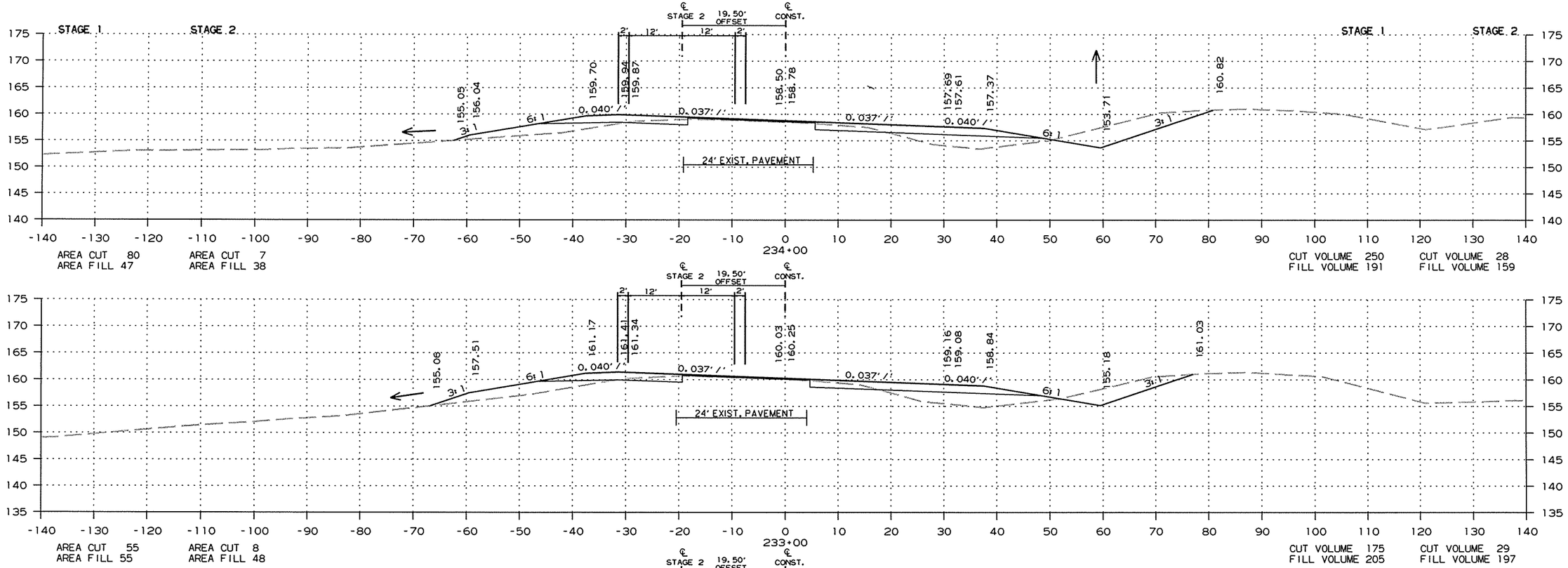
CROSS SECTION STA. 229+00 TO STA. 231+00

3/31/2015

R070280.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.		070280	239	336

(2) CROSS SECTIONS



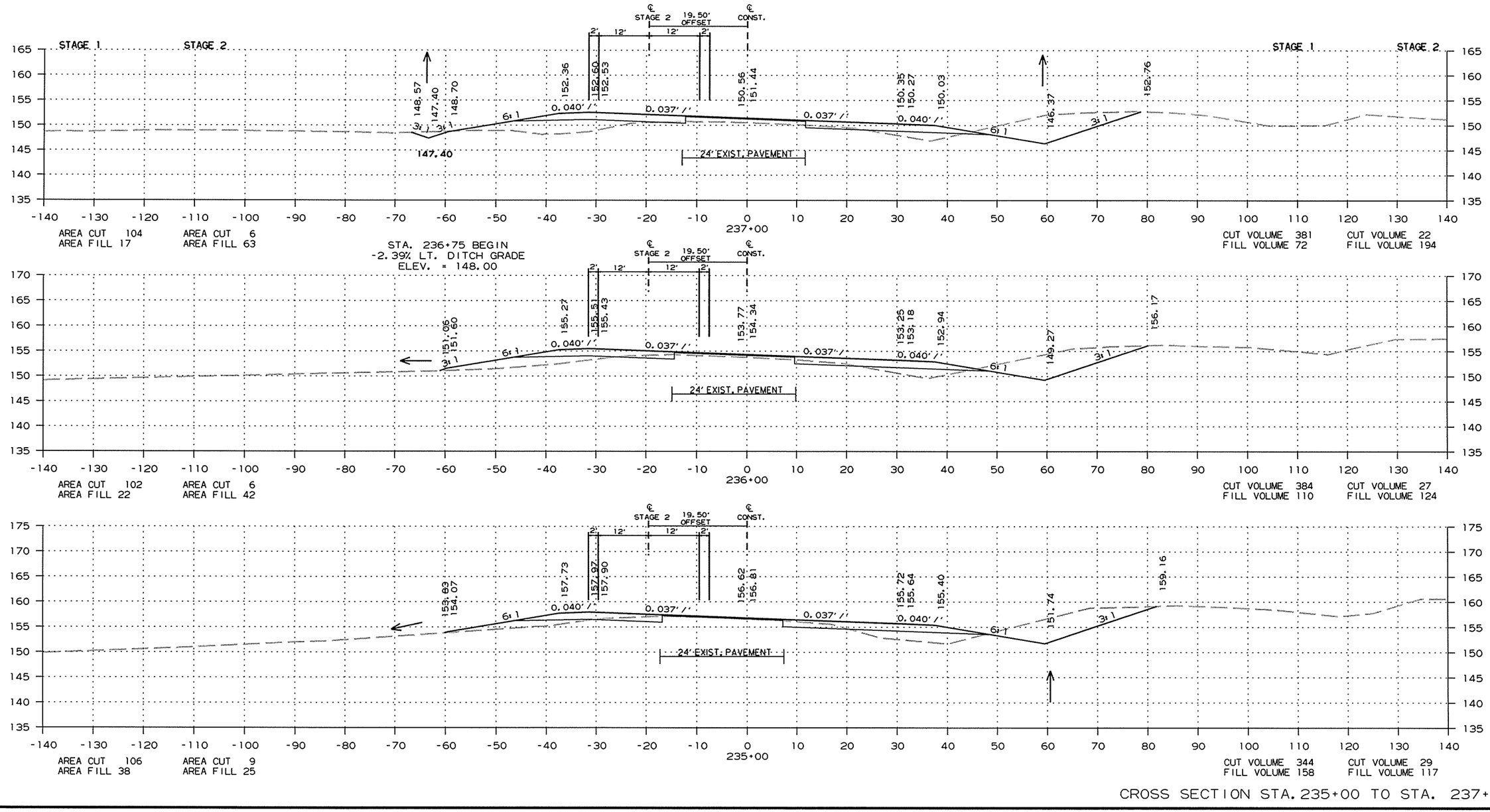
CROSS SECTION STA. 232+00 TO STA. 234+00

3/31/2015

R070280.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.		070280	240	336

(2) CROSS SECTIONS



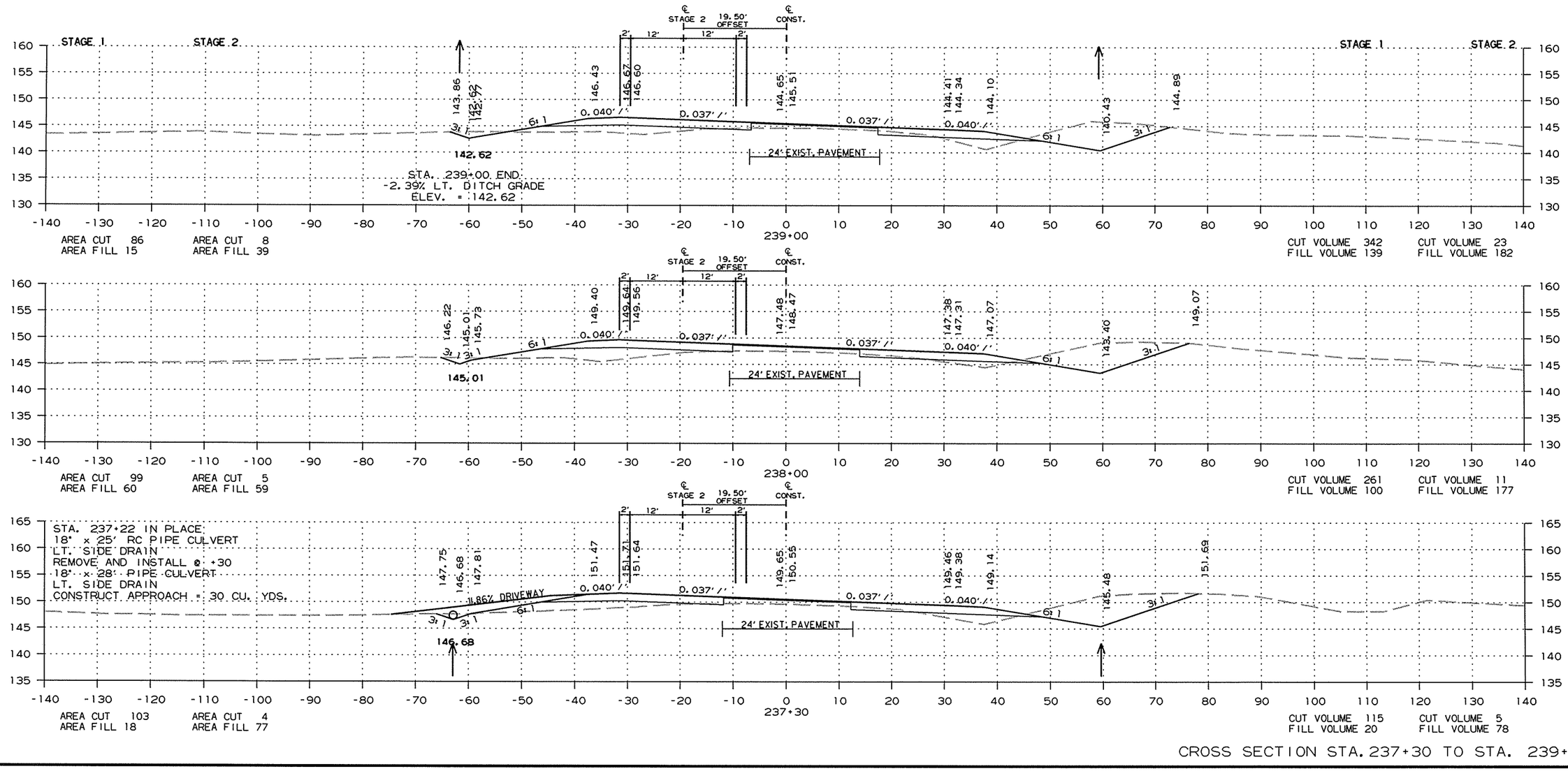
CROSS SECTION STA. 235+00 TO STA. 237+00

3/31/2015

R070280.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.		070280	241	336

(2) CROSS SECTIONS



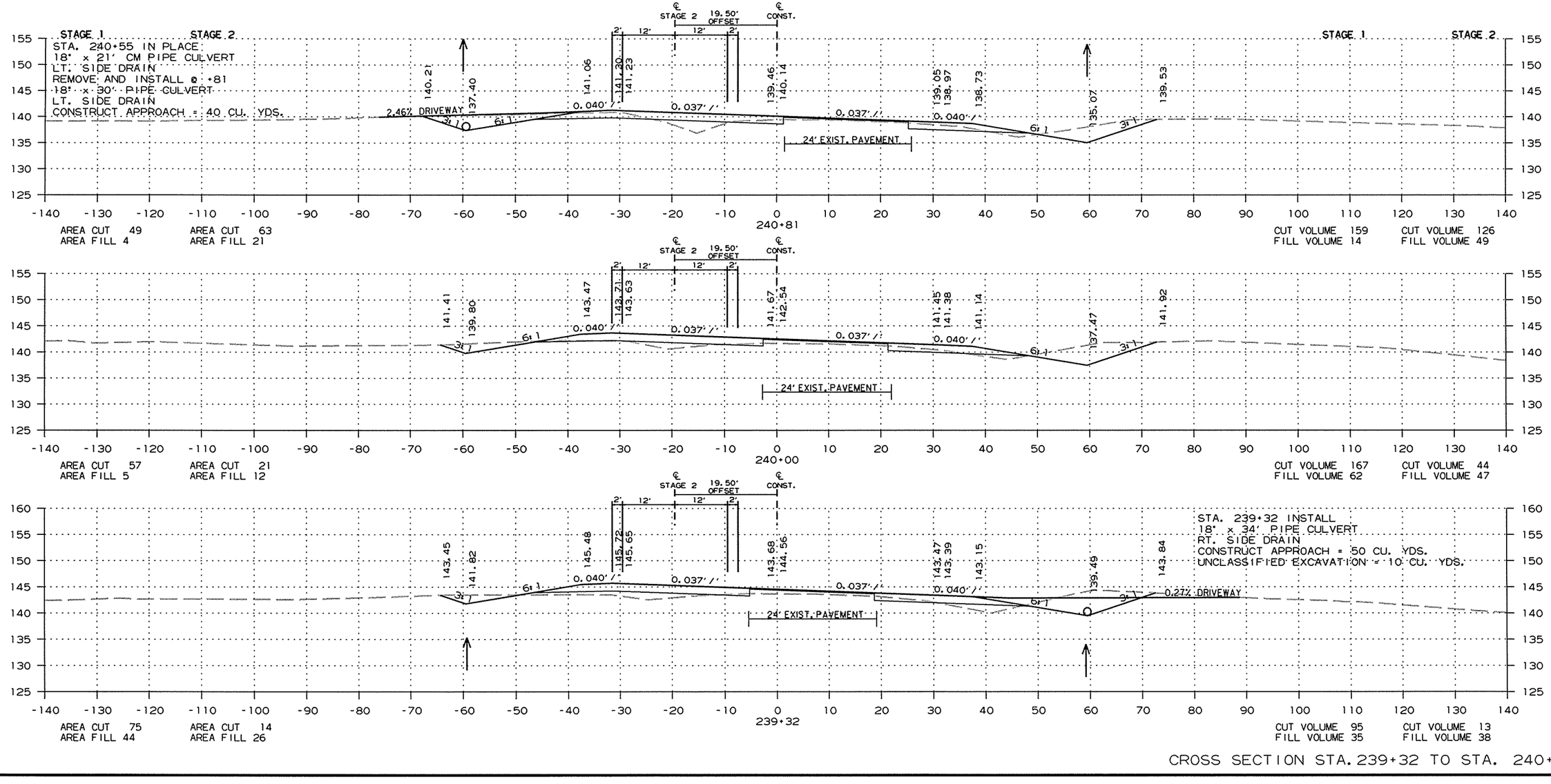
CROSS SECTION STA. 237+30 TO STA. 239+00

3/31/2015

R070280.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.		070280	242	336

(2) CROSS SECTIONS



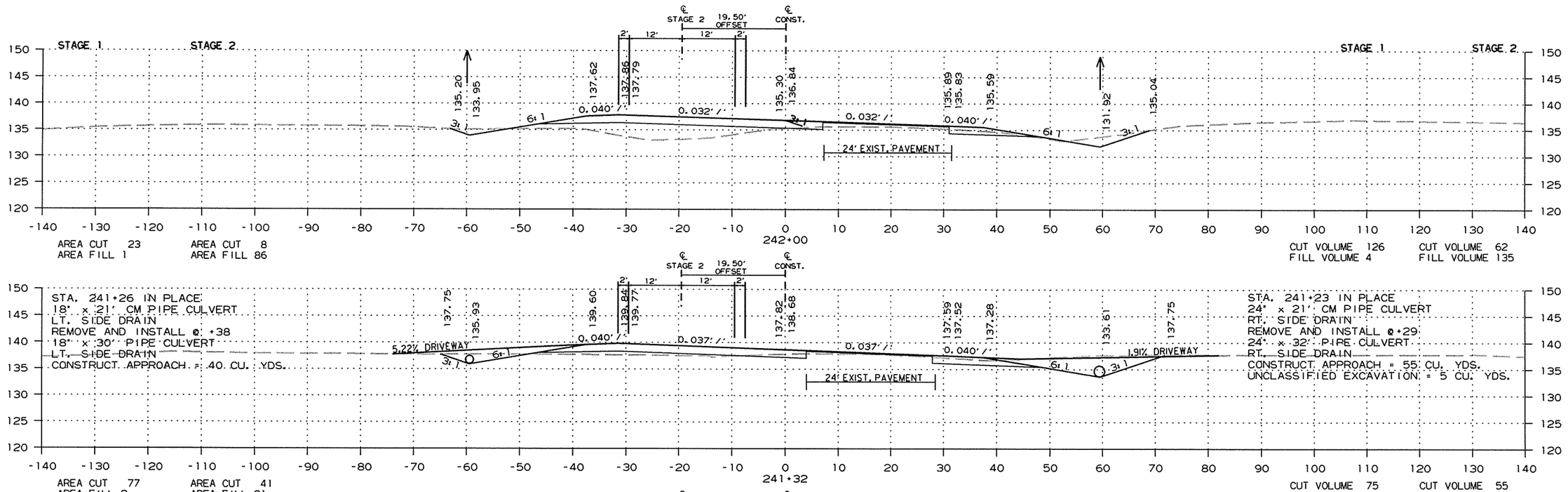
CROSS SECTION STA. 239+32 TO STA. 240+81

3/31/2015

R070280.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.		070280	243	336

(2) CROSS SECTIONS



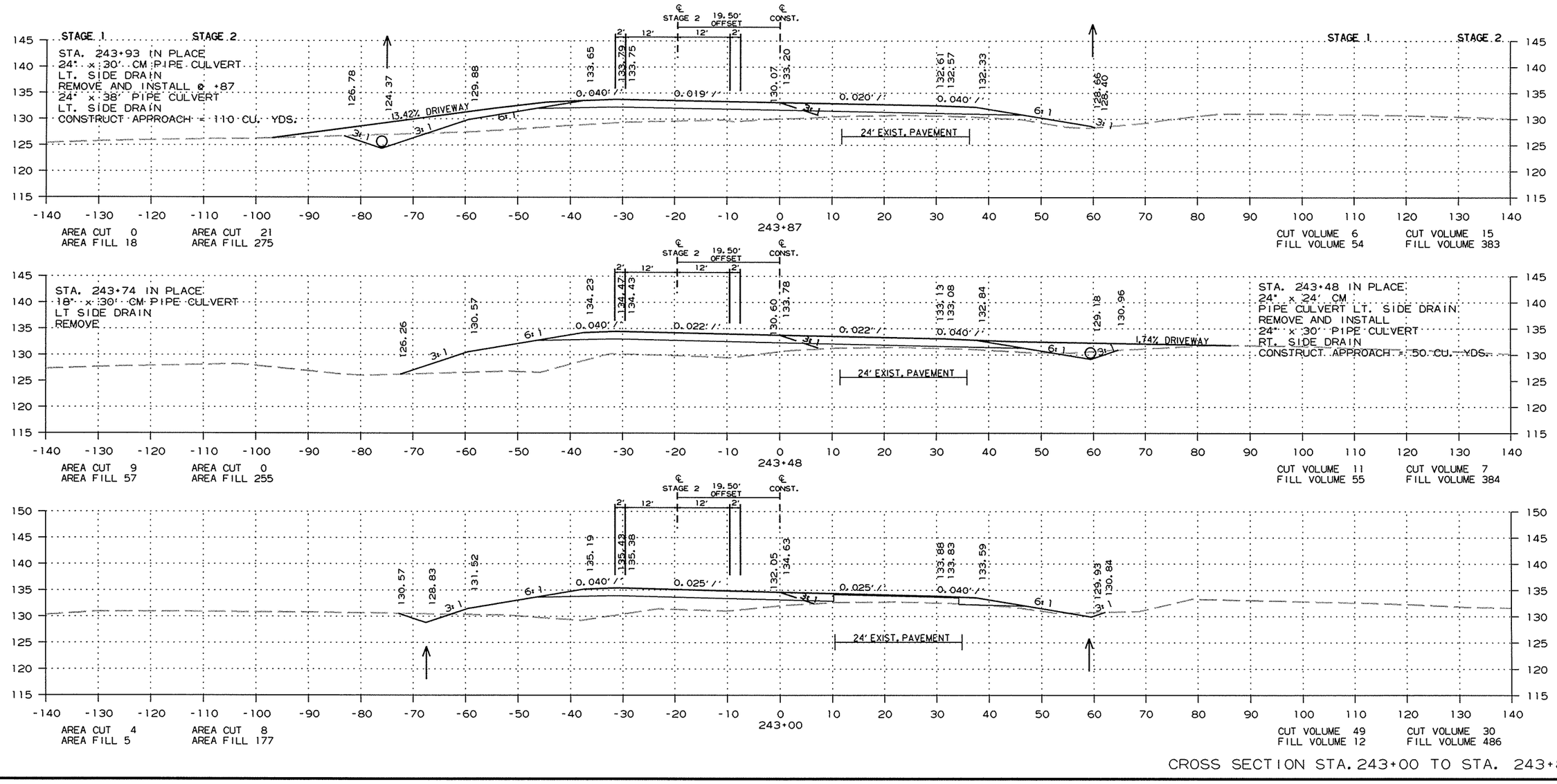
CROSS SECTION STA. 241+00 TO STA. 242+00

3/31/2015

R070280.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.		070280	244	336

(2) CROSS SECTIONS



CROSS SECTION STA. 243+00 TO STA. 243+87

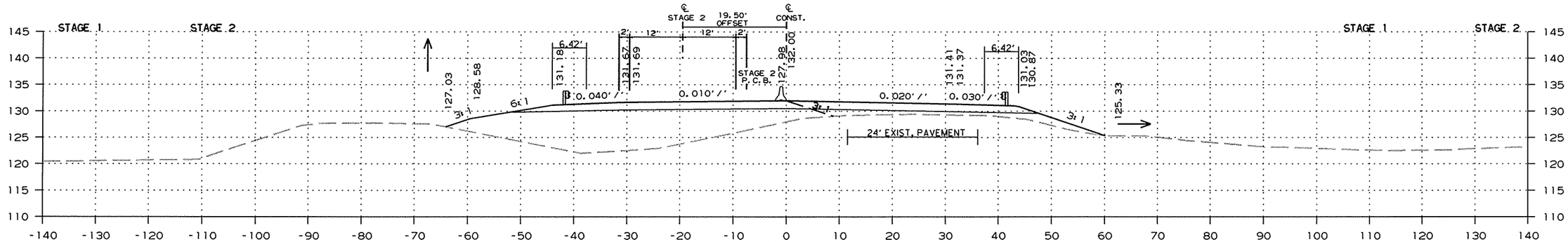
3/31/2015

R070280.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.		070280	245	336

(2) CROSS SECTIONS

STA. 247+13 TOE OF SLOPE
STA. 246+99.50 BRIDGE END



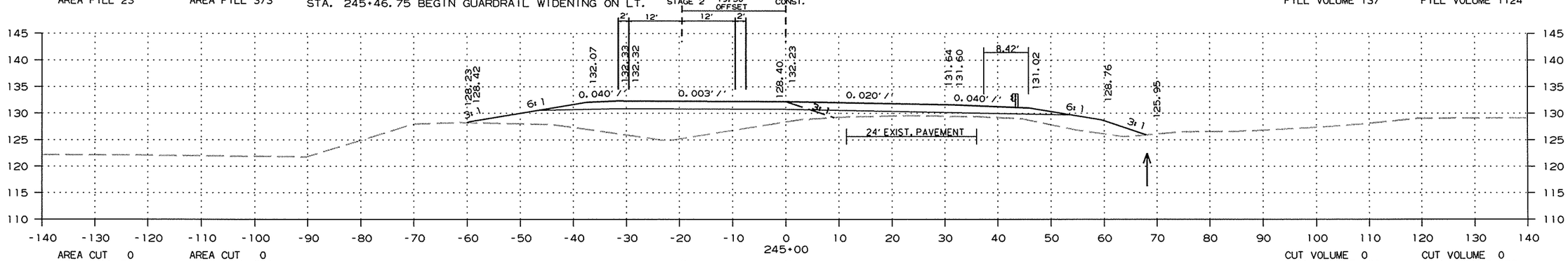
AREA CUT 0
AREA FILL 23

AREA CUT 0
AREA FILL 373

STA. 245+95.75 BEGIN GUARDRAIL ON LT.
STA. 245+46.75 BEGIN GUARDRAIL WIDENING ON LT.

CUT VOLUME 0
FILL VOLUME 137

CUT VOLUME 0
FILL VOLUME 1124



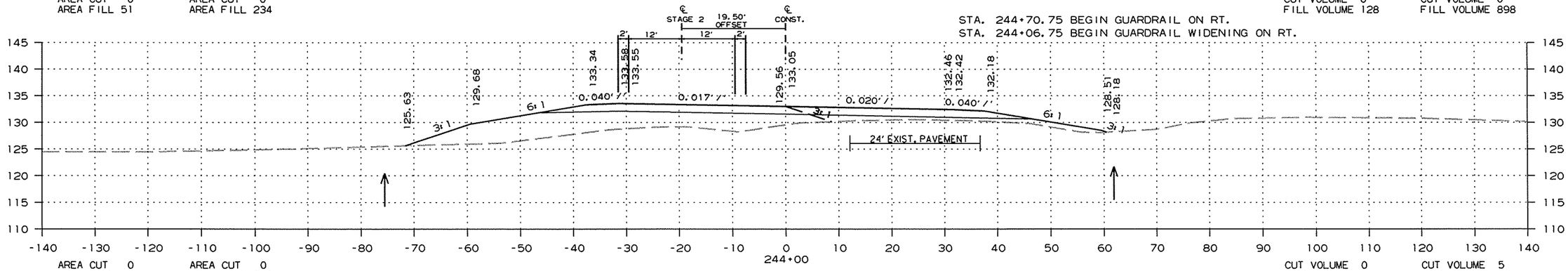
AREA CUT 0
AREA FILL 51

AREA CUT 0
AREA FILL 234

CUT VOLUME 0
FILL VOLUME 128

CUT VOLUME 0
FILL VOLUME 898

STA. 244+70.75 BEGIN GUARDRAIL ON RT.
STA. 244+06.75 BEGIN GUARDRAIL WIDENING ON RT.



AREA CUT 0
AREA FILL 19

AREA CUT 0
AREA FILL 251

CUT VOLUME 0
FILL VOLUME 9

CUT VOLUME 5
FILL VOLUME 127

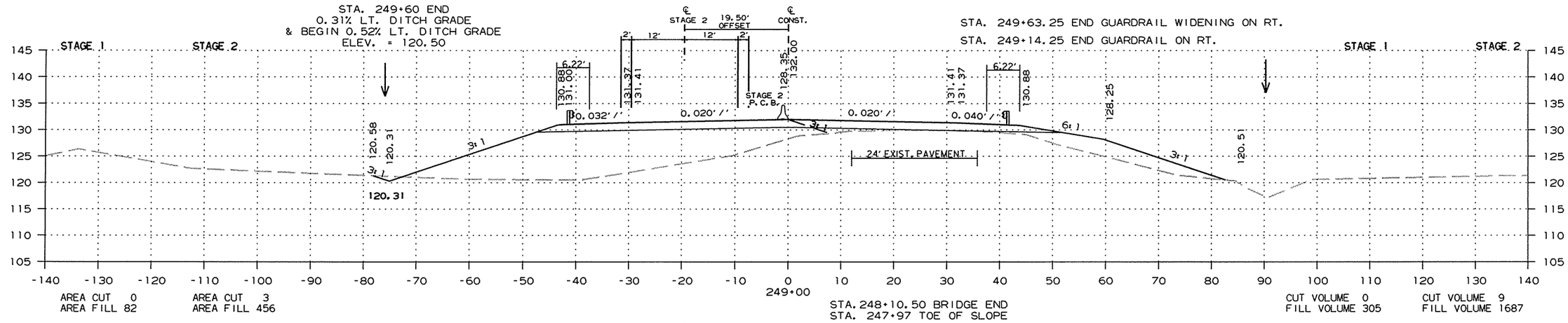
CROSS SECTION STA. 244+00 TO STA. 246+00

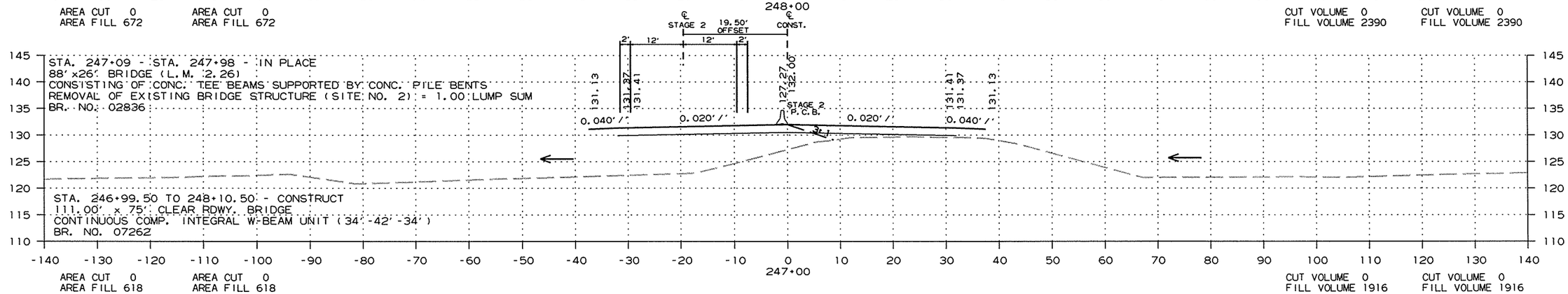
3/31/2015

R070280.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.		070280	246	336

(2) CROSS SECTIONS





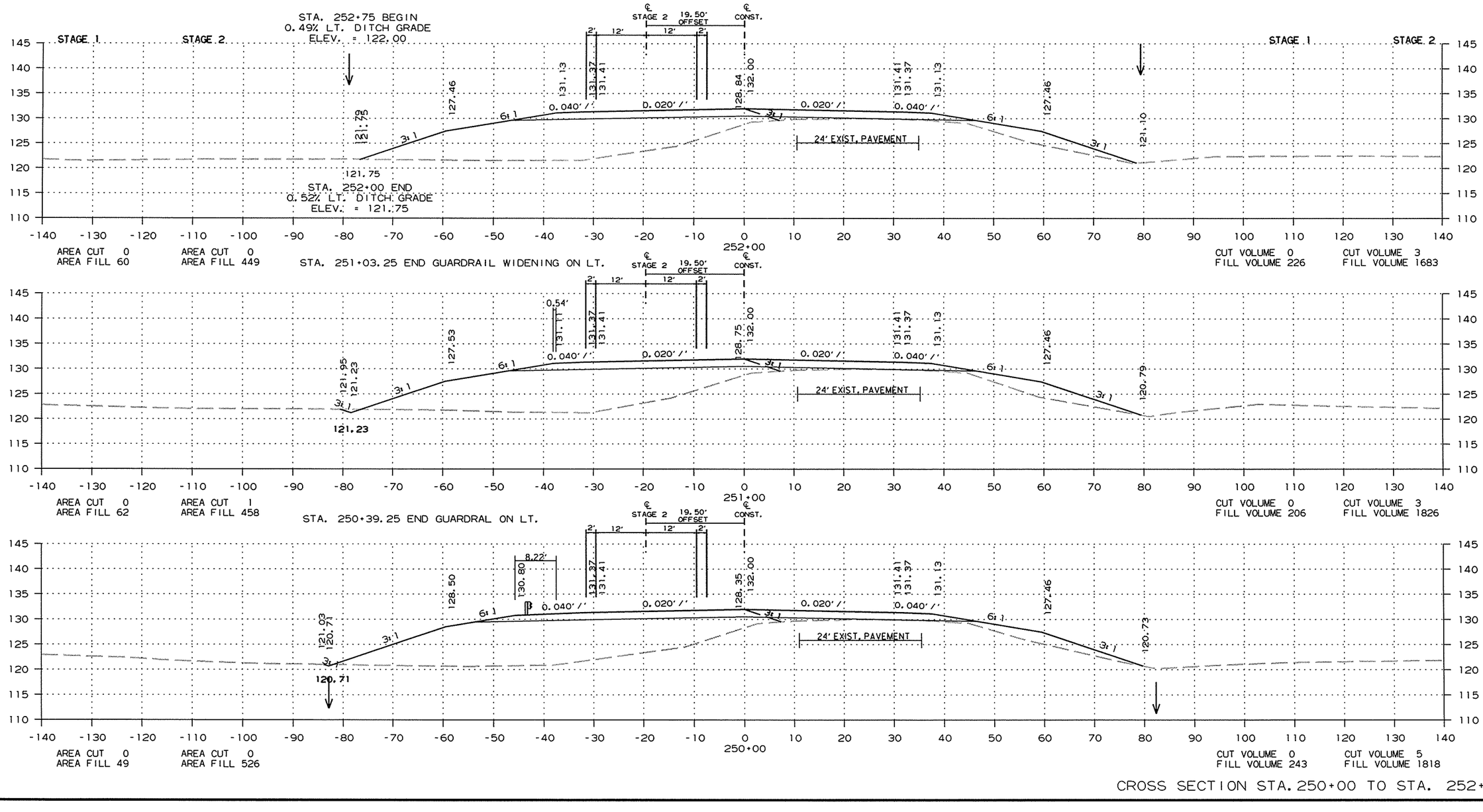
CROSS SECTION STA. 247+00 TO STA. 249+00

3/31/2015

R070280.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.		070280	247	336

(2) CROSS SECTIONS



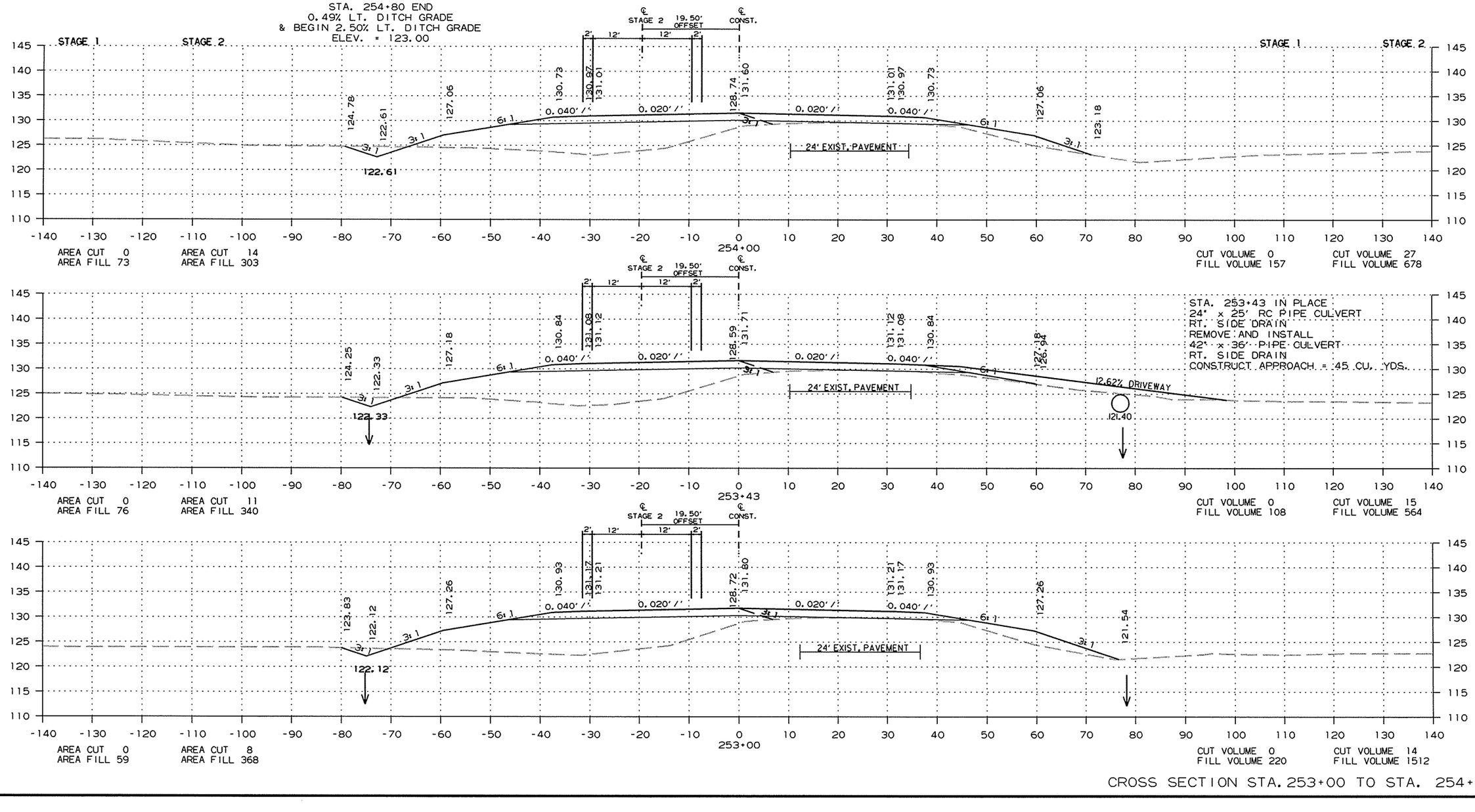
CROSS SECTION STA. 250+00 TO STA. 252+00

3/31/2015

R070280.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.		070280	248	336

(2) CROSS SECTIONS



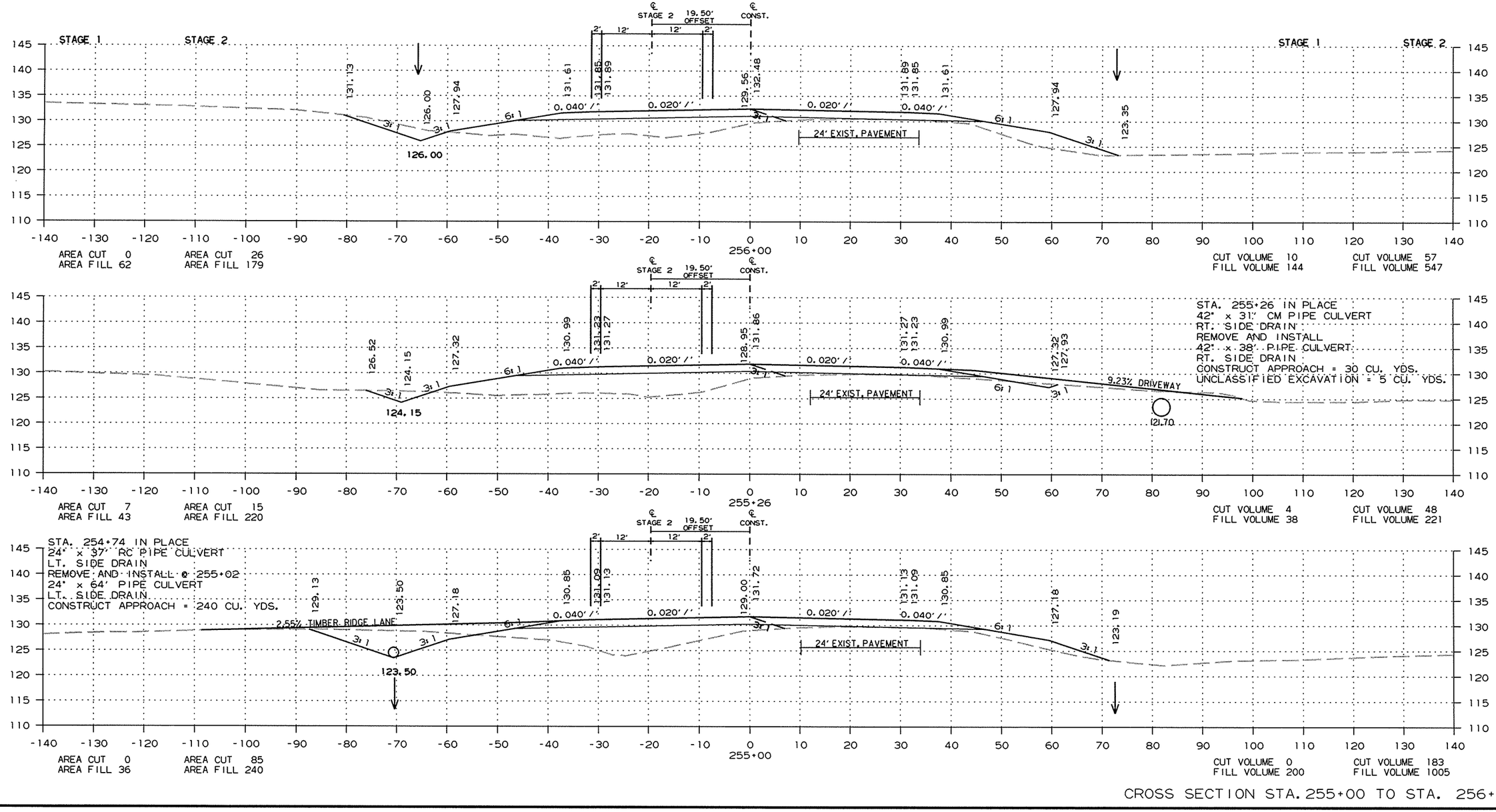
CROSS SECTION STA. 253+00 TO STA. 254+00

3/31/2015

R070280.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.		070280	249	336

(2) CROSS SECTIONS



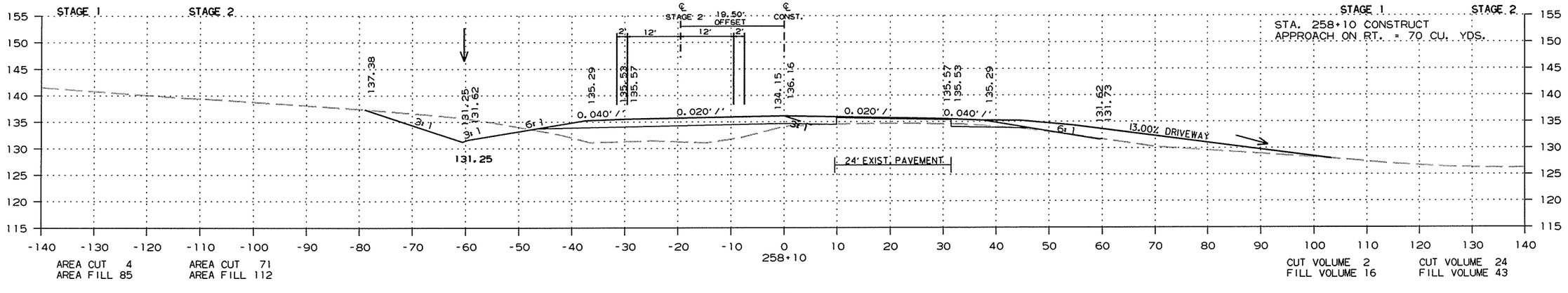
CROSS SECTION STA. 255+00 TO STA. 256+00

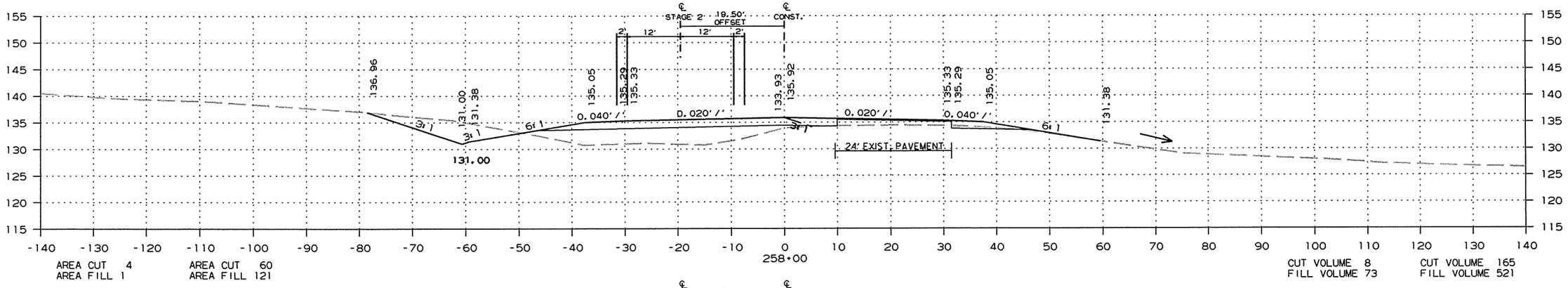
3/31/2015

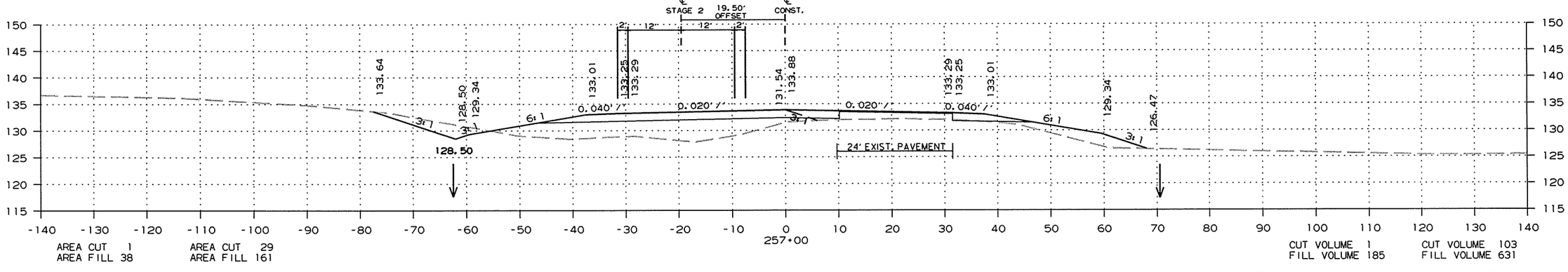
R070280.DGN

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.		070280	250	336

(2) CROSS SECTIONS







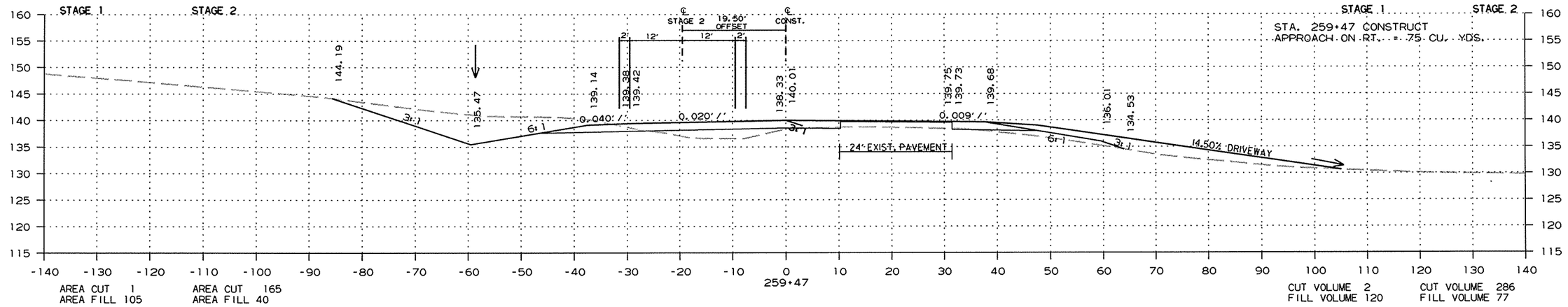
CROSS SECTION STA. 257+00 TO STA. 258+10

3/31/2015

R070280.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.		070280	251	336

(2) CROSS SECTIONS



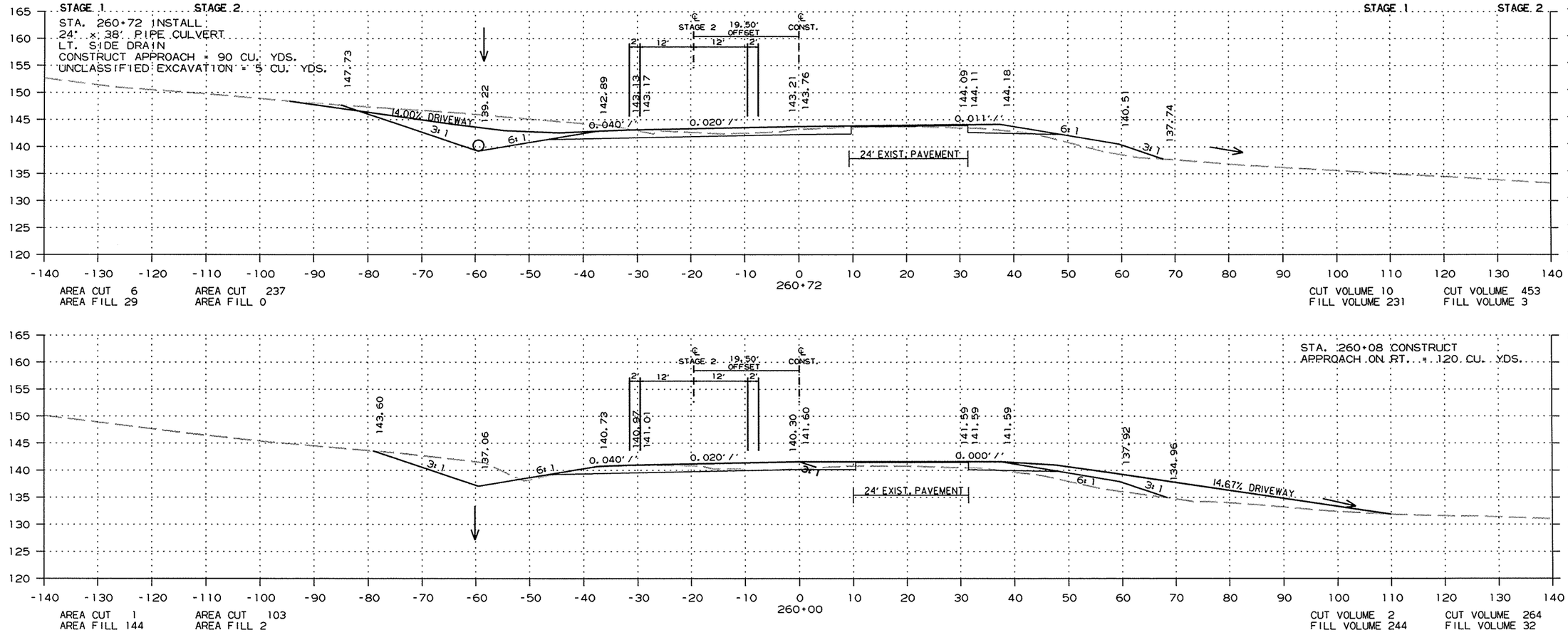
CROSS SECTION STA. 259+00 TO STA. 259+47

3/31/2015

R070280.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.		070280	252	336

(2) CROSS SECTIONS



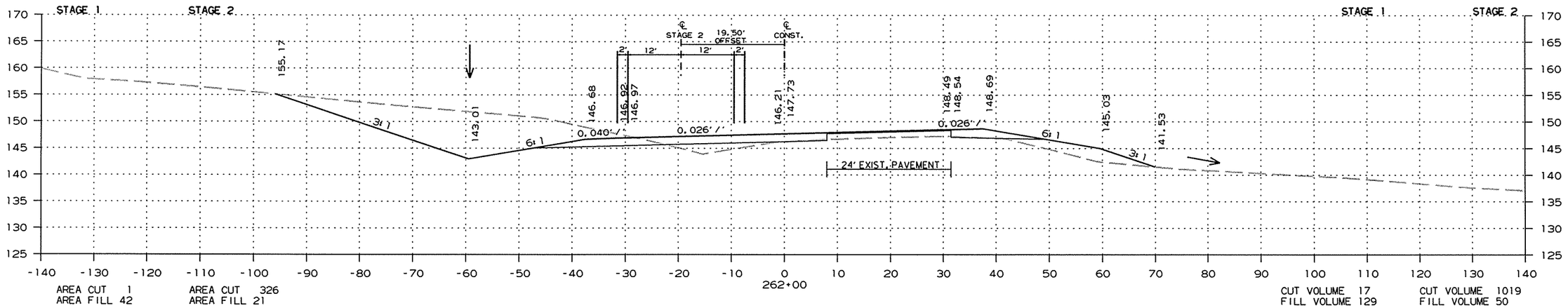
CROSS SECTION STA. 260+00 TO STA. 260+72

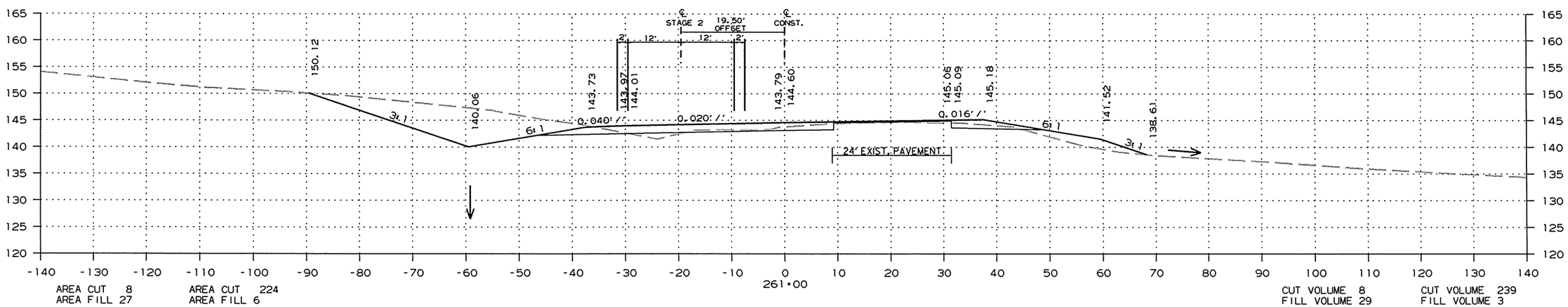
3/31/2015

R070280.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.		070280	253	336

(2) CROSS SECTIONS





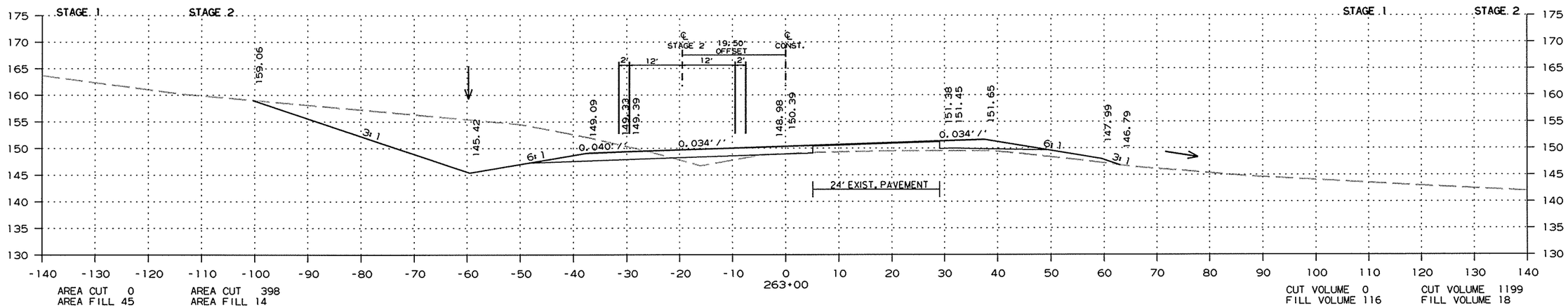
CROSS SECTION STA. 261+00 TO STA. 262+00

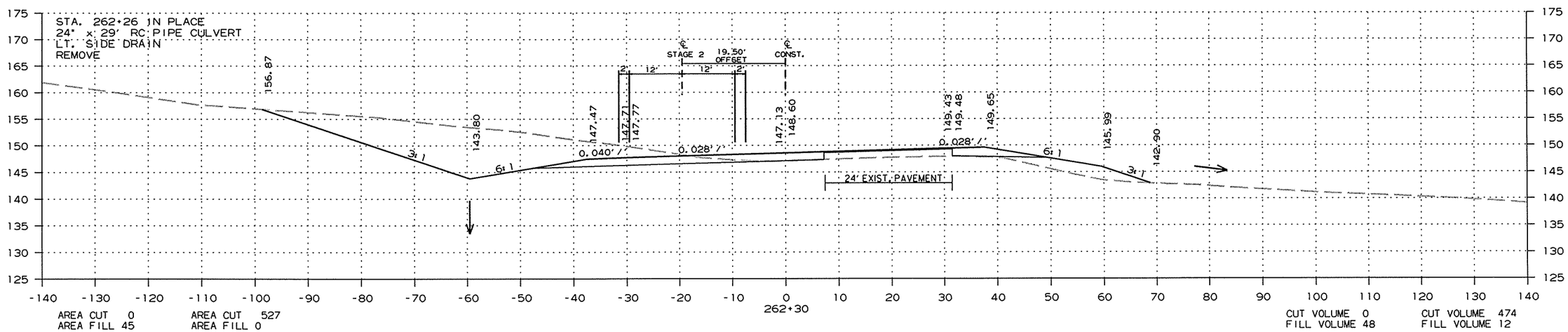
3/31/2015

R070280.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.		070280	254	336

(2) CROSS SECTIONS





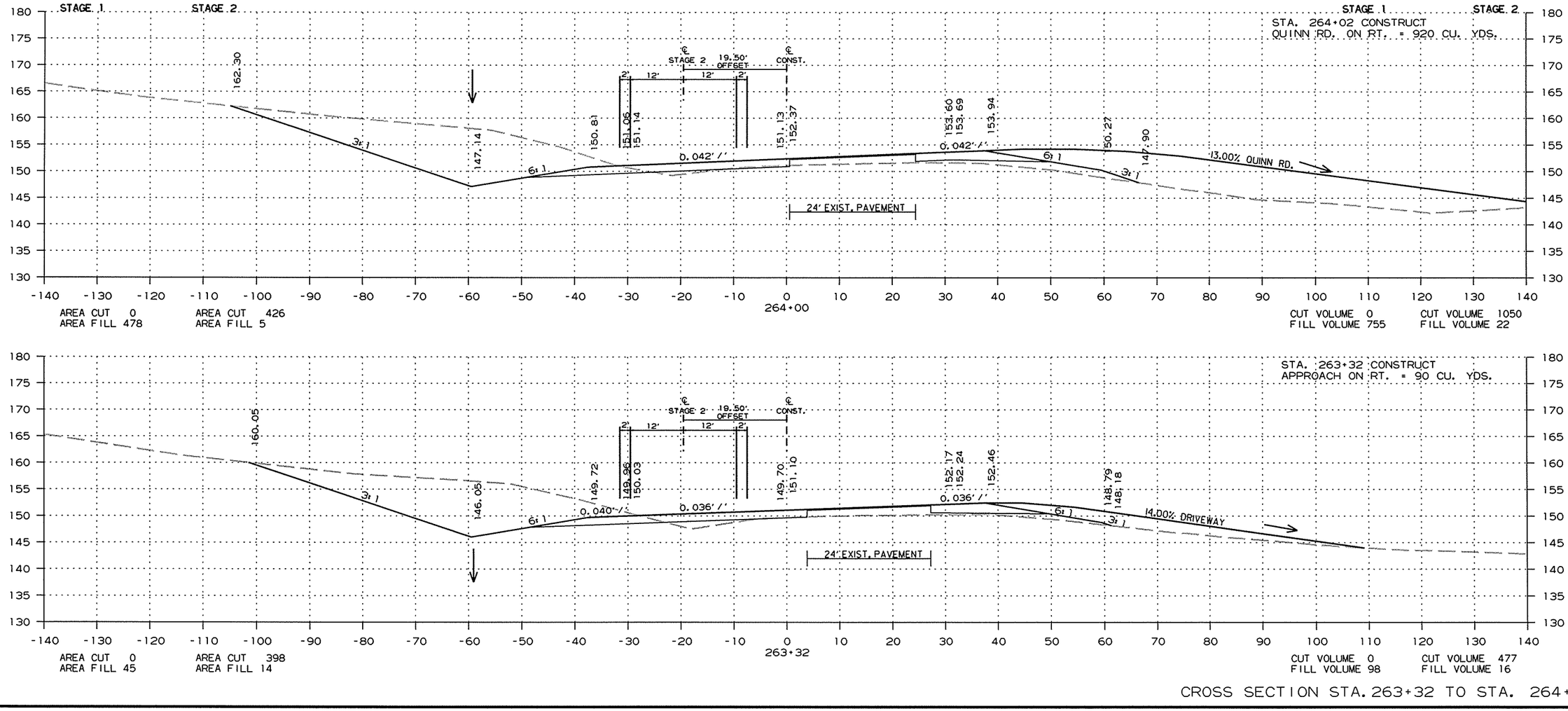
CROSS SECTION STA. 262+30 TO STA. 263+00

3/31/2015

R070280.DGN

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.		070280	255	336

(2) CROSS SECTIONS



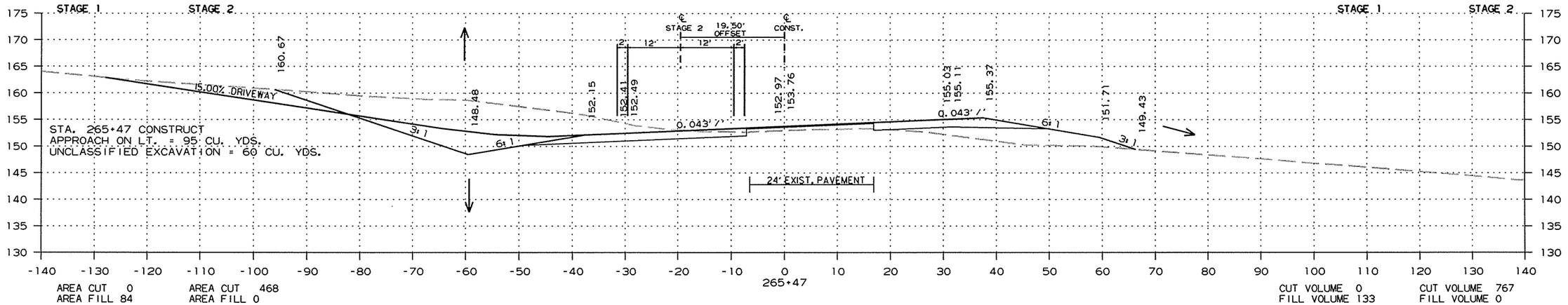
CROSS SECTION STA. 263+32 TO STA. 264+00

3/31/2015

R070280.DGN

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.		070280	256	336

(2) CROSS SECTIONS



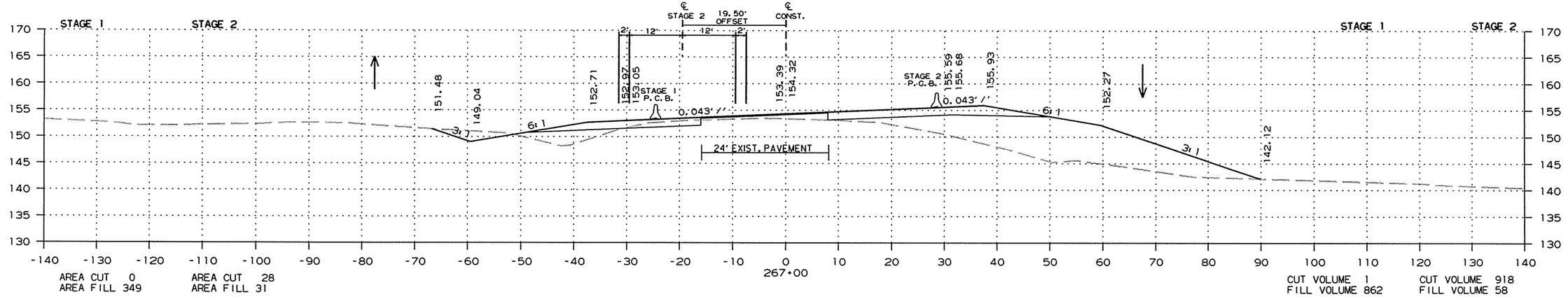
CROSS SECTION STA. 265+00 TO STA. 265+47

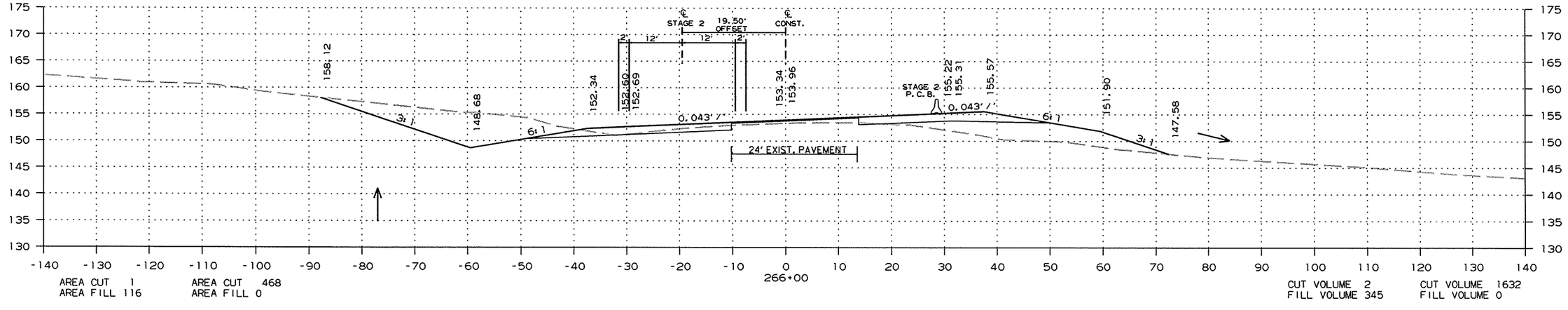
3/31/2015

R070280.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.		070280	257	336

(2) CROSS SECTIONS





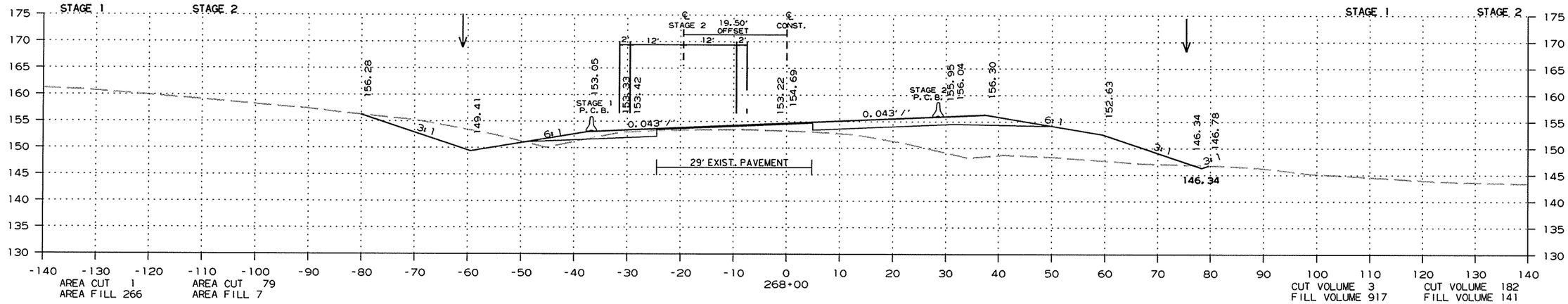
CROSS SECTION STA. 266+00 TO STA. 267+00

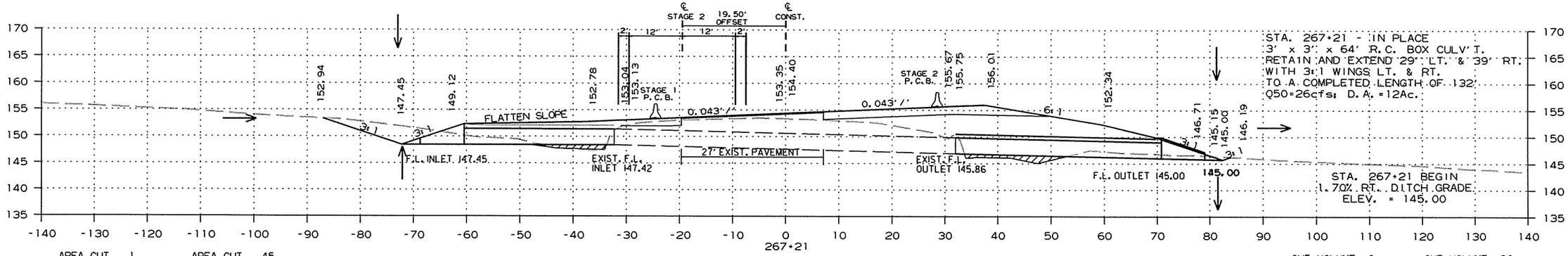
3/31/2015

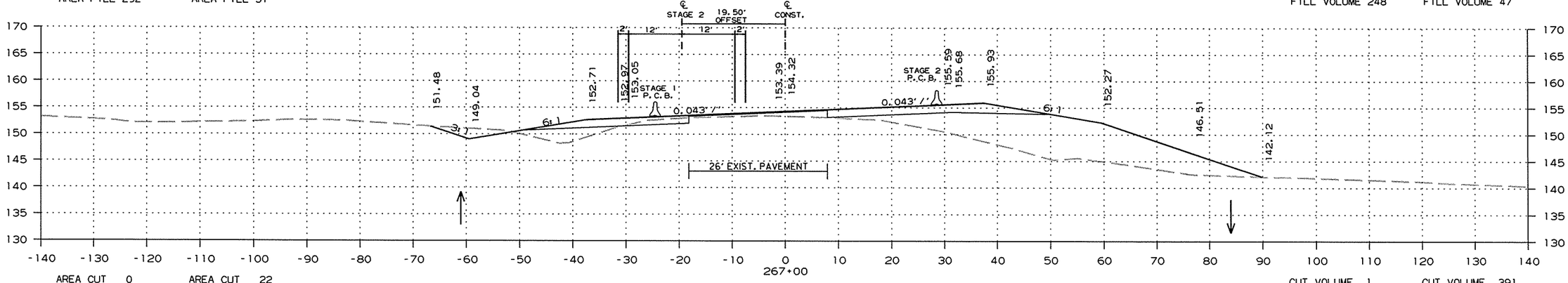
R070280.DGN

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.		070280	258	336

(2) CROSS SECTIONS







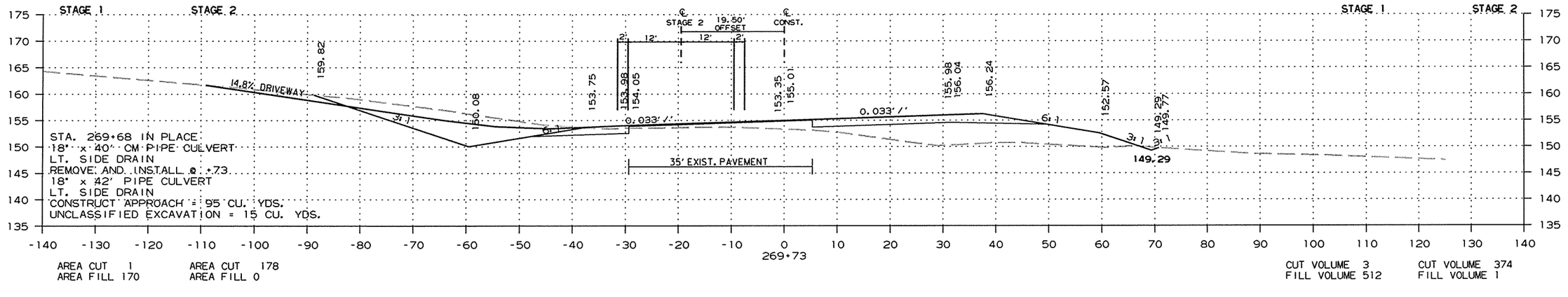
CROSS SECTION STA. 267+00 TO STA. 268+00

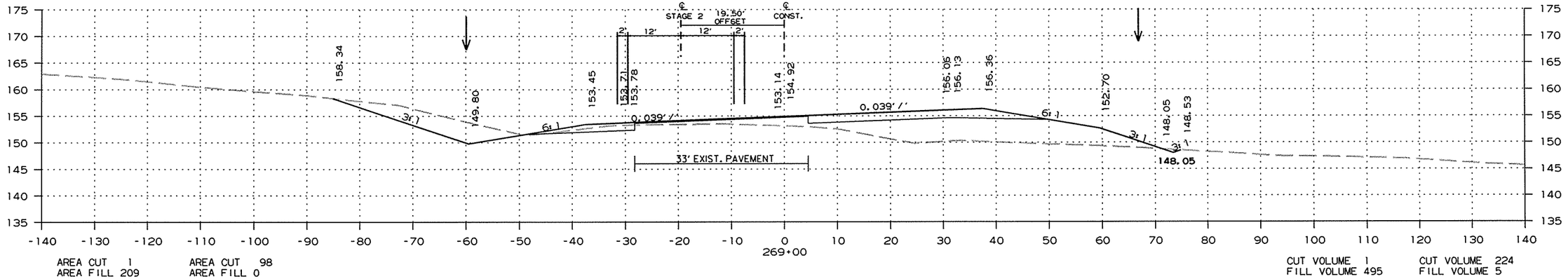
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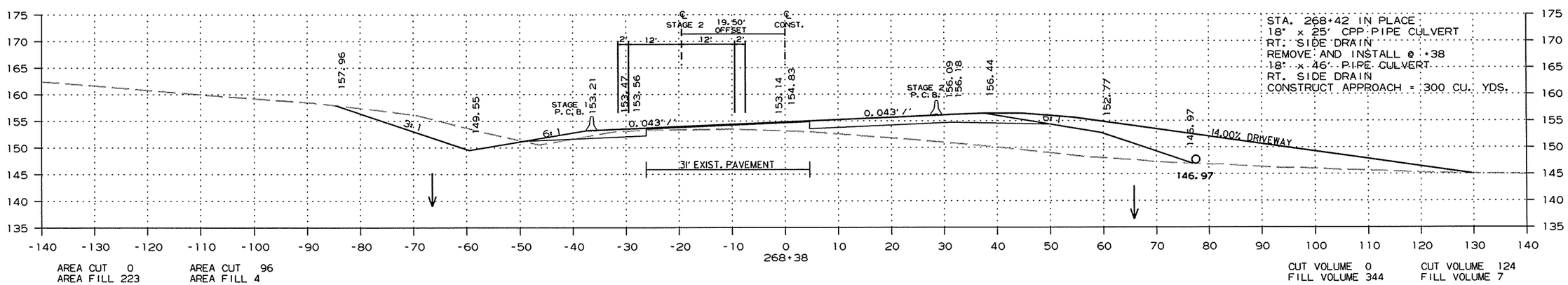
R070280.DGN

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.		070280	259	336

(2) CROSS SECTIONS







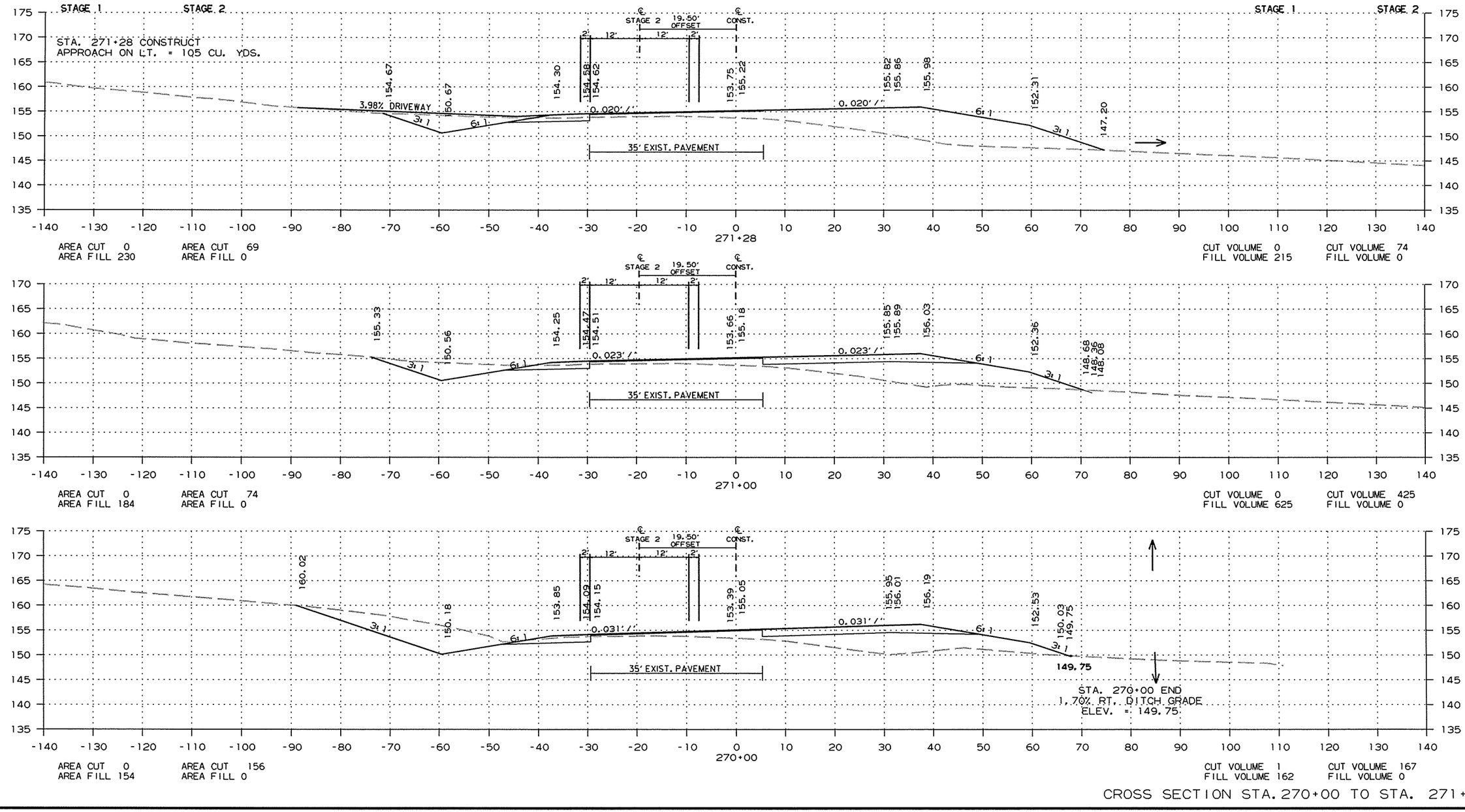
CROSS SECTION STA. 268+38 TO STA. 269+73

3/31/2015

R070280.DGN

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



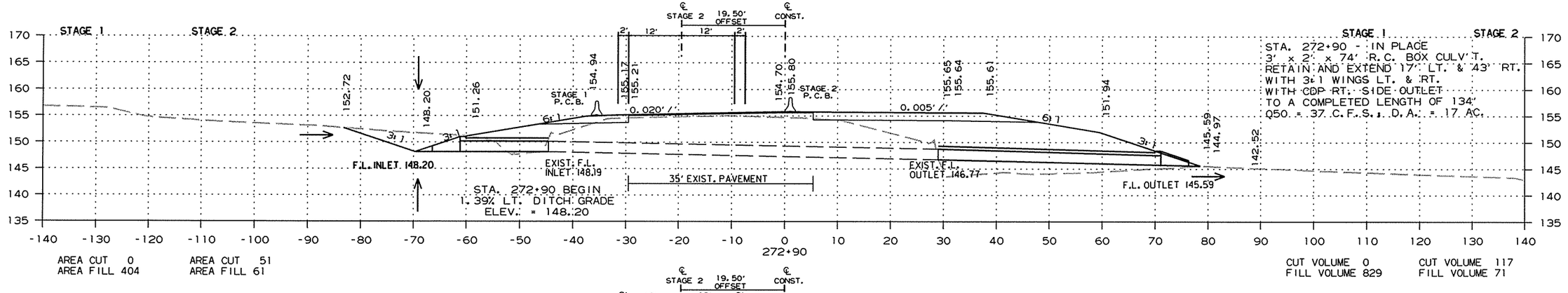
CROSS SECTION STA. 270+00 TO STA. 271+28

3/31/2015

R070280.DGN

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.		070280	261	336

(2) CROSS SECTIONS



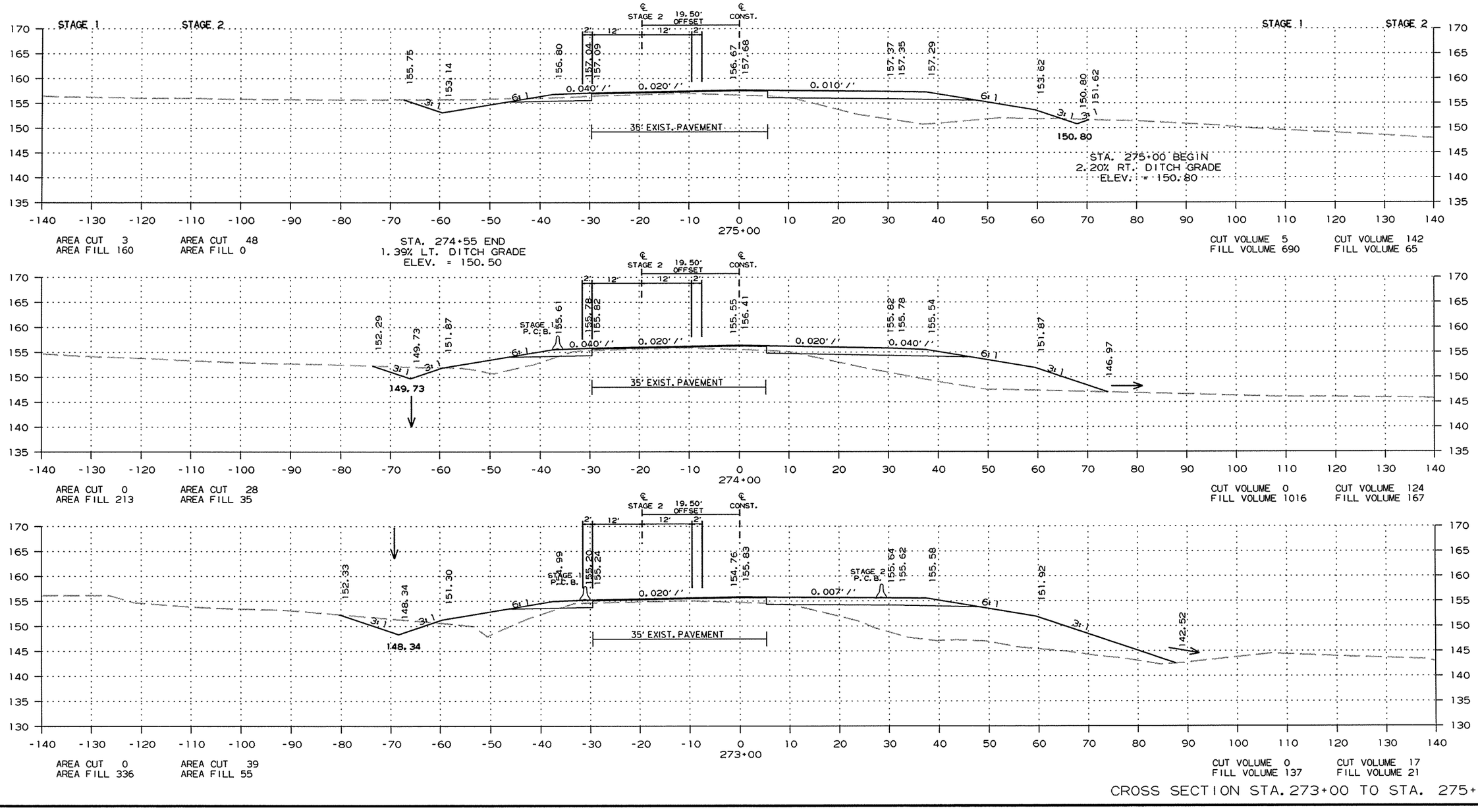
CROSS SECTION STA. 272+00 TO STA. 272+90

3/31/2015

R070280.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.		070280	262	336

(2) CROSS SECTIONS



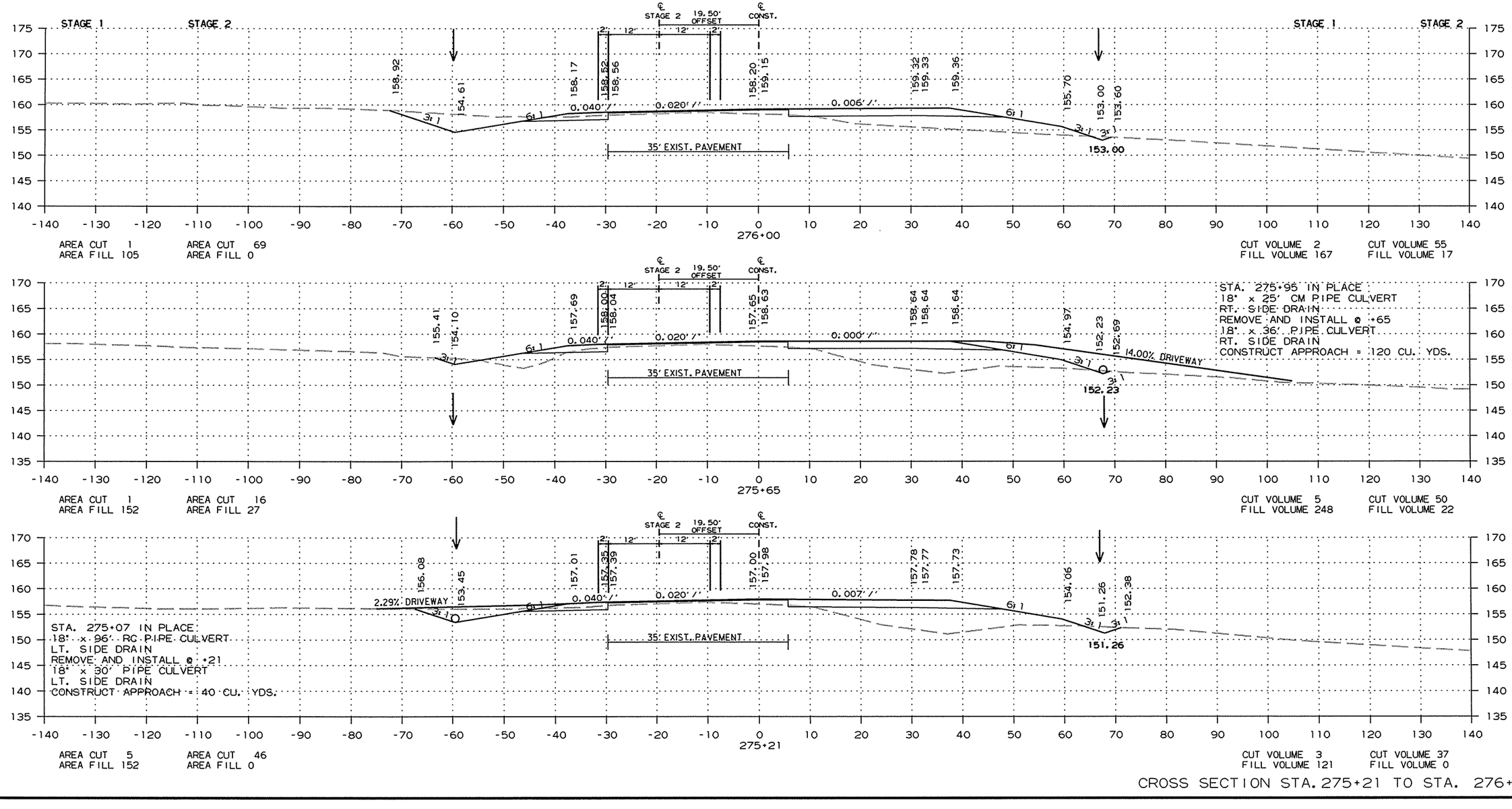
CROSS SECTION STA. 273+00 TO STA. 275+00

3/31/2015

R070280.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS



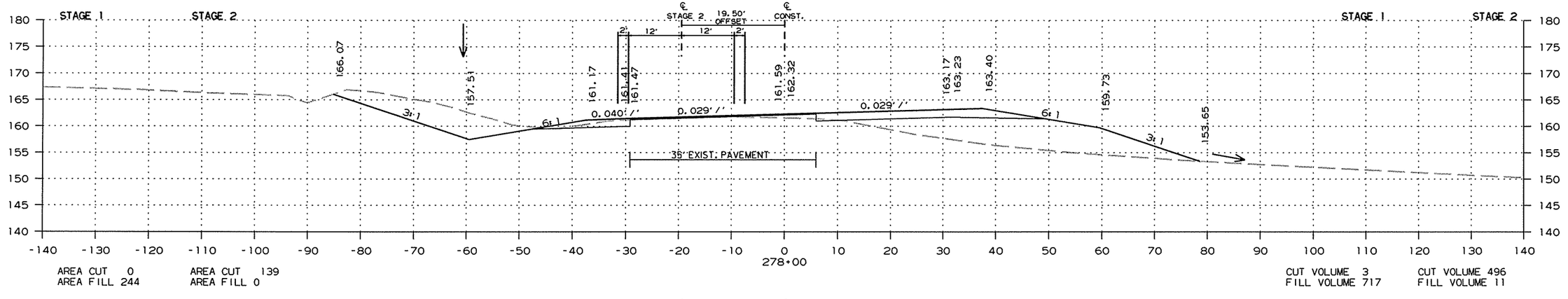
CROSS SECTION STA. 275+21 TO STA. 276+00

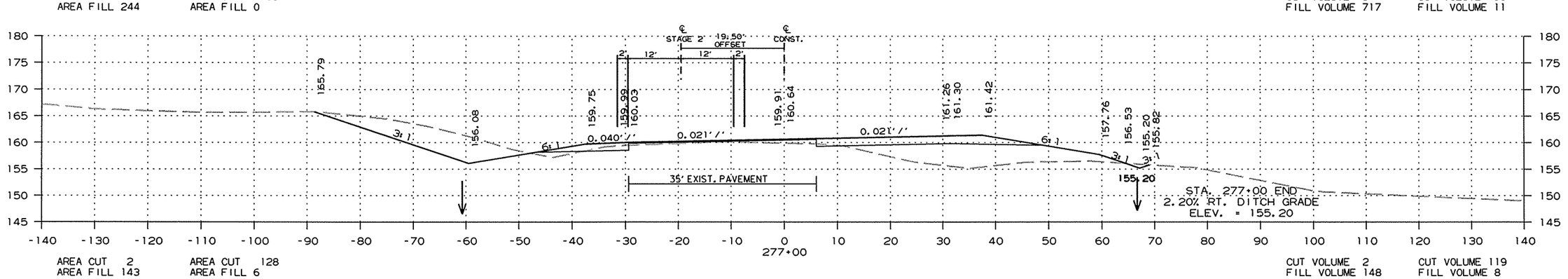
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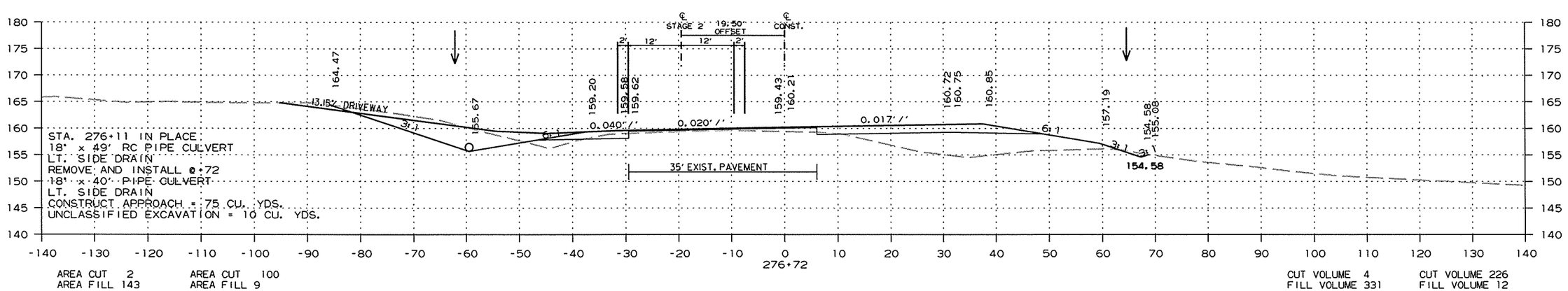
R070280.DGN

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







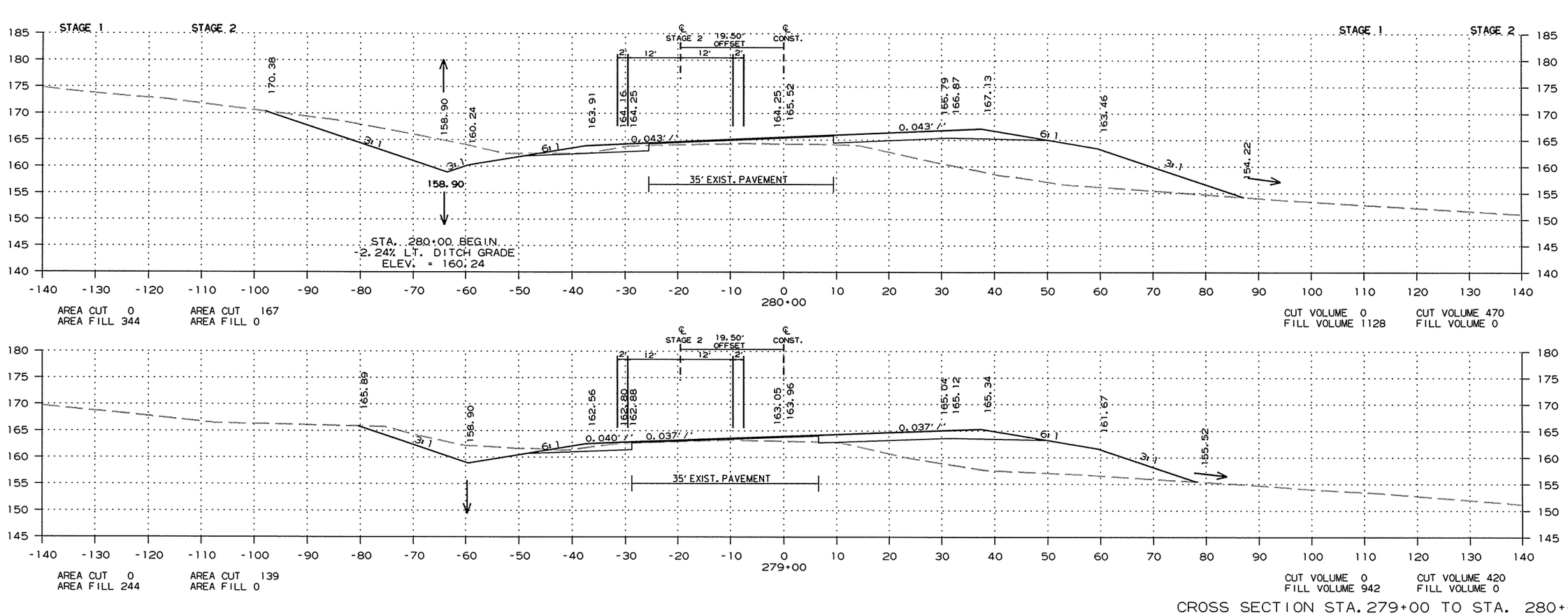
CROSS SECTION STA. 276+72 TO STA. 278+00

3/31/2015

R070280.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.		070280	265	336

(2) CROSS SECTIONS



CROSS SECTION STA. 279+00 TO STA. 280+00

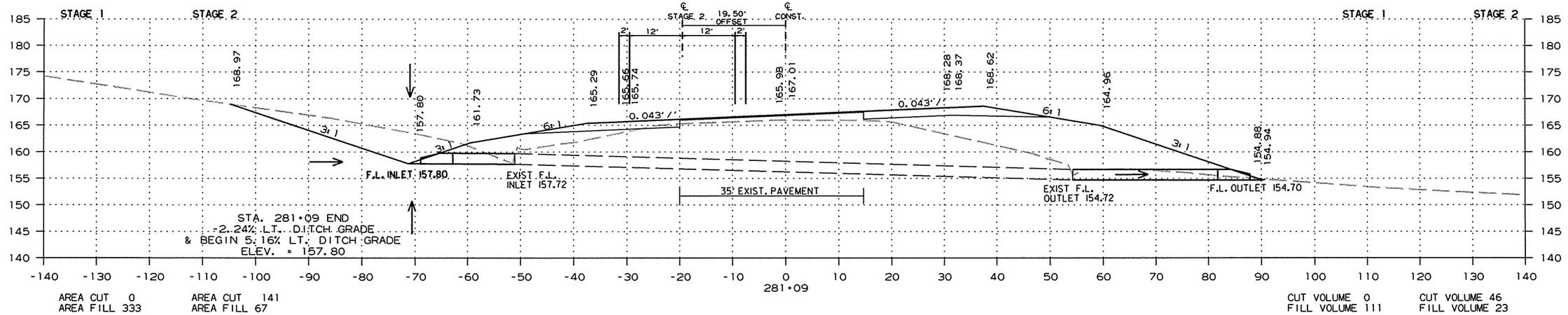
3/31/2015

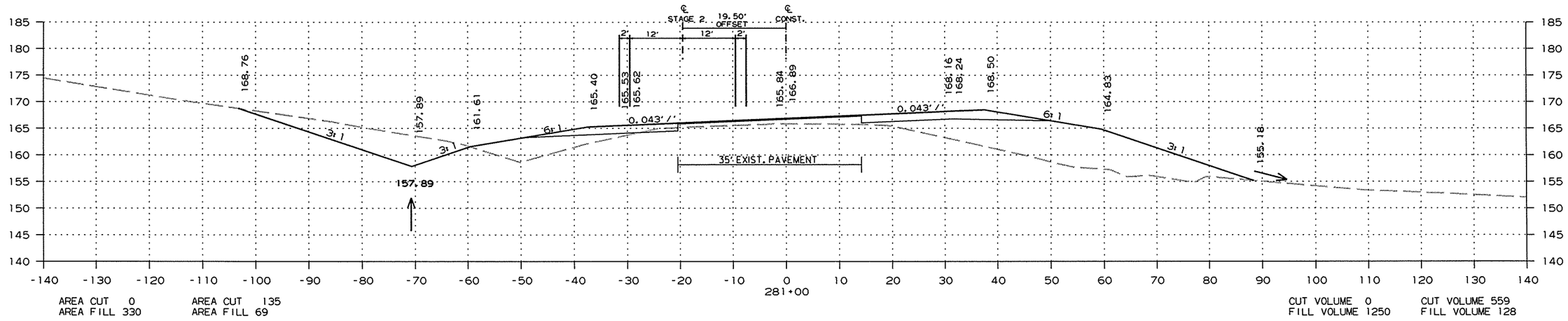
R070280.DGN

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.		070280	266	336

(2) CROSS SECTIONS

STA. 281+09 - IN PLACE
24" x 105' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 12' LT. & 28' RT. (CL. III)
TO A COMPLETED LENGTH OF 145'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
Q50 = 5 C.F.S.; D.A. = 2 AC.
24" R.C. PIPE (CL. III) = 48 LIN. FT.
24" F.E.S. = 2 EA.





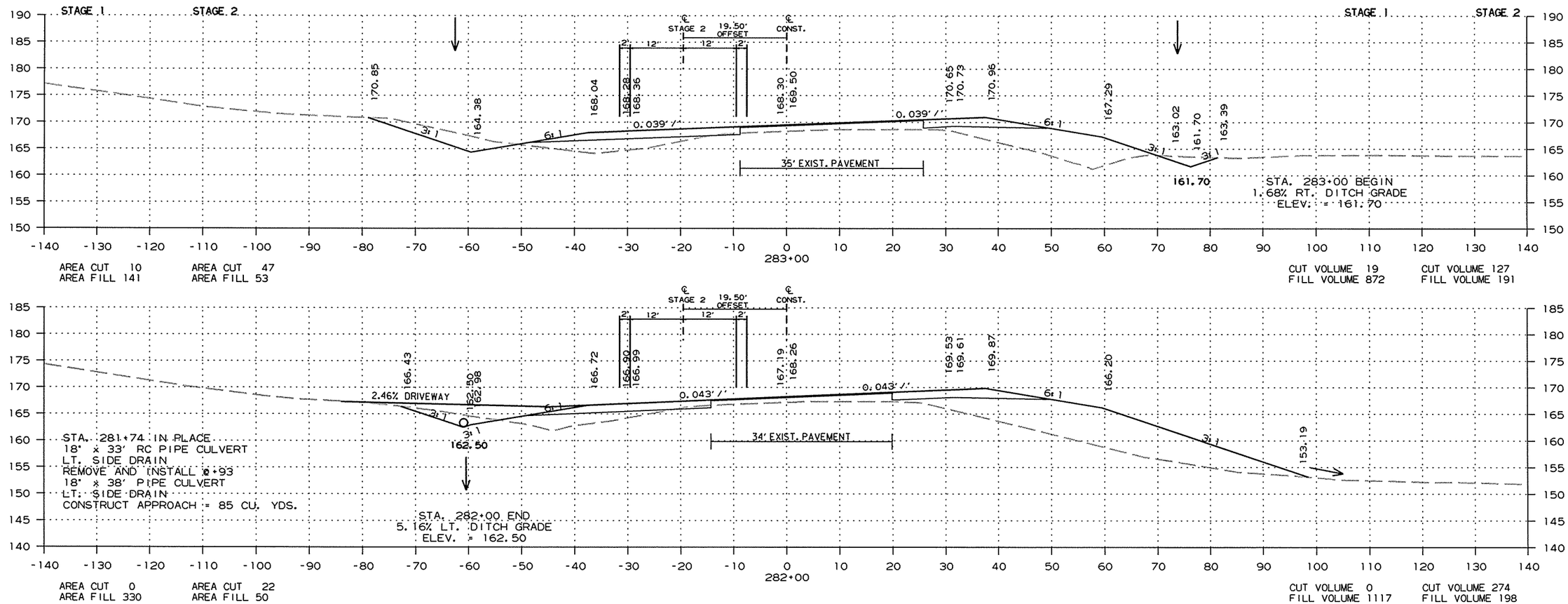
CROSS SECTION STA. 281+00 TO STA. 281+09

3/31/2015

R070280.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.		070280	267	336

(2) CROSS SECTIONS



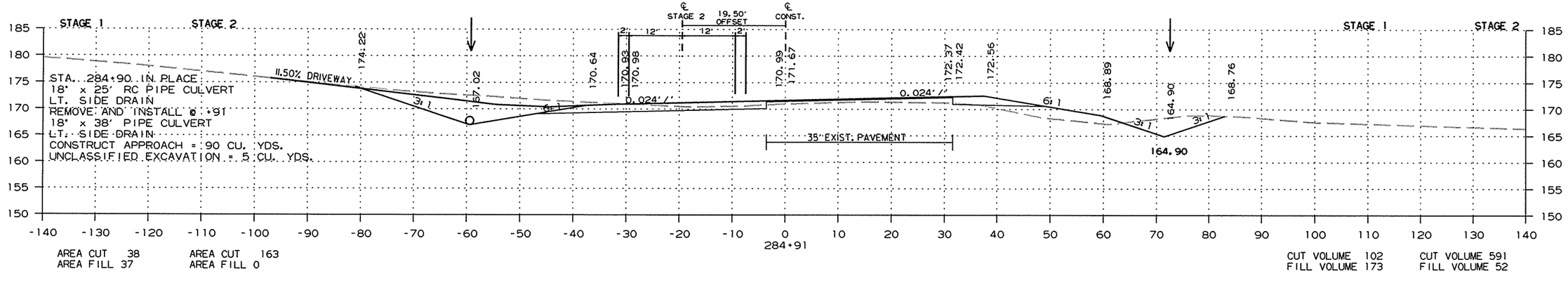
CROSS SECTION STA. 282+00 TO STA. 283+00

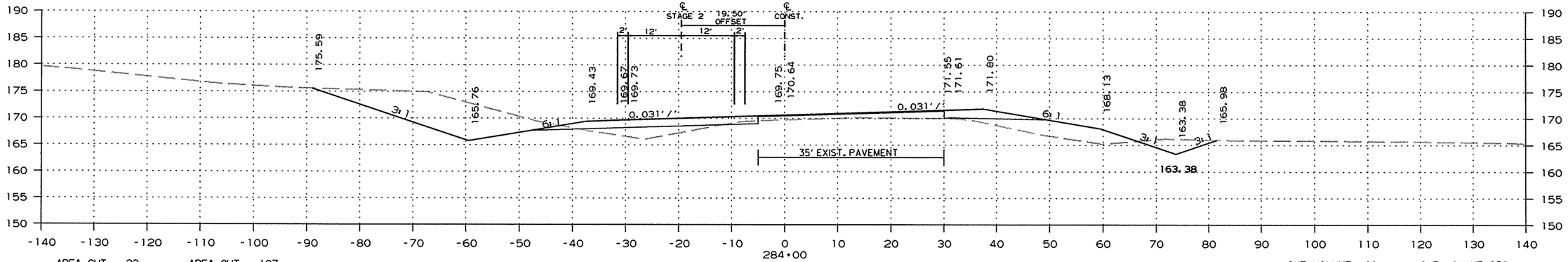
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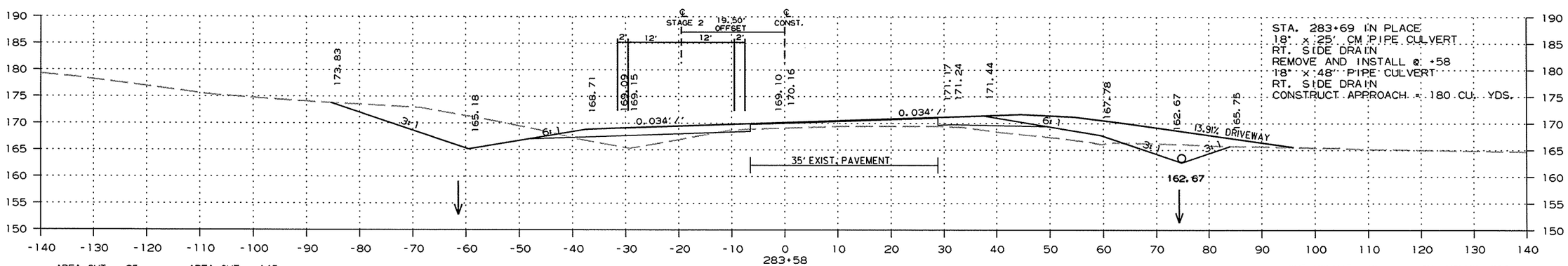
R070280.DGN

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







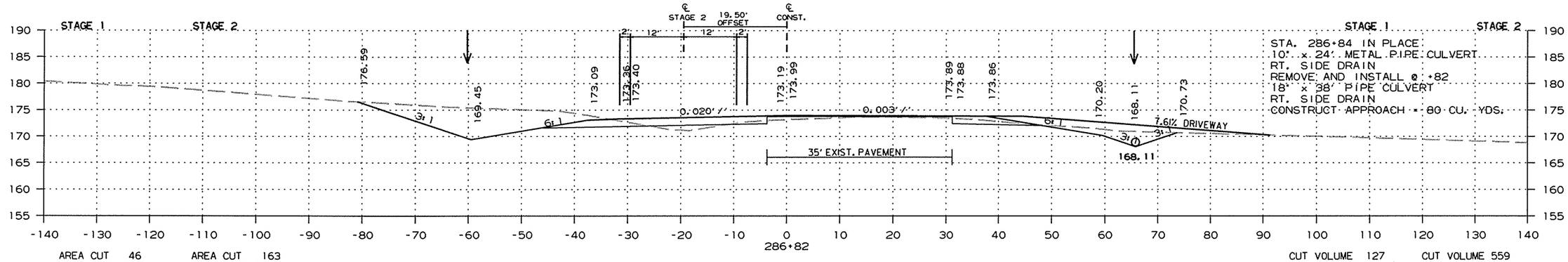
CROSS SECTION STA. 283+58 TO STA. 284+91

3/31/2015

R070280.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.		070280	269	336

(2) CROSS SECTIONS



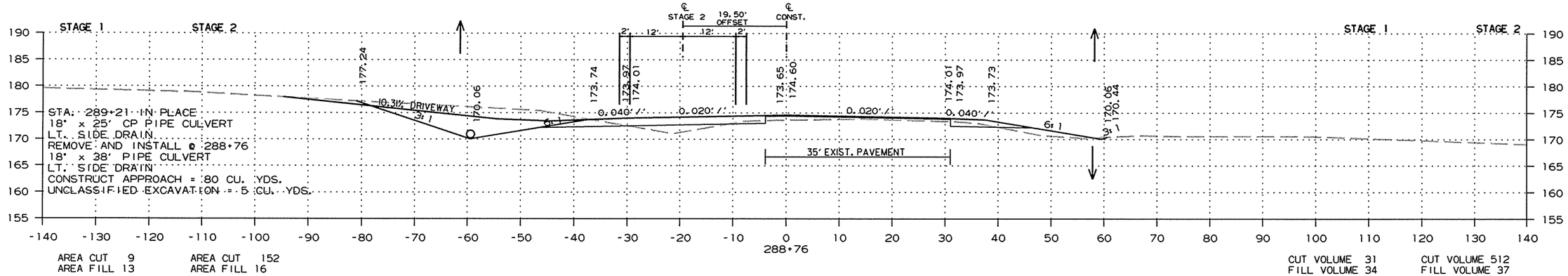
CROSS SECTION STA. 285+00 TO STA. 286+82

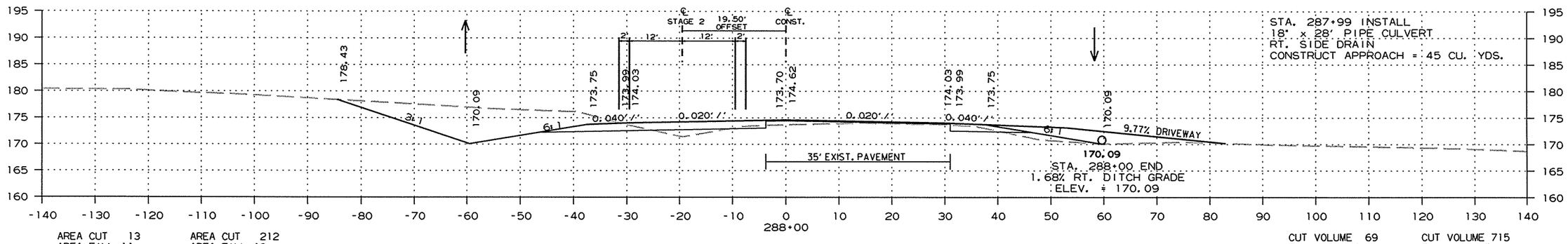
3/31/2015

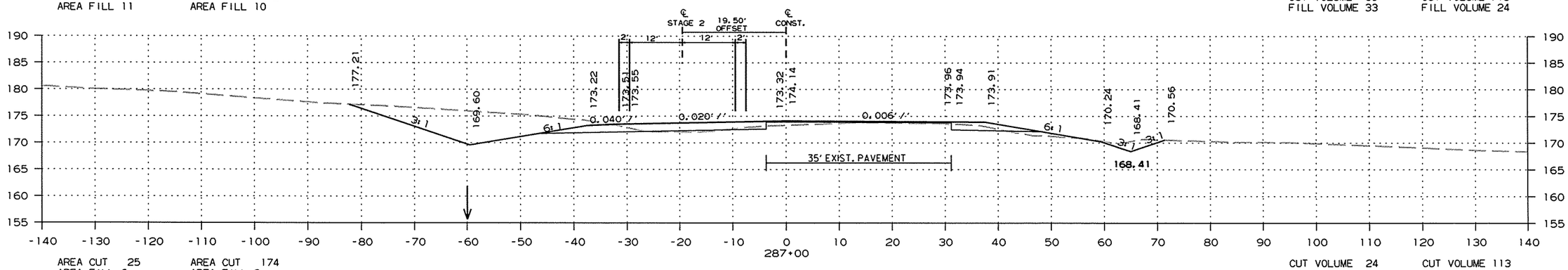
R070280.DGN

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.		070280	270	336

(2) CROSS SECTIONS







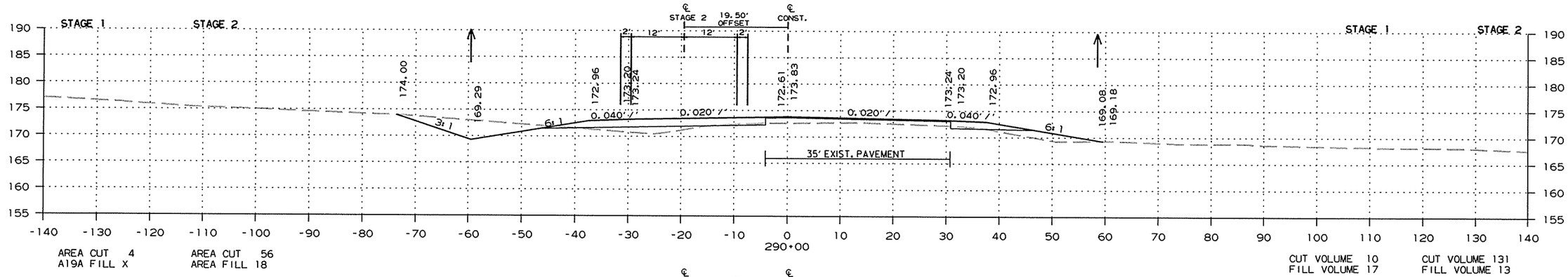
CROSS SECTION STA. 287+00 TO STA. 288+76

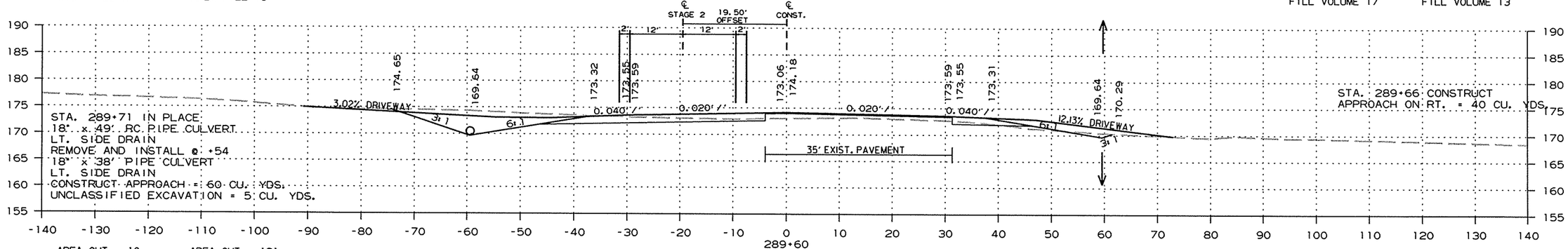
3/31/2015

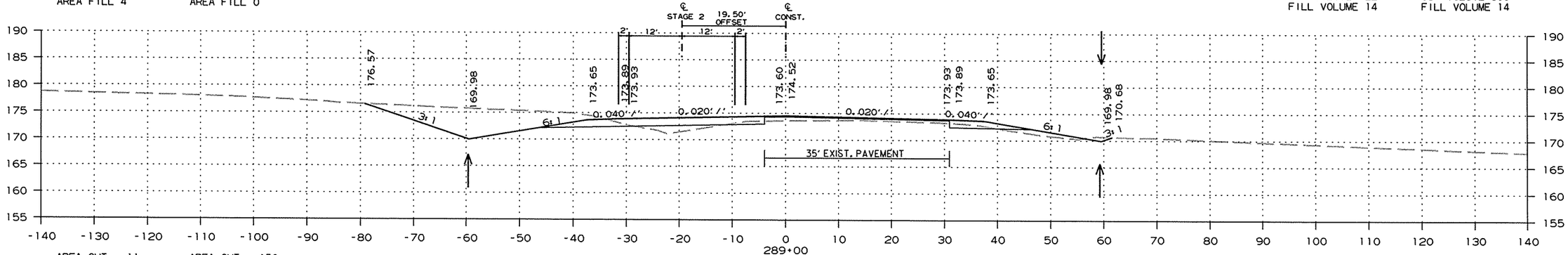
R070280.DGN

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.		070280	271	336

(2) CROSS SECTIONS







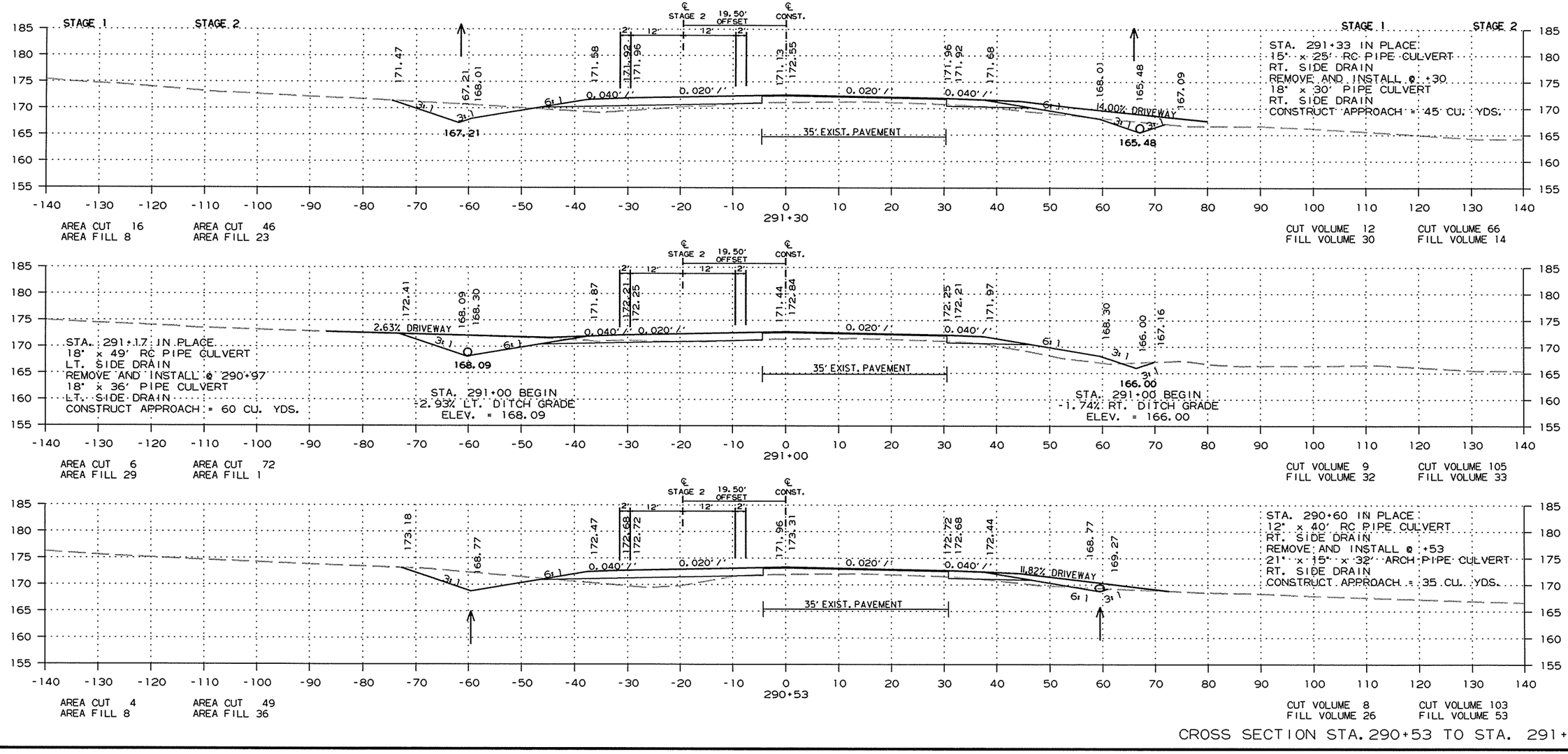
CROSS SECTION STA. 289+00 TO STA. 290+00

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R070280.DGN

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



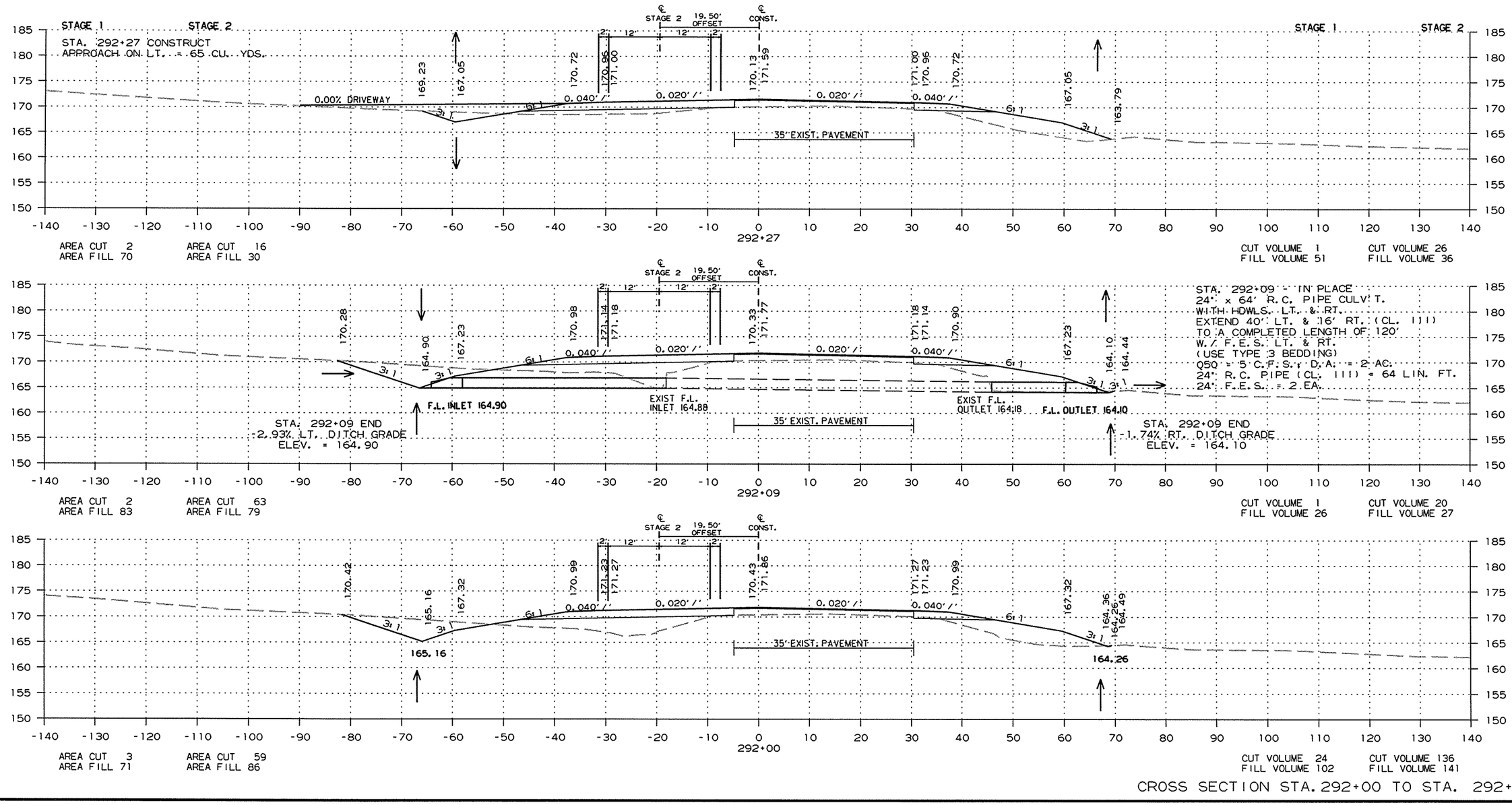
CROSS SECTION STA. 290+53 TO STA. 291+30

3/31/2015

R070280.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.		070280	273	336

(2) CROSS SECTIONS



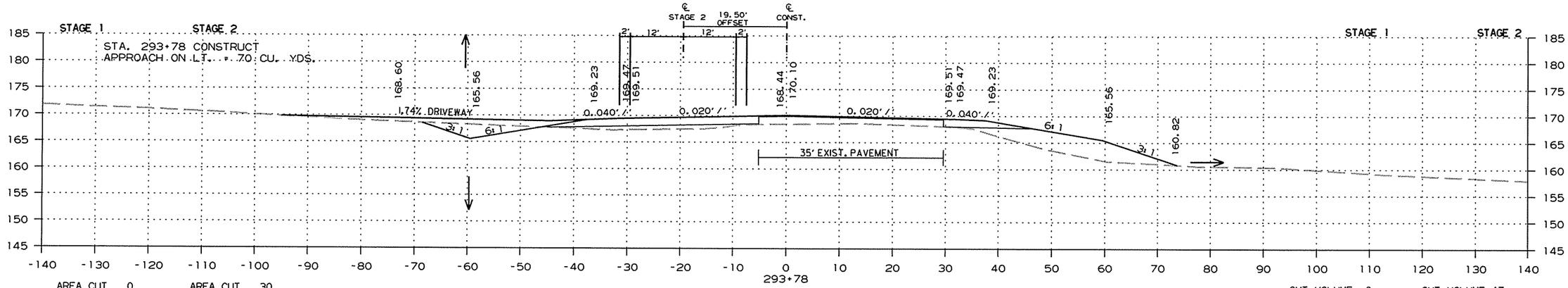
CROSS SECTION STA. 292+00 TO STA. 292+27

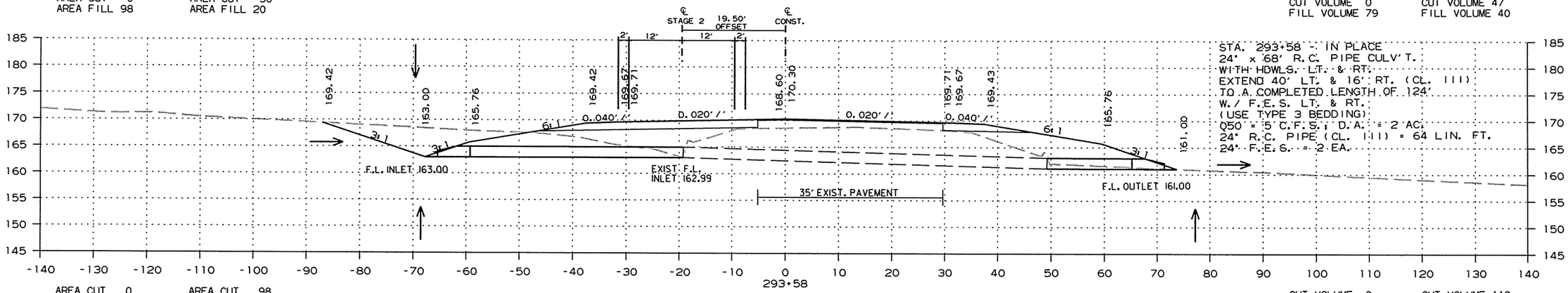
3/31/2015

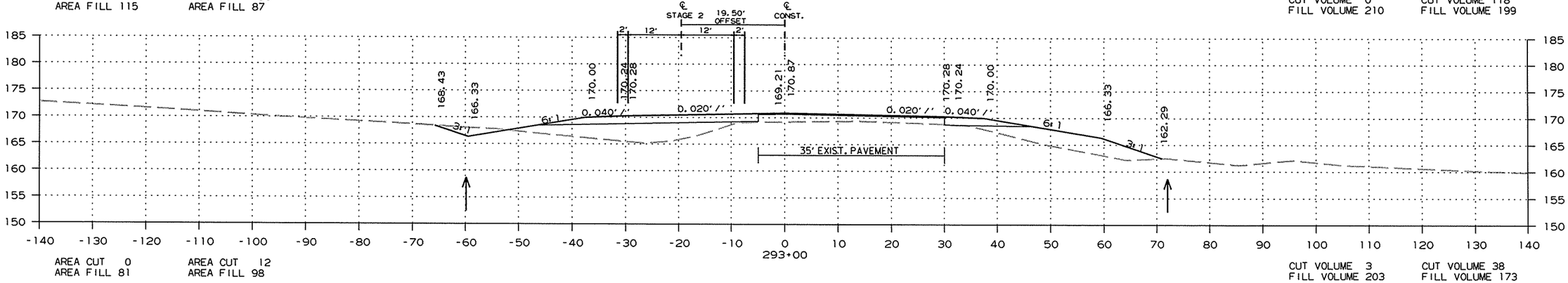
R070280.DGN

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.		070280	274	336

(2) CROSS SECTIONS







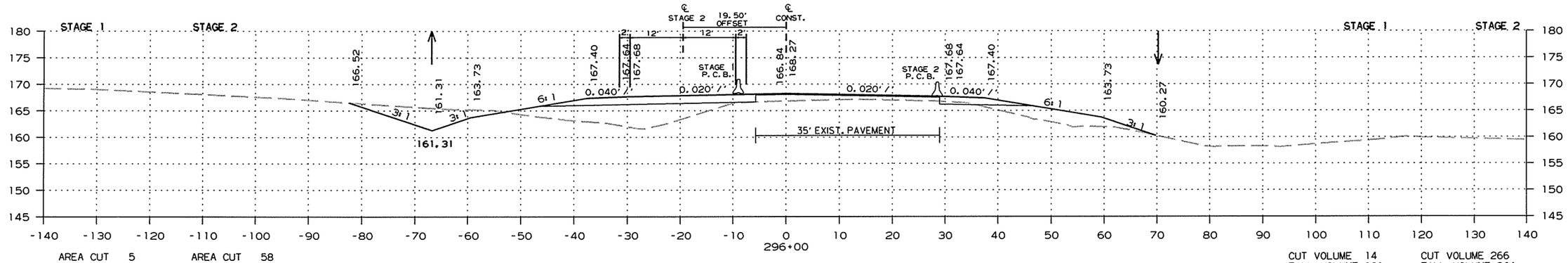
CROSS SECTION STA. 293+00 TO STA. 293+78

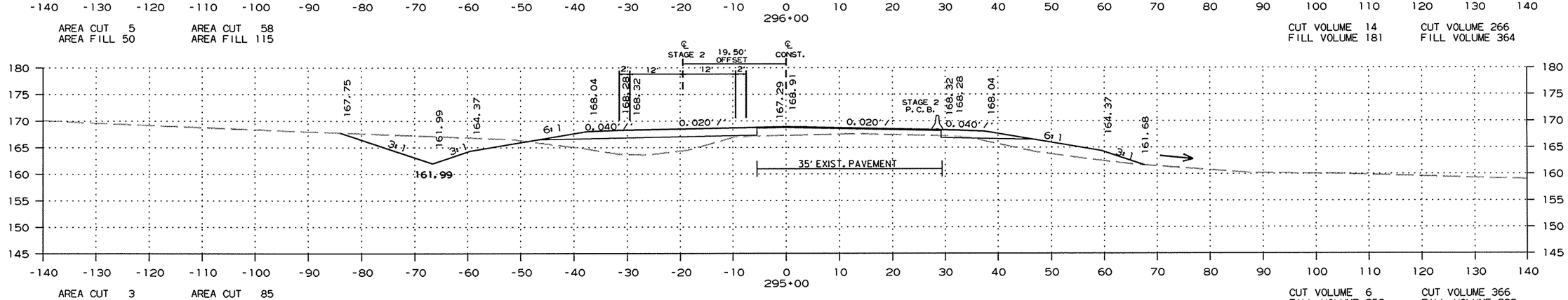
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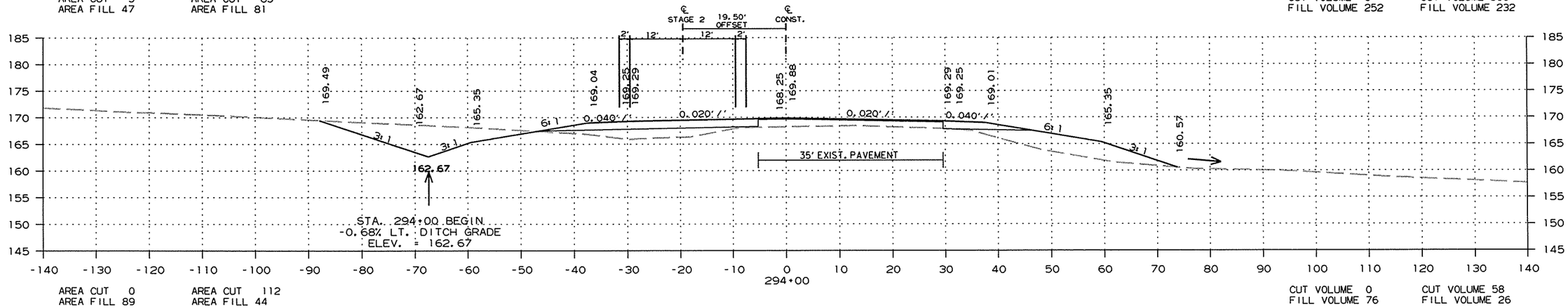
R070280.DGN

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.		070280	275	336

(2) CROSS SECTIONS







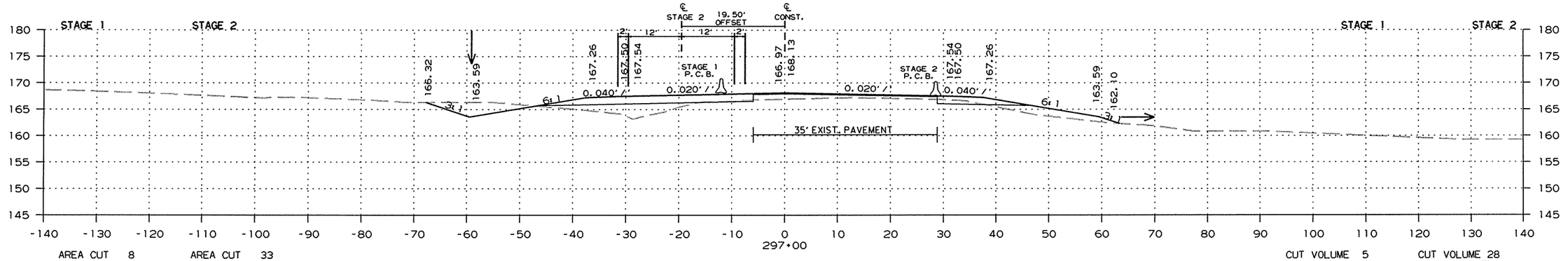
CROSS SECTION STA. 294+00 TO STA. 296+00

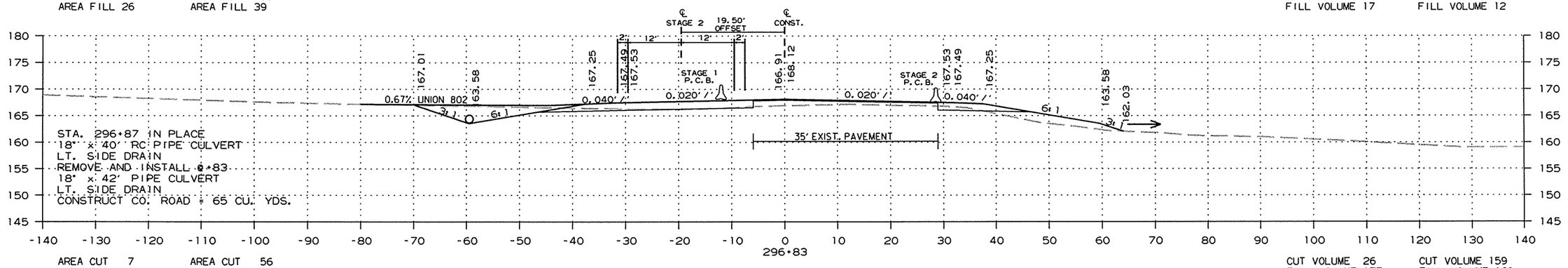
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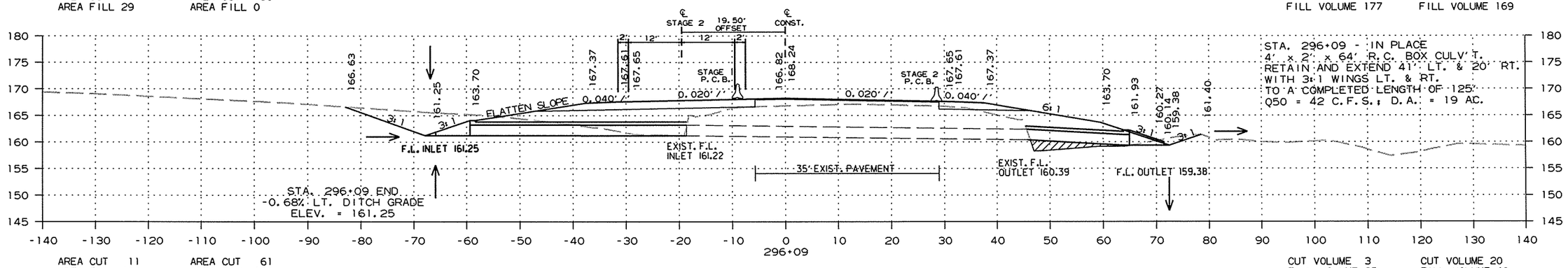
R070280.DGN

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.		070280	276	336

(2) CROSS SECTIONS







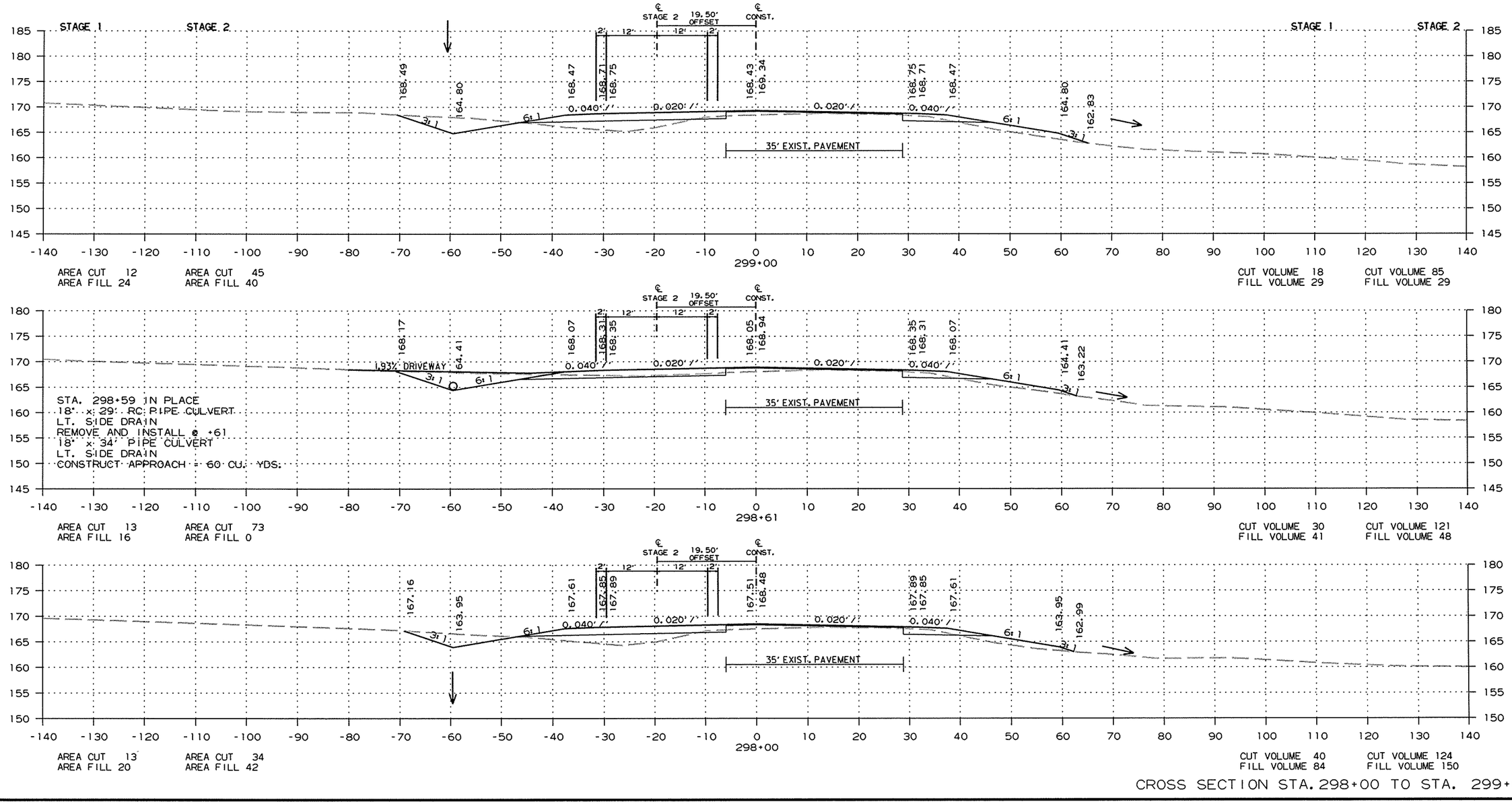
CROSS SECTION STA. 296+09 TO STA. 297+00

3/31/2015

R070280.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.		070280	277	336

(2) CROSS SECTIONS



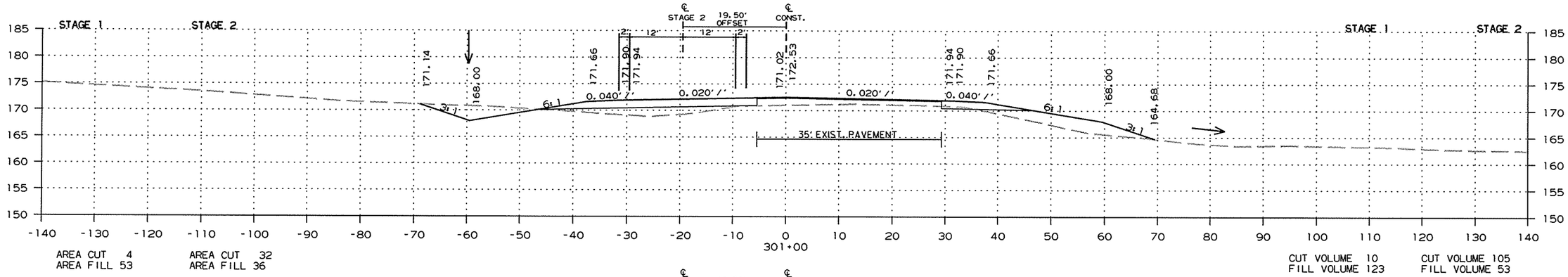
CROSS SECTION STA. 298+00 TO STA. 299+00

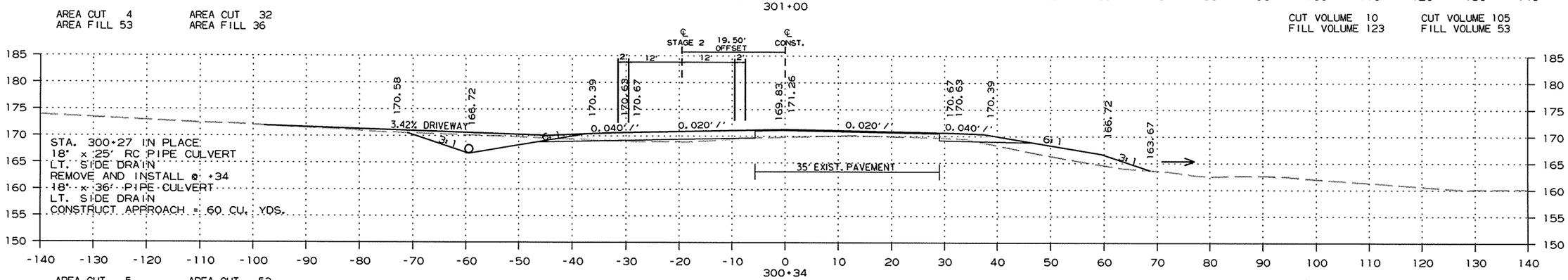
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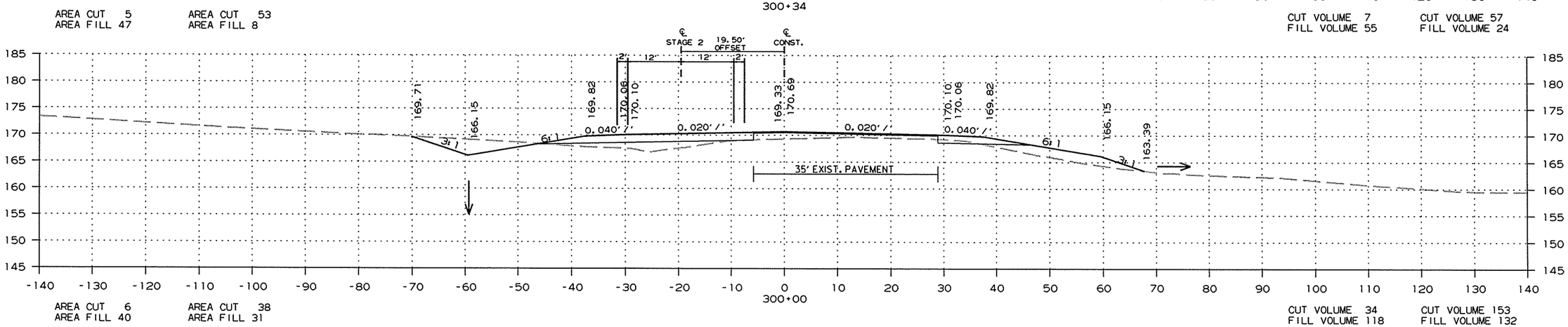
R070280.DGN

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.		070280	278	336

(2) CROSS SECTIONS







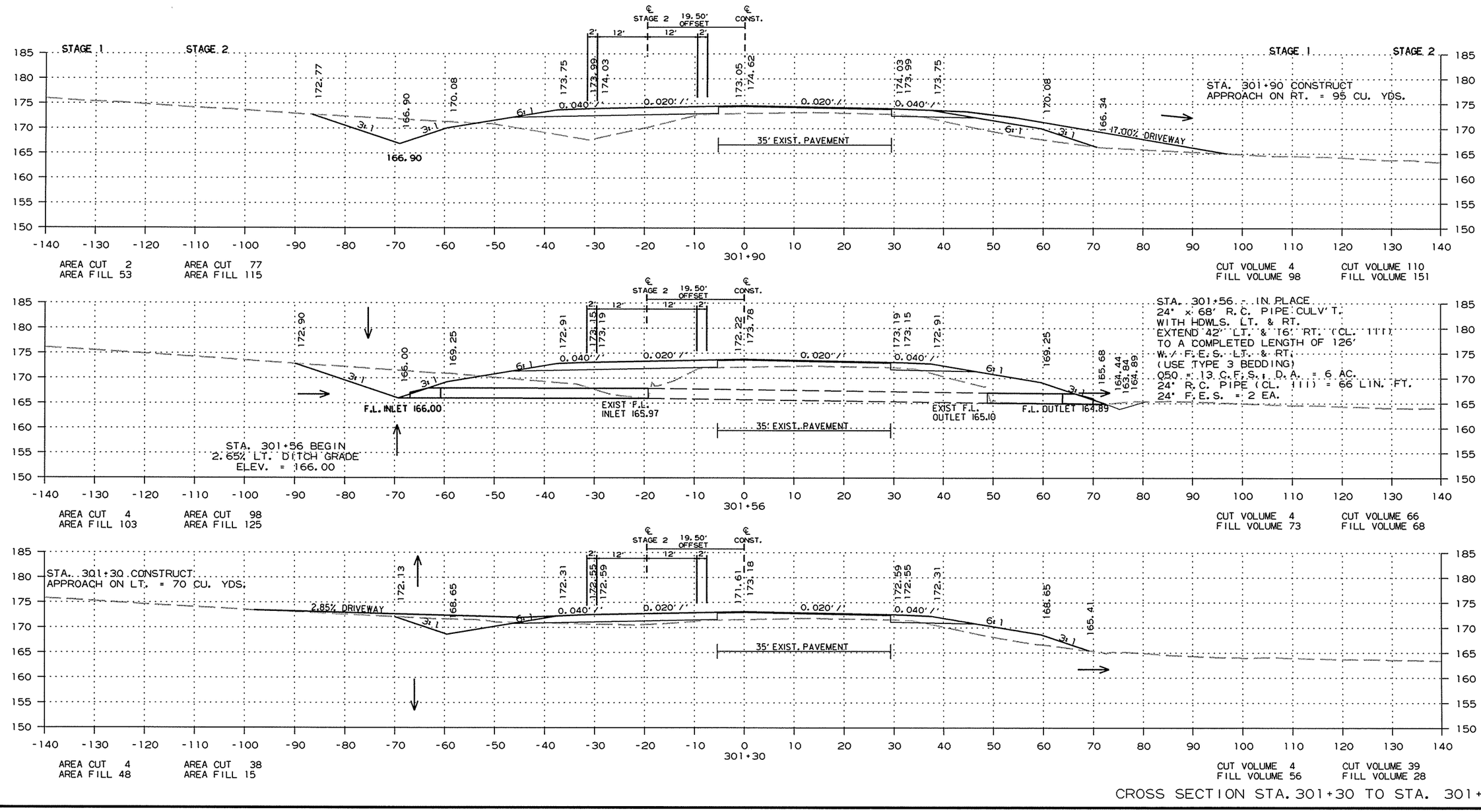
CROSS SECTION STA. 300+00 TO STA. 301+00

3/31/2015

R070280.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.		070280	279	336

(2) CROSS SECTIONS



CROSS SECTION STA. 301+30 TO STA. 301+90

3/31/2015

R070280.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.		070280	280	336

(2) CROSS SECTIONS

CROSS SECTION STA. 302+00 TO STA. 304+00

3/31/2015

R070280.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.		070280	281	336

(2) CROSS SECTIONS

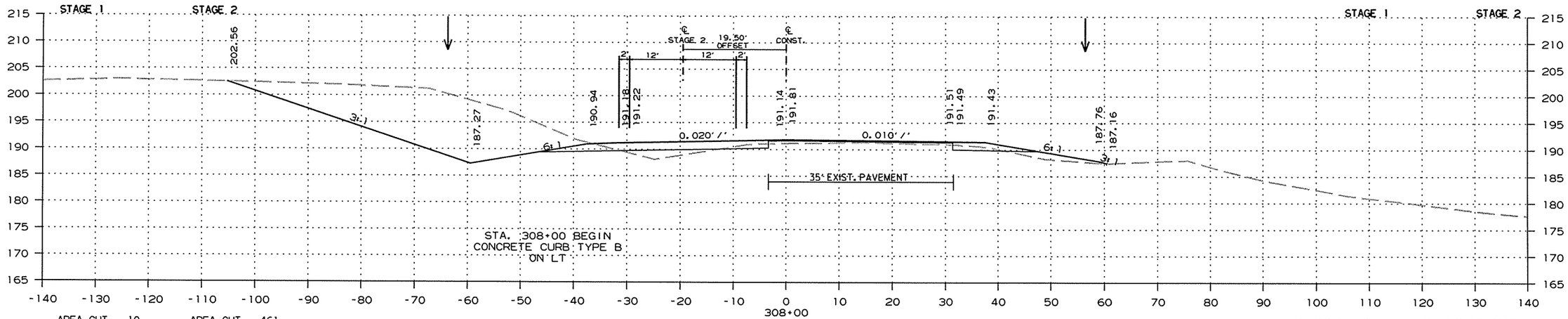
CROSS SECTION STA. 304+88 TO STA. 306+00

3/31/2015

R070280.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.		070280	282	336

(2) CROSS SECTIONS



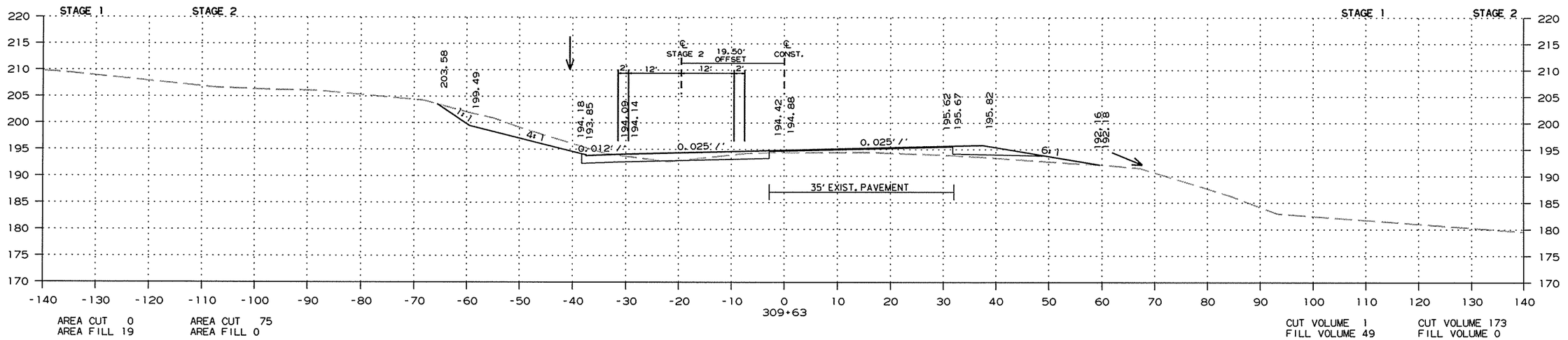
CROSS SECTION STA. 307+00 TO STA. 308+00

3/31/2015

R070280.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.		070280	283	336

(2) CROSS SECTIONS



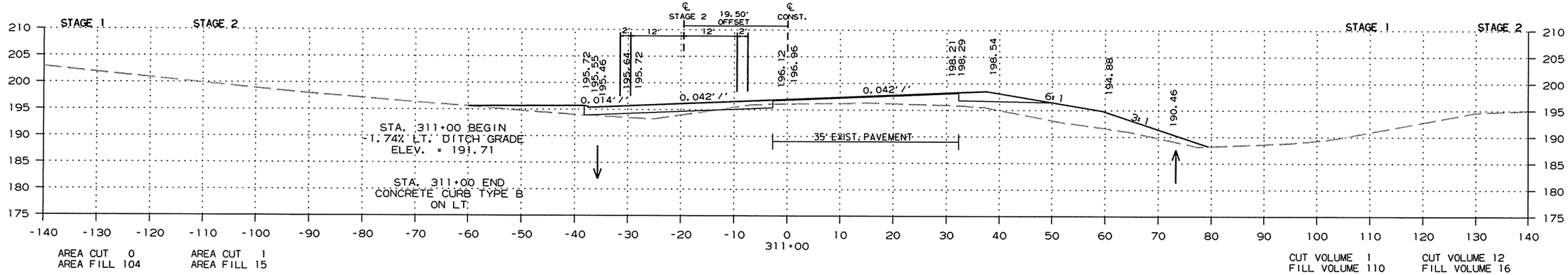
CROSS SECTION STA. 309+00 TO STA. 309+63

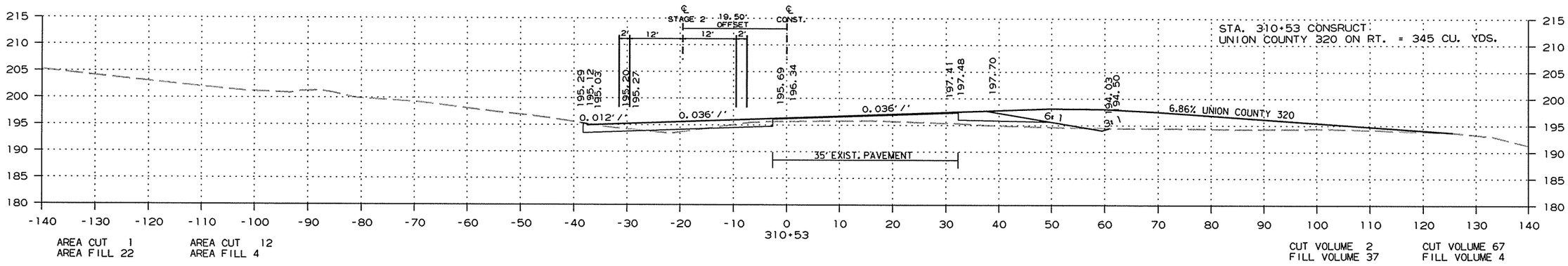
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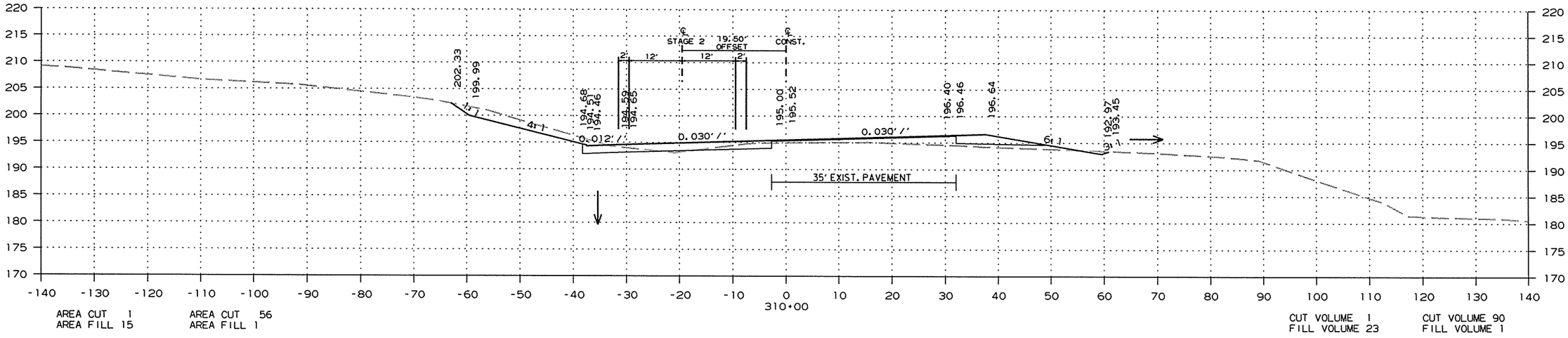
R070280.DGN

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.		070280	284	336

(2) CROSS SECTIONS







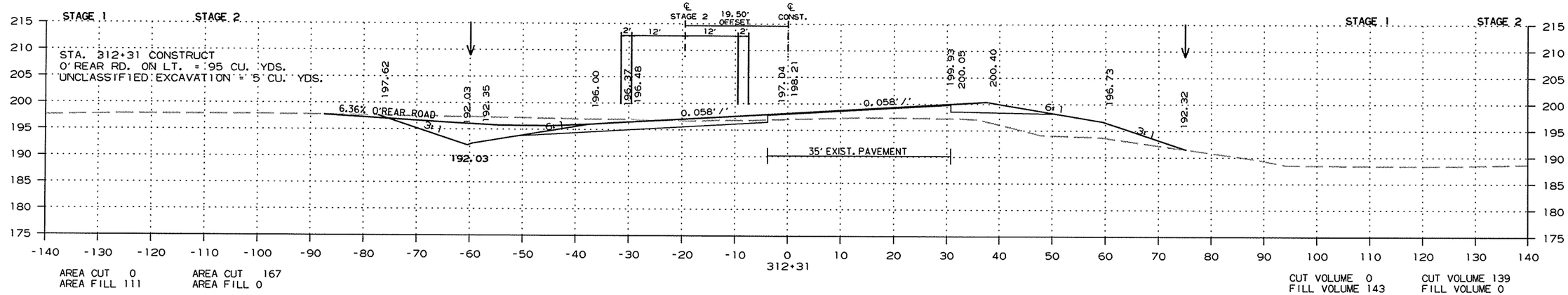
CROSS SECTION STA. 310+00 TO STA. 311+00

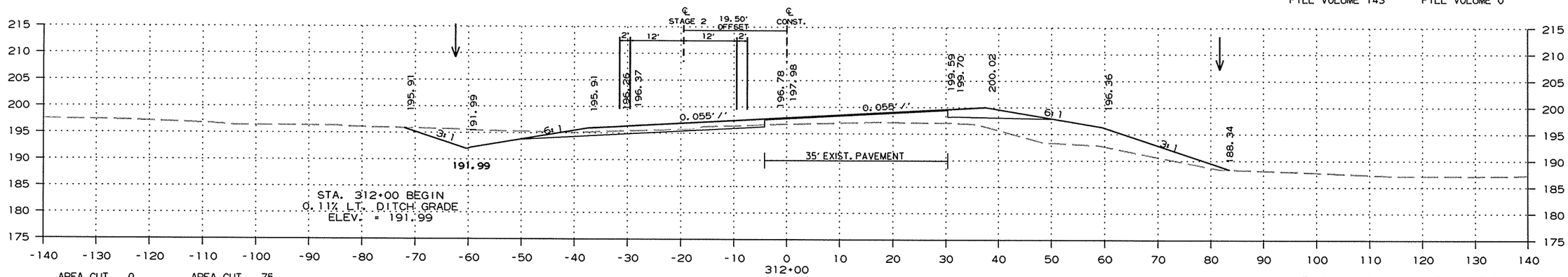
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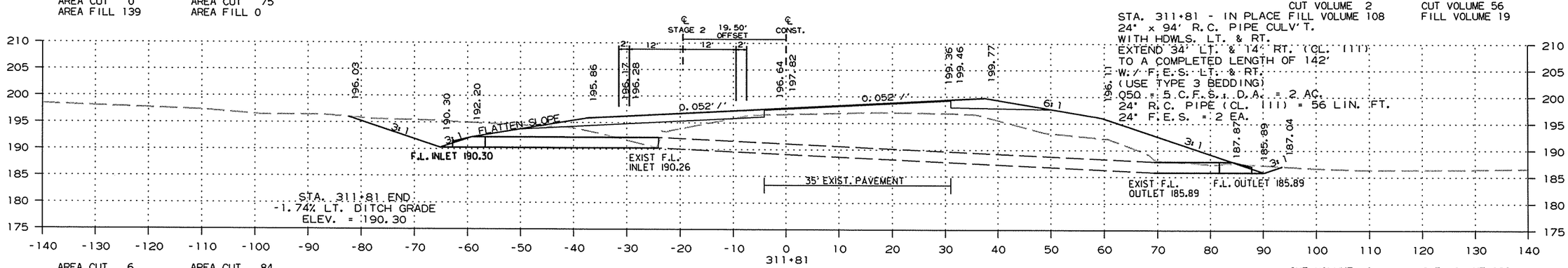
R070280.DGN

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.		070280	285	336

(2) CROSS SECTIONS







STA. 311+81 - IN PLACE FILL VOLUME 108
24" x 94' R.C. PIPE CULV'T.
WITH HDWLS. LT. & RT.
EXTEND 34' LT. & 14' RT. (CL. III)
TO A COMPLETED LENGTH OF 142'
W./ F.E.S. LT. & RT.
(USE TYPE 3 BEDDING)
Q50 = 5 C.F.S. ; D.A. = 2 AC.
24" R.C. PIPE (CL. III) = 56 LIN. FT.
24" F.E.S. = 2 EA.

CROSS SECTION STA. 311+81 TO STA. 312+31

3/31/2015

R070280.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.		070280	286	336

(2) CROSS SECTIONS

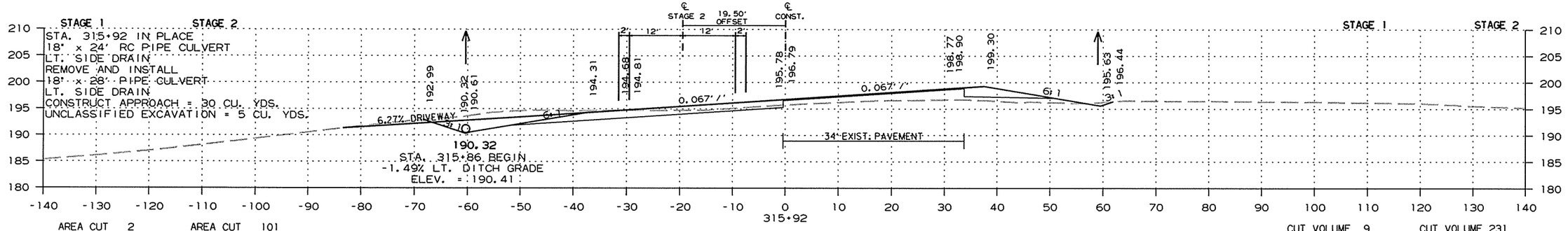
CROSS SECTION STA. 313+00 TO STA. 314+00

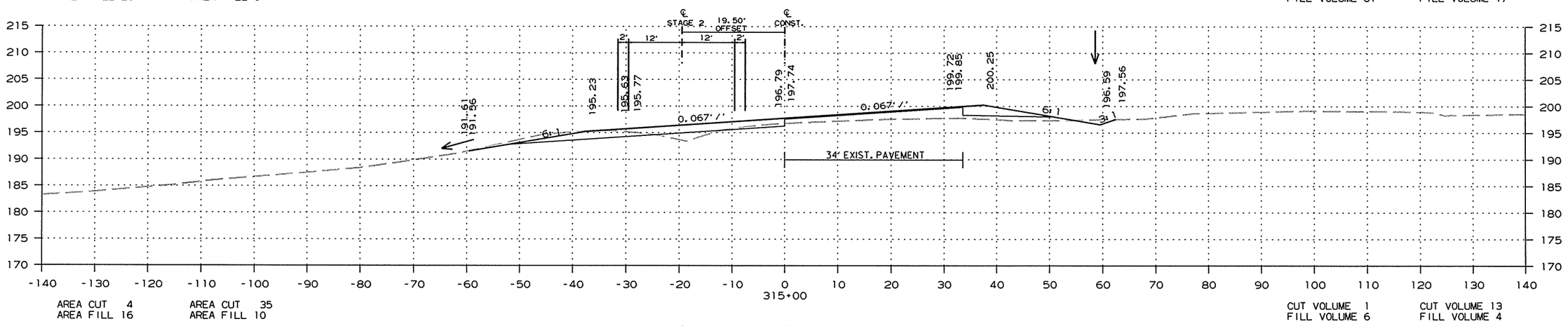
3/31/2015

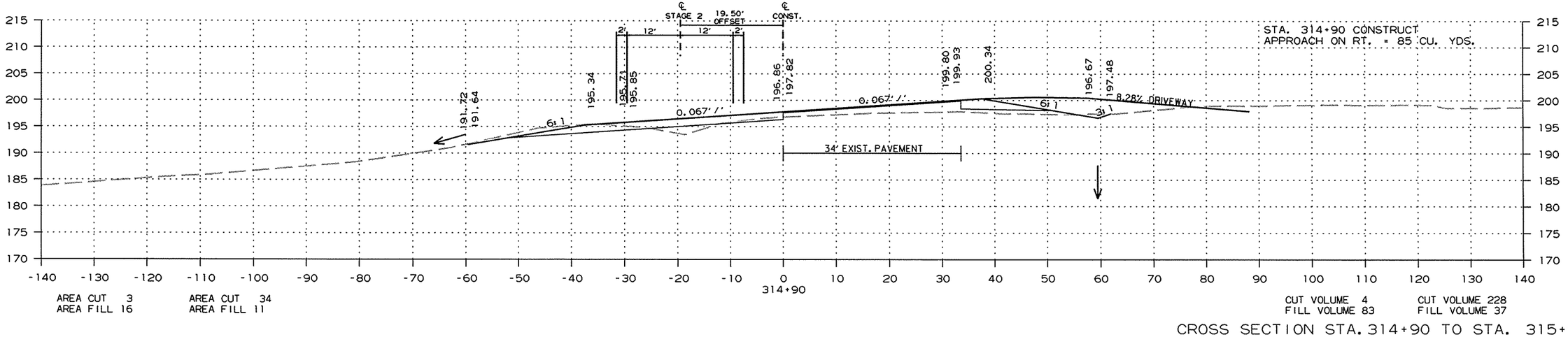
R070280.DGN

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.		070280	287	336

(2) CROSS SECTIONS







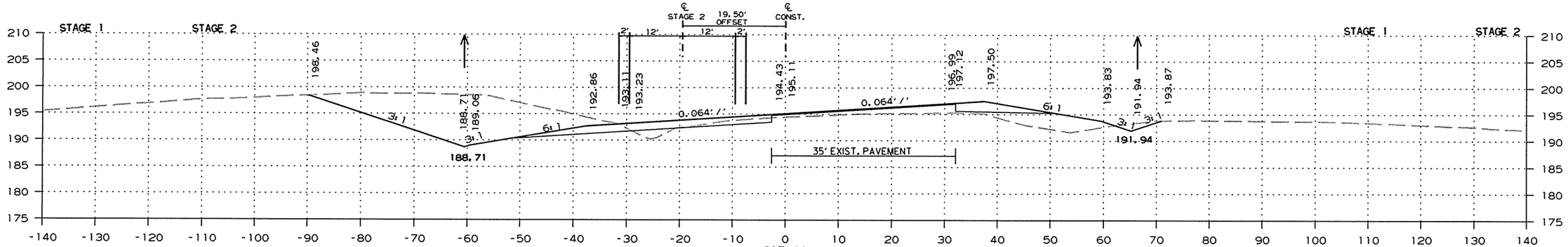
CROSS SECTION STA. 314+90 TO STA. 315+92

3/31/2015

R070280.DGN

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.		070280	288	336

(2) CROSS SECTIONS

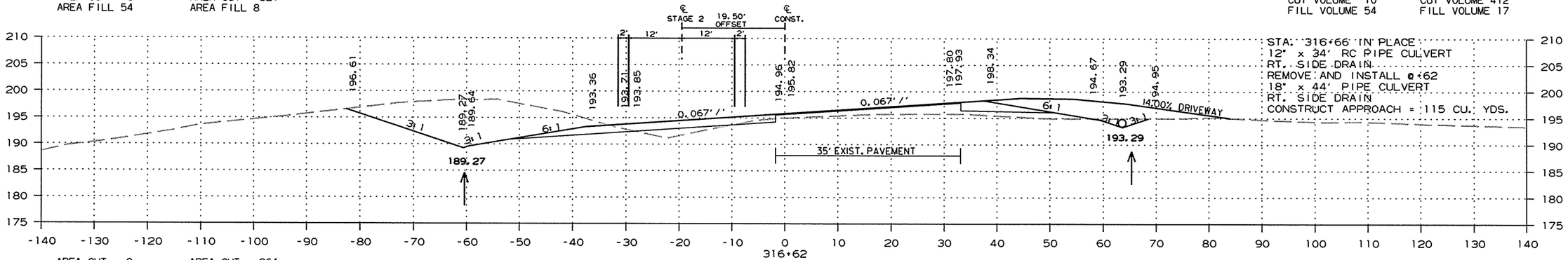


AREA CUT 6
AREA FILL 54

AREA CUT 321
AREA FILL 8

CUT VOLUME 10
FILL VOLUME 54

CUT VOLUME 412
FILL VOLUME 17

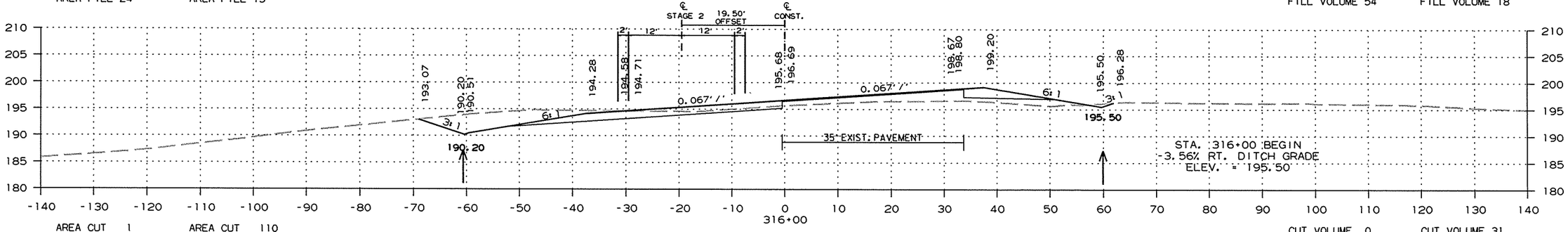


AREA CUT 8
AREA FILL 24

AREA CUT 264
AREA FILL 15

CUT VOLUME 11
FILL VOLUME 54

CUT VOLUME 429
FILL VOLUME 18



AREA CUT 1
AREA FILL 23

AREA CUT 110
AREA FILL 0

CUT VOLUME 0
FILL VOLUME 6

CUT VOLUME 31
FILL VOLUME 0

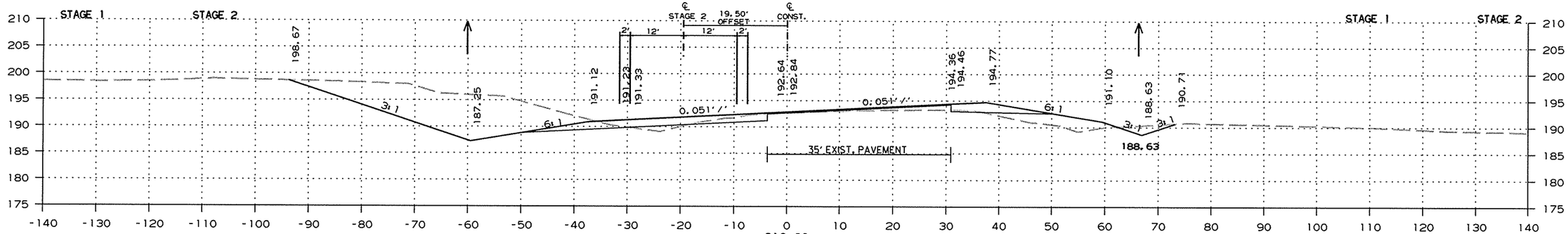
CROSS SECTION STA. 316+00 TO STA. 317+00

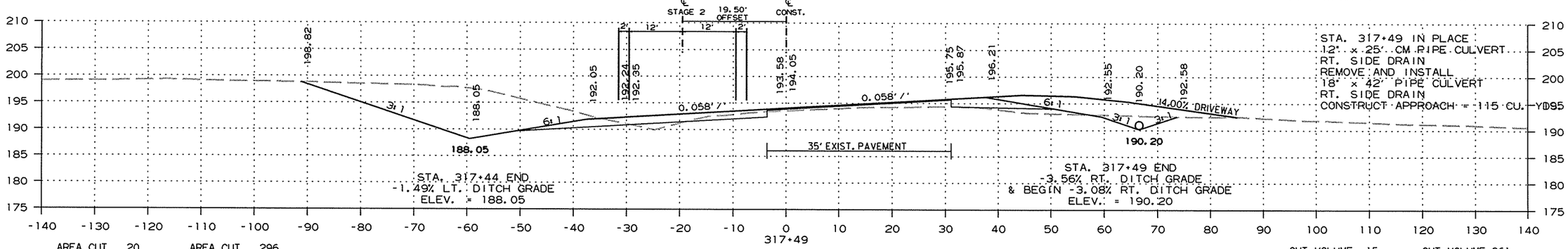
3/31/2015

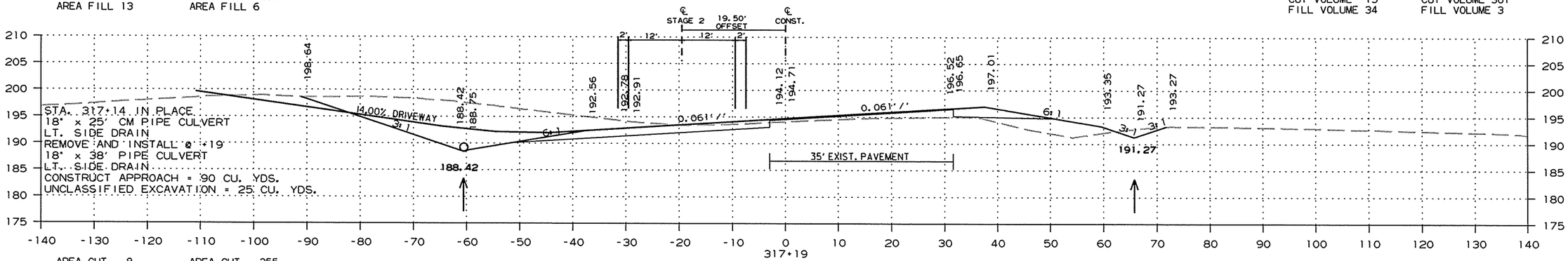
R070280.DGN

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.		070280	289	336

(2) CROSS SECTIONS







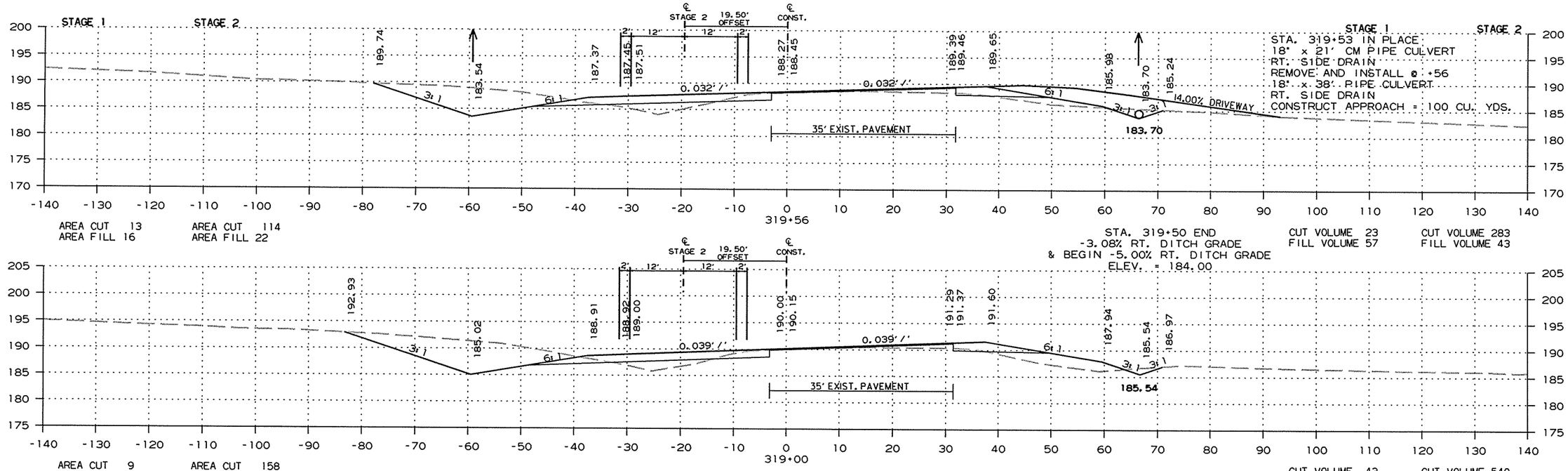
CROSS SECTION STA. 317+19 TO STA. 318+00

3/31/2015

R070280.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.		070280	290	336

(2) CROSS SECTIONS



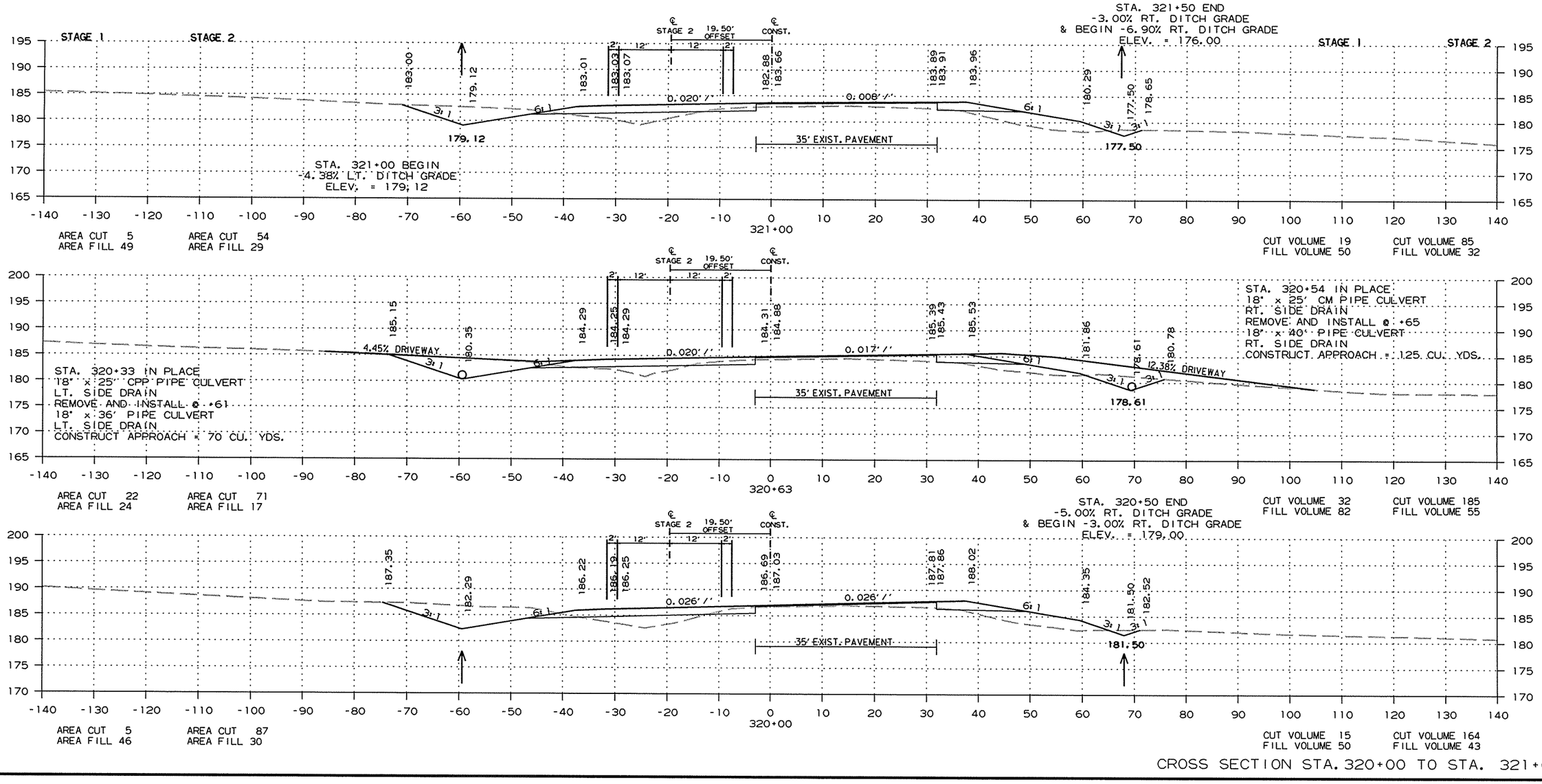
CROSS SECTION STA. 318+25 TO STA. 319+56

3/31/2015

R070280.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.		070280	291	336

(2) CROSS SECTIONS



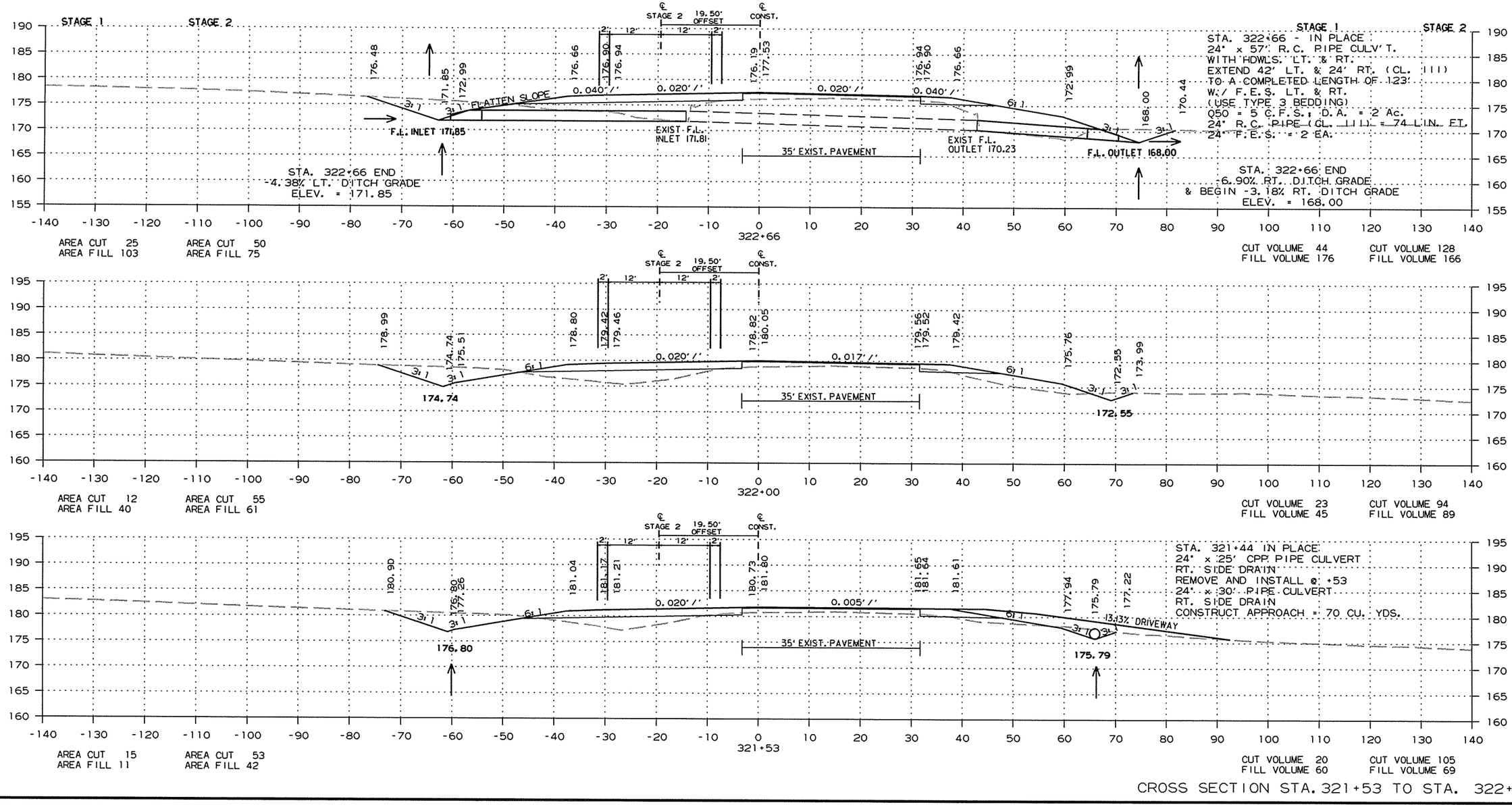
CROSS SECTION STA. 320+00 TO STA. 321+00

3/31/2015

R070280.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.		070280	292	336

(2) CROSS SECTIONS



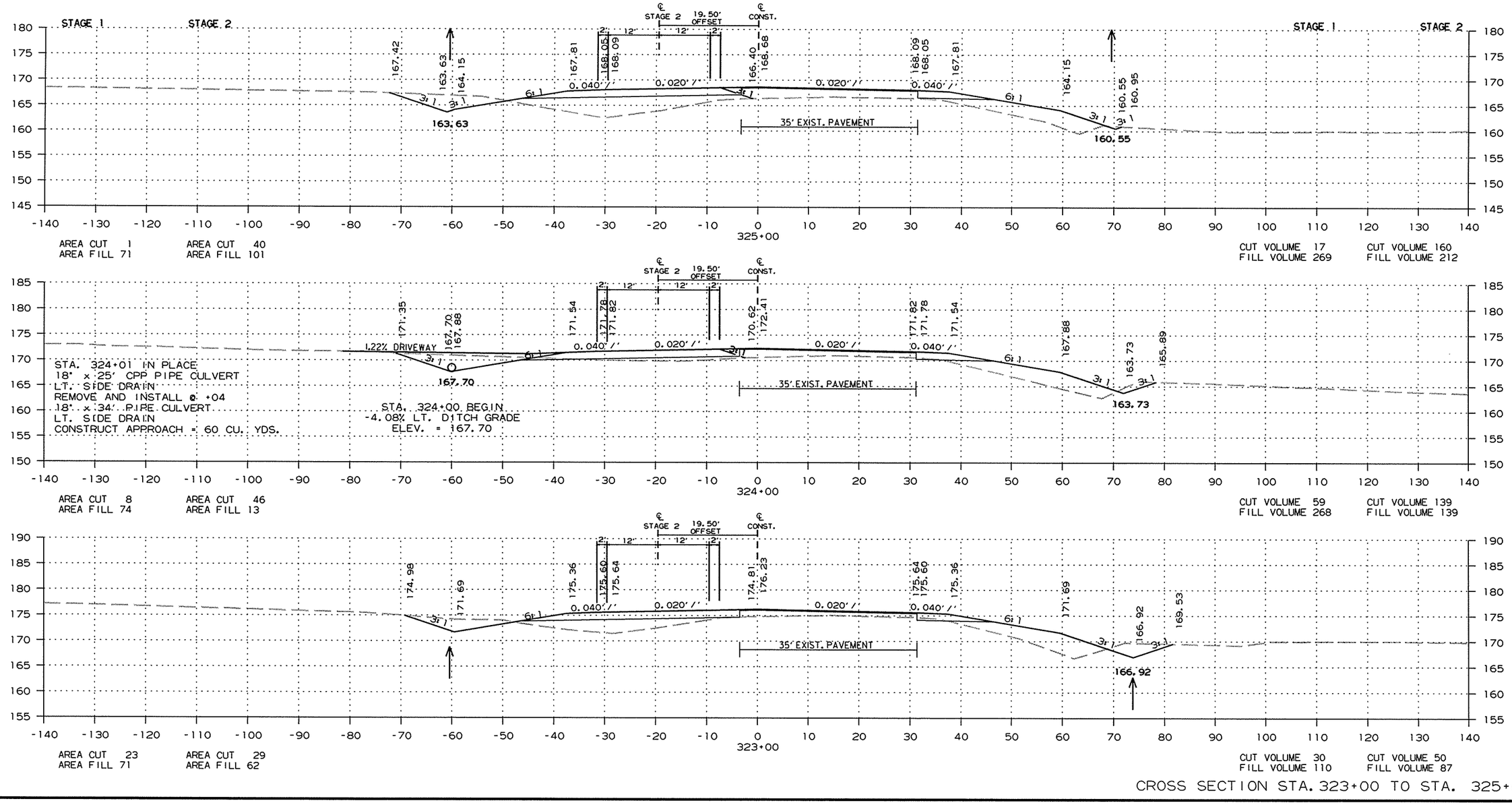
CROSS SECTION STA. 321+53 TO STA. 322+66

3/31/2015

R070280.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.		070280	293	336

(2) CROSS SECTIONS



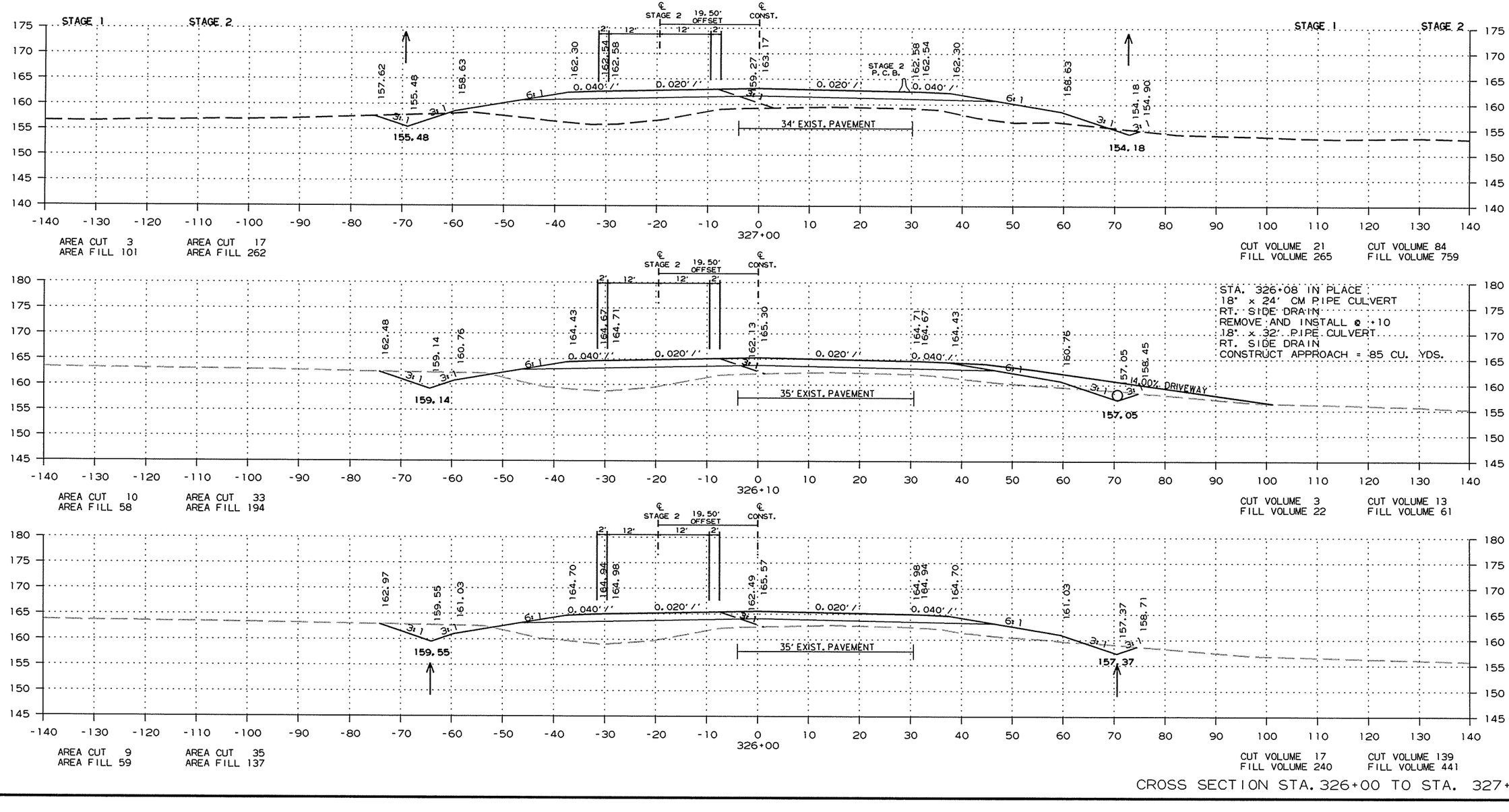
CROSS SECTION STA. 323+00 TO STA. 325+00

3/31/2015

R070280.DGN

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				6	ARK.			
				JOB NO.		070280	294	336

(2) CROSS SECTIONS



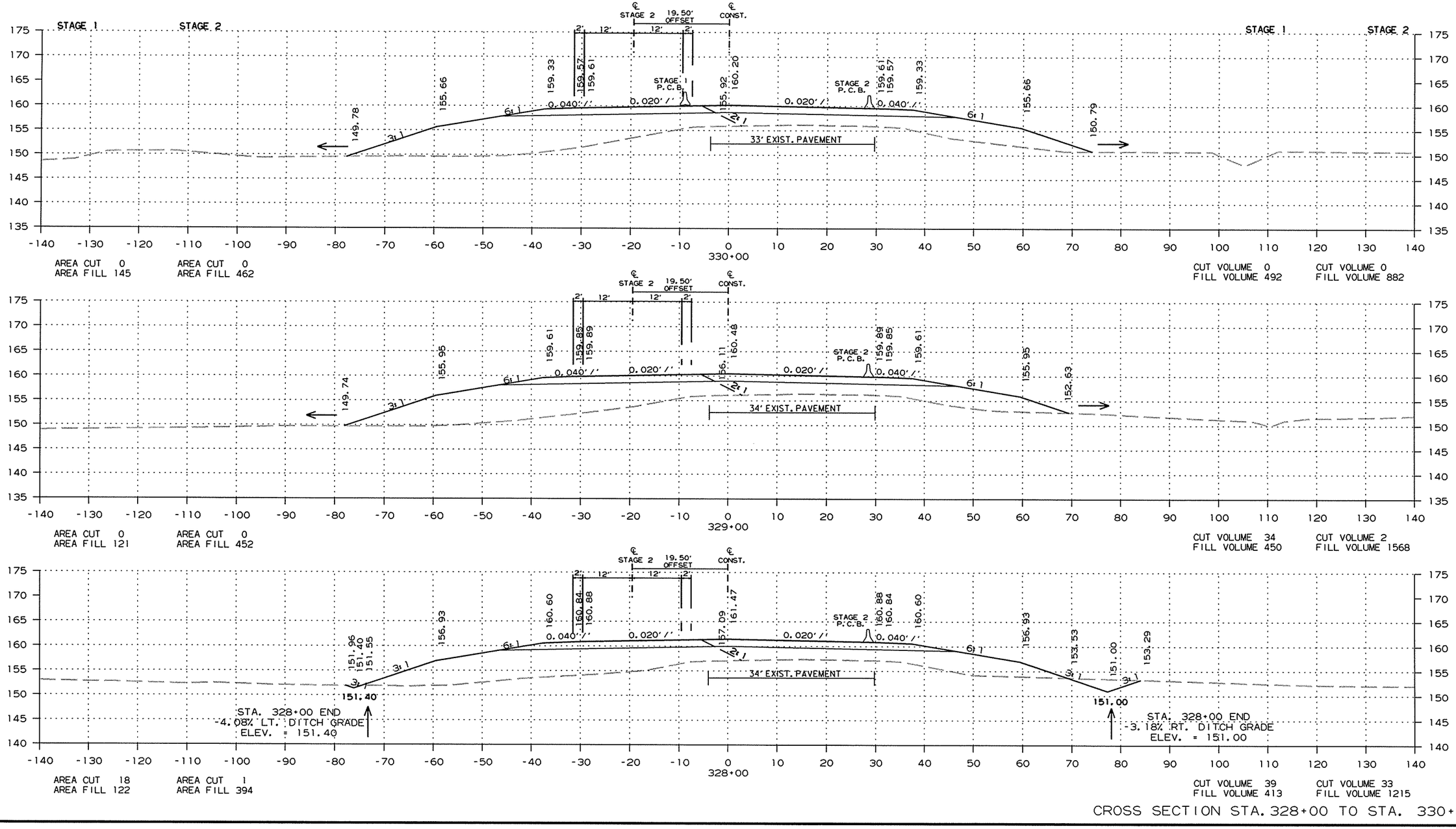
CROSS SECTION STA. 326+00 TO STA. 327+00

3/31/2015

R070280.DGN

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.		070280	295	336

(2) CROSS SECTIONS



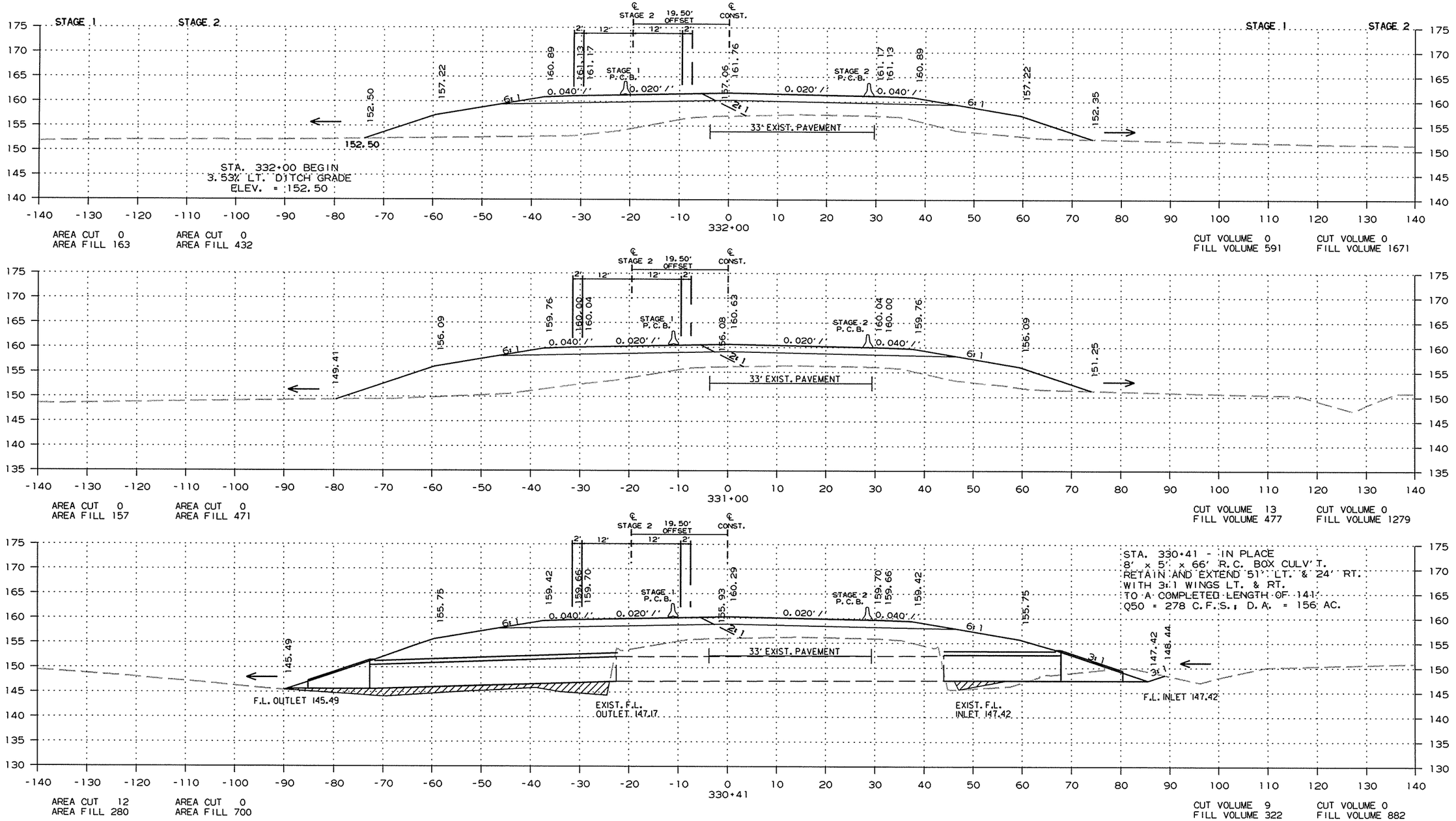
CROSS SECTION STA. 328+00 TO STA. 330+00

3/31/2015

R070280.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.		070280	296	336

(2) CROSS SECTIONS



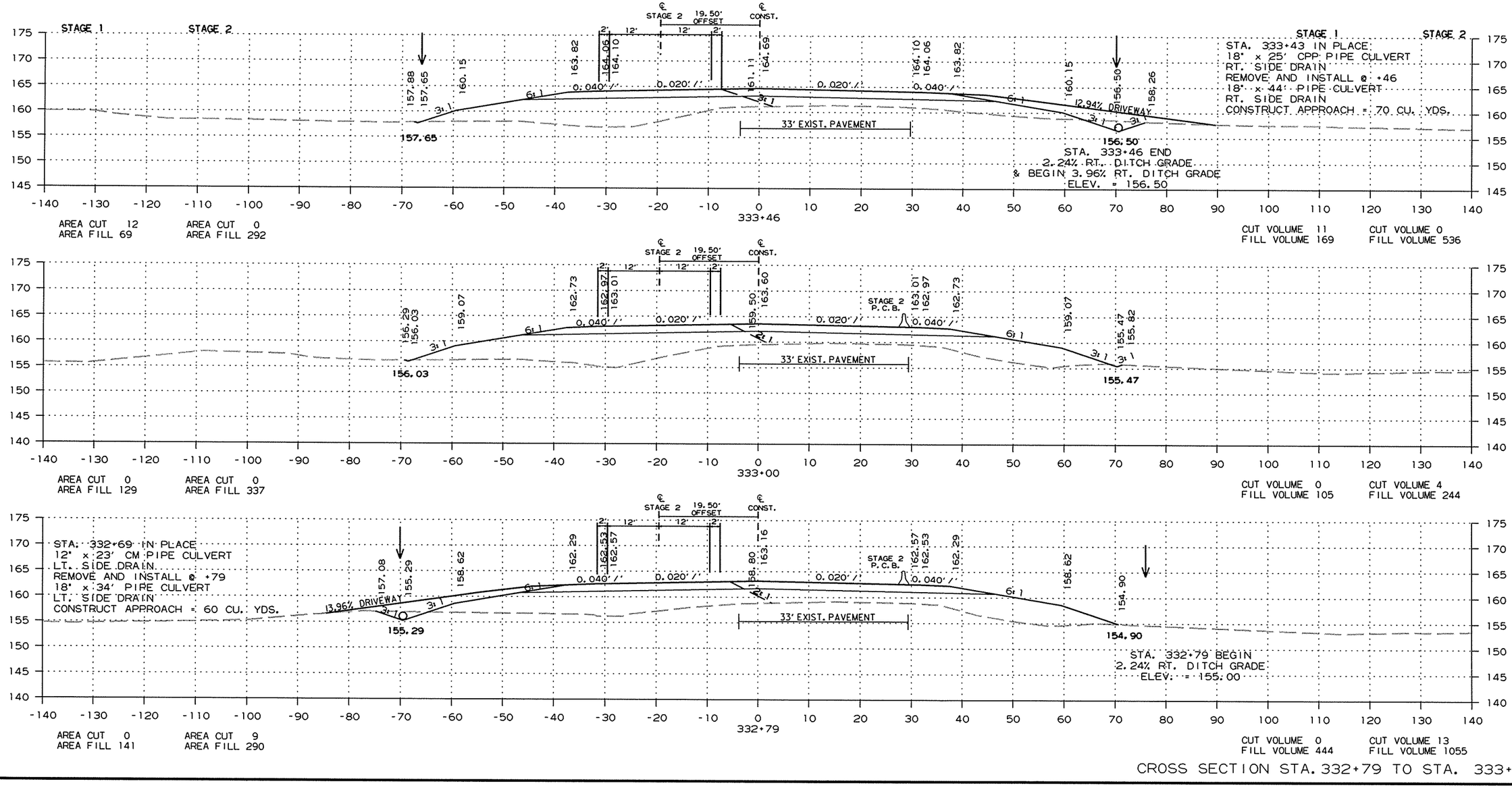
CROSS SECTION STA. 330+41 TO STA. 332+00

3/31/2015

R070280.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.		070280	297	336

(2) CROSS SECTIONS



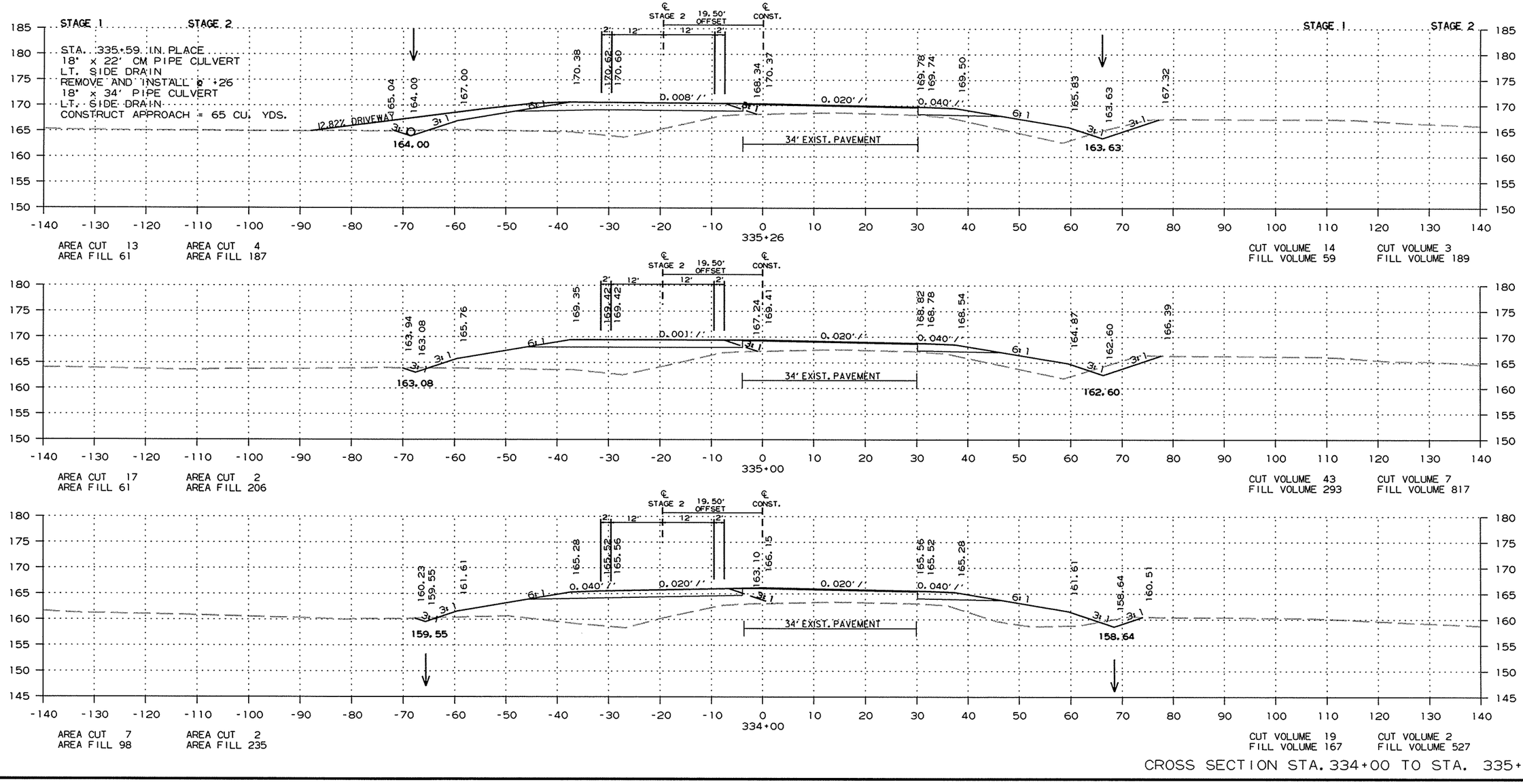
CROSS SECTION STA. 332+79 TO STA. 333+46

3/31/2015

R070280.DGN

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.		070280	298	336

(2) CROSS SECTIONS



CROSS SECTION STA. 334+00 TO STA. 335+26

3/31/2015

R070280.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.		070280	299	336

(2) CROSS SECTIONS

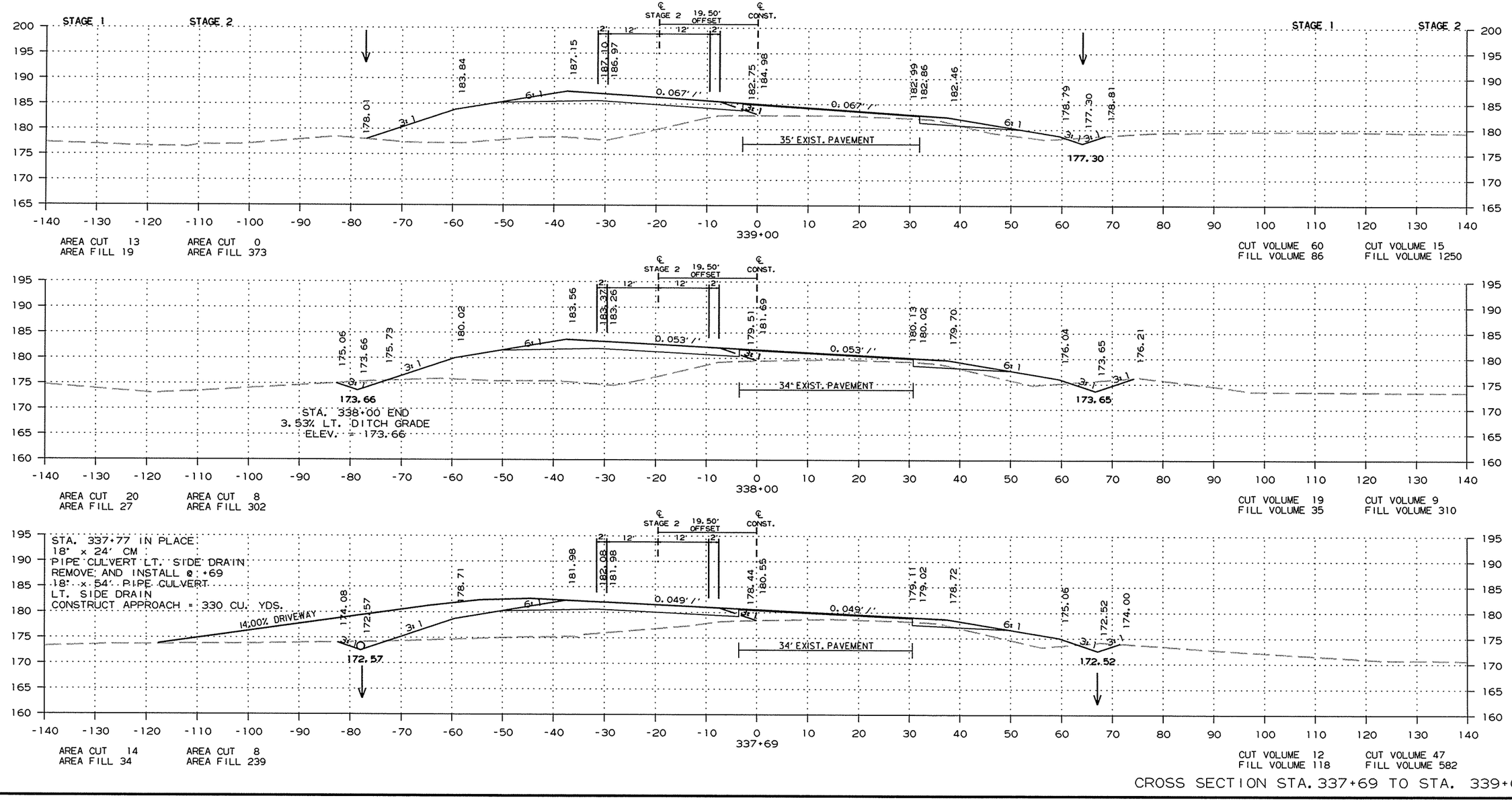
CROSS SECTION STA. 335+48 TO STA. 337+00

3/31/2015

R070280.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.		070280	300	336

(2) CROSS SECTIONS



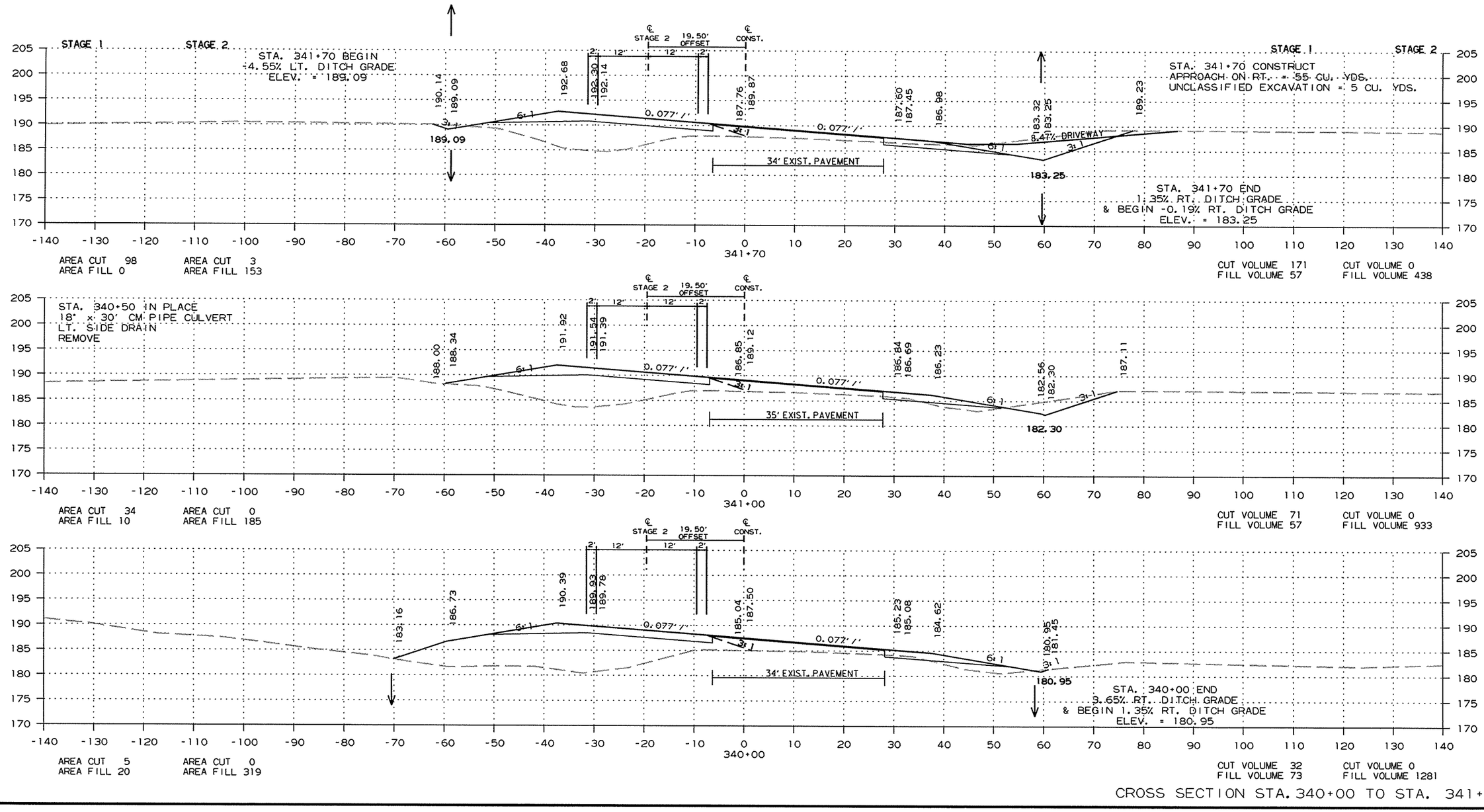
CROSS SECTION STA. 337+69 TO STA. 339+00

3/31/2015

R070280.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.		070280	301	336

(2) CROSS SECTIONS



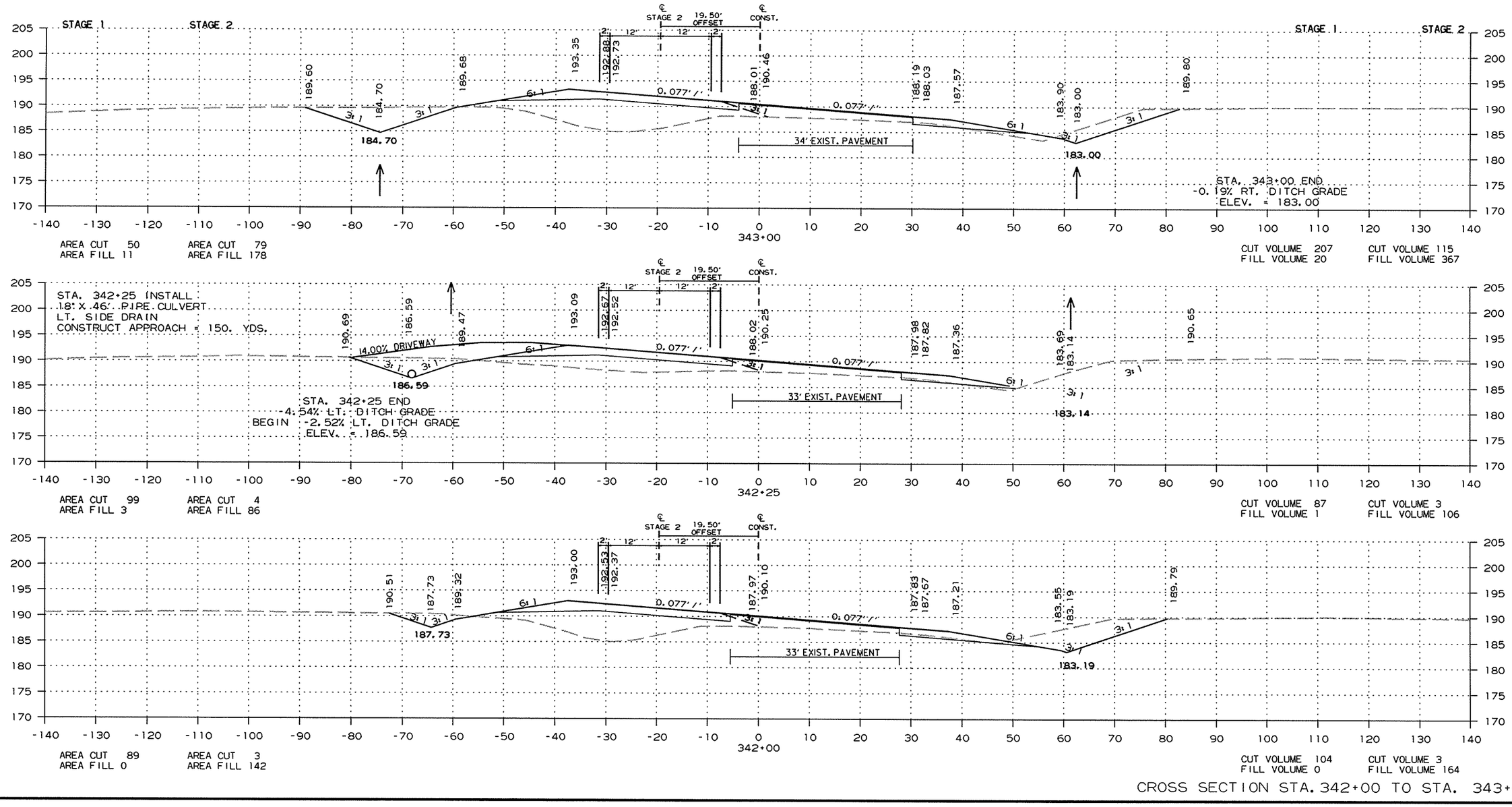
CROSS SECTION STA. 340+00 TO STA. 341+70

3/31/2015

R070280.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.		070280	302	336

(2) CROSS SECTIONS



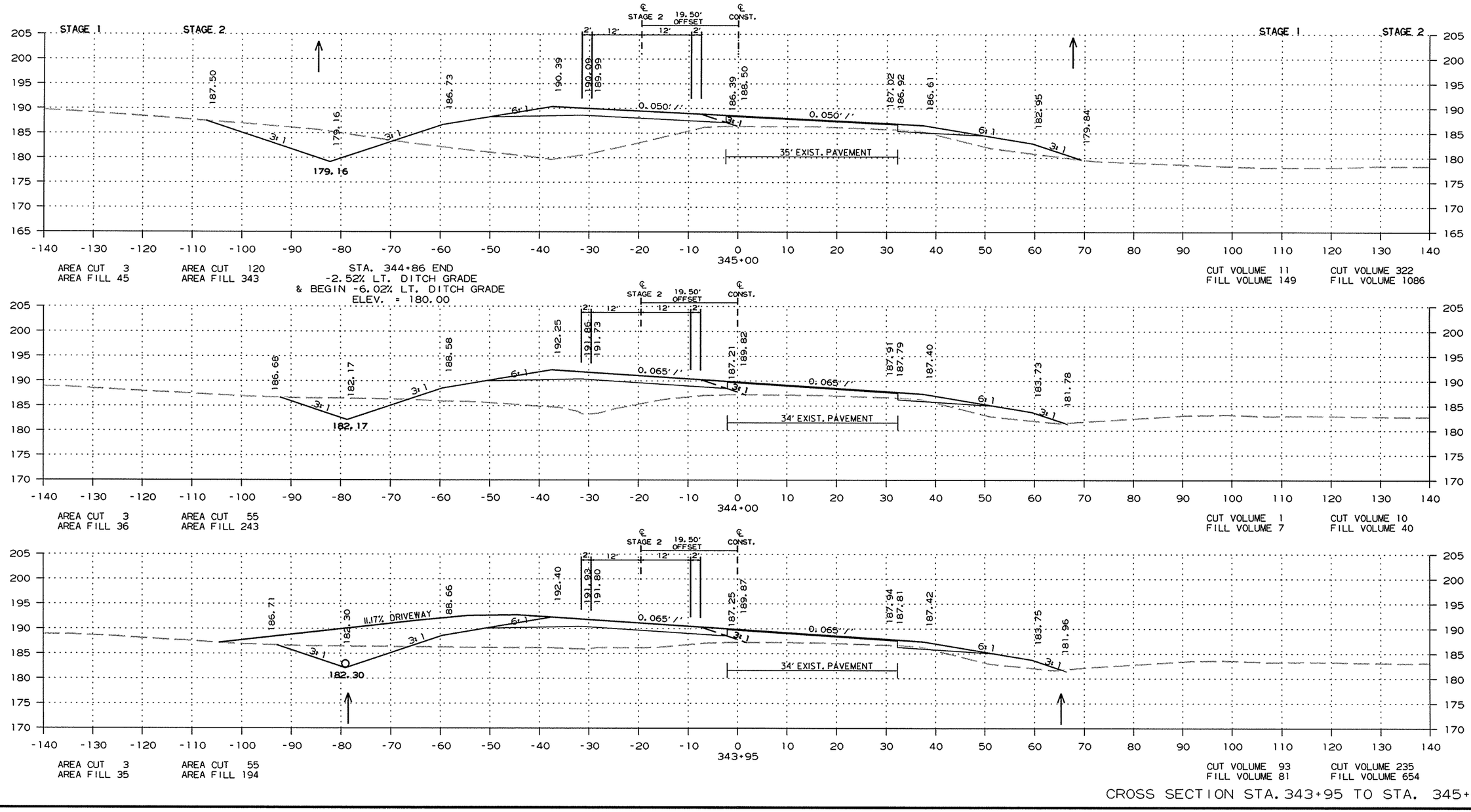
CROSS SECTION STA. 342+00 TO STA. 343+00

3/31/2015

R070280.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.		070280	303	336

(2) CROSS SECTIONS



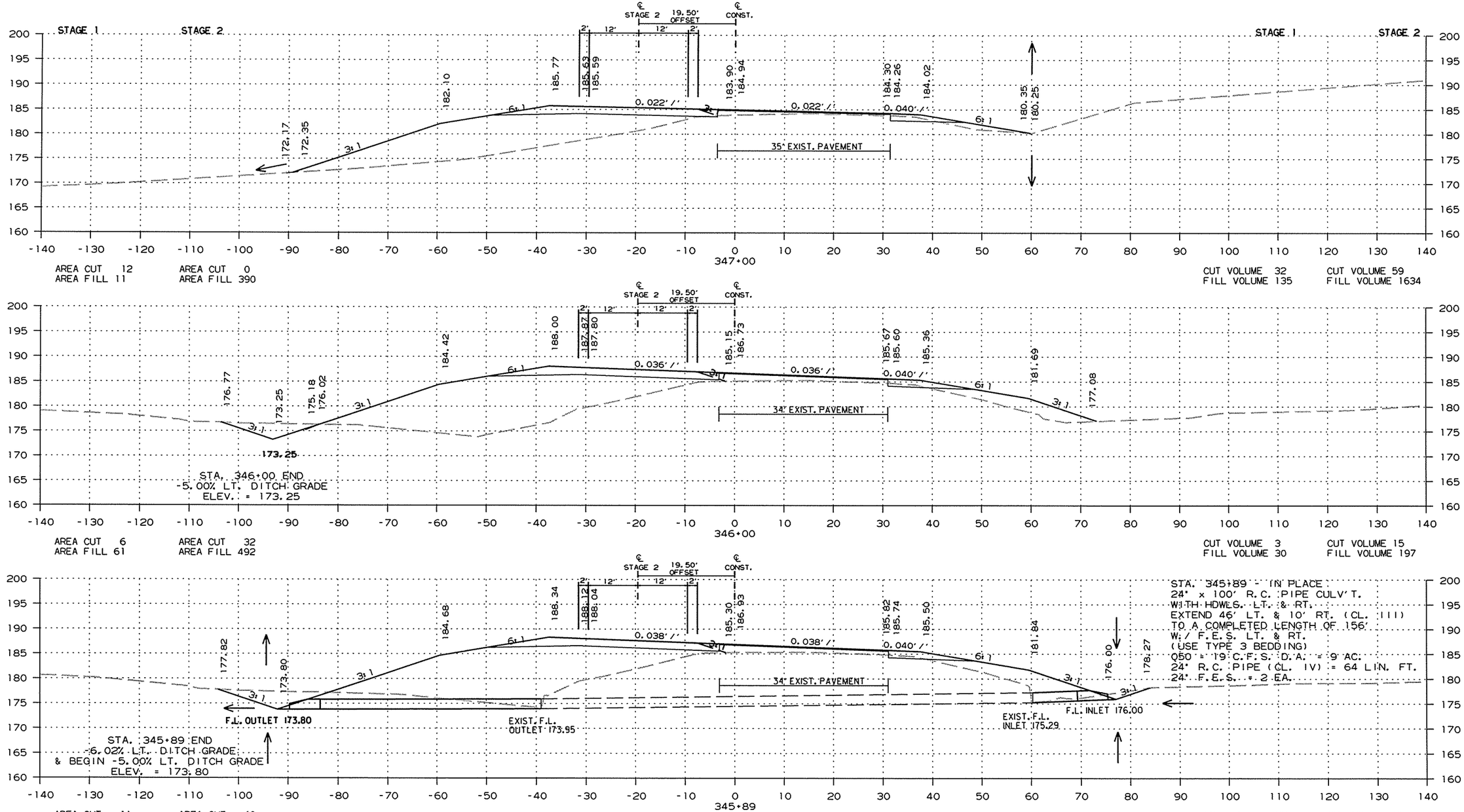
CROSS SECTION STA. 343+95 TO STA. 345+00

3/31/2015

R070280.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.		070280	304	336

(2) CROSS SECTIONS



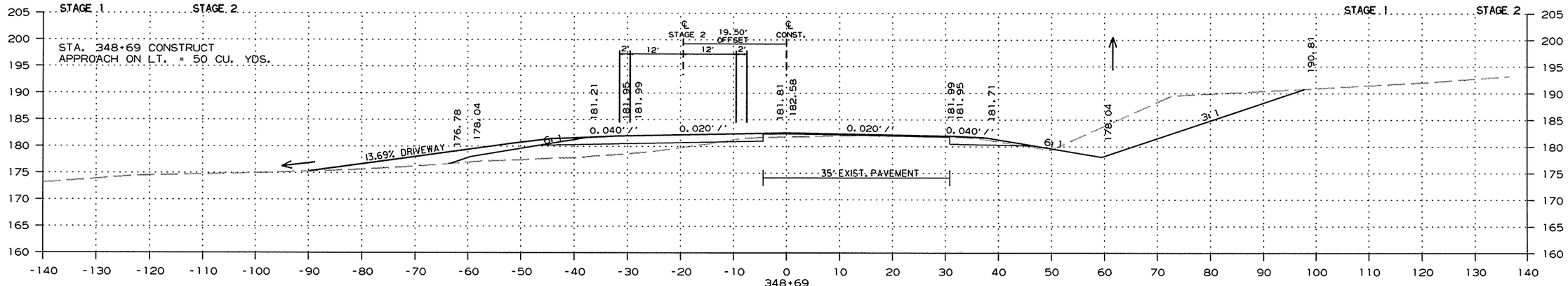
CROSS SECTION STA. 345+89 TO STA. 347+00

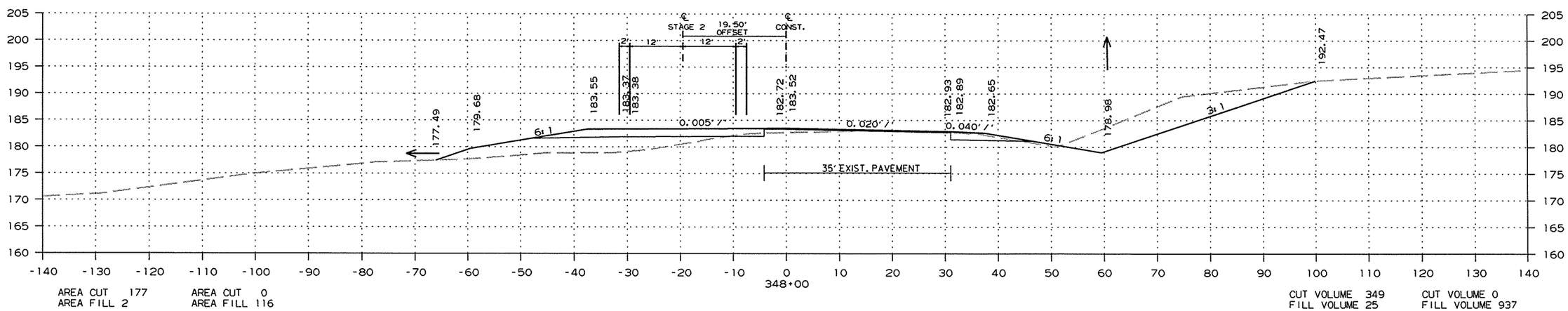
3/31/2015

R070280.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.		070280	305	336

(2) CROSS SECTIONS





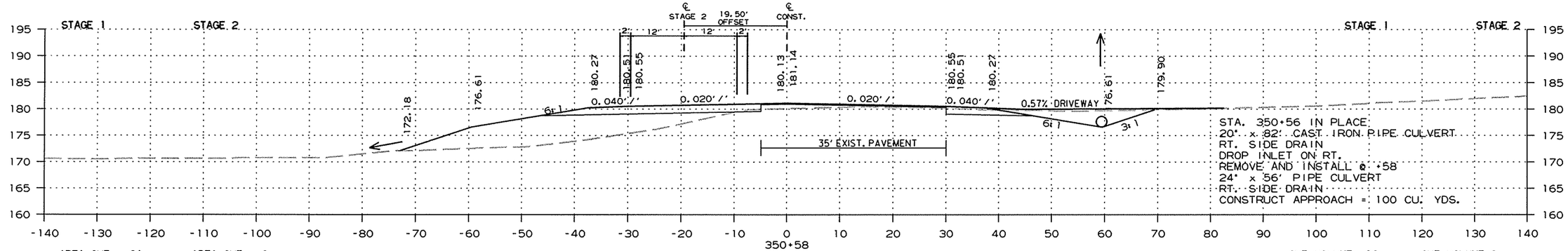
CROSS SECTION STA. 348+00 TO STA. 348+69

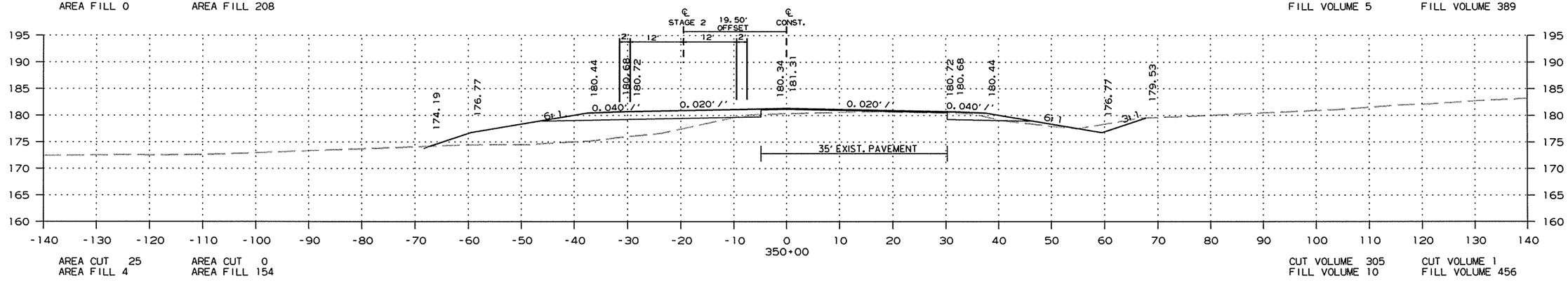
3/31/2015

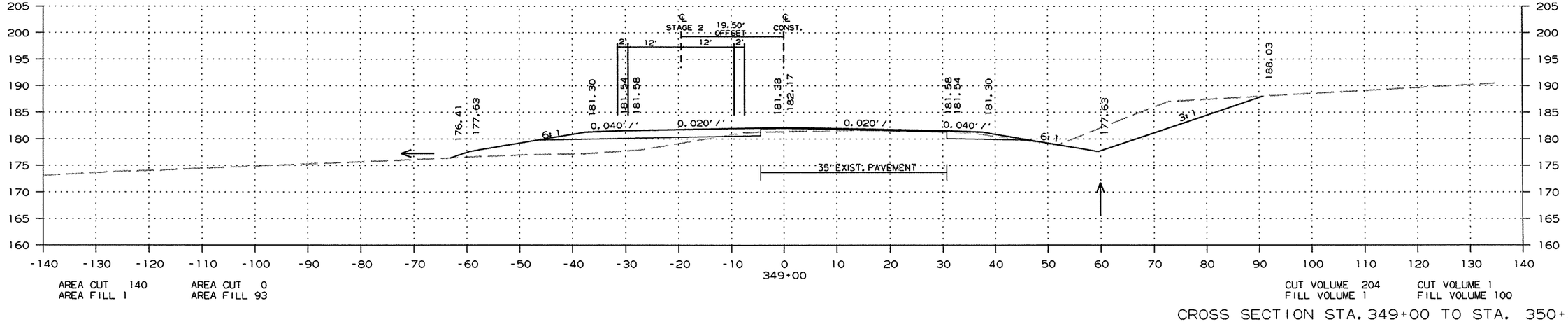
R070280.DGN

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.		070280	306	336

(2) CROSS SECTIONS







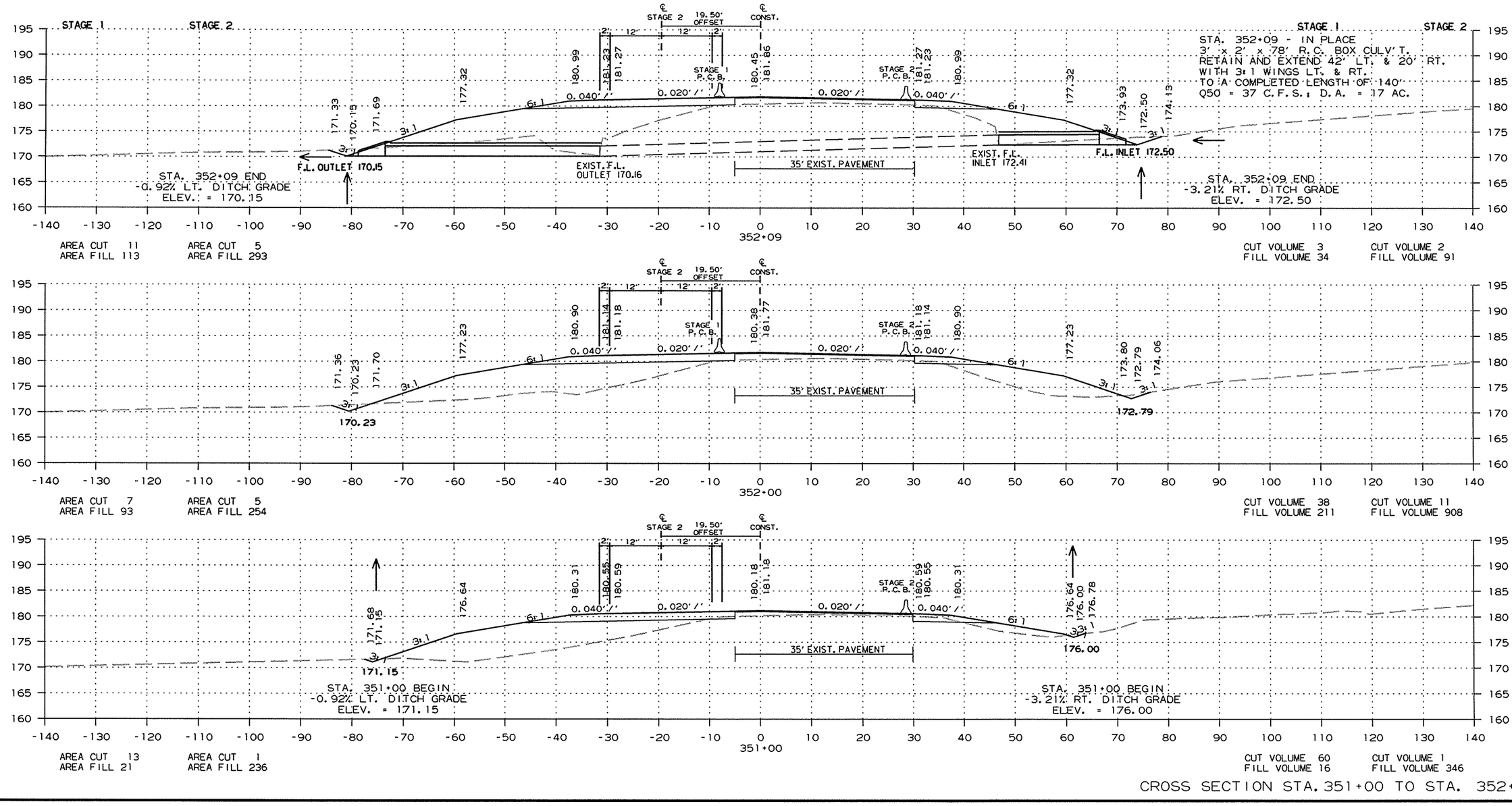
CROSS SECTION STA. 349+00 TO STA. 350+58

3/31/2015

R070280.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.		070280	307	336

(2) CROSS SECTIONS



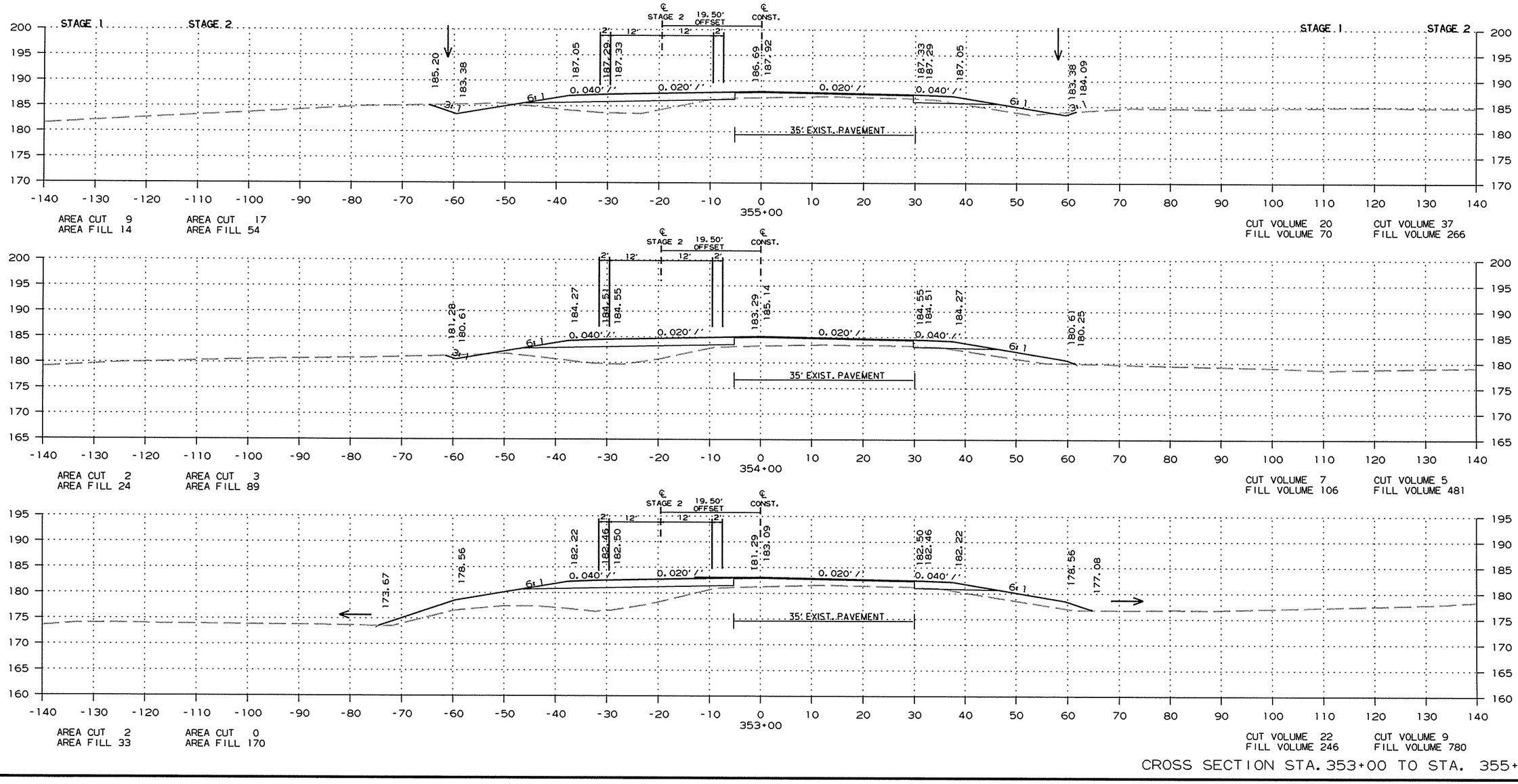
CROSS SECTION STA. 351+00 TO STA. 352+09

3/31/2015

R070280.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.		070280	308	336

(2) CROSS SECTIONS



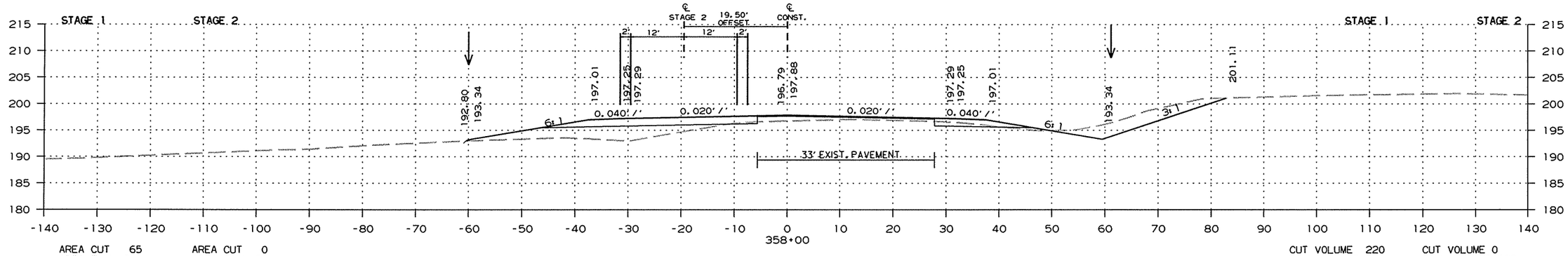
CROSS SECTION STA. 353+00 TO STA. 355+00

3/31/2015

R070280.DGN

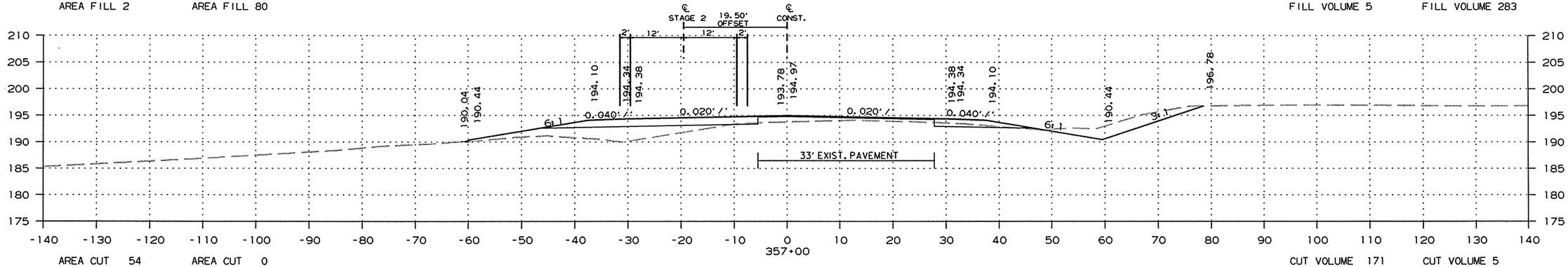
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070280	309	336

(2) CROSS SECTIONS



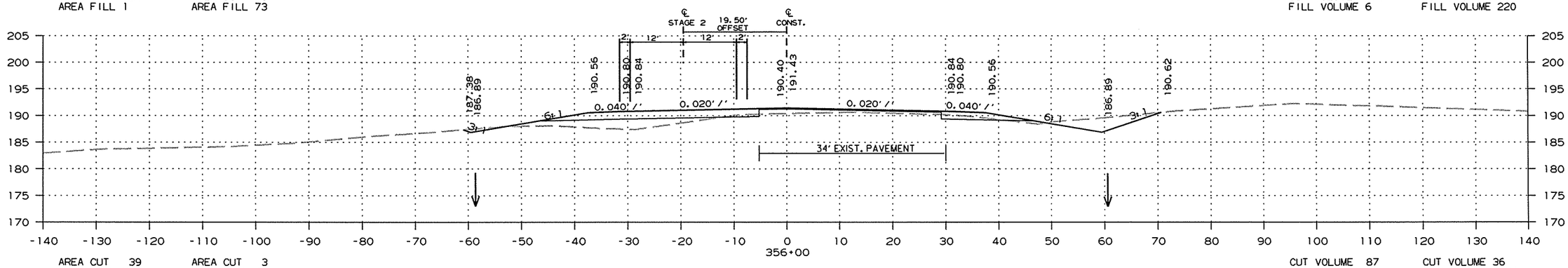
AREA CUT 65 AREA CUT 0
AREA FILL 2 AREA FILL 80

CUT VOLUME 220 CUT VOLUME 0
FILL VOLUME 5 FILL VOLUME 283



AREA CUT 54 AREA CUT 0
AREA FILL 1 AREA FILL 73

CUT VOLUME 171 CUT VOLUME 5
FILL VOLUME 6 FILL VOLUME 220



AREA CUT 39 AREA CUT 3
AREA FILL 2 AREA FILL 46

CUT VOLUME 87 CUT VOLUME 36
FILL VOLUME 30 FILL VOLUME 185

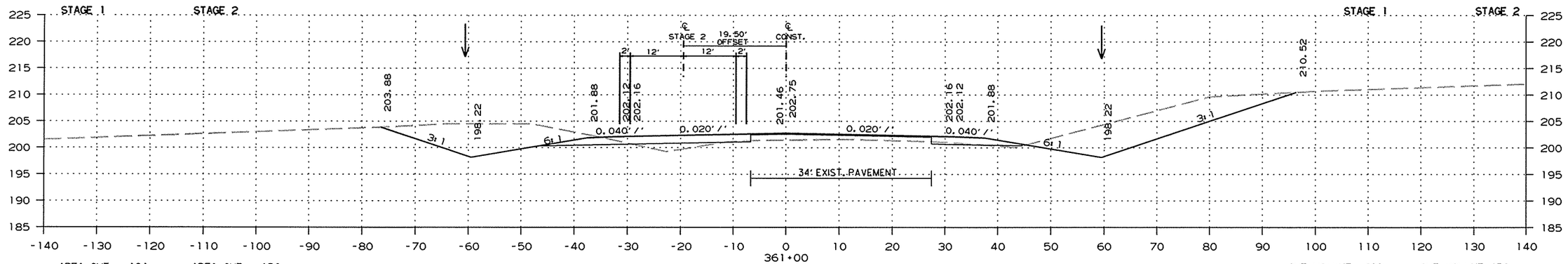
CROSS SECTION STA. 356+00 TO STA. 358+00

3/31/2015

R070280.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.		070280	310	336

(2) CROSS SECTIONS

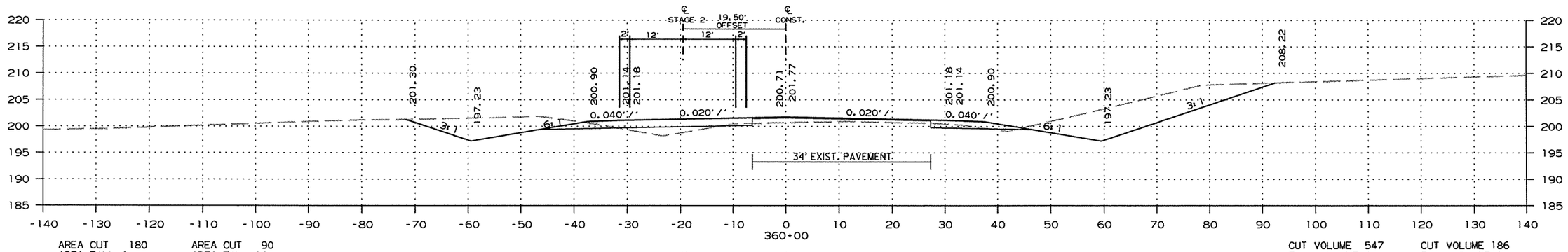


AREA CUT 194
AREA FILL 1

AREA CUT 156
AREA FILL 14

CUT VOLUME 692
FILL VOLUME 4

CUT VOLUME 456
FILL VOLUME 55

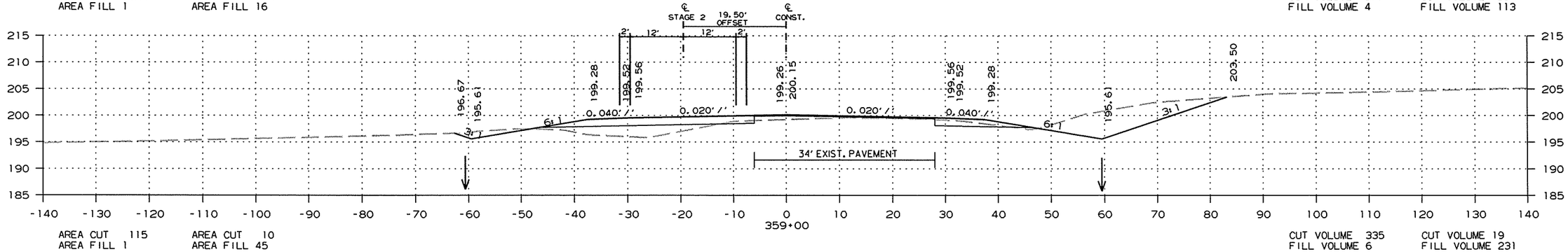


AREA CUT 180
AREA FILL 1

AREA CUT 90
AREA FILL 16

CUT VOLUME 547
FILL VOLUME 4

CUT VOLUME 186
FILL VOLUME 113



AREA CUT 115
AREA FILL 1

AREA CUT 10
AREA FILL 45

CUT VOLUME 335
FILL VOLUME 6

CUT VOLUME 19
FILL VOLUME 231

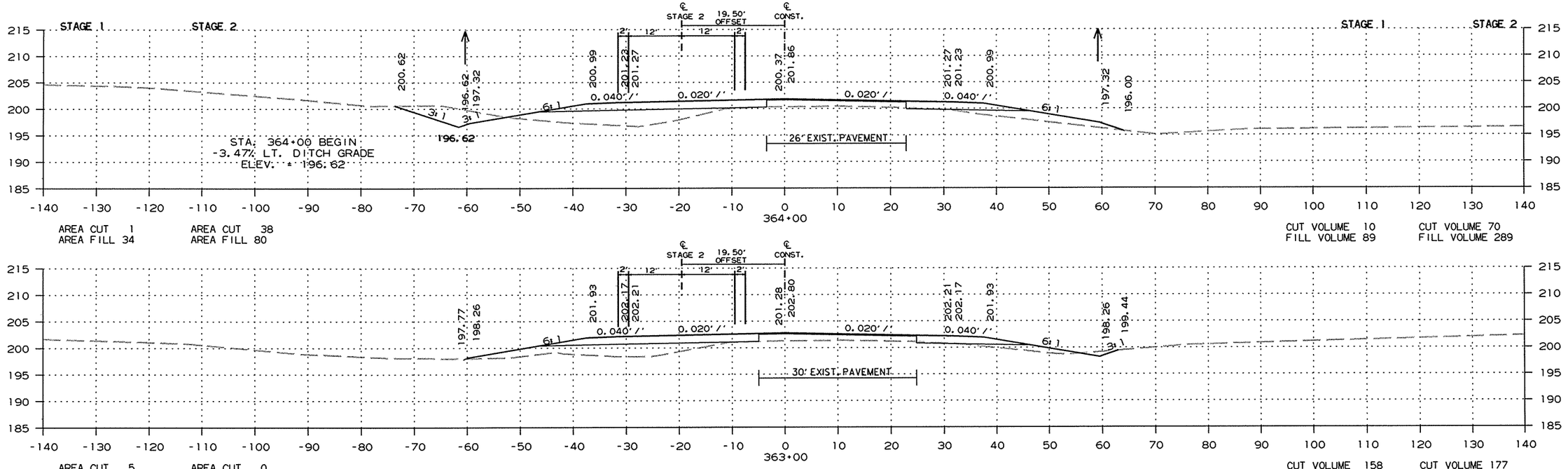
CROSS SECTION STA. 359+00 TO STA. 361+00

3/31/2015

R070280.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.		070280	311	336

(2) CROSS SECTIONS



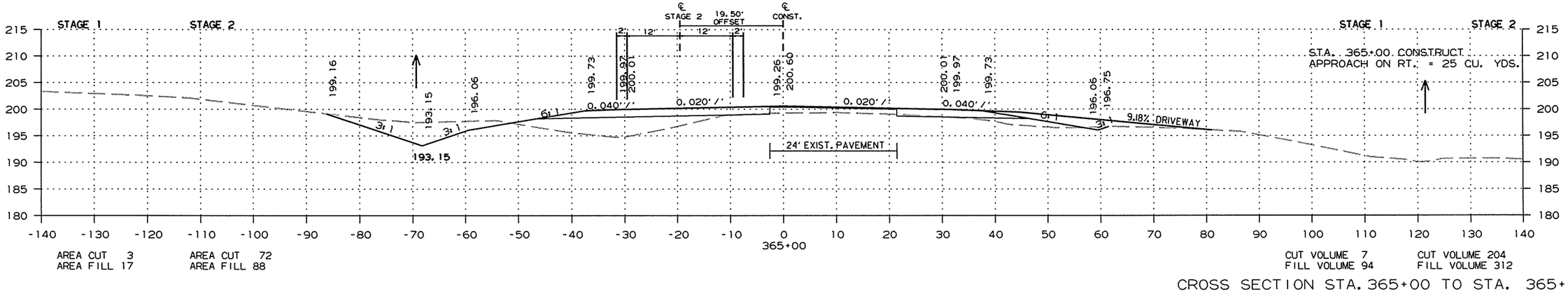
CROSS SECTION STA. 362+00 TO STA. 364+00

3/31/2015

R070280.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.		070280	312	336

(2) CROSS SECTIONS



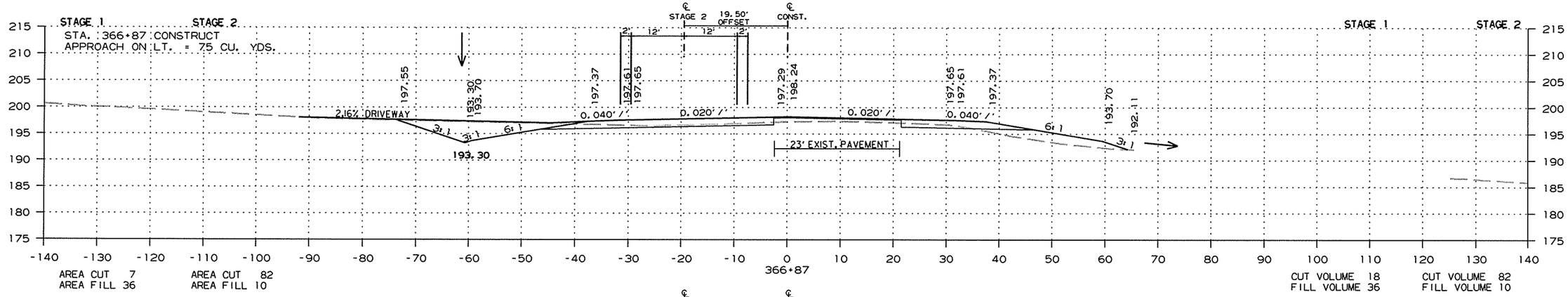
CROSS SECTION STA. 365+00 TO STA. 365+00

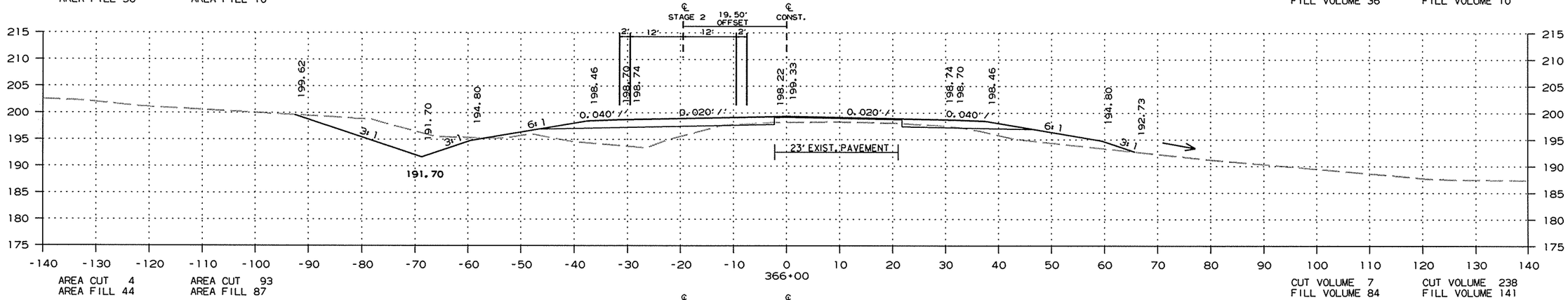
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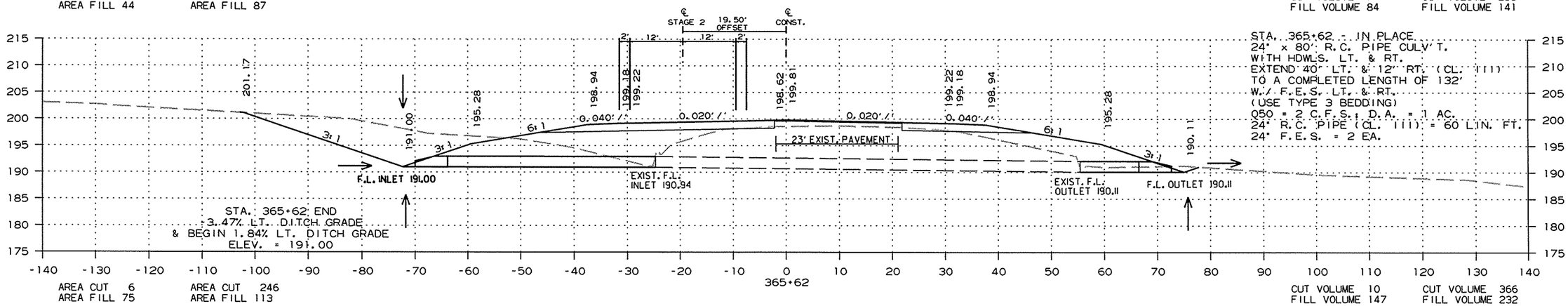
R070280.DGN

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.		070280	313	336

(2) CROSS SECTIONS







CROSS SECTION STA. 365+62 TO STA. 366+87

3/31/2015

R070280.DGN

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

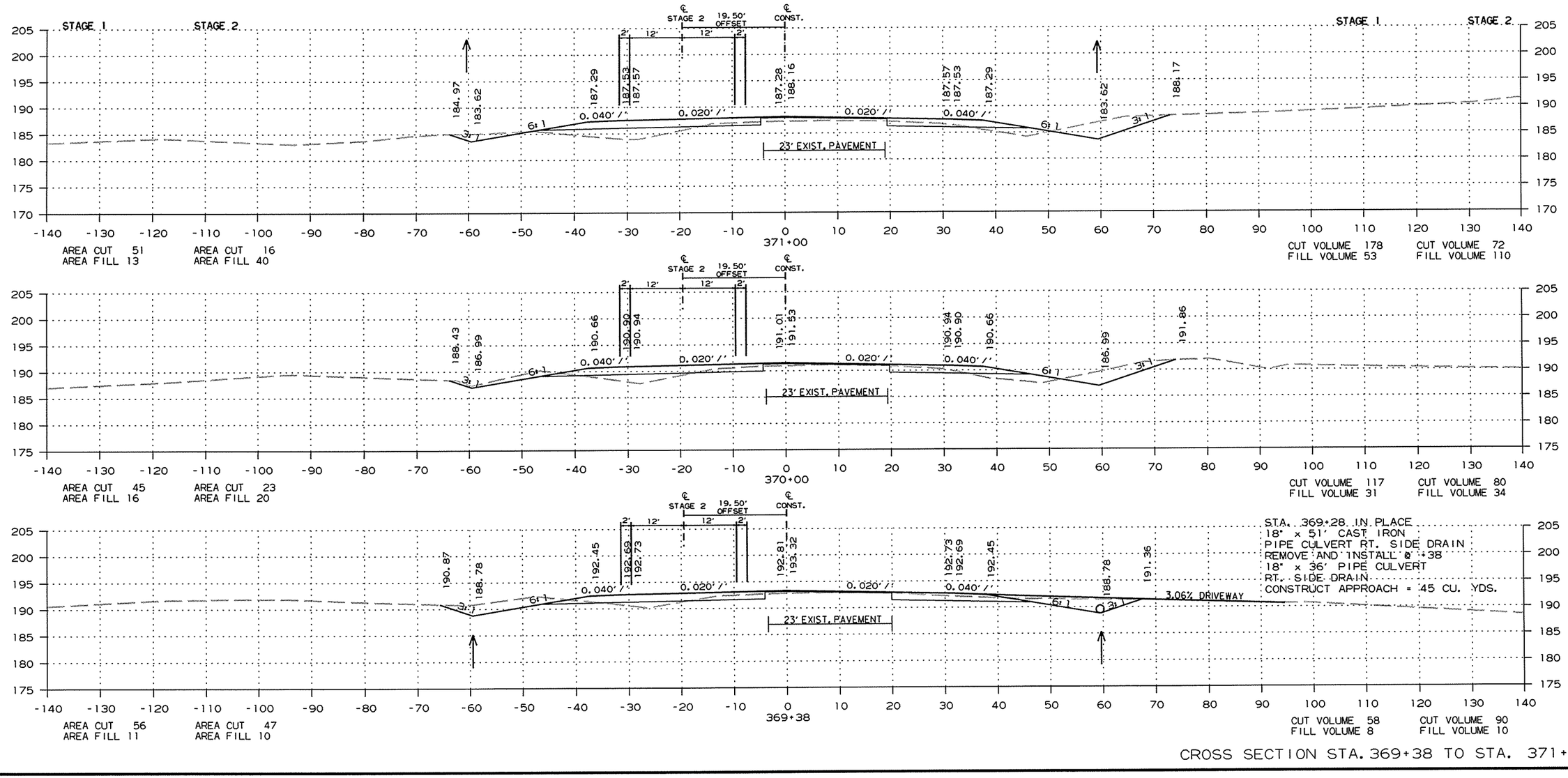
CROSS SECTION STA. 367+00 TO STA. 369+00

3/31/2015

R070280.DGN

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.		070280	315	336

(2) CROSS SECTIONS



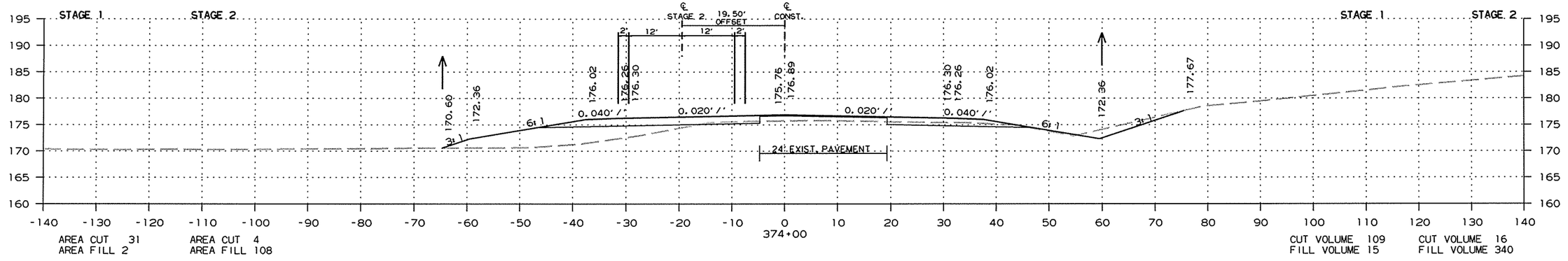
CROSS SECTION STA. 369+38 TO STA. 371+00

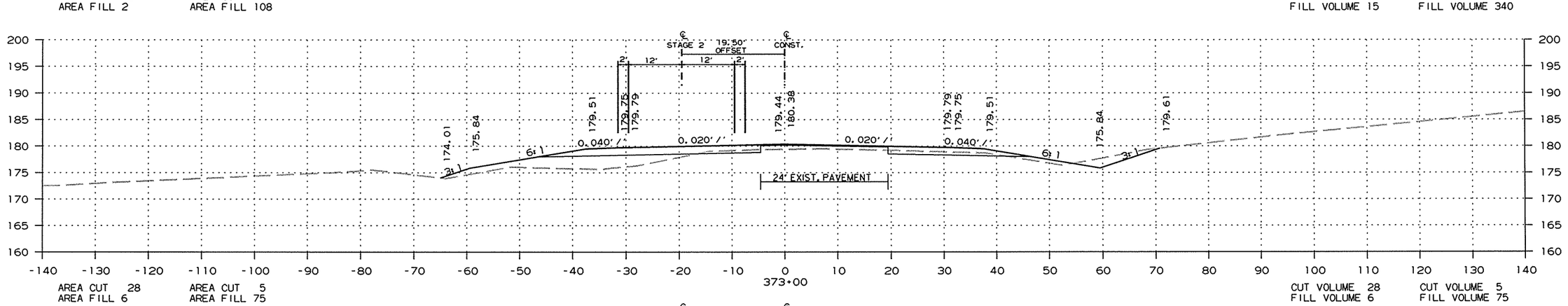
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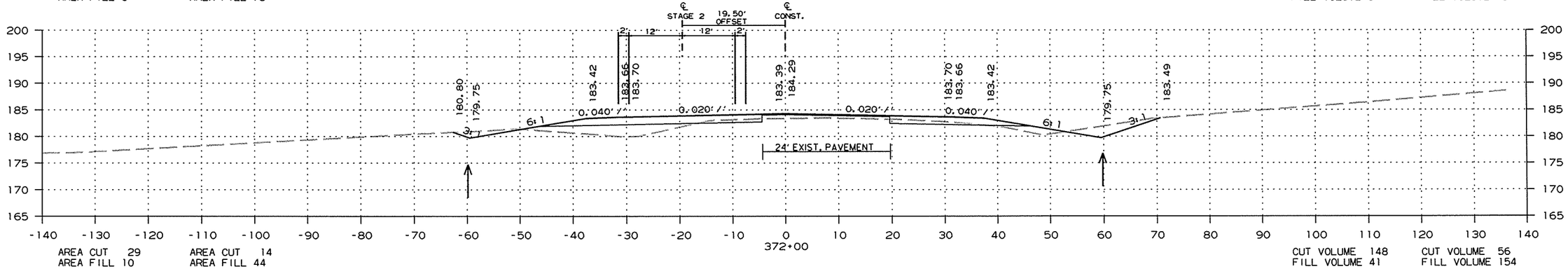
R070280.DGN

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.		070280	316	336

(2) CROSS SECTIONS







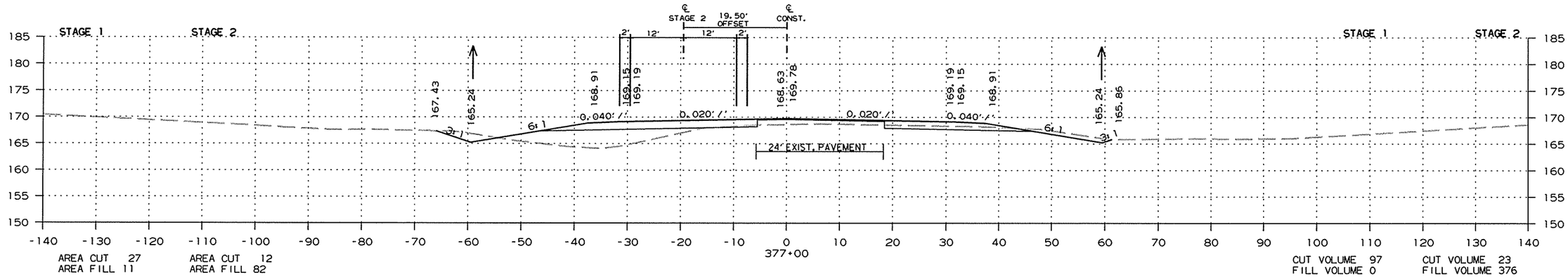
CROSS SECTION STA. 372+00 TO STA. 374+00

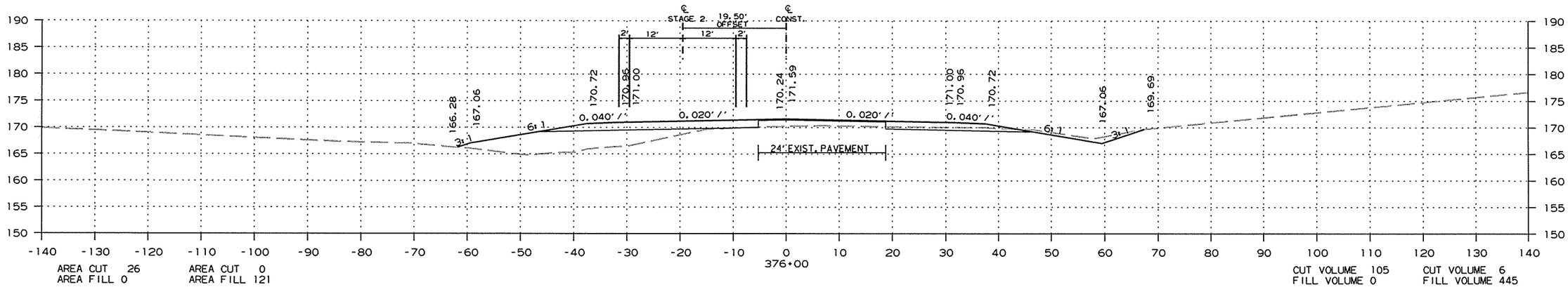
3/31/2015

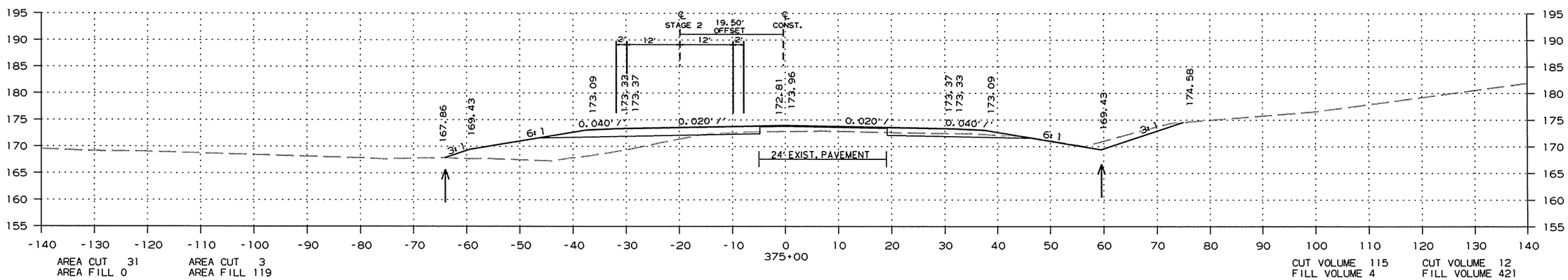
R070280.DGN

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.		070280	317	336

(2) CROSS SECTIONS







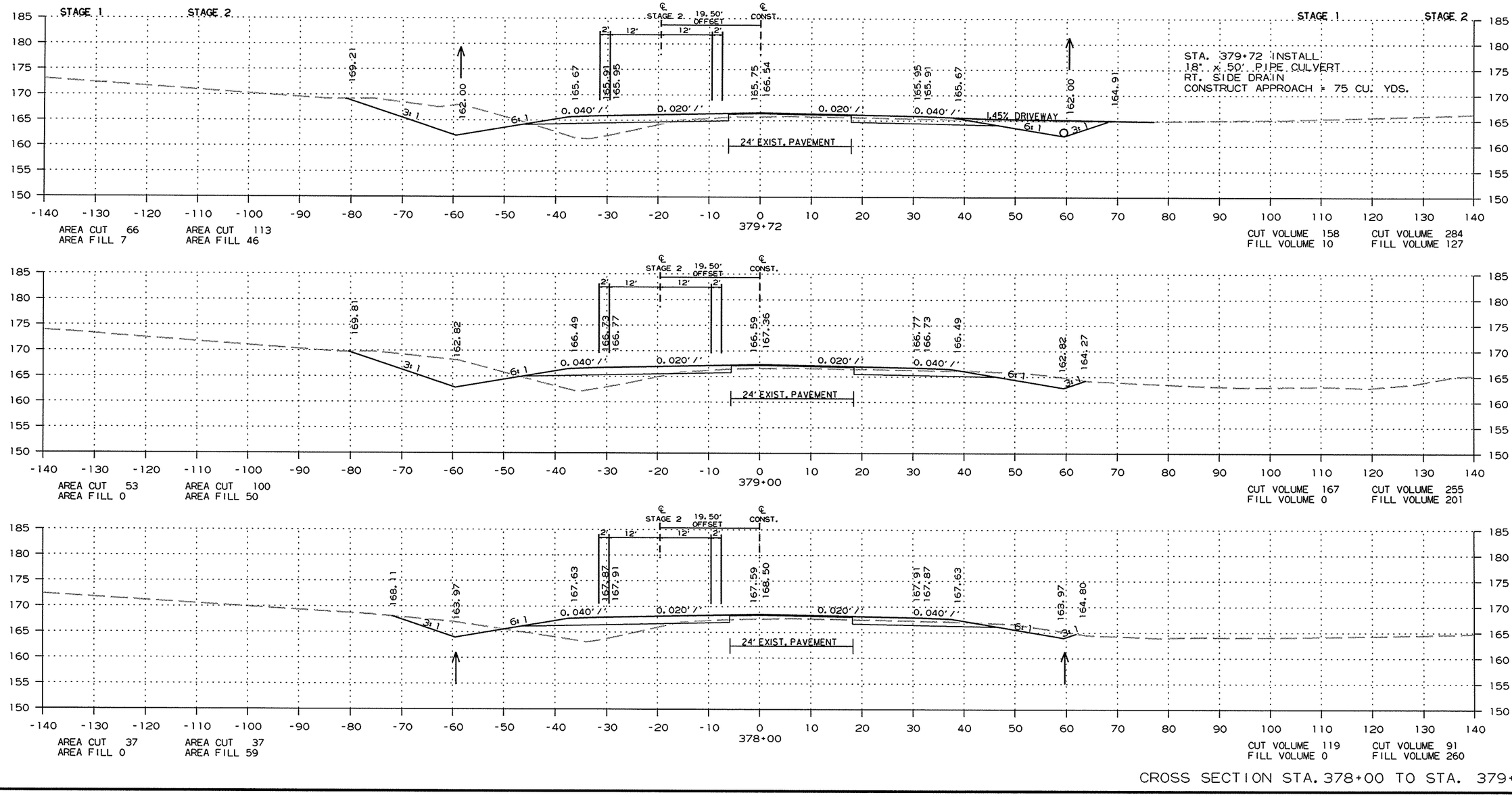
CROSS SECTION STA. 375+00 TO STA. 377+00

3/31/2015

R070280.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.		070280	318	336

(2) CROSS SECTIONS



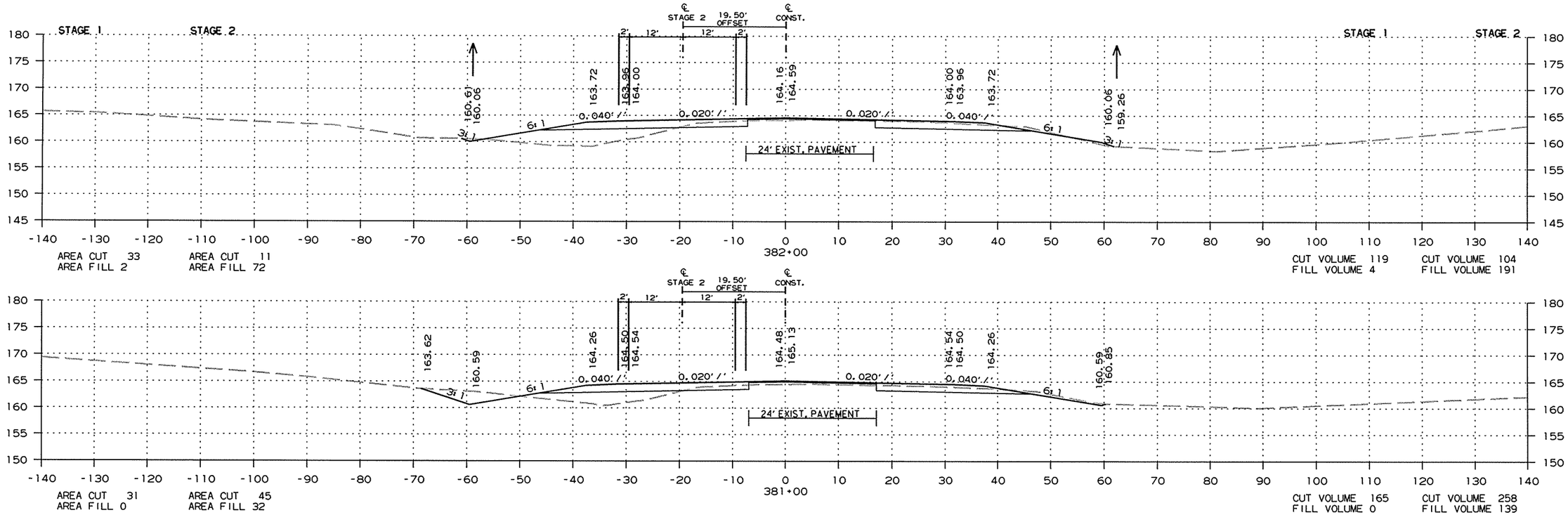
CROSS SECTION STA. 378+00 TO STA. 379+72

3/31/2015

R070280.DGN

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.		070280	319	336

(2) CROSS SECTIONS



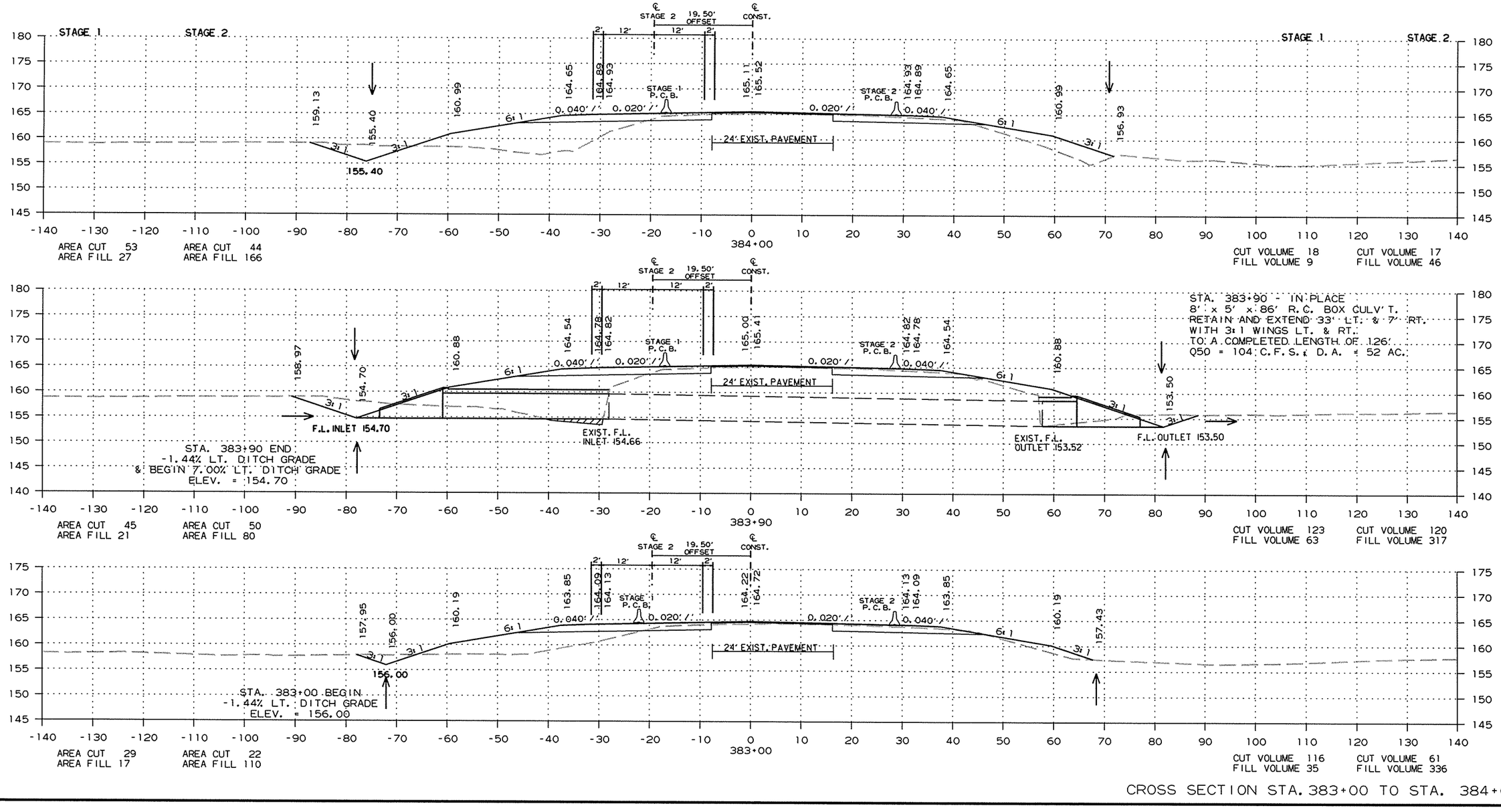
CROSS SECTION STA. 380+00 TO STA. 382+00

3/31/2015

R070280.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.		070280	320	336

(2) CROSS SECTIONS



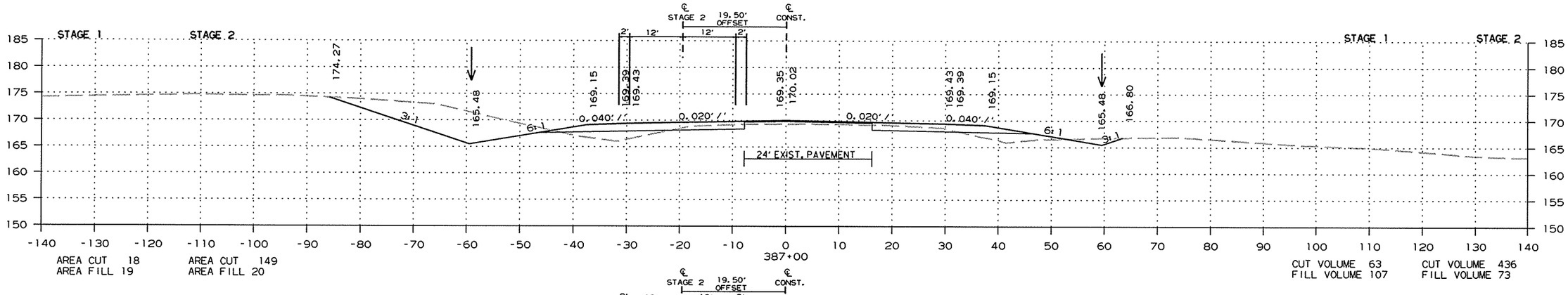
CROSS SECTION STA. 383+00 TO STA. 384+00

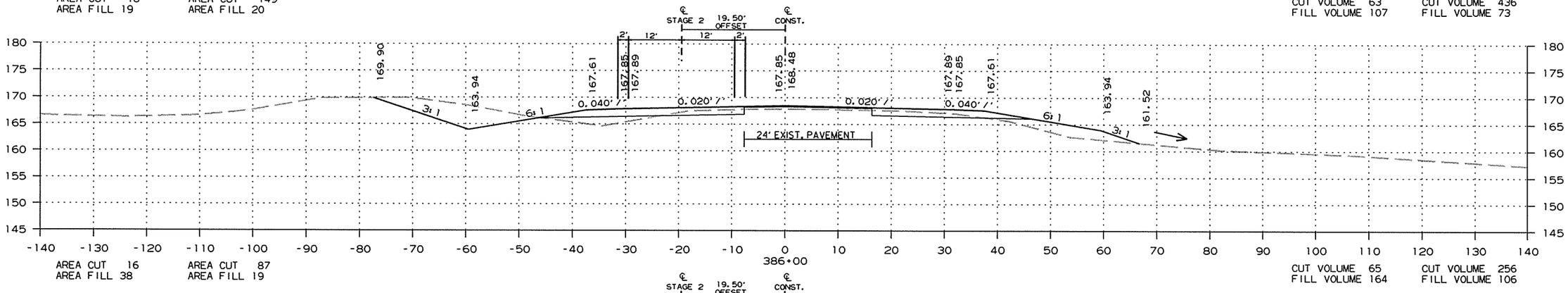
3/31/2015

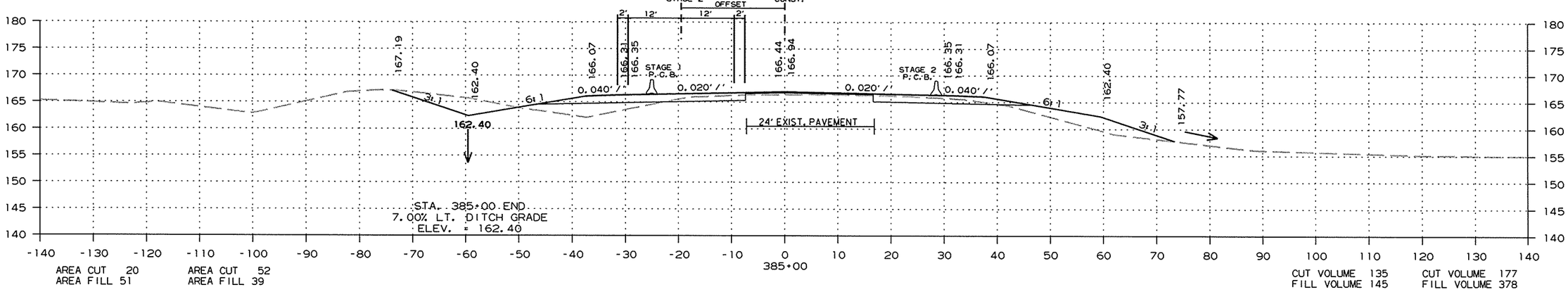
R070280.DGN

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.		070280	321	336

(2) CROSS SECTIONS







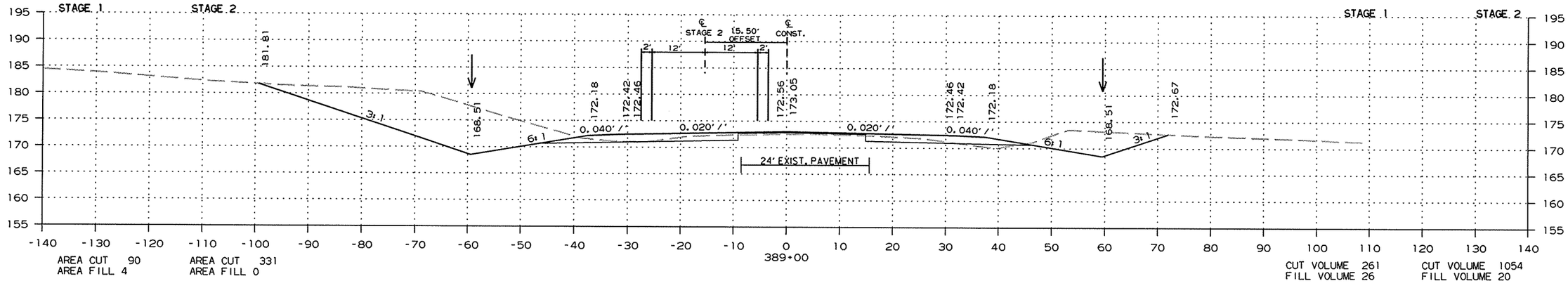
CROSS SECTION STA. 385+00 TO STA. 387+00

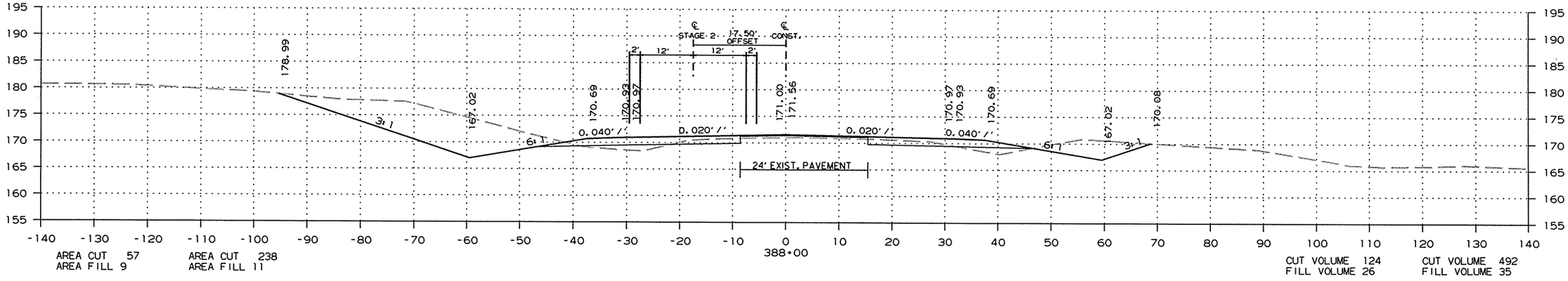
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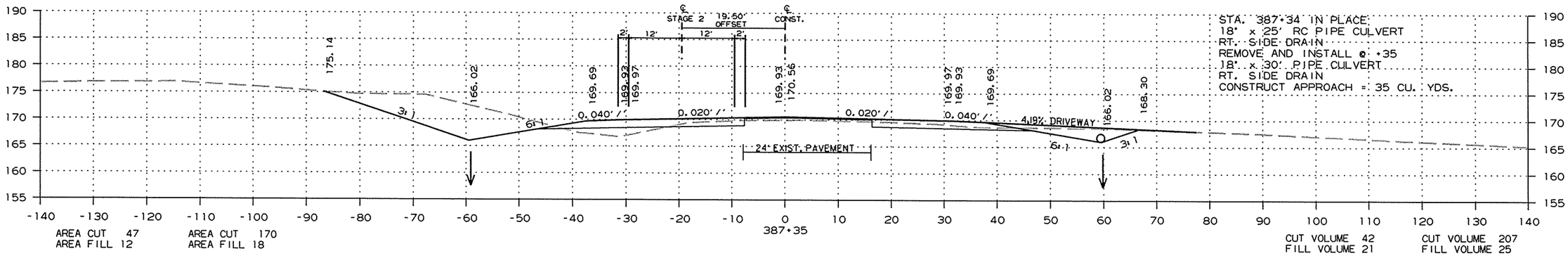
R070280.DGN

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.		070280	322	336

(2) CROSS SECTIONS







STA. 387+34 IN PLACE
18" x 25' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +35
18" x 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

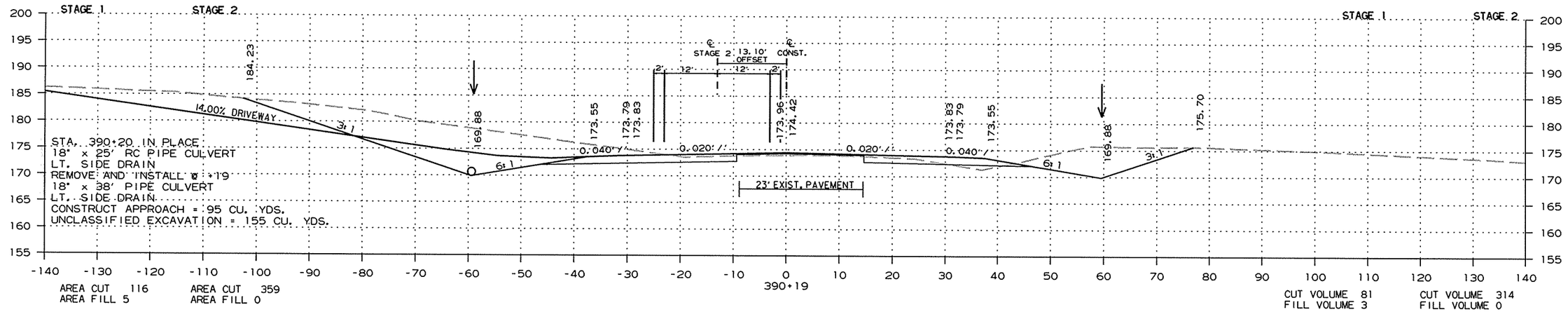
CROSS SECTION STA. 387+35 TO STA. 389+00

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R070280.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.		070280	323	336

(2) CROSS SECTIONS



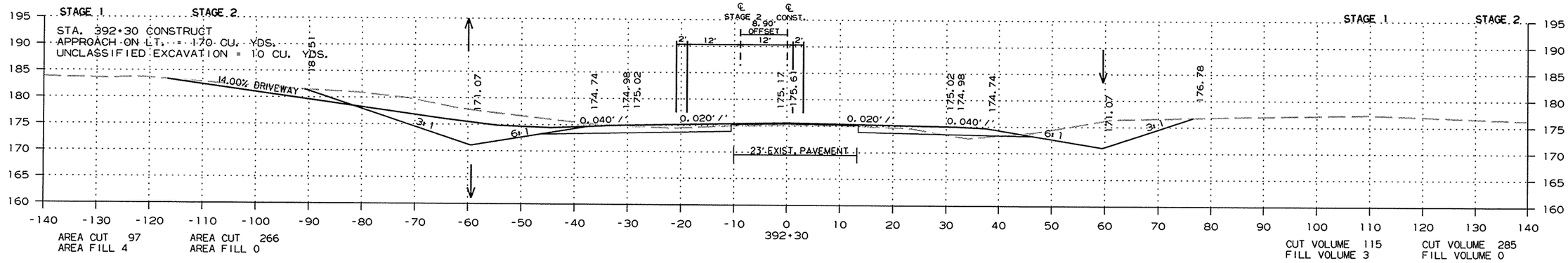
CROSS SECTION STA. 390+00 TO STA. 390+19

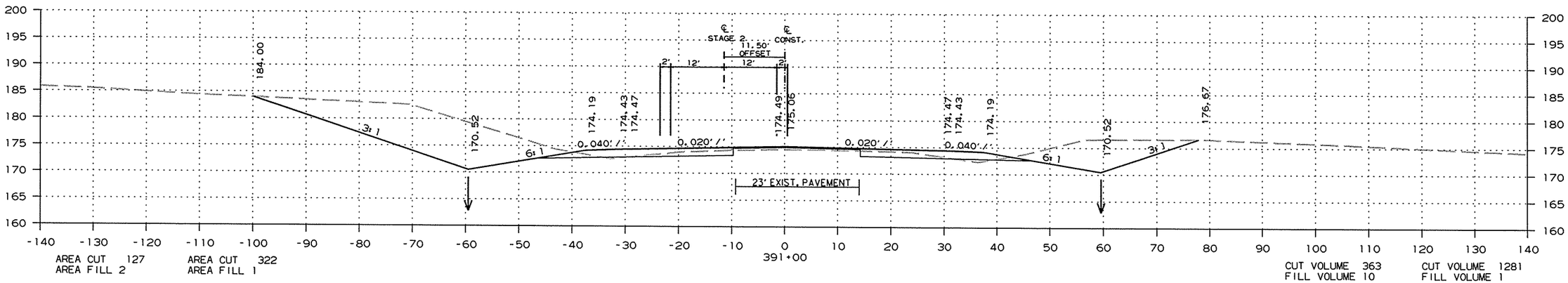
3/31/2015

R070280.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.		070280	324	336

(2) CROSS SECTIONS





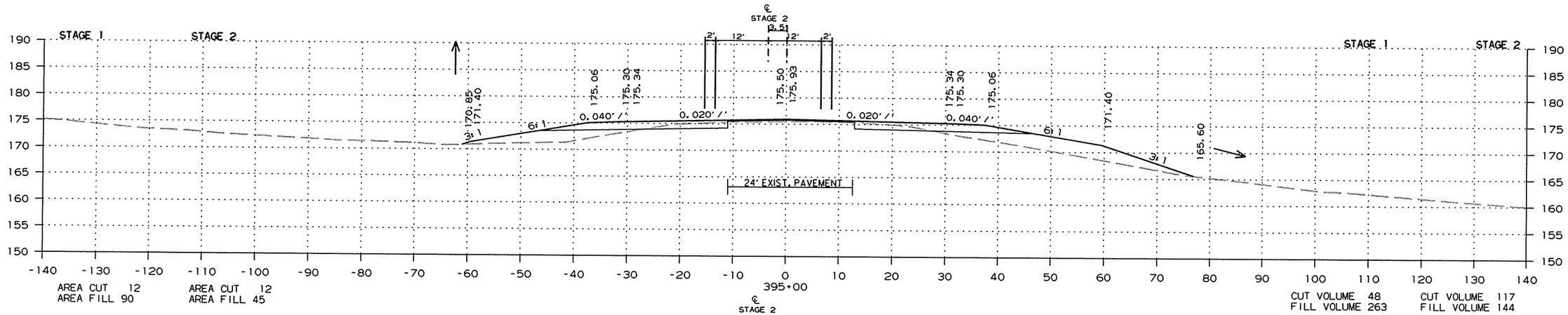
CROSS SECTION STA. 391+00 TO STA. 392+30

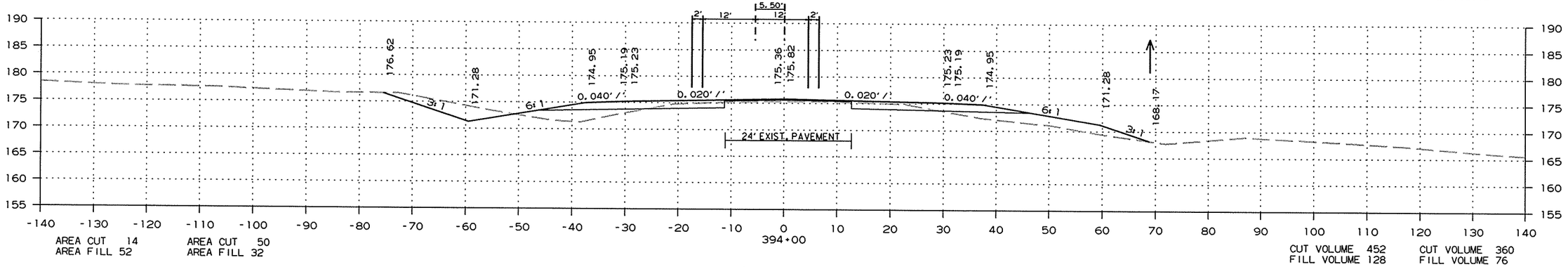
3/31/2015

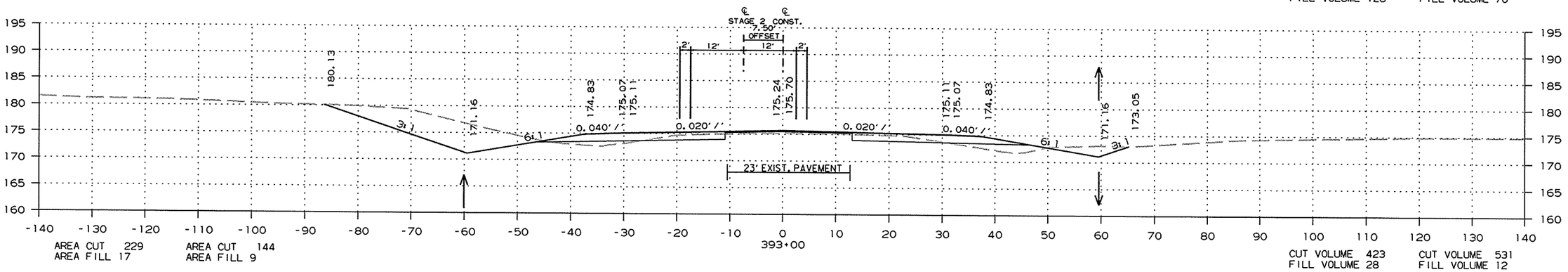
R070280.DGN

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.		070280	325	336

(2) CROSS SECTIONS







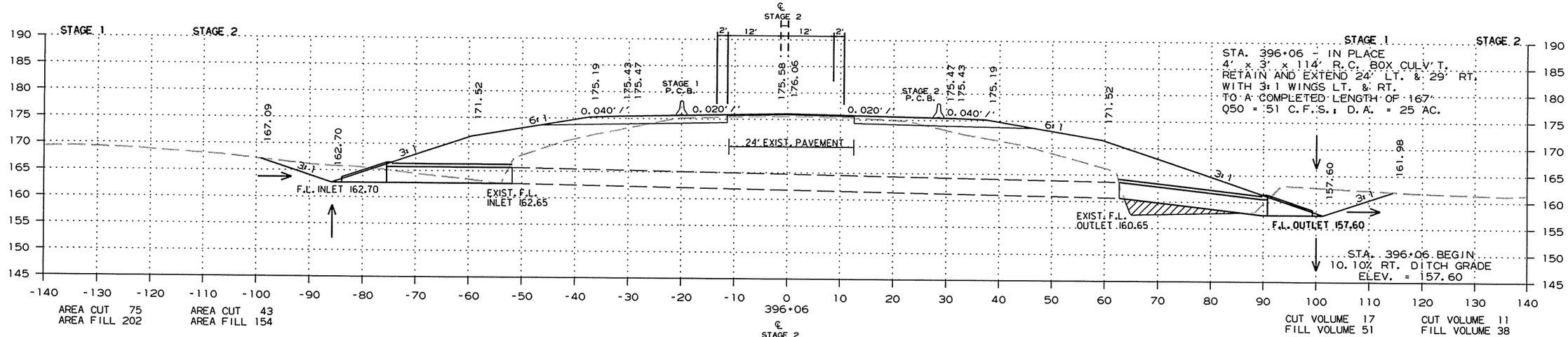
CROSS SECTION STA. 393+00 TO STA. 395+00

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R070280.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.		070280	326	336

(2) CROSS SECTIONS



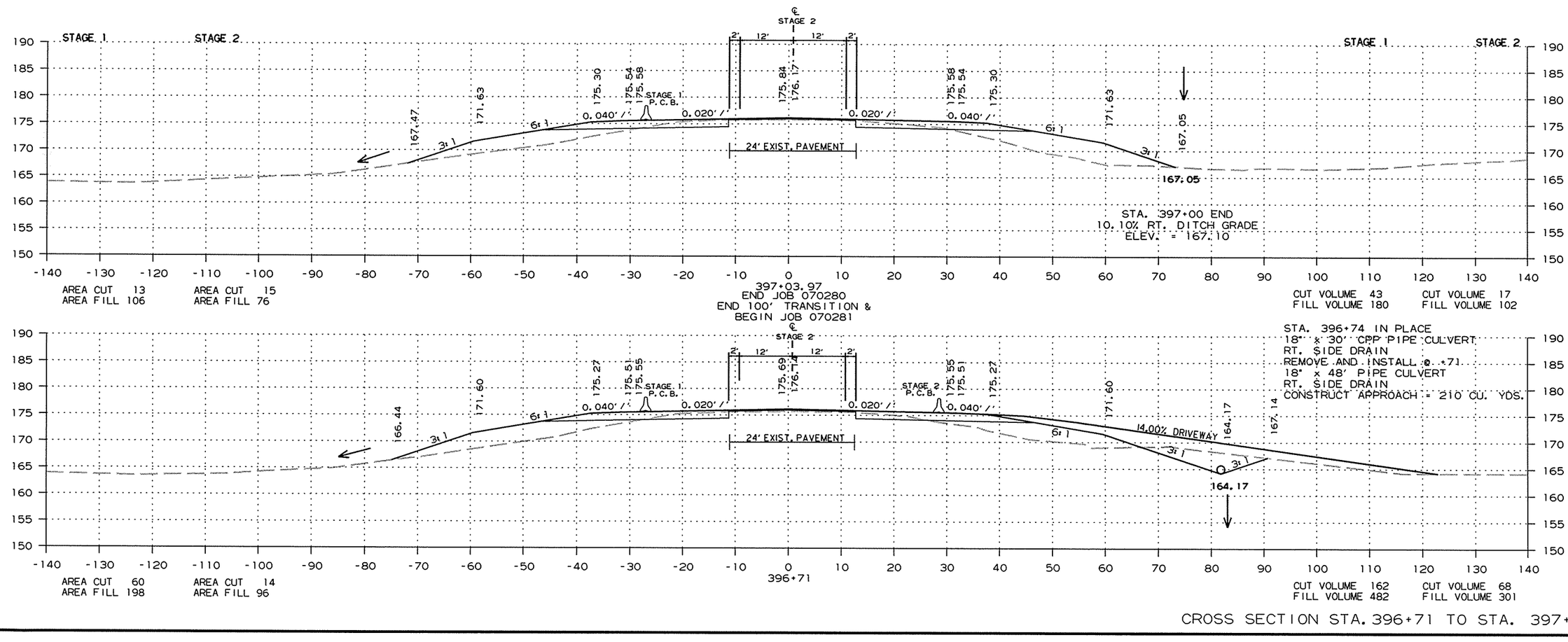
CROSS SECTION STA. 396+00 TO STA. 396+06

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R070280.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.		070280	327	336

(2) CROSS SECTIONS



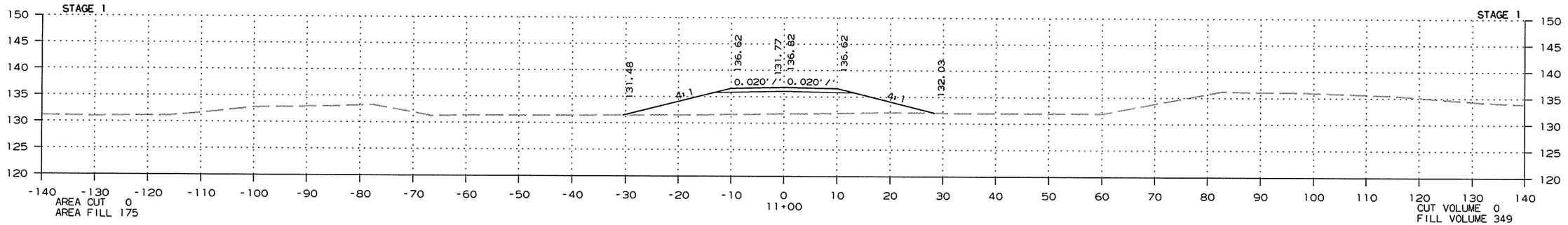
CROSS SECTION STA. 396+71 TO STA. 397+00

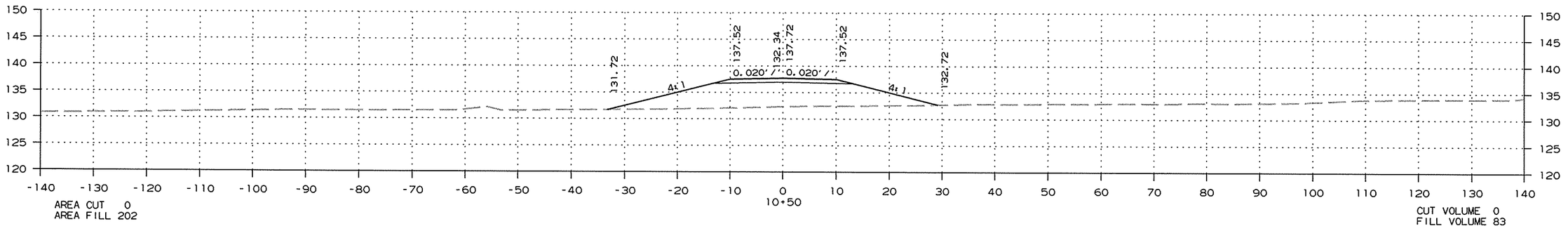
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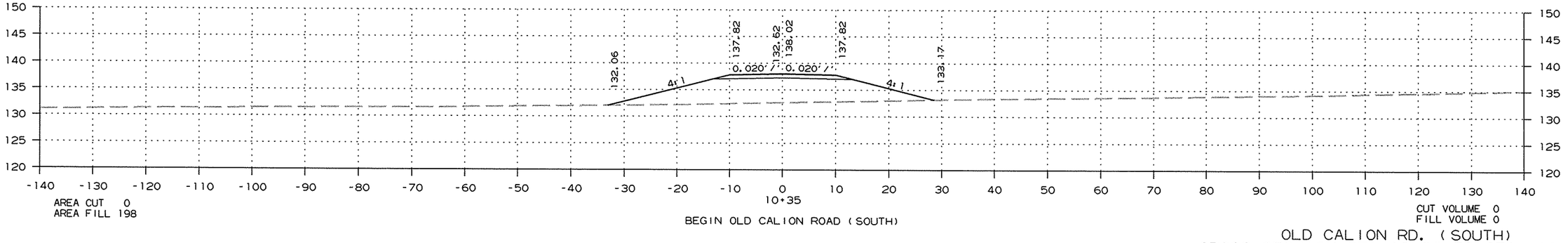
R070280.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
09-23-2015				6	ARK.			
				JOB NO.		070280	328	336

(2) CROSS SECTIONS







BEGIN OLD CALION ROAD (SOUTH)

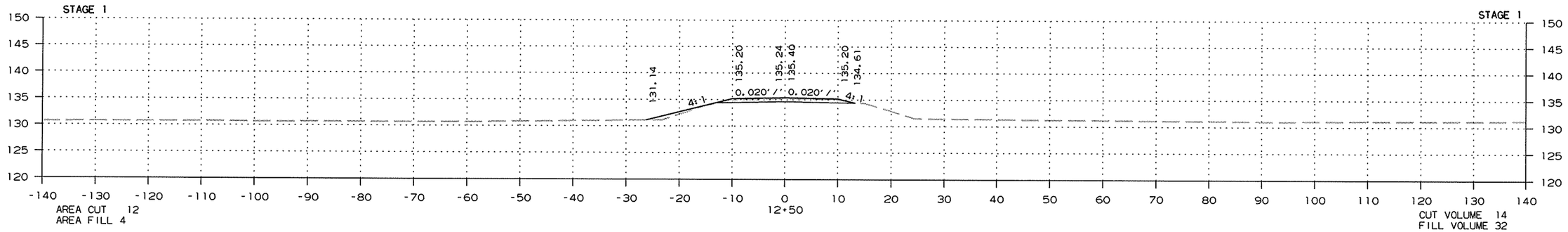
OLD CALION RD. (SOUTH)
CROSS SECTION STA. 10+35 TO STA. 11+00

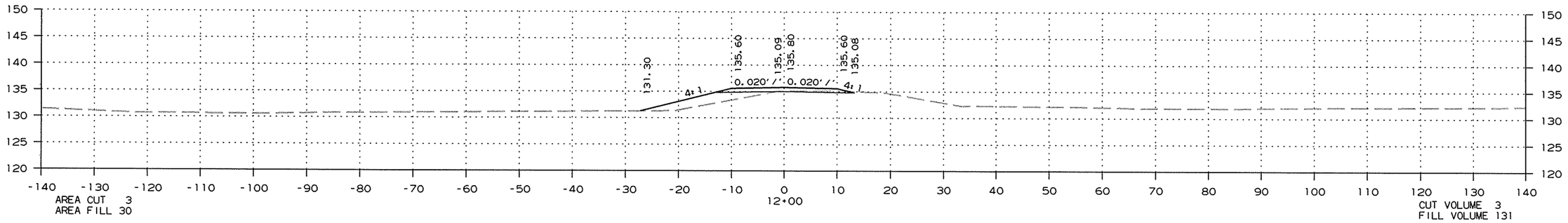
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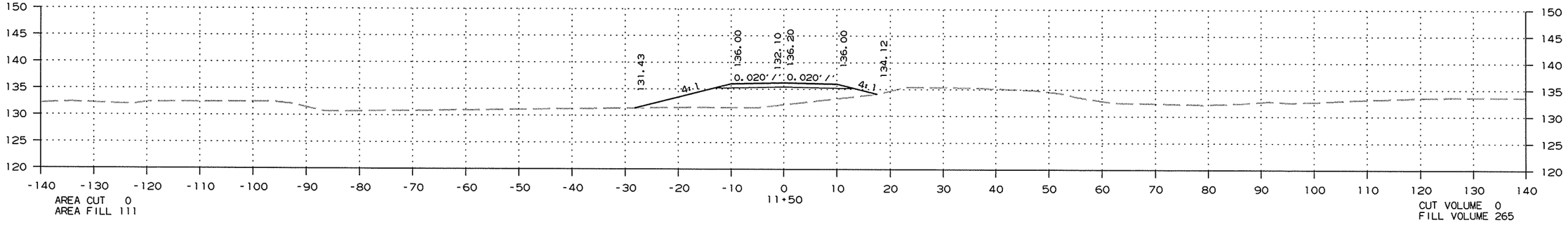
R070280.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
09-23-2015				6	ARK.			
				JOB NO.		070280	329	336

(2) CROSS SECTIONS







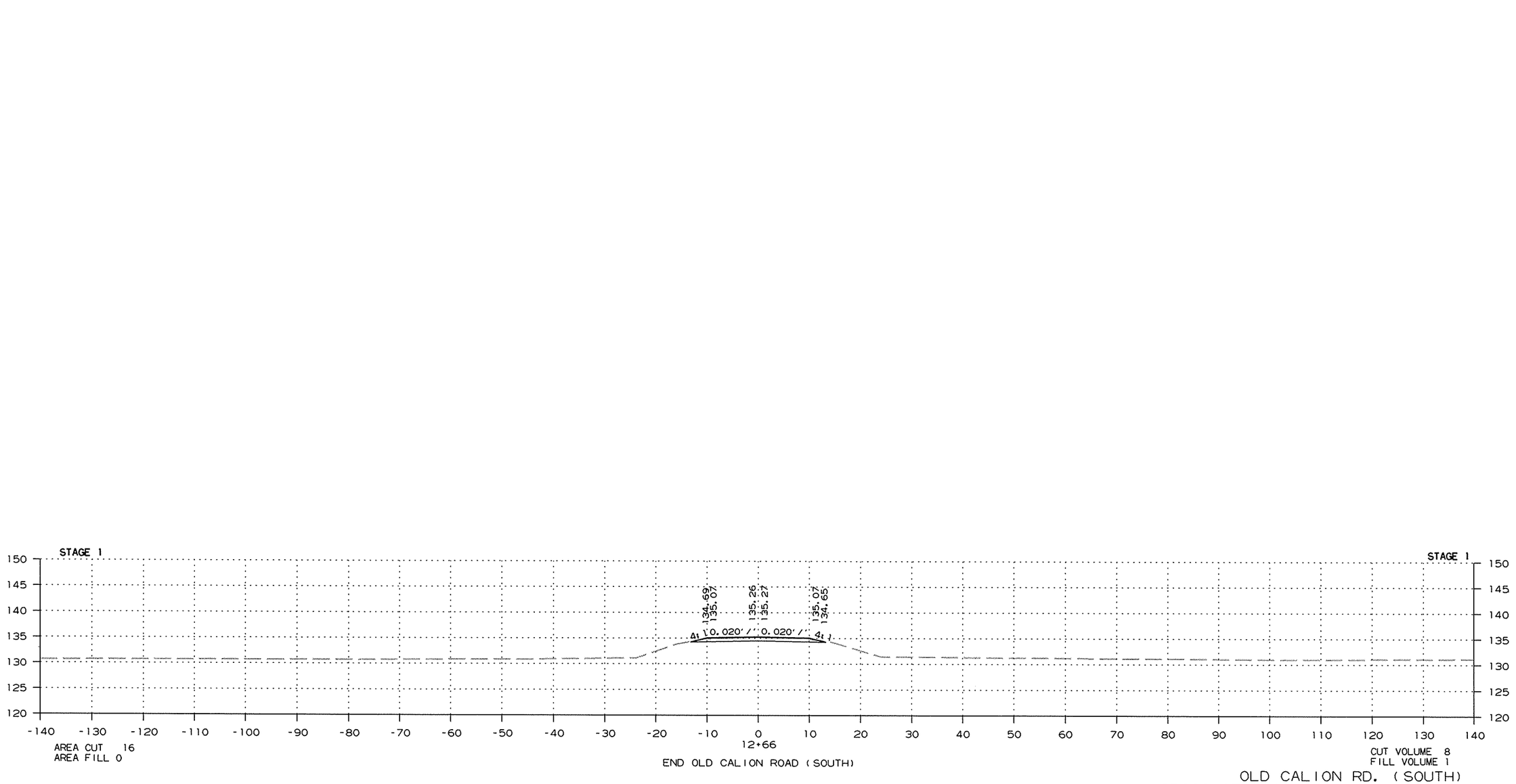
OLD CALION RD. (SOUTH)
CROSS SECTION STA. 11+50 TO STA. 12+50

3/31/2015

R070280.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
09-23-2015				6	ARK.			
				JOB NO.		070280	330	336

(2) CROSS SECTIONS



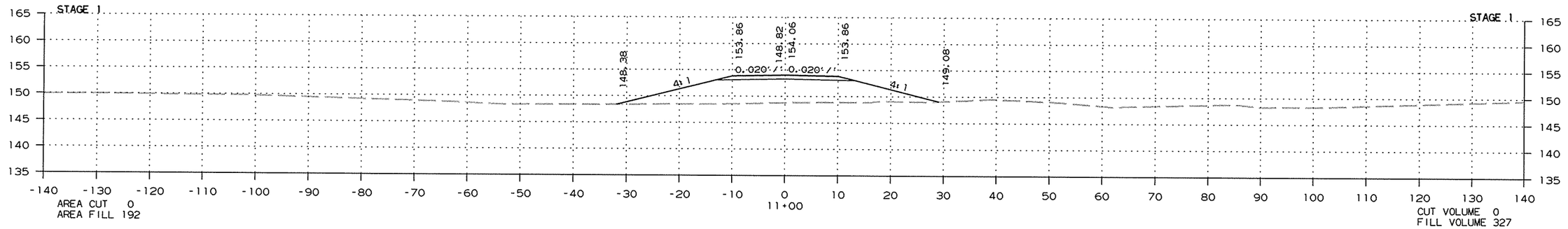
OLD CALION RD. (SOUTH)
CROSS SECTION STA. 12+66 TO STA. 12+66

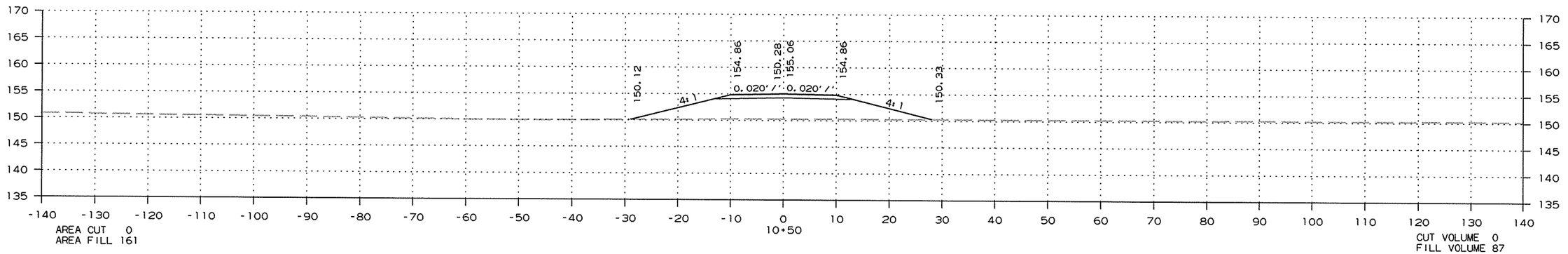
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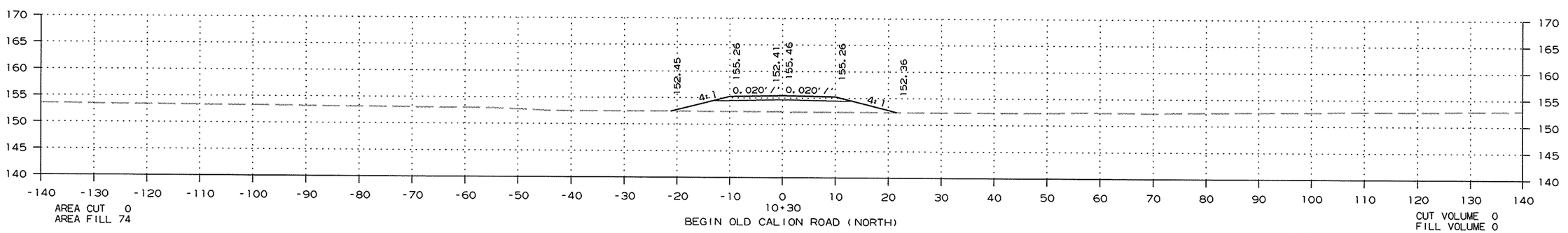
R070280.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
09-23-2015				6	ARK.			
				JOB NO.		070280	331	336

(2) CROSS SECTIONS







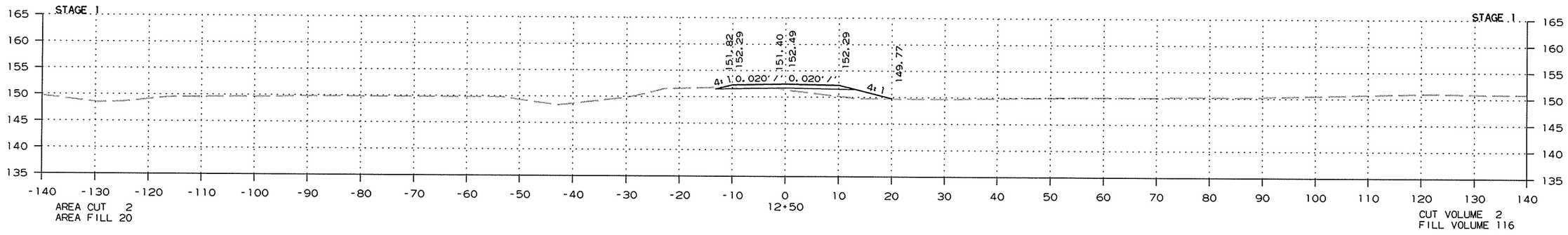
OLD CALION RD. (NORTH)
CROSS SECTION STA. 10+30 TO STA. 11+00

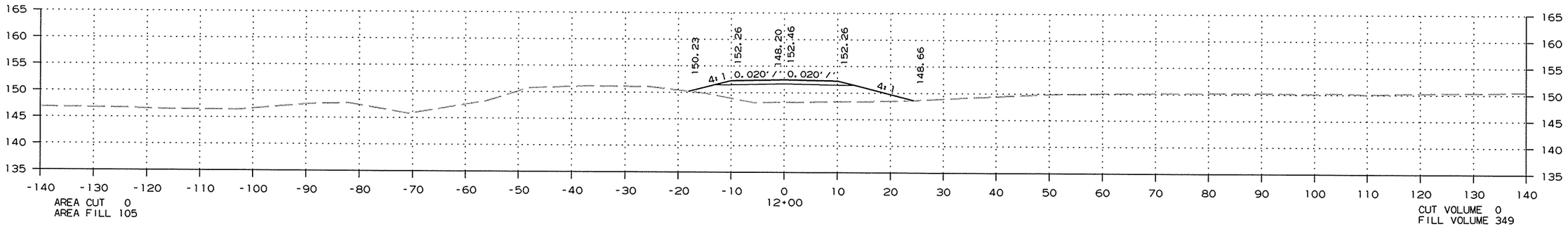
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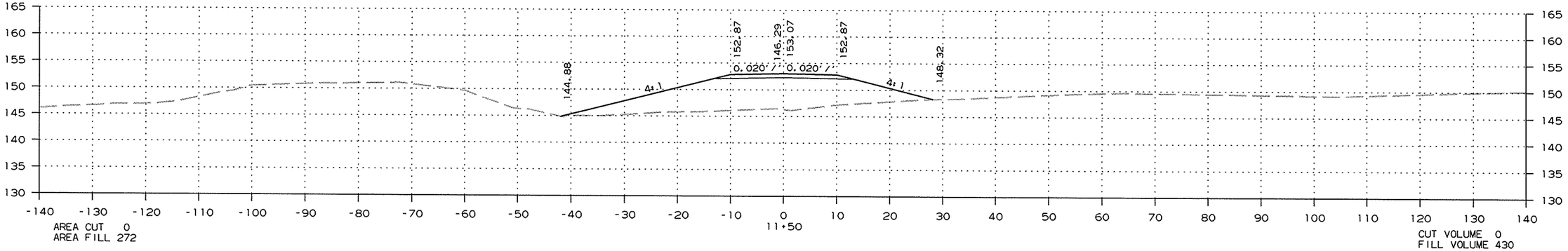
R070280.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
09-23-2015				6	ARK.			
				JOB NO.		070280	332	336

(2) CROSS SECTIONS







OLD CALION RD. (NORTH)
CROSS SECTION STA. 11+50 TO STA. 12+50

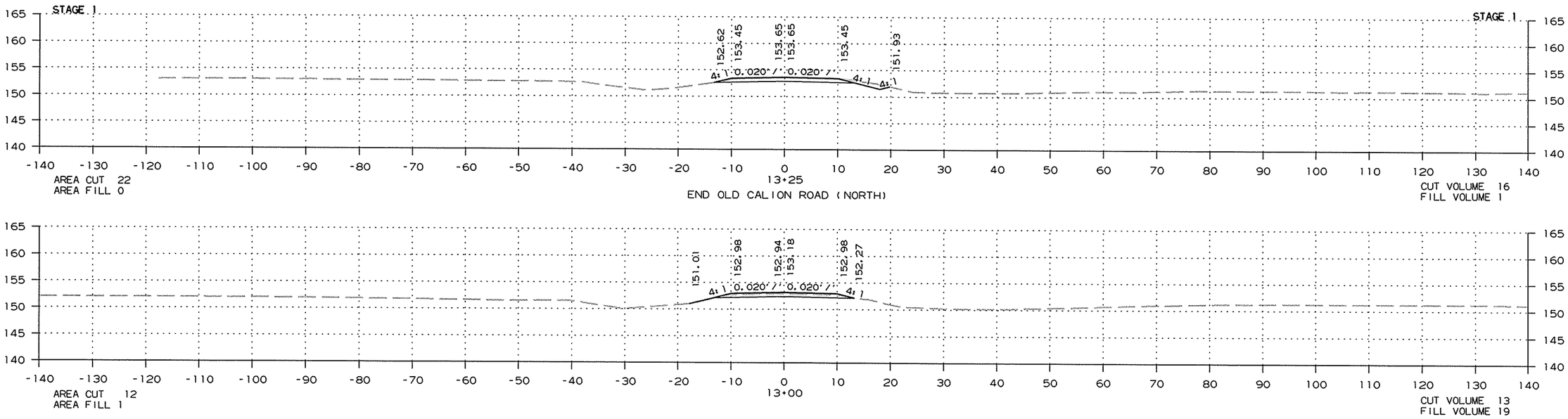
3/31/2015

R070280.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
09-23-2015			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		070280	333	336

(2) CROSS SECTIONS



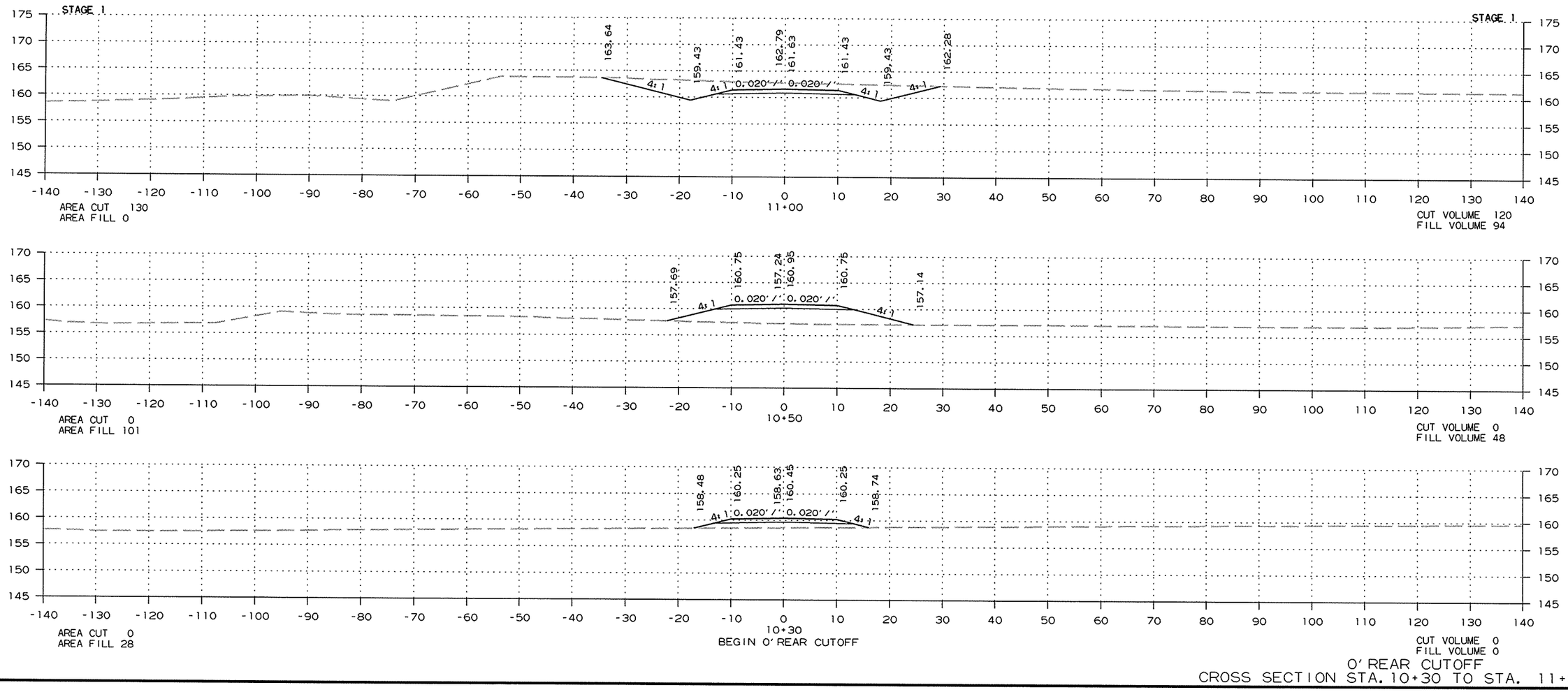
OLD CALION RD. (NORTH)
CROSS SECTION STA. 13+00 TO STA. 13+25

3/31/2015

R070280.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
09-23-2015				6	ARK.			
				JOB NO.		070280	334	336

(2) CROSS SECTIONS



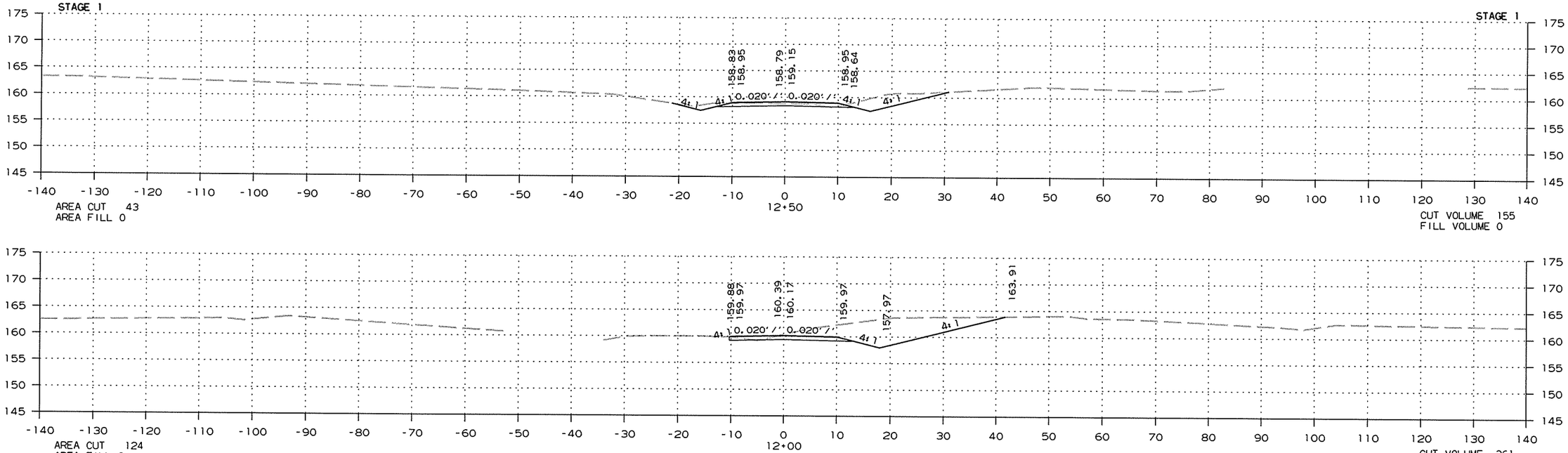
0' REAR CUTOFF
CROSS SECTION STA. 10+30 TO STA. 11+00

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R070280.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
09-23-2015				6	ARK.			
				JOB NO.		070280	335	336

(2) CROSS SECTIONS



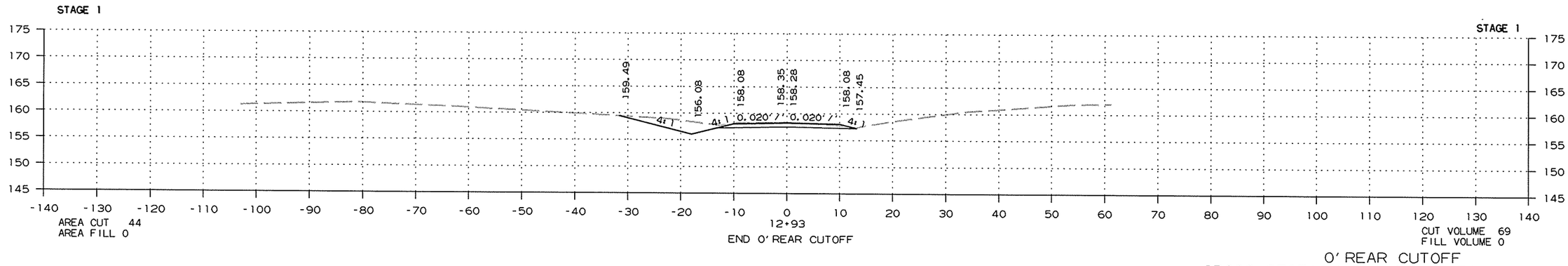
0' REAR CUTOFF
CROSS SECTION STA. 11+50 TO STA. 12+50

3/31/2015

R070280.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
09-23-2015				6	ARK.			
				JOB NO.		070280	336	336

(2) CROSS SECTIONS



0' REAR CUTOFF
CROSS SECTION STA. 12+93 TO STA. 12+93

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