

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

**MAGNOLIA-CAMDEN
(PASSING LANES) (S)**

COLUMBIA & OUACHITA COUNTIES

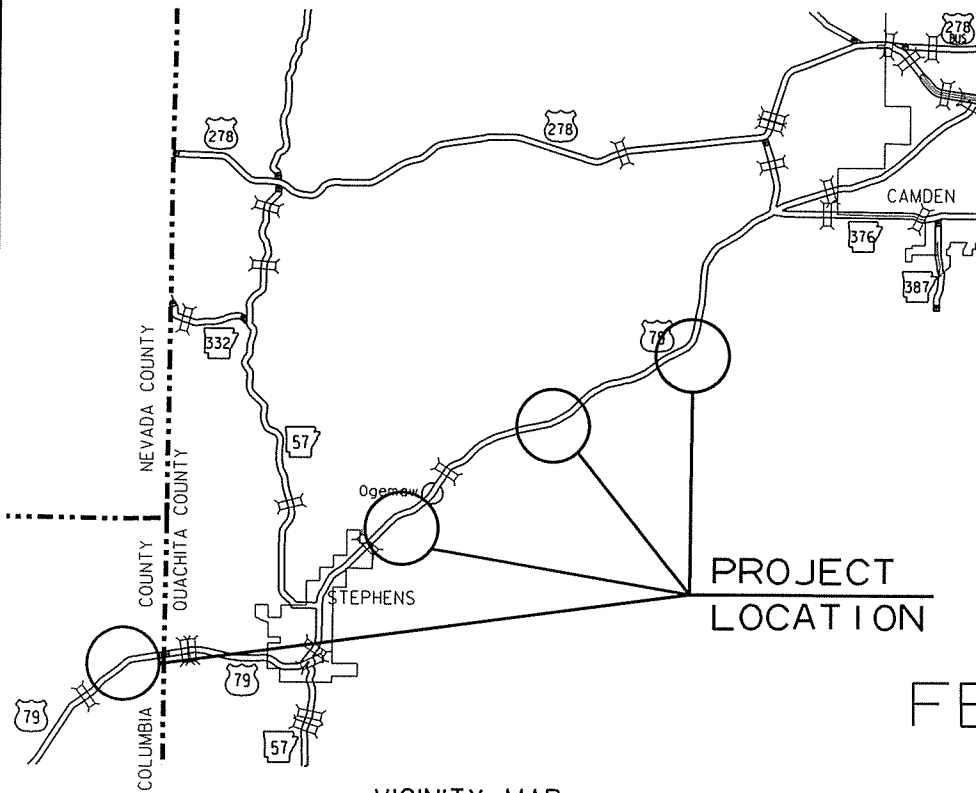
ROUTE 79 SECTIONS 2 & 3

JOB 070366

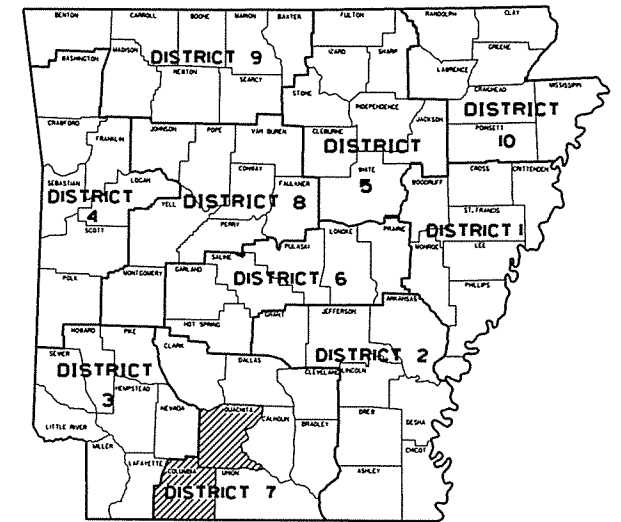
FED. AID PROJ. STPF - 1452(1)

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070366	1	237

(2) MAGNOLIA-CAMDEN (PASSING LANES) (S)



VICINITY MAP



ARK. HWY. DIST. NO. 7

• DESIGN TRAFFIC DATA •

	SITES 1-3	SITE 4
DESIGN YEAR	2035	2035
2015 ADT	3000	3500
2035 ADT	3600	4100
2035 DHV	396	451
DIRECTIONAL DISTRIBUTION	60%	60%
TRUCKS	14%	14%
AVERAGE RUNNING SPEED	55 MPH	55 MPH

STA. 262+40.00
END SITE 2

STA. 201+00.00
BEGIN SITE 2 - LOG MILE 6.00

STA. 162+40.00
END SITE 1

STA. 101+00.00
BEGIN JOB 070366

BEGIN SITE 1 - LOG MILE 9.40

STA. 462+40.00
END JOB 070366

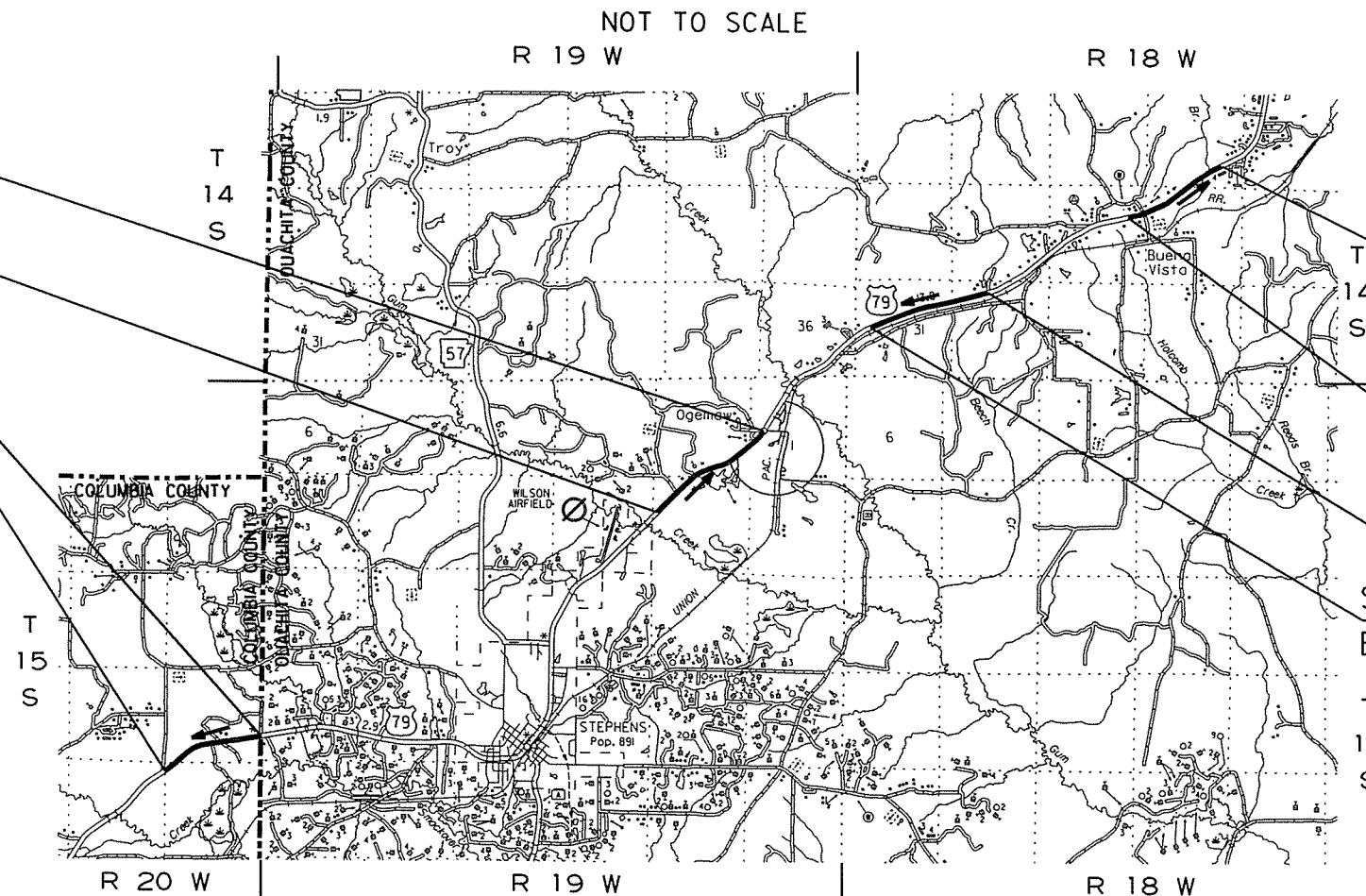
END SITE 4

STA. 401+00.00
BEGIN SITE 4 - LOG MILE 11.90

STA. 363+40.00
END SITE 3

STA. 302+00.00
BEGIN SITE 3 - LOG MILE 8.74

SITE 1 - BEGIN	SITE 3 - BEGIN
LAT. = N 33°24' 29"	LAT. = N 33°28' 24"
LONG. = W 93°08' 10"	LONG. = W 93°00' 27"
SITE 1 - MIDPOINT	SITE 3 - MIDPOINT
LAT. = N 33°24' 45"	LAT. = N 33°28' 36"
LONG. = W 93°07' 32"	LONG. = W 92°59' 51"
SITE 1 - END	SITE 3 - END
LAT. = N 33°24' 49"	LAT. = N 33°28' 41"
LONG. = W 93°07' 04"	LONG. = W 92°59' 19"
SITE 2 - BEGIN	SITE 4 - BEGIN
LAT. = N 33°26' 53"	LAT. = N 33°29' 26"
LONG. = W 93°02' 38"	LONG. = W 92°57' 35"
SITE 2 - MIDPOINT	SITE 4 - MIDPOINT
LAT. = N 33°27' 13"	LAT. = N 33°29' 46"
LONG. = W 93°02' 01"	LONG. = W 92°56' 49"
SITE 2 - END	SITE 4 - END
LAT. = N 33°27' 26"	LAT. = N 33°29' 58"
LONG. = W 93°01' 39"	LONG. = W 92°56' 22"



	FEET	OR	MILES
GROSS LENGTH OF PROJECT	24560.00		4.652
NET " " ROADWAY	24560.00		4.652
NET " " BRIDGES	0.00		0.000
NET " " PROJECT	24560.00		4.652

APPROVED



11-13-15
DEPUTY DIRECTOR
AND CHIEF ENGINEER

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130 - 237	CROSS SECTIONS		

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

GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- 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.
- 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.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- 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.
- 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.
- THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 23 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- 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.

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 070366
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
108-1	LIQUIDATED DAMAGES
400-1	TACK COATS
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
620-1	MULCH COVER
JOB 070366	AIRPORT CLEARANCE REQUIREMENTS
JOB 070366	BIDDING REQUIREMENTS AND CONDITIONS
JOB 070366	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 070366	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 070366	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 070366	EXTENSION FOR PIPE CULVERTS
JOB 070366	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 070366	MANDATORY ELECTRONIC CONTRACT
JOB 070366	NESTING SITES OF MIGRATORY BIRDS
JOB 070366	PARTNERING REQUIREMENTS
JOB 070366	PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS
JOB 070366	PLASTIC PIPE
JOB 070366	SHORING FOR CULVERTS
JOB 070366	SOIL STABILIZATION
JOB 070366	STORM WATER POLLUTION PREVENTION PLAN
JOB 070366	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 070366	UTILITY ADJUSTMENTS
JOB 070366	VALUE ENGINEERING
JOB 070366	WARM MIX ASPHALT
JOB 070366	WELLHEAD PROTECTION

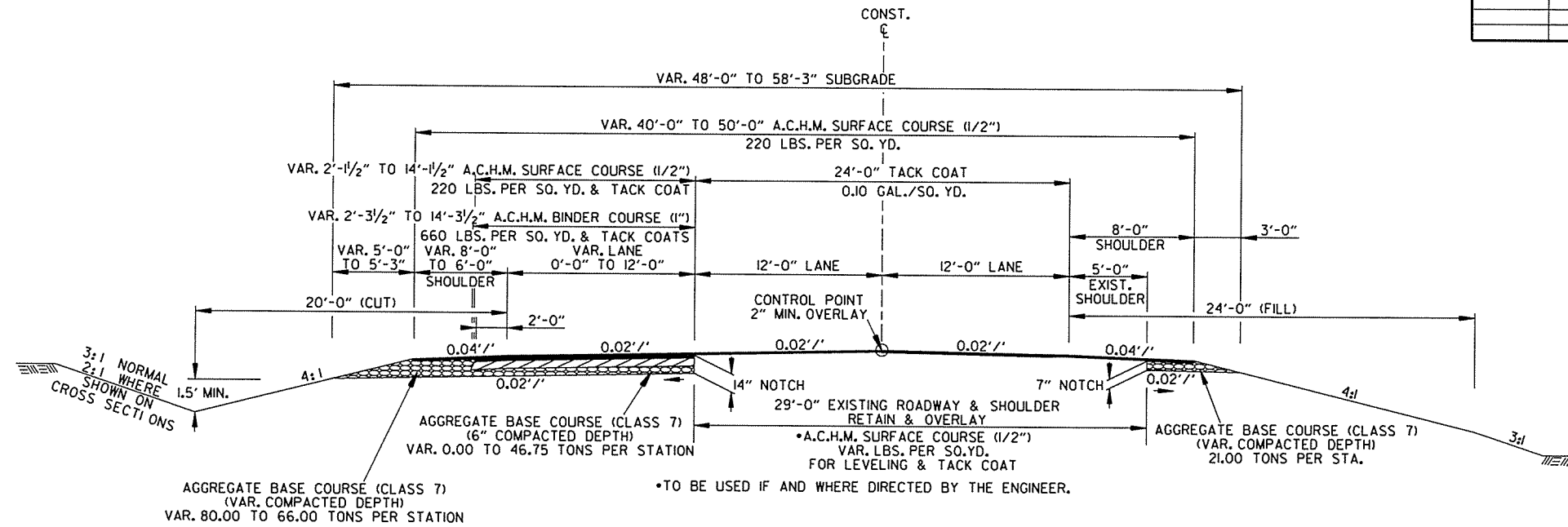
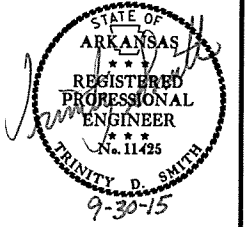


7/7/2015

R070366.DGN

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2 TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
TANGENT SECTION - PASSING LANE
SITE I
STA. 101+00.00 - STA. 101+36.92
STA. 160+40.00 - STA. 162+40.00

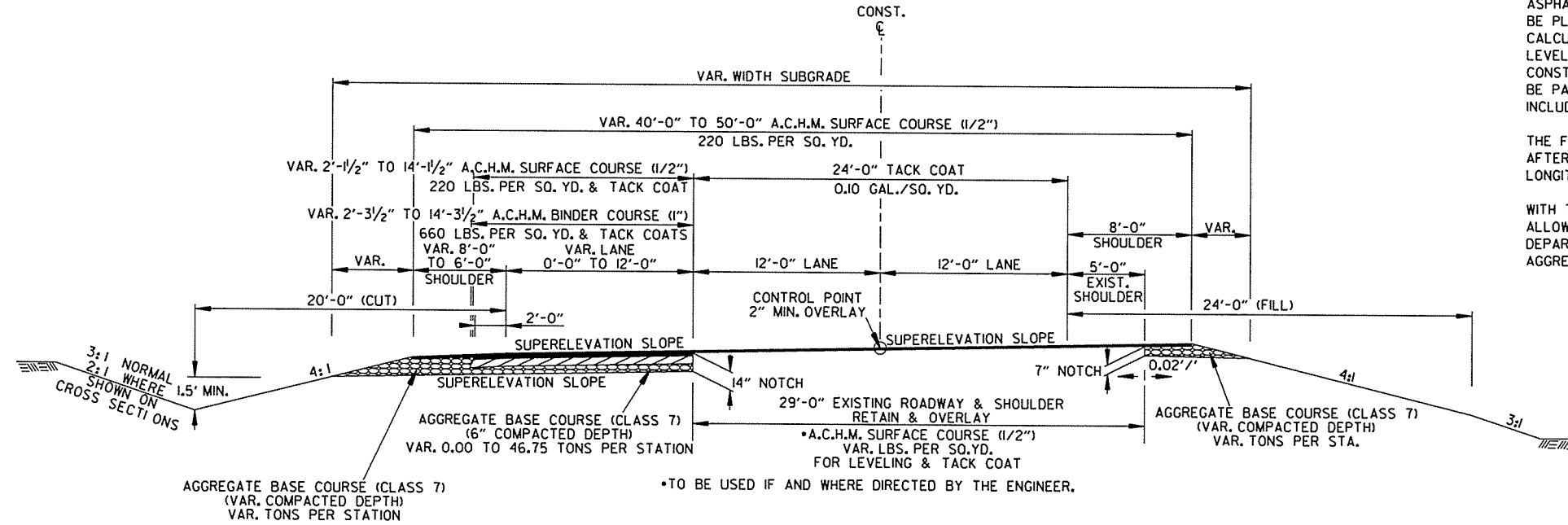
NOTES:
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

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

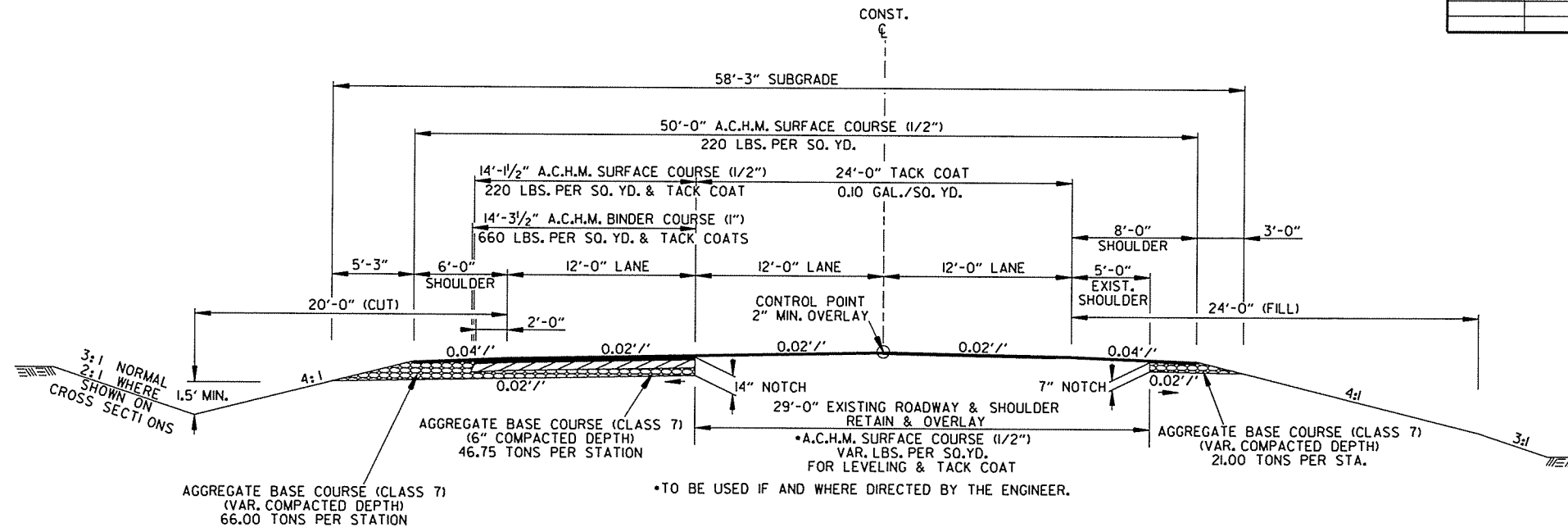
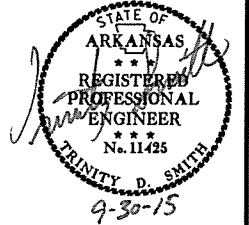


TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION SECTION - PASSING LANE
SITE I
STA. 101+36.92 - STA. 107+60.00

NOTE: ON ALL SUPERELEVATED CURVES AND THRU SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.

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② TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
TANGENT SECTION - PASSING LANE
SITE I

STA. 113+00.74 - STA. 117+07.13
STA. 132+65.10 - STA. 160+40.00

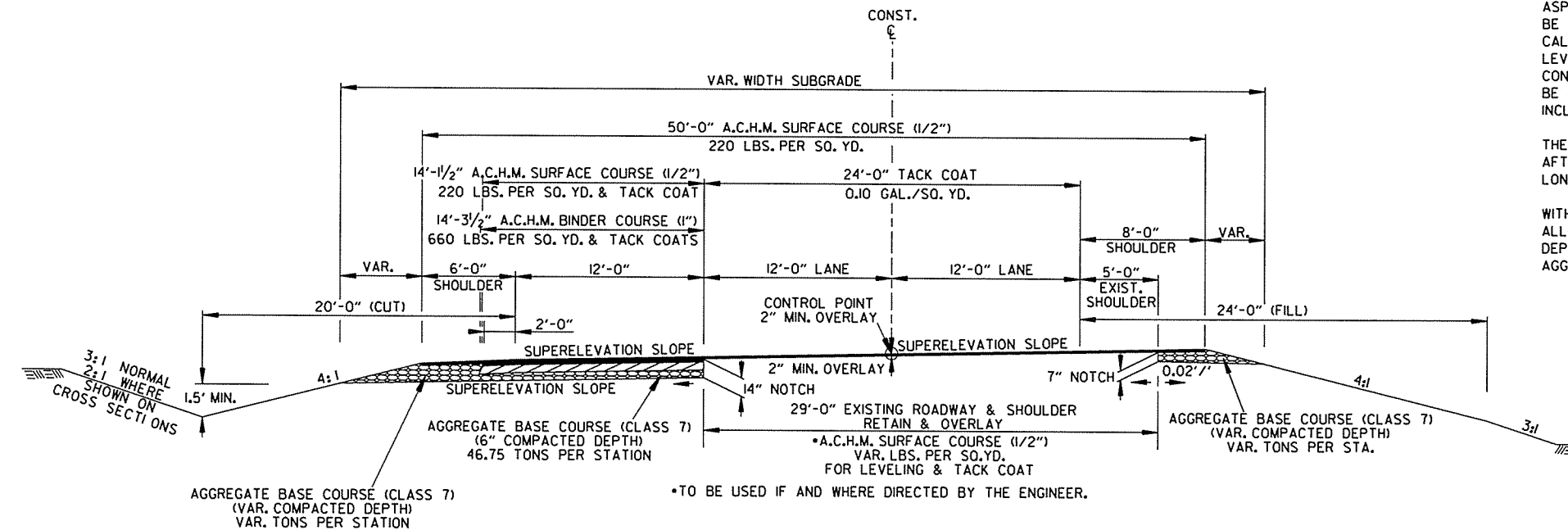
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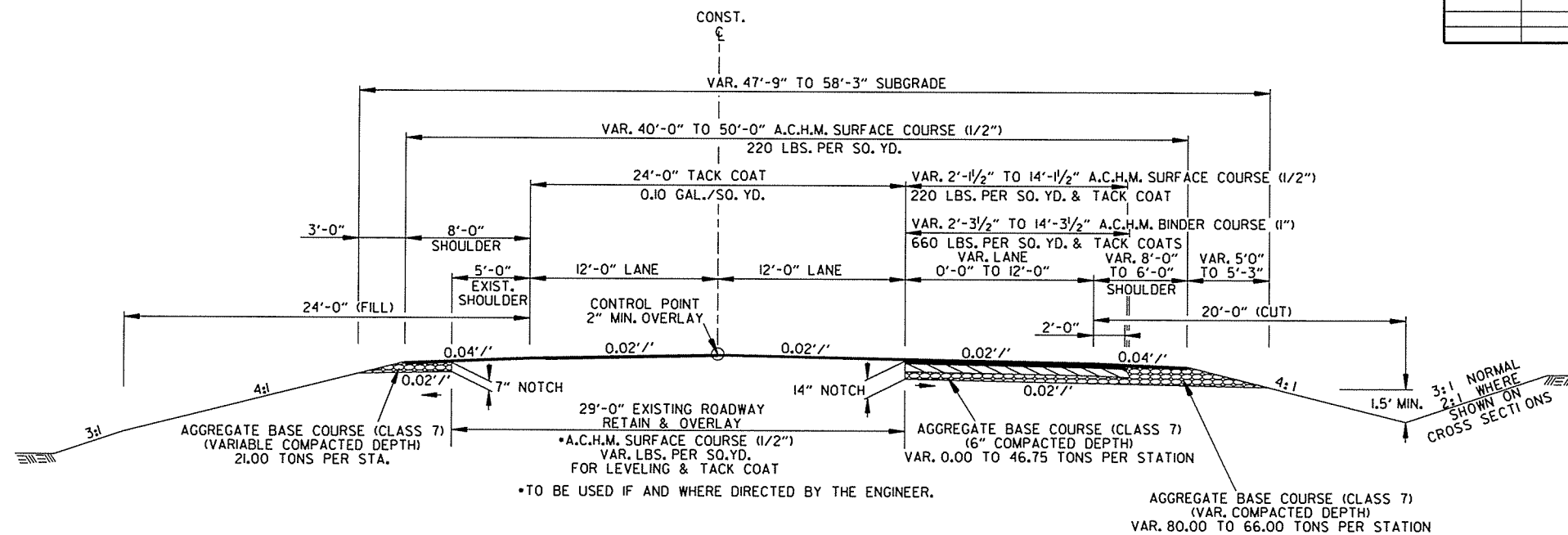
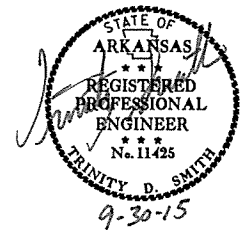
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION SECTION - PASSING LANE
SITE I

STA. 107+60.00 - STA. 113+00.74
STA. 117+07.13 - STA. 132+65.10

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2 TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
TANGENT SECTION - PASSING LANE
SITES 2 & 4

STA. 201+00.00 - STA. 203+00.00 STA. 401+00.00 - STA. 402+67.25
STA. 255+80.00 - STA. 259+07.42 STA. 457+17.90 - STA. 462+40.00

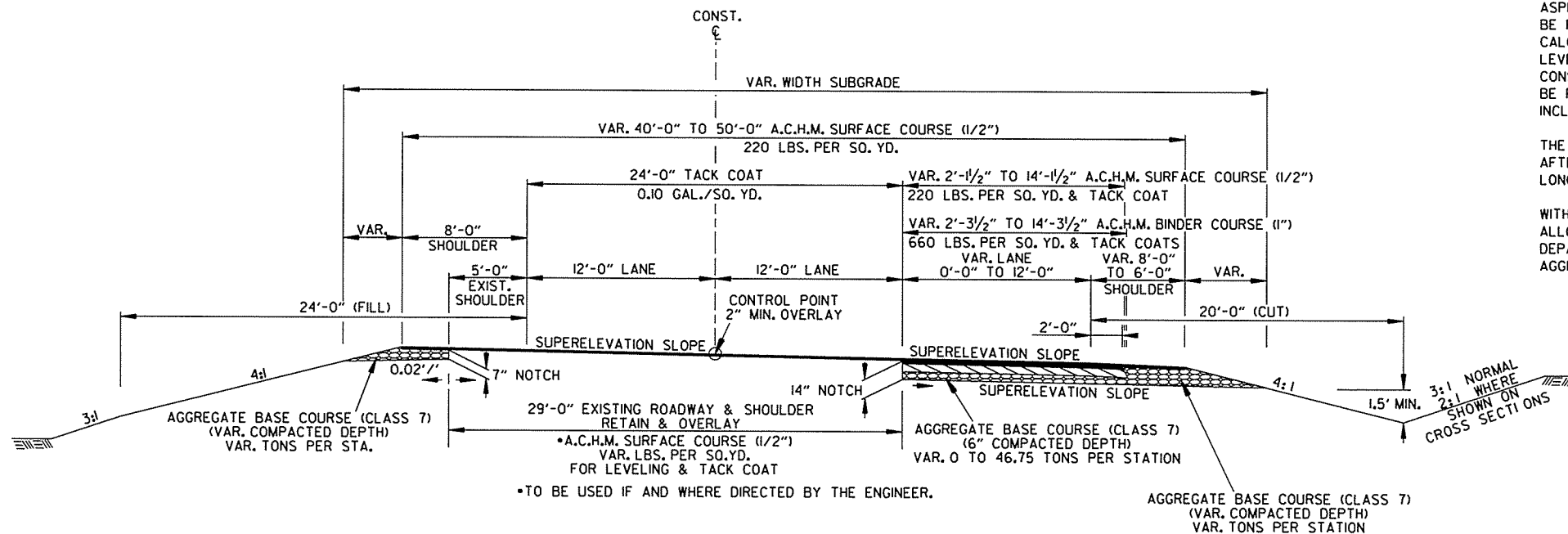
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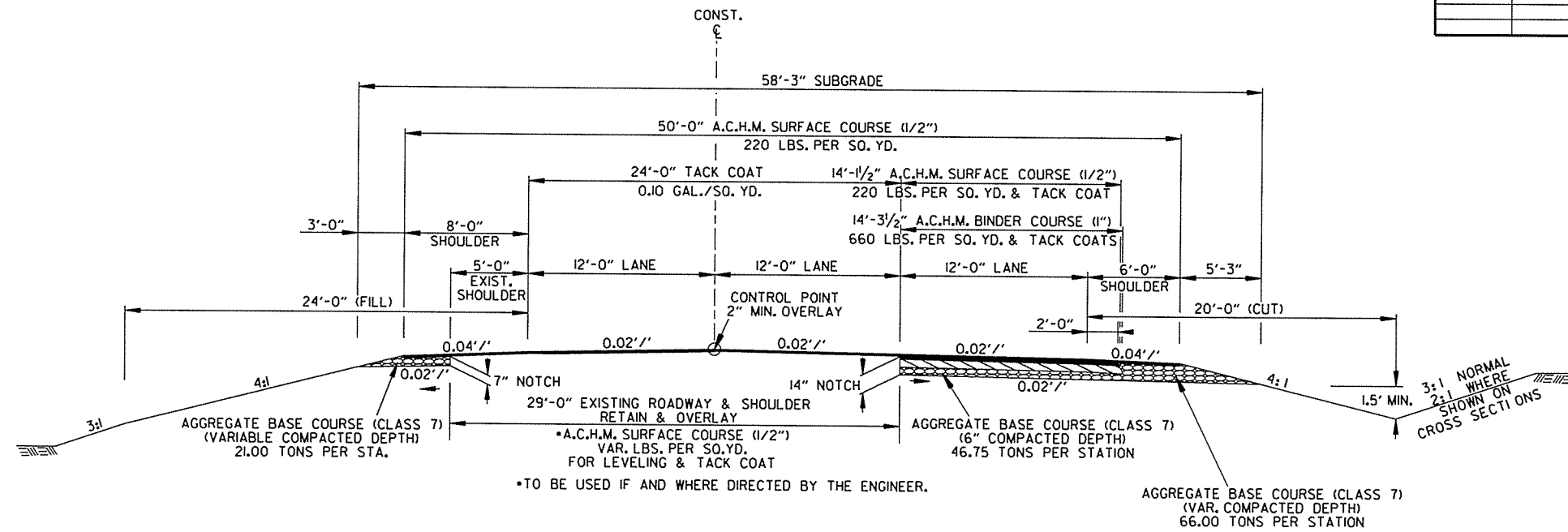
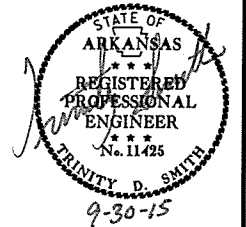
TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION SECTION - PASSING LANE
SITES 2 & 4

STA. 201+00.00 - STA. 203+00.00 STA. 402+67.25 - STA. 403+00.00
STA. 259+07.42 - STA. 262+40.00 STA. 455+80.00 - STA. 457+17.90

NOTE: ON ALL SUPERELEVATED CURVES AND THRU SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.

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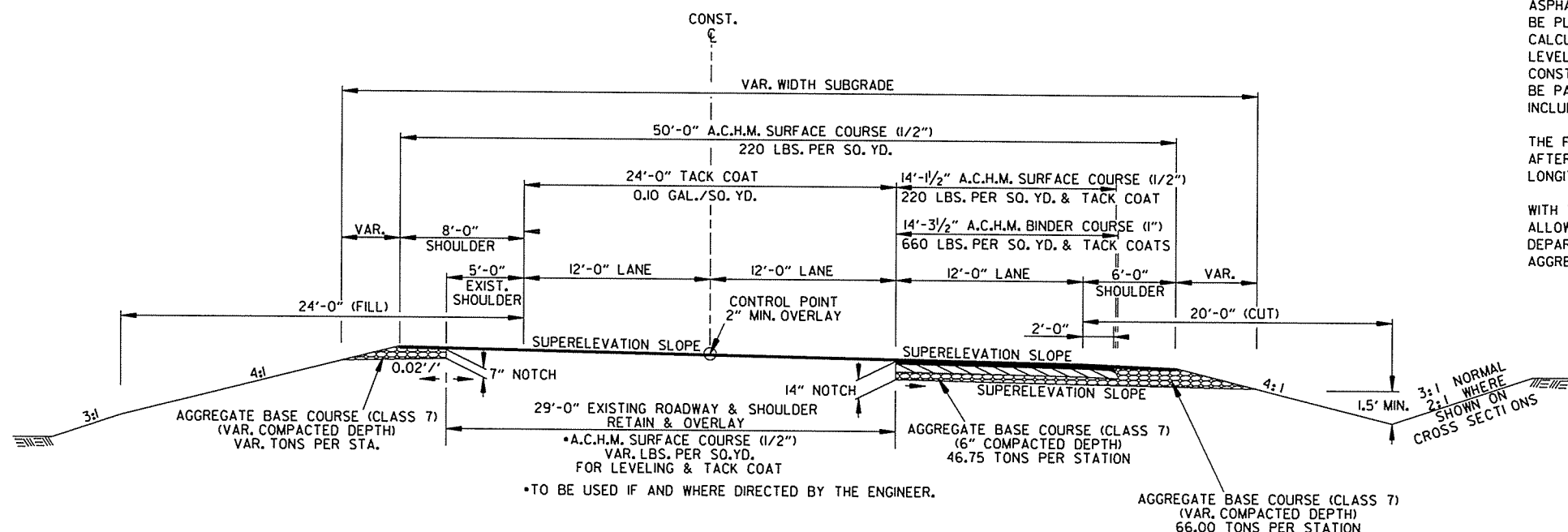


TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
TANGENT SECTION - PASSING LANE
SITES 2 & 4

STA. 203+00.00 - STA. 216+16.39 STA. 411+81.42 - STA. 417+15.97
STA. 233+82.83 - STA. 237+17.25 STA. 429+19.25 - STA. 447+61.92
STA. 249+94.38 - STA. 255+80.00

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TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION SECTION - PASSING LANE
SITES 2 & 4

STA. 216+16.39 - STA. 233+82.83 STA. 403+00.00 - STA. 411+81.42
STA. 237+17.25 - STA. 249+94.38 STA. 417+15.97 - STA. 429+19.25
STA. 447+61.92 - STA. 455+80.00

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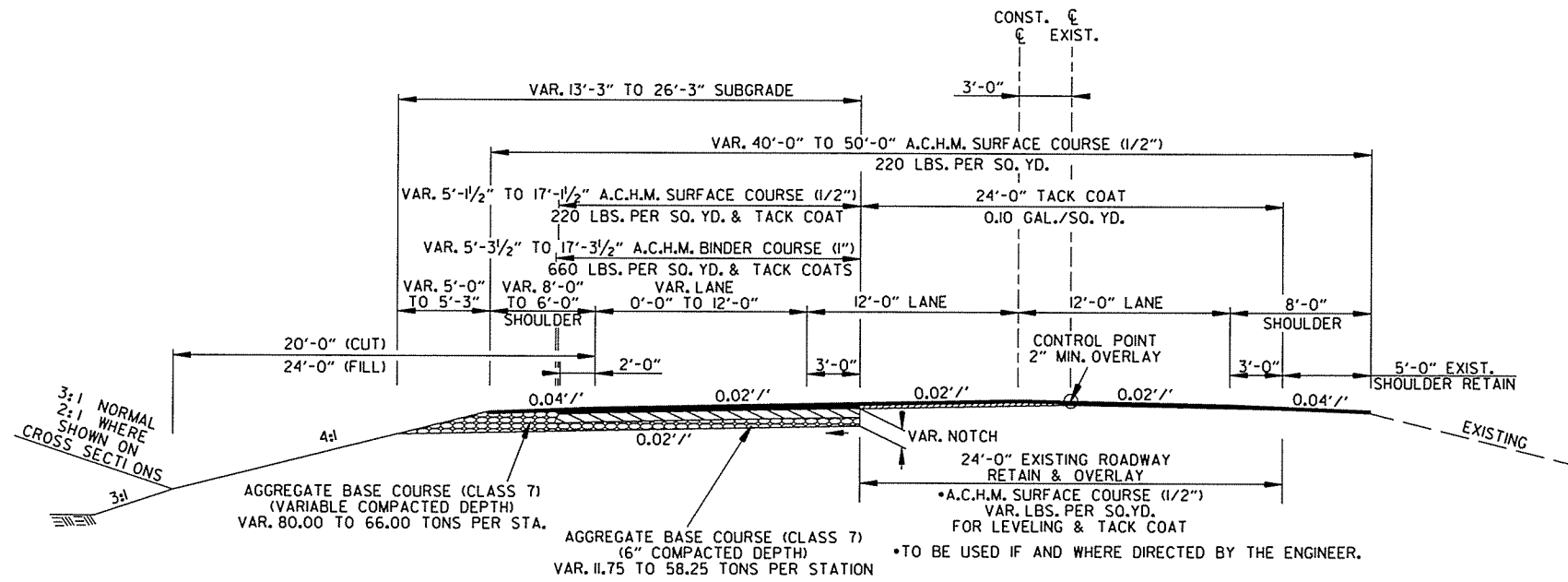
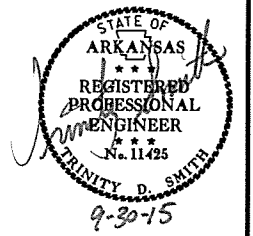
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2 TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
TANGENT SECTION - PASSING LANE
SITE 3
STA. 302+00.00 - STA. 303+13.93
STA. 361+40.00 - STA. 363+40.00

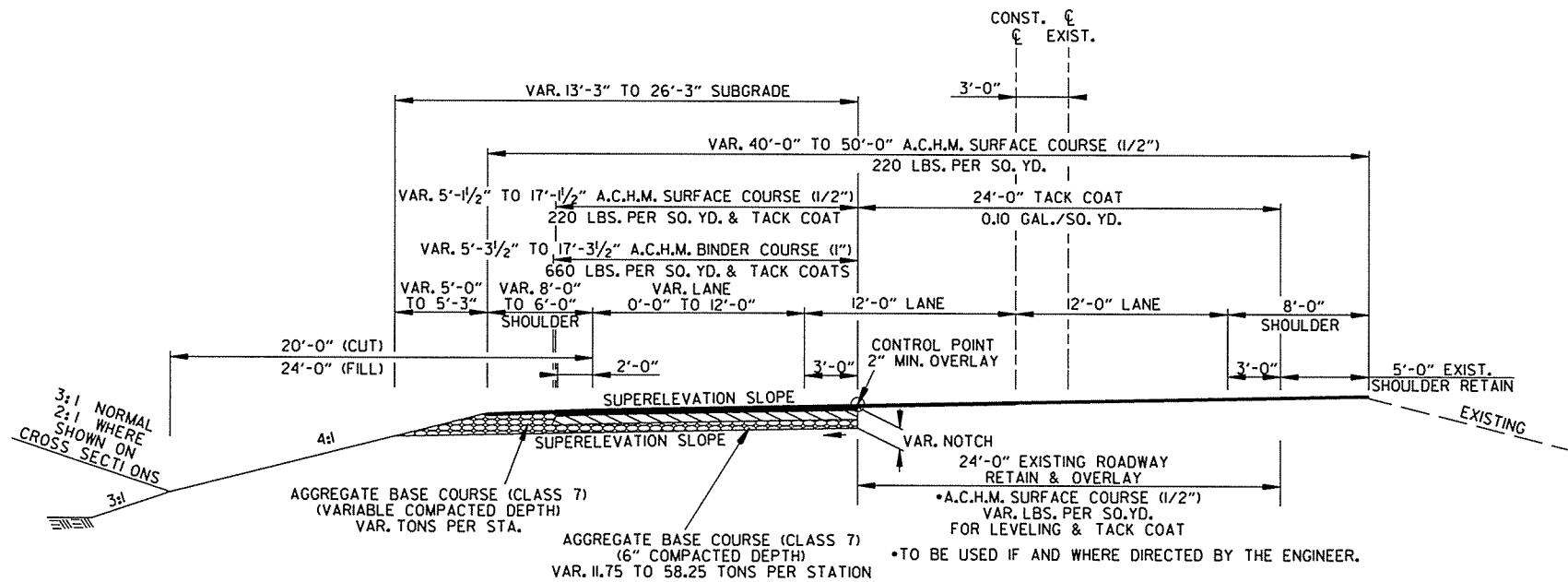
NOTES:
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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.

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 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.

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



TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION SECTION - PASSING LANE
SITE 3
STA. 303+13.93 - STA. 308+60.00

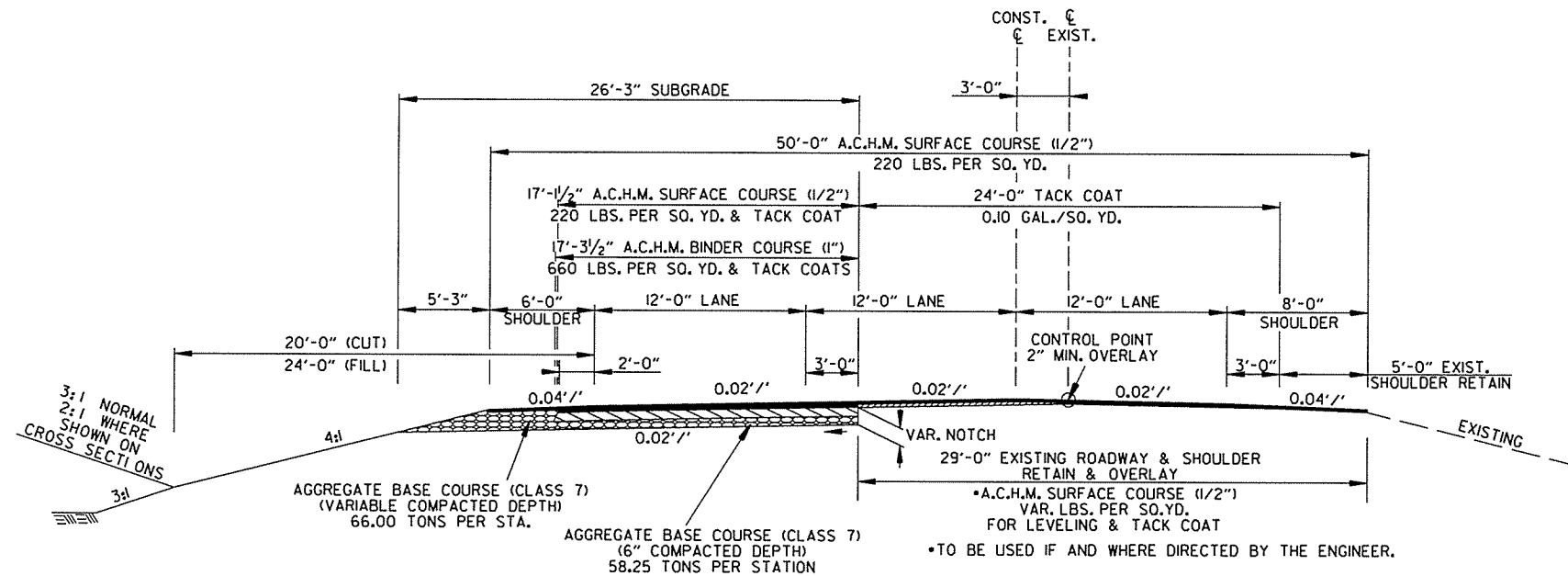
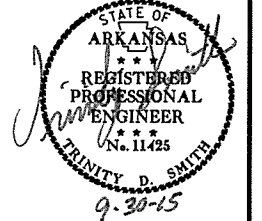
NOTE: ON ALL SUPERELEVATED CURVES AND THRU SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.

5/20/2015

R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		8	237
				JOB NO.		070366	8	237

2 TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION SECTION - PASSING LANE
SITE 3
STA. 317+20.81 - STA. 333+41.31
STA. 342+71.04 - STA. 361+40.00

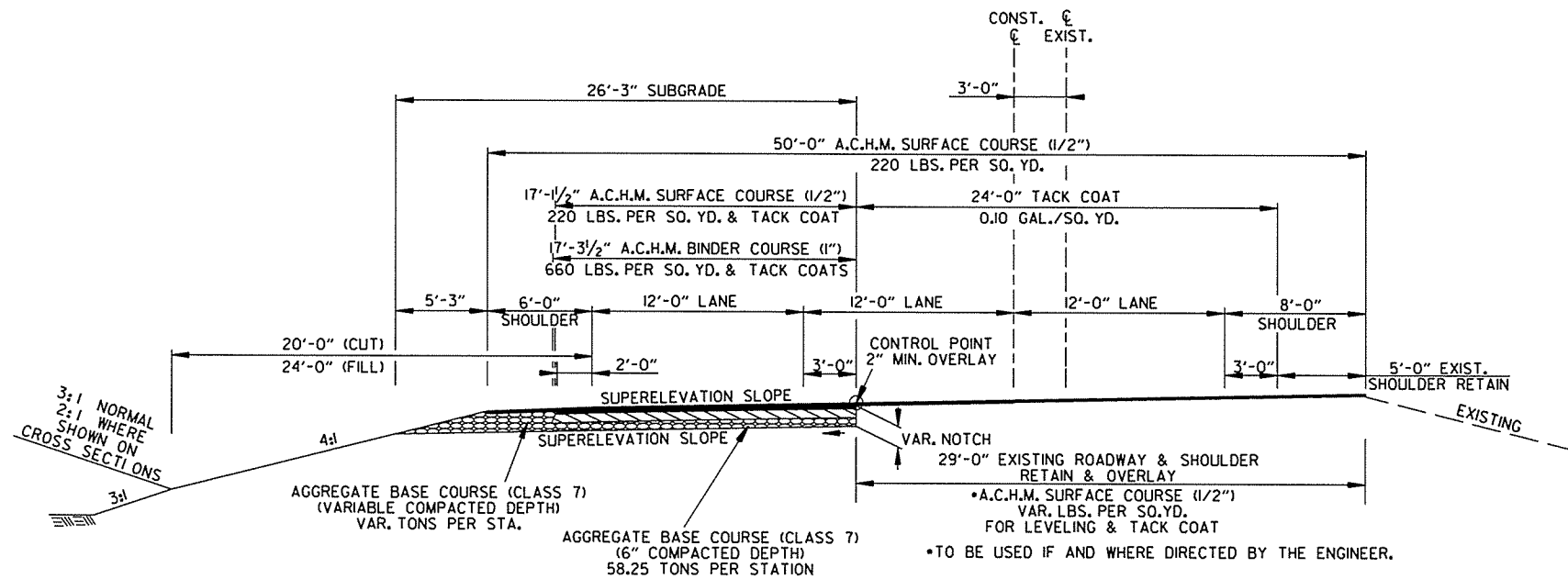
NOTES:
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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.

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 CONTRACT ITEMS.

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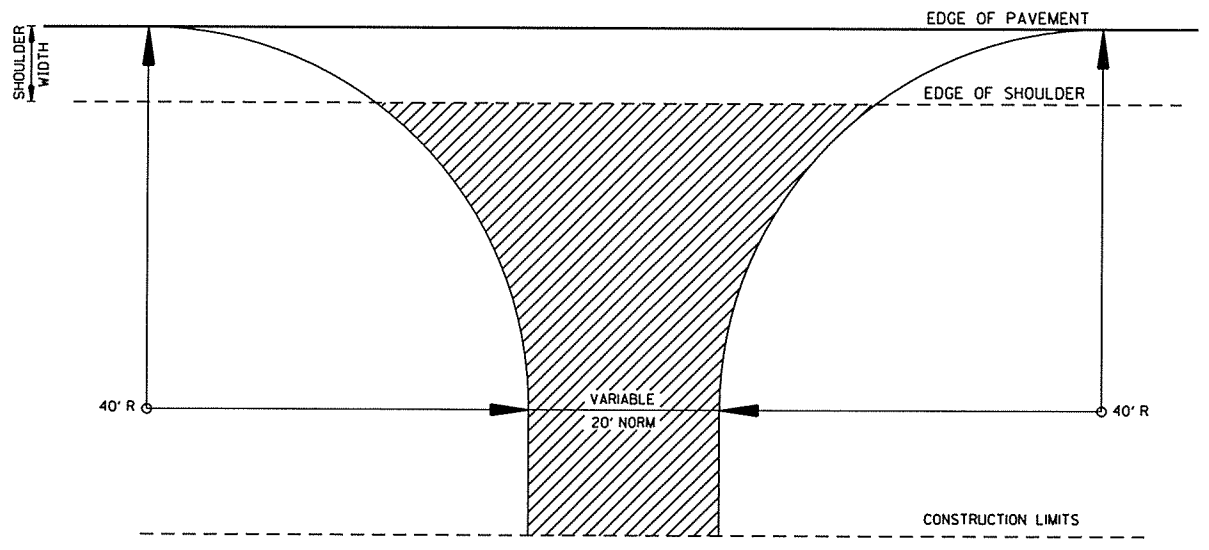
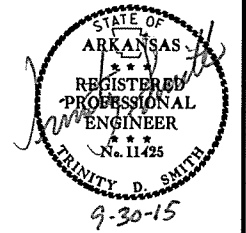


TYPICAL SECTION OF IMPROVEMENT
NOTCH AND WIDENING
SUPERELEVATION SECTION - PASSING LANE
SITE 3
STA. 308+60.00 - STA. 317+20.81
STA. 333+41.31 - STA. 342+71.04

NOTE: ON ALL SUPERELEVATED CURVES AND THRU SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO. 070366	9 237

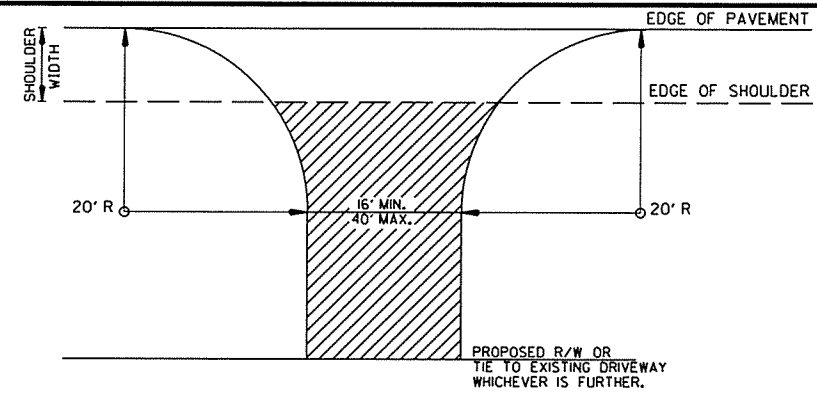
2 SPECIAL DETAILS



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

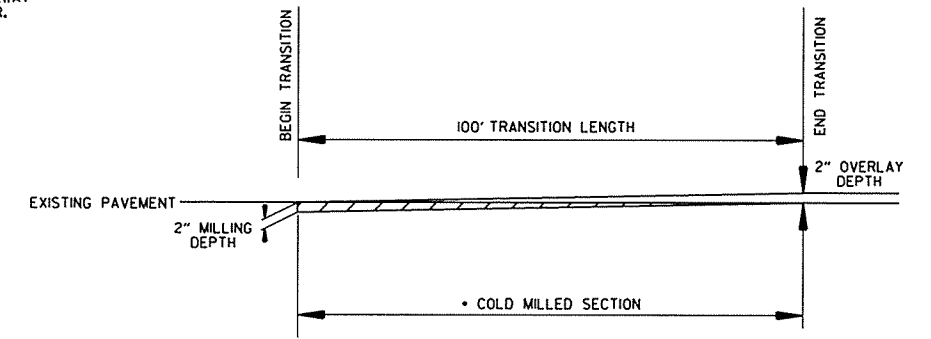
NOTE: REFER TO PLAN SHEETS FOR WIDTHS OF COUNTY ROADS.

DETAIL FOR COUNTY ROAD TURNOUT



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

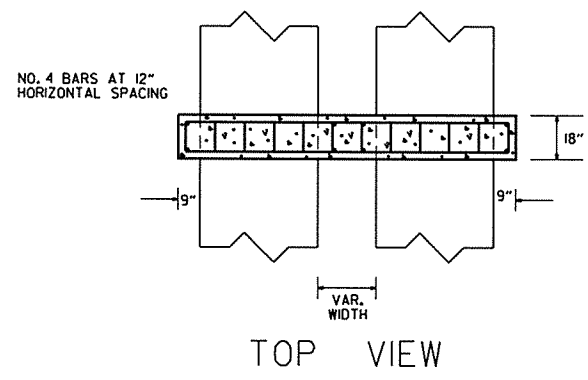
DETAIL FOR DRIVEWAY TURNOUTS



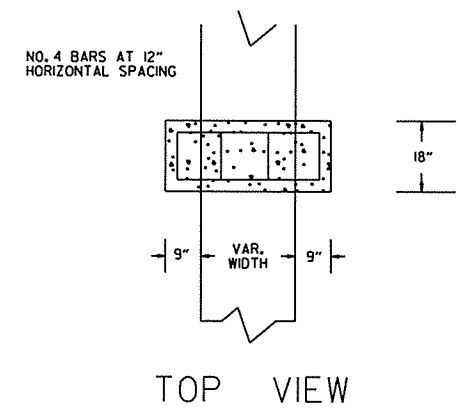
DETAIL SHOWING TRANSITION TO EXISTING PAVEMENT

TO BE USED AS DIRECTED BY THE ENGINEER

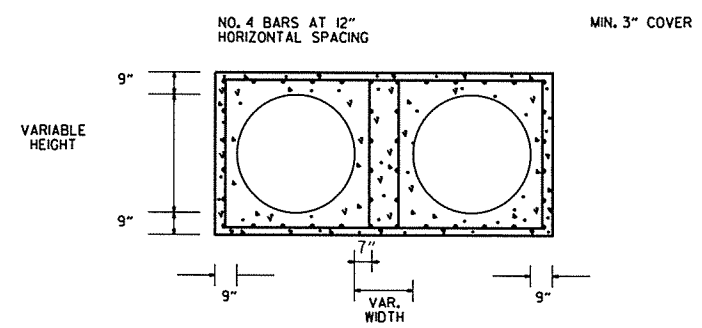
NOTE: PIPE COLLAR TO BE UTILIZED IF AND WHERE DIRECTED BY THE ENGINEER.



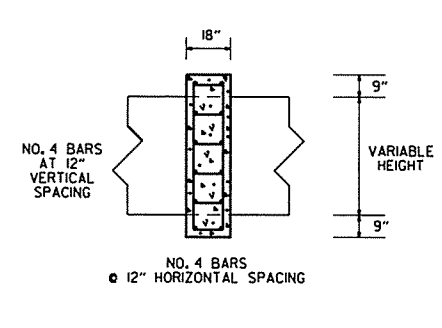
TOP VIEW



TOP VIEW

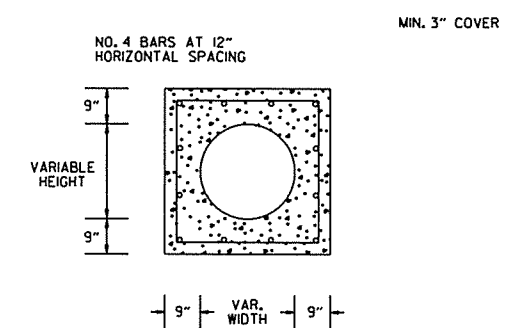


FRONT VIEW

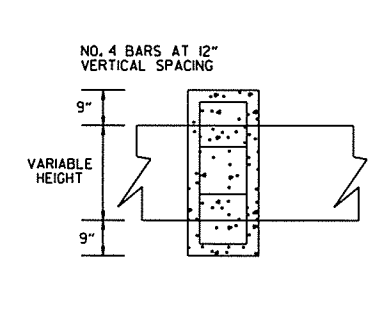


SIDE VIEW

PIPE EXTENSION REINFORCED CONCRETE COLLAR DETAIL

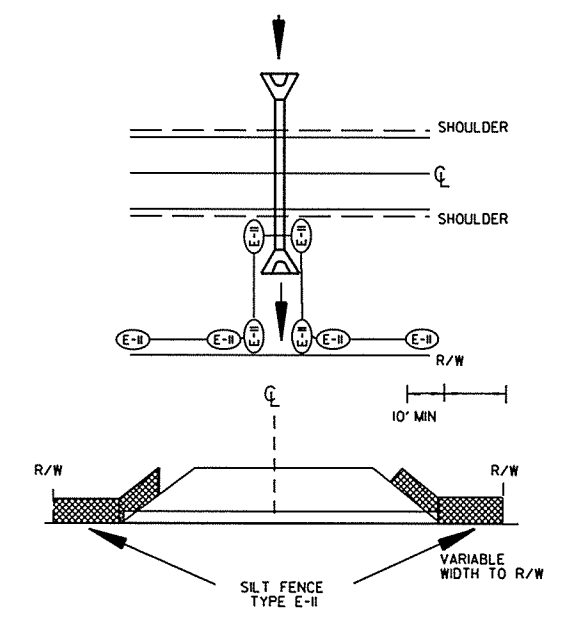


FRONT VIEW



SIDE VIEW

PIPE EXTENSION REINFORCED CONCRETE COLLAR DETAIL



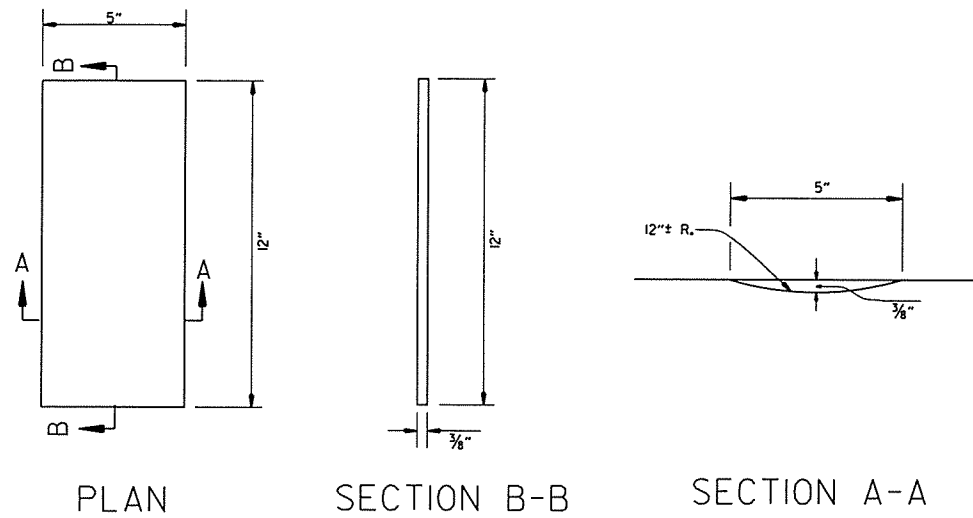
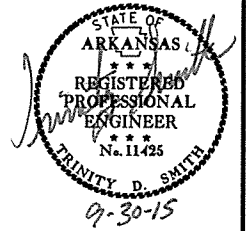
DETAILS OF SILT FENCE AT CROSS DRAINS

SPECIAL DETAILS

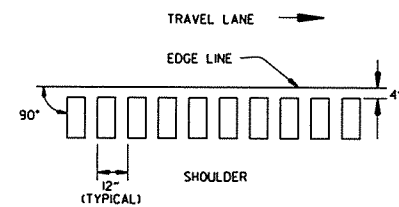
7/7/2015 R070366.DGN

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. 070366	10	237

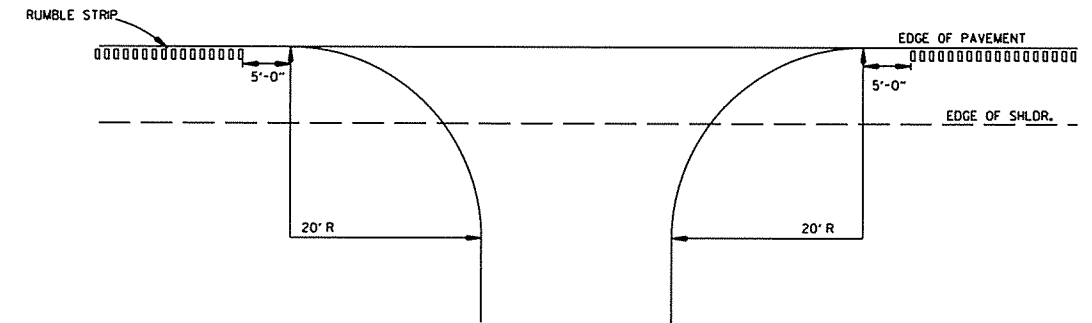
2 SPECIAL DETAILS



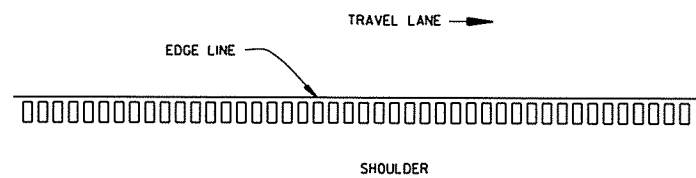
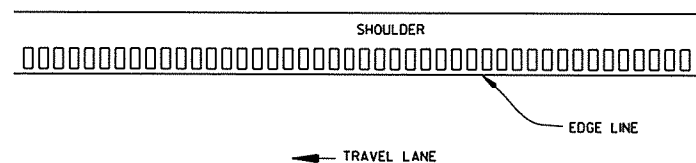
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



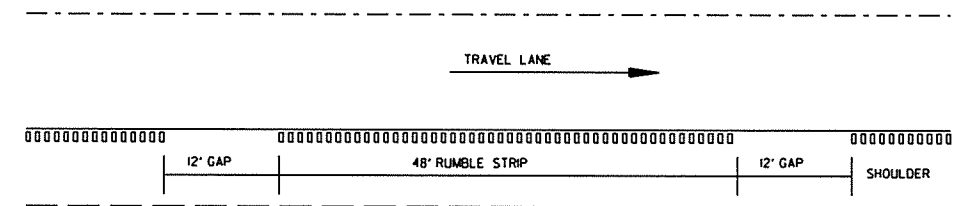
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

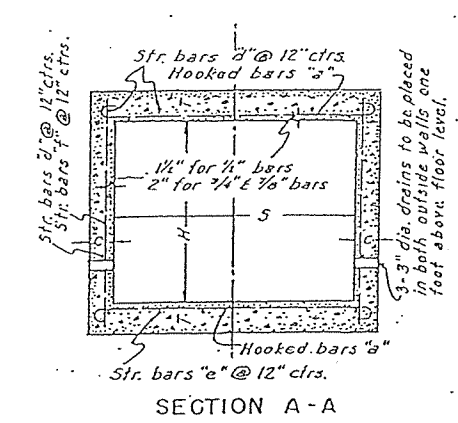
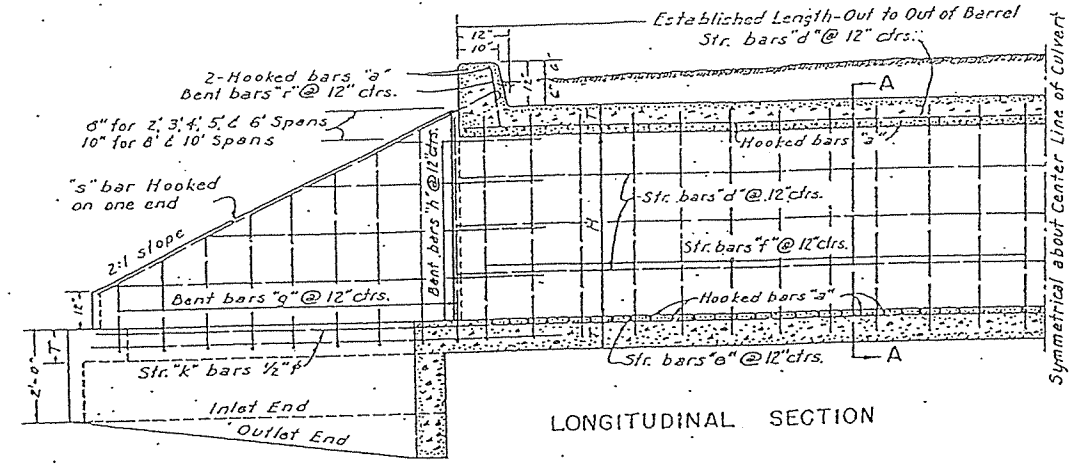
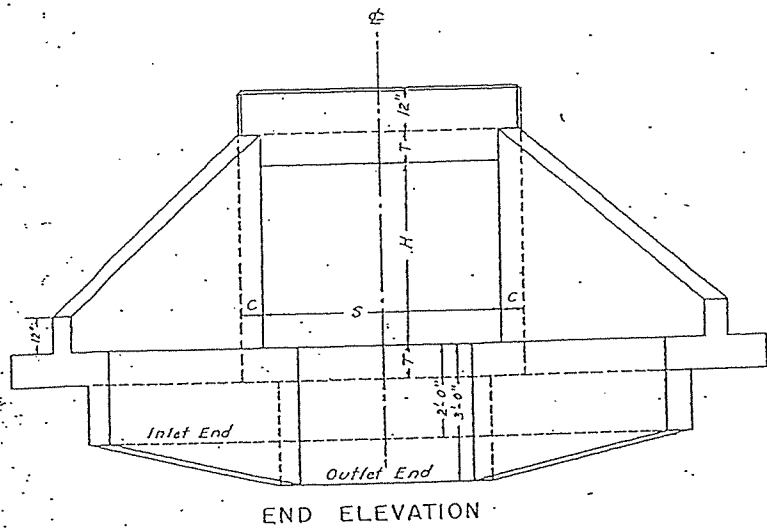
GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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

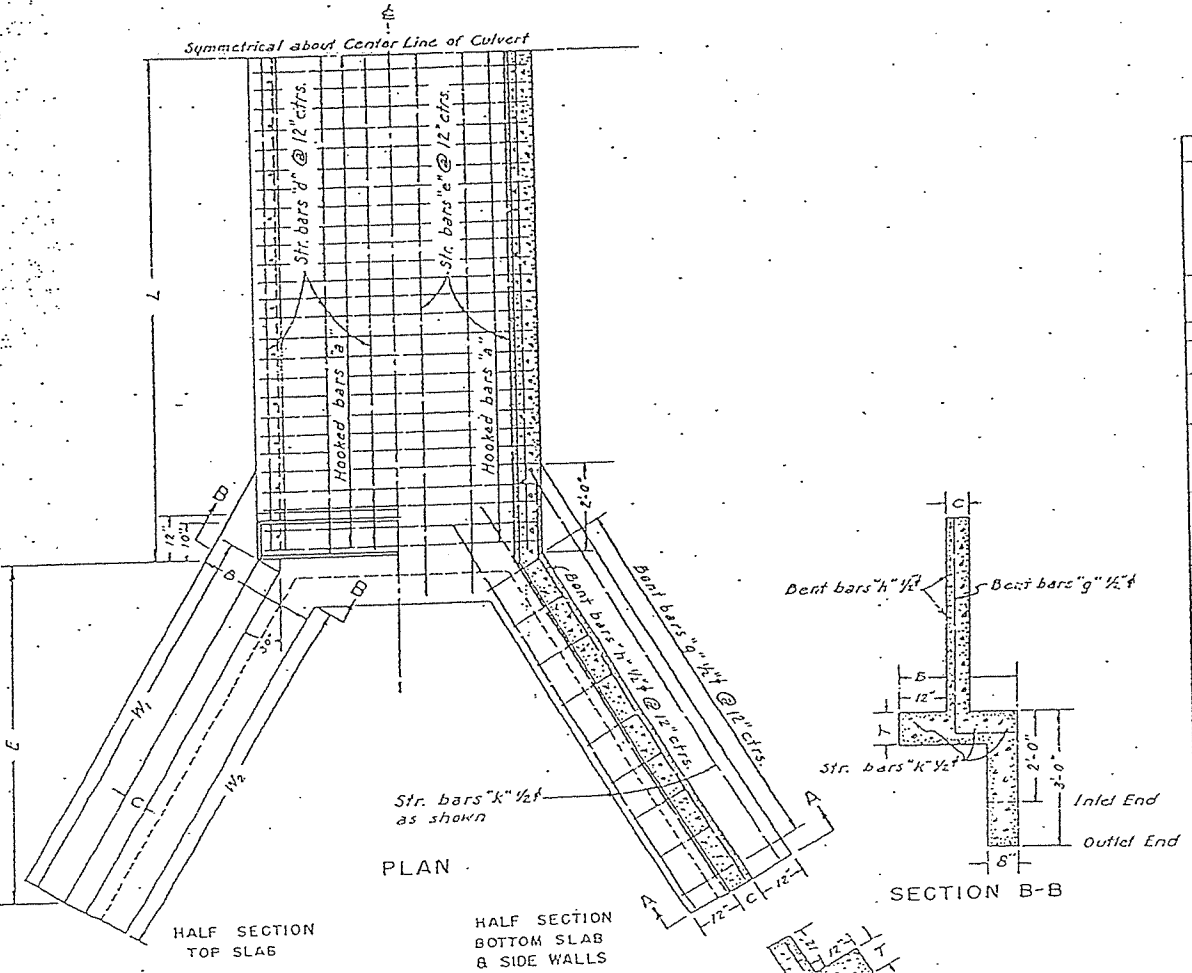
NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.



DIMENSIONS & QUANTITIES

SPAN	HEIGHT	AREA OF TOP SLAB SQ. FT.	MINIMUM DEPTH OF COVER	THICKNESS OF TOP SLAB INCHES	WIDTH OF FOOTING	LENGTH OF FOOTING	LENGTH OF WING WALLS	LENGTH OF HEADWALLS	CONCRETE CU. YD.		STEEL LB.	
									HEADWALLS	WING WALLS	PER LINEAR FT. OF BARREL	ADD STEEL FOR LAPS
2	4	28.0	6 1/2	6	2'-6"	3'-6"	3'-4"	3'-4"	2.36	194	155	17.91
3	6	42.0	7	6	2'-6"	3'-6"	3'-4"	3'-4"	2.65	247	164	22.77
4	8	56.0	7 1/2	6	2'-6"	3'-6"	3'-4"	3'-4"	2.90	306	173	26.28
5	10	70.0	8	6	2'-6"	3'-6"	3'-4"	3'-4"	3.15	370	189	34.56
6	12	84.0	8 1/2	6	2'-6"	3'-6"	3'-4"	3'-4"	3.40	447	227	43.89
7	14	98.0	9	6	2'-6"	3'-6"	3'-4"	3'-4"	3.65	524	264	52.16
8	16	112.0	9 1/2	6	2'-6"	3'-6"	3'-4"	3'-4"	3.90	601	301	59.43
9	18	126.0	10	6	2'-6"	3'-6"	3'-4"	3'-4"	4.15	678	338	65.70
10	20	140.0	10 1/2	6	2'-6"	3'-6"	3'-4"	3'-4"	4.40	755	375	71.97

LAP NOTE:
In computing quantities of steel from the above table add one lap for culverts up to 50' in length and one lap for each additional 25' in length.

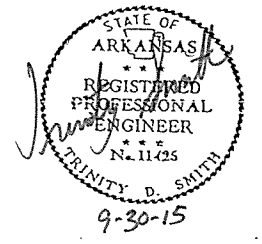


STEEL SCHEDULE
For Culvert 32' in Length Out to Out of Barrel

LENGTH OF SPAN	HEIGHT	"a" bars		"b" bars		"c" bars		"d" bars		"e" bars		"f" bars		"g" bars		"h" bars		"i" bars		"j" bars		"k" bars				
		STRAIGHT	HOOKED	STRAIGHT	HOOKED	STRAIGHT	HOOKED	STRAIGHT	HOOKED	STRAIGHT	HOOKED	STRAIGHT	HOOKED	STRAIGHT	HOOKED	STRAIGHT	HOOKED	STRAIGHT	HOOKED	STRAIGHT	HOOKED	STRAIGHT	HOOKED			
2	4	122	3-7"	2-9"	6	4	4	4	64	2-10"	1/2"	12	16	3-4"	1-4"	1-3"	12	4-7"	1-6"	3-6"	12	5-4"	6	5-2"	4	5-3"
3	6	132	4-7"	3-9"	6	4	4	4	64	2-11"	1/2"	12	16	3-4 1/2"	1-4 1/2"	1-3 1/2"	12	4-7 1/2"	1-6 1/2"	3-6 1/2"	12	5-4 1/2"	6	5-2 1/2"	4	5-3 1/2"
4	8	144	5-7"	4-9"	7	5	5	5	64	3-0"	1/2"	12	16	3-5 1/2"	1-5 1/2"	1-4 1/2"	12	4-8 1/2"	1-7 1/2"	3-7 1/2"	12	5-4 1/2"	6	5-2 1/2"	4	5-3 1/2"
5	10	158	6-7"	5-9"	8	6	6	6	64	3-1"	1/2"	12	16	3-6 1/2"	1-6 1/2"	1-5 1/2"	12	4-9 1/2"	1-8 1/2"	3-8 1/2"	12	5-4 1/2"	6	5-2 1/2"	4	5-3 1/2"
6	12	158	6-7"	5-9"	10	6	6	6	64	3-1"	1/2"	12	16	3-6 1/2"	1-6 1/2"	1-5 1/2"	12	4-9 1/2"	1-8 1/2"	3-8 1/2"	12	5-4 1/2"	6	5-2 1/2"	4	5-3 1/2"
7	14	158	6-7"	5-9"	12	6	6	6	64	3-1"	1/2"	12	16	3-6 1/2"	1-6 1/2"	1-5 1/2"	12	4-9 1/2"	1-8 1/2"	3-8 1/2"	12	5-4 1/2"	6	5-2 1/2"	4	5-3 1/2"
8	16	158	6-7"	5-9"	14	6	6	6	64	3-1"	1/2"	12	16	3-6 1/2"	1-6 1/2"	1-5 1/2"	12	4-9 1/2"	1-8 1/2"	3-8 1/2"	12	5-4 1/2"	6	5-2 1/2"	4	5-3 1/2"
9	18	158	6-7"	5-9"	16	6	6	6	64	3-1"	1/2"	12	16	3-6 1/2"	1-6 1/2"	1-5 1/2"	12	4-9 1/2"	1-8 1/2"	3-8 1/2"	12	5-4 1/2"	6	5-2 1/2"	4	5-3 1/2"
10	20	158	6-7"	5-9"	18	6	6	6	64	3-1"	1/2"	12	16	3-6 1/2"	1-6 1/2"	1-5 1/2"	12	4-9 1/2"	1-8 1/2"	3-8 1/2"	12	5-4 1/2"	6	5-2 1/2"	4	5-3 1/2"

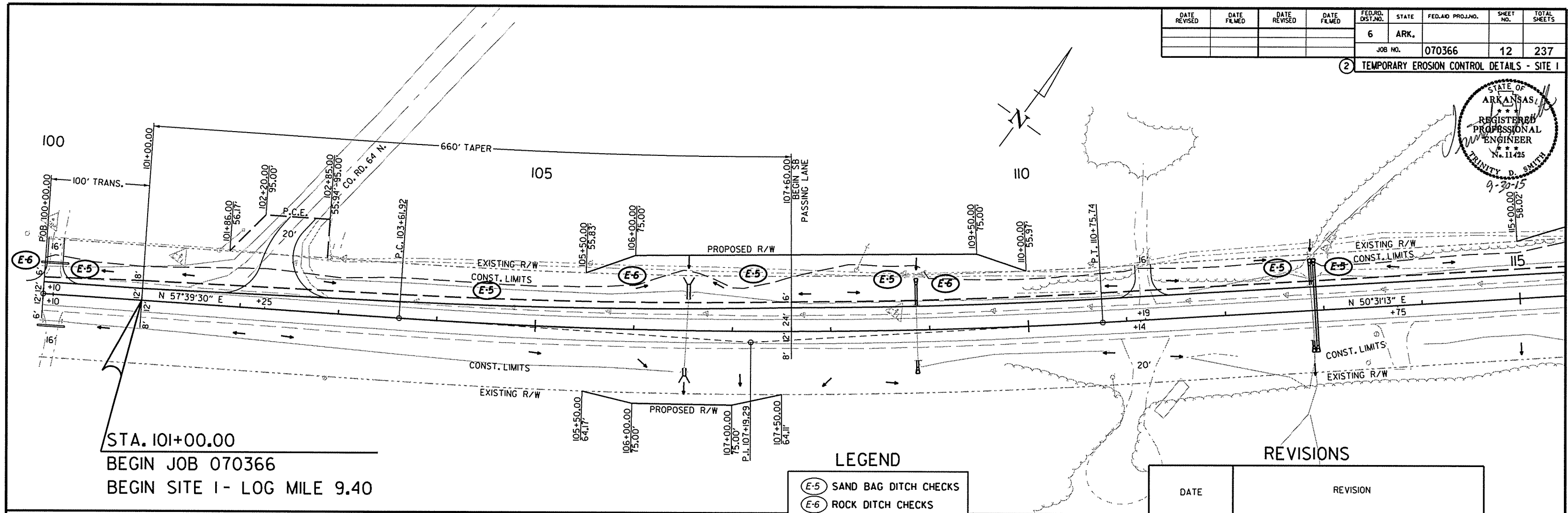
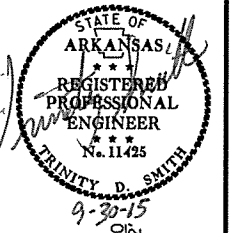
NOTE: Lengths given above do not include lap.
SPECIFICATIONS:- Arkansas Standard Road and Bridge Specifications.
REINFORCING STEEL:- To be deformed bars of structural or intermediate grade.
CHAMFER:- All exposed corners to have 3/4" Chamfer.
CONCRETE:- All concrete to be Class "5".

NOTE:-
Angle of Wingwalls may be varied to conform to the natural or proposed inlet or outlet channel.



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		12	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE I



STA. 101+00.00
 BEGIN JOB 070366
 BEGIN SITE I - LOG MILE 9.40

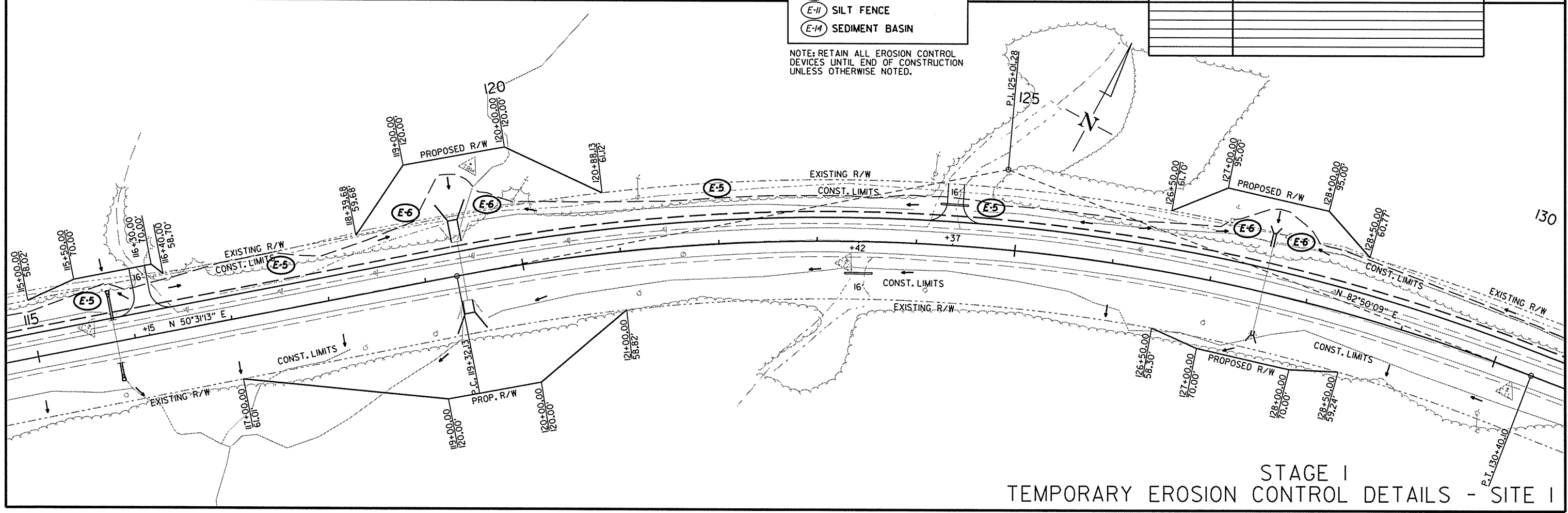
LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-1A) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

DATE	REVISION

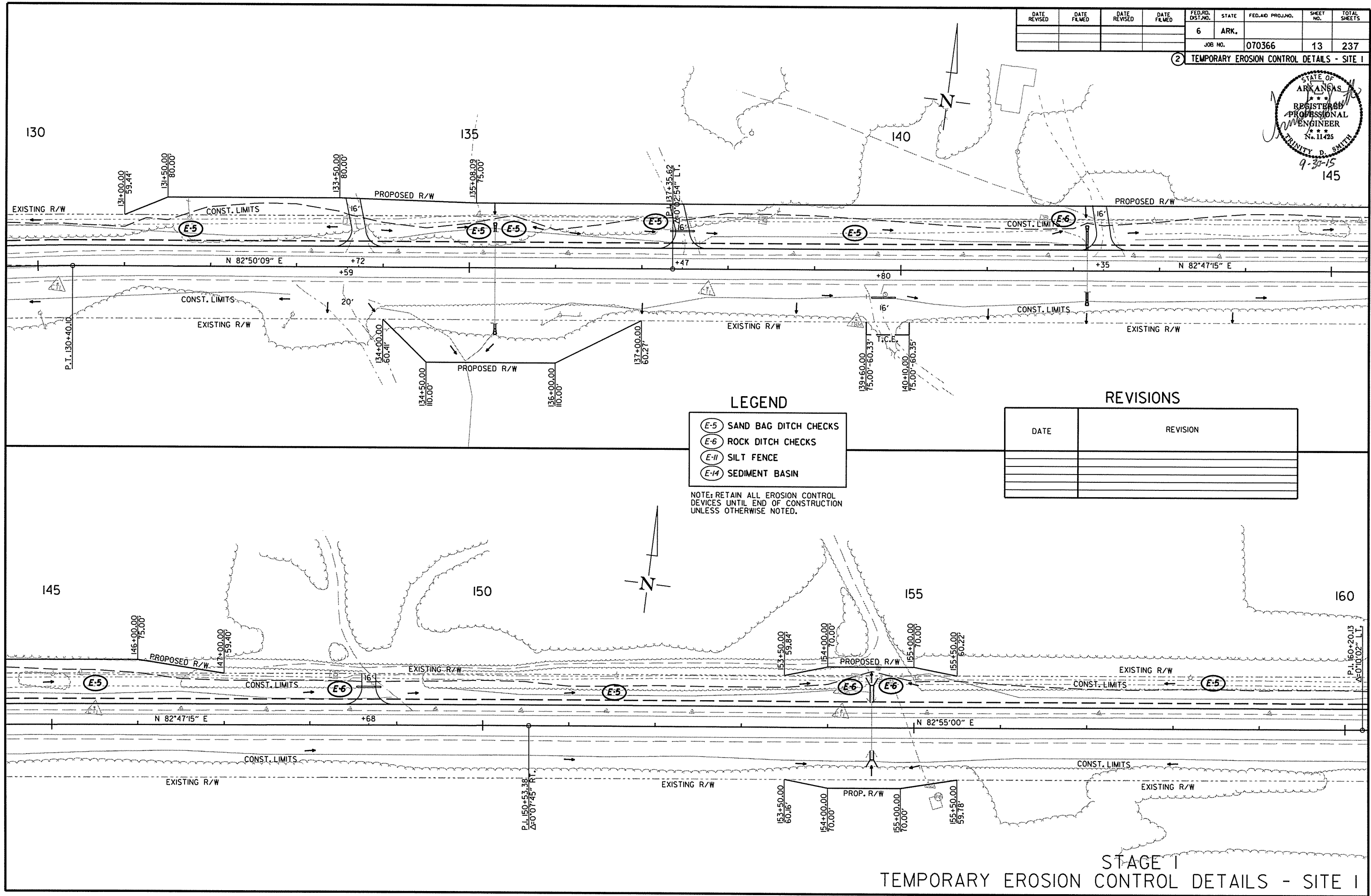
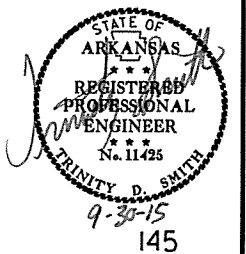


STAGE I
 TEMPORARY EROSION CONTROL DETAILS - SITE I

R070366.DCN 9/16/2015

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. PROJ. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	13	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 1



- LEGEND**
- (E-5) SAND BAG DITCH CHECKS
 - (E-6) ROCK DITCH CHECKS
 - (E-11) SILT FENCE
 - (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

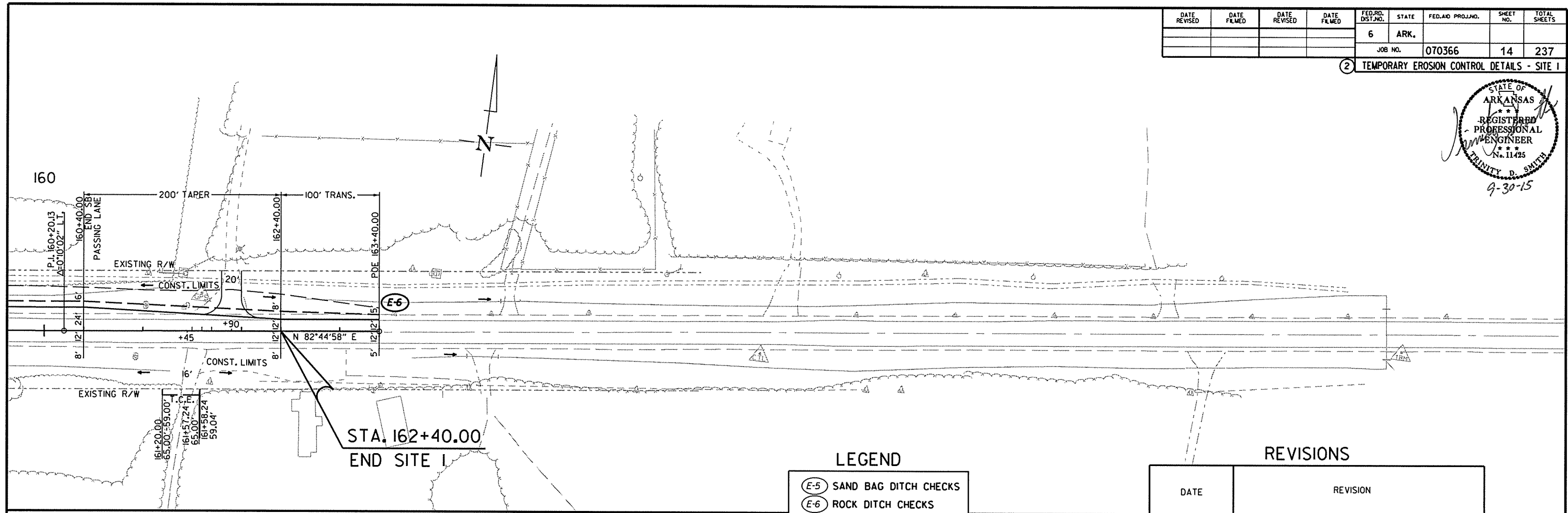
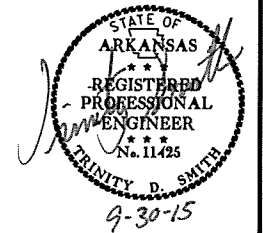
DATE	REVISION

9/16/2015
R070366.DGN

STAGE I
TEMPORARY EROSION CONTROL DETAILS - SITE 1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							14	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 1



STA. 162+40.00
END SITE 1

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-1A) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

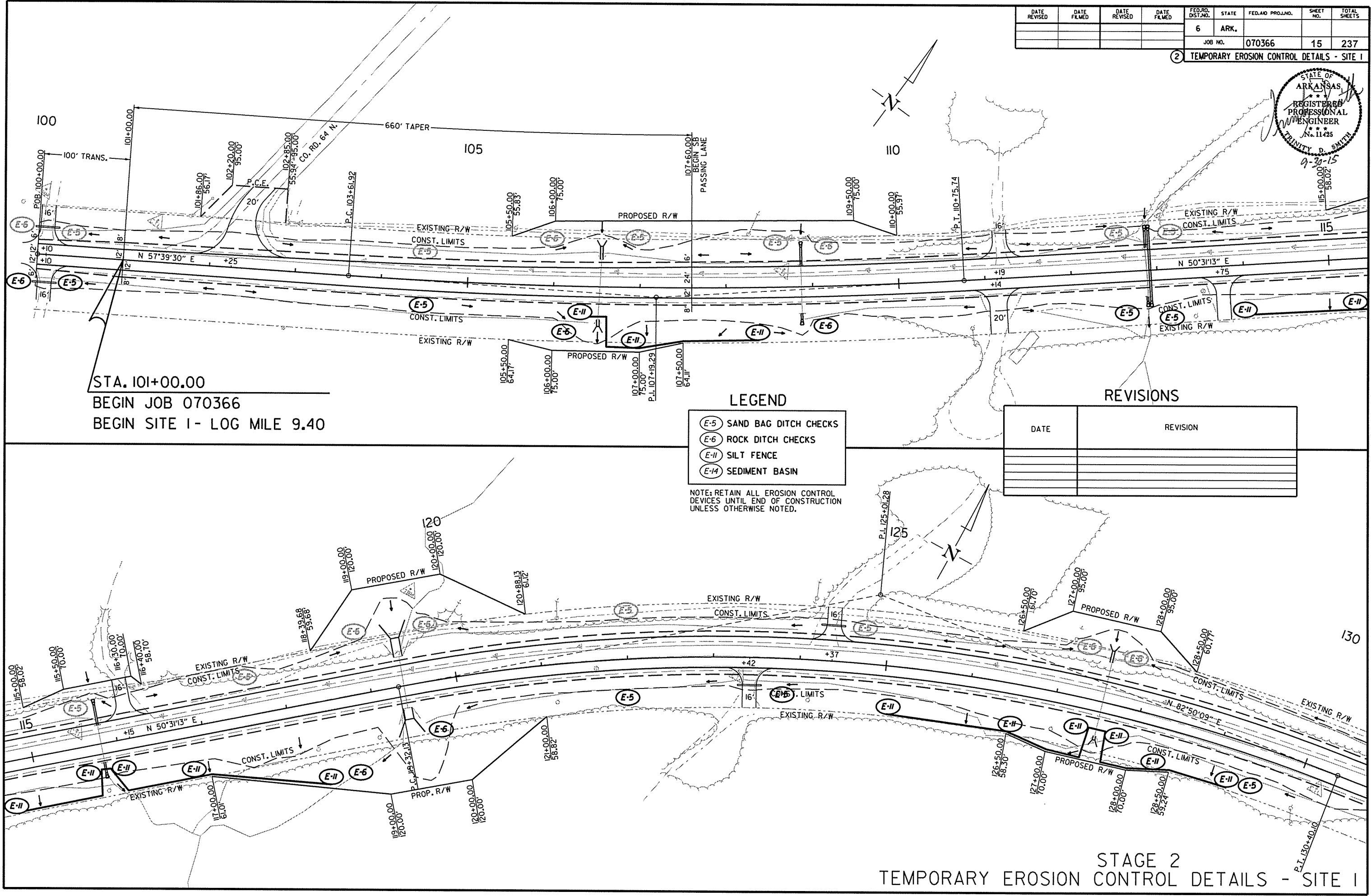
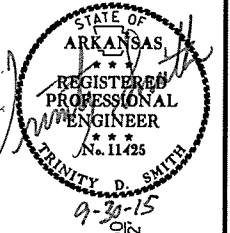
REVISIONS

DATE	REVISION

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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.			

2 TEMPORARY EROSION CONTROL DETAILS - SITE I



STA. 101+00.00
 BEGIN JOB 070366
 BEGIN SITE I - LOG MILE 9.40

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

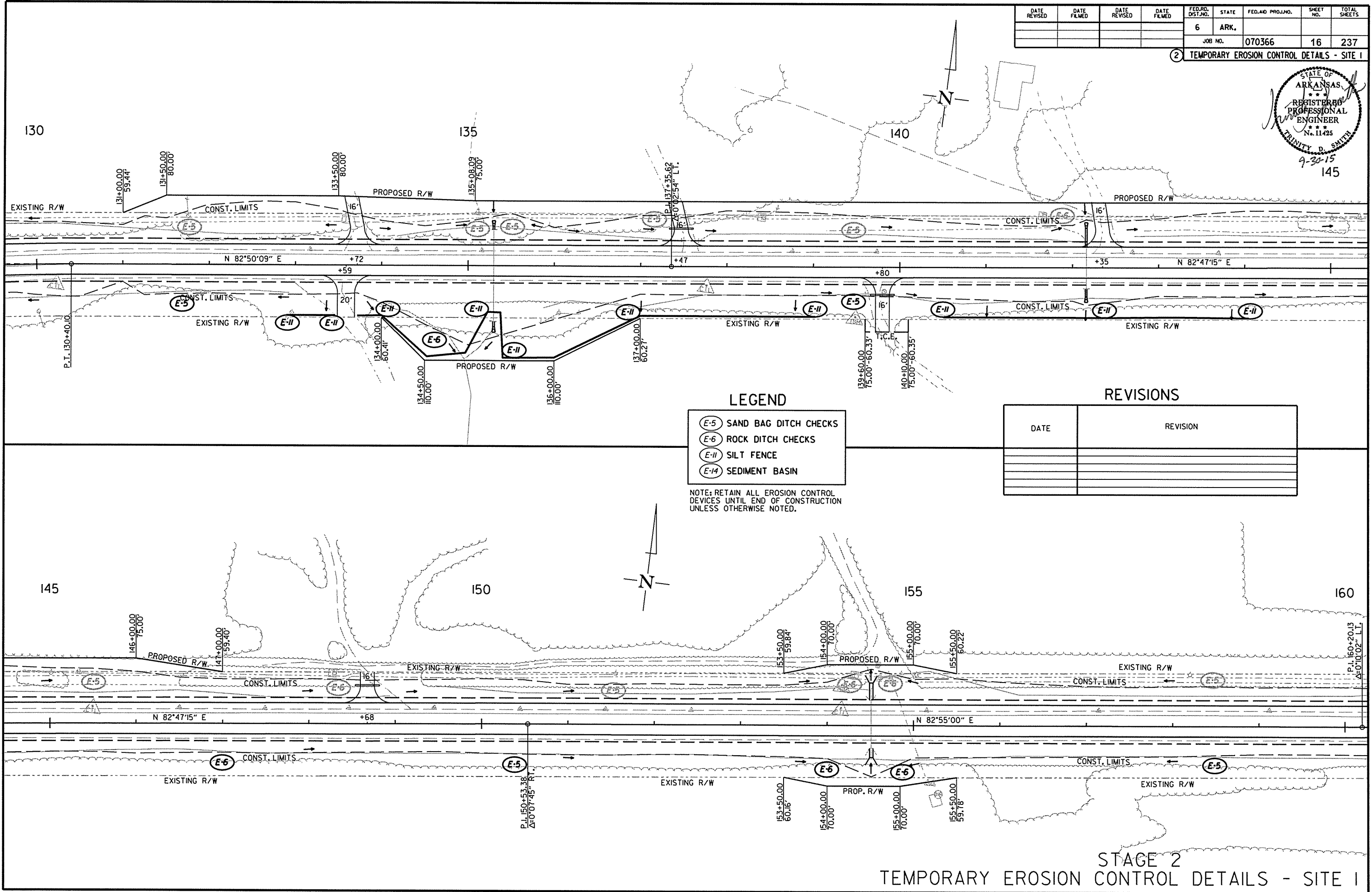
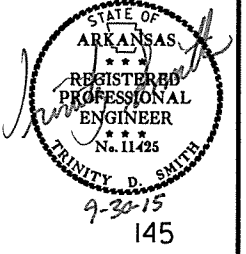
DATE	REVISION

9/16/2015
R070366.DGN

STAGE 2
 TEMPORARY EROSION CONTROL DETAILS - SITE I

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
							JOB NO. 070366	16	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 1



- LEGEND**
- (E-5) SAND BAG DITCH CHECKS
 - (E-6) ROCK DITCH CHECKS
 - (E-11) SILT FENCE
 - (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

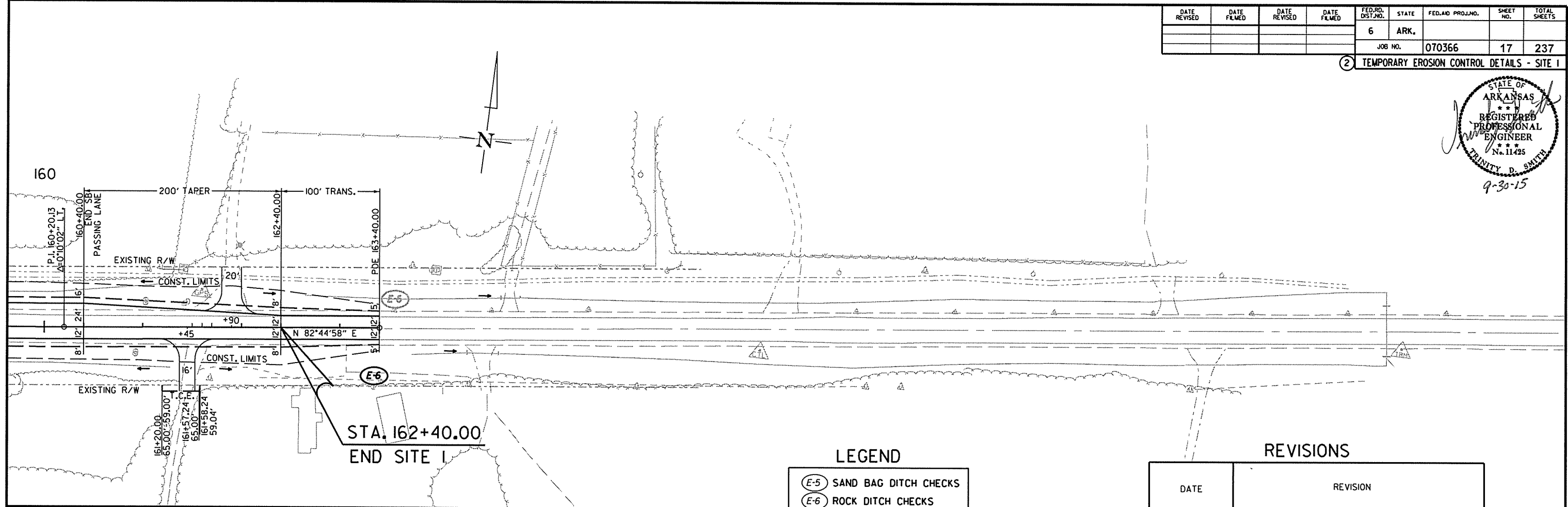
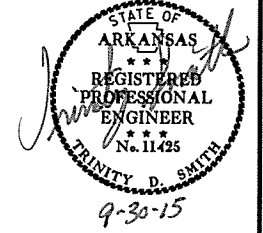
DATE	REVISION

9/16/2015
R070366.DGN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS - SITE 1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						070366	17	237

② TEMPORARY EROSION CONTROL DETAILS - SITE I



LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-1A) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

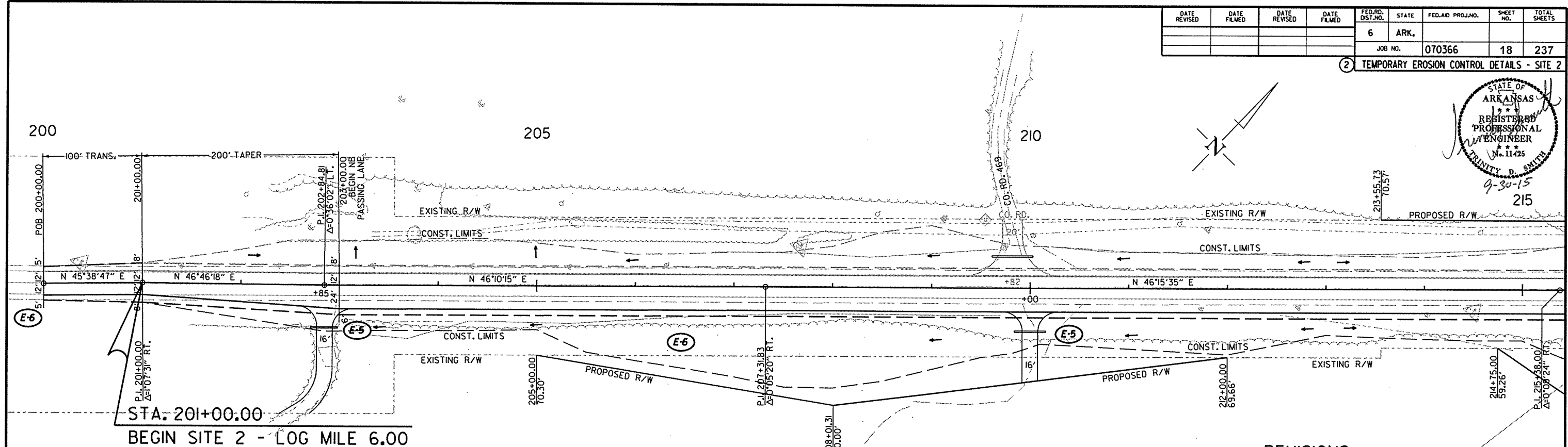
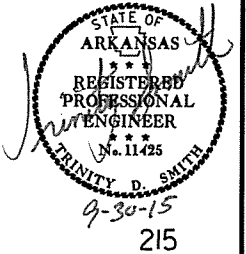
REVISIONS

DATE	REVISION

9/16/2015
R070366.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.	070366		18	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 2



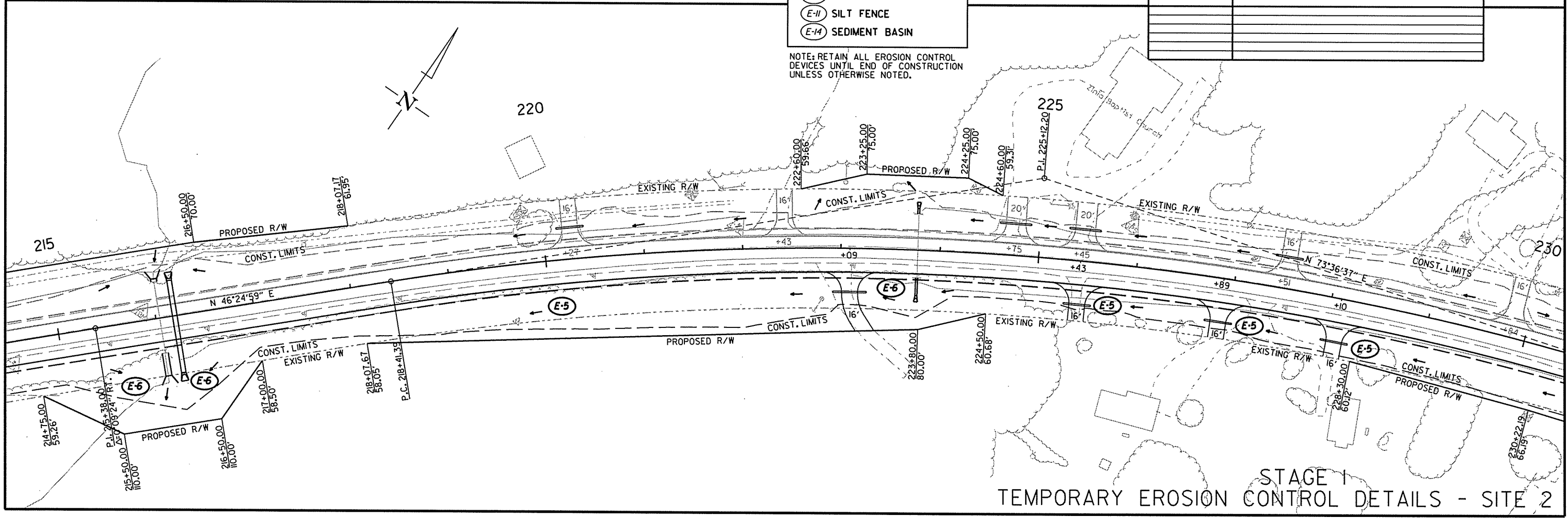
LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

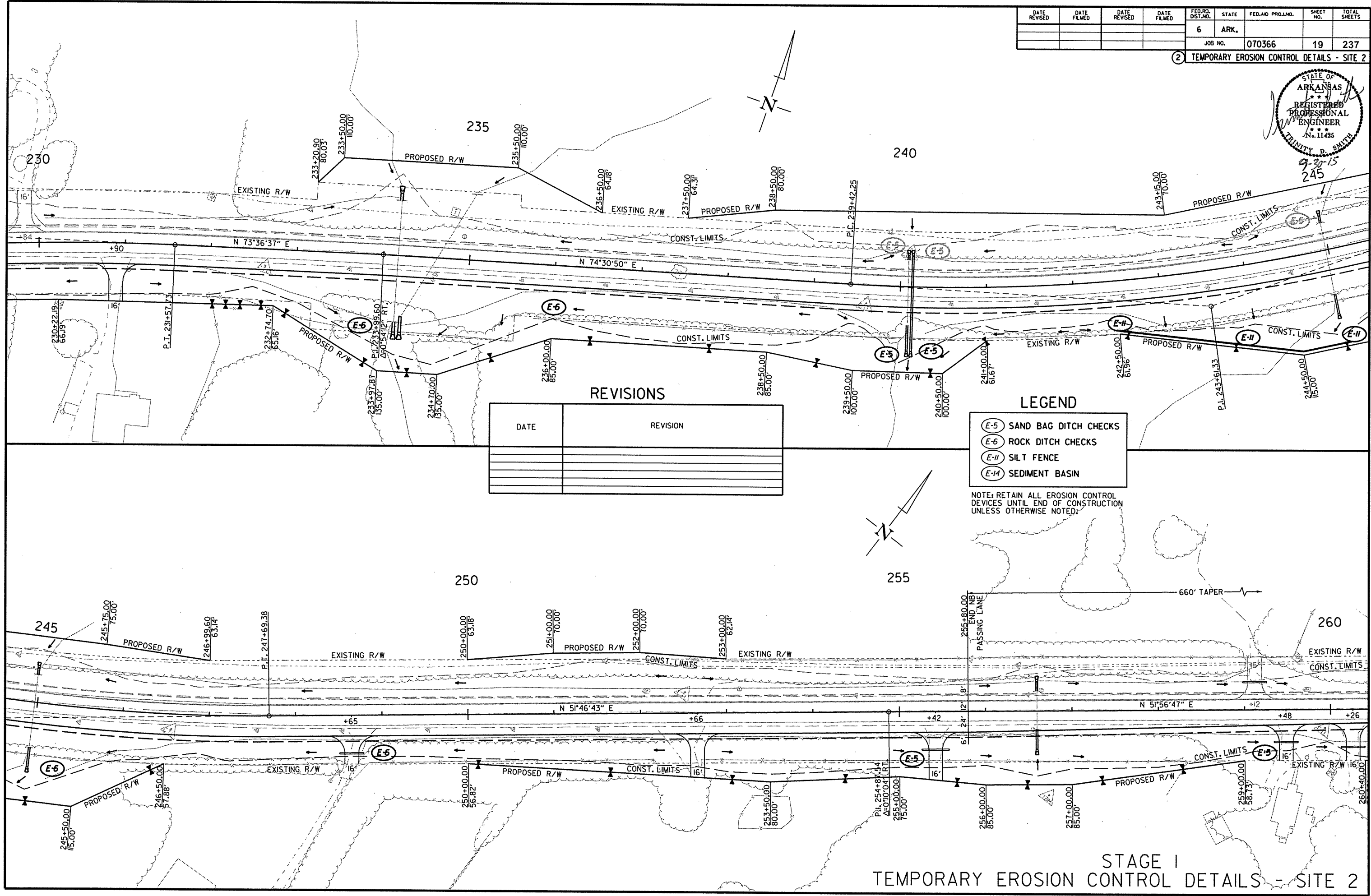
DATE	REVISION



STAGE 1
TEMPORARY EROSION CONTROL DETAILS - SITE 2

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		19	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 2



REVISIONS

DATE	REVISION

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-1A) SEDIMENT BASIN

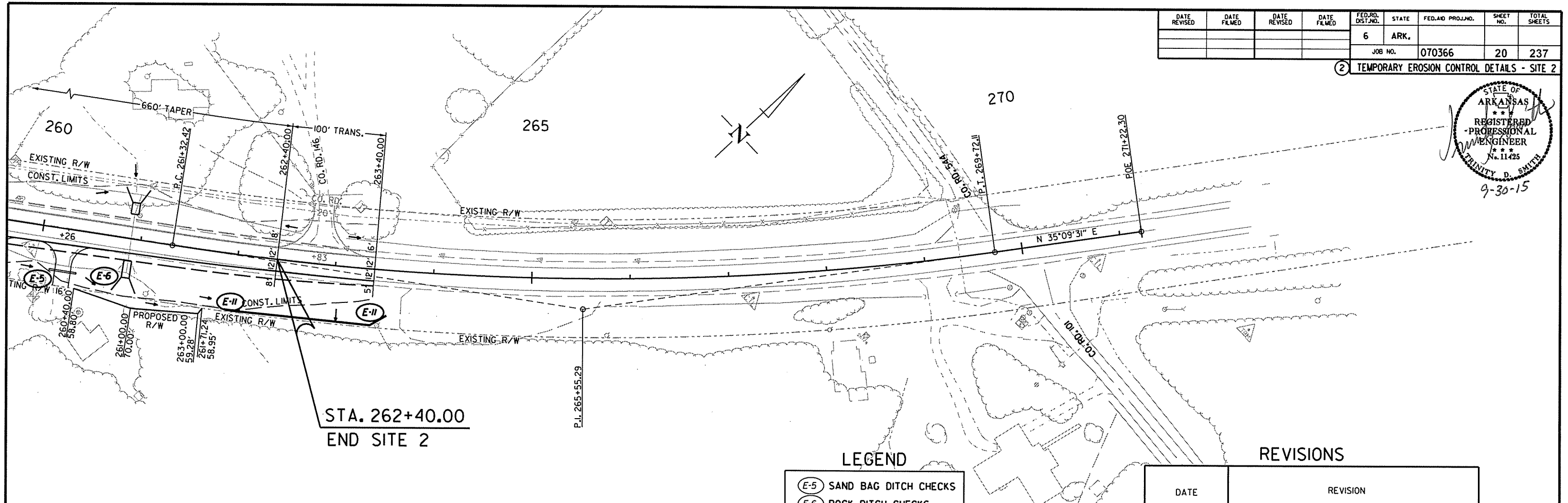
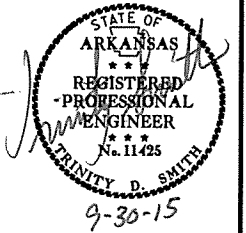
NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

9/16/2015 R070366.DGN

STAGE I
TEMPORARY EROSION CONTROL DETAILS - SITE 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.	070366		20	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 2



LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

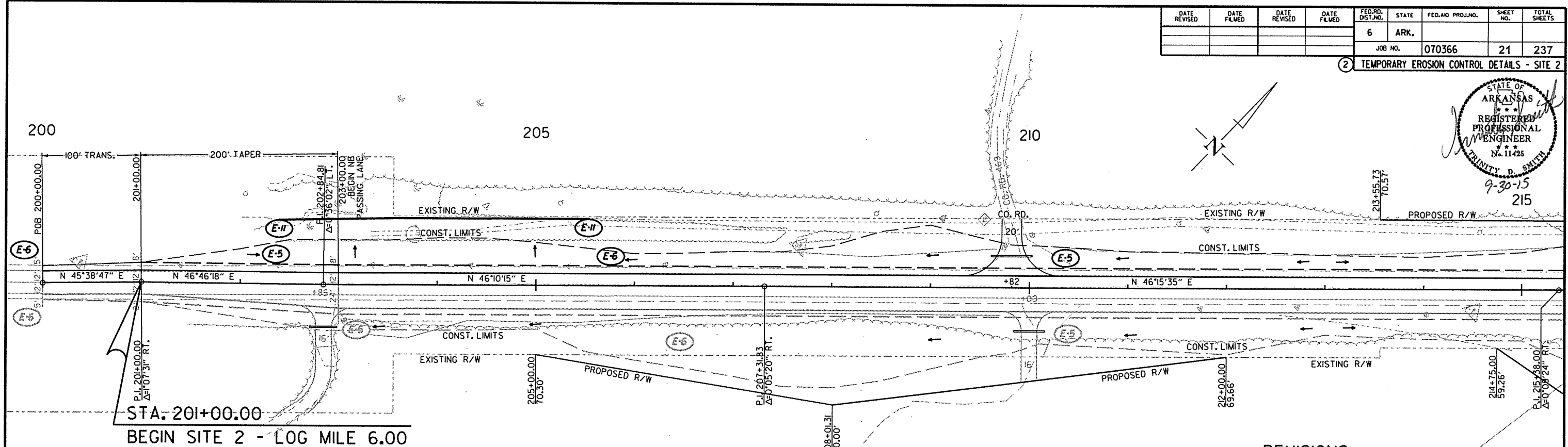
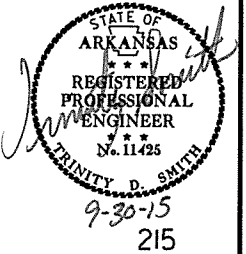
REVISIONS

DATE	REVISION

9/16/2015 R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		21	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 2

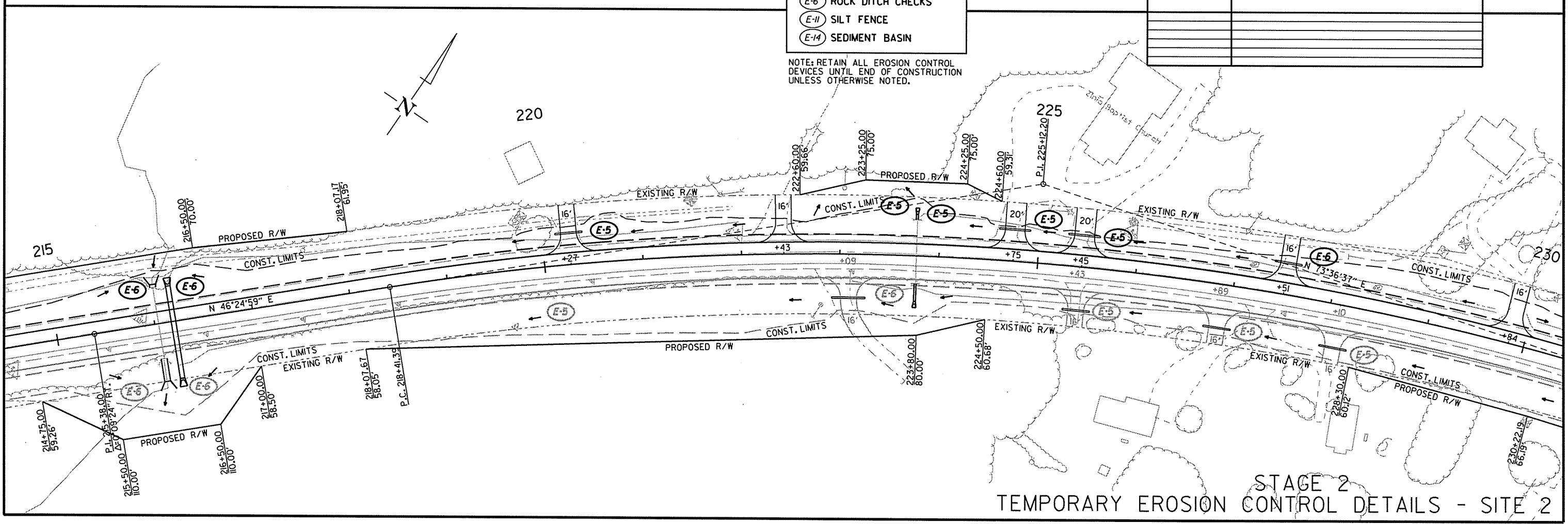


- LEGEND**
- (E-5) SAND BAG DITCH CHECKS
 - (E-6) ROCK DITCH CHECKS
 - (E-11) SILT FENCE
 - (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

DATE	REVISION

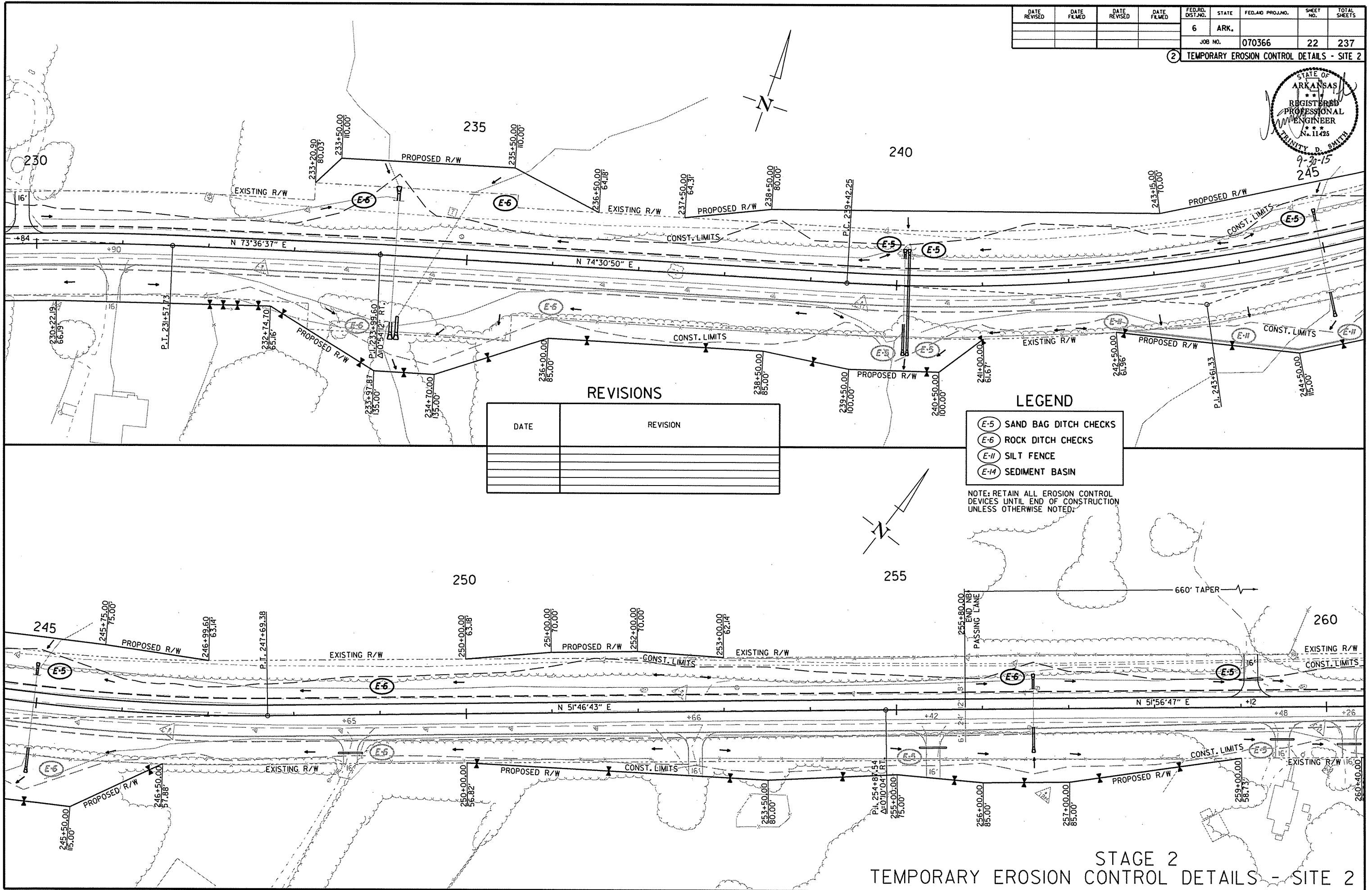
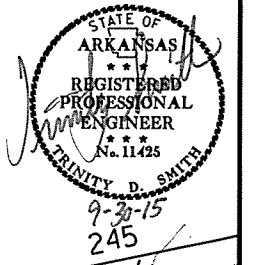


STAGE 2
TEMPORARY EROSION CONTROL DETAILS - SITE 2

R070366.DGN 9/16/2015

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.	070366		22	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 2



REVISIONS

DATE	REVISION

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

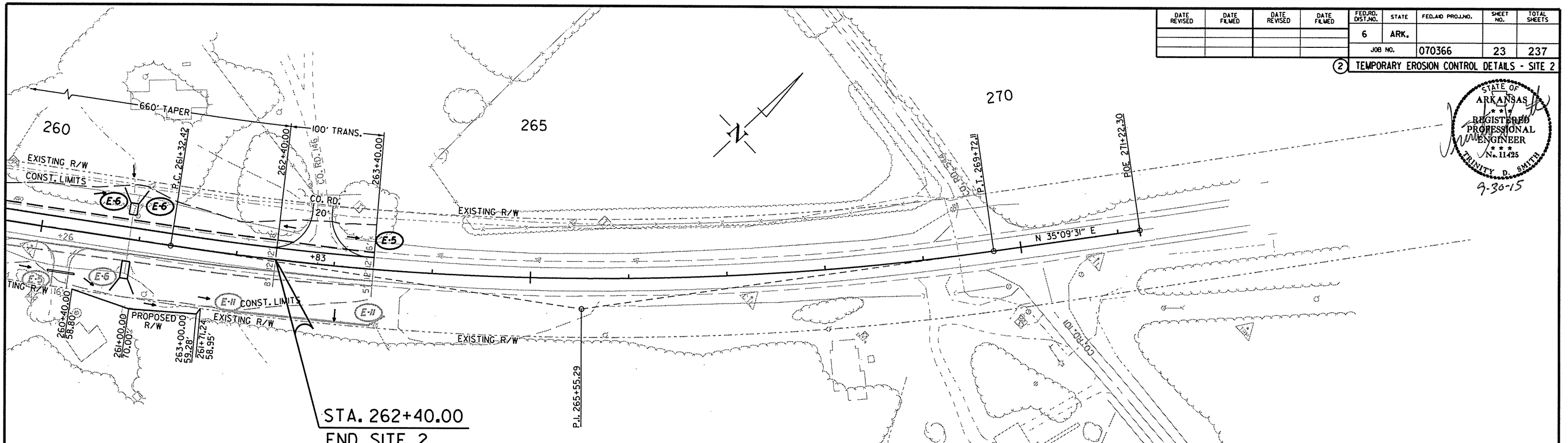
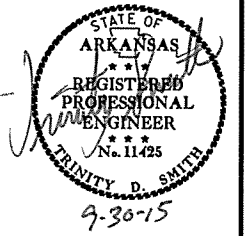
NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED!

9/16/2015
R070366.DCN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS - SITE 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.	070366		23	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 2



STA. 262+40.00
END SITE 2

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

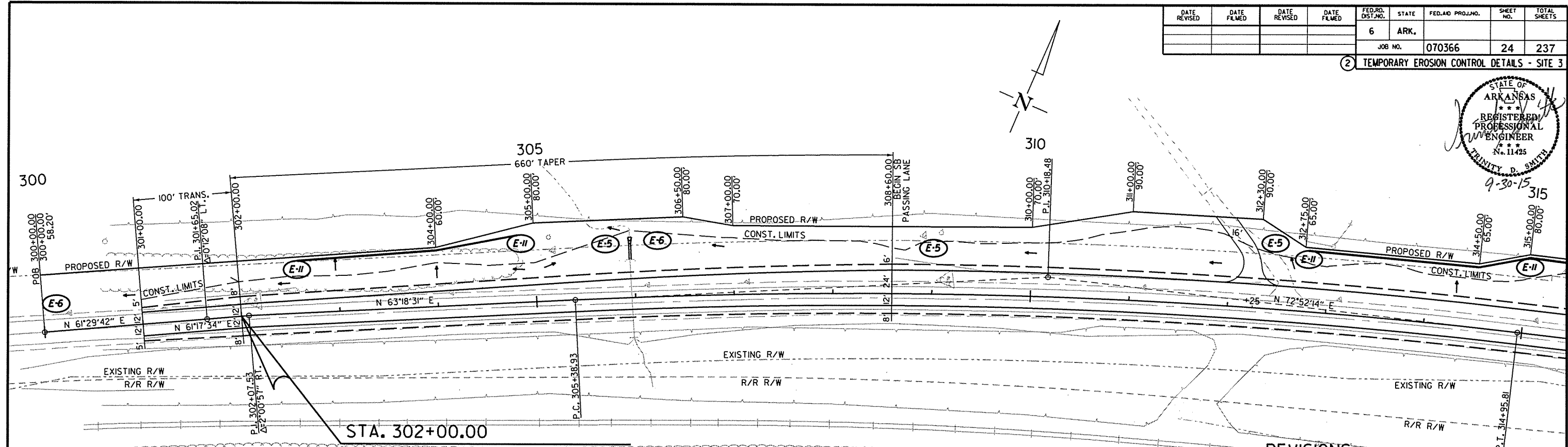
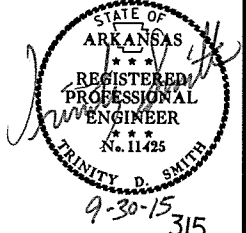
REVISIONS

DATE	REVISION

9/16/2015 R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		24	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 3



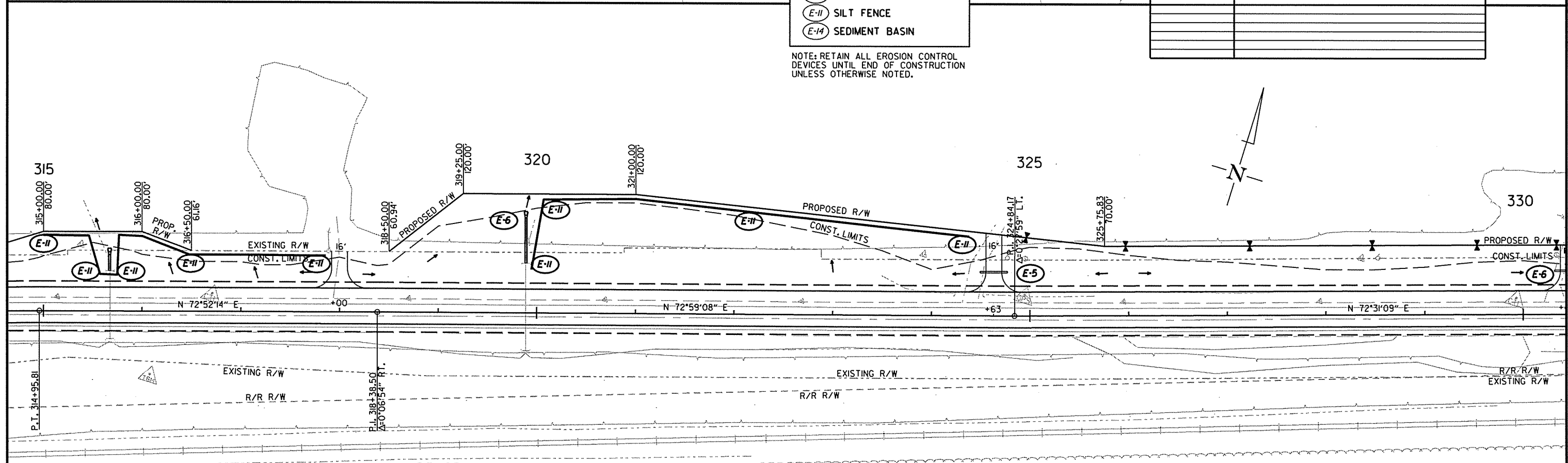
STA. 302+00.00
BEGIN SITE 3 - LOG MILE 8.74

- LEGEND**
- (E-5) SAND BAG DITCH CHECKS
 - (E-6) ROCK DITCH CHECKS
 - (E-11) SILT FENCE
 - (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

DATE	REVISION

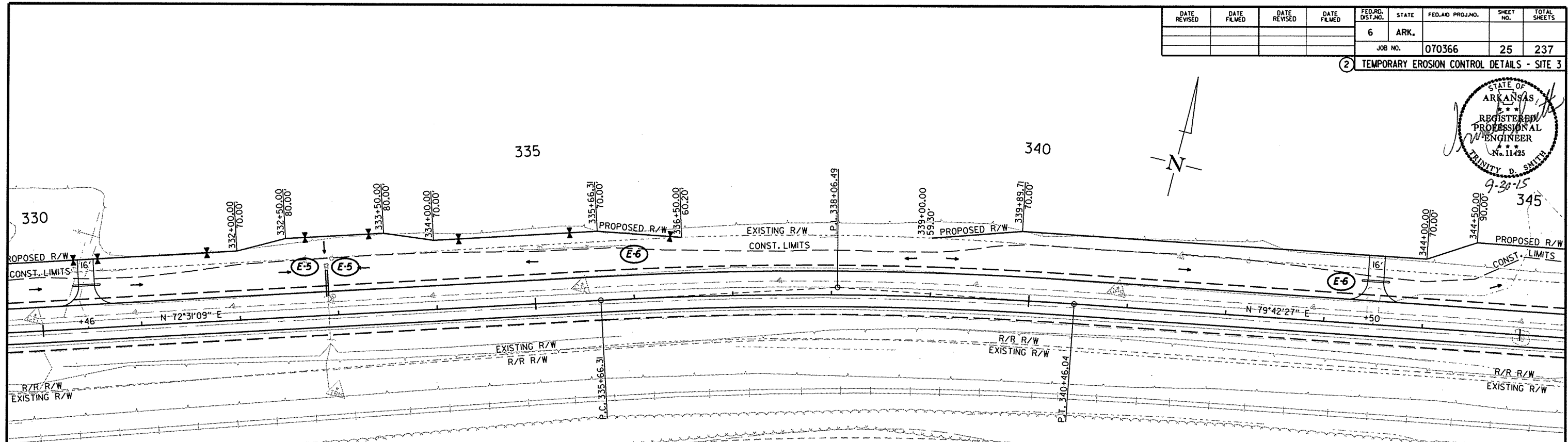


STAGE 1 & 2
TEMPORARY EROSION CONTROL DETAILS - SITE 3

8/28/2015
R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		25	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 3



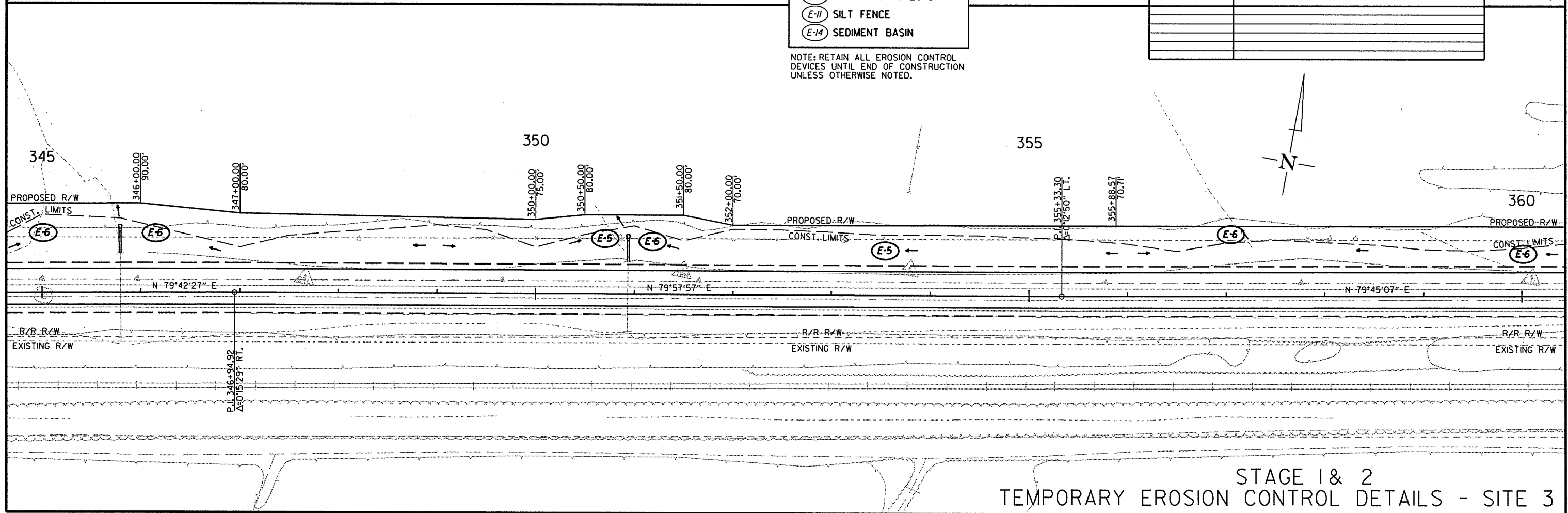
LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-II) SILT FENCE
- (E-IA) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

DATE	REVISION

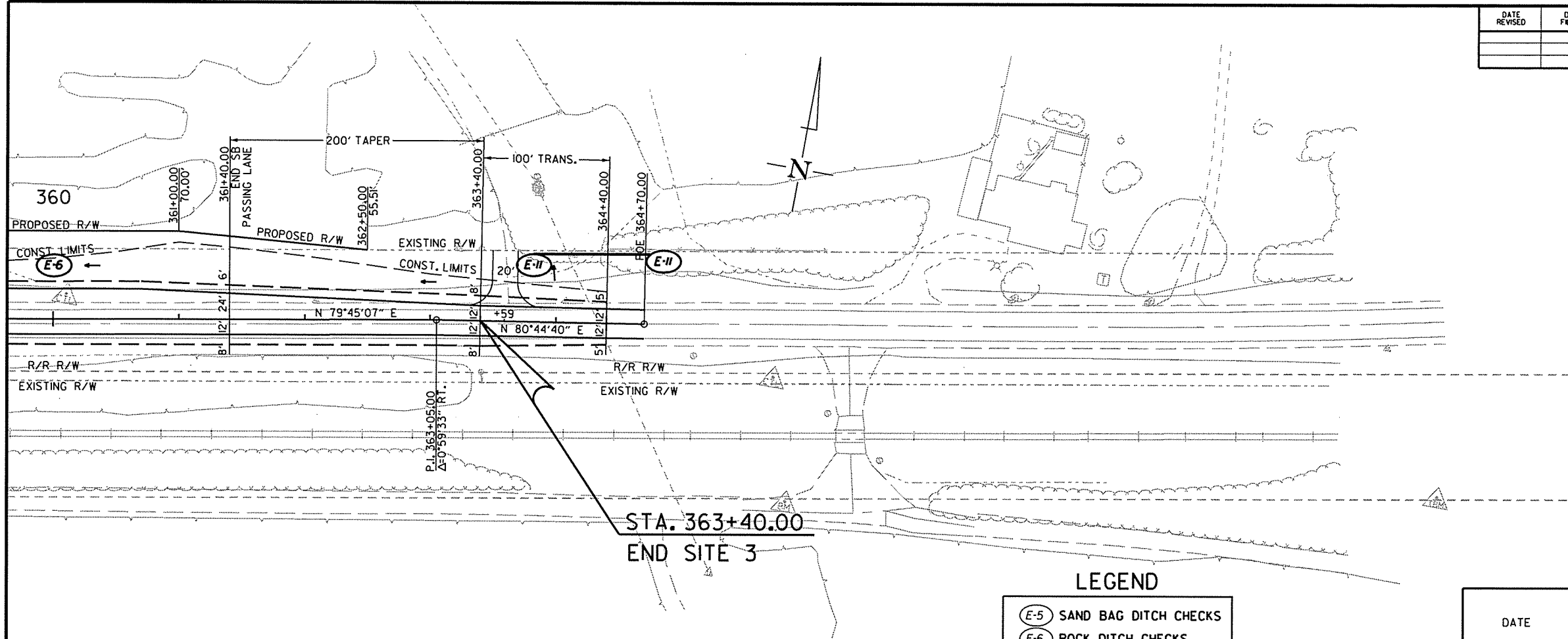
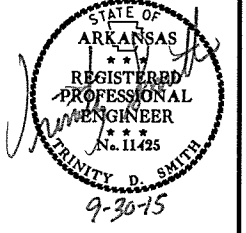


STAGE 1 & 2
TEMPORARY EROSION CONTROL DETAILS - SITE 3

8/28/2015 R070366.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.	070366		26	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 3



STA. 363+40.00
END SITE 3

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

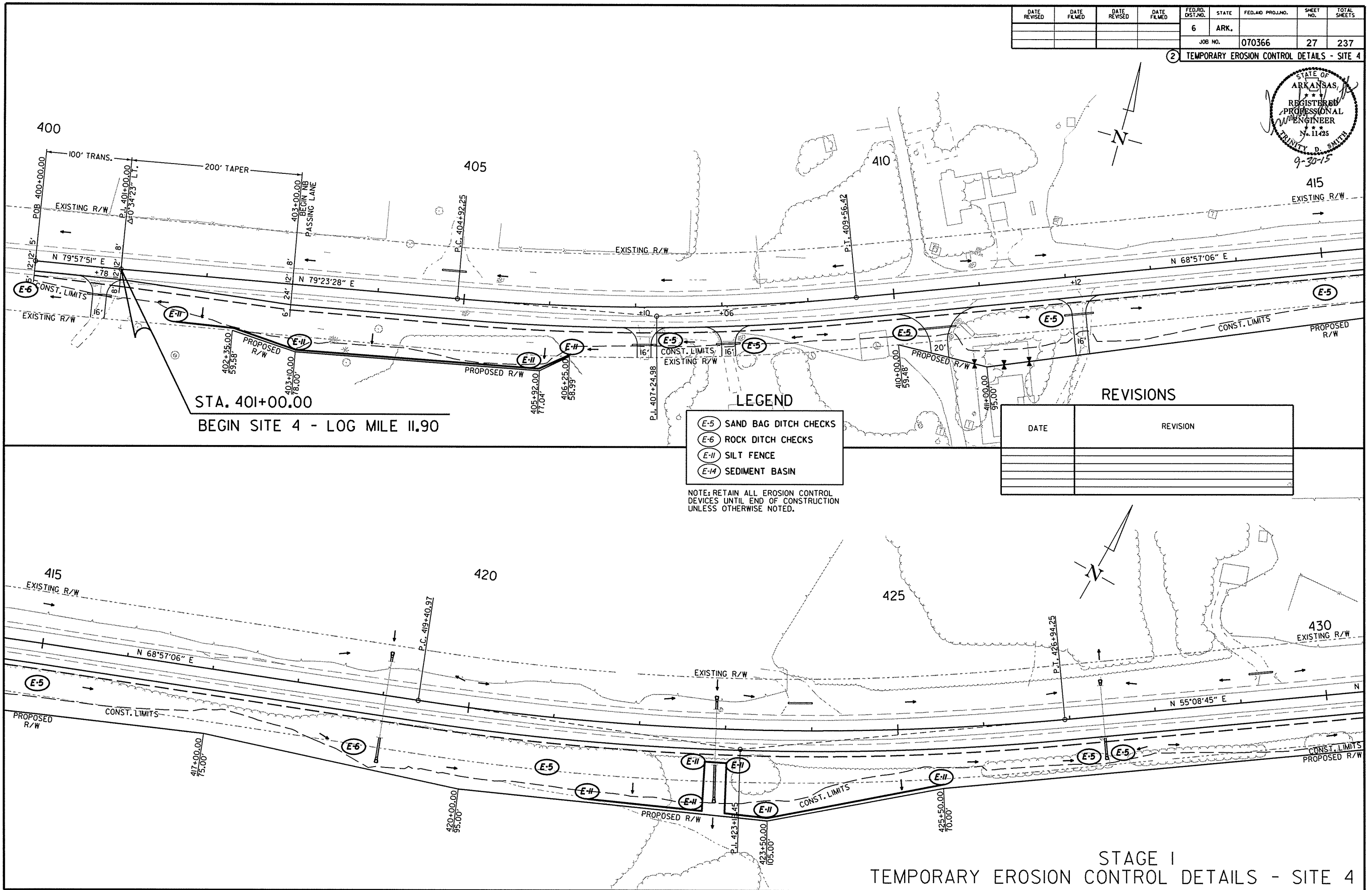
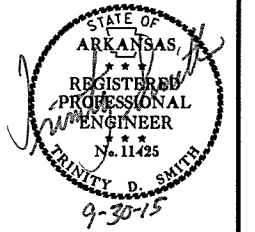
REVISIONS

DATE	REVISION

8/28/2015
R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		27	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 4



STA. 401+00.00
BEGIN SITE 4 - LOG MILE 11.90

- LEGEND**
- (E-5) SAND BAG DITCH CHECKS
 - (E-6) ROCK DITCH CHECKS
 - (E-11) SILT FENCE
 - (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

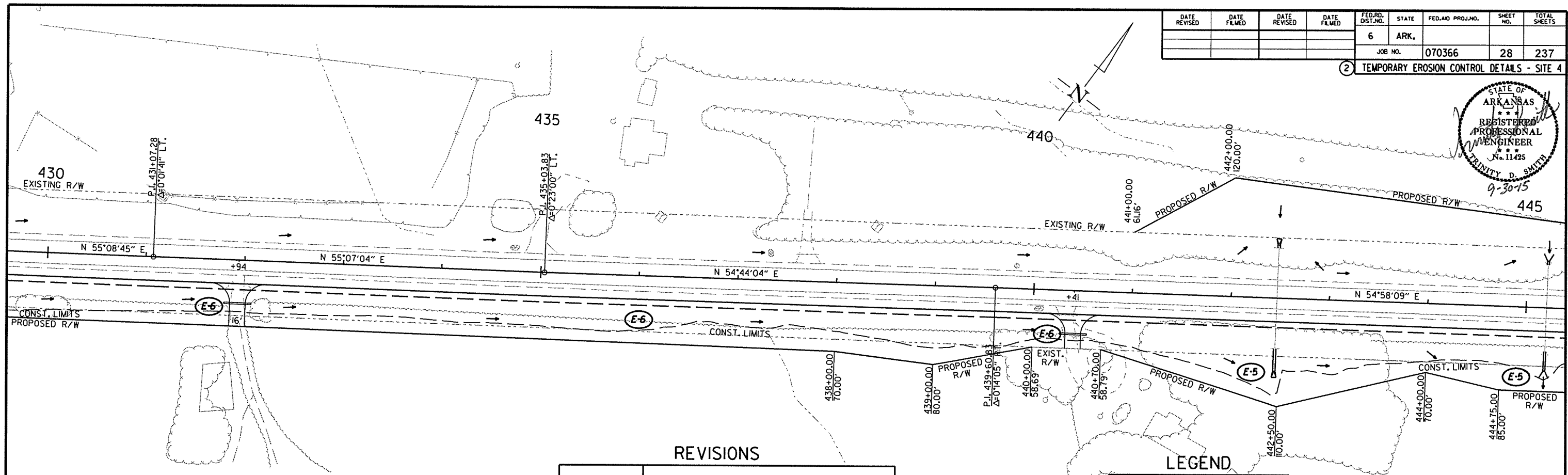
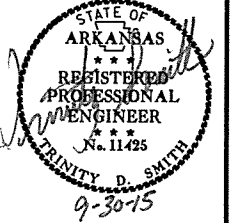
DATE	REVISION

9/1/2015
R070366.DGN

STAGE I
TEMPORARY EROSION CONTROL DETAILS - SITE 4

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		28	237

2) TEMPORARY EROSION CONTROL DETAILS - SITE 4



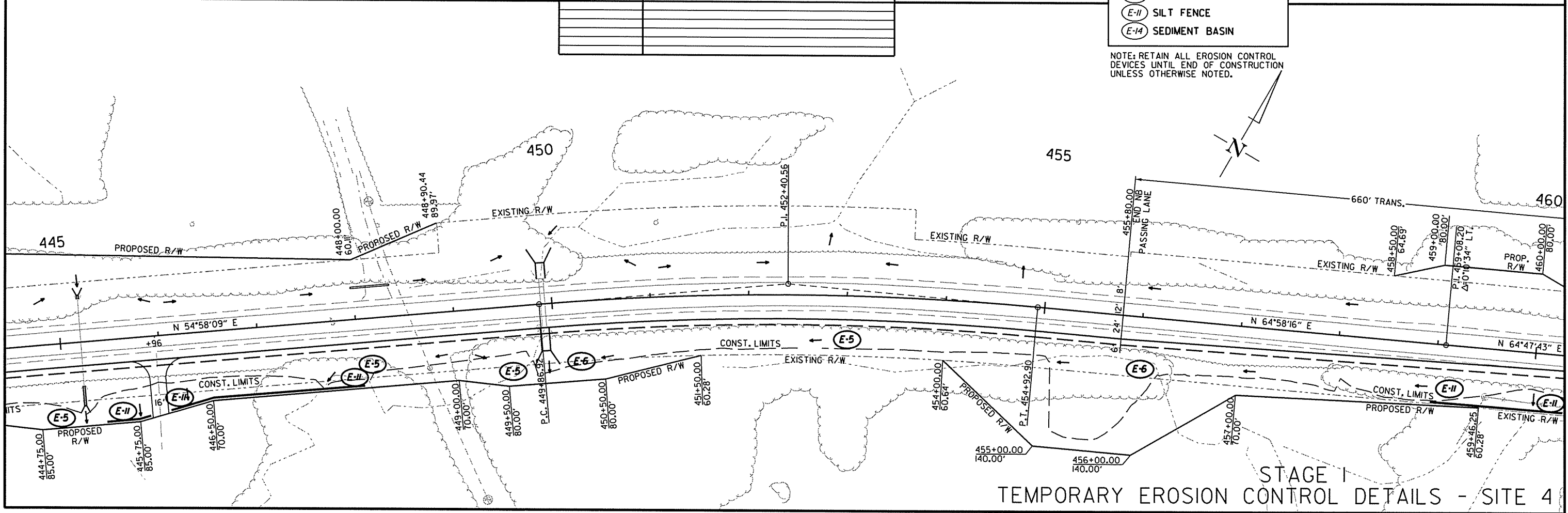
REVISIONS

DATE	REVISION

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

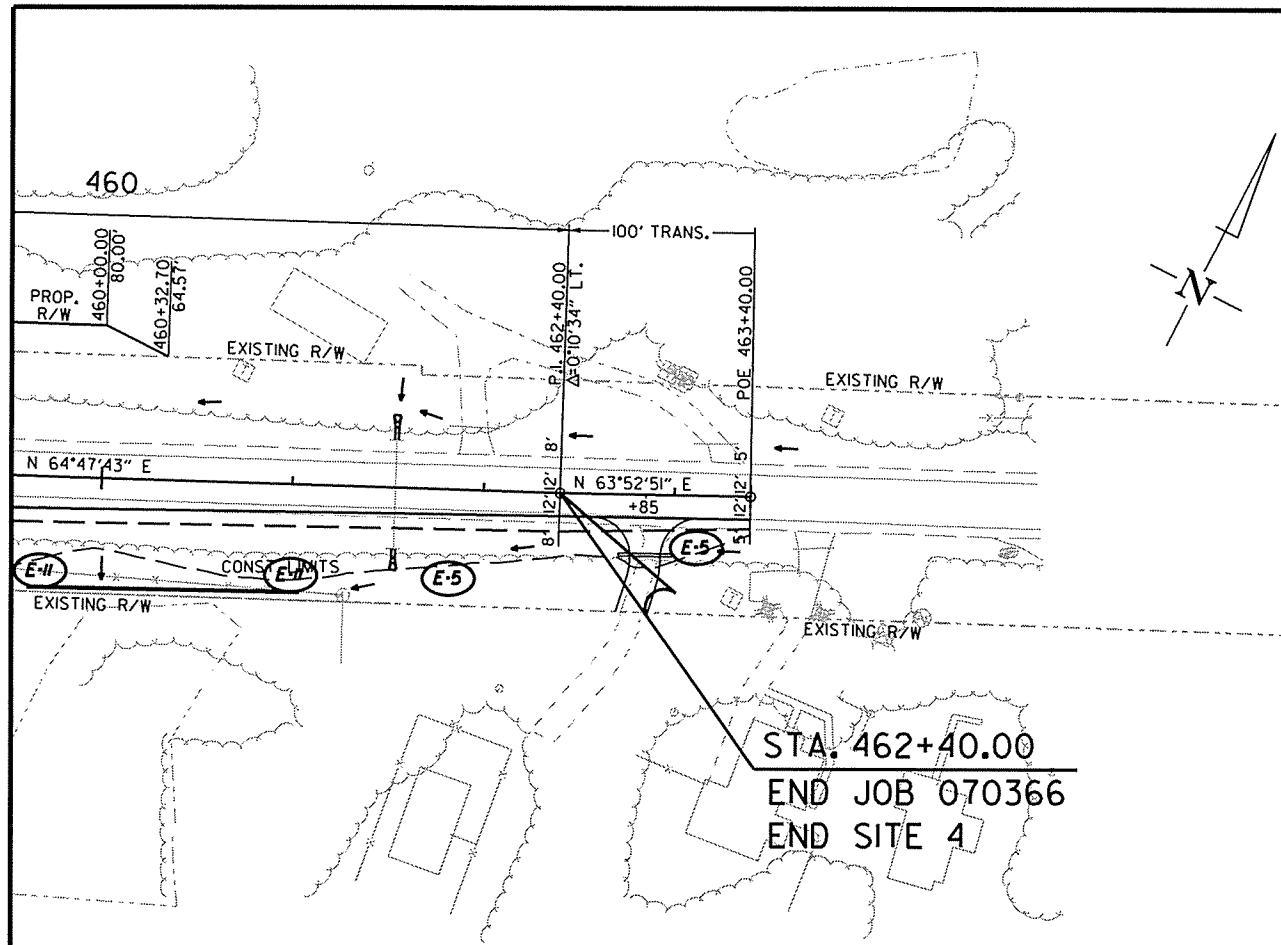
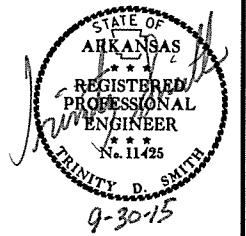


STAGE I
TEMPORARY EROSION CONTROL DETAILS - SITE 4

9/1/2015 R070366.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. 070366							29	237

② TEMPORARY EROSION CONTROL DETAILS - SITE 4



STA. 462+40.00
END JOB 070366
END SITE 4

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

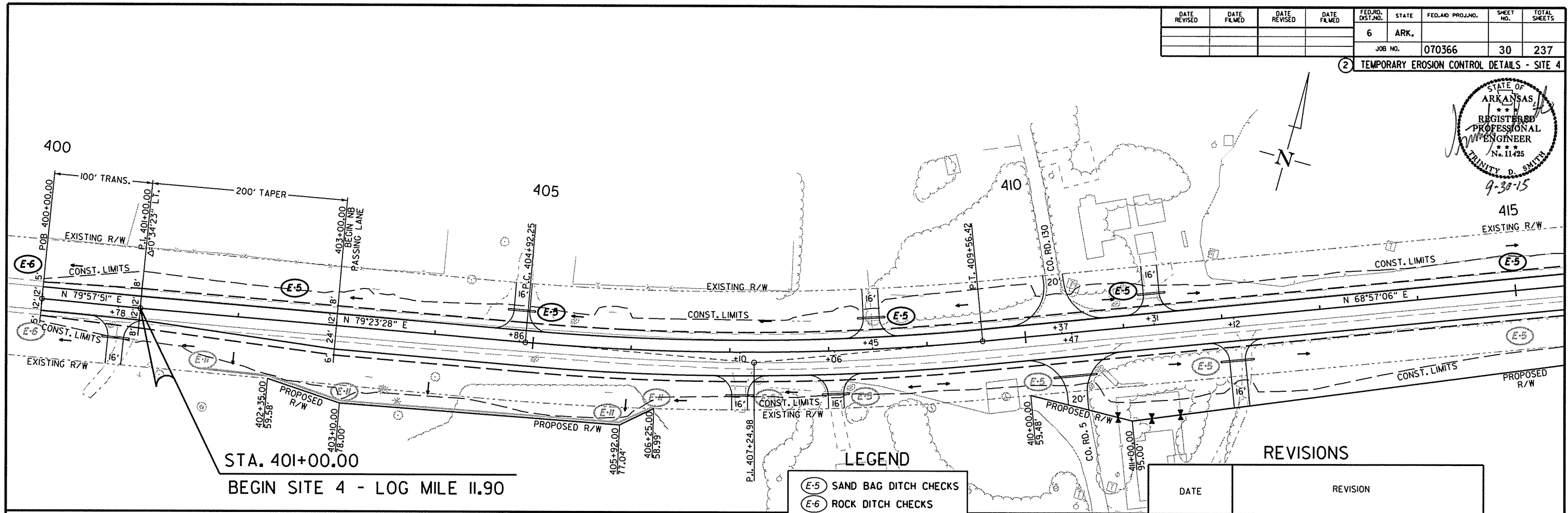
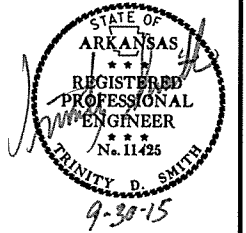
DATE	REVISION

9/1/2015

R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		30	237
				JOB NO.		070366	30	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 4



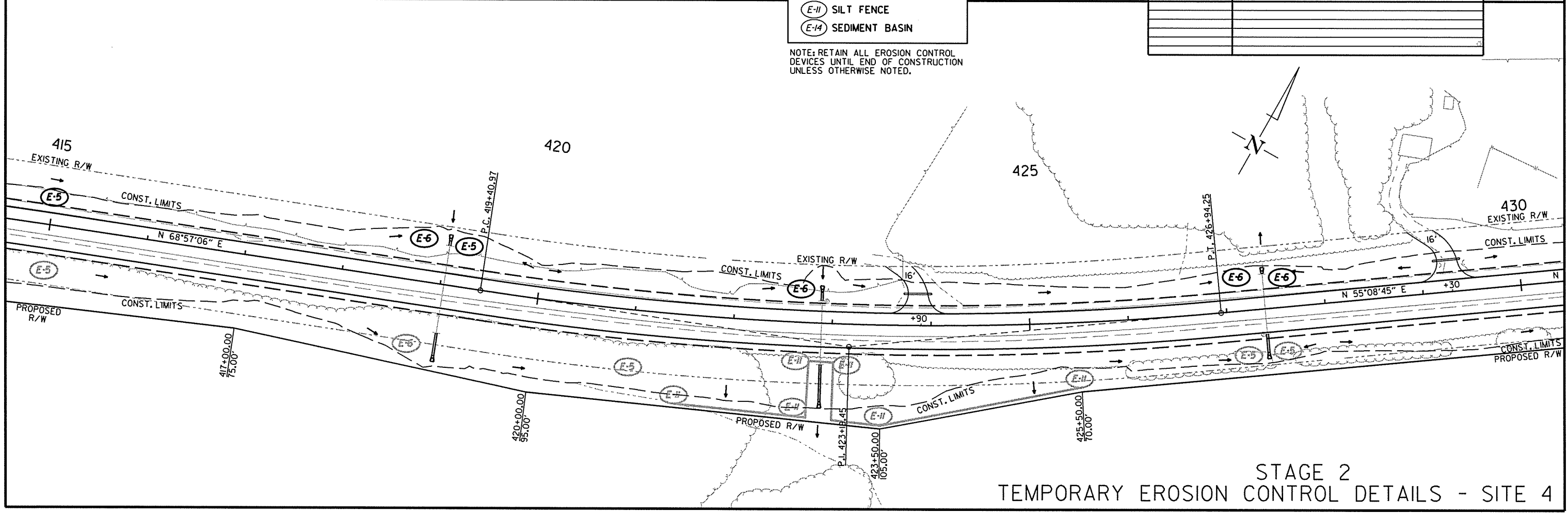
STA. 401+00.00
BEGIN SITE 4 - LOG MILE 11.90

- LEGEND**
- (E-5) SAND BAG DITCH CHECKS
 - (E-6) ROCK DITCH CHECKS
 - (E-11) SILT FENCE
 - (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

DATE	REVISION

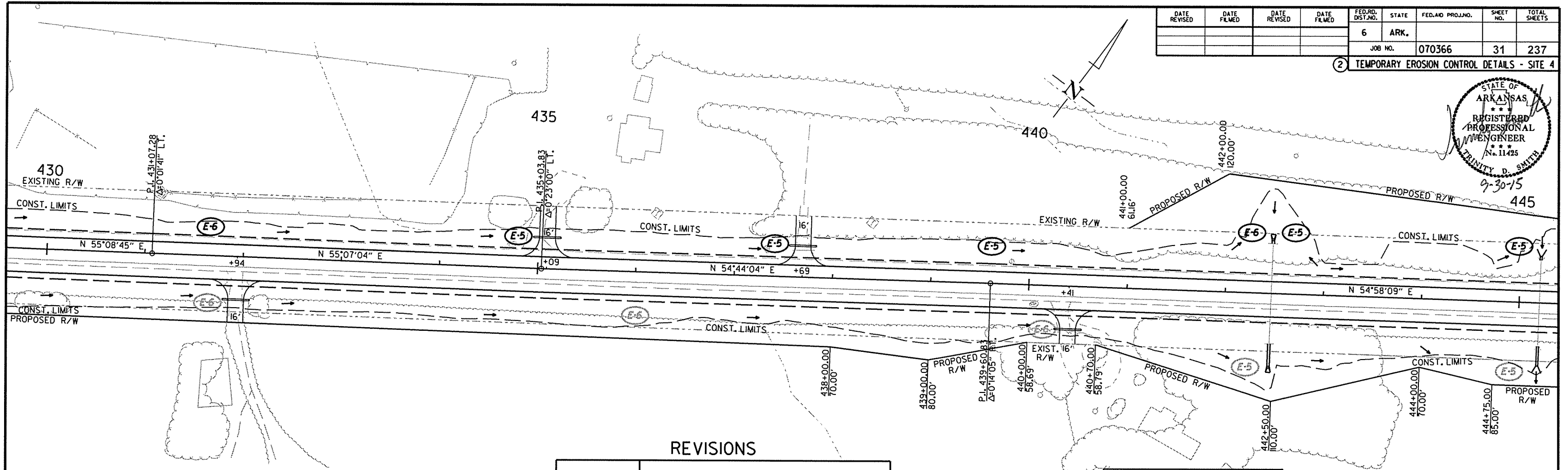
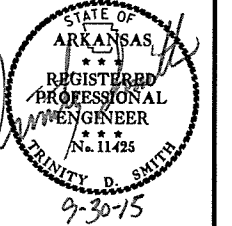


STAGE 2
TEMPORARY EROSION CONTROL DETAILS - SITE 4

9/1/2015 R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		31	237
				JOB NO. 070366				

2 TEMPORARY EROSION CONTROL DETAILS - SITE 4

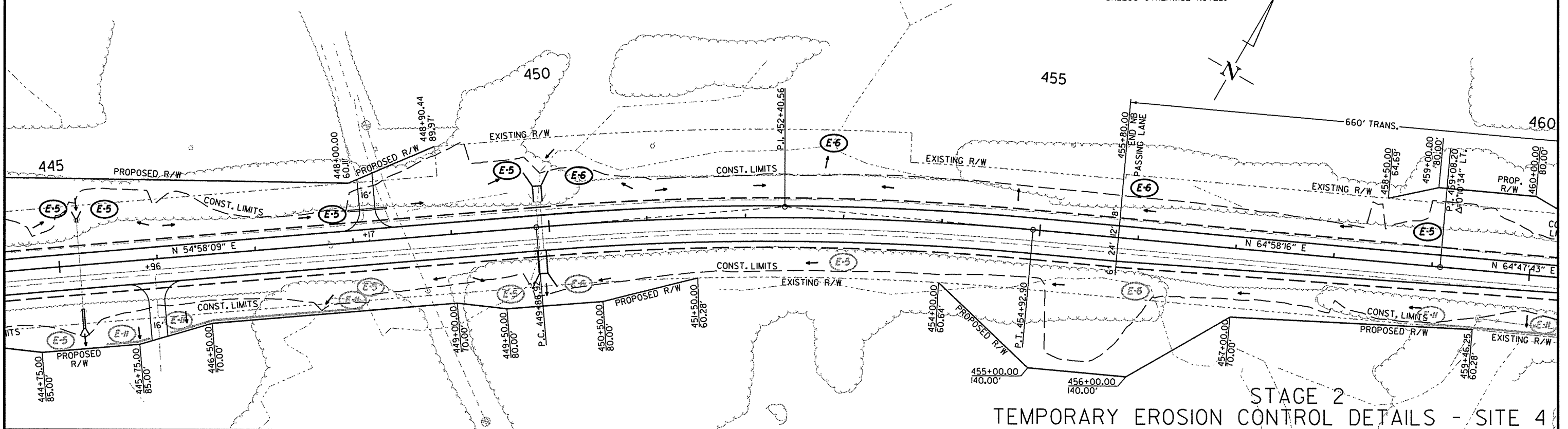


REVISIONS

DATE	REVISION

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

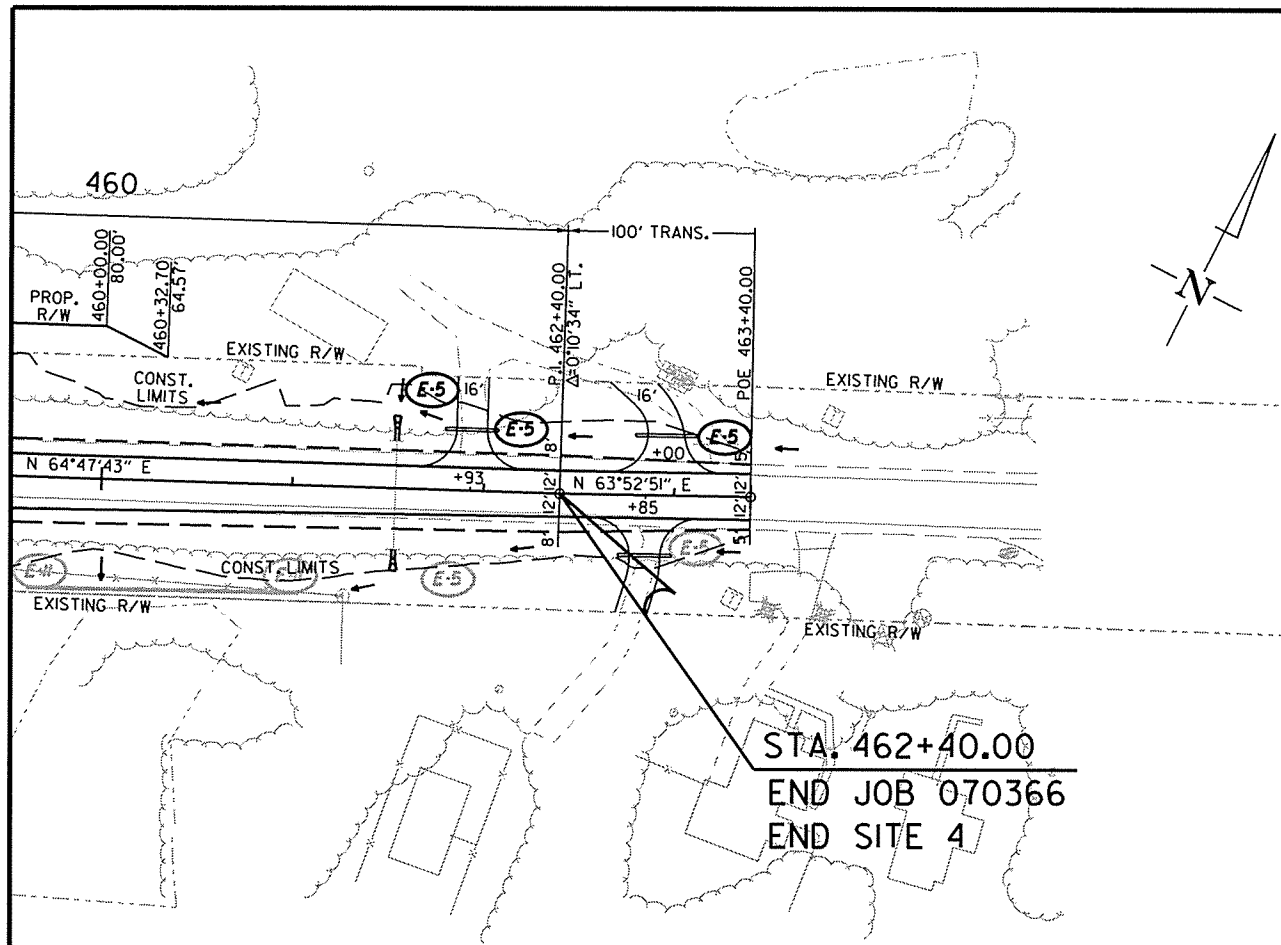
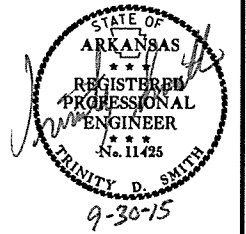


STAGE 2
TEMPORARY EROSION CONTROL DETAILS - SITE 4

9/1/2015 R070366.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. 070366							32	237

2 TEMPORARY EROSION CONTROL DETAILS - SITE 4



STA. 462+40.00
END JOB 070366
END SITE 4

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-14) SEDIMENT BASIN

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.

REVISIONS

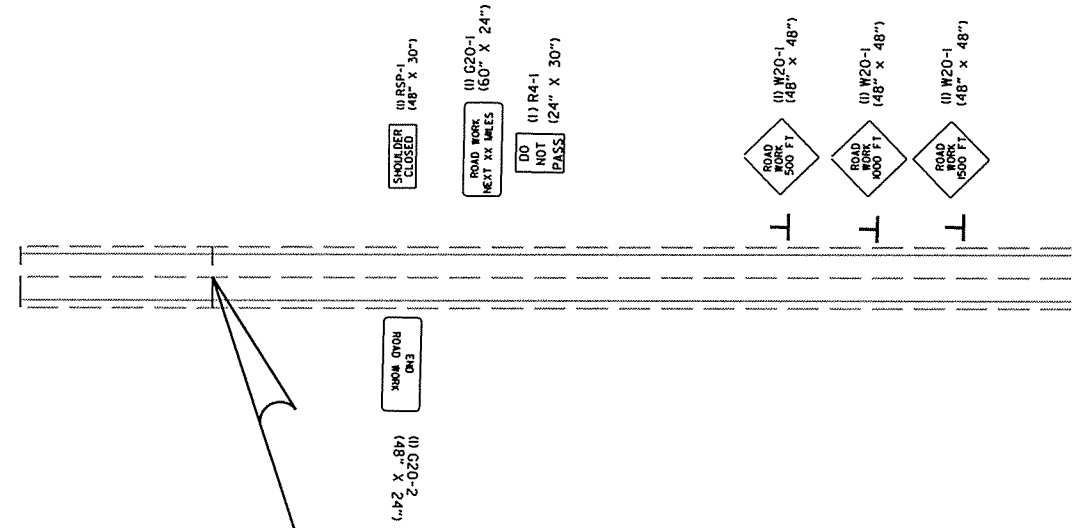
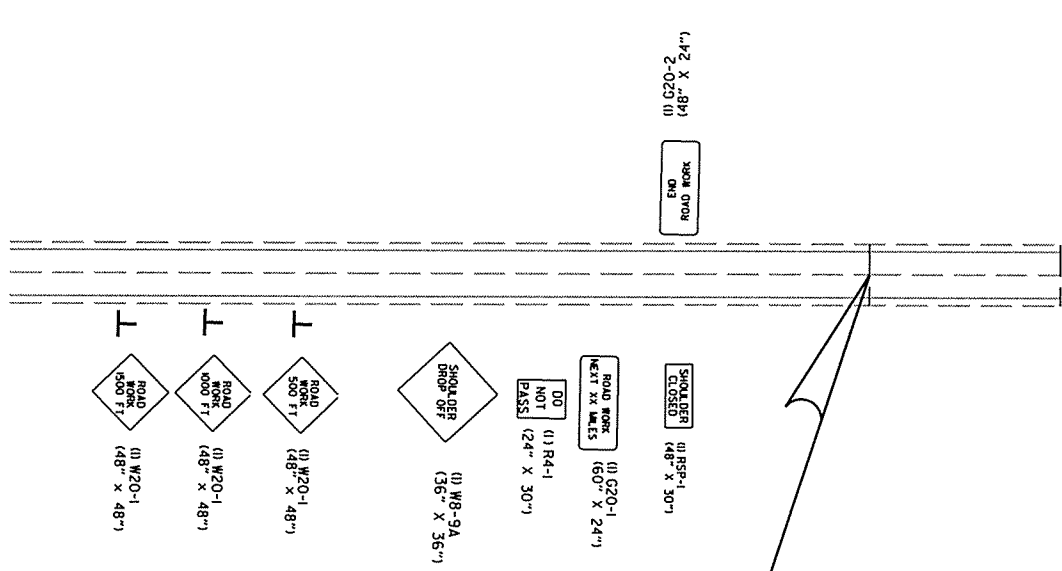
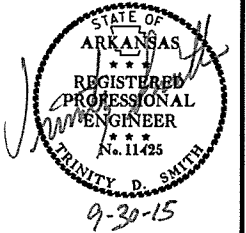
DATE	REVISION

9/1/2015

R070366.DGN

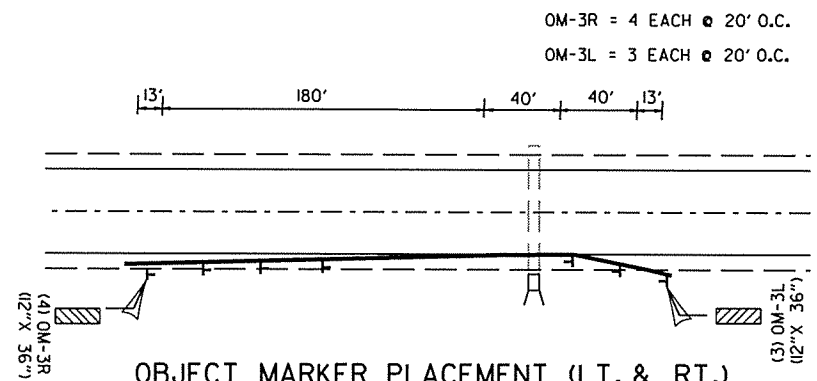
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							33	237

② MAINTENANCE OF TRAFFIC DETAILS

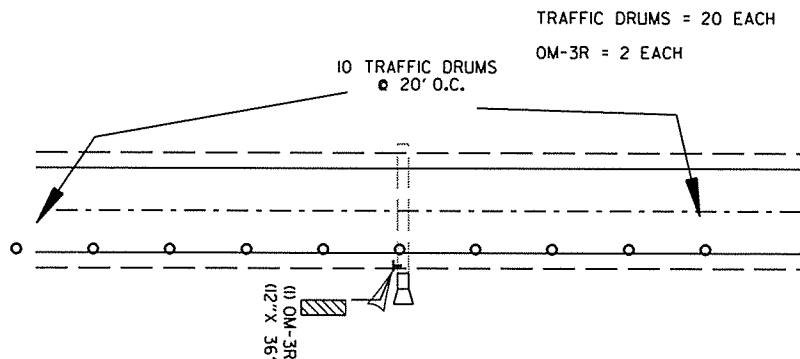


BEGIN CONSTRUCTION
 BEGIN JOB 070366 & BEGIN SITE 1 - STA. 101+00.00
 BEGIN SITE 2 - STA. 201+00.00
 BEGIN SITE 3 - STA. 302+00.00
 BEGIN SITE 4 - STA. 401+00.00

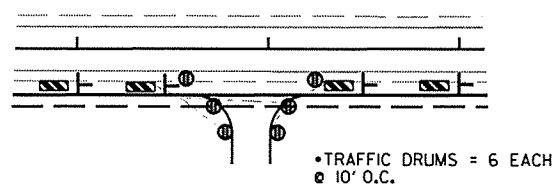
END CONSTRUCTION
 END SITE 1 - STA. 162+40.00
 END SITE 2 - STA. 262+40.00
 END SITE 3 - STA. 363+40.00
 END JOB 070366 & END SITE 4 - STA. 462+40.00



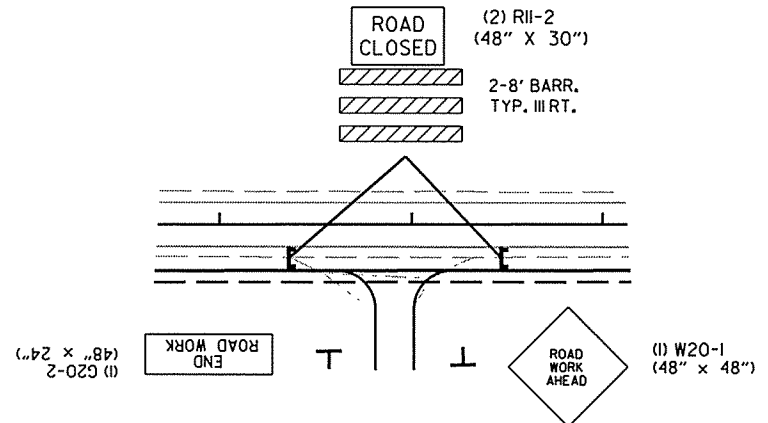
OBJECT MARKER PLACEMENT (LT. & RT.)
 FOR BARRIER WALLS FOR
 R.C. BOX CULVERT EXTENSIONS



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



DRIVEWAY/TRAFFIC DRUM DETAIL
 *NOTE: FOR STANDARD LENGTH DRIVES, LONGER DRIVES SHALL REQUIRE MORE THAN 6 DRUMS AND WILL MAINTAIN 10' O.C. SPACING.

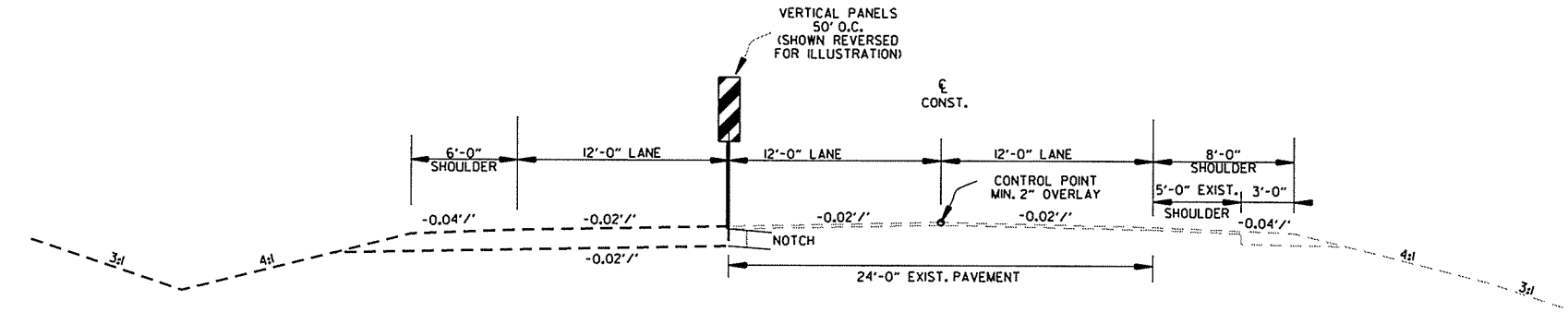


COUNTY ROAD, STATE HIGHWAY,
 AND CITY STREET DETAIL

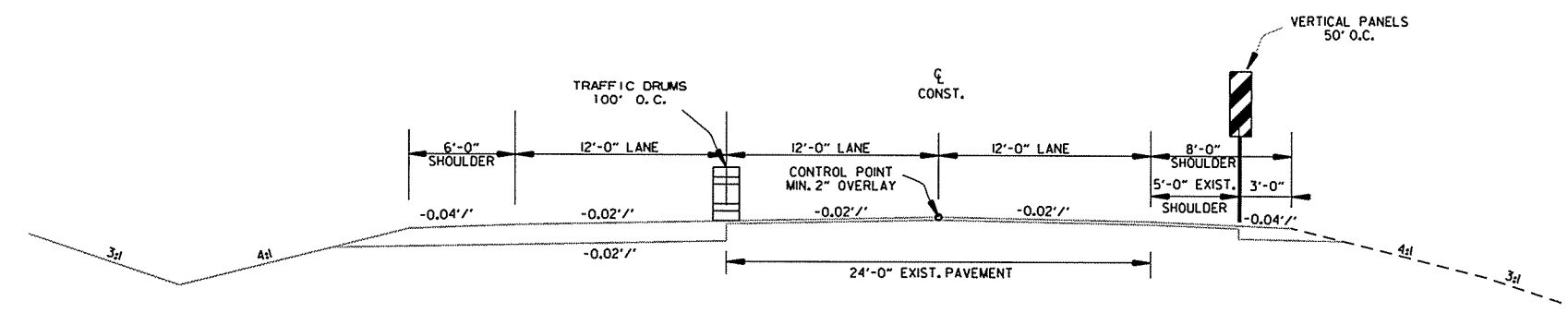
ADVANCE WARNING
 MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							34	237

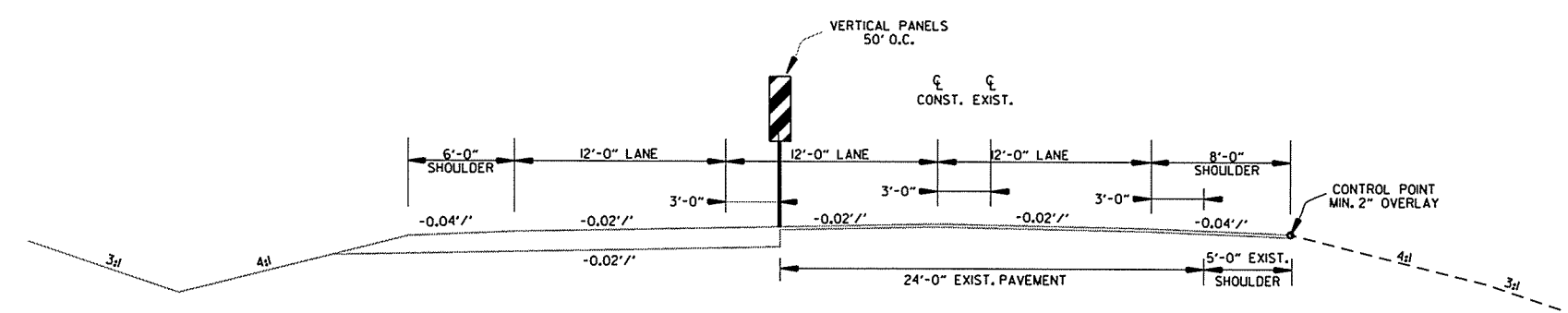
② MAINTENANCE OF TRAFFIC DETAILS



OVERLAY TANGENT - SOUTHBOUND (LEFT SIDE) WIDENING
STAGE I
STA. 101+00.00 - STA. 162+40.00



OVERLAY TANGENT - SOUTHBOUND FINAL SURFACING
STAGE 2
STA. 101+00.00 - STA. 162+40.00



OVERLAY TANGENT - SOUTHBOUND (LEFT SIDE) WIDENING
& FINAL SURFACING STAGE I
STA. 302+00.00 - STA. 363+40.00

SEQUENCING:

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

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

END OF JOB: FINAL SURFACE COURSE AND FINAL STRIPING.

CONSTRUCTION PAVEMENT MARKINGS - SITE 1

AS DIRECTED BY THE ENGINEER OVER LEVELING COURSE:
RT. AND LT. EDGE LINES = 12080 LIN. FT.
DBL. CENTERLINE = 12080 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS - SITE 3

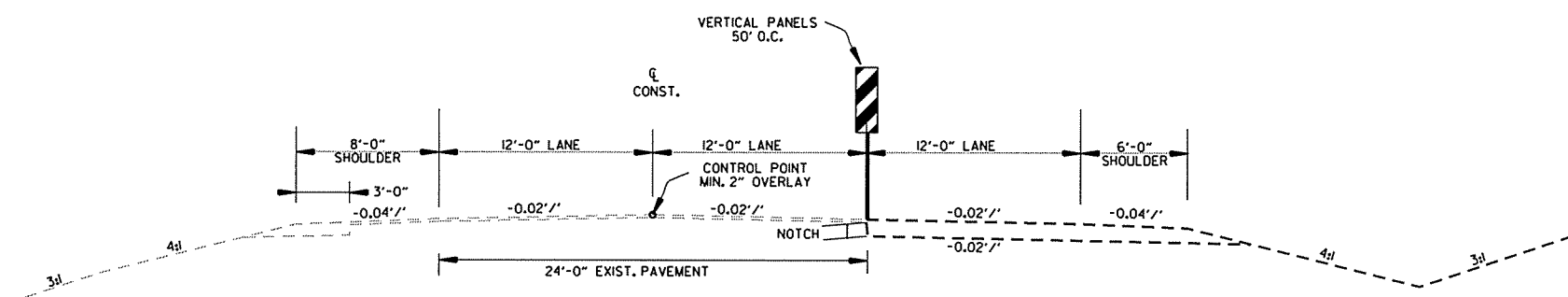
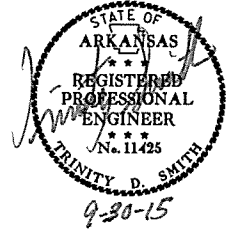
AS DIRECTED BY THE ENGINEER OVER LEVELING COURSE:
RT. AND LT. EDGE LINES = 12940 LIN. FT.
DBL. CENTERLINE = 12940 LIN. FT.

6/11/2015

R070366.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. 070366							35	237

2 MAINTENANCE OF TRAFFIC DETAILS



OVERLAY TANGENT - NORTHBOUND (RIGHT SIDE) WIDENING
STAGE 1

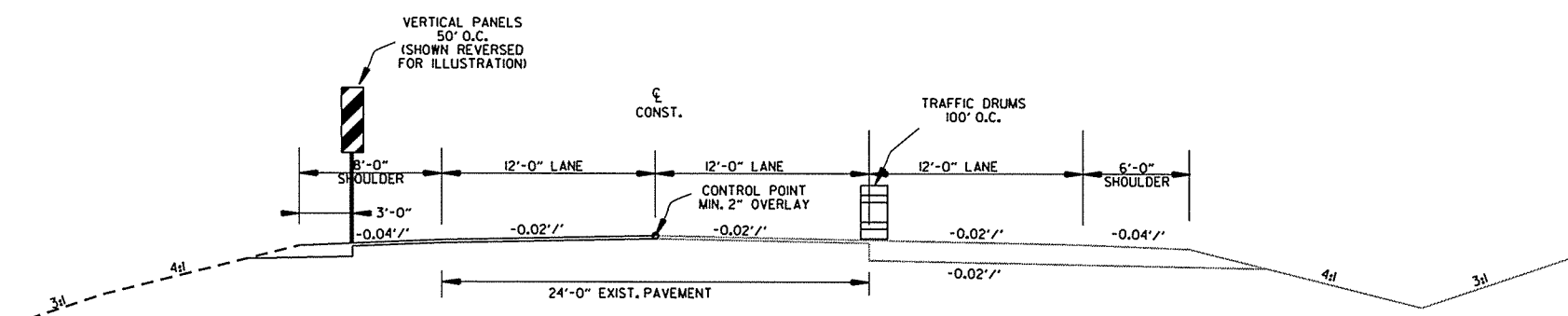
STA. 201+00.00 - STA. 262+40.00
STA. 401+00.00 - STA. 462+40.00

SEQUENCING:

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

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

END OF JOB: FINAL SURFACE COURSE AND FINAL STRIPING.



OVERLAY TANGENT - NORTHBOUND FINAL SURFACING
STAGE 2

STA. 201+00.00 - STA. 262+40.00
STA. 401+00.00 - STA. 462+40.00

CONSTRUCTION PAVEMENT MARKINGS - SITE 2

AS DIRECTED BY THE ENGINEER OVER LEVELING COURSE:
RT. AND LT. EDGE LINES = 12280 LIN. FT.
DBL. CENTERLINE = 12280 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS - SITE 4

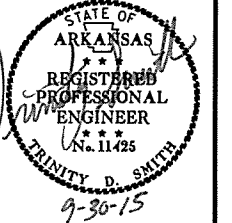
AS DIRECTED BY THE ENGINEER OVER LEVELING COURSE:
RT. AND LT. EDGE LINES = 12280 LIN. FT.
DBL. CENTERLINE = 12280 LIN. FT.

6/11/2015

R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		36	237
JOB NO. 070366							36	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 1



SEQUENCING:

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

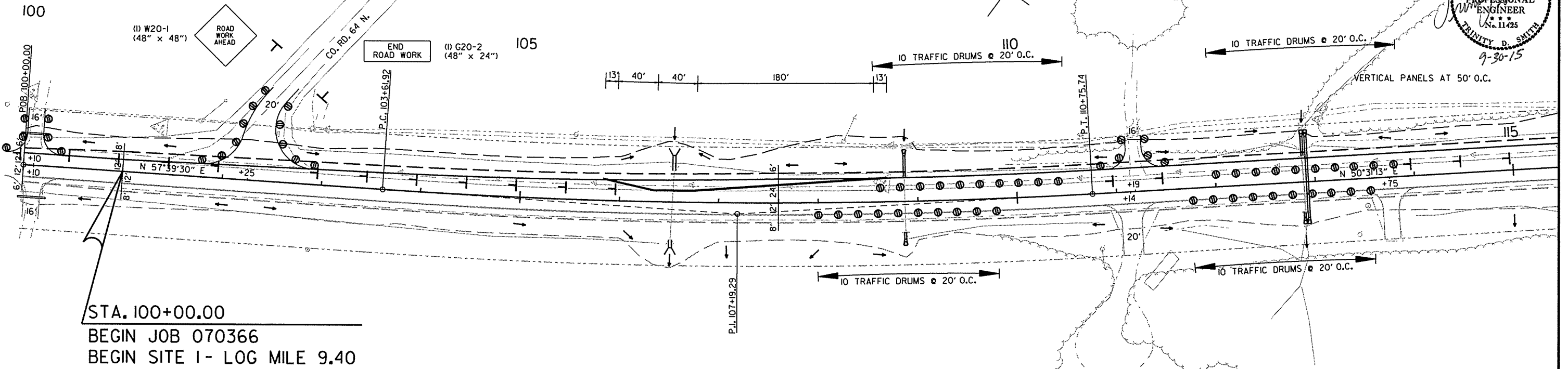
STAGE 2: NOTCH AND WIDEN ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING. UTILIZE TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON LT.

END OF JOB: FINAL SURFACE COURSE AND FINAL STRIPING.

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER

STA. 105+84 - STA. 108+70 LT. 286 LIN. FT.

VERTICAL PANELS AT 50' O.C.

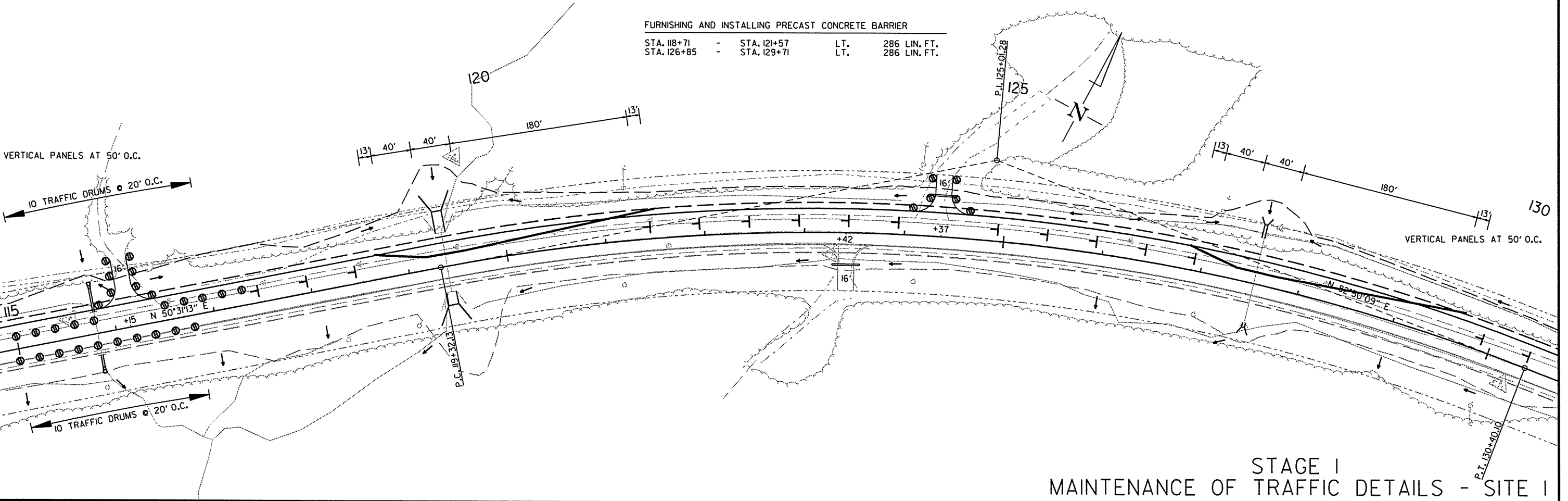


STA. 100+00.00
 BEGIN JOB 070366
 BEGIN SITE 1 - LOG MILE 9.40

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER

STA. 118+71 - STA. 121+57 LT. 286 LIN. FT.
 STA. 126+85 - STA. 129+71 LT. 286 LIN. FT.

VERTICAL PANELS AT 50' O.C.



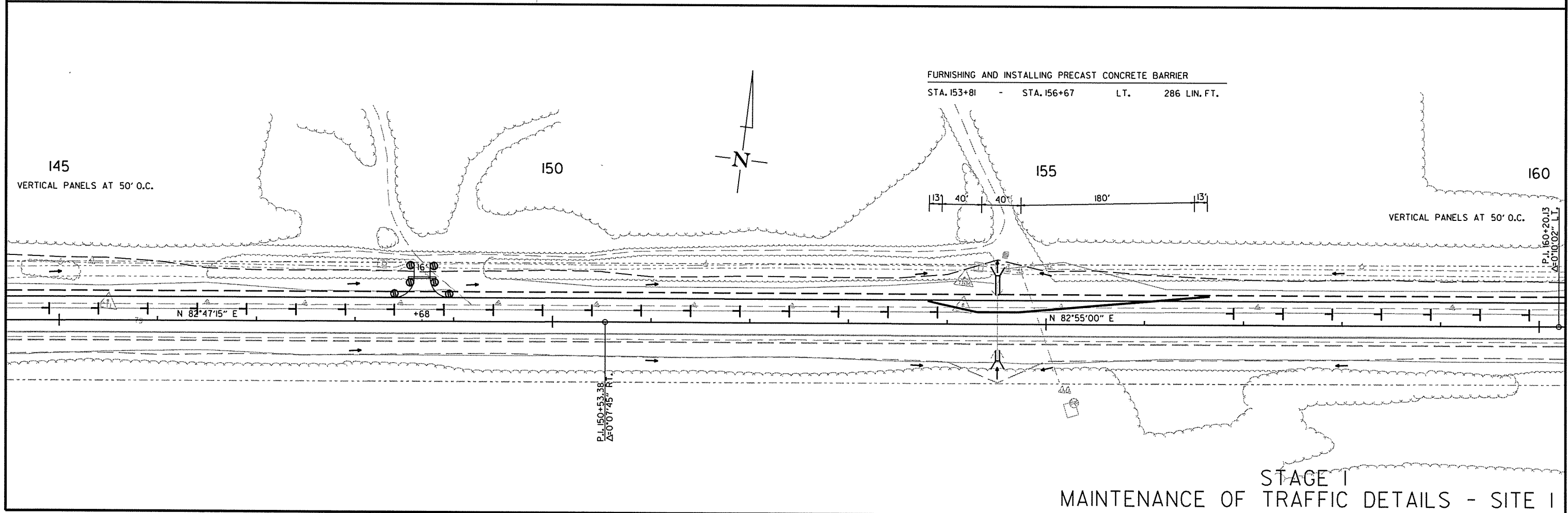
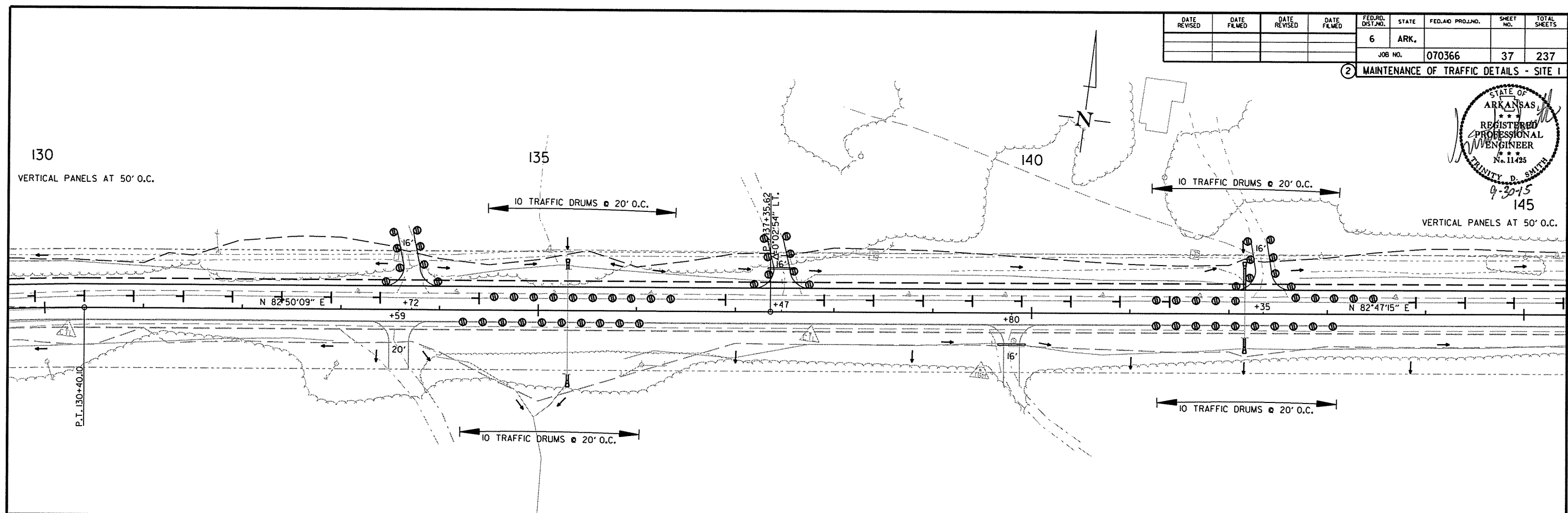
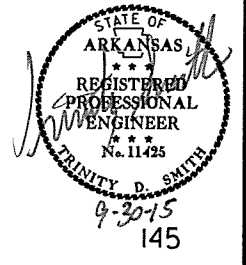
STAGE I
 MAINTENANCE OF TRAFFIC DETAILS - SITE 1

9/16/2015

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DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		37	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE I

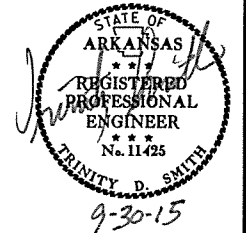


STAGE I
MAINTENANCE OF TRAFFIC DETAILS - SITE I

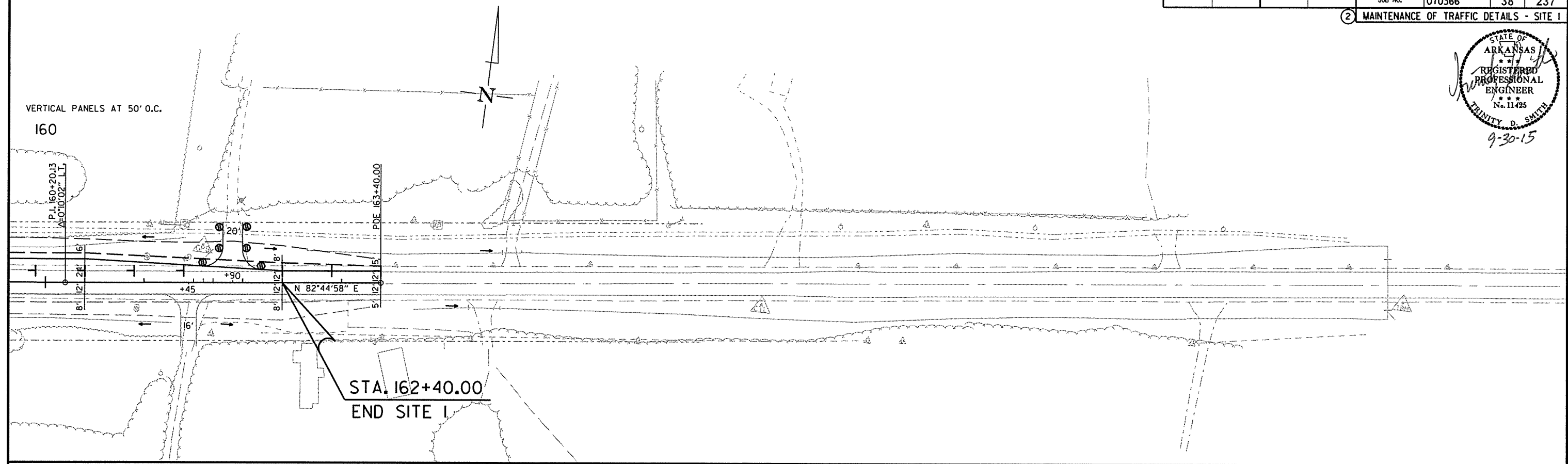
8/28/2015
R070366.DGN

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.	070366		38	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE I



VERTICAL PANELS AT 50' O.C.
160



STA. 162+40.00
END SITE I

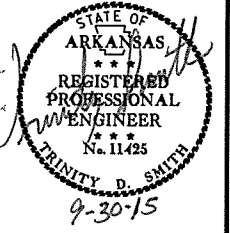
8/28/2015

R070366.DGN

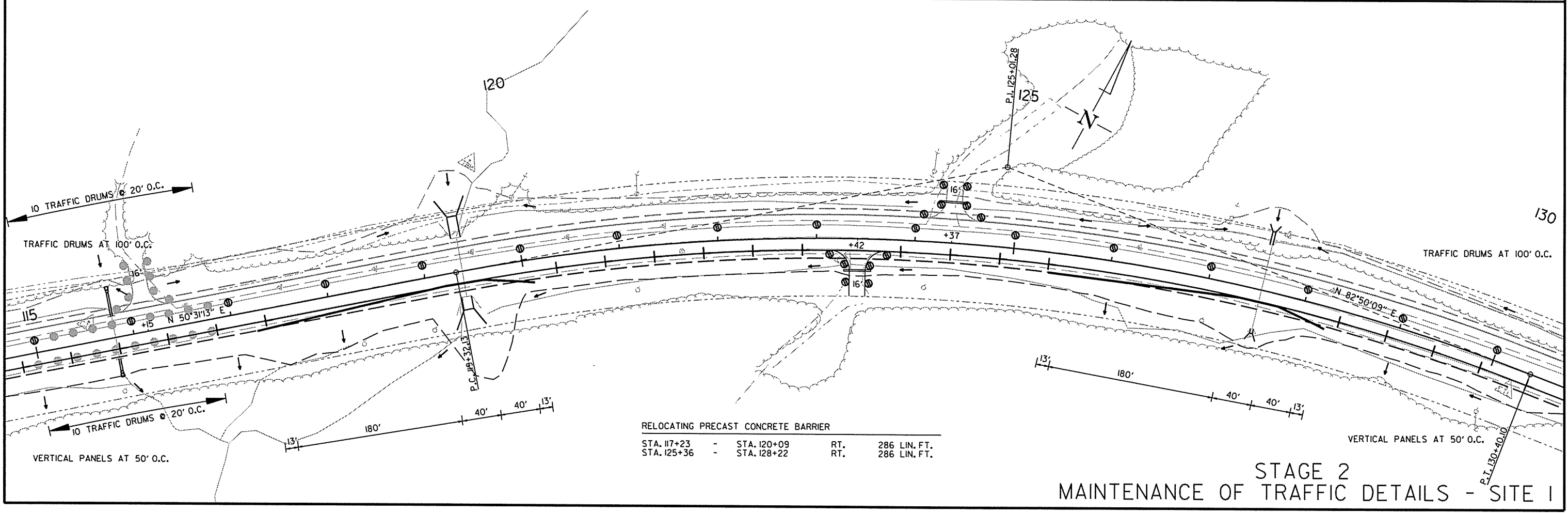
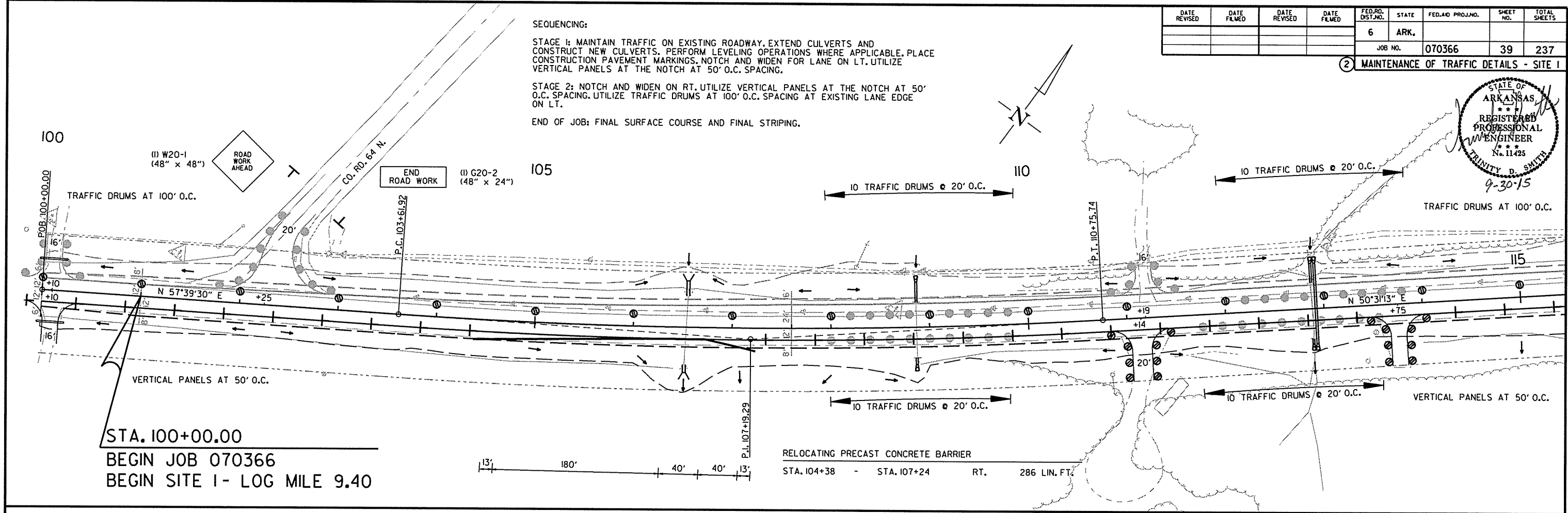
STAGE I
MAINTENANCE OF TRAFFIC DETAILS - SITE I

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		39	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE I



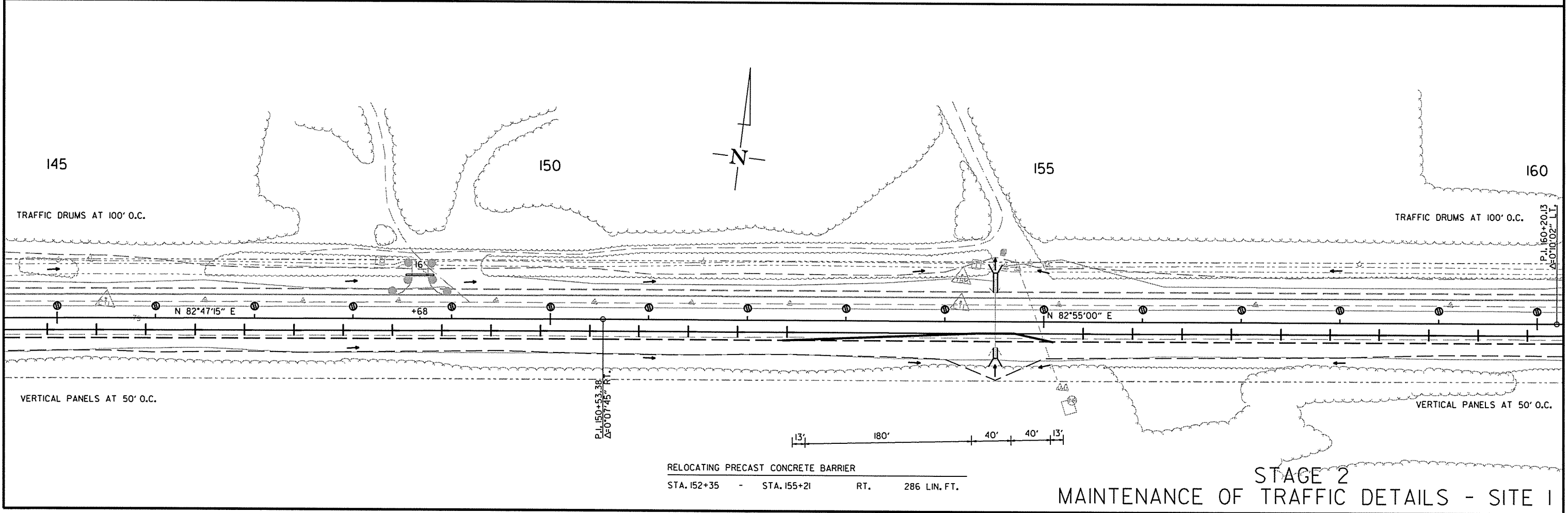
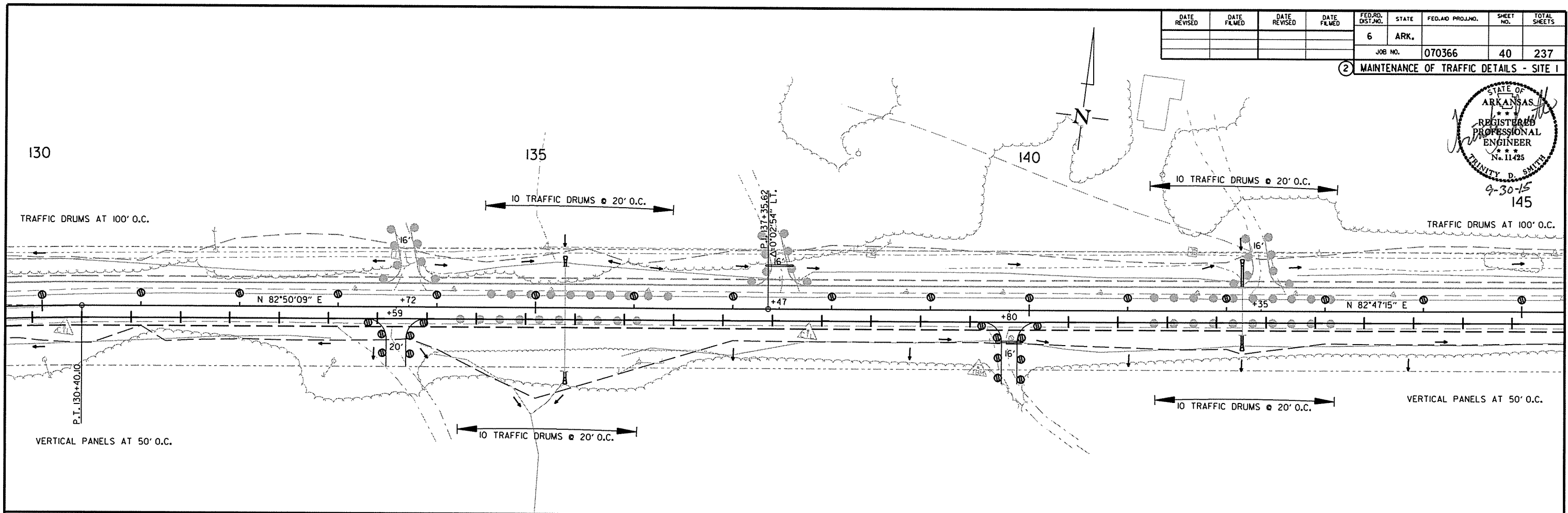
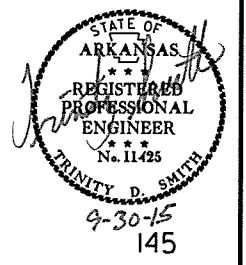
SEQUENCING:
 STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. EXTEND CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN FOR LANE ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.
 STAGE 2: NOTCH AND WIDEN ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING. UTILIZE TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON LT.
 END OF JOB: FINAL SURFACE COURSE AND FINAL STRIPING.



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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. 070366							40	237

2 MAINTENANCE OF TRAFFIC DETAILS - SITE 1



8/28/2015

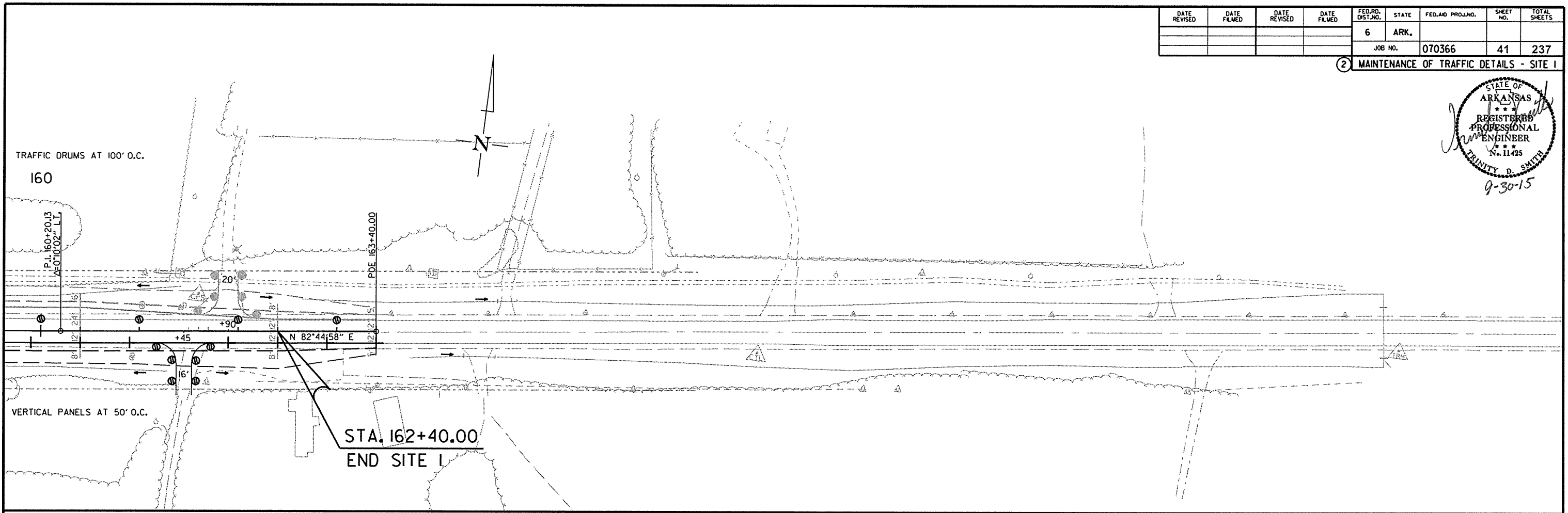
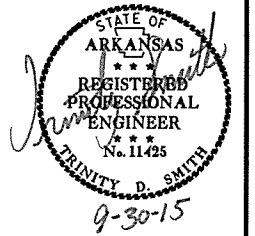
R070366.DCN

RELOCATING PRECAST CONCRETE BARRIER
 STA. 152+35 - STA. 155+21 RT. 286 LIN. FT.

STAGE 2
 MAINTENANCE OF TRAFFIC DETAILS - SITE 1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						070366	41	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 1



STA. 162+40.00
END SITE 1

8/28/2015

R070366.DGN

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS - SITE 1

SEQUENCING:

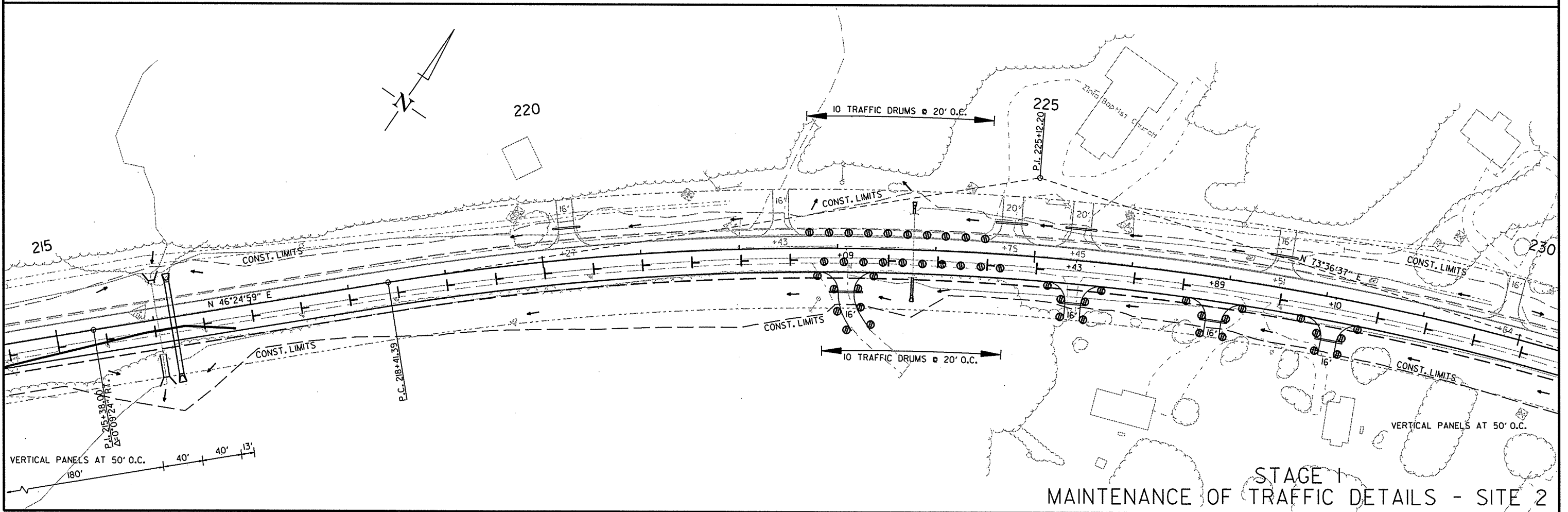
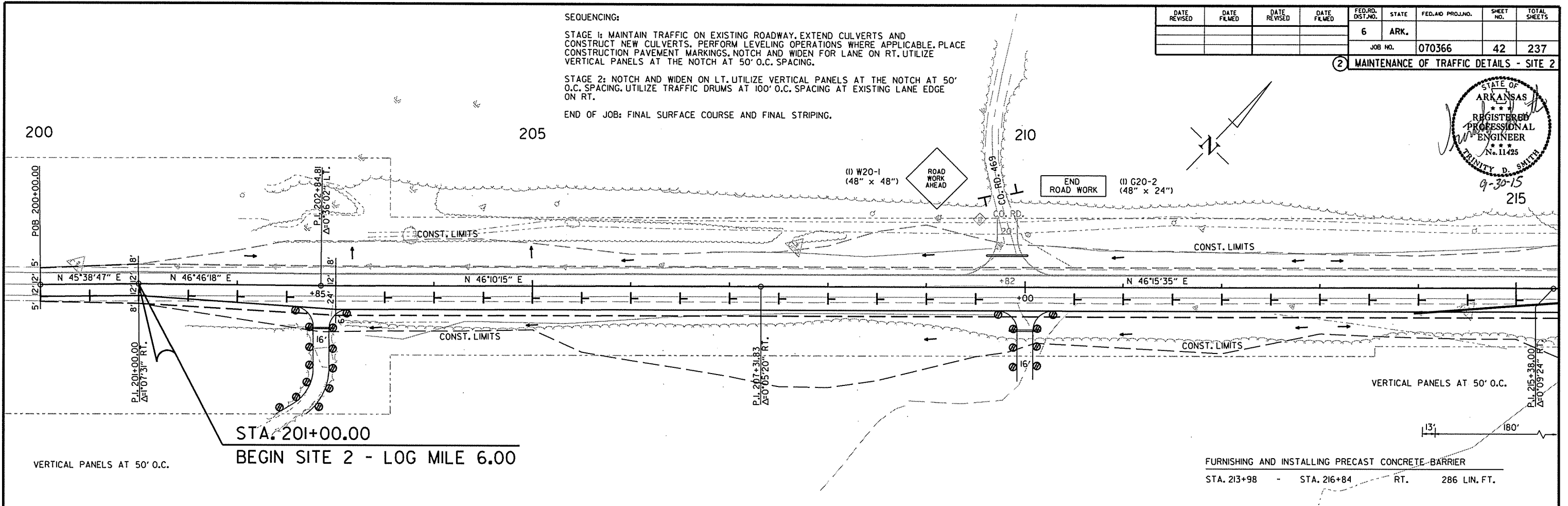
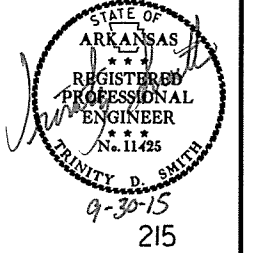
STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY, EXTEND CULVERTS AND CONSTRUCT NEW CULVERTS, PERFORM LEVELING OPERATIONS WHERE APPLICABLE, PLACE CONSTRUCTION PAVEMENT MARKINGS, NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

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

END OF JOB: FINAL SURFACE COURSE AND FINAL STRIPING.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		42	237
				JOB NO.	070366			

2 MAINTENANCE OF TRAFFIC DETAILS - SITE 2

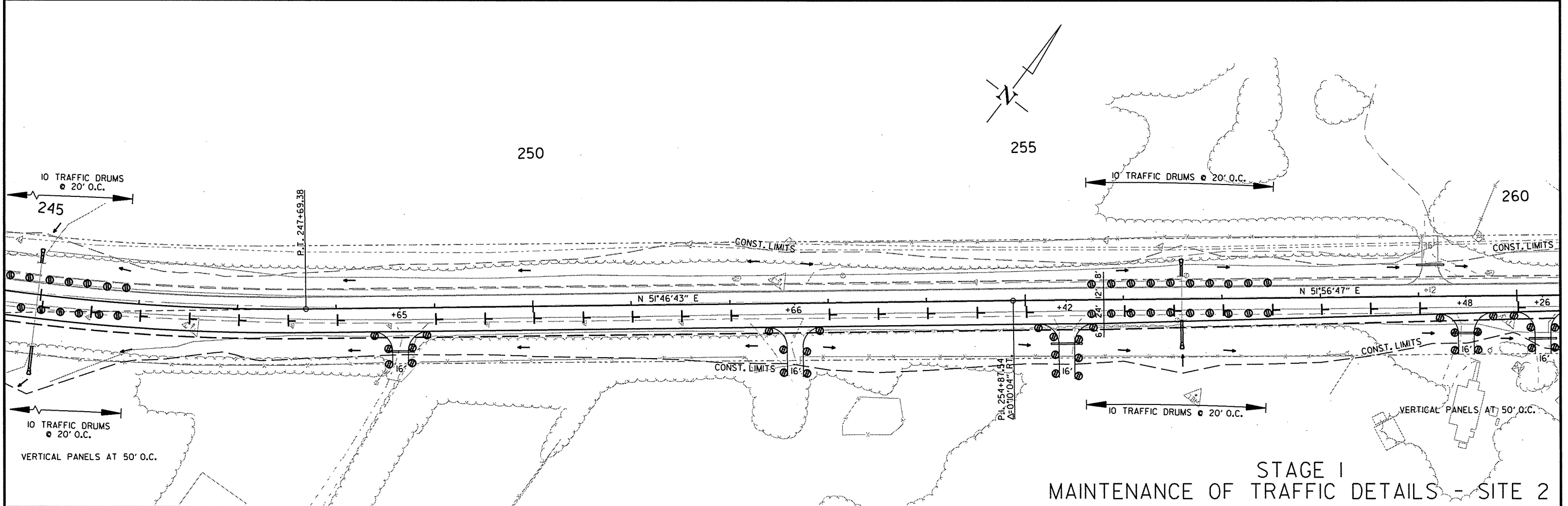
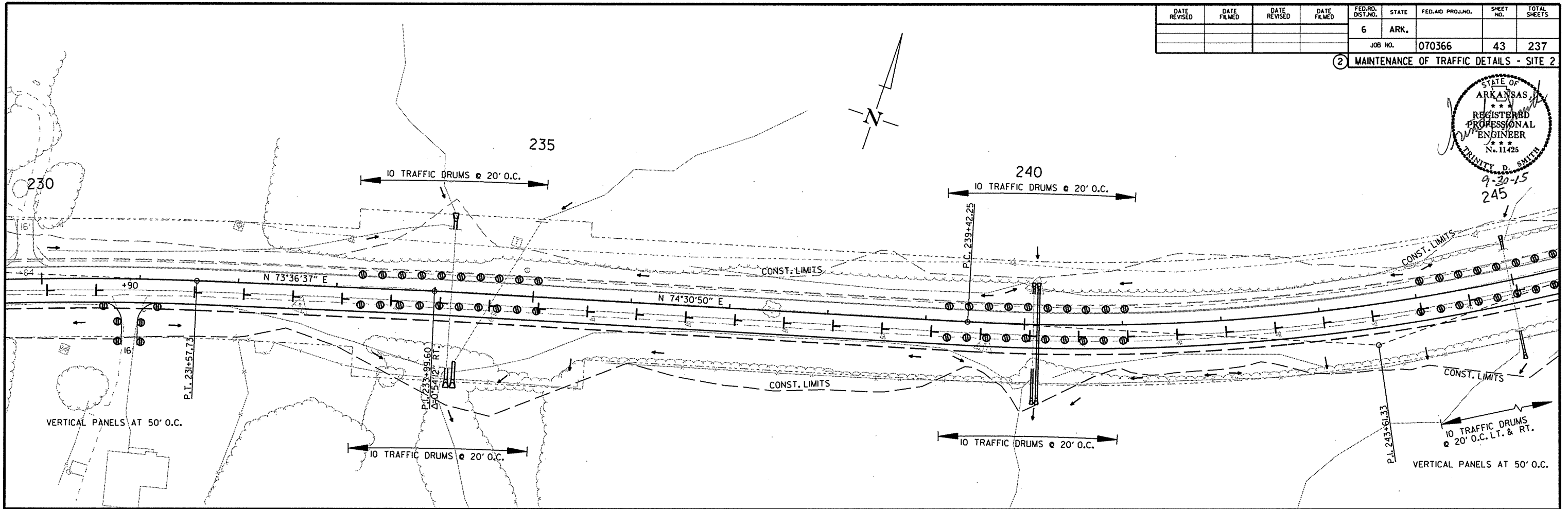
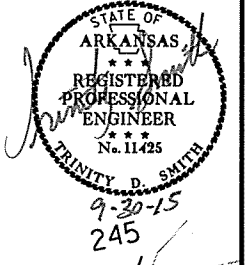


9/16/2015

R070366.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. 070366							43	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 2

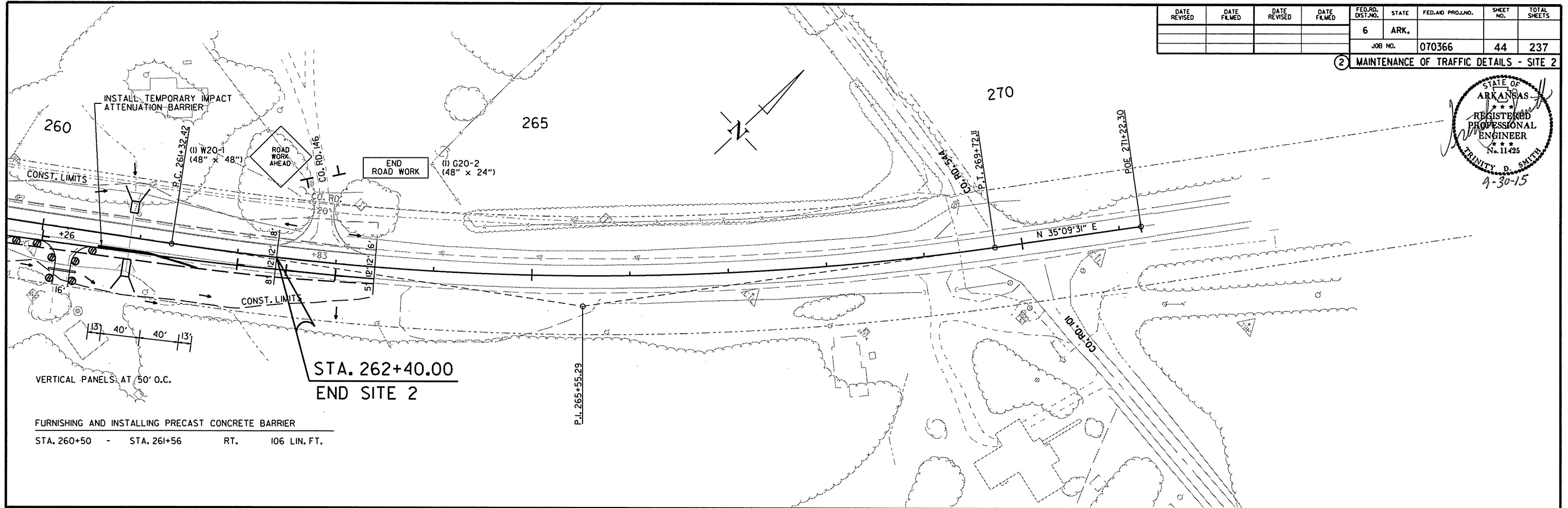
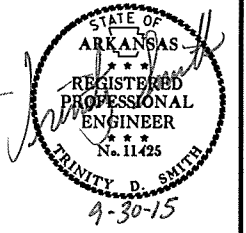


STAGE I
MAINTENANCE OF TRAFFIC DETAILS - SITE 2

8/31/2015
R070366.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.							070366	44	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 2



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R070366.DGN

STAGE I
MAINTENANCE OF TRAFFIC DETAILS - SITE 2

SEQUENCING:

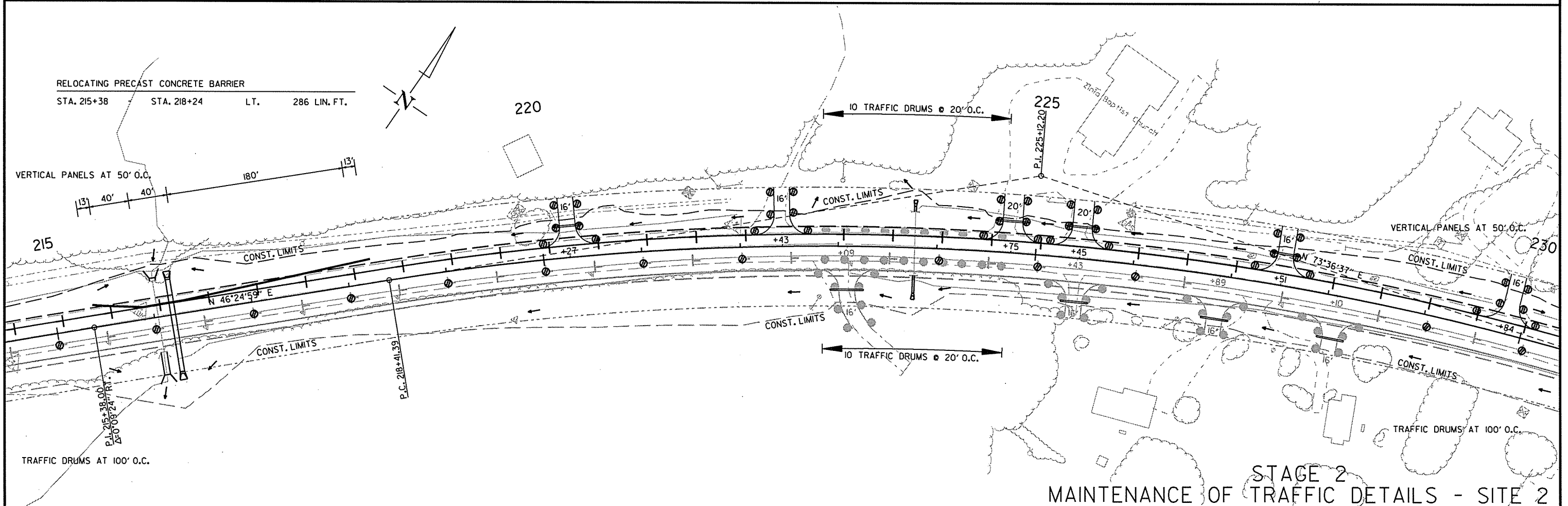
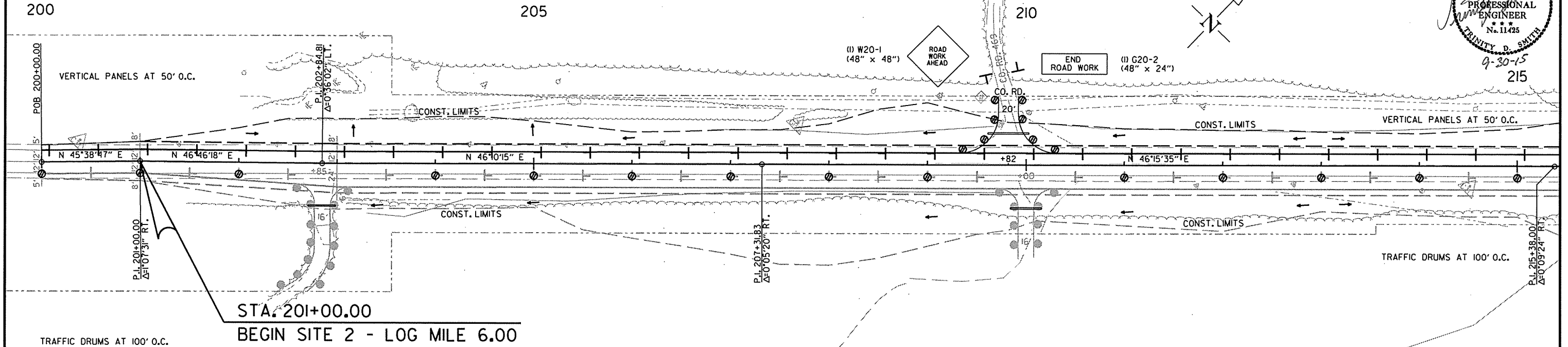
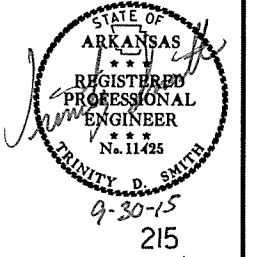
STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY, EXTEND CULVERTS AND CONSTRUCT NEW CULVERTS, PERFORM LEVELING OPERATIONS WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS, NOTCH AND WIDEN FOR LANE ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING.

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

END OF JOB: FINAL SURFACE COURSE AND FINAL STRIPING.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		45	237

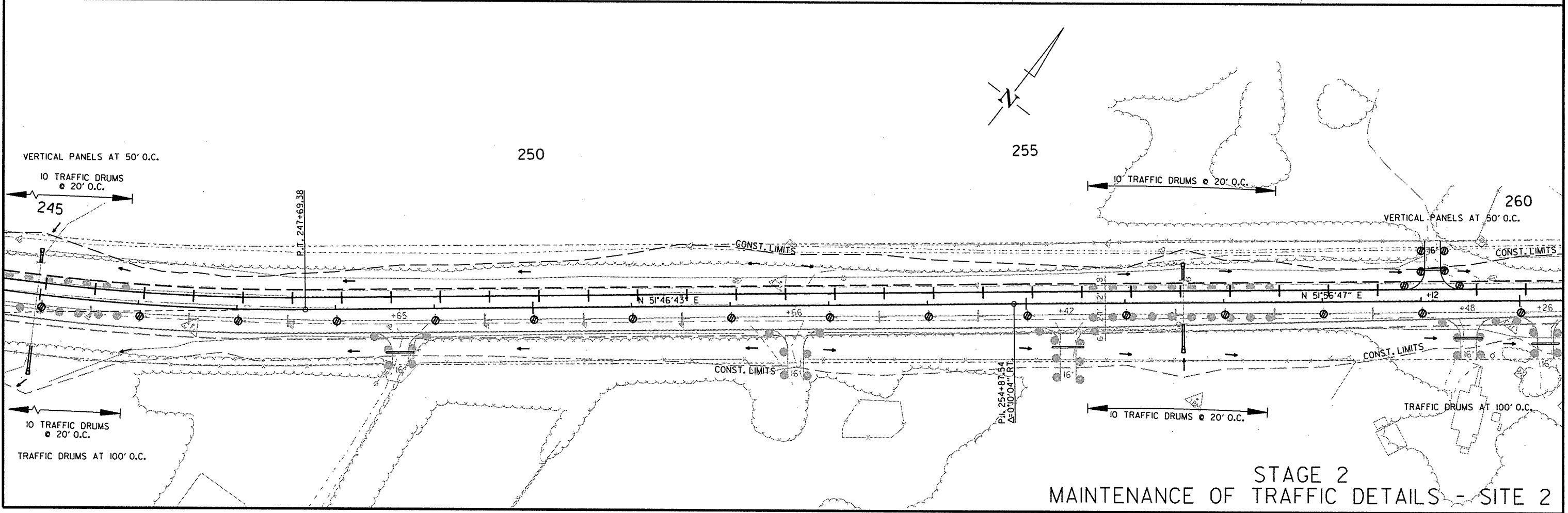
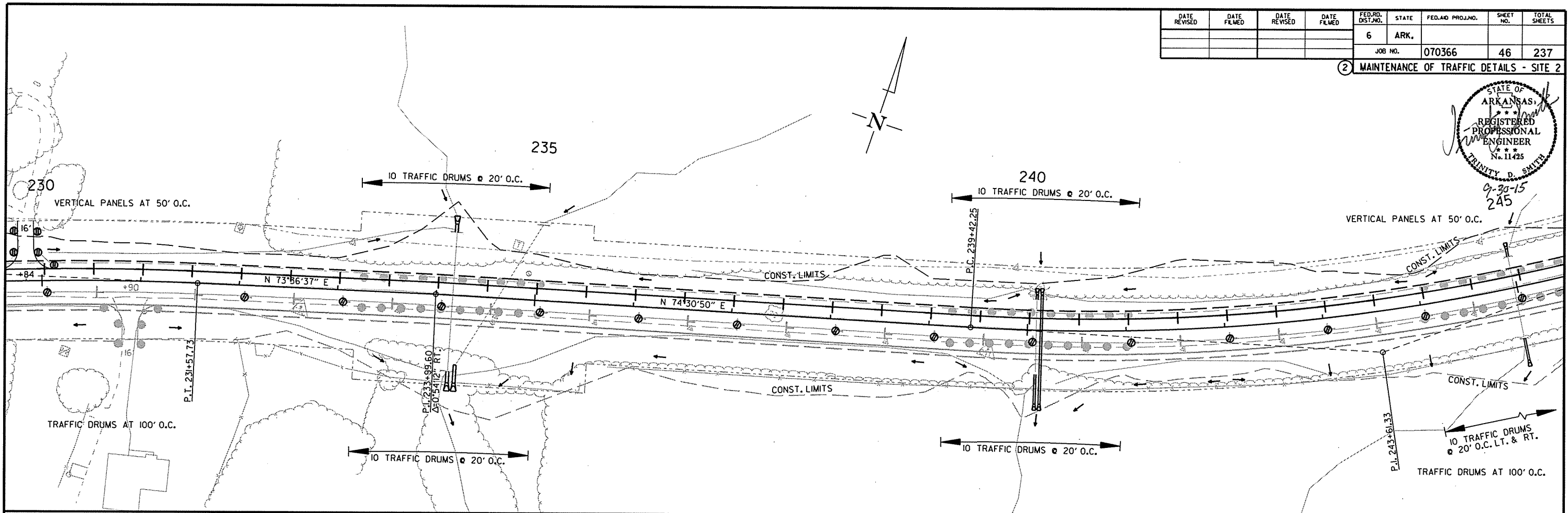
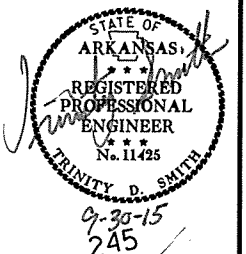
② MAINTENANCE OF TRAFFIC DETAILS - SITE 2



STAGE 2
MAINTENANCE OF TRAFFIC DETAILS - SITE 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. 070366							46	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 2

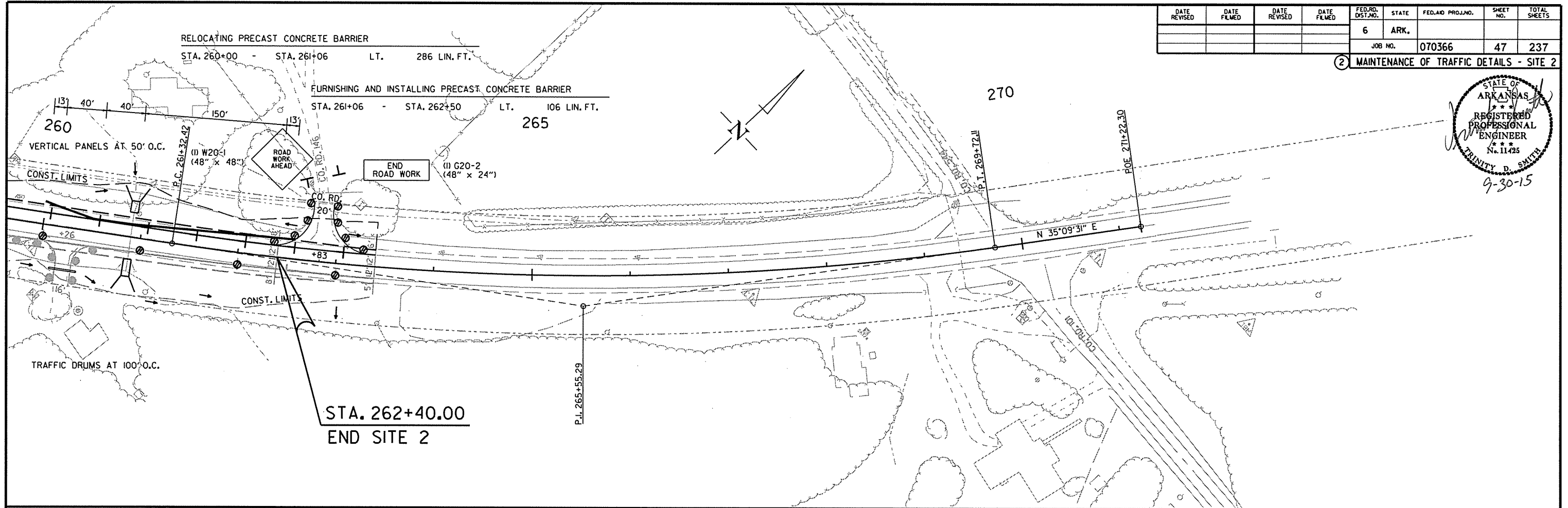
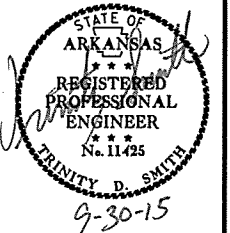


STAGE 2
MAINTENANCE OF TRAFFIC DETAILS - SITE 2

8/31/2015
R070366.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.	070366
								47
								237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 2



STA. 262+40.00
END SITE 2

9/16/2015
R070366.DGN

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS - SITE 2

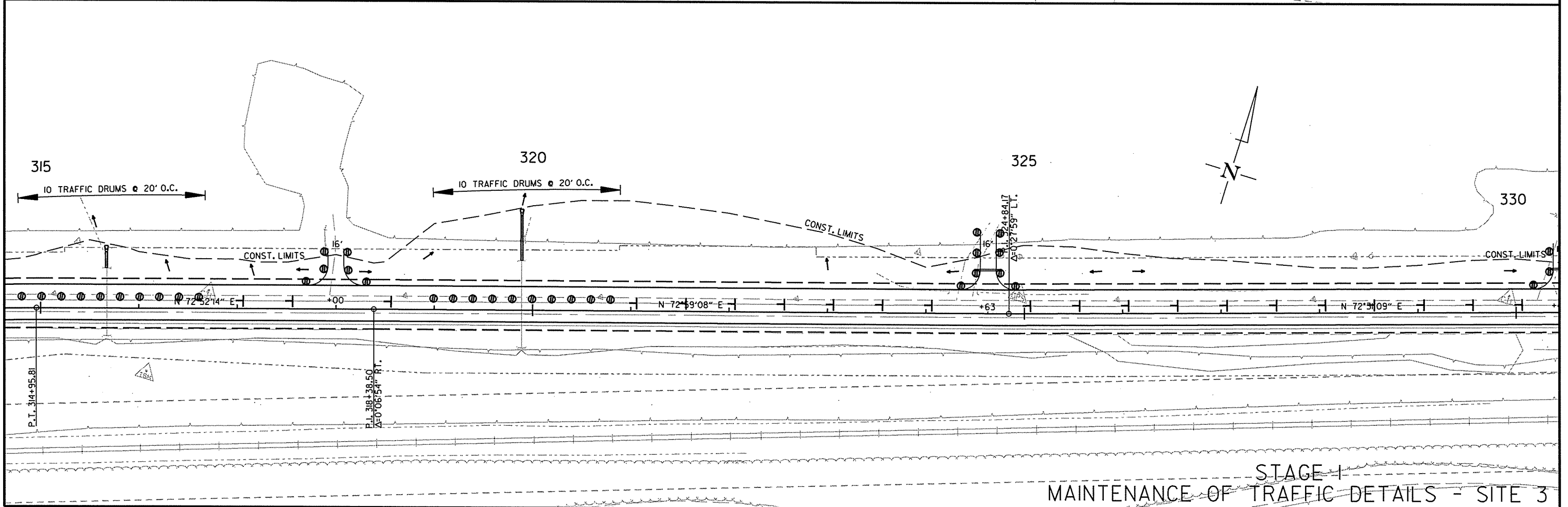
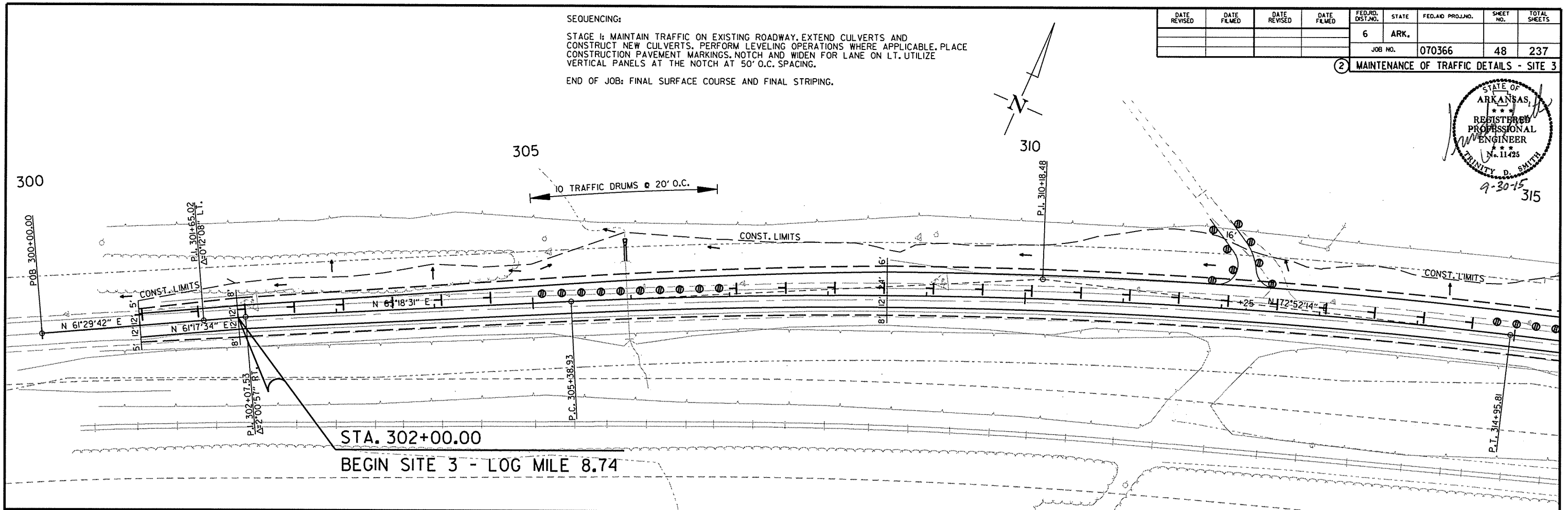
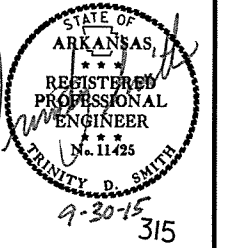
SEQUENCING:

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

END OF JOB: FINAL SURFACE COURSE AND FINAL STRIPING.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							48	237

2 MAINTENANCE OF TRAFFIC DETAILS - SITE 3



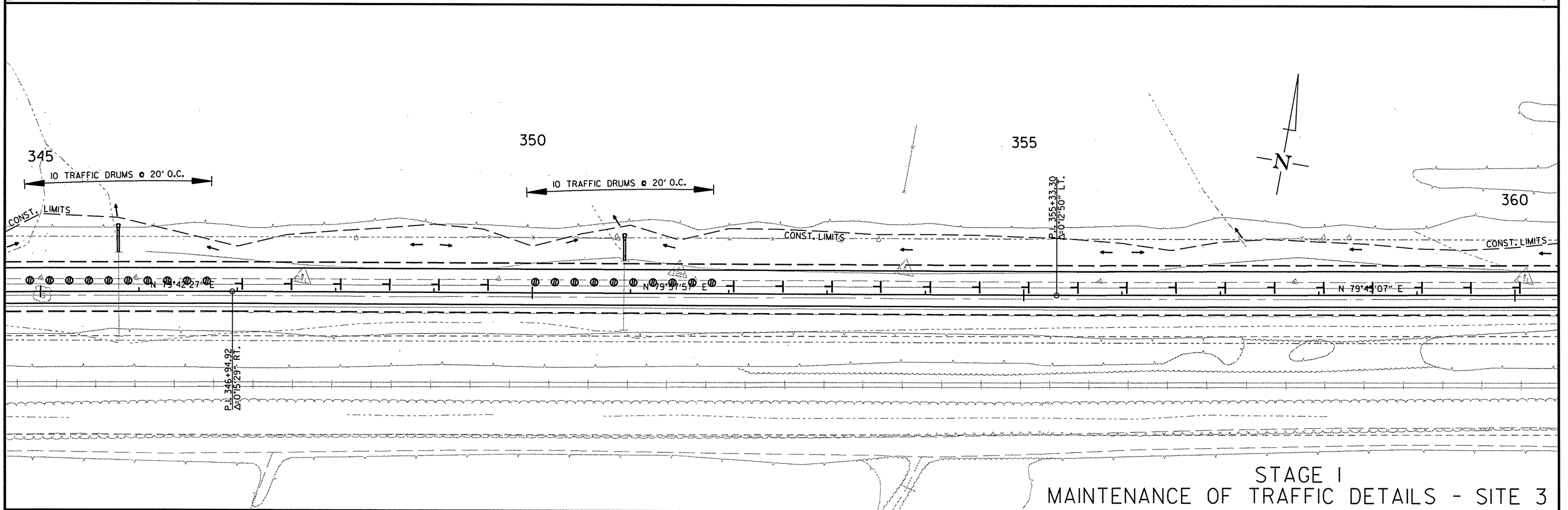
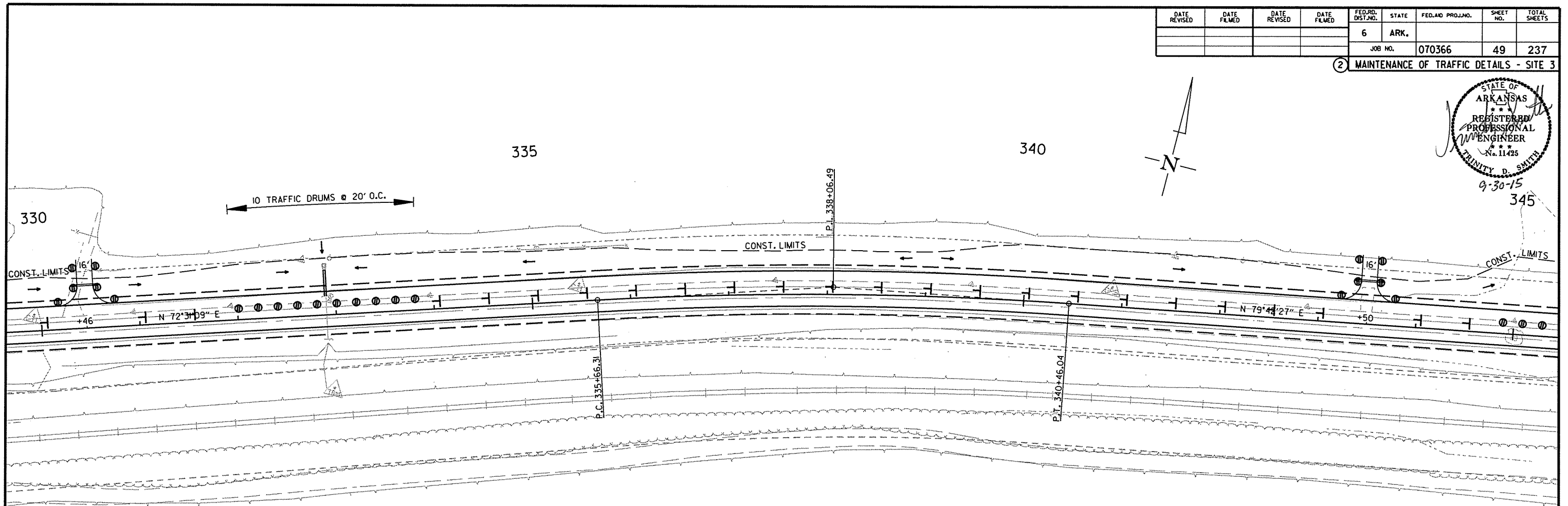
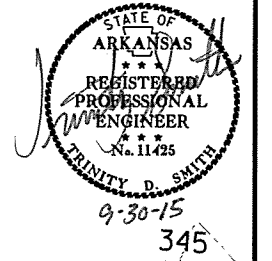
STAGE 1
MAINTENANCE OF TRAFFIC DETAILS - SITE 3

8/31/2015

R070366.DCN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		49	237
				JOB NO. 070366				

② MAINTENANCE OF TRAFFIC DETAILS - SITE 3



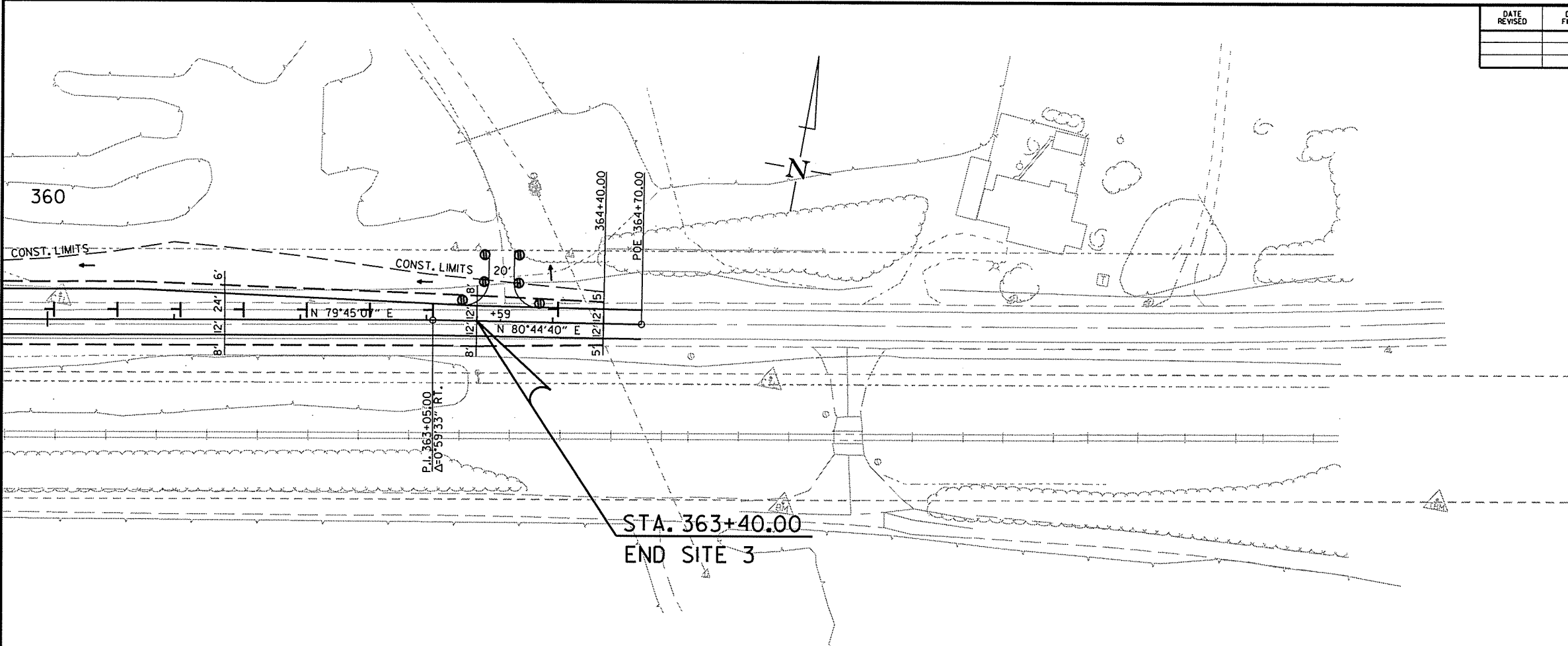
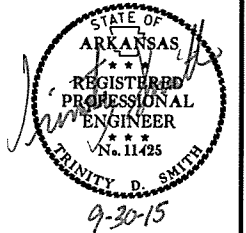
STAGE I
MAINTENANCE OF TRAFFIC DETAILS - SITE 3

8/31/2015

R070366.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.		070366	50	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 3



8/31/2015
R070366.DGN

STAGE I
MAINTENANCE OF TRAFFIC DETAILS - SITE 3

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		51	237

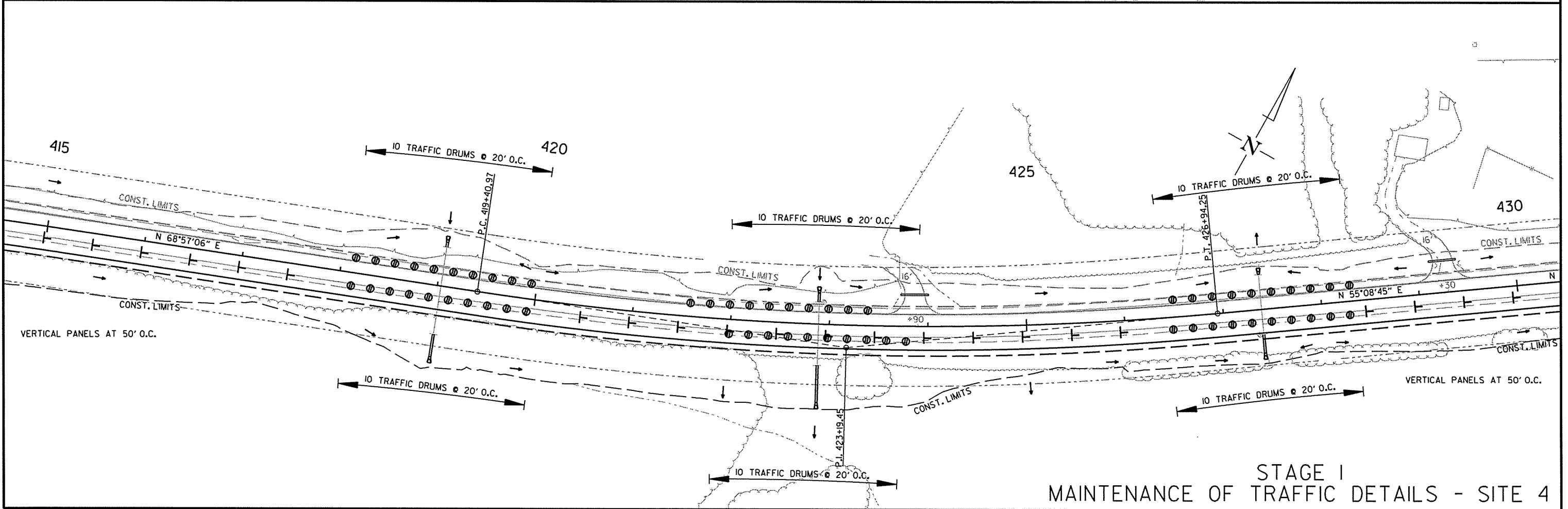
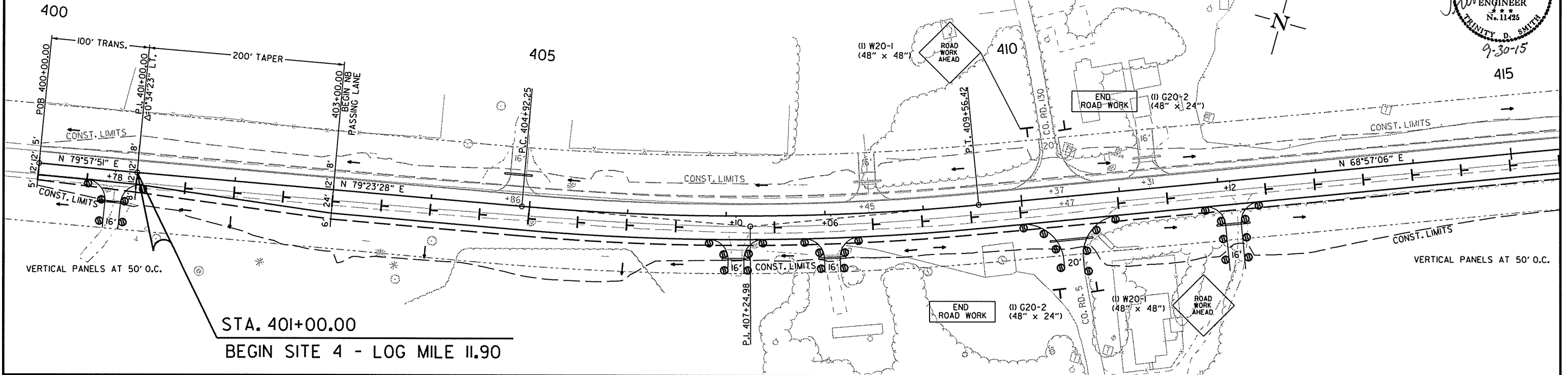
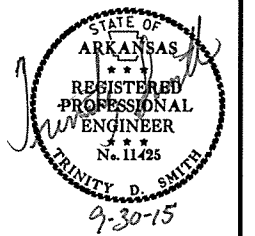
2 MAINTENANCE OF TRAFFIC DETAILS - SITE 4

SEQUENCING:

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

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

END OF JOB: FINAL SURFACE COURSE AND FINAL STRIPING.



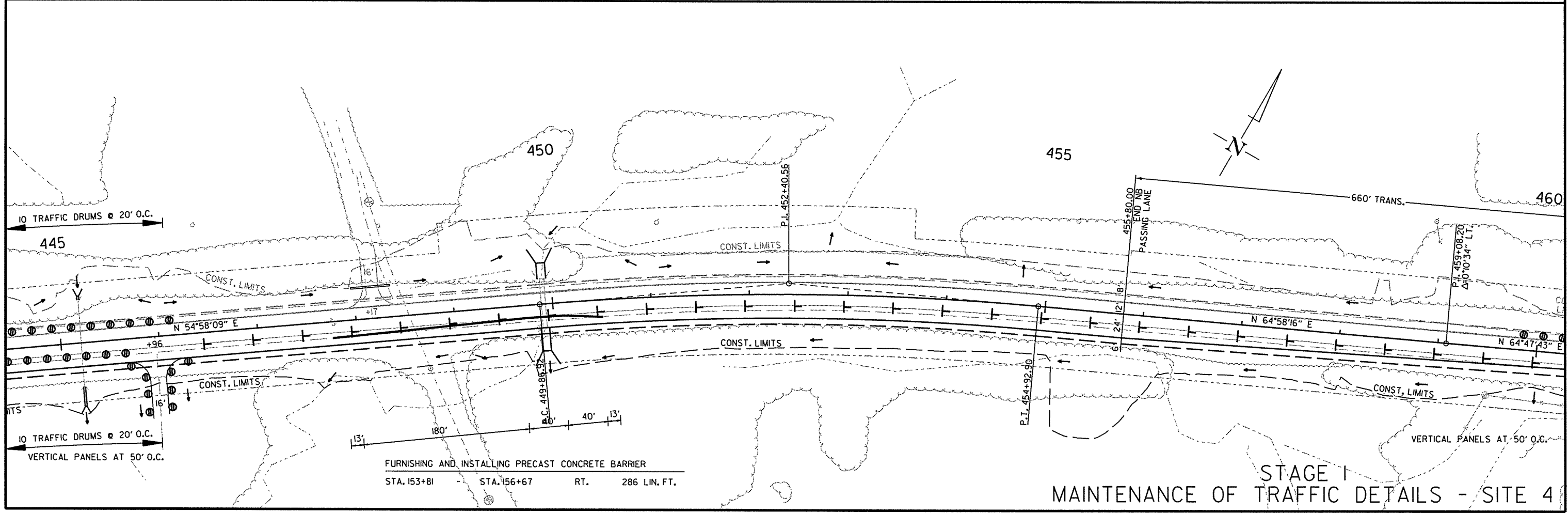
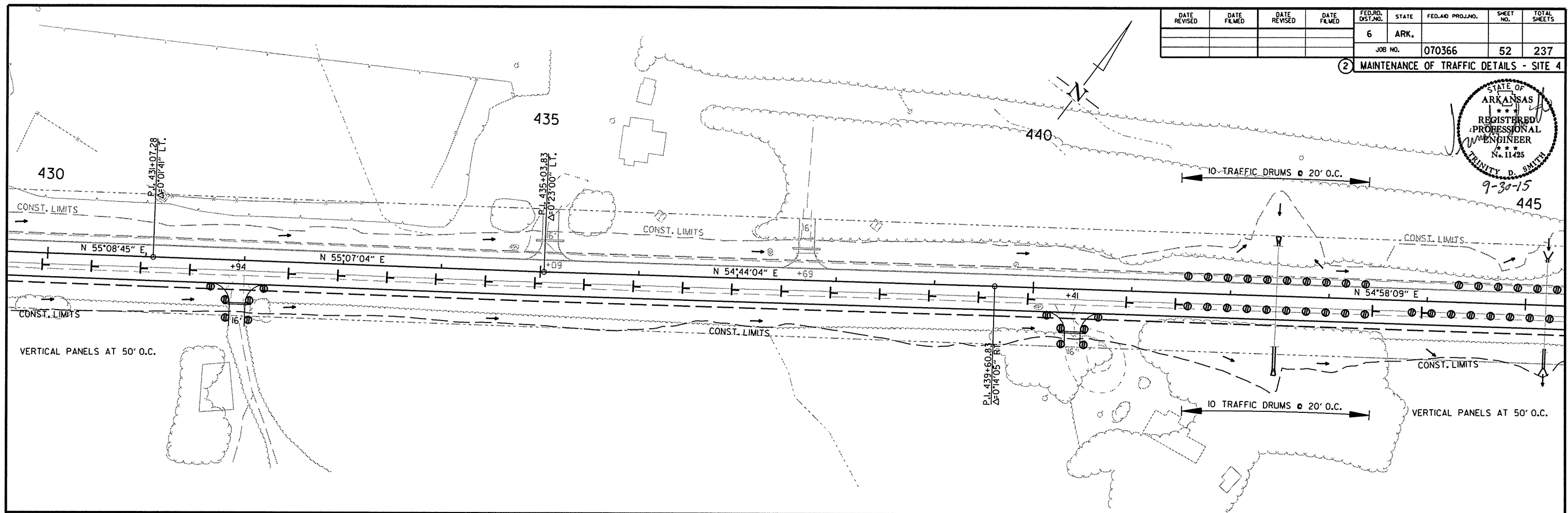
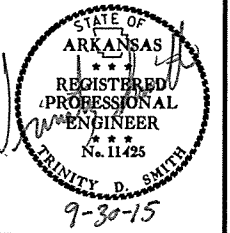
STAGE I
MAINTENANCE OF TRAFFIC DETAILS - SITE 4

9/16/2015

R070366.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	070366	52	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 4



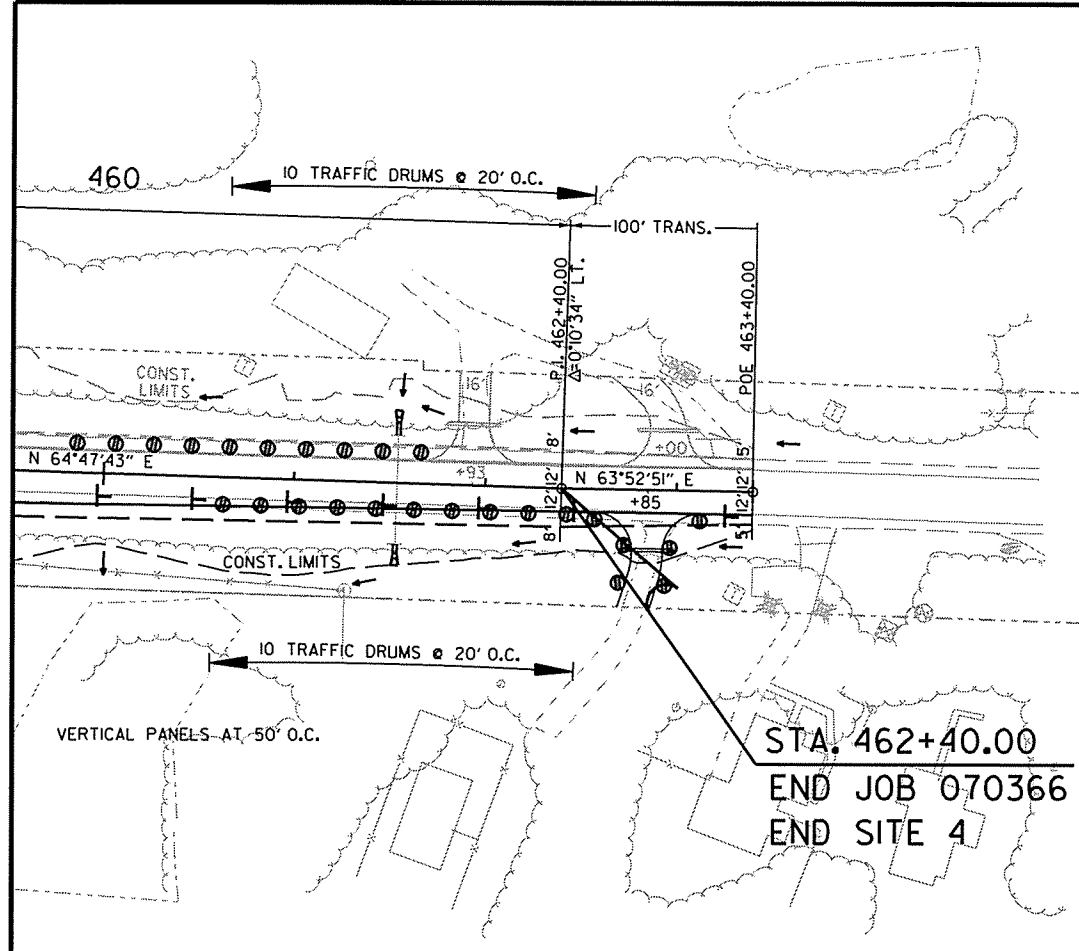
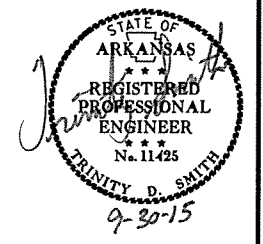
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER
 STA. 153+81 - STA. 156+67 RT. 286 LIN. FT.

STAGE I
 MAINTENANCE OF TRAFFIC DETAILS - SITE 4

9/1/2015 R070366.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.		070366	53	237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 4



STA. 462+40.00
 END JOB 070366
 END SITE 4

9/1/2015
 R070366.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.	070366	54	237	

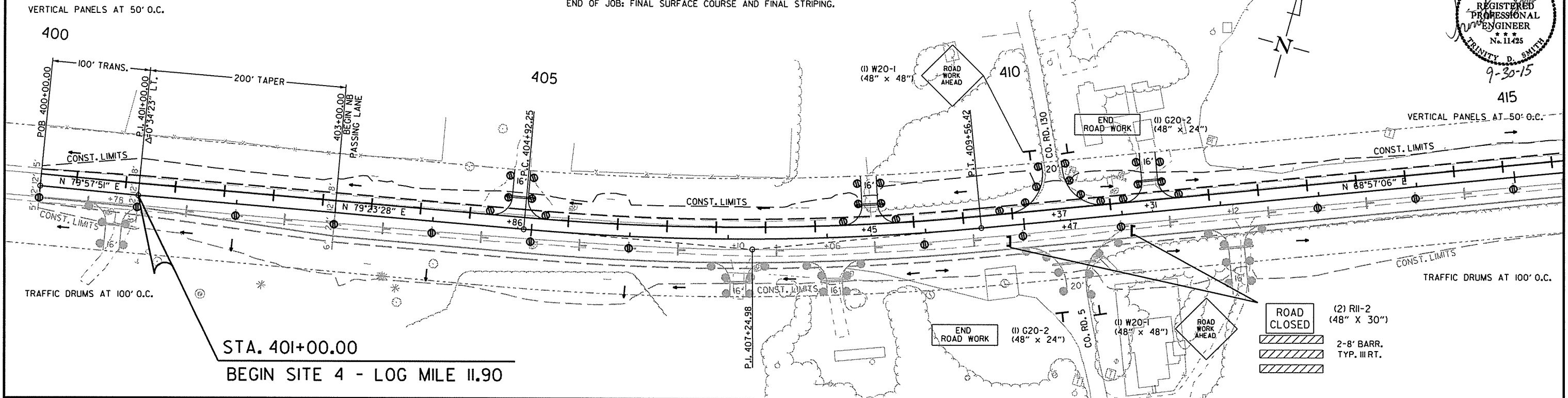
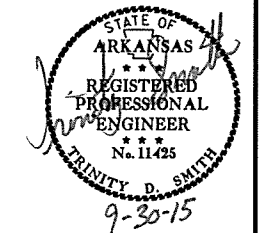
SEQUENCING:

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

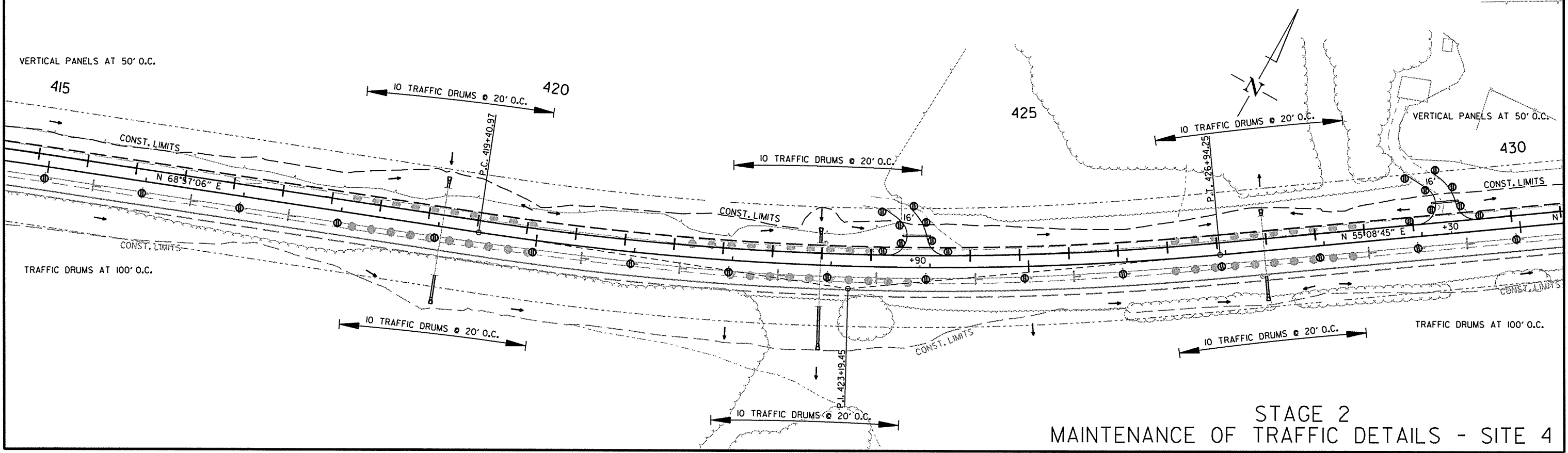
STAGE 2: NOTCH AND WIDEN ON LT, UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING, UTILIZE TRAFFIC DRUMS AT 100' O.C. SPACING AT EXISTING LANE EDGE ON RT.

END OF JOB: FINAL SURFACE COURSE AND FINAL STRIPING.

2 MAINTENANCE OF TRAFFIC DETAILS - SITE 4



STA. 40I+00.00
BEGIN SITE 4 - LOG MILE 11.90

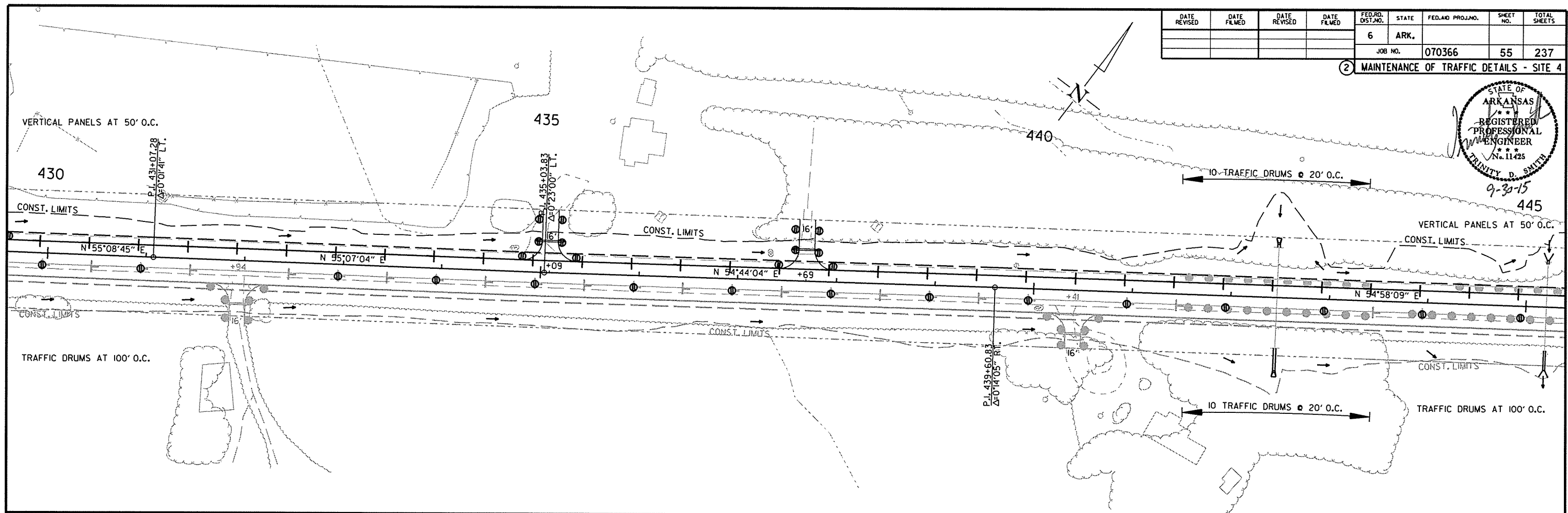
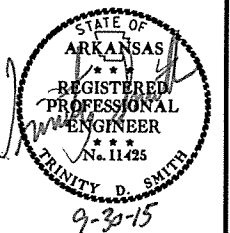


STAGE 2
MAINTENANCE OF TRAFFIC DETAILS - SITE 4

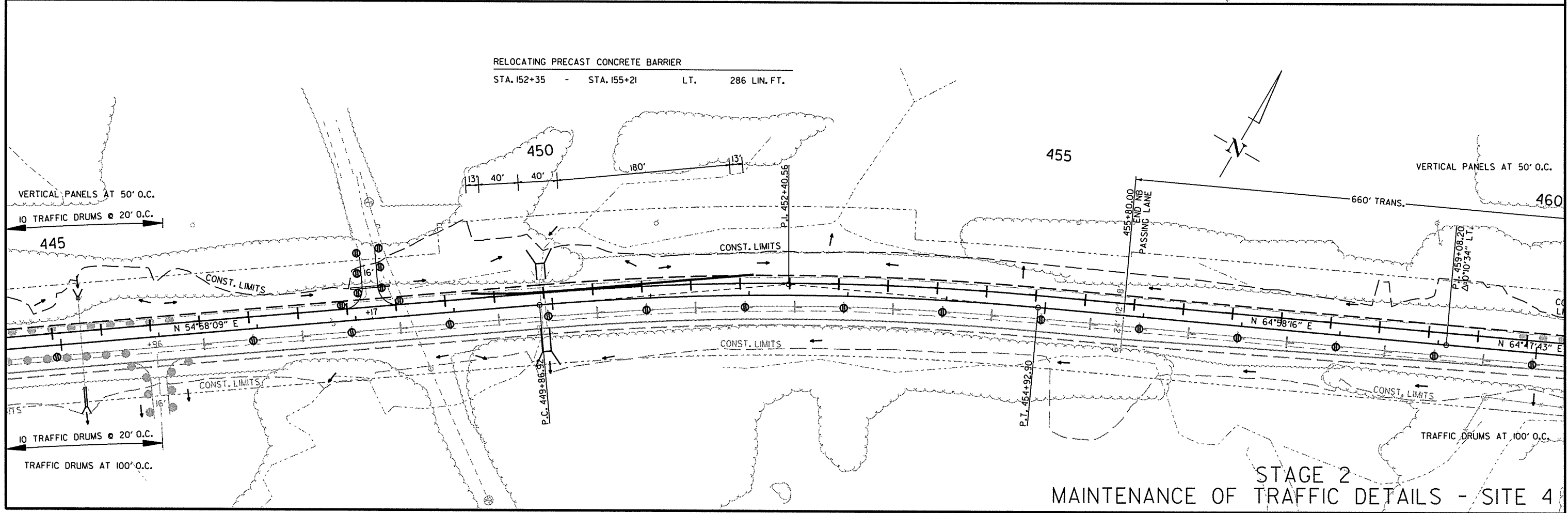
9/16/2015
R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. PROJ. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO. 070366	55 237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 4



RELOCATING PRECAST CONCRETE BARRIER
 STA. 152+35 - STA. 155+21 LT. 286 LIN. FT.

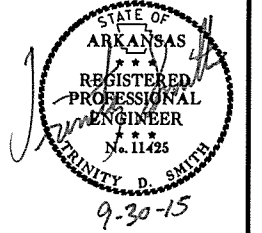
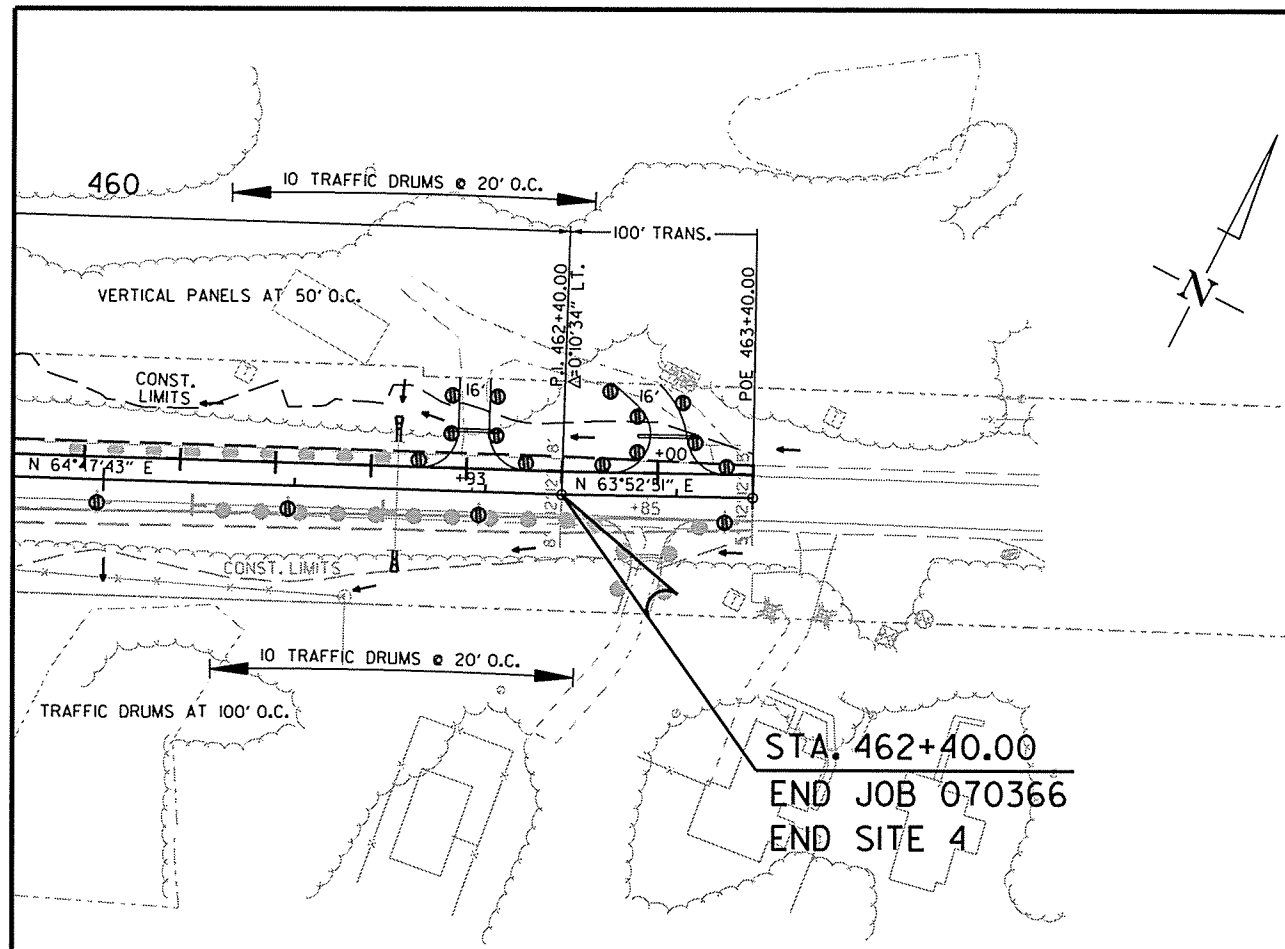


STAGE 2
 MAINTENANCE OF TRAFFIC DETAILS - SITE 4

9/1/2015 R070366.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. 070366	56 237

② MAINTENANCE OF TRAFFIC DETAILS - SITE 4



9/1/2015

R070366.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. 070366							57	237

2 PERMANENT PAVEMENT MARKING DETAILS



FINAL STRIPING - SITE 2:

THERMOPLASTIC PAVEMENT MARKINGS:
 RT. AND LT. EDGE LINES = 12680 LIN. FT. WHITE
 DBL. CENTERLINE = 12680 LIN. FT. YELLOW
 SKIP LINE = 1134 LIN. FT. WHITE

RAISED PAVEMENT MARKERS:
 TYPE II (YEL./YEL.) 40' O.C. ON CENTERLINE = 159 EACH
 TYPE II (WHITE/RED) 40' O.C. ON SKIP LINE = 113 EACH

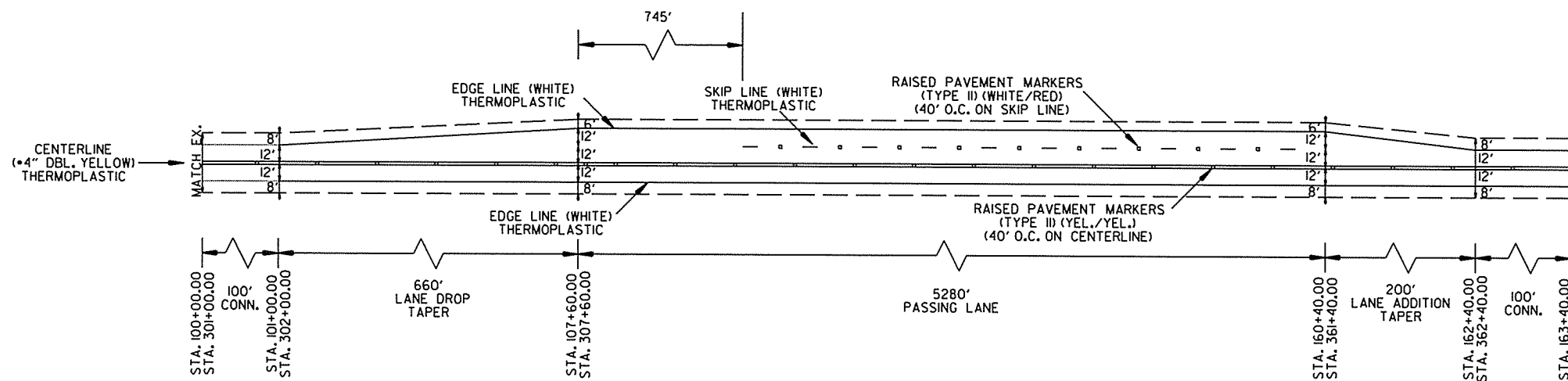
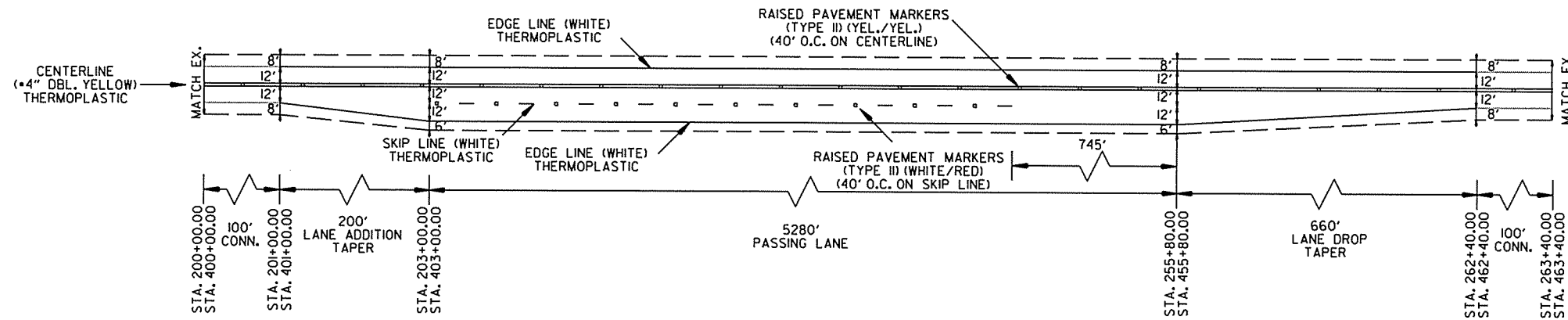
FINAL STRIPING - SITE 4:

THERMOPLASTIC PAVEMENT MARKINGS:
 RT. AND LT. EDGE LINES = 12680 LIN. FT. WHITE
 DBL. CENTERLINE = 12680 LIN. FT. YELLOW
 SKIP LINE = 1134 LIN. FT. WHITE

RAISED PAVEMENT MARKERS:
 TYPE II (YEL./YEL.) 40' O.C. ON CENTERLINE = 159 EACH
 TYPE II (WHITE/RED) 40' O.C. ON SKIP LINE = 113 EACH

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

THE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") QUANTITY IS ESTIMATED AND 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.



FINAL STRIPING - SITE 1:

THERMOPLASTIC PAVEMENT MARKINGS:
 RT. AND LT. EDGE LINES = 12680 LIN. FT. WHITE
 DBL. CENTERLINE = 12680 LIN. FT. YELLOW
 SKIP LINE = 1134 LIN. FT. WHITE

RAISED PAVEMENT MARKERS:
 TYPE II (YEL./YEL.) 40' O.C. ON CENTERLINE = 159 EACH
 TYPE II (WHITE/RED) 40' O.C. ON SKIP LINE = 113 EACH

FINAL STRIPING - SITE 3:

THERMOPLASTIC PAVEMENT MARKINGS:
 RT. AND LT. EDGE LINES = 12680 LIN. FT. WHITE
 DBL. CENTERLINE = 12680 LIN. FT. YELLOW
 SKIP LINE = 1134 LIN. FT. WHITE

RAISED PAVEMENT MARKERS:
 TYPE II (YEL./YEL.) 40' O.C. ON CENTERLINE = 159 EACH
 TYPE II (WHITE/RED) 40' O.C. ON SKIP LINE = 113 EACH

7/7/2015

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		58	237

② QUANTITIES



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)
			LIN. FT. - EACH			NO.	SQ. FT.							
W20-1	ROAD WORK 1500 FT.	48"x48"	8	8	8	8	128.0							
W20-1	ROAD WORK 1000 FT.	48"x48"	8	8	8	8	128.0							
W20-1	ROAD WORK 500 FT.	48"x48"	8	8	8	8	128.0							
W20-1	ROAD WORK AHEAD	48"x48"	13	13	13	13	208.0							
G20-2	END ROAD WORK	48"x24"	13	13	13	13	104.0							
G20-1	ROAD WORK NEXT xx MILES	60"x24"	8	8	8	8	80.0							
R11-2	ROAD CLOSED	48"x30"	2	2	2	2	20.0							
OM-3L	OBJECT MARKER	12"x36"	21	21	21	21	63.0							
OM-3R	OBJECT MARKER	12"x36"	28	28	28	28	84.0							
W1-8	CHEVRONS	18"x24"	56	56	56	56	168.0							
RSP-1	SHOULDER CLOSED	48"x30"	8	8	8	8	80.0							
	VERTICAL PANELS		491	491	491			491						
	TRAFFIC DRUMS		614	359	614				614					
	TYPE III BARRICADE-RT. (8')			2	2					16				
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		2394	180	2574						2574			
	RELOCATING PRECAST CONCRETE BARRIER			2394	2394							2394		
	TEMPORARY IMPACT ATTENUATION BARRIER		1		1								1	
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		1		1									1
TOTALS:							1191.0	491	614	16	2574	2394	1	1

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

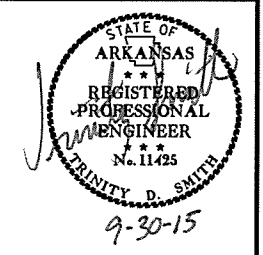
THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR THE FULL LENGTH OF THE JOB. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. 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.

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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
				6	ARK.			
				JOB NO.	070366		59	237

② QUANTITIES



CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING		
					TYPE II	TYPE II	4"		
					(WHITE/RED)	(YEL/YEL)	WHITE	YELLOW	
LIN. FT. - EACH				LIN. FT.	EACH				
SITE 1									
CONSTRUCTION PAVEMENT MARKINGS	12680	12680		25360					
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			113		113				
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			159			159			
THERMOPLASTIC PAVEMENT MARKING WHITE (4")			13814				13814		
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")			12680					12680	
SUBTOTALS SITE 1:				25360	113	159	13814	12680	
SITE 2									
CONSTRUCTION PAVEMENT MARKINGS	12680	12680		25360					
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			113		113				
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			159			159			
THERMOPLASTIC PAVEMENT MARKING WHITE (4")			13814				13814		
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")			12680					12680	
SUBTOTALS SITE 2:				25360	113	159	13814	12680	
SITE 3									
CONSTRUCTION PAVEMENT MARKINGS	6340	6340		12680					
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			113		113				
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			159			159			
THERMOPLASTIC PAVEMENT MARKING WHITE (4")			13814				13814		
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")			12680					12680	
SUBTOTALS SITE 3:				12680	113	159	13814	12680	
SITE 4									
CONSTRUCTION PAVEMENT MARKINGS	12680	12680		25360					
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			113		113				
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			159			159			
THERMOPLASTIC PAVEMENT MARKING WHITE (4")			13814				13814		
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")			12680					12680	
SUBTOTALS SITE 4:				25360	113	159	13814	12680	
TOTALS:				88760	452	636	55256	50720	

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

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

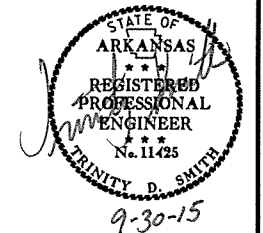
NOTE: THERMOPLASTIC PAVEMENT MARKINGS MAY BE SUBSTITUTED FOR INVERTED PROFILE PAVEMENT MARKINGS AT INTERSECTIONS, ISLANDS, TURNOUTS, AND OTHER SIMILAR LOCATIONS AS DIRECTED BY THE ENGINEER.

R070366.DCN 7/7/2015

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.	070366	60	237	

2 QUANTITIES



CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING STATION	GRUBBING STATION
SITE 1				
110+00	113+00	LT. OF HWY. 79	3	3
115+00	119+00	LT. OF HWY. 79	4	4
119+00	120+00	LT. & RT. OF HWY. 79	1	1
120+00	124+00	LT. OF HWY. 79	4	4
125+00	134+00	LT. OF HWY. 79	9	9
134+00	137+00	LT. & RT. OF HWY. 79	3	3
137+00	139+00	LT. OF HWY. 79	2	2
144+00	154+00	LT. OF HWY. 79	10	10
154+00	155+00	LT. & RT. OF HWY. 79	1	1
155+00	158+00	LT. OF HWY. 79	3	3
SUBTOTALS SITE 1:			40	40
SITE 2				
202+00	205+00	LT. & RT. OF HWY. 79	3	3
205+00	215+00	RT. OF HWY. 79	10	10
215+00	217+00	LT. & RT. OF HWY. 79	2	2
217+00	219+00	RT. OF HWY. 79	2	2
219+00	221+00	LT. & RT. OF HWY. 79	2	2
221+00	225+00	RT. OF HWY. 79	4	4
228+00	229+00	RT. OF HWY. 79	1	1
233+00	241+00	LT. & RT. OF HWY. 79	8	8
241+00	242+00	LT. OF HWY. 79	1	1
242+00	246+00	LT. & RT. OF HWY. 79	4	4
246+00	248+00	RT. OF HWY. 79	2	2
248+00	258+00	LT. & RT. OF HWY. 79	10	10
258+00	259+00	RT. OF HWY. 79	1	1
259+00	260+00	LT. & RT. OF HWY. 79	1	1
260+00	264+00	LT. OF HWY. 79	4	4
SUBTOTALS SITE 2:			55	55
SITE 3				
301+00	305+00	LT. OF HWY. 79	4	4
318+00	324+00	LT. OF HWY. 79	6	6
344+00	346+00	LT. OF HWY. 79	2	2
SUBTOTALS SITE 3:			12	12
SITE 4				
403+00	408+00	RT. OF HWY. 79	5	5
408+00	410+00	LT. OF HWY. 79	2	2
410+00	424+00	LT. & RT. OF HWY. 79	14	14
424+00	435+00	RT. OF HWY. 79	11	11
435+00	436+00	LT. & RT. OF HWY. 79	1	1
436+00	437+00	RT. OF HWY. 79	1	1
437+00	464+00	LT. & RT. OF HWY. 79	27	27
SUBTOTALS SITE 4:			61	61
TOTALS:			168	168

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS EACH
SITE 1		
100+11	12" X 22' RT. SIDE DRAIN	1
100+11	12" X 22' LT. SIDE DRAIN	1
123+42	24" X 26' R.C. RT. SIDE DRAIN	1
137+57	12" X 22' R.C. LT. SIDE DRAIN	1
139+70	12" X 22' R.C. RT. SIDE DRAIN	1
SUBTOTAL SITE 1:		5
SITE 2		
202+85	RT. SIDE DRAIN	1
220+27	12" X 24' C.M. LT. SIDE DRAIN	1
224+67	18" X 40' R.C. LT. SIDE DRAIN	1
225+40	12" X 24' C.M. LT. SIDE DRAIN	1
225+43	18" X 18' R.C. RT. SIDE DRAIN	1
227+30	12" X 25' C.M. RT. SIDE DRAIN	1
227+51	12" X 30' C.M. LT. SIDE DRAIN	1
248+76	12" X 24' C.M. RT. SIDE DRAIN	1
255+42	18" X 18' R.C. RT. SIDE DRAIN	1
259+50	18" X 24' C.M. RT. SIDE DRAIN	1
260+25	18" X 24' C.M. RT. SIDE DRAIN	1
SUBTOTAL SITE 2:		11
SITE 3		
324+38	LT. SIDE DRAIN	1
343+50	18" X 18' R.C. LT. SIDE DRAIN	1
SUBTOTAL SITE 3:		2
SITE 4		
400+89	18" X 26' R.C. RT. SIDE DRAIN	1
407+10	18" X 22' C.M. RT. SIDE DRAIN	1
408+03	12" X 20' C.M. RT. SIDE DRAIN	1
408+45	15" X 18' C.M. LT. SIDE DRAIN	1
411+27	18" X 24' C.M. LT. SIDE DRAIN	1
412+23	18" X 26' C.M. RT. SIDE DRAIN	1
429+32	C.M. LT. SIDE DRAIN	1
431+94	RT. SIDE DRAIN	1
437+69	15" X 24' C.M. LT. SIDE DRAIN	1
440+35	12" X 24' C.M. RT. SIDE DRAIN	1
461+95	18" X 28' R.C. LT. SIDE DRAIN	1
462+87	18" X 20' R.C. RT. SIDE DRAIN	1
463+21	18" X 24' C.M. LT. SIDE DRAIN	1
SUBTOTAL SITE 4:		13
TOTAL:		31

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

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH LIN. FT.	CLASS 3 SQ. YD.
SITE 1				
100+00.00	119+90.00	LT. OF HWY. 79	1990	1769
121+00.00	134+00.00	LT. OF HWY. 79	1300	1156
135+20.00	154+99.00	LT. OF HWY. 79	1979	1759
161+00.00	163+40.00	LT. OF HWY. 79	240	213
100+00.00	101+50.00	RT. OF HWY. 79	150	133
103+00.00	103+50.00	RT. OF HWY. 79	50	44
106+10.00	106+90.00	RT. OF HWY. 79	80	71
108+37.00	111+19.00	RT. OF HWY. 79	282	251
119+10.00	119+90.00	RT. OF HWY. 79	80	71
122+00.00	125+00.00	RT. OF HWY. 79	300	267
127+29.00	127+79.00	RT. OF HWY. 79	50	44
132+00.00	133+59.00	RT. OF HWY. 79	159	141
139+51.00	140+00.00	RT. OF HWY. 79	49	44
142+01.00	142+31.00	RT. OF HWY. 79	30	27
144+00.00	146+00.00	RT. OF HWY. 79	200	178
150+00.00	154+99.00	RT. OF HWY. 79	499	444
156+00.00	163+40.00	RT. OF HWY. 79	740	658
SUBTOTAL SITE 1:				7270
SITE 2				
201+50.00	202+50.00	LT. OF HWY. 79	100	89
207+00.00	213+00.00	LT. OF HWY. 79	600	533
216+00.00	216+90.00	LT. OF HWY. 79	90	80
220+00.00	222+43.00	LT. OF HWY. 79	243	216
223+40.00	223+90.00	LT. OF HWY. 79	50	44
224+75.00	231+00.00	LT. OF HWY. 79	625	556
234+00.00	234+60.00	LT. OF HWY. 79	60	53
236+00.00	245+00.00	LT. OF HWY. 79	900	800
247+00.00	263+40.00	LT. OF HWY. 79	1640	1458
202+86.00	213+00.00	RT. OF HWY. 79	1014	901
216+00.00	216+90.00	RT. OF HWY. 79	90	80
218+00.00	232+00.00	RT. OF HWY. 79	1400	1244
234+05.00	234+90.00	RT. OF HWY. 79	85	76
236+00.00	242+00.00	RT. OF HWY. 79	600	533
244+05.00	245+00.00	RT. OF HWY. 79	95	84
247+00.00	261+00.00	RT. OF HWY. 79	1400	1244
SUBTOTAL SITE 2:				7991
SITE 3				
302+00.00	302+50.00	LT. OF HWY. 79	50	44
305+00.00	305+98.00	LT. OF HWY. 79	98	87
309+00.00	312+04.00	LT. OF HWY. 79	304	270
317+50.00	318+50.00	LT. OF HWY. 79	100	89
324+00.00	337+00.00	LT. OF HWY. 79	1300	1156
339+00.00	343+00.00	LT. OF HWY. 79	400	356
345+00.00	345+90.00	LT. OF HWY. 79	90	80
347+00.00	349+50.00	LT. OF HWY. 79	250	222
350+50.00	350+98.00	LT. OF HWY. 79	48	43
352+00.00	356+00.00	LT. OF HWY. 79	400	356
360+00.00	363+40.00	LT. OF HWY. 79	340	302
SUBTOTAL SITE 3:				3005
SITE 4				
400+00.00	402+00.00	LT. OF HWY. 79	200	178
404+00.00	405+00.00	LT. OF HWY. 79	100	89
407+00.00	427+90.00	LT. OF HWY. 79	2090	1858
429+00.00	431+00.00	LT. OF HWY. 79	200	178
434+00.00	441+00.00	LT. OF HWY. 79	700	622
442+15.00	449+95.00	LT. OF HWY. 79	780	693
457+00.00	463+40.00	LT. OF HWY. 79	640	569
400+00.00	401+00.00	RT. OF HWY. 79	100	89
407+00.00	419+50.00	RT. OF HWY. 79	1250	1111
426+00.00	436+00.00	RT. OF HWY. 79	1000	889
437+69.00	443+00.00	RT. OF HWY. 79	531	472
447+75.00	448+15.00	RT. OF HWY. 79	40	36
449+70.00	459+00.00	RT. OF HWY. 79	930	827
463+00.00	464+00.00	RT. OF HWY. 79	100	89
SUBTOTAL SITE 4:				7700
TOTAL:				25966

NOTE: AVERAGE WIDTH = 8'-0"

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE LIN. FT.
SITE 2			
232+00		RT. OF HWY. 79	10
232+00	232+18	RT. OF HWY. 79	30
232+30	232+54	RT. OF HWY. 79	30
232+80	248+50	RT. OF HWY. 79	1570
248+80	252+20	RT. OF HWY. 79	340
252+60	252+70	RT. OF HWY. 79	10
252+70	258+40	RT. OF HWY. 79	570
SUBTOTAL SITE 2:			2560
SITE 3			
324+60	330+30	LT. OF HWY. 79	570
330+50	336+50	LT. OF HWY. 79	600
SUBTOTAL SITE 3:			1170
SITE 4			
410+84	411+50	RT. OF HWY. 79	105
448+62	448+92	RT. OF HWY. 79	30
SUBTOTAL SITE 4:			135
TOTAL:			3865

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. PROJ. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	070366
								61
								237

② QUANTITIES

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.	CU. YD.	TON
SITE 1					
101+00	162+40	STAGE 1-MAIN LANES	6493	12170	50
ENTIRE	SITE	APPROACHES		685	
SUBTOTALS SITE 1:			6493	12855	50
SITE 2					
201+00	262+40	STAGE 1-MAIN LANES	22531	11361	50
ENTIRE	SITE	APPROACHES		1040	
SUBTOTALS SITE 2:			22531	12401	50
SITE 3					
302+00	363+40	STAGE 1-MAIN LANES	6771	21703	50
ENTIRE	SITE	APPROACHES		420	
SUBTOTALS SITE 3:			6771	22123	50
SITE 4					
4101+00	4162+40	STAGE 1-MAIN LANES	12237	16063	50
ENTIRE	SITE	APPROACHES		915	
SUBTOTALS SITE 4:			12237	16978	50
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			200
TOTALS:			48032	64357	400

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

COLD MILLING ASPHALT PAVEMENT

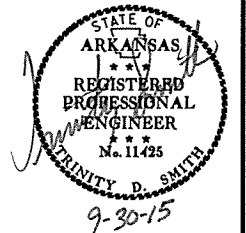
STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
SITE 1				
100+00.00	101+00.00	MAIN LANES	24.00	266.67
162+40.00	163+40.00	MAIN LANES	24.00	266.67
SUBTOTAL SITE 1:				533.34
SITE 2				
200+00.00	201+00.00	MAIN LANES	24.00	266.67
262+40.00	263+40.00	MAIN LANES	24.00	266.67
SUBTOTAL SITE 2:				533.34
SITE 3				
301+00.00	302+00.00	MAIN LANES	24.00	266.67
363+40.00	364+40.00	MAIN LANES	24.00	266.67
SUBTOTAL SITE 3:				533.34
SITE 4				
400+00.00	401+00.00	MAIN LANES	24.00	266.67
462+40.00	463+40.00	MAIN LANES	24.00	266.67
SUBTOTAL SITE 4:				533.34
TOTAL:				2133.36

NOTE: AVERAGE MILLING DEPTH 1".

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	100	200
TOTALS:	100	200

BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE



SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU. YD.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	500
TOTAL:	500

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

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			4000	32
TOTALS:			4000	32

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

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN. FT.
SITE 1			
100+00	163+40	RT. SHOULDER	5874
100+00	163+40	LT. SHOULDER	5632
SUBTOTAL SITE 1:			11506
SITE 2			
200+00	263+40	RT. SHOULDER	5548
200+00	263+40	LT. SHOULDER	5658
SUBTOTAL SITE 2:			11206
SITE 3			
301+00	364+40	RT. SHOULDER	6340
301+00	364+40	LT. SHOULDER	5940
SUBTOTAL SITE 3:			12280
SITE 4			
400+00	463+40	RT. SHOULDER	5702
400+00	463+40	LT. SHOULDER	5636
SUBTOTAL SITE 4:			11338
TOTAL:			46330

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	LOCATION	STEPS	CONCRETE SLABS	GATES	POSTS	SATELLITE DISH	SIGN FOUNDATIONS	SIGNS
		SQ. YD.				EACH		
SITE 2								
210+00	RT. OF HWY. 79				1			
210+28	RT. OF HWY. 79				1			
210+28	RT. OF HWY. 79			1				
225+95	LT. OF HWY. 79							1
229+28	LT. OF HWY. 79						1	1
252+20	RT. OF HWY. 79				1			
252+45	RT. OF HWY. 79			1				
SUBTOTALS SITE 2:				2	3		1	2
SITE 4								
409+67	RT. OF HWY. 79		136					
409+73	RT. OF HWY. 79						1	1
410+84	RT. OF HWY. 79	12						
410+93	LT. OF HWY. 79	6						
411+25	RT. OF HWY. 79					1		
411+50	LT. OF HWY. 79					1		
SUBTOTALS SITE 4:		18	136			2	1	1
TOTALS:		18	136	2	3	2	2	3

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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.	070366	62	237	

2 QUANTITIES



STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT					FLARED END SECTIONS FOR R.C. PIPE CULVERTS				SPAN	HEIGHT	LENGTH	CLASS S CONCRETE ROADWAY	REINF. STEEL ROADWAY (GRADE 60)	UNCL. EXC. FOR STR. ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		(CLASS III)			(CLASS IV)		24"	30"	36"	54"									
		24"	30"	36"	24"	54"													
SITE 1																			
106+53	EXTEND 3' X 2' X 70' R.C. BOX CULVERT									3	2	23	9.65	809	8	5	0.06	SPECIAL DETAILS, RCB-1, RCB-2, RCB-3	
108+87	EXTEND 24" X 58' R.C. PIPE CULVERT	34						2								16	0.20	FES-1, FES-2, PCC-1	
112+88	EXTEND 24" X 57' R.C. PIPE CULVERT				32			2								16	0.20	FES-1, FES-2, PCC-1	
112+88	CONSTRUCT 24" X 82' R.C. PIPE CULVERT				82			2								16	0.20	FES-1, FES-2, PCC-1	
115+81	EXTEND 24" X 45' R.C. PIPE CULVERT				42			2								16	0.20	FES-1, FES-2, PCC-1	
119+38	EXTEND 10' X 8' X 61' R.C. BOX CULVERT									10	8	36	71.43	7199	44	21	0.26	RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-0	
127+54	EXTEND 3' X 2' X 88' R.C. BOX CULVERT									3	2	19	8.66	728	7	5	0.06	SPECIAL DETAILS, RCB-1, RCB-2, RCB-3	
135+30	EXTEND 24" X 108' R.C. PIPE CULVERT	19						2								16	0.20	FES-1, FES-2, PCC-1	
142+16	EXTEND 24" X 50' R.C. PIPE CULVERT				38			2								16	0.20	FES-1, FES-2, PCC-1	
154+51	EXTEND 4' X 3' X 56' R.C. BOX CULVERT									4	3	31	18.90	1827	14	7	0.09	RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-0	
SUBTOTALS SITE 1:		53			194			12		20	15	109	108.64	10563	73	134	1.67		
SITE 2																			
216+04	6' X 3' X 73' R.C. BOX CULVERT									6	3	26	20.28	2186	16	8	0.10	RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-0	
216+04	CONSTRUCT 54" X 94' R.C. PIPE CULVERT				94			2								70	0.88	FES-1, FES-2, PCC-1	
223+77	EXTEND 24" X 66' R.C. PIPE CULVERT	30						2								16	0.20	FES-1, FES-2, PCC-1	
234+17	EXTEND 36" X 144' R.C. PIPE CULVERT			26												34	0.43	FES-1, FES-2, PCC-1	
234+62	EXTEND 36" X 177' R.C. PIPE CULVERT			23				1								17	0.21	FES-1, FES-2, PCC-1	
240+09	EXTEND 24" X 74' R.C. PIPE CULVERT				40			2								16	0.20	FES-1, FES-2, PCC-1	
240+09	INSTALL 24" X 110' R.C. PIPE CULVERT				110			2								16	0.20	FES-1, FES-2, PCC-1	
244+97	EXTEND 24" X 86' R.C. PIPE CULVERT	36						2								16	0.20	FES-1, FES-2, PCC-1	
256+59	EXTEND 24" X 86' R.C. PIPE CULVERT				40			2								16	0.20	FES-1, FES-2, PCC-1	
260+90	EXTEND 6' X 4' X 49' R.C. BOX CULVERT									6	4	28	24.45	2406	18	10	0.13	RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-0	
SUBTOTALS SITE 2:		66		49	190	94	10	3	2	12	7	54	44.73	4592	34	219	2.75		
SITE 3																			
305+96	EXTEND 24" X 80' R.C. PIPE CULVERT	20						1								8	0.10	FES-1, FES-2, PCC-1	
315+67	EXTEND 24" X 69' R.C. PIPE CULVERT	20						1								8	0.10	FES-1, FES-2, PCC-1	
319+89	EXTEND 24" X 90' R.C. PIPE CULVERT				49			1								8	0.10	FES-1, FES-2, PCC-1	
332+90	EXTEND 24" X 45' R.C. PIPE CULVERT	30						1								8	0.10	FES-1, FES-2, PCC-1	
345+79	EXTEND 24" X 86' R.C. PIPE CULVERT	26						1								8	0.10	FES-1, FES-2, PCC-1	
350+93	EXTEND 24" X 71' R.C. PIPE CULVERT	25						1								8	0.10	FES-1, FES-2, PCC-1	
SUBTOTALS SITE 3:		121			49			6								48	0.60		
SITE 4																			
419+03	EXTEND 24" X 89' R.C. PIPE CULVERT	31						2								16	0.20	FES-1, FES-2, PCC-1	
422+90	EXTEND 24" X 65' R.C. PIPE CULVERT				52			2								16	0.20	FES-1, FES-2, PCC-1	
427+39	EXTEND 24" X 62' R.C. PIPE CULVERT	24						2								16	0.20	FES-1, FES-2, PCC-1	
442+47	EXTEND 30" X 103' R.C. PIPE CULVERT		31						2							23	0.29	FES-1, FES-2, PCC-1	
445+21	EXTEND 3' X 2' X 88' R.C. BOX CULVERT									3	2	27	10.64	900	8	5	0.06	SPECIAL DETAILS, RCB-1, RCB-2, RCB-3	
449+89	EXTEND 5' X 4' X 49' R.C. BOX CULVERT									5	4	38	26.26	2730	19	10	0.13	RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-0	
461+53	EXTEND 24" X 58' R.C. PIPE CULVERT	16						2								16	0.20		
SUBTOTALS SITE 4:		71	31		52			8	2	8	6	65	36.90	3630	27	102	1.28		
TOTALS:		311	31	49	485	94	36	2	3	40	28	228	190.27	18785	134	503	6.30		

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.

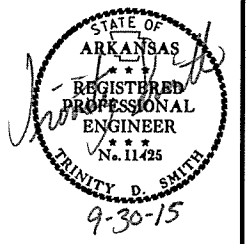
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QUANTITIES

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. PROJ. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	070366	63
							237	

② QUANTITIES



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	ROCK DITCH CHECKS	SILT FENCE	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	(E-5) BAG	(E-6) CU.YD.	(E-11) LIN. FT.	(E-14) CU.YD.	CU.YD.	CU.YD.
			SITE 1													
ENTIRE PROJECT	STAGE 1							5.68	5.68	115.9	396	36		1500	1500	1530
ENTIRE PROJECT	STAGE 2							6.67	6.67	136.1	242	30	1878			91
ENTIRE PROJECT	END OF JOB		6.03	12.06	6.03	615.1	6.03									
SUBTOTALS SITE 1:			6.03	12.06	6.03	615.1	6.03	12.35	12.35	252.0	638	66	1878	1500	1500	1621
			SITE 2													
ENTIRE PROJECT	STAGE 1							7.53	7.53	153.6	242	30	434	900	900	937
ENTIRE PROJECT	STAGE 2							7.59	7.59	154.8	286	33	316			36
ENTIRE PROJECT	END OF JOB		8.08	16.16	8.08	824.2	8.08									
SUBTOTALS SITE 2:			8.08	16.16	8.08	824.2	8.08	15.12	15.12	308.4	528	63	750	900	900	973
			SITE 3													
ENTIRE PROJECT	STAGE 1							6.70	6.70	136.7	176	36	1442	300	300	373
ENTIRE PROJECT	END OF JOB		4.01	8.02	4.01	409.0	4.01									
SUBTOTALS SITE 3:			4.01	8.02	4.01	409.0	4.01	6.70	6.70	136.7	176	36	1442	300	300	373
			SITE 4													
ENTIRE PROJECT	STAGE 1							6.80	6.80	138.7	374	21	1525	1200	1200	1280
ENTIRE PROJECT	STAGE 2							6.86	6.86	139.9	440	30				30
ENTIRE PROJECT	END OF JOB		7.53	15.06	7.53	768.1	7.53									
SUBTOTALS SITE 4:			7.53	15.06	7.53	768.1	7.53	13.66	13.66	278.6	814	51	1525	1200	1200	1310
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.								11.96	11.96	244.0	539	54	1399			76
TOTALS:			25.65	51.30	25.65	2616.4	25.65	59.79	59.79	1219.7	2695	270	6994	3900	3900	4353

BASIS OF ESTIMATE:

- LIME2 TONS / ACRE OF SEEDING
- WATER.....102.0 M.G. / ACRE OF SEEDING
- WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
- SAND BAG DITCH CHECKS.....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.

FENCING

STATION	STATION	LOCATION	WIRE FENCE	* 5' CHAIN LINK	* 16'-0" GATES
			(TYPE C)	FENCE	
			LIN. FT.		EACH
SITE 2					
210+00					1
232+04	232+20	RT. OF HWY. 79		16	
232+36	232+60	RT. OF HWY. 79		24	
232+88	248+50	RT. OF HWY. 79	1650		
248+84	258+34	RT. OF HWY. 79	947		1
SUBTOTALS SITE 2:			2597	40	2
SITE 3					
324+60	330+30	LT. OF HWY. 79	570		
330+50	336+50	LT. OF HWY. 79	600		
SUBTOTALS SITE 3:			1170		
SITE 4					
410+85	411+50	RT. OF HWY. 79		64	
SUBTOTALS SITE 4:				64	
TOTALS:			3767	104	2

* DENOTES ALTERNATE BID ITEM.

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

STATION	LOCATION	WIDTH	LENGTH	CU.YD.
		FEET		
SITE 1				
112+86	CENTERLINE	8.50	24	10.1
SUBTOTAL SITE 1:				10.1
SITE 2				
216+04	CENTERLINE	11.42	24	13.5
240+09	CENTERLINE	8.50	24	10.1
SUBTOTAL SITE 2:				23.6
TOTAL:				33.7

AVG. DEPTH = 16"

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS	
		(SINGLE)	(DOUBLE)
EACH			
SITE 2			
ENTIRE SITE	5	3	1
SUBTOTALS SITE 2:			
	5	3	1
SITE 4			
ENTIRE SITE	5	1	2
SUBTOTALS SITE 4:			
	5	1	2
TOTALS:			
	10	4	3

QUANTITIES

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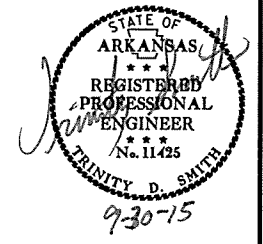
DRIVEWAYS & TURNOUTS

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
			FEET	INCHES		SQ. YD.	TON		18" x 24"	LIN. FT.	
SITE 1											
100+10	LT.	HWY. 79	16			81.45	8.96	33.26	32		PCC-1, PCM-1, PCP-1, PCP-2
100+10	RT.	HWY. 79	16			76.12	8.37	31.08	30		PCC-1, PCM-1, PCP-1, PCP-2
102+25	LT.	HWY. 79	20			259.95	28.59	106.15			
111+14	RT.	HWY. 79	16			87.32	9.61	35.66			
111+19	LT.	HWY. 79	16			46.06	5.07	18.81			
113+75	RT.	HWY. 79	16			79.84	8.78	32.60			
116+15	LT.	HWY. 79	16			76.65	8.43	31.30			
123+42	RT.	HWY. 79	16			70.95	7.80	28.97			
124+37	LT.	HWY. 79	16			62.43	6.87	25.49	32		PCC-1, PCM-1, PCP-1, PCP-2
133+59	RT.	HWY. 79	20			92.29	10.15	37.69			
133+72	LT.	HWY. 79	16			94.43	10.39	38.56			
137+47	LT.	HWY. 79	16			87.32	9.61	35.66	34		PCC-1, PCM-1, PCP-1, PCP-2
139+80	RT.	HWY. 79	16			101.17	11.13	41.31	28		PCC-1, PCM-1, PCP-1, PCP-2
142+35	LT.	HWY. 79	16			85.54	9.41	34.93			
148+68	LT.	HWY. 79	16			57.10	6.28	23.32	32		PCC-1, PCM-1, PCP-1, PCP-2
161+45	RT.	HWY. 79	16			83.40	9.17	34.06			
161+90	LT.	HWY. 79	20			98.87	10.88	40.37			
TEMPORARY DRIVES - ENTIRE SITE - IF AND WHERE DIRECTED BY THE ENGINEER											
SITE 1 SUBTOTALS:						1540.89	169.50	799.22	188	28	
SITE 2											
202+85	RT.	HWY. 79	16			208.21	22.90	85.02	32		PCC-1, PCM-1, PCP-1, PCP-2
209+82	LT.	HWY. 79	20			189.70	20.87	77.46	42		PCC-1, PCM-1, PCP-1, PCP-2
210+00	RT.	HWY. 79	16			121.10	13.32	49.45	36		PCC-1, PCM-1, PCP-1, PCP-2
220+27	LT.	HWY. 79	16			76.29	8.39	31.15	30		PCC-1, PCM-1, PCP-1, PCP-2
222+43	LT.	HWY. 79	16			74.51	8.20	30.42			
223+09	RT.	HWY. 79	16			105.10	11.56	42.92	34		PCC-1, PCM-1, PCP-1, PCP-2
224+75	LT.	HWY. 79	16			72.73	8.00	29.70	30		PCC-1, PCM-1, PCP-1, PCP-2
225+43	RT.	HWY. 79	16			58.87	6.48	24.04	30		PCC-1, PCM-1, PCP-1, PCP-2
225+45	LT.	HWY. 79	16			72.73	8.00	29.70	30		PCC-1, PCM-1, PCP-1, PCP-2
226+89	RT.	HWY. 79	16			58.87	6.48	24.04	32		PCC-1, PCM-1, PCP-1, PCP-2
227+51	LT.	HWY. 79	16			74.51	8.20	30.42	30		PCC-1, PCM-1, PCP-1, PCP-2
228+10	RT.	HWY. 79	16			58.87	6.48	24.04	34		PCC-1, PCM-1, PCP-1, PCP-2
229+84	LT.	HWY. 79	16			76.29	8.39	31.15			
230+90	RT.	HWY. 79	16		71.32						
248+65	RT.	HWY. 79	16			51.76	5.69	21.14	30		PCC-1, PCM-1, PCP-1, PCP-2
252+66	RT.	HWY. 79	16			83.76	9.21	34.20			
255+42	RT.	HWY. 79	16			92.65	10.19	37.83	36		PCC-1, PCM-1, PCP-1, PCP-2
259+13	LT.	HWY. 79	16			76.29	8.39	31.15	32		PCC-1, PCM-1, PCP-1, PCP-2
259+48	RT.	HWY. 79	16			76.12	8.37	31.08	32		PCC-1, PCM-1, PCP-1, PCP-2
260+26	RT.	HWY. 79	16			77.90	8.57	31.81	38		PCC-1, PCM-1, PCP-1, PCP-2
262+83	LT.	HWY. 79	20			135.22	14.87	55.21			
TEMPORARY DRIVES - ENTIRE SITE - IF AND WHERE DIRECTED BY THE ENGINEER											
SITE 2 SUBTOTALS:						71.32	202.56	961.93	486	42	
SITE 3											
311+93	LT.	HWY. 79	16			122.87	13.52	50.17			
318+00	LT.	HWY. 79	16			60.65	6.67	24.77			
324+00	LT.	HWY. 79	16			97.99	10.78	40.01	34		PCC-1, PCM-1, PCP-1, PCP-2
330+46	LT.	HWY. 79	16			76.65	8.43	31.30	32		PCC-1, PCM-1, PCP-1, PCP-2
343+50	LT.	HWY. 79	16			76.65	8.43	31.30	32		PCC-1, PCM-1, PCP-1, PCP-2
363+59	LT.	HWY. 79	20			92.21	10.14	37.65			
TEMPORARY DRIVES - ENTIRE SITE - IF AND WHERE DIRECTED BY THE ENGINEER											
SITE 3 SUBTOTALS:						527.02	57.97	275.20	98		
SITE 4											
400+78	RT.	HWY. 79	16			85.01	9.35	34.71	32		PCC-1, PCM-1, PCP-1, PCP-2
404+86	LT.	HWY. 79	16			74.51	8.20	30.42	30		PCC-1, PCM-1, PCP-1, PCP-2
407+10	RT.	HWY. 79	16			57.10	6.28	23.32	30		PCC-1, PCM-1, PCP-1, PCP-2
408+06	RT.	HWY. 79	16			57.10	6.28	23.32	30		PCC-1, PCM-1, PCP-1, PCP-2
408+45	LT.	HWY. 79	16			74.51	8.20	30.42	32		PCC-1, PCM-1, PCP-1, PCP-2
410+37	LT.	HWY. 79	20			123.04	13.53	50.24			
410+47	RT.	HWY. 79	20			144.11	15.85	58.84	42		PCC-1, PCM-1, PCP-1, PCP-2
411+31	LT.	HWY. 79	16			74.51	8.20	30.42	30		PCC-1, PCM-1, PCP-1, PCP-2
412+12	RT.	HWY. 79	16			113.99	12.54	46.55	38		PCC-1, PCM-1, PCP-1, PCP-2
429+30	LT.	HWY. 79	16			83.40	9.17	34.06	30		PCC-1, PCM-1, PCP-1, PCP-2
431+94	RT.	HWY. 79	16			71.32	7.85	29.12	34		PCC-1, PCM-1, PCP-1, PCP-2
435+09	LT.	HWY. 79	16			81.62	8.98	33.33	30		PCC-1, PCM-1, PCP-1, PCP-2
437+69	LT.	HWY. 79	16			78.06	8.59	31.87	32		PCC-1, PCM-1, PCP-1, PCP-2
440+41	RT.	HWY. 79	16			57.10	6.28	23.32	32		PCC-1, PCM-1, PCP-1, PCP-2
445+96	RT.	HWY. 79	16			94.43	10.39	38.56			
448+17	LT.	HWY. 79	16			85.17	9.37	34.78	46		PCC-1, PCM-1, PCP-1, PCP-2
461+93	LT.	HWY. 79	16			72.73	8.00	29.70	30		PCC-1, PCM-1, PCP-1, PCP-2
462+85	RT.	HWY. 79	16			83.76	9.21	34.20	32		PCC-1, PCM-1, PCP-1, PCP-2
463+00	LT.	HWY. 79	16			76.65	8.43	31.30	32		PCC-1, PCM-1, PCP-1, PCP-2
TEMPORARY DRIVES - ENTIRE SITE - IF AND WHERE DIRECTED BY THE ENGINEER											
SITE 4 SUBTOTALS:						71.32	174.70	838.48	520	42	
TOTALS:						1588.12	604.73	2874.83	1292	112	

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2")94.7% MIN. AGGR.....5.3% ASPHALT BINDER
 MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		64	237
				JOB NO.	070366			

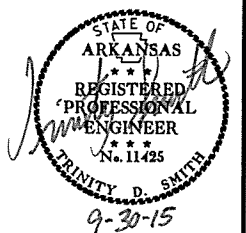
2 QUANTITIES



QUANTITIES

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	070366
							SHEET NO.	65
							TOTAL SHEETS	237

2 QUANTITIES



BASE AND SURFACING (BOX 1 OF 2)

STATION	STATION	LOCATION	LENGTH FEET	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	AVG. WID. FEET	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	TOTAL PG 64-22 TON
SITE 1																						
MAIN LANES																						
100+00.00	101+00.00	100' TRANSITION FROM EXISTING TO TWO LANE	100.00	43.50	43.50	6.71	74.56	0.10	7.46	2.29	25.44	660.00	8.40	2.13	23.67	220.00	2.60	37.00	411.11	220.00	45.22	47.82
101+00.00	101+36.92	NORMAL CROWN - TAPER FROM TWO LANE TO PASSING LANE	36.92	110.38	40.75	21.36	87.62	0.03	2.63	7.15	29.33	660.00	9.68	7.07	29.00	220.00	3.19	45.00	184.60	220.00	20.31	23.50
101+36.92	107+60.00	SUPERELEVATION - TAPER FROM TWO LANE TO PASSING LANE	623.08	110.38	687.76	21.36	1478.78	0.03	44.36	7.15	495.00	660.00	163.35	7.07	489.46	220.00	53.84	45.00	3115.40	220.00	342.69	396.53
107+60.00	113+00.74	SUPERELEVATION - NOTCH & WIDEN - PASSING LANE	540.74	133.75	723.24	42.71	2566.11	0.03	76.98	14.29	858.57	660.00	283.33	14.13	848.96	220.00	93.39	50.00	3004.11	220.00	330.45	423.84
113+00.74	117+07.13	NORMAL CROWN - NOTCH & WIDEN - PASSING LANE	406.39	133.75	543.55	42.71	1928.55	0.03	57.86	14.29	645.26	660.00	212.94	14.13	638.03	220.00	70.18	50.00	2257.72	220.00	248.35	318.53
117+07.13	132+65.10	SUPERELEVATION - NOTCH & WIDEN - PASSING LANE	1557.97	133.75	2083.78	42.71	7393.43	0.03	221.80	14.29	2473.71	660.00	816.32	14.13	2446.01	220.00	269.06	50.00	8655.39	220.00	952.09	1221.15
132+65.10	160+40.00	NORMAL CROWN - NOTCH & WIDEN - PASSING LANE	2774.90	133.75	3711.43	42.71	13168.44	0.03	395.05	14.29	4405.92	660.00	1453.95	14.13	4356.59	220.00	479.22	50.00	15416.11	220.00	1695.77	2174.99
160+40.00	162+40.00	NORMAL CROWN - TAPER FROM PASSING LANE TO TWO LANE	200.00	110.38	220.76	21.36	474.67	0.03	14.24	7.15	158.89	660.00	52.43	7.07	157.11	220.00	17.28	45.00	1000.00	220.00	110.00	127.28
162+40.00	163+40.00	100' TRANSITION FROM TWO LANE TO EXISTING	100.00	43.50	43.50	6.71	74.56	0.10	7.46	2.29	25.44	660.00	8.40	2.13	23.67	220.00	2.60	37.00	411.11	220.00	45.22	47.82
ADDITIONAL FOR LEVELING																						
101+00.00	162+40.00	ADDITIONAL FOR LEVELING	6140.00			24.00	16373.33	0.10	1637.33					24.00	16373.33	VAR.	1801.07					1801.07
101+36.92	113+00.74	ADDITIONAL FOR SUPERELEVATION	1163.82			10.00	1293.13	0.03	38.79					10.00	1293.13	VAR.	142.24					142.24
117+07.13	132+65.10	ADDITIONAL FOR SUPERELEVATION	1557.97			10.00	1731.08	0.03	51.93					10.00	1731.08	VAR.	190.42					190.42
ADDITIONAL FOR SUPERELEVATION																						
101+36.92	104+36.92	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	28.25	84.75																	
104+36.92	110+00.74	ADDITIONAL FOR MAX SUPERELEVATION	563.82	56.50	318.56																	
110+00.74	113+00.74	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	28.25	84.75																	
117+07.13	120+07.13	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	37.38	112.14																	
120+07.13	129+65.10	ADDITIONAL FOR MAX SUPERELEVATION	957.97	74.75	716.08																	
129+65.10	132+65.10	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	37.38	112.14																	
SUBTOTALS SITE 1:					9526.69		46644.26		2555.89		9117.56		3008.80		28410.04		3125.09		34455.55		3790.10	6915.19
SITE 2																						
MAIN LANES																						
200+00.00	201+00.00	100' TRANSITION FROM EXISTING TO TWO LANE	100.00	43.50	43.50	6.71	74.56	0.10	7.46	2.29	25.44	660.00	8.40	2.13	23.67	220.00	2.60	37.00	411.11	220.00	45.22	47.82
201+00.00	203+00.00	NORMAL CROWN - TAPER FROM TWO LANE TO PASSING LANE	200.00	110.38	220.76	21.36	474.67	0.03	14.24	7.15	158.89	660.00	52.43	7.07	157.11	220.00	17.28	45.00	1000.00	220.00	110.00	127.28
203+00.00	216+16.39	NORMAL CROWN - NOTCH & WIDEN - PASSING LANE	1316.39	133.75	1760.67	42.71	6247.00	0.03	187.41	14.29	2090.13	660.00	689.74	14.13	2066.73	220.00	227.34	50.00	7313.28	220.00	804.46	1031.80
216+16.39	233+82.83	SUPERELEVATION - NOTCH & WIDEN - PASSING LANE	1766.44	133.75	2362.61	42.71	8382.74	0.03	251.48	14.29	2804.71	660.00	925.55	14.13	2773.31	220.00	305.06	50.00	9813.56	220.00	1079.49	1384.55
233+82.83	237+17.25	NORMAL CROWN - NOTCH & WIDEN - PASSING LANE	334.42	133.75	447.29	42.71	1587.01	0.03	47.61	14.29	530.98	660.00	175.22	14.13	525.04	220.00	57.75	50.00	1857.89	220.00	204.37	262.12
237+17.25	249+94.38	SUPERELEVATION - NOTCH & WIDEN - PASSING LANE	1277.13	133.75	1708.16	42.71	6060.69	0.03	181.82	14.29	2027.80	660.00	669.17	14.13	2005.09	220.00	220.56	50.00	7095.17	220.00	780.47	1001.03
249+94.38	255+80.00	NORMAL CROWN - NOTCH & WIDEN - PASSING LANE	585.62	133.75	783.27	42.71	2779.09	0.03	83.37	14.29	929.83	660.00	306.84	14.13	919.42	220.00	101.14	50.00	3253.44	220.00	357.88	459.02
255+80.00	259+07.42	NORMAL CROWN - TAPER FROM PASSING LANE TO TWO LANE	327.42	110.38	361.41	21.36	777.08	0.03	23.31	7.15	260.12	660.00	85.84	7.07	257.21	220.00	28.29	45.00	1637.10	220.00	180.08	208.37
259+07.42	262+40.00	SUPERELEVATION - TAPER FROM PASSING LANE TO TWO LANE	332.58	110.38	367.10	21.36	789.32	0.03	23.68	7.15	264.22	660.00	87.19	7.07	261.26	220.00	28.74	45.00	1662.90	220.00	182.92	211.66
262+40.00	263+40.00	100' TRANSITION FROM TWO LANE TO EXISTING	100.00	43.50	43.50	6.71	74.56	0.10	7.46	2.29	25.44	660.00	8.40	2.13	23.67	220.00	2.60	37.00	411.11	220.00	45.22	47.82
ADDITIONAL FOR LEVELING																						
201+00.00	262+40.00	ADDITIONAL FOR LEVELING	6140.00			24.00	16373.33	0.10	1637.33					24.00	16373.33	VAR.	1801.07					1801.07
216+16.39	233+82.73	ADDITIONAL FOR SUPERELEVATION	1766.34			10.00	1962.60	0.03	58.88					10.00	1962.60	VAR.	215.89					215.89
237+17.25	249+94.38	ADDITIONAL FOR SUPERELEVATION	1277.13			10.00	1419.03	0.03	42.57					10.00	1419.03	VAR.	156.09					156.09
259+07.42	262+40.00	ADDITIONAL FOR SUPERELEVATION	332.58			10.00	369.53	0.03	11.09					10.00	369.53	VAR.	40.65					40.65
ADDITIONAL FOR SUPERELEVATION																						
216+16.39	219+16.39	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	35.63	106.89																	
219+16.39	230+82.73	ADDITIONAL FOR MAX SUPERELEVATION	1166.34	71.25	831.02																	
230+82.73	233+82.73	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	35.63	106.89																	
237+17.25	240+17.25	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	36.75	110.25																	
240+17.25	246+94.38	ADDITIONAL FOR MAX SUPERELEVATION	677.13	73.50	497.69																	
246+94.38	249+94.38	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	36.75	110.25																	
259+07.42	262+07.42	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	33.88	101.64																	
262+07.42	262+40.00	ADDITIONAL FOR MAX SUPERELEVATION	32.58	67.75	22.07																	
SUBTOTALS SITE 2:					9984.97		47371.21		2577.71		9117.56		3008.78		29137.00		3205.06		34455.56		3790.11	6995.17
SUBTOTALS SITES 1 & 2:					19511.66		94015.47		5133.60		18235.12		6017.58		57547.04		6330.15		68911.11		7580.21	13910.36

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
 ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
 MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

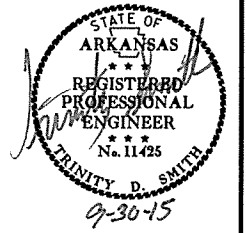
7/7/2015

RO70366.DGN

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.	070366
							SHEET NO.	66
							TOTAL SHEETS	237

2 QUANTITIES



BASE AND SURFACING (BOX 2 OF 2)

STATION	STATION	LOCATION	LENGTH FEET	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")						TOTAL PG 64-22 TON		
				TON / STATION	TON	AVG. WID. FEET	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.		POUND / SQ.YD.	PG 64-22 TON
SITE 3																						
MAIN LANES																						
301+00.00	302+00.00	100' TRANSITION FROM EXISTING TO TWO LANE	100.00	38.83	38.83	12.71	141.22	0.10	14.12	3.65	40.56	660.00	13.38	3.57	39.67	220.00	4.36	37.00	411.11	220.00	45.22	49.58
302+00.00	303+13.93	NORMAL CROWN - TAPER FROM TWO LANE TO PASSING LANE	113.93	100.95	115.01	25.86	327.36	0.03	9.82	11.29	142.92	660.00	47.16	11.13	140.89	220.00	15.50	45.00	569.65	220.00	62.66	78.16
303+13.93	308+60.00	SUPERELEVATION - TAPER FROM TWO LANE TO PASSING LANE	546.07	100.95	551.26	25.86	1569.04	0.03	47.07	11.29	685.01	660.00	226.05	11.13	675.31	220.00	74.28	45.00	2730.35	220.00	300.34	374.62
308+60.00	317+20.81	SUPERELEVATION - NOTCH & WIDEN - PASSING LANE	860.81	124.25	1069.56	51.71	4945.83	0.03	148.37	17.29	1653.71	660.00	545.72	17.13	1638.41	220.00	180.23	50.00	4782.28	220.00	526.05	706.28
317+20.81	333+41.31	NORMAL CROWN - NOTCH & WIDEN - PASSING LANE	1620.50	124.25	2013.47	51.71	9310.67	0.03	279.32	17.29	3113.16	660.00	1027.34	17.13	3084.35	220.00	339.28	50.00	9002.78	220.00	990.31	1329.59
333+41.31	342+71.04	SUPERELEVATION - NOTCH & WIDEN - PASSING LANE	929.73	124.25	1155.19	51.71	5341.82	0.03	160.25	17.29	1786.11	660.00	589.42	17.13	1769.59	220.00	194.65	50.00	5165.17	220.00	568.17	762.82
342+71.04	361+40.00	NORMAL CROWN - NOTCH & WIDEN - PASSING LANE	1868.96	124.25	2322.18	51.71	10738.21	0.03	322.15	17.29	3590.48	660.00	1184.86	17.13	3557.25	220.00	391.30	50.00	10383.11	220.00	1142.14	1533.44
361+40.00	363+40.00	NORMAL CROWN - TAPER FROM PASSING LANE TO TWO LANE	200.00	100.95	201.90	25.86	574.67	0.03	17.24	11.29	250.89	660.00	82.79	11.13	247.33	220.00	27.21	45.00	1000.00	220.00	110.00	137.21
363+40.00	364+40.00	100' TRANSITION FROM TWO LANE TO EXISTING	100.00	38.83	38.83	12.71	141.22	0.10	14.12	3.65	40.56	660.00	13.38	3.57	39.67	220.00	4.36	37.00	411.11	220.00	45.22	49.58
ADDITIONAL FOR LEVELING																						
302+00.00	363+40.00	ADDITIONAL FOR LEVELING	6140.00			24.00	16373.33	0.10	1637.33					24.00	16373.33	VAR.	1801.07					1801.07
303+13.93	317+20.81	ADDITIONAL FOR SUPERELEVATION	1406.88			10.00	1563.20	0.03	46.90					10.00	1563.20	VAR.	171.95					171.95
333+41.31	342+71.04	ADDITIONAL FOR SUPERELEVATION	929.73			10.00	1033.03	0.03	30.99					10.00	1033.03	VAR.	113.63					113.63
ADDITIONAL FOR SUPERELEVATION																						
303+13.93	306+13.93	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	14.13	42.39																	
306+13.93	314+20.81	ADDITIONAL FOR MAX SUPERELEVATION	806.88	28.25	227.94																	
314+20.81	317+20.81	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	14.13	42.39																	
333+41.31	336+41.31	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	16.50	49.50																	
336+41.31	339+71.04	ADDITIONAL FOR MAX SUPERELEVATION	329.73	33.00	108.81																	
339+71.04	342+71.04	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	16.50	49.50																	
SUBTOTALS SITE 3:					8026.76		52059.60		2727.68		11303.40		3730.10		30162.03		3317.82		34455.56		3790.11	7107.93
SITE 4																						
MAIN LANES																						
400+00.00	401+00.00	100' TRANSITION FROM EXISTING TO TWO LANE	100.00	43.50	43.50	6.71	74.56	0.10	7.46	2.29	25.44	660.00	8.40	2.13	23.67	220.00	2.60	37.00	411.11	220.00	45.22	47.82
401+00.00	402+67.25	NORMAL CROWN - TAPER FROM TWO LANE TO PASSING LANE	167.25	110.38	184.61	21.36	396.94	0.03	11.91	7.15	132.87	660.00	43.85	7.07	131.38	220.00	14.45	45.00	836.25	220.00	91.99	106.44
402+67.25	403+00.00	SUPERELEVATION - TAPER FROM TWO LANE TO PASSING LANE	32.75	110.38	36.15	21.36	77.73	0.03	2.33	7.15	26.02	660.00	8.59	7.07	25.73	220.00	2.83	45.00	163.75	220.00	18.01	20.84
403+00.00	411+81.42	SUPERELEVATION - NOTCH & WIDEN - PASSING LANE	881.42	133.75	1178.90	42.71	4182.83	0.03	125.48	14.29	1399.50	660.00	461.84	14.13	1383.83	220.00	152.22	50.00	4896.78	220.00	538.65	690.87
411+81.42	417+15.97	NORMAL CROWN - NOTCH & WIDEN - PASSING LANE	534.55	133.75	714.96	42.71	2536.74	0.03	76.10	14.29	848.75	660.00	280.09	14.13	839.24	220.00	92.32	50.00	2969.72	220.00	326.67	418.99
417+15.97	429+19.25	SUPERELEVATION - NOTCH & WIDEN - PASSING LANE	1203.28	133.75	1609.39	42.71	5710.23	0.03	171.31	14.29	1910.54	660.00	630.48	14.13	1889.15	220.00	207.81	50.00	6684.89	220.00	735.34	943.15
429+19.25	447+61.92	NORMAL CROWN - NOTCH & WIDEN - PASSING LANE	1842.67	133.75	2464.57	42.71	8744.49	0.03	262.33	14.29	2925.75	660.00	965.50	14.13	2892.99	220.00	318.23	50.00	10237.06	220.00	1126.08	1444.31
447+61.92	455+80.00	SUPERELEVATION - NOTCH & WIDEN - PASSING LANE	818.08	133.75	1094.18	42.71	3882.24	0.03	116.47	14.29	1298.93	660.00	428.65	14.13	1284.39	220.00	141.28	50.00	4544.89	220.00	499.94	641.22
455+80.00	457+17.90	SUPERELEVATION - TAPER FROM PASSING LANE TO TWO LANE	137.90	110.38	152.21	21.36	327.28	0.03	9.82	7.15	109.55	660.00	36.15	7.07	108.33	220.00	11.92	45.00	689.50	220.00	75.85	87.77
457+17.90	462+40.00	NORMAL CROWN - TAPER FROM PASSING LANE TO TWO LANE	522.10	110.38	576.29	21.36	1239.12	0.03	37.17	7.15	414.78	660.00	136.88	7.07	410.14	220.00	45.12	45.00	2610.50	220.00	287.16	332.28
462+40.00	463+40.00	100' TRANSITION FROM TWO LANE TO EXISTING	100.00	43.50	43.50	6.71	74.56	0.10	7.46	2.29	25.44	660.00	8.40	2.13	23.67	220.00	2.60	37.00	411.11	220.00	45.22	47.82
ADDITIONAL FOR LEVELING																						
401+00.00	462+40.00	ADDITIONAL FOR LEVELING	6140.00			24.00	16373.33	0.10	1637.33					24.00	16373.33	VAR.	1801.07					1801.07
402+67.25	411+81.42	ADDITIONAL FOR SUPERELEVATION	914.17			10.00	1015.74	0.03	30.47					10.00	1015.74	VAR.	111.73					111.73
417+15.97	429+19.25	ADDITIONAL FOR SUPERELEVATION	1203.28			10.00	1336.98	0.03	40.11					10.00	1336.98	VAR.	147.07					147.07
447+61.92	457+17.90	ADDITIONAL FOR SUPERELEVATION	955.98			10.00	1062.20	0.03	31.87					10.00	1062.20	VAR.	116.84					116.84
ADDITIONAL FOR SUPERELEVATION																						
402+67.25	405+67.25	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	25.88	77.64																	
405+67.25	408+81.42	ADDITIONAL FOR MAX SUPERELEVATION	314.17	51.75	162.58																	
408+81.42	411+81.42	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	25.88	77.64																	
417+15.97	420+15.97	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	23.75	71.25																	
420+15.97	426+19.25	ADDITIONAL FOR MAX SUPERELEVATION	603.28	47.50	286.56																	
426+19.25	429+19.25	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	23.75	71.25																	
447+61.92	450+61.92	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	27.63	82.89																	
450+61.92	454+17.90	ADDITIONAL FOR MAX SUPERELEVATION	355.98	55.25	196.68																	
454+17.90	457+17.90	ADDITIONAL FOR TRANSITION SUPERELEVATION	300.00	27.63	82.89																	
SUBTOTALS SITE 4:					9207.64		47034.97		2567.62		9117.57		3008.83		28800.77		3168.09		34455.56		3790.13	6958.22
SUBTOTALS SITES 1 & 2:					19511.66		94015.47		5133.60		18235.12		6017.58		57547.04		6330.15		68911.11		7580.21	13910.36
SUBTOTALS SITES 3 & 4:					17234.40		99094.57		5295.30		20420.97		6738.93		58962.80		6485.91		68911.12		7580.24	14066.15
TOTALS:					36746.06		193110.04		10428.90		38656.09		12756.51		116509.84		12816.06		137822.23		15160.45	27976.51

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
 ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
 MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO.						070366	68	237

SURVEY CONTROL COORDINATES

Project Name: s070366
 Date: 2/21/2013
 Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL,
 140007 - 140007A, 520004 - 520004A, 520005 - 520005A, 520006 - 520006A, 520007 - 520007A, 520008 - 520008A PROJECTED TO GROUND.
 Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	1584138.1404	965694.9729	235.605	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 1
2	1584523.0373	966313.2311	231.569	CTL	** Rebar with 2" Aluminum Cap stamped PNi 2
3	1584958.0620	966847.1710	235.776	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 3 +HPT 717
4	1585383.3020	967489.5051	243.967	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 4
5	1585590.2653	968139.2198	259.956	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 5
6	1585683.5043	968886.8800	262.704	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 6
7	1585821.7344	969649.0764	251.059	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 7
8	1585923.6924	970508.5512	228.405	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 8 +HPT 722
9	1586052.6412	971813.2256	220.172	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 9
10	1598282.1521	993845.0103	190.891	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 10
11	1599227.8747	994895.0492	207.390	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 11
12	1599759.4221	995421.2123	225.931	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 12
13	1600174.5046	996399.5116	241.889	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 13
14	1600360.9529	997071.4317	245.392	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 14
15	1600665.6988	997700.2874	255.297	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 15 +HPT 733
16	1601055.0350	998144.8848	264.013	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 16
17	1601486.4291	998756.1083	248.194	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 17
18	1601984.5068	999295.3927	244.391	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 18
19	1602267.9600	999507.8403	236.616	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 19 +HPT 736
20	1607464.7162	1005102.4552	231.262	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 20
21	1607769.1925	1005734.9089	242.054	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 21
22	1608020.6597	1006447.7524	263.202	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 22
23	1608410.2705	1007710.8255	274.945	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 23 +HPT 744
24	1608578.1495	1008240.3778	273.824	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 24
25	1608826.7741	1009434.0782	271.044	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 25
26	1608944.3164	1010035.8264	278.052	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 26
27	1609048.3862	1010657.8562	289.346	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 27
28	1609084.5798	1011223.1578	294.516	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 28 +HPT 747
29	1609214.4609	1011800.2770	291.270	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 29
30	1613709.3738	1020442.2916	305.500	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 30
31	1613804.3305	1020825.3749	303.828	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 31
32	1614110.7407	1021504.1640	274.777	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 32
33	1614209.3461	1021830.7783	267.941	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 33
34	1614695.1946	1022598.8551	262.616	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 34 +HPT 756
35	1615543.3831	1023710.5619	217.491	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 35
36	1615967.9293	1024357.7202	204.821	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 36
37	1616244.7679	1025038.7014	232.556	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 37
38	1616531.3437	1025647.6204	240.574	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 38 +HPT 760
39	1616857.3745	1026223.7301	240.205	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 39
40	1617193.1803	1026732.7086	253.359	CTL	*5/8" Rebar with 2" Aluminum Cap stamped PNi 40
100	1579608.4233	962432.5525	223.322	GPS	*AHTD GPS *1400007 AHTD CAP
102	1586040.6519	971244.3959	229.534	GPS	*AHTD GPS *520004 AHTD CAP
103	1586156.7221	972792.5906	197.431	GPS	*AHTD GPS *520004A AHTD CAP
104	1585276.2371	986111.2401	248.766	GPS	*AHTD GPS *520005 AHTD CAP
105	1586595.4290	987098.7838	220.786	GPS	*AHTD GPS *520005A AHTD CAP
106	1598801.2083	994358.2310	203.991	GPS	*AHTD GPS *520006 AHTD CAP
107	1599986.8585	995750.3446	236.967	GPS	*AHTD GPS *520006A AHTD CAP
108	1608264.8033	1007234.3864	277.542	GPS	*AHTD GPS *520007 AHTD CAP
109	1608708.5238	1008767.1867	276.328	GPS	*AHTD GPS *520007A AHTD CAP
110	1614390.4783	1022017.6978	265.779	GPS	*AHTD GPS *520008 AHTD CAP
111	1615067.3006	1023151.2172	265.676	GPS	*AHTD GPS *520008A AHTD CAP
901	1579997.5494	960944.8118	213.023	TBM	*SQ CUT CENTER E HEAD WALL 49.4' S/E CL OF HWY TRIPLE BOX CU
902	1582191.7095	963597.8262	217.901	TBM	*SQ CUT CENTER E HEAD WALL ON SIDE RD 8.6' NE OF GR WDS ENTRANCE
903	1584090.3954	965568.9564	236.034	TBM	*SQ CUT CENTER OF W HEADWALL OF SIDE RD 28' NW C/L OF HWY
904	1585286.3735	967108.2081	232.648	TBM	*SQ CUT E END OF N HW 34' NW C/L OF HWY 66' S OF PP
905	1585669.1804	969062.2688	261.850	TBM	*SQ CUT CTR OF E HEAD WL ON SIDE RD 31' S C/L OF HWY
906	1585956.5973	970506.5916	226.250	TBM	*SQ CUT CENTER OF HWY 29.4' N C/L OF HWY 46.5' SW OF PP
907	1586137.4689	972458.3672	196.998	TBM	*SQ CUT IN CENTER OF S HW 25.5' S OF C/L OF HWY
908	1598042.9705	993773.1097	187.918	TBM	*CHSLD SQ CNTR N HEADWALL 22' NW C/L OF HWY 79
909	1599344.8549	994972.7060	205.341	TBM	*CHSLD SQ CNTR N HEADWALL 36' NW C/L OF HWY 79
910	1600435.2117	997102.1281	245.700	TBM	*CHSLD SQ CNTR N HEADWALL 30.5' NW C/L OF HWY 79 38.6' SE UM
911	1601229.2964	998550.5780	258.308	TBM	*CHSLD SQ CNTR S HEADWALL 22.7' S C/L OF HWY 79 38.7' N WEB FE
912	1602330.0625	999663.1095	232.529	TBM	*CHSLD SQ CNTR E HEADWALL 22.8' SE C/L OF HWY 79
913	1604339.6929	100869.3950	191.067	TBM	*CHSLD SQ NW CORN BRIDGE OVER CYPRESS CREEK 13' NW C/L HWY 79
914	1606535.5620	1003686.9154	236.049	TBM	*CHSLD SQ OLD BUILDING FOUNDATION SE CORNER 71.4' N C/L HWY 79
915	1607923.9191	1006411.4520	260.991	TBM	*CHSLD SQ CNTR S HEADWALL 23.8' S C/L OF HWY 79
916	1608413.5593	1008025.7661	271.968	TBM	*CHSLD SQ N HEADWALL 23.3' NW C/L OF HWY 79 38' S OF PP
917	1608901.6405	1009809.4325	267.881	TBM	*CHSLD SQ CNTR N HEADWALL 37.5' NW C/L OF HWY 79 25' SE OF UM
918	1609084.9682	1011759.5230	287.148	TBM	*CHSLD SQ CNTR S HEADWALL 40' SE C/L OF HWY 79
919	1610474.8383	1014398.7759	277.338	TBM	*CHSLD SQ CNTR S HEADWALL 45' SE C/L OF HWY 79
920	1612774.6047	1017046.4001	296.625	TBM	*CHSLD SQ CNTR N HEADWALL 40.8' NW C/L OF HWY 79
921	1613856.1433	1020275.0793	300.942	TBM	*CHSLD SQ CNTR N HEADWALL 34.6' NW C/L HWY 79 51.2' SE TB
922	1614144.3512	1021886.9823	266.829	TBM	*CHSLD SQ CNTR N HEADWALL 21' NW C/L OF HWY 79 27' S UM
923	1615640.0606	1024102.8671	204.872	TBM	*CHSLD SQ CNTR S HEADWALL 23' SE C/L OF HWY 79
924	1616434.6183	1025634.6016	239.468	TBM	*CHSLD SQ CNTR S HEADWALL 24' CE C/L OF HWY 79 151' N CO RD 364
925	1616832.7016	1026315.7598	238.991	TBM	*CHSLD SQ S CENTER HW 36, NW C/L OF HWY 79 101' S CO RD 364
996	1574385.4772	965630.8323	215.980	BM	*NGS B 120, PID DL0527
997	1585179.8212	98435.9690	235.780	BM	*NGS STEPHENS BOLT, PID DL0518
998	1602017.5198	1000591.9984	208.820	BM	*NGS MARK K 204, PID DL0512
999	1608988.7922	1011250.3402	296.270	BM	*NGS MARK G 204, PID DL0261

*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).
 ALL DISTANCES ARE GROUND.
 USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
 A PROJECT CAF OF 0.9999689630 HAS BEEN USED TO COMPUTE THE ABOVE LISTED GROUND COORDINATES.
 THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
 GRID DISTANCE = GROUND DISTANCE X CAF.
 GROUND COORDINATES ARE PROJECTED FROM AR. STATE PLANE GRID COORDINATES BY SCALING ALL X, Y
 COORDINATE VALUES WITH THE INVERSE (1/X) OF THE COMBINED ADJUSTMENT FACTOR (CAF) ABOUT X+0, Y+0.

GRID COORDINATES ARE STORED UNDER FILE NAME: s070366g1.ct1
 HORIZONTAL DATUM: NAD 83 (1997)
 VERTICAL DATUM: NAVD 88 ELEVATIONS FOR POINTS 1-40, 100, 102-111, AND 901-925, & 996-999 WERE ESTABLISHED BY 3-WIRE LEVEL TECHNIQUES
 FROM NGS BENCHMARKS.

POSITIONAL ACCURACY:
 HORIZONTAL-GPS: POINTS 100, 102-111: 1.0 CM 10 PPM, PRIMARY CONTROL (POINTS 1-40): 2.0 CM 20 PPM
 VERTICAL-POSITIONAL ACCURACY IS THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT

BASIS OF BEARING:
 ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
 DETERMINED FROM GPS CONTROL POINTS
 CONVERGENCE ANGLE: 0-34-47 LEFT AT PNI 13
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.
 LT: 33-27-11.4 LG: 093-02-09.3
 GRID NORTHING: 1600124.8400 GRID EASTING: 996368.5863
 GROUND NORTHING: 1600174.5046 GROUND EASTING: 996399.5116

HWY. 79 - SITE 1

POINT NAME	TYPE	STATION	NORTHING	EASTING
8000	POB	100+00.00	1584023.9444	965605.1825
8001	P.C.	103+61.92	1584217.5580	965910.9571
8002	P.T.	110+75.74	1584635.9614	966488.7311
8003	P.C.	119+32.13	1585180.4610	967149.7359
8004	P.T.	130+40.10	1585613.3118	968153.7439
8005	P.I.	137+35.62	1585700.0520	968843.8383
8006	P.I.	150+53.38	1585865.4956	970151.1662
8007	P.I.	160+20.13	1585984.7067	971110.5364
8008	POE	163+40.00	1586025.0775	971427.8514

HWY. 79 - SITE 2

POINT NAME	TYPE	STATION	NORTHING	EASTING
8009	POB	200+00.00	1598238.8566	993832.2076
8010	P.I.	201+00.00	1598308.7678	993903.7143
8011	P.I.	202+84.81	1598435.3463	994038.3730
8012	P.I.	207+31.83	1598744.9070	994360.8523
8013	P.I.	215+38.00	1599302.2872	994943.2974
8014	P.C.	218+41.39	1599511.4463	995163.0625
8015	P.T.	231+57.73	1600163.1911	996292.5285
8016	P.I.	233+99.60	1600231.4388	996524.5696
8017	P.C.	239+42.25	1600376.3309	997047.5236
8018	P.T.	247+69.38	1600747.5126	997780.6277
8019	P.I.	254+87.54	1601191.8394	998344.8329
8020	P.C.	261+32.42	1601589.3390	998852.6294
8021	P.T.	269+72.11	1602195.7219	999429.1217
8022	POE	271+22.30	1602318.5122	999515.6077

HWY. 79 - SITE 3

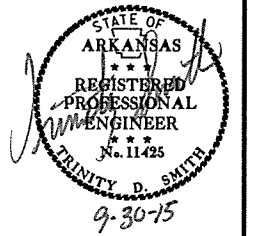
POINT NAME	TYPE	STATION	NORTHING	EASTING
8050	POB	300+00.00	1607346.9547	1004920.4677
8051	P.I.	301+65.02	1607425.7106	1005065.4871
8052	P.I.	302+07.53	1607446.1260	1005102.7655
8053	P.C.	305+38.93	1607594.9868	1005398.8524
8054	P.T.	314+95.81	1607951.6368	1006285.5825
8055	P.I.	318+38.50	1608052.5714	1006613.0788
8056	P.I.	324+84.17	1608241.5005	1007230.4844
8057	P.C.	335+66.31	1608566.5620	1008262.6510
8058	P.T.	340+46.04	1608681.6229	1008728.0568
8059	P.I.	346+94.92	1608797.5583	1009366.4905
8060	P.I.	355+33.30	1608943.6359	1010192.0505
8061	P.I.	363+05.00	1609080.9274	1010951.4325
8062	POE	364+70.00	1609107.4670	1011114.2923

HWY. 79 - SITE 4

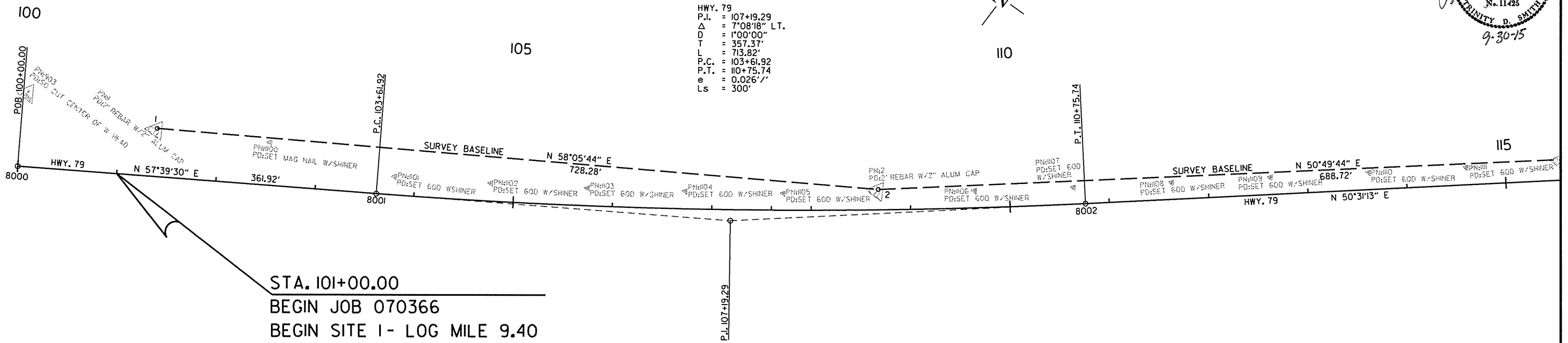
POINT NAME	TYPE	STATION	NORTHING	EASTING
8036	POB	400+00.00	1613521.2808	1019667.3899
8037	P.I.	401+00.00	1613538.7072	1019765.8598
8038	P.C.	404+92.25	1613610.9217	1020151.4086
8039	P.T.	409+56.42	1613737.3520	1020597.3553
8040	P.C.	419+40.97	1614090.9605	1021516.2185
8041	P.T.	426+94.25	1614443.1844	1022180.0182
8042	P.I.	431+07.28	1614679.2242	1022518.9519
8043	P.I.	435+03.83	1614906.0057	1022844.2509
8044	P.I.	439+60.83	1615169.8646	1023217.3888
8045	P.C.	449+86.92	1615758.8605	1024057.5962
8046	P.T.	454+92.90	1616011.7557	1024495.0964
8047	P.I.	459+08.20	1616187.4599	1024871.4009

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		69	237

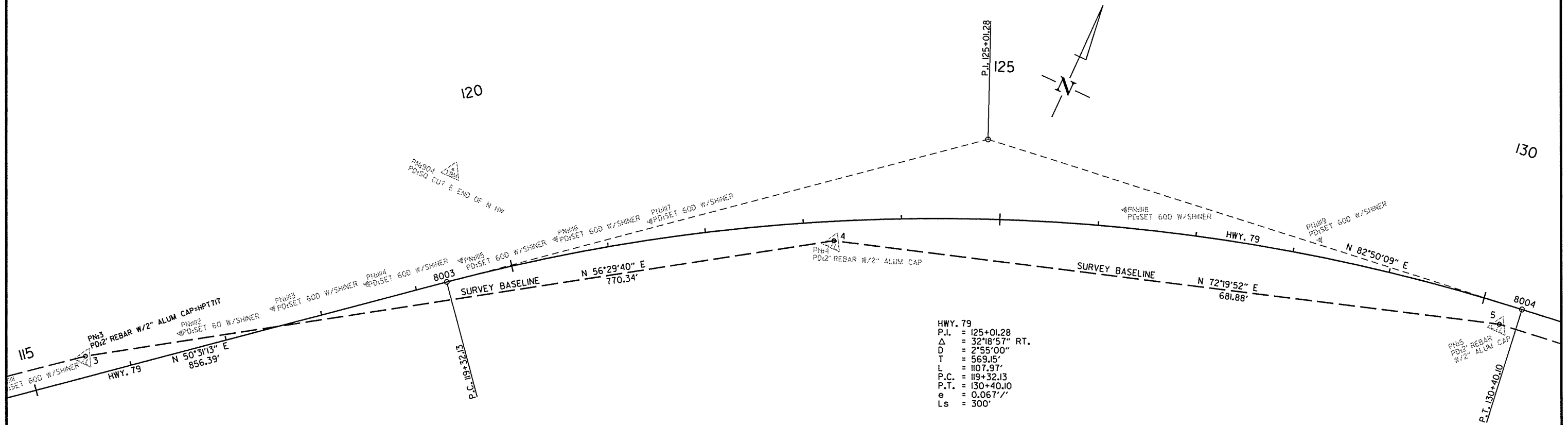
2 SURVEY CONTROL DETAILS - SITE I



HWY. 79
P.I. = 107+19.29
Δ = 7°08'18" LT.
D = 1°00'00"
T = 357.37'
L = 713.82'
P.C. = 103+61.92
P.T. = 110+75.74
e = 0.026'/'
Ls = 300'



HWY. 79
P.I. = 125+01.28
Δ = 32°18'57" RT.
D = 2°55'00"
T = 569.15'
L = 1107.97'
P.C. = 119+32.13
P.T. = 130+40.10
e = 0.067'/'
Ls = 300'



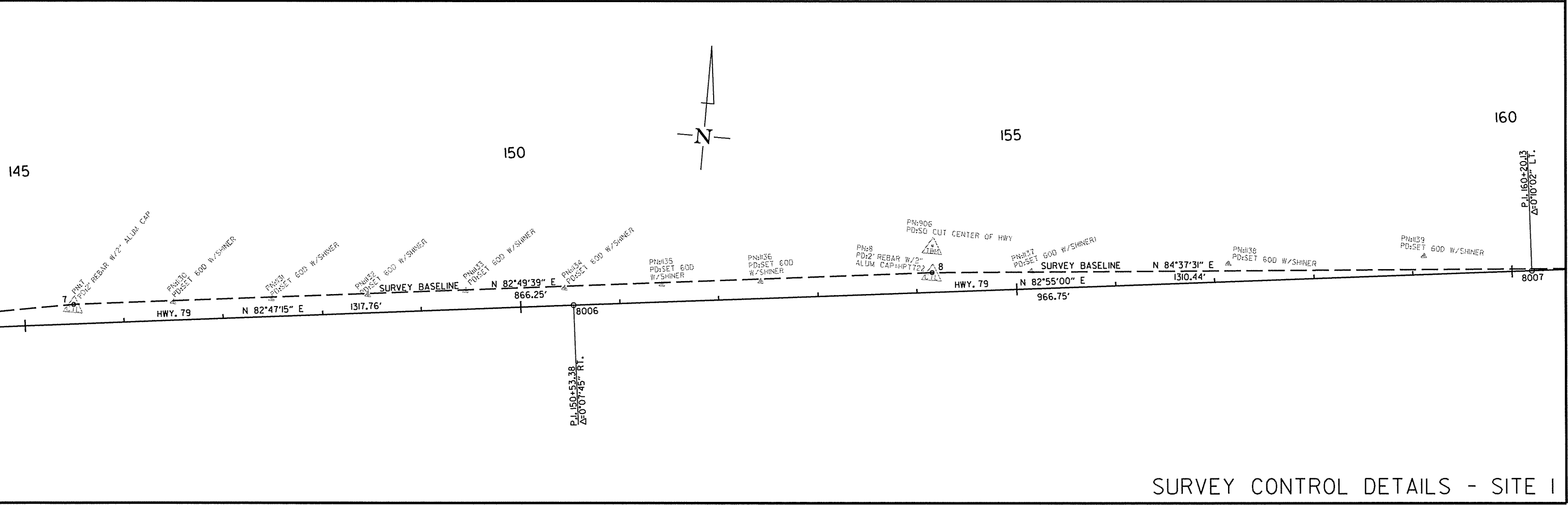
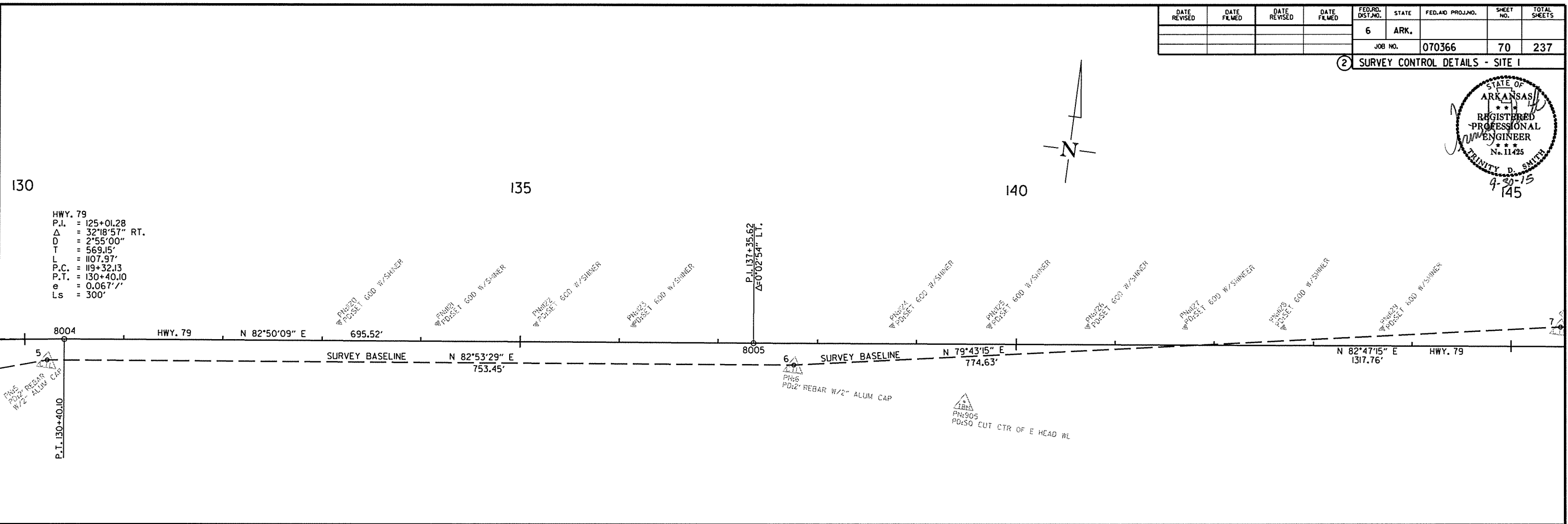
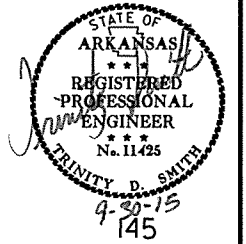
SURVEY CONTROL DETAILS - SITE I

7/2/2015

R070366.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. 070366							70	237

2 SURVEY CONTROL DETAILS - SITE 1

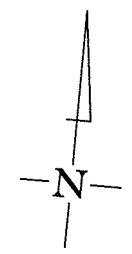
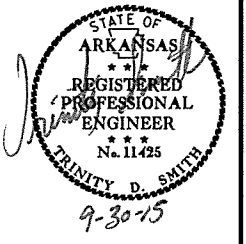


SURVEY CONTROL DETAILS - SITE 1

7/2/2015
R070366.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.	070366		71	237

② SURVEY CONTROL DETAILS - SITE I



160

P.L. 160+20.13
Δ=0'10'02" L.I.

P.O.E. 163+40.00

PNH02
ADJUSTED GPS #520004

HWY. 79 N 82°44'58" E 319.87'

PNH40
PO:SET 60D W/SHINER

PNH41
PO:SEET 60D W/SHINER

PNH42
PO:SET 60D W/SHINER

SURVEY BASELINE

N 84°37'31" E
1310.44'

PNH9
PO:2" ALUM CAP 5/8" RBR

PNH43
PO:SET 60D W/SHINER

PNH44
PO:SET 60D W/SHINER

PNH45
PO:SET 60D W/SHINER

PNH46
PO:SET 60D W/SHINER

PNH47
PO:SET 60D W/SHINER

PNH48
PO:SET 60D W/SHINER

PNH49
PO:SET 60D W/SHINER

PN907
PO:SO CUT IN CENTER OF S HEADWALL

STA. 162+40.00
END SITE I

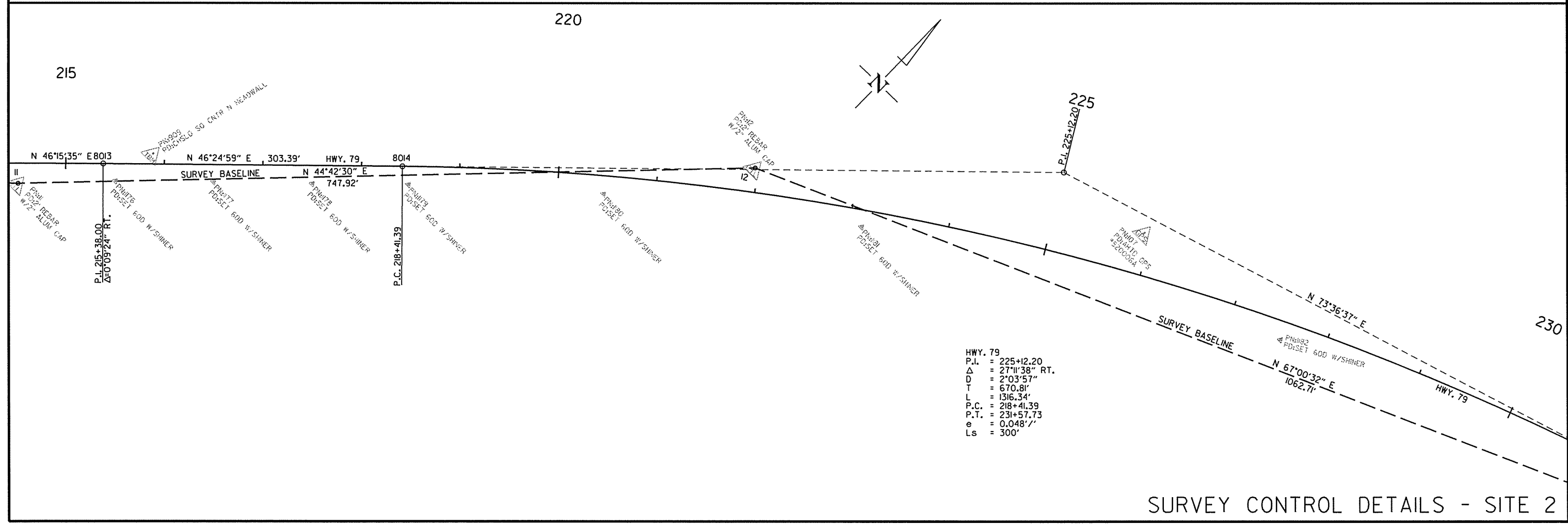
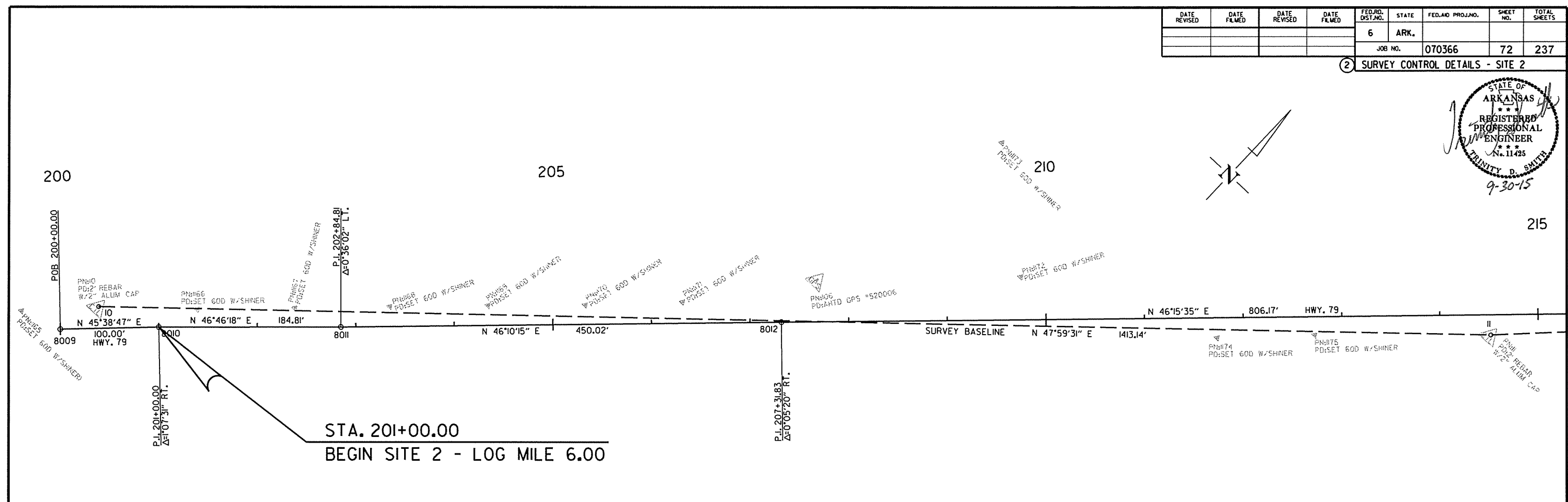
7/2/2015

R070366.DGN

SURVEY CONTROL DETAILS - SITE I

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		72	237

2 SURVEY CONTROL DETAILS - SITE 2



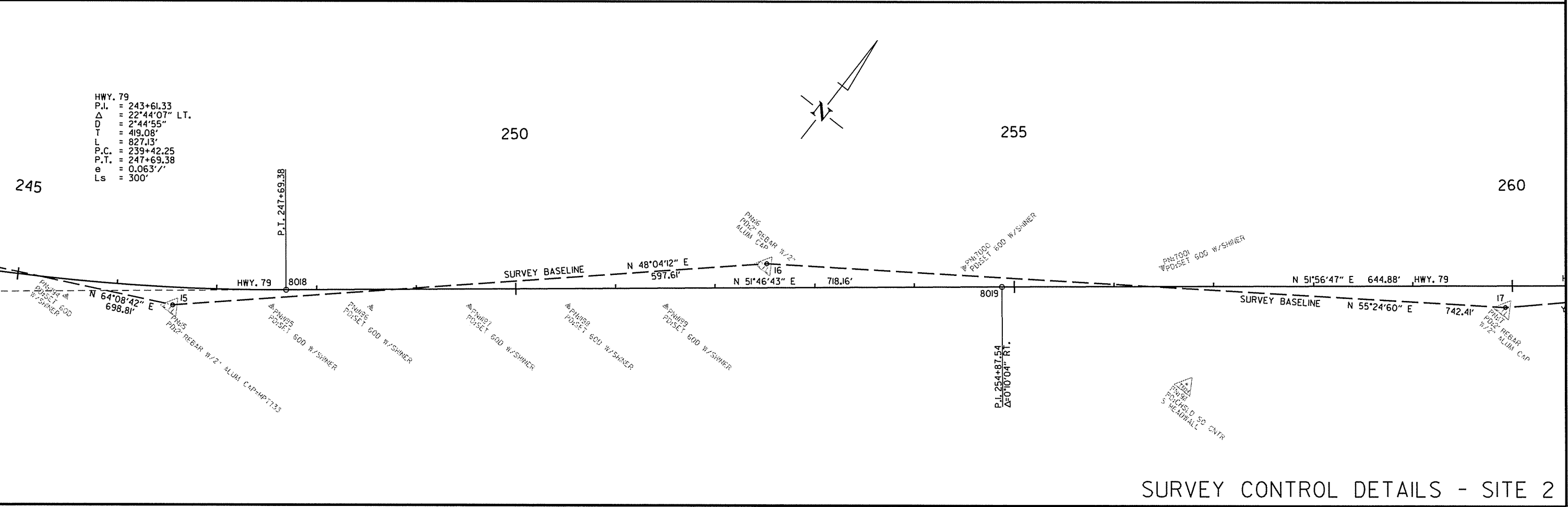
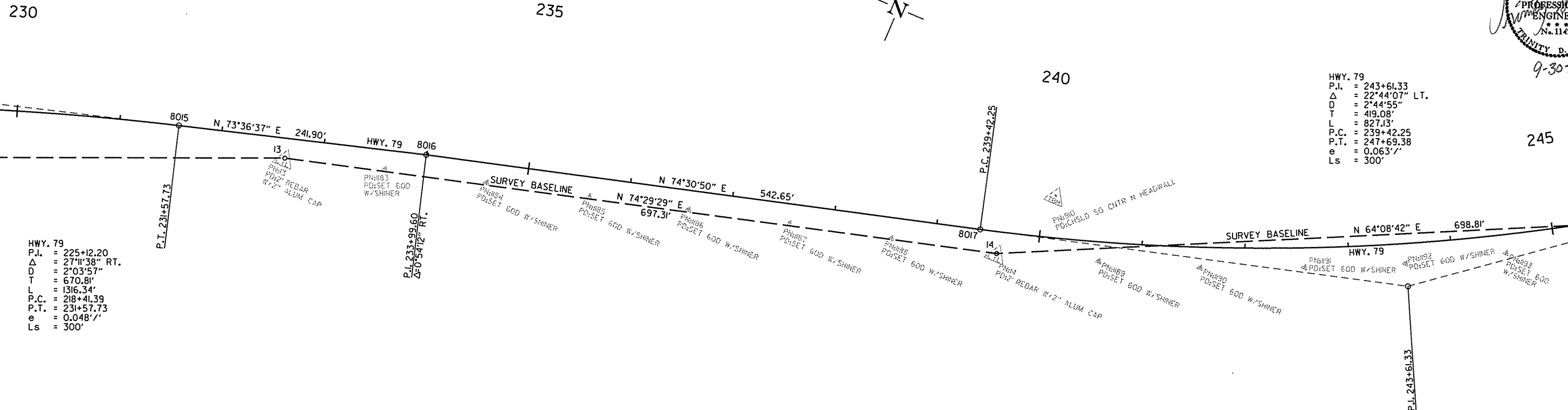
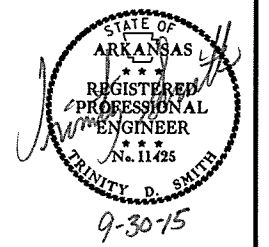
HWY. 79
 P.I. = 225+12.20
 Δ = 27°11'38" RT.
 D = 2103.57'
 T = 670.81'
 L = 1316.34'
 P.C. = 218+41.39
 P.T. = 231+57.73
 e = 0.048' /'
 Ls = 300'

SURVEY CONTROL DETAILS - SITE 2

7/2/2015
 R070366.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.	070366		73	237

2 SURVEY CONTROL DETAILS - SITE 2



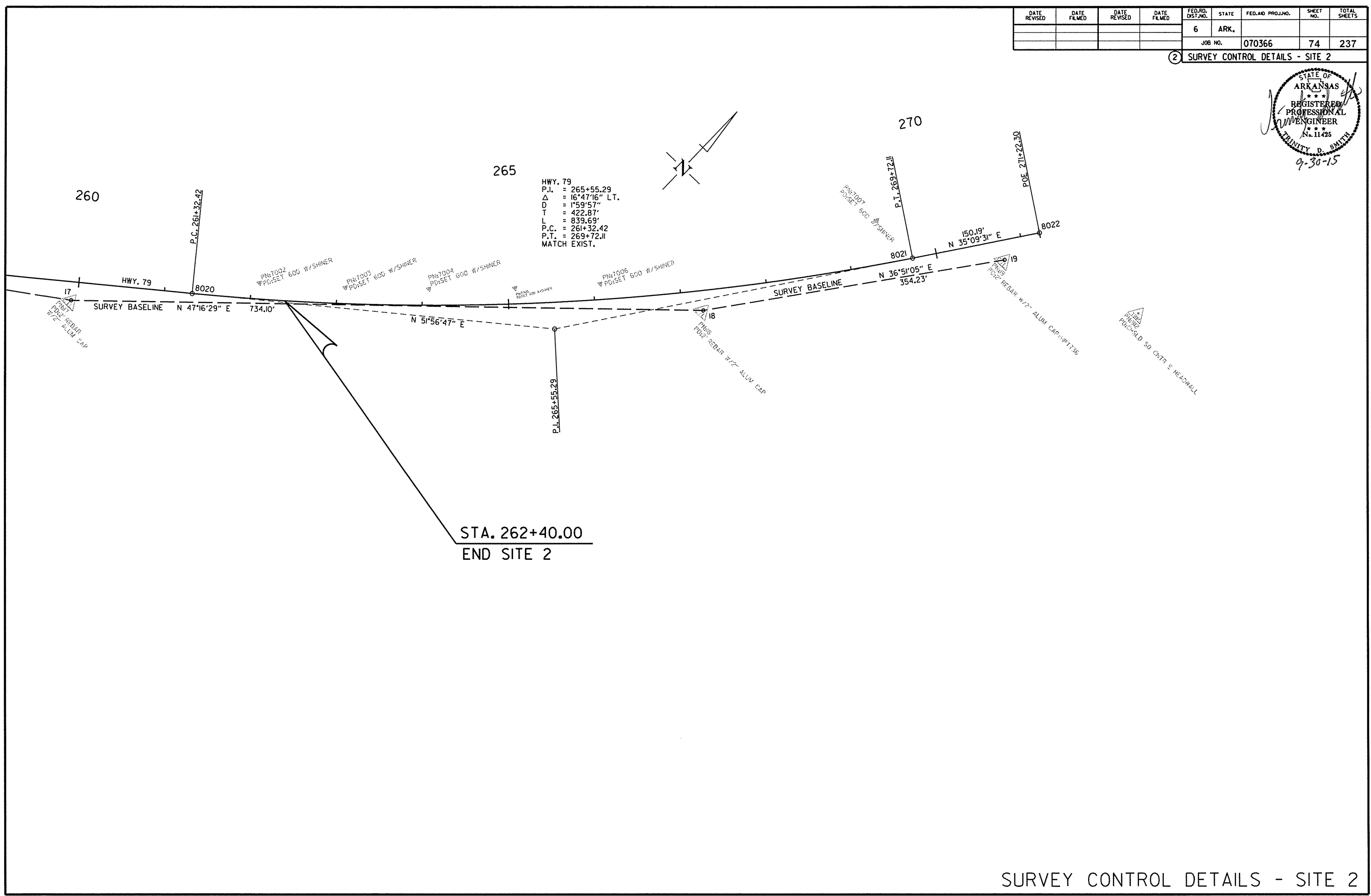
SURVEY CONTROL DETAILS - SITE 2

7/2/2015

R070366.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.						070366	74	237

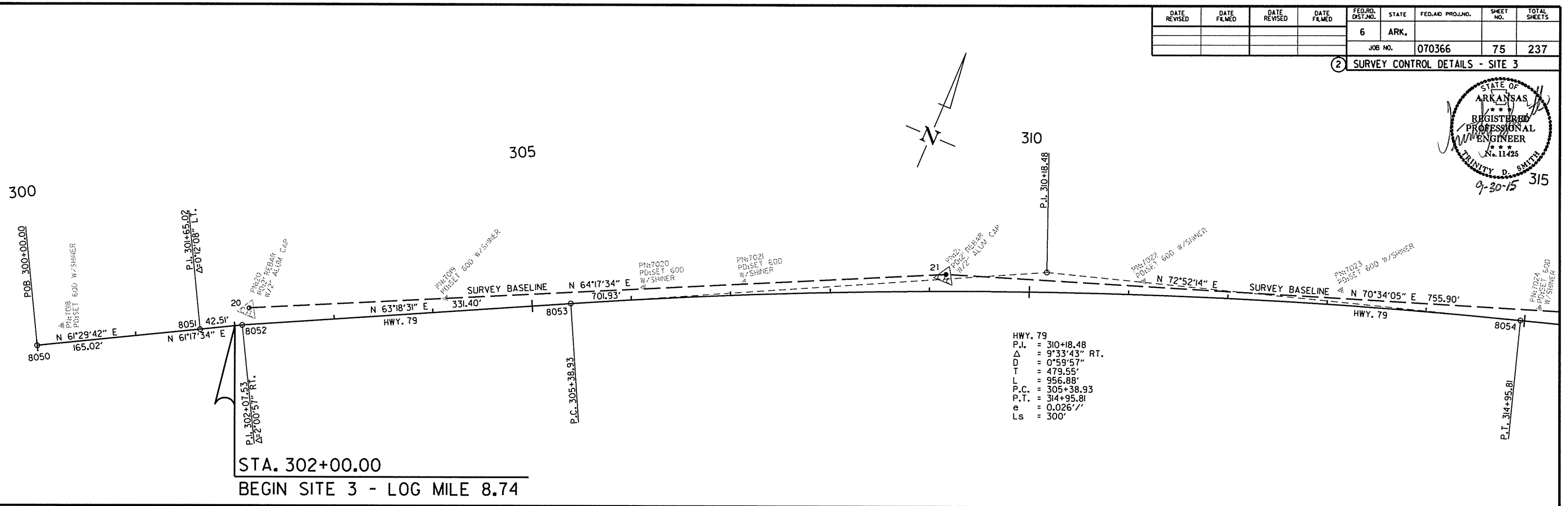
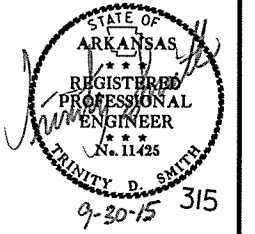
2 SURVEY CONTROL DETAILS - SITE 2



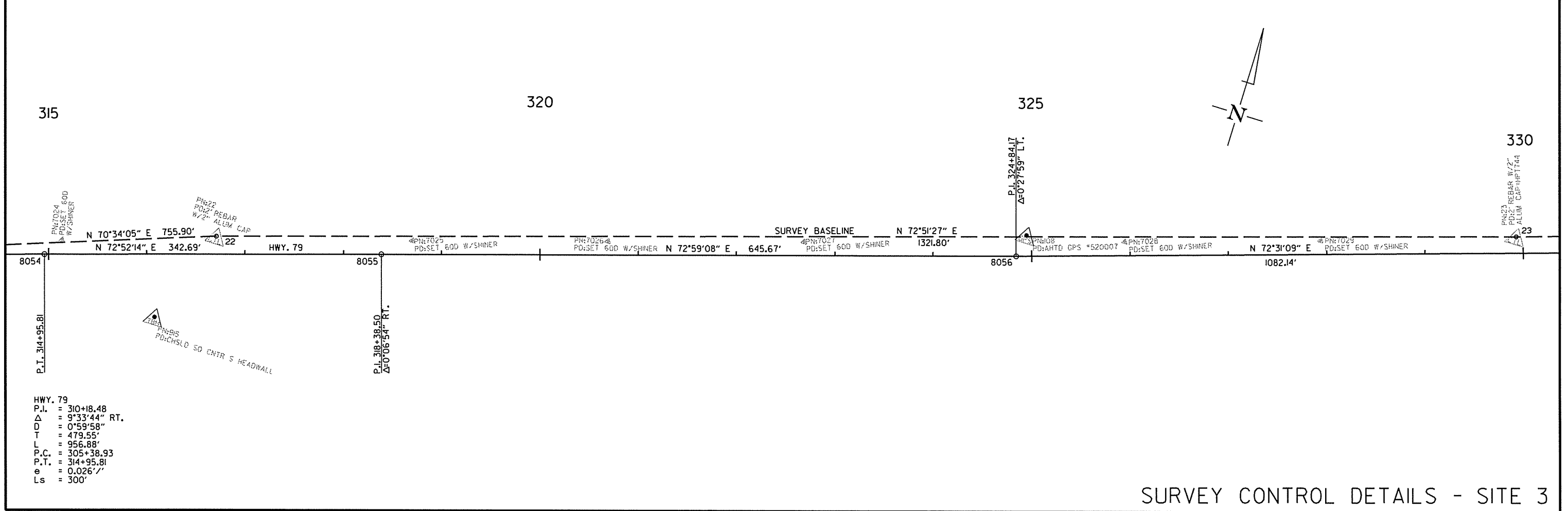
7/2/2015
R070366.DGN

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.	070366		75	237

2 SURVEY CONTROL DETAILS - SITE 3



STA. 302+00.00
BEGIN SITE 3 - LOG MILE 8.74



HWY. 79
P.I. = 310+18.48
Δ = 9°33'44" RT.
D = 0°59'58"
T = 479.55'
L = 956.88'
P.C. = 305+38.93
P.T. = 314+95.81
e = 0.026'/'
Ls = 300'

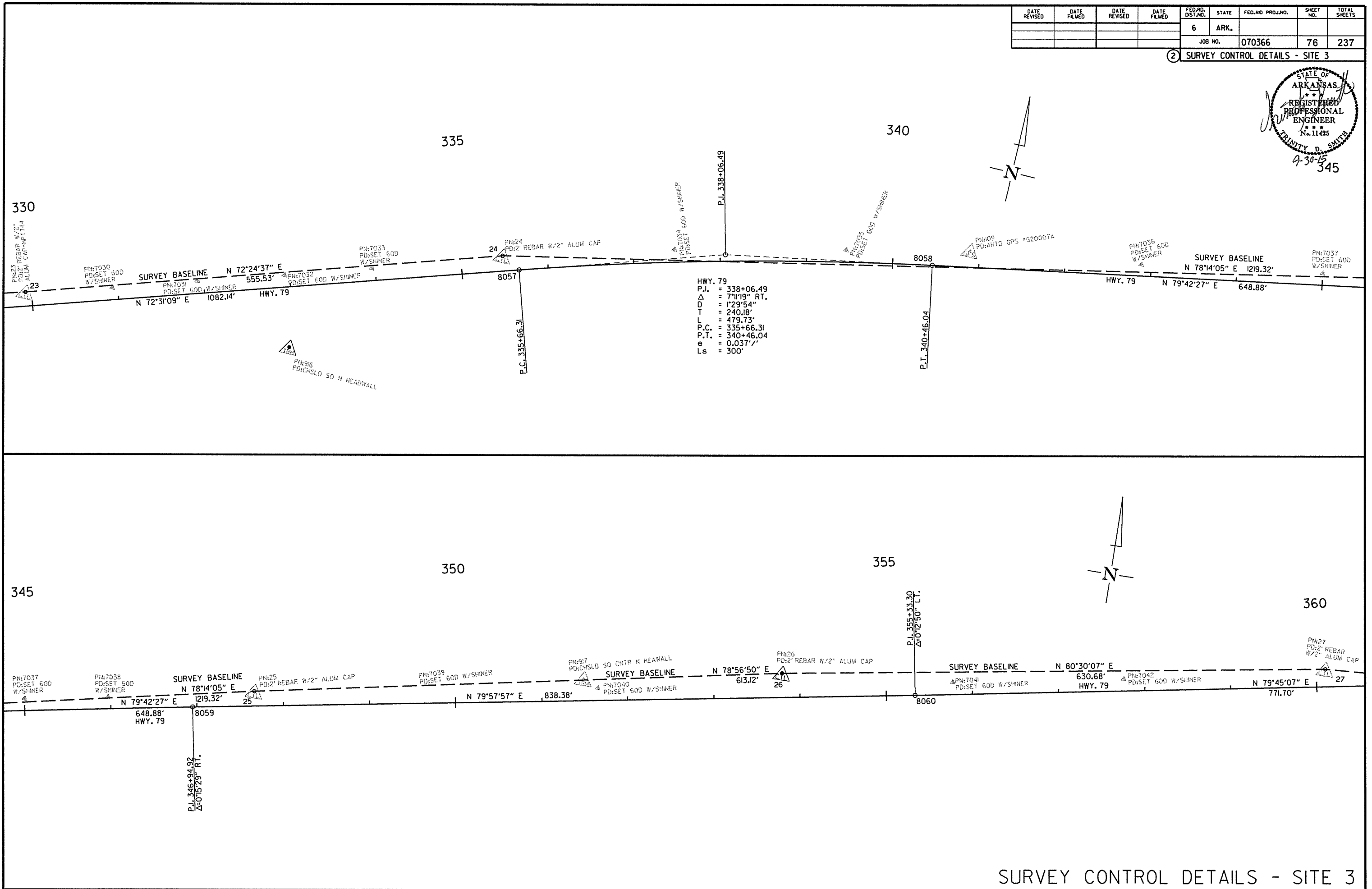
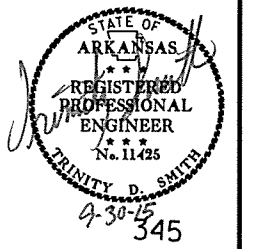
SURVEY CONTROL DETAILS - SITE 3

7/6/2015

R070366.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.							070366	76	237

2 SURVEY CONTROL DETAILS - SITE 3



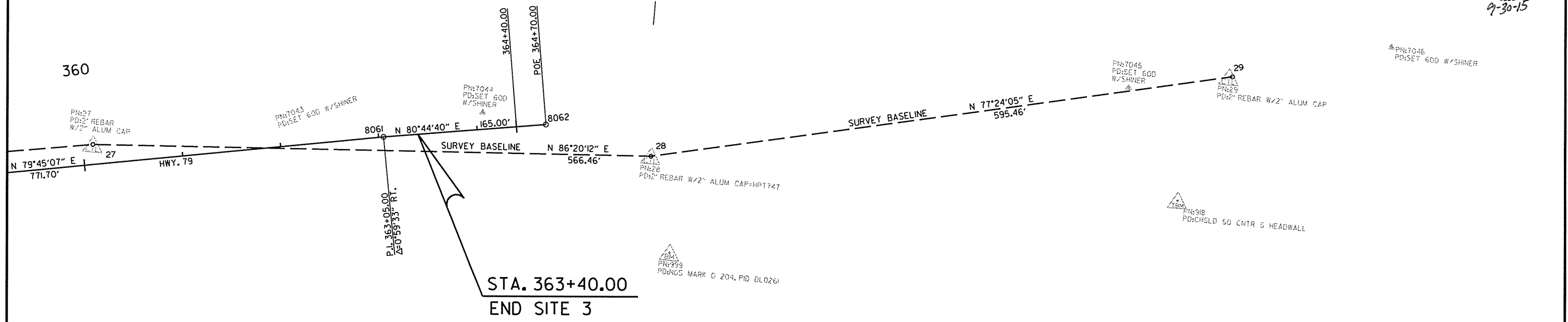
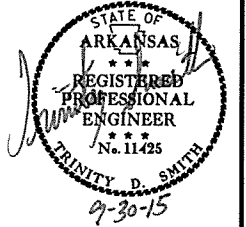
7/6/2015

R070366.DGN

SURVEY CONTROL DETAILS - SITE 3

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
JOB NO.							070366	77	237

2 SURVEY CONTROL DETAILS - SITE 3



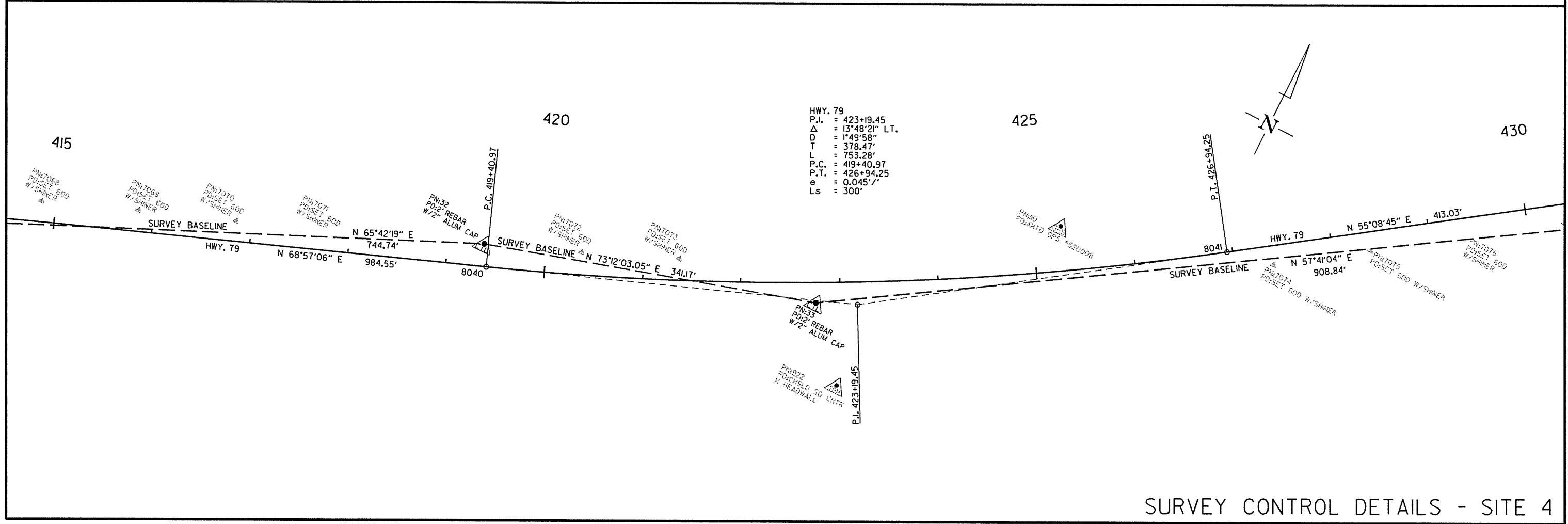
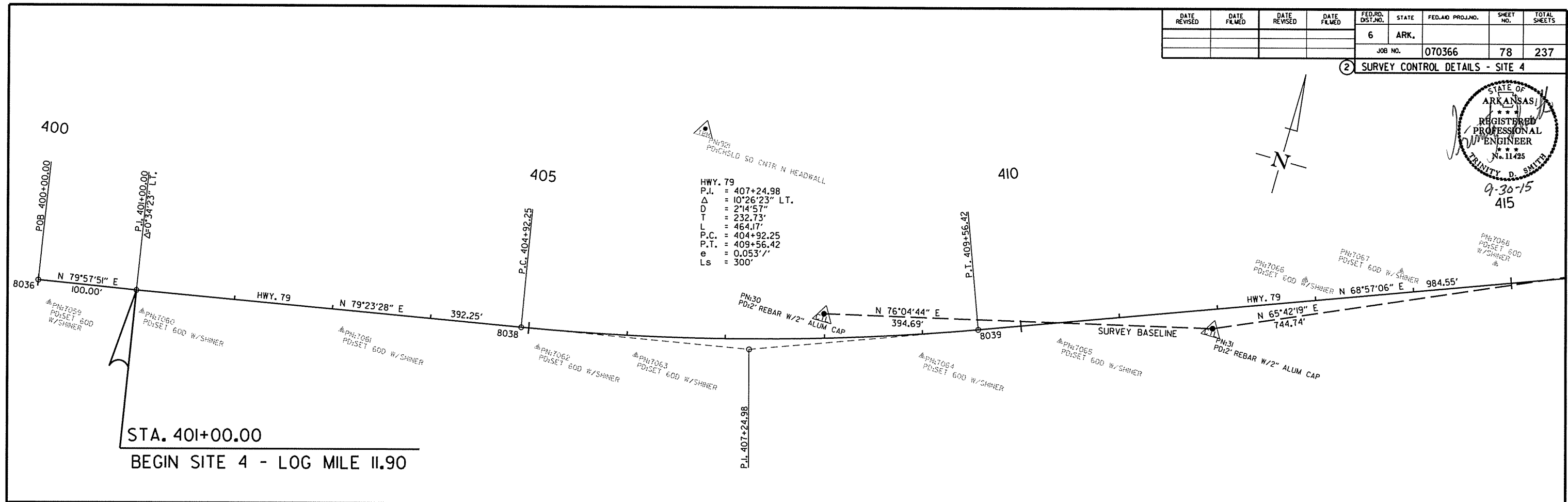
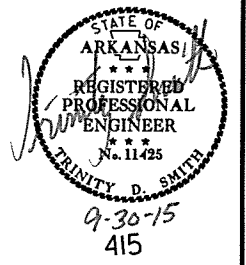
7/6/2015

R070366.DGN

SURVEY CONTROL DETAILS - SITE 3

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							78	237

2 SURVEY CONTROL DETAILS - SITE 4

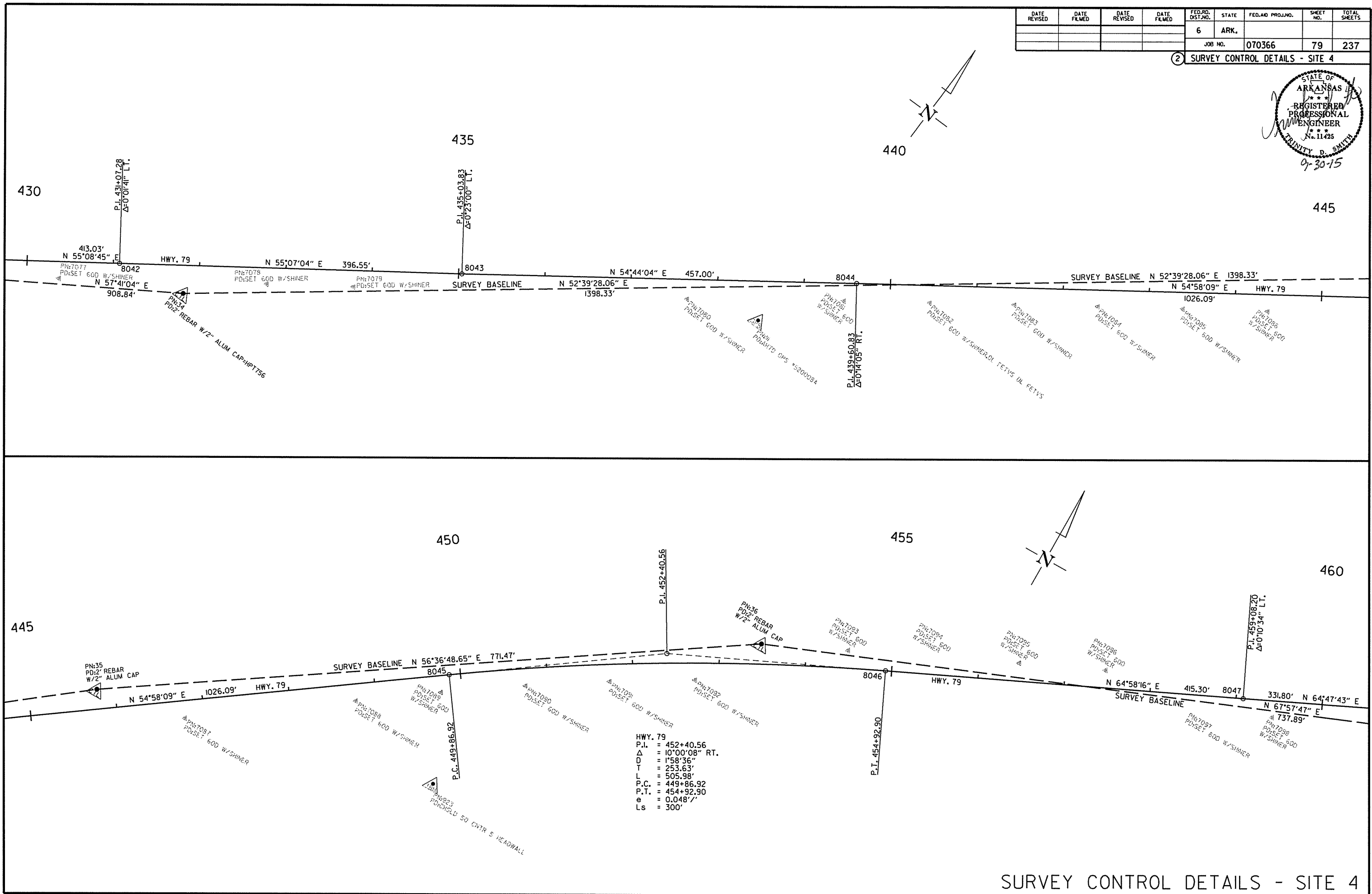


SURVEY CONTROL DETAILS - SITE 4

7/16/2015
R070366.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.	070366		79	237

2 SURVEY CONTROL DETAILS - SITE 4



7/6/2015

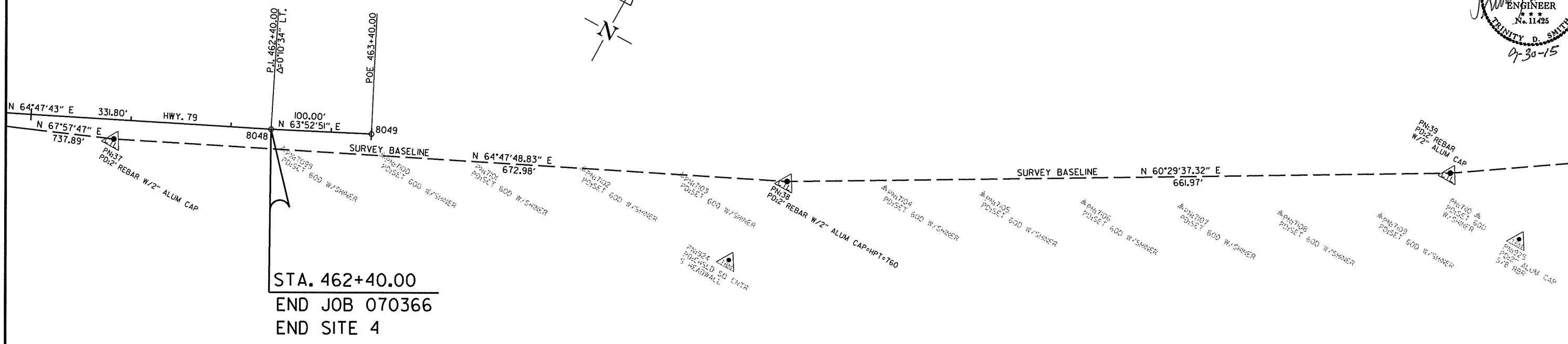
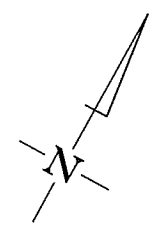
R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. RD. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		80	237

② SURVEY CONTROL DETAILS - SITE 4



460



7/6/2015
R070366.DGN

SOIL LOG

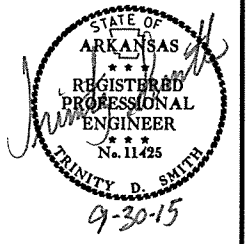
Table with columns: STATION, LATITUDE (DEG MIN SEC), LONGITUDE (DEG MIN SEC), LOCATION, DEPTH (FEET), LIQUID LIMIT, PLASTICITY INDEX, AASHTO CLASSIFICATION, COLOR. Data is organized into four sites: SITE 1, SITE 2, SITE 3, and SITE 4, each with 24 rows of soil test data.

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.

Z-AUGER REFUSAL
NP - NON-PLASTIC
ND - NOT DETERMINABLE

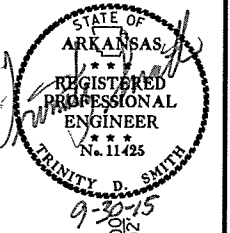
Table with columns: DATE REVISED, DATE FILMED, DATE REVISED, DATE FILMED, FED. PROJ. NO., STATE, FED. PROJ. NO., SHEET NO., TOTAL SHEETS. Values include 6 ARK., 070366, 81, 237.

SOIL LOG



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							82	237

2 PLAN AND PROFILE STA. 101+00-STA. 115+00



P.I. = 107+19.29
 Δ = 7°08'18" LT.
 D = 1'00'00"
 T = 357.37'
 L = 713.82'
 P.C. = 103+61.92
 P.T. = 110+75.74
 e = 0.026' /'
 Ls = 300'

STA. 100+11 IN PLACE
 12" X 22" R.C. PIPE CULVERT
 LT. SIDE DRAIN
 REMOVE AND INSTALL
 18" X 32" PIPE CULVERT
 RT. SIDE DRAIN
 CONSTRUCT APPROACH = 35 CU. YD.

STA. 100+11 IN PLACE
 12" X 12" X 22" ARCH. R.C. PIPE CULVERT
 RT. SIDE DRAIN
 REMOVE AND INSTALL
 18" X 30" PIPE CULVERT
 RT. SIDE DRAIN
 CONSTRUCT APPROACH = 25 CU. YDS.

STA. 101+00.00
 BEGIN JOB 070366
 BEGIN SITE I - LOG MILE 9.40

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 106+53 IN PLACE
 3' X 2' X 70' R.C. BOX CULVERT
 RETAIN AND EXTEND
 15' LT. AND 8' RT.
 WITH 3/4" WINGS LT. AND RT.
 050 = 16 CFS, D.A. = 5 ACRES

STA. 108+87 IN PLACE
 24" X 58" R.C. PIPE CULVERT
 RETAIN AND EXTEND
 20' LT. AND 6' RT.
 WITH FES LT. AND RT.
 24" R.C. PIPE CULVERT = 34 LIN. FT.
 (CLASS III) (TYPE 3 BEDDING)
 050 = 11 CFS, D.A. = 3 ACRES

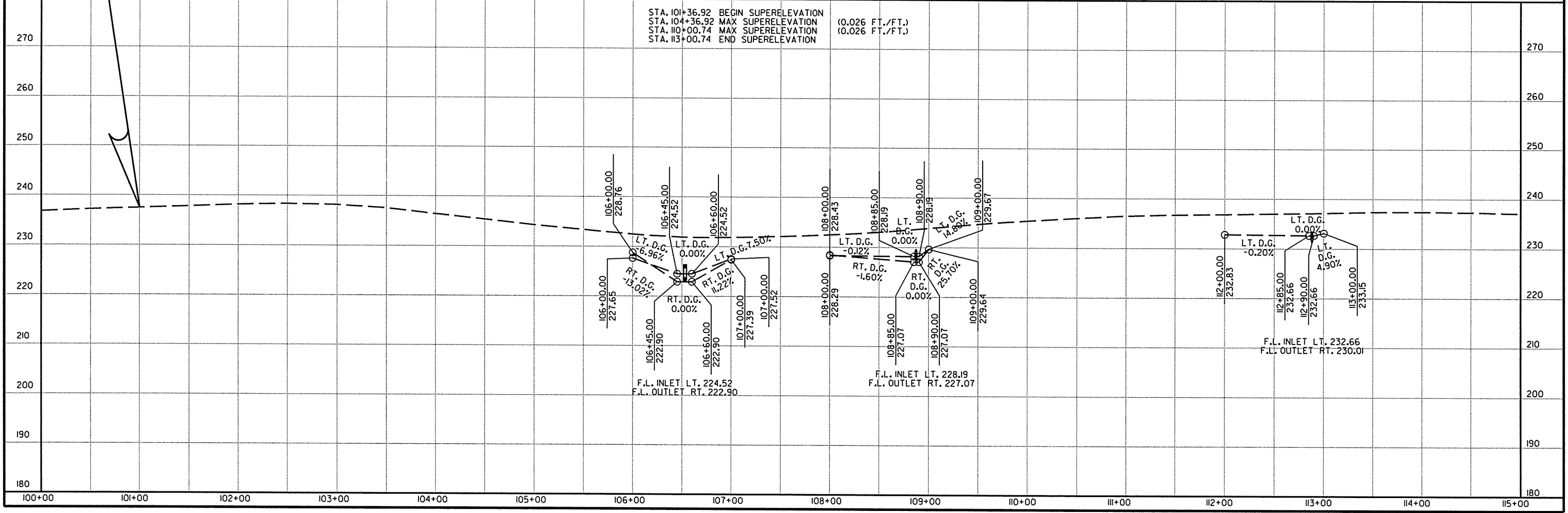
STA. 111+4 CONSTRUCT
 APPROACH ON RT. = 25 CU. YD.

STA. 112+88 CONSTRUCT
 24" X 82" R.C. PIPE CULVERT
 (CLASS IV) (TYPE 3 BEDDING)
 WITH FES LT. AND RT.
 050 = 38 CFS, D.A. = 12 ACRES

STA. 113+75 CONSTRUCT
 APPROACH ON RT. = 85 CU. YD.

STA. 112+88 IN PLACE
 24" X 57" R.C. PIPE CULVERT
 RETAIN AND EXTEND
 19' LT. AND 5' RT.
 WITH FES LT. AND RT.
 24" R.C. PIPE CULVERT = 32 LIN. FT.
 (CLASS IV) (TYPE 3 BEDDING)
 050 = 38 CFS, D.A. = 12 ACRES

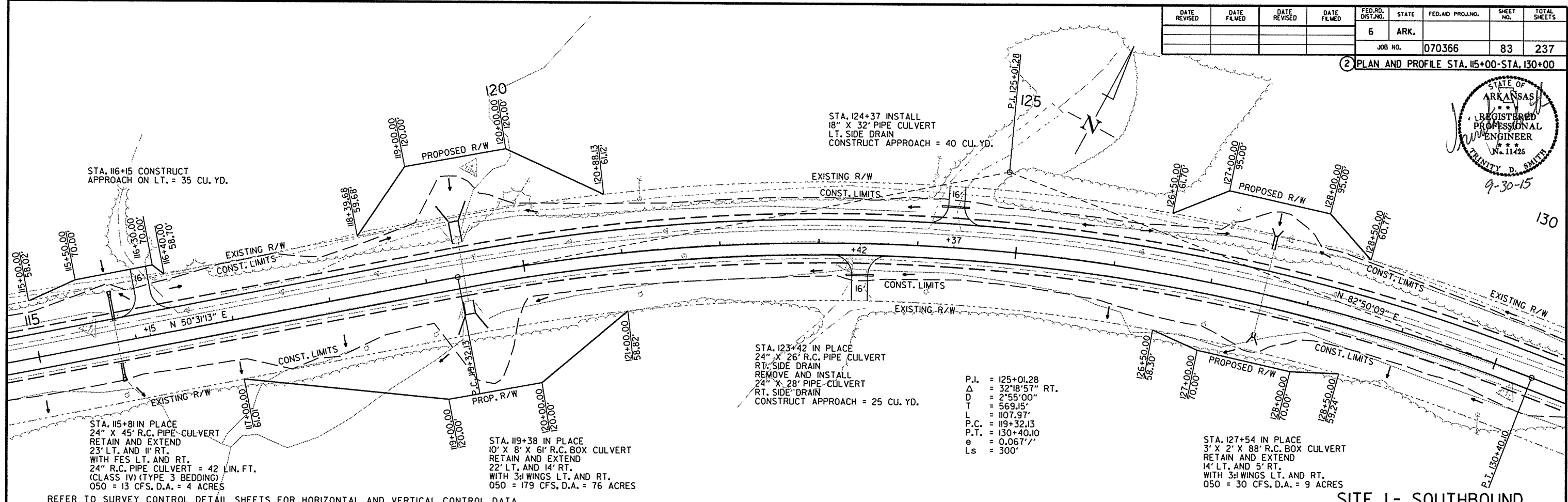
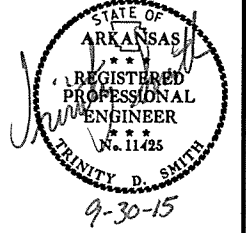
SITE I - SOUTHBOUND



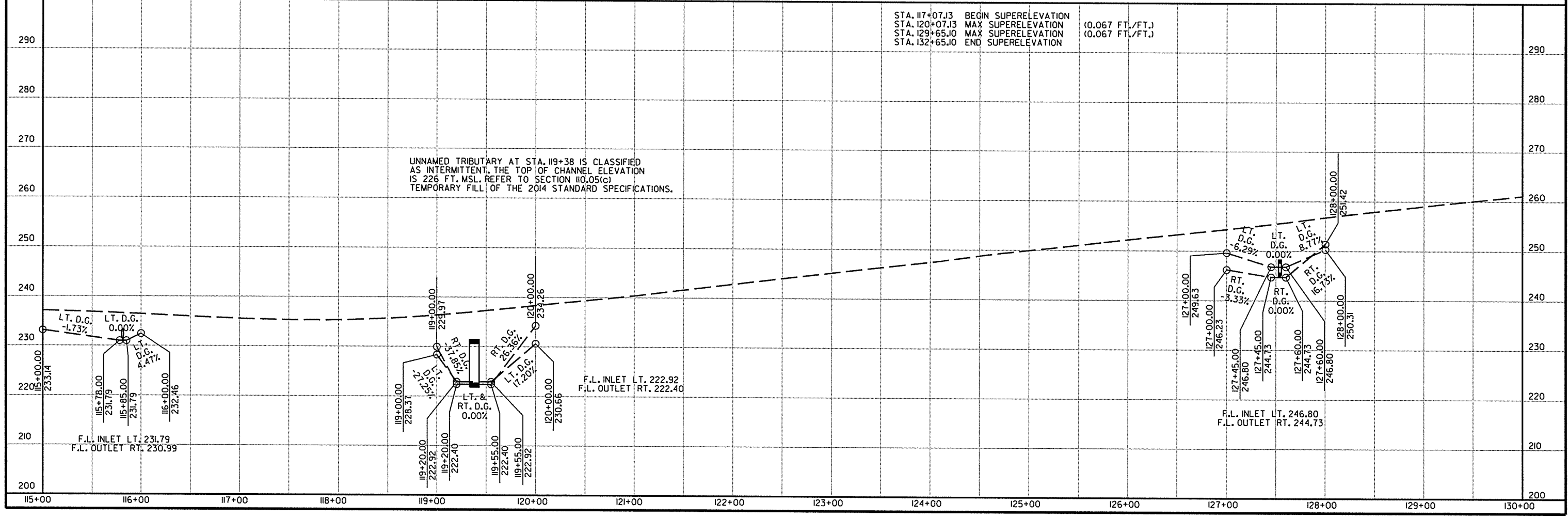
9/2/2015 R070366.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		83	237

2 PLAN AND PROFILE STA. 115+00-STA. 130+00



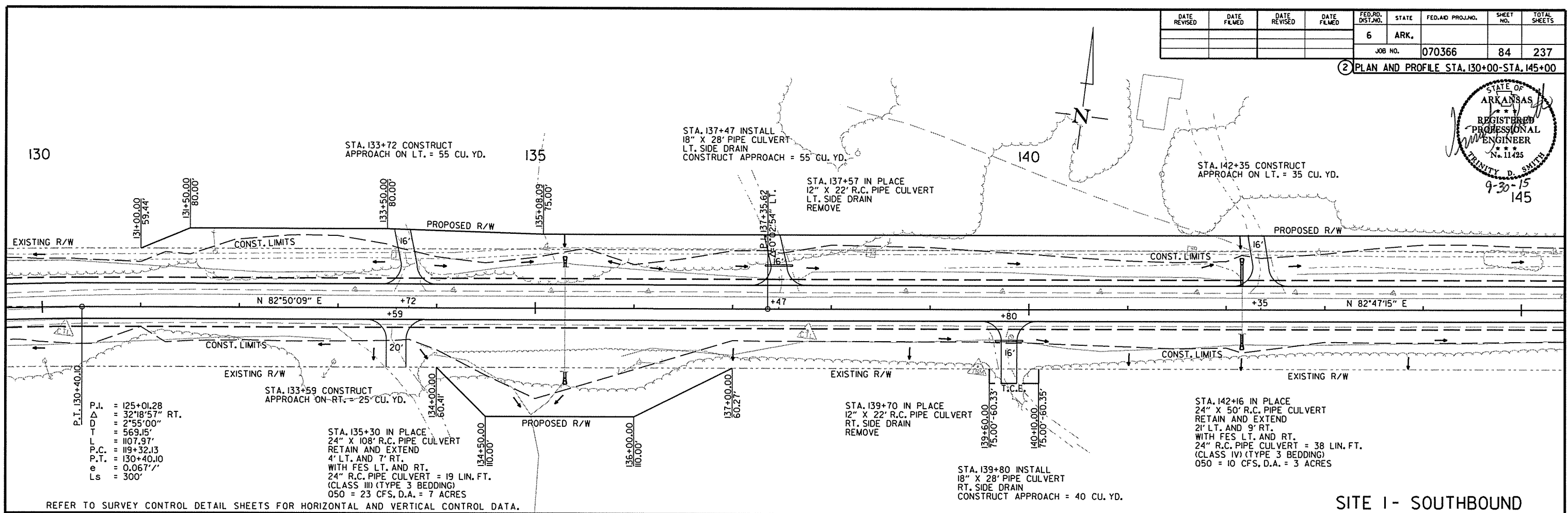
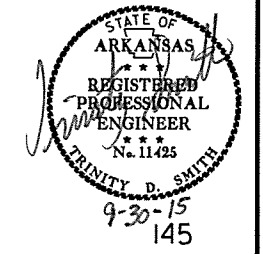
SITE I - SOUTHBOUND



9/14/2015 R070366.DGN

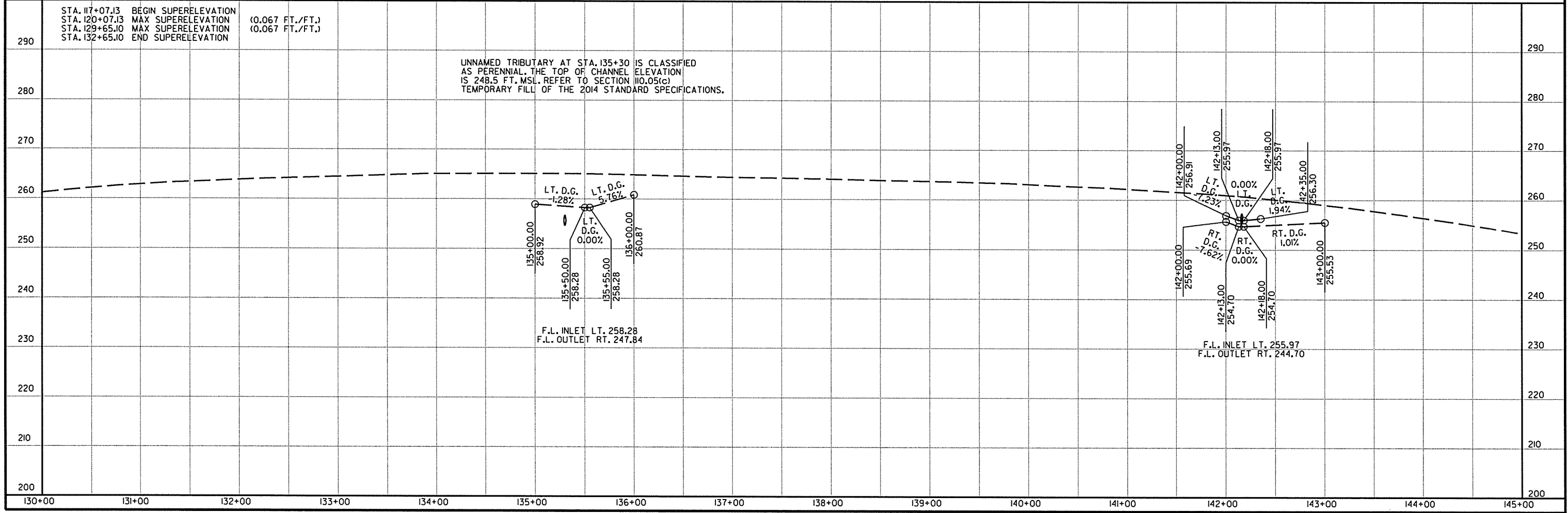
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							84	237

2 PLAN AND PROFILE STA. 130+00-STA. 145+00



REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

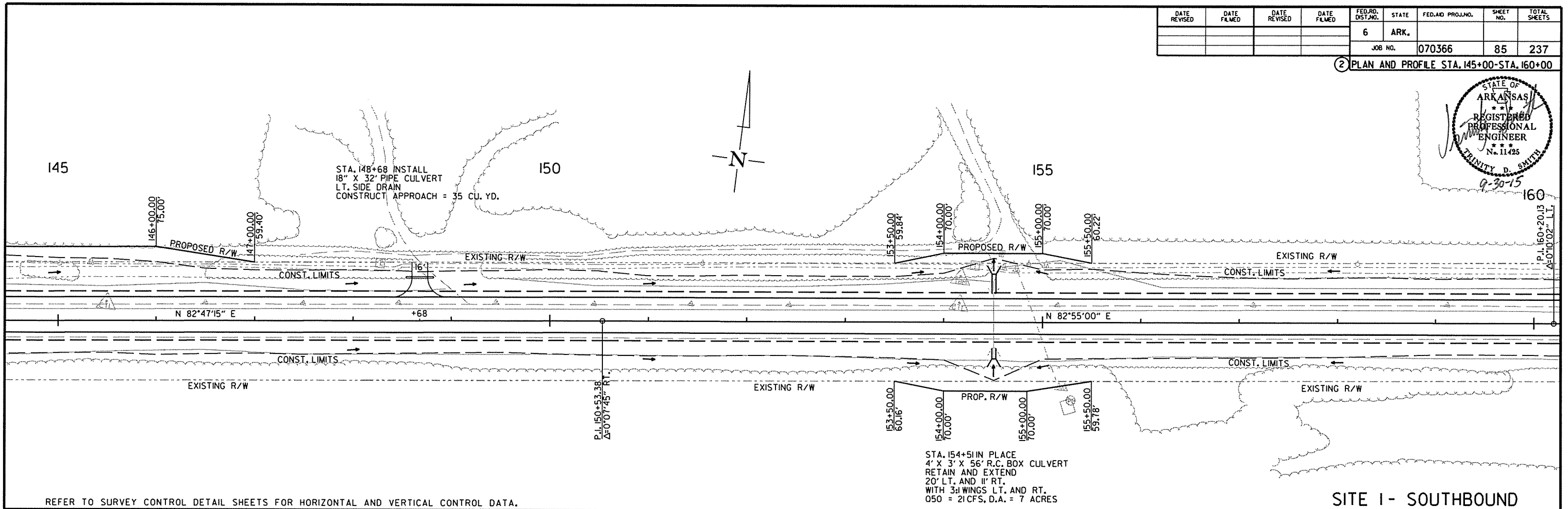
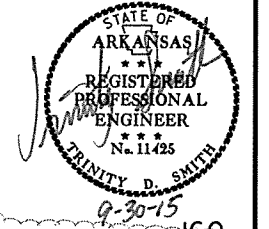
SITE I - SOUTHBOUND



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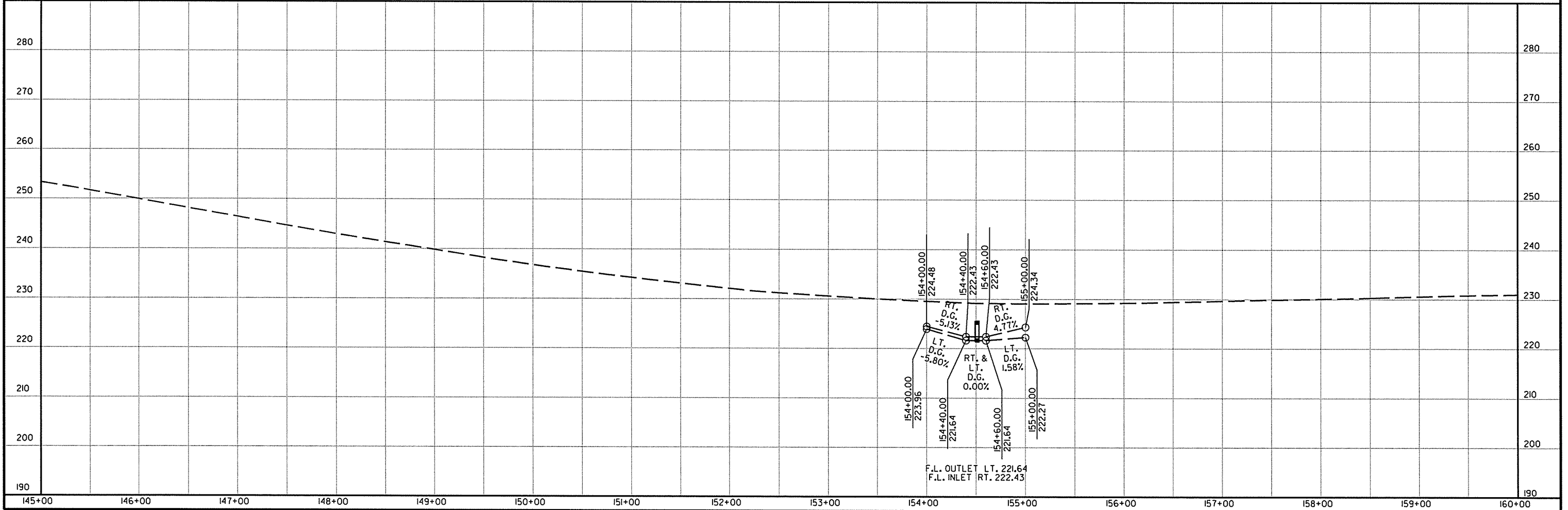
DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		85	237

2 PLAN AND PROFILE STA. 145+00-STA. 160+00



REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SITE I - SOUTHBOUND



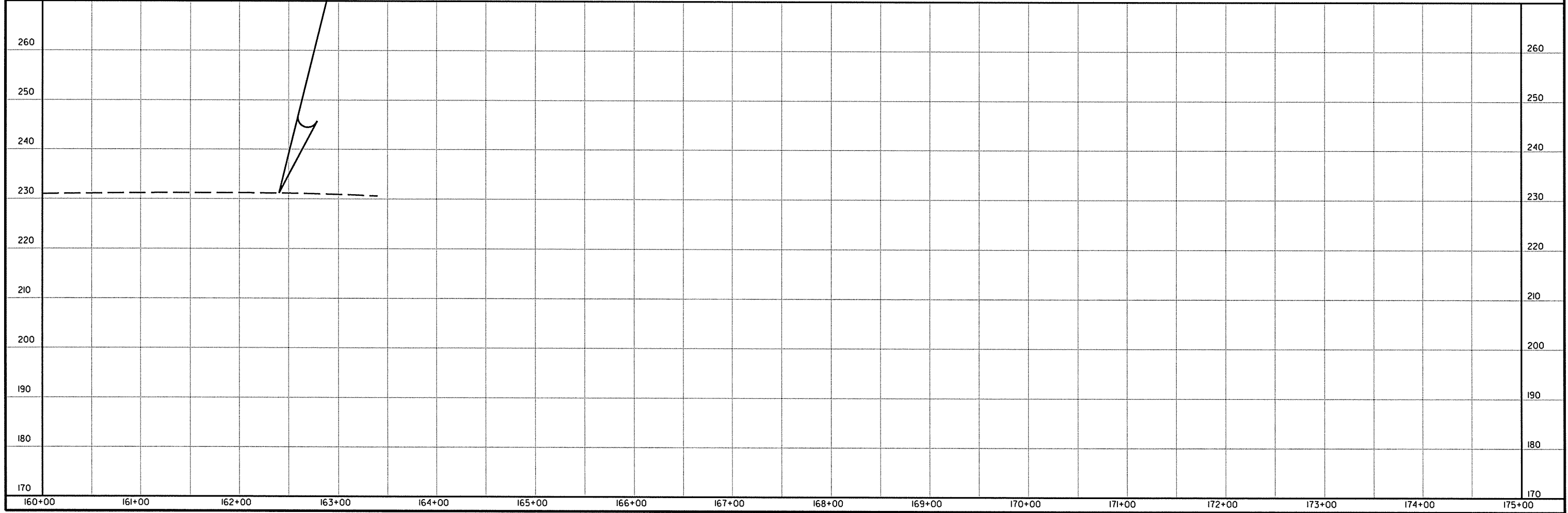
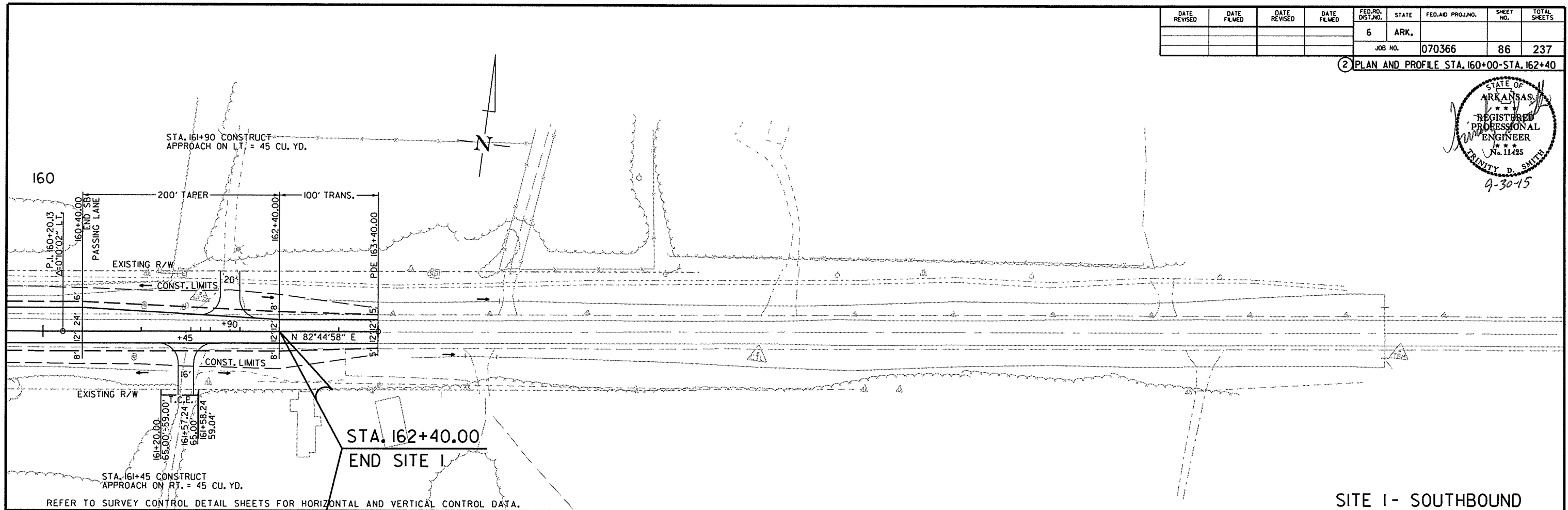
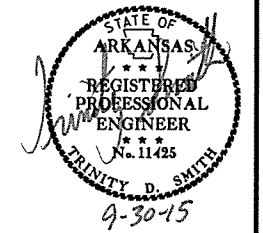
F.L. OUTLET LT. 221.64
F.L. INLET RT. 222.43

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		86	237

② PLAN AND PROFILE STA. 160+00-STA. 162+40

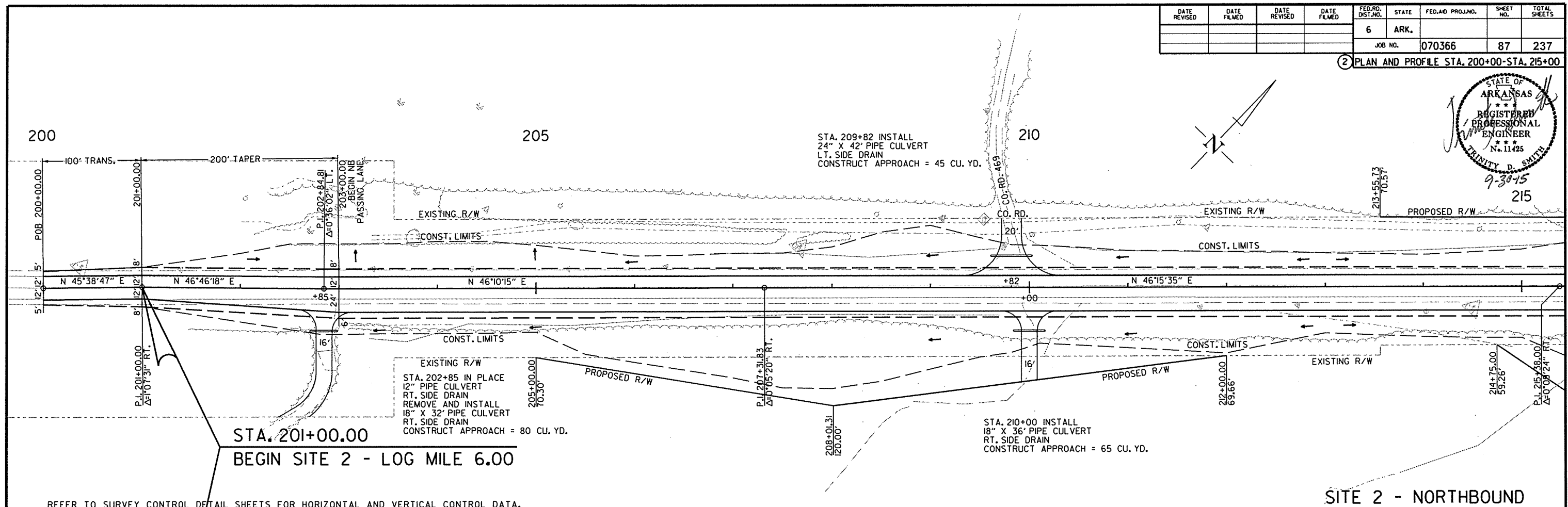
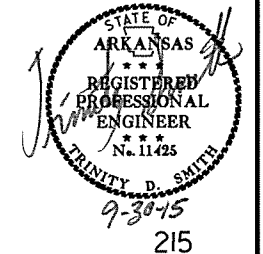


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160+00 161+00 162+00 163+00 164+00 165+00 166+00 167+00 168+00 169+00 170+00 171+00 172+00 173+00 174+00 175+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							87	237

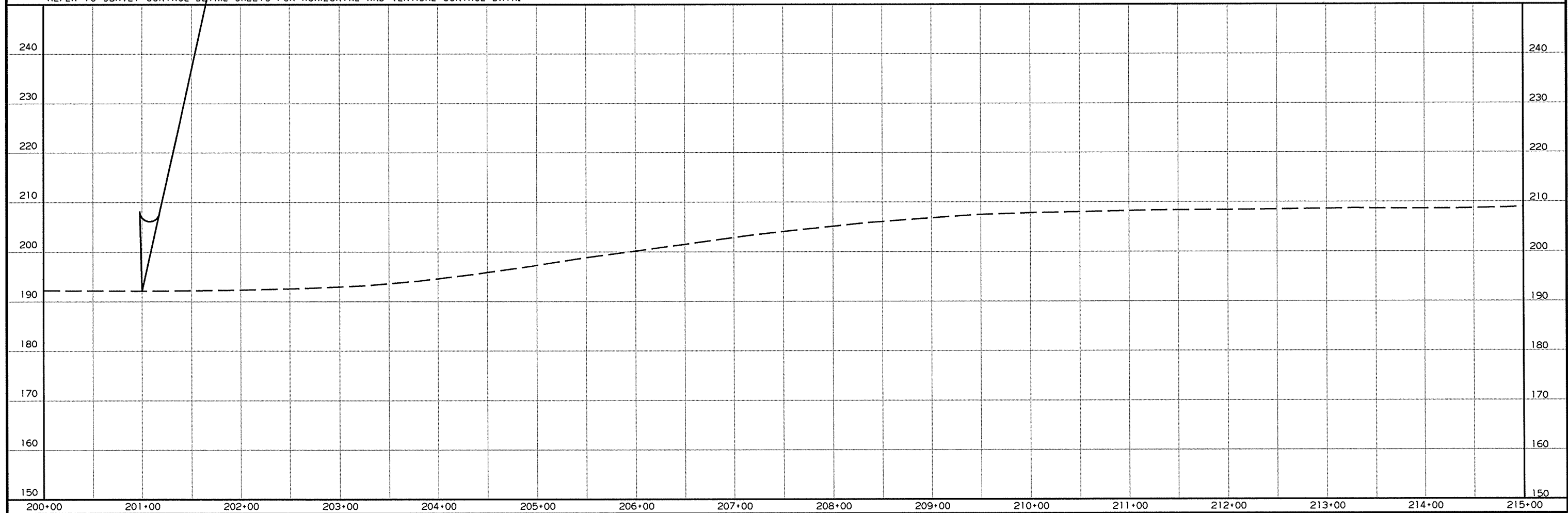
2 PLAN AND PROFILE STA. 200+00-STA. 215+00



STA. 201+00.00
BEGIN SITE 2 - LOG MILE 6.00

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

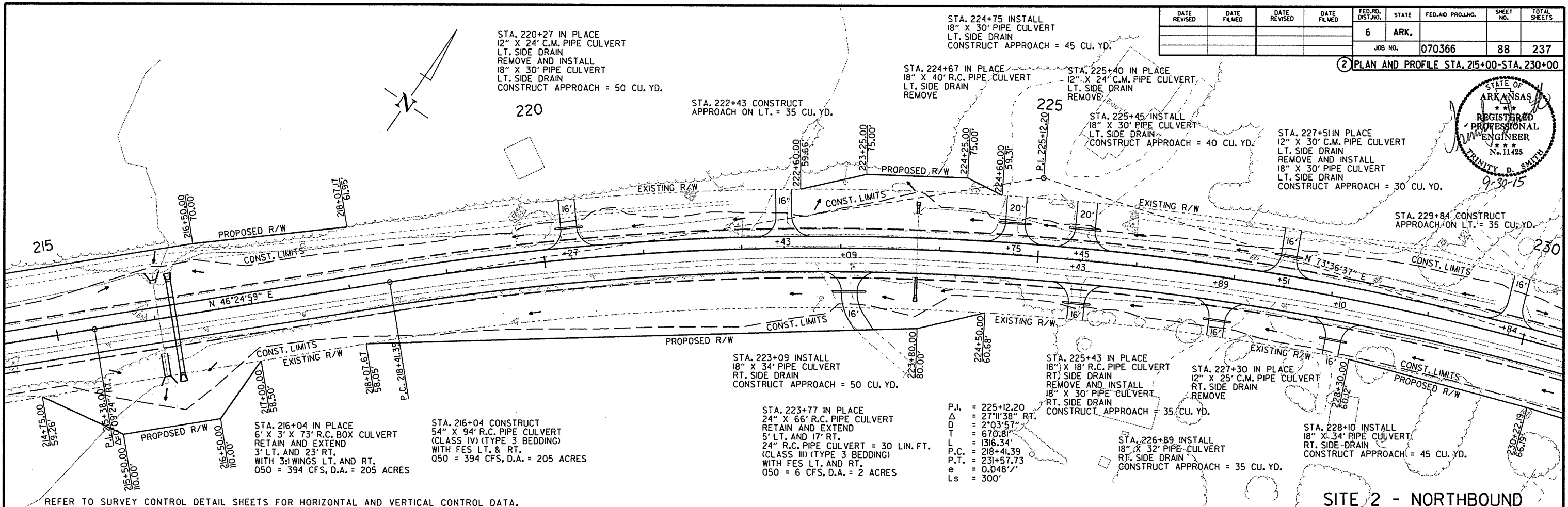
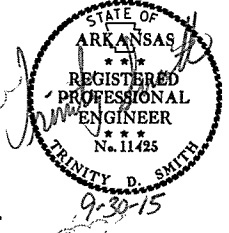
SITE 2 - NORTHBOUND



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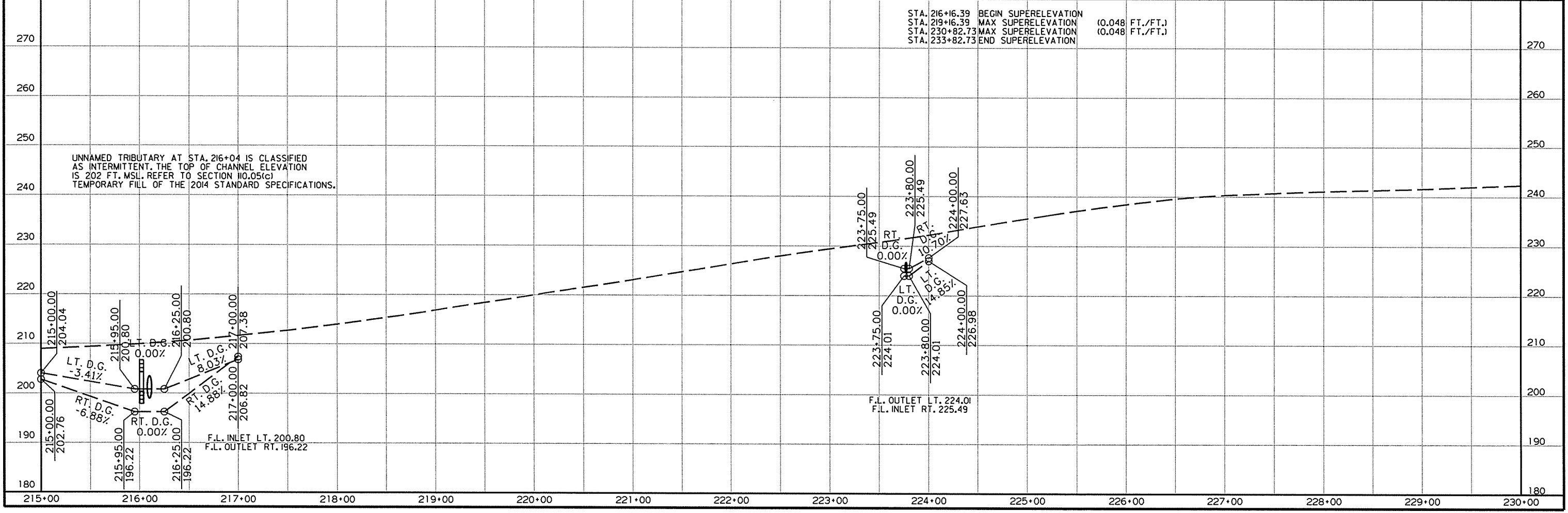
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		88	237

2 PLAN AND PROFILE STA. 215+00-STA. 230+00



REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

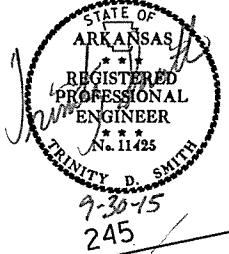
SITE 2 - NORTHBOUND



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DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		89	237

2 PLAN AND PROFILE STA. 230+00-STA. 245+00

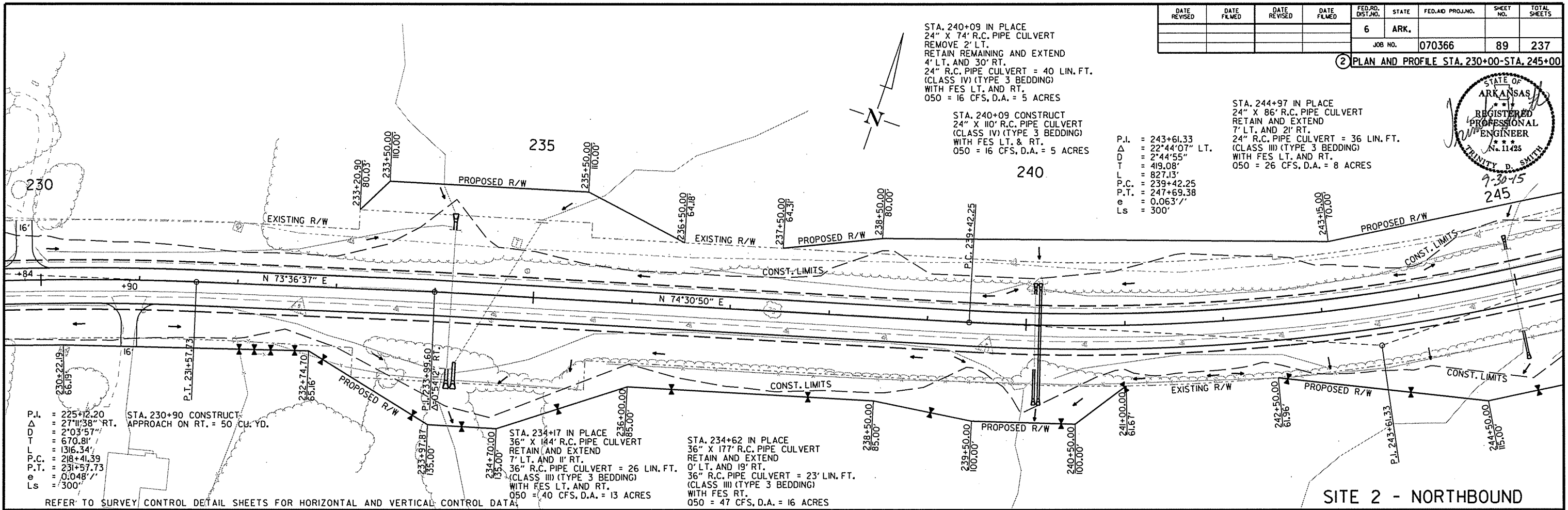


STA. 240+09 IN PLACE
 24" X 74" R.C. PIPE CULVERT
 REMOVE 2' LT.
 RETAIN REMAINING AND EXTEND
 4' LT. AND 30' RT.
 24" R.C. PIPE CULVERT = 40 LIN. FT.
 (CLASS IV) (TYPE 3 BEDDING)
 WITH FES LT. AND RT.
 050 = 16 CFS, D.A. = 5 ACRES

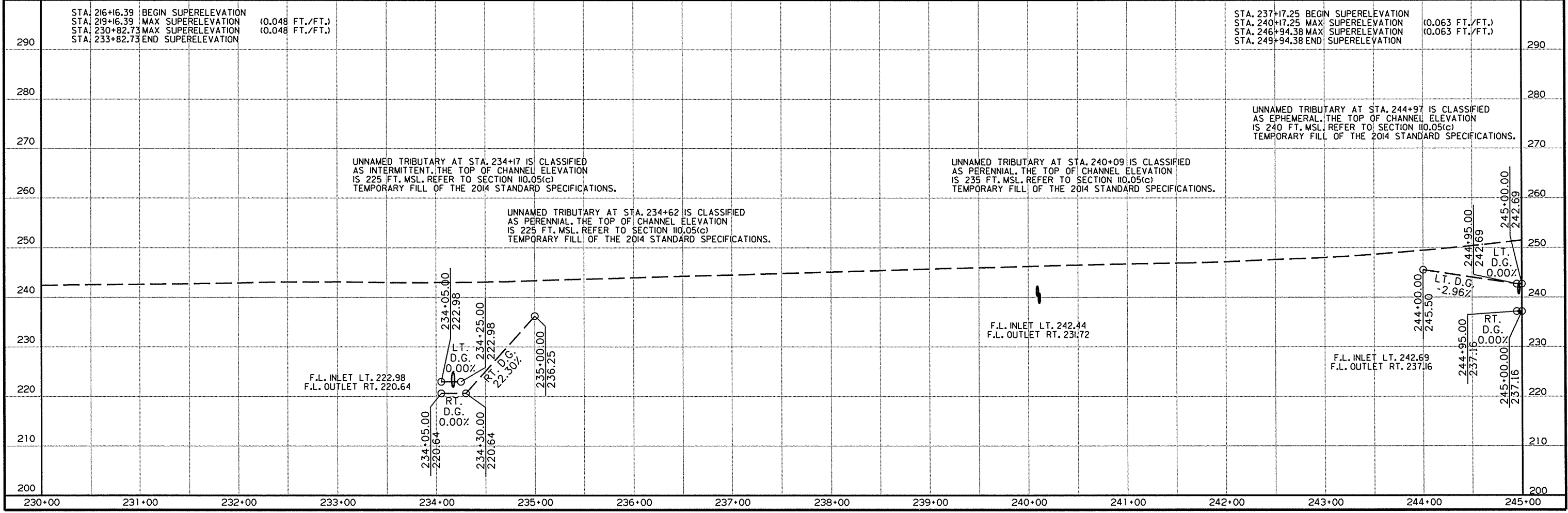
STA. 240+09 CONSTRUCT
 24" X 110" R.C. PIPE CULVERT
 (CLASS IV) (TYPE 3 BEDDING)
 WITH FES LT. & RT.
 050 = 16 CFS, D.A. = 5 ACRES

P.I. = 243+61.33
 Δ = 22°44'07" LT.
 D = 2°44'55"
 T = 419.08'
 L = 827.13'
 P.C. = 239+42.25
 P.T. = 247+69.38
 e = 0.0637'
 Ls = 300'

STA. 244+97 IN PLACE
 24" X 86" R.C. PIPE CULVERT
 RETAIN AND EXTEND
 7' LT. AND 21' RT.
 24" R.C. PIPE CULVERT = 36 LIN. FT.
 (CLASS III) (TYPE 3 BEDDING)
 WITH FES LT. AND RT.
 050 = 26 CFS, D.A. = 8 ACRES



SITE 2 - NORTHBOUND

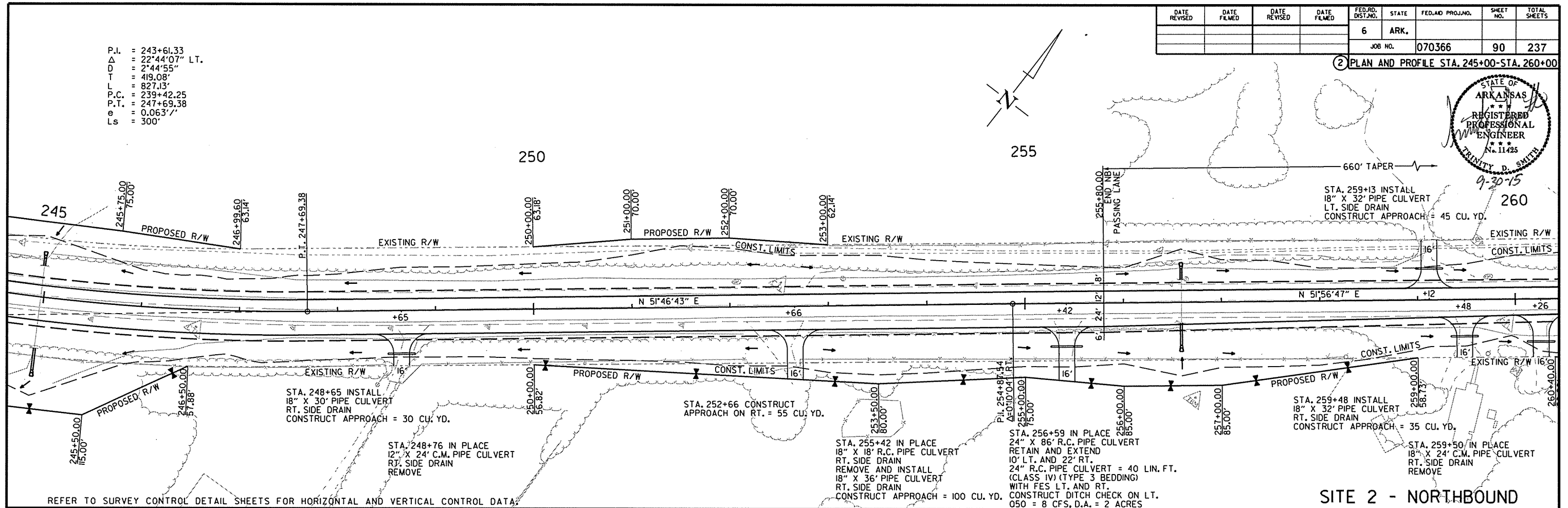
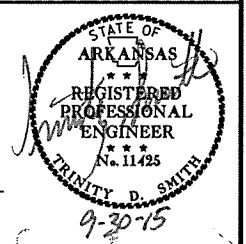


R070366.DGN 9/14/2015

P.I. = 243+61.33
 Δ = 22°44'07" LT.
 D = 2'44'55"
 T = 419.08'
 L = 827.13'
 P.C. = 239+42.25
 P.T. = 247+69.38
 e = 0.063'/'
 Ls = 300'

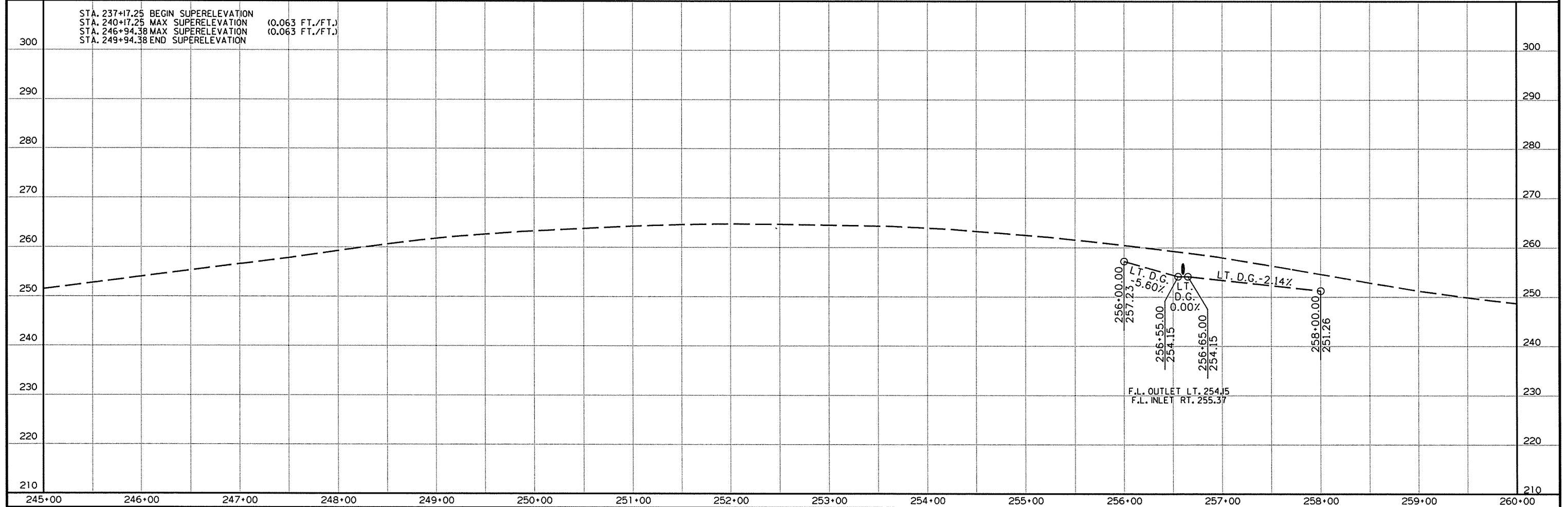
DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							90	237

2 PLAN AND PROFILE STA. 245+00-STA. 260+00



REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SITE 2 - NORTHBOUND

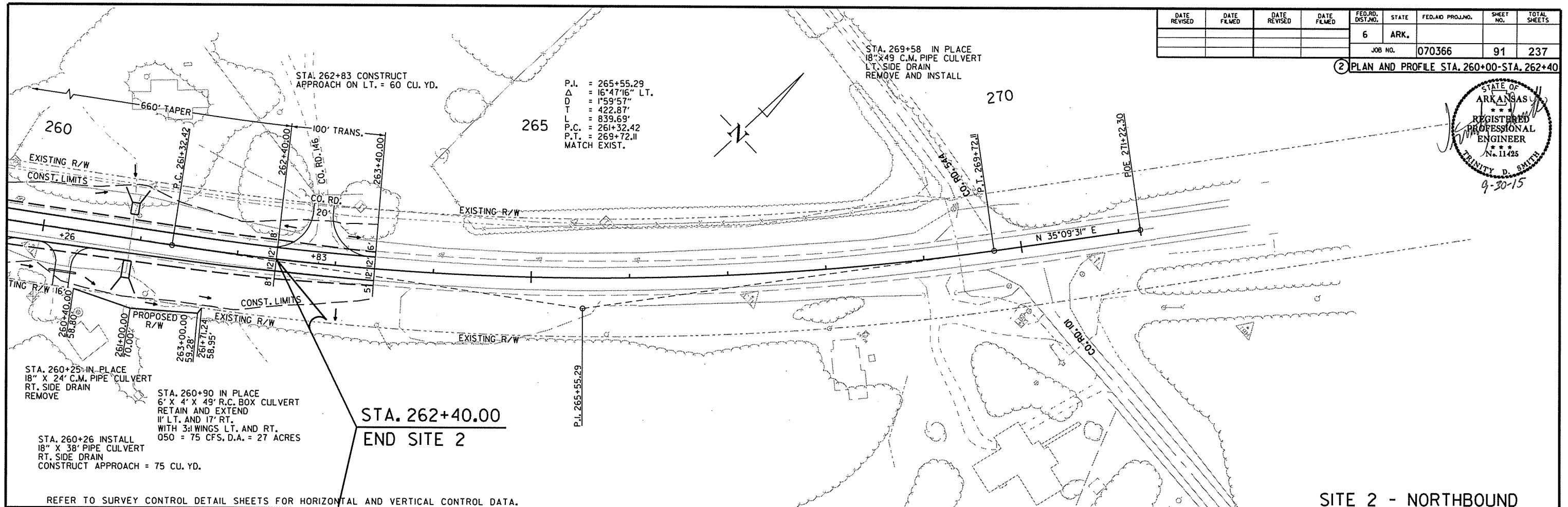
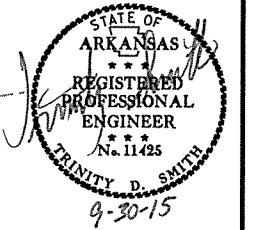


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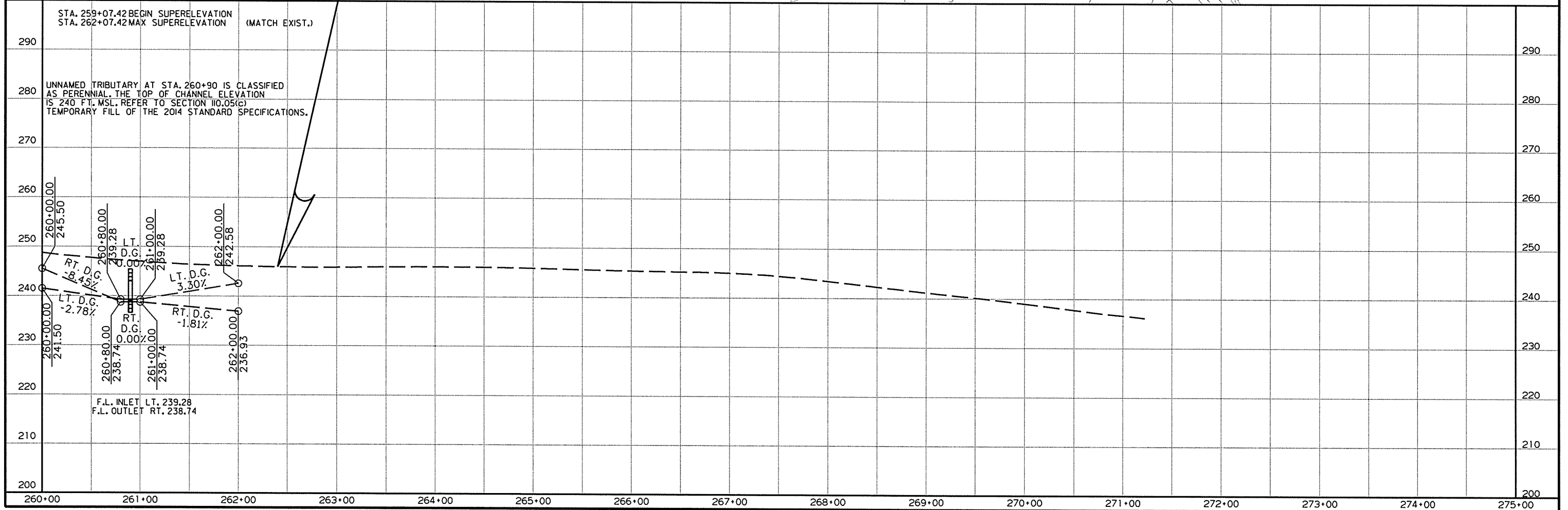
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		91	237

2 PLAN AND PROFILE STA. 260+00-STA. 262+40



REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SITE 2 - NORTHBOUND

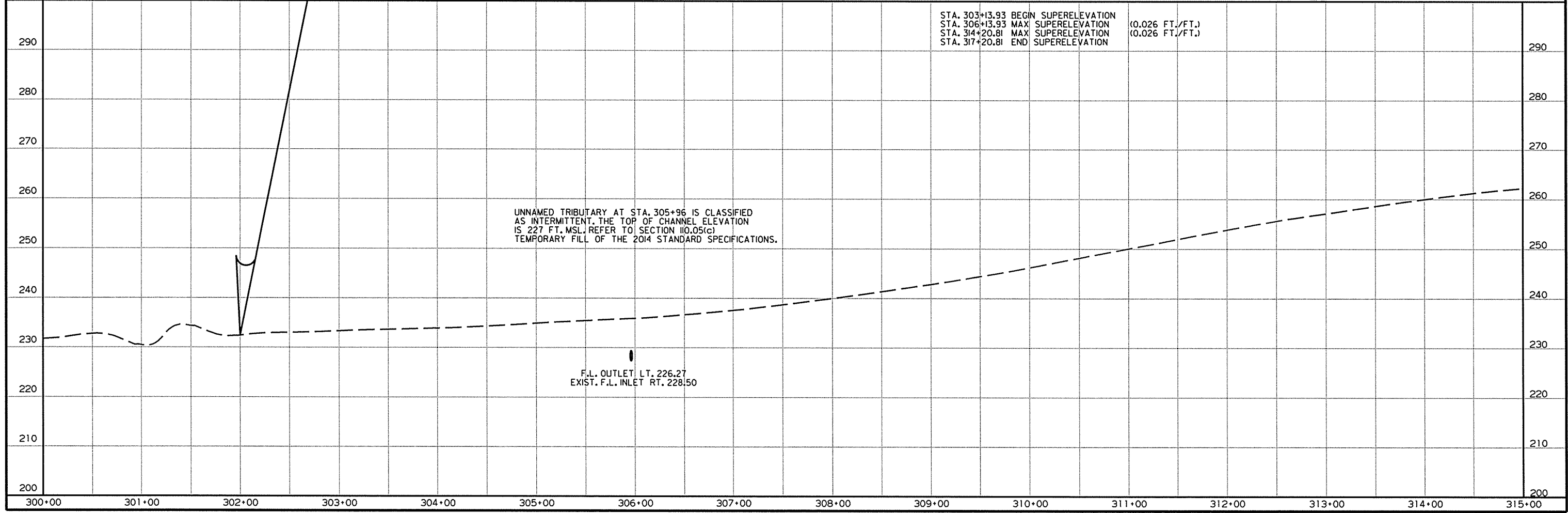
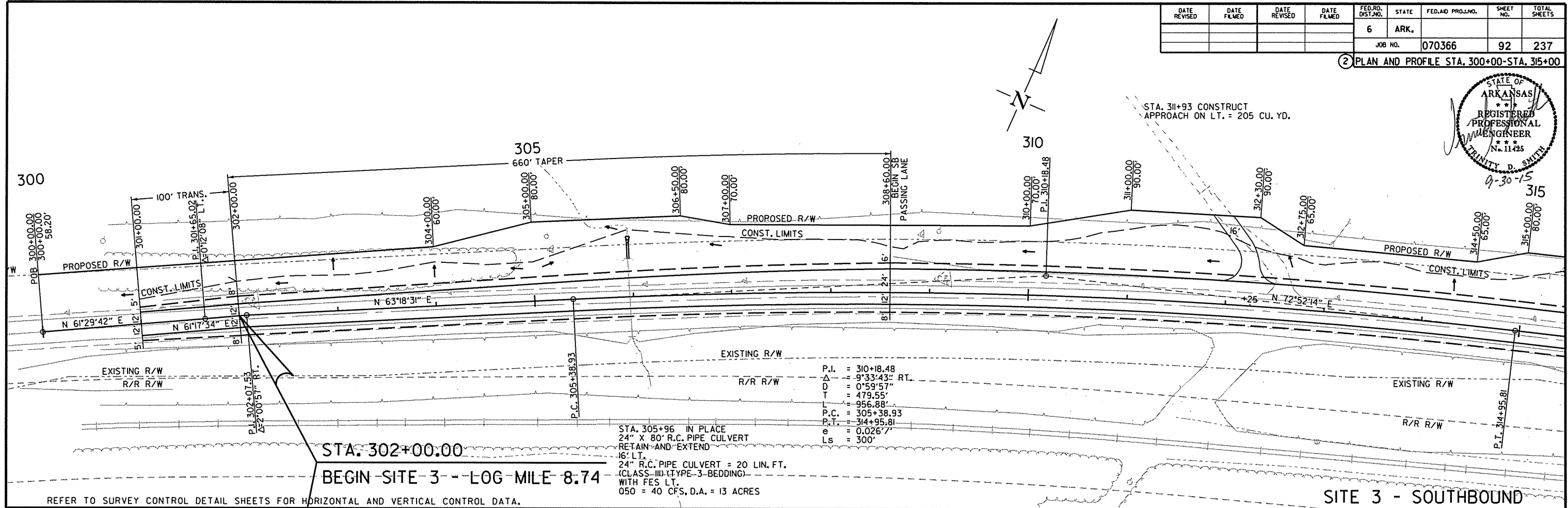
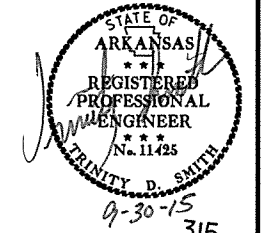


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DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 070366		92	237	

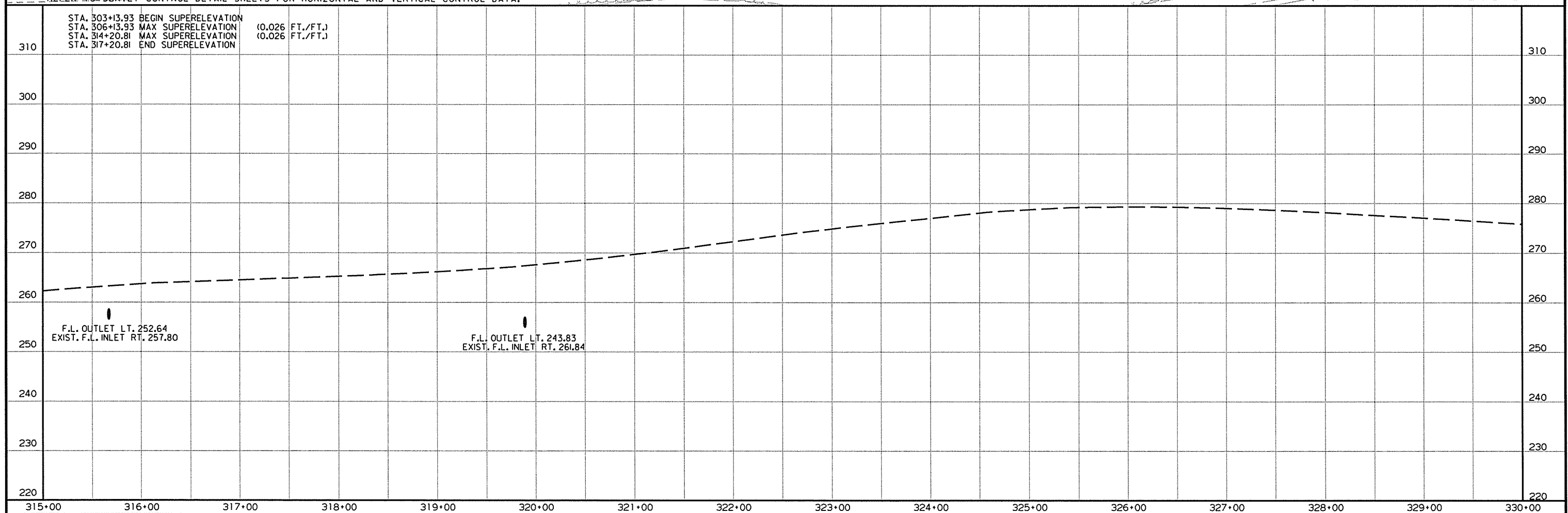
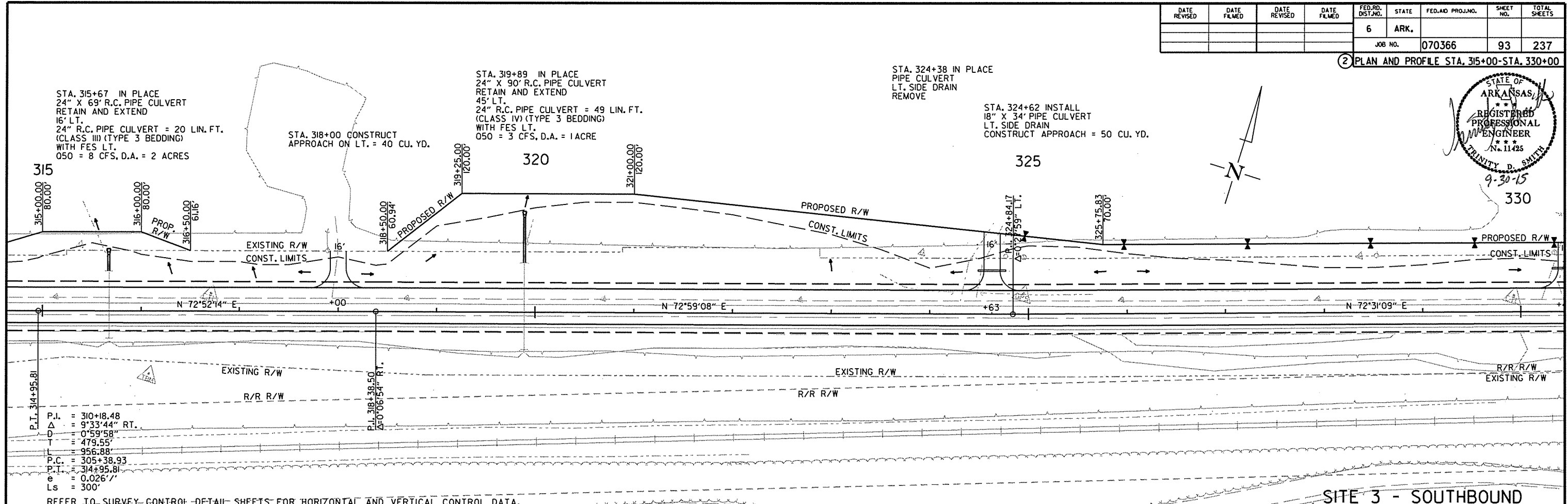
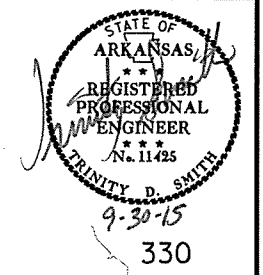
2 PLAN AND PROFILE STA. 300+00-STA. 315+00



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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							93	237

2 PLAN AND PROFILE STA. 315+00-STA. 330+00



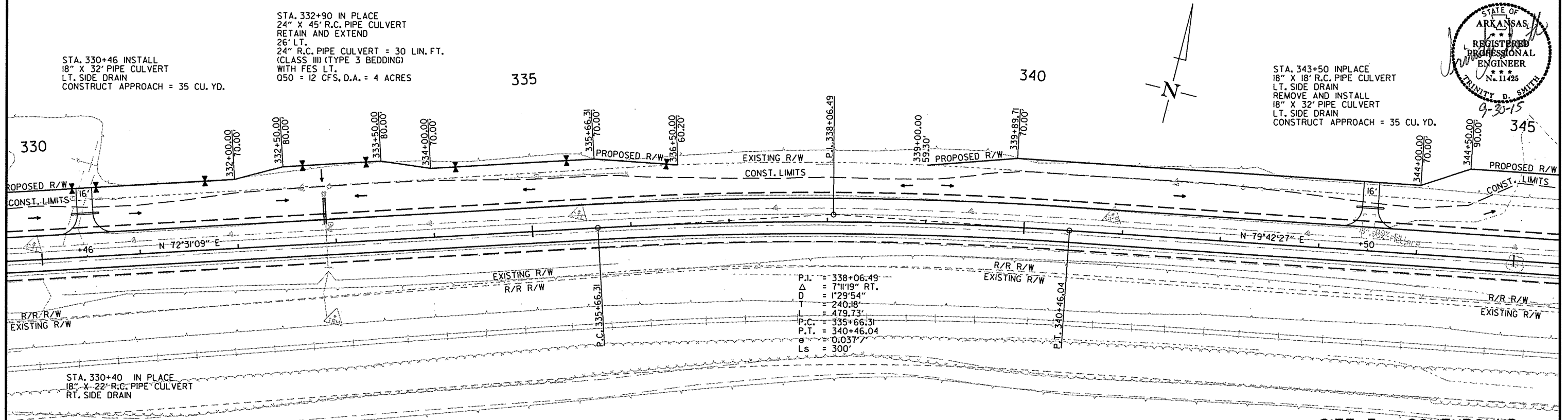
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SITE 3 - SOUTHBOUND

R070366.DGN 9/2/2015

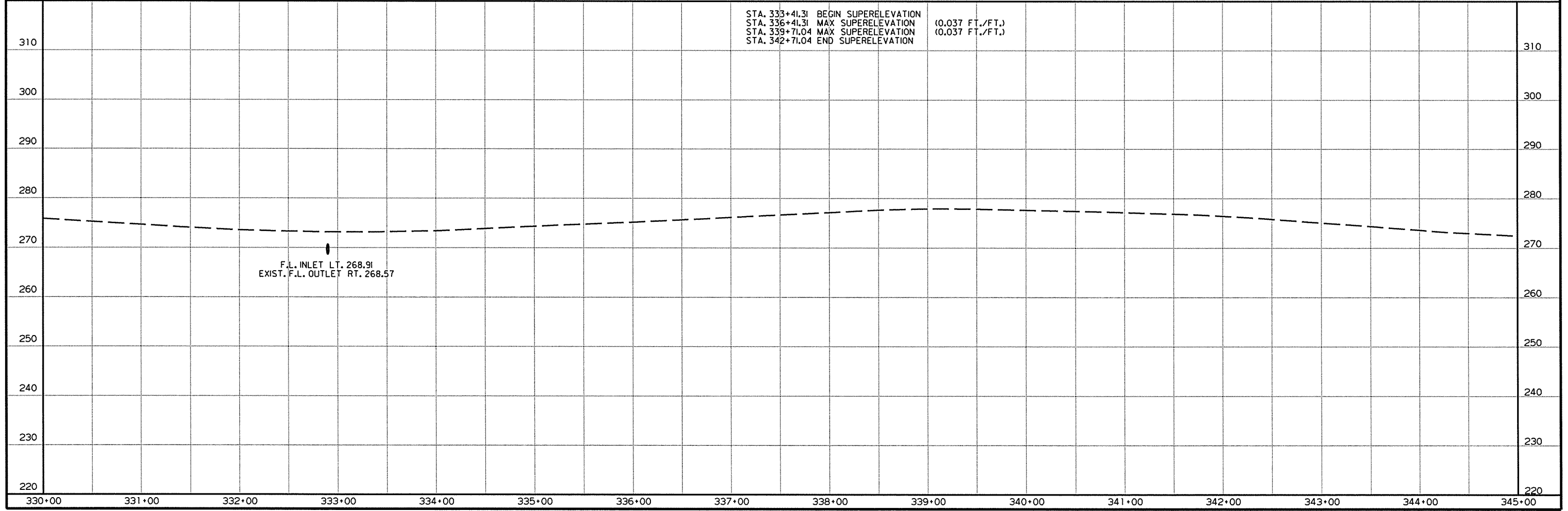
DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							94	237

2 PLAN AND PROFILE STA. 330+00-STA. 345+00



REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

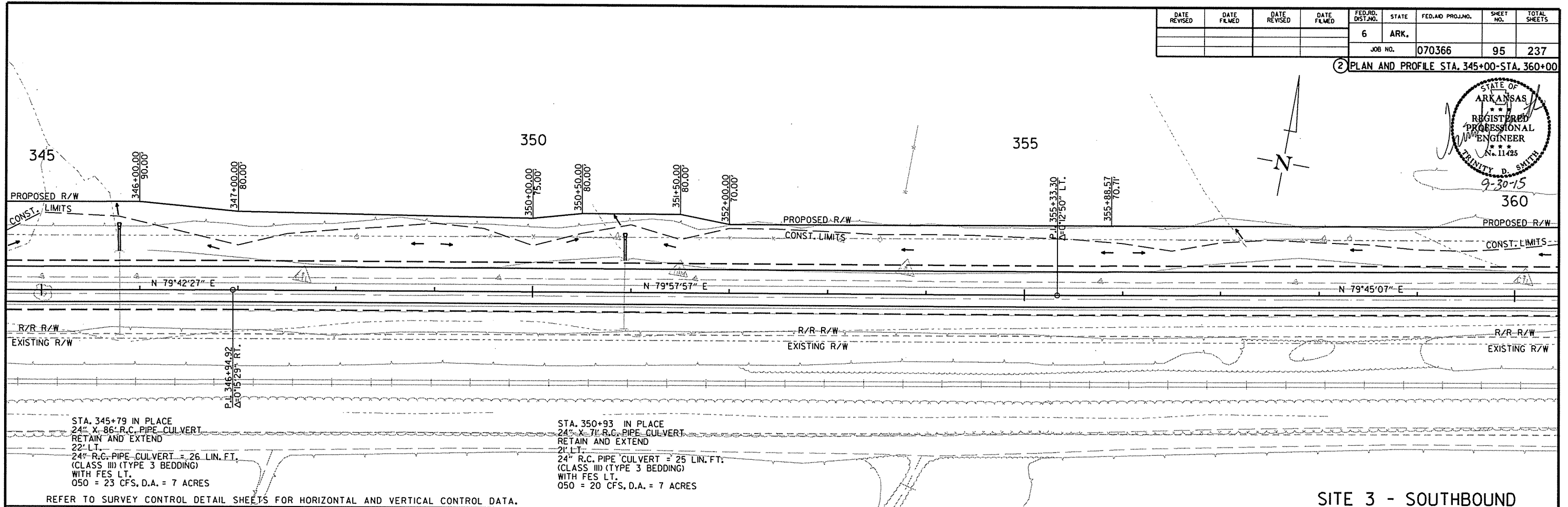
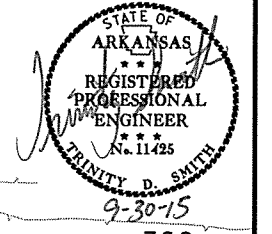
SITE 3 - SOUTHBOUND



9/2/2015
 R070366.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. 070366							95	237

2 PLAN AND PROFILE STA. 345+00-STA. 360+00

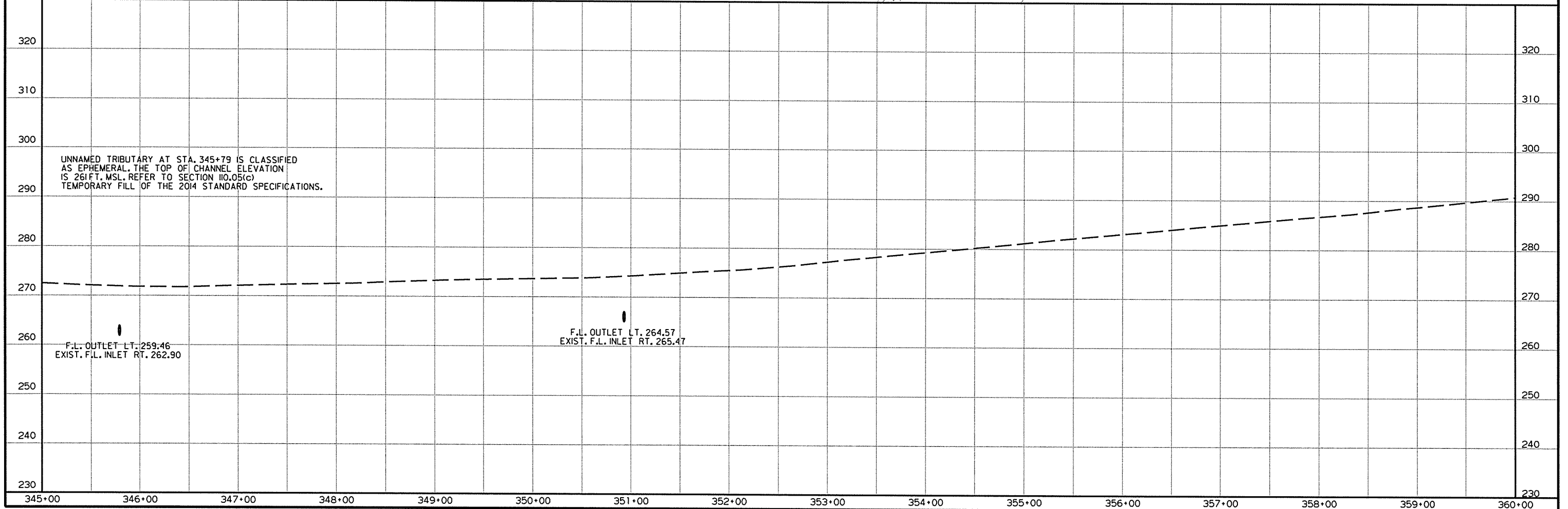


STA. 345+79 IN PLACE
 24" X 86' R.C. PIPE CULVERT
 RETAIN AND EXTEND
 22' LT.
 24" R.C. PIPE CULVERT = 26 LIN. FT.
 (CLASS III) (TYPE 3 BEDDING)
 WITH FES LT.
 050 = 23 CFS, D.A. = 7 ACRES

STA. 350+93 IN PLACE
 24" X 71' R.C. PIPE CULVERT
 RETAIN AND EXTEND
 21' LT.
 24" R.C. PIPE CULVERT = 25 LIN. FT.
 (CLASS III) (TYPE 3 BEDDING)
 WITH FES LT.
 050 = 20 CFS, D.A. = 7 ACRES

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SITE 3 - SOUTHBOUND



UNNAMED TRIBUTARY AT STA. 345+79 IS CLASSIFIED AS EPHEMERAL. THE TOP OF CHANNEL ELEVATION IS 261 FT. MSL. REFER TO SECTION 110.05(c) TEMPORARY FILL OF THE 2014 STANDARD SPECIFICATIONS.

F.L. OUTLET LT. 259.46
 EXIST. F.L. INLET RT. 262.90

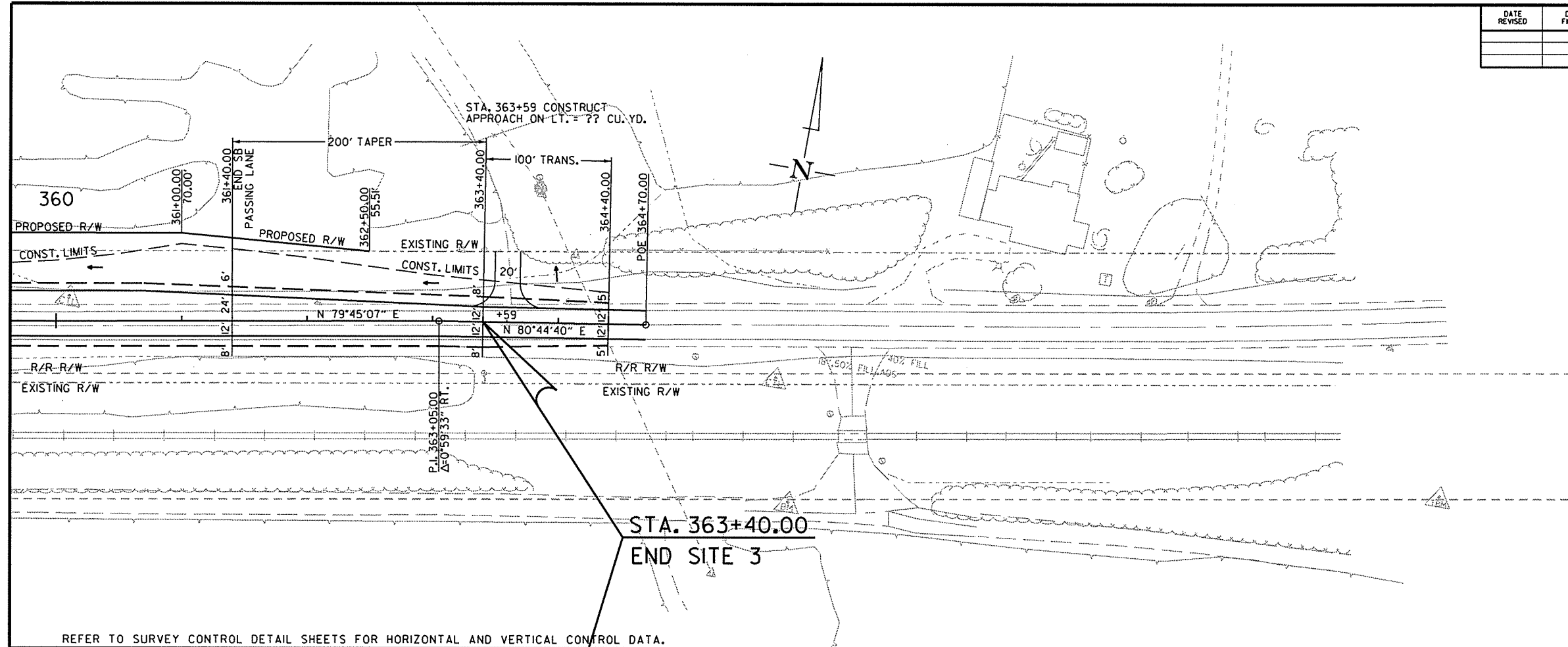
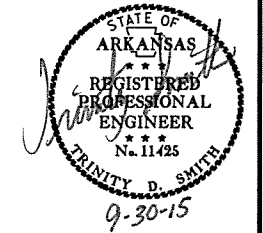
F.L. OUTLET LT. 264.57
 EXIST. F.L. INLET RT. 265.47

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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.	070366		96	237

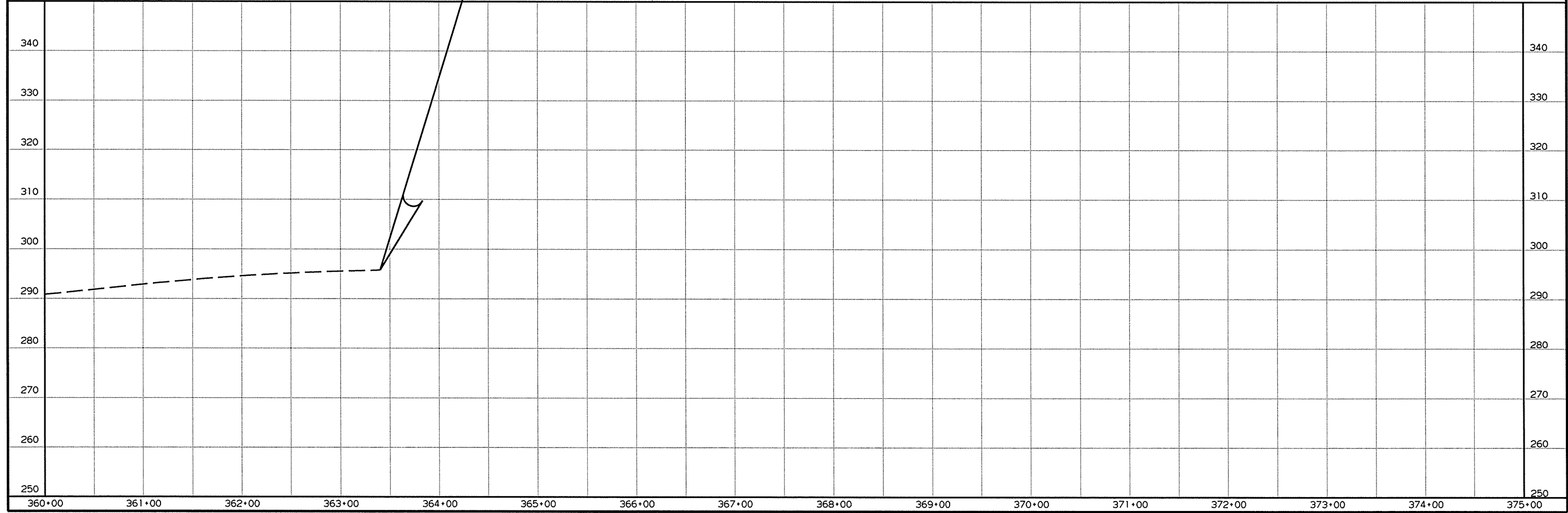
2 PLAN AND PROFILE STA. 360+00-STA. 364+70



STA. 363+40.00
END SITE 3

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

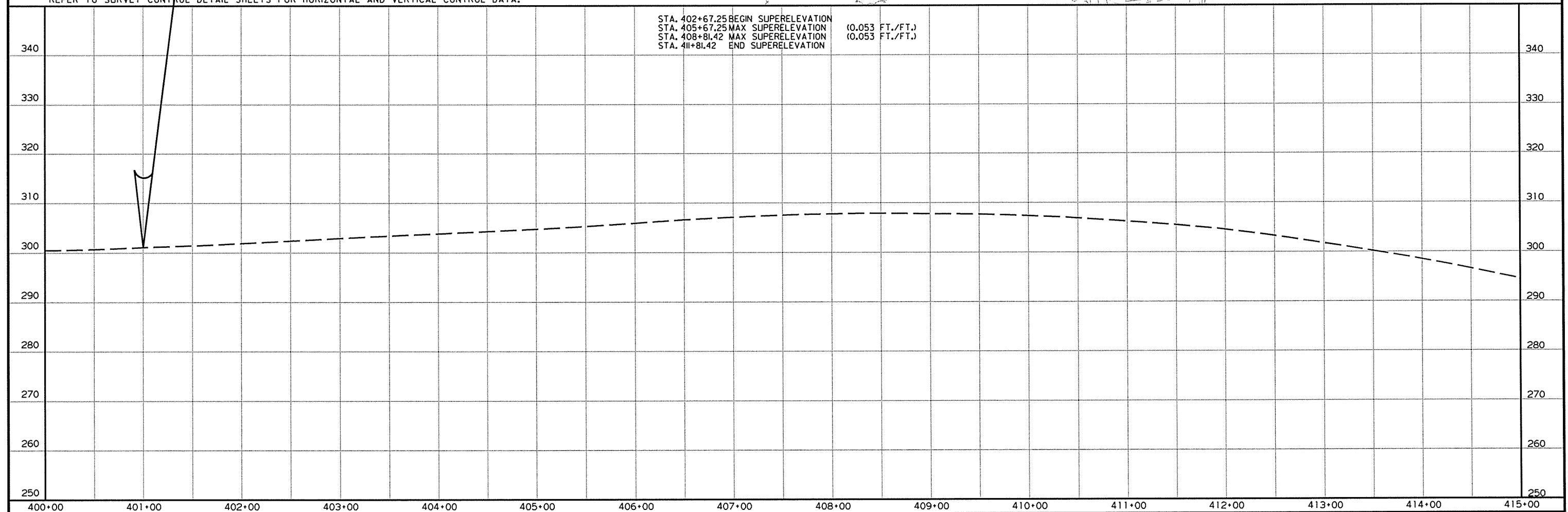
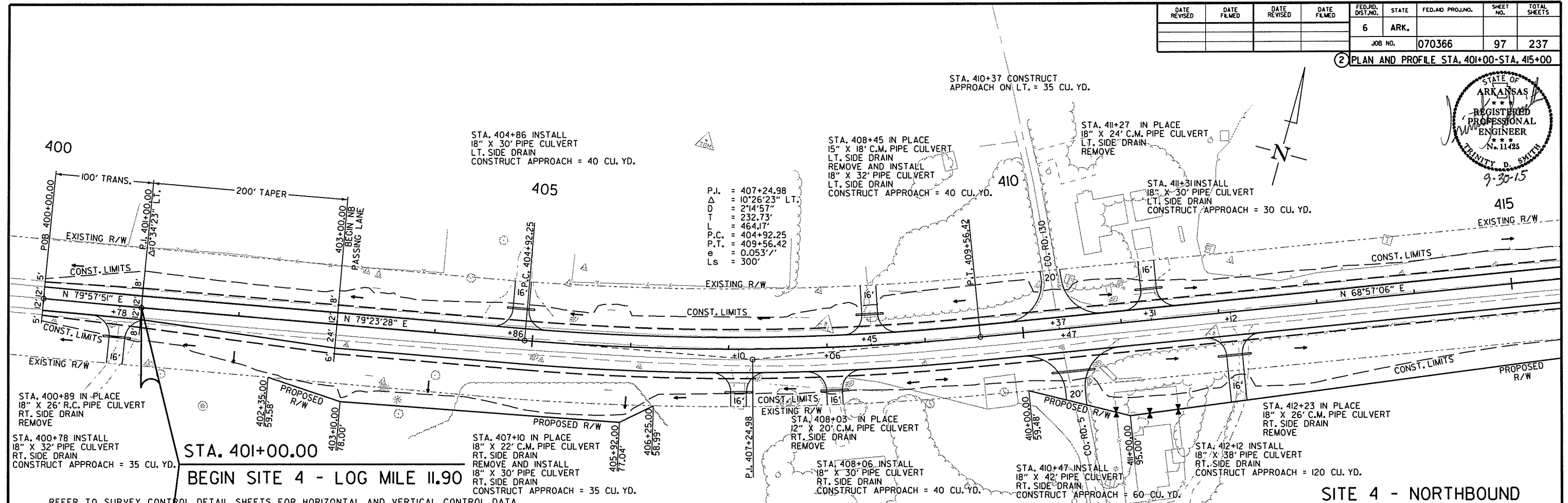
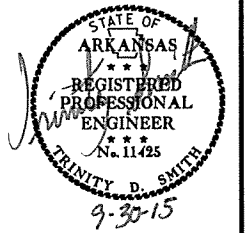
SITE 3 - SOUTHBOUND



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DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							97	237

2 PLAN AND PROFILE STA. 401+00-STA. 415+00

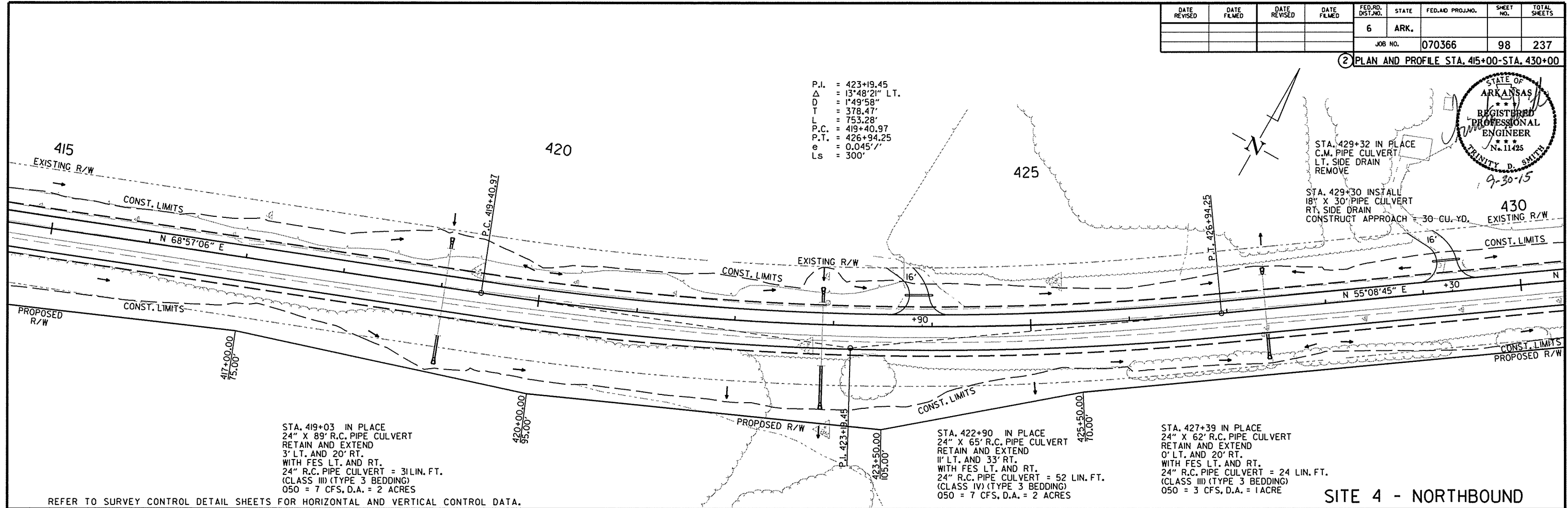
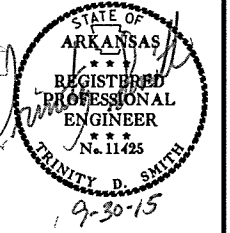


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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							98	237

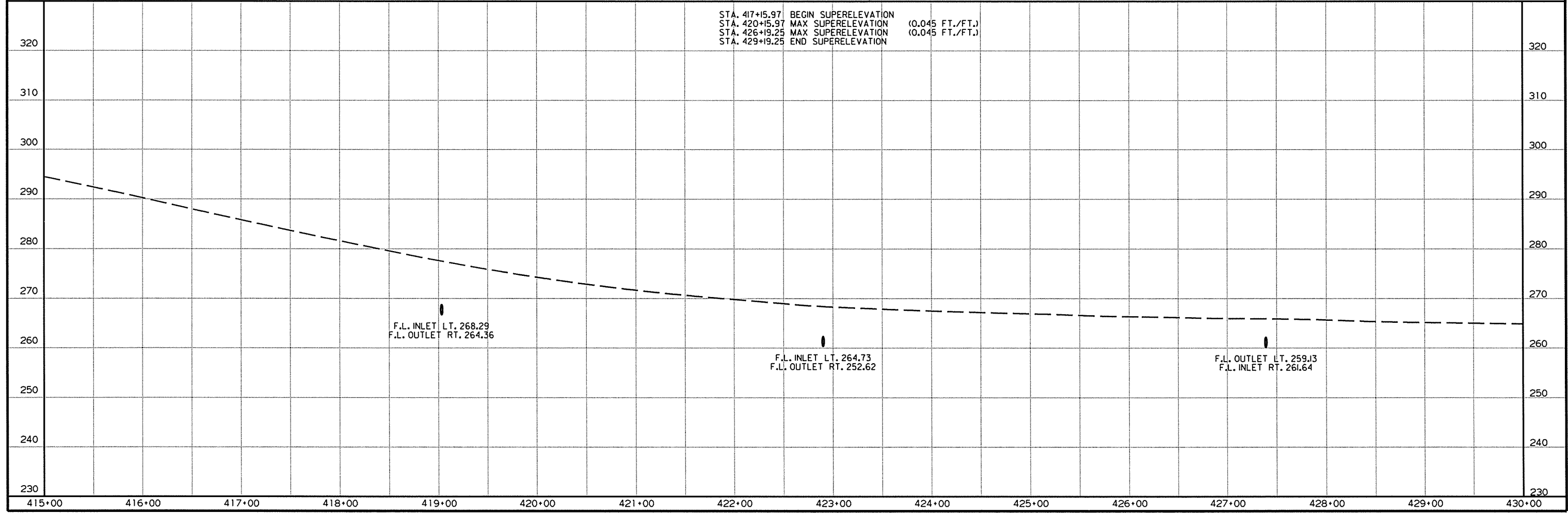
2 PLAN AND PROFILE STA. 415+00-STA. 430+00

P.L. = 423+19.45
 Δ = 13°48'21" LT.
D = 1'49'58"
T = 378.47'
L = 753.28'
P.C. = 419+40.97
P.T. = 426+94.25
e = 0.045'/'
Ls = 300'



REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

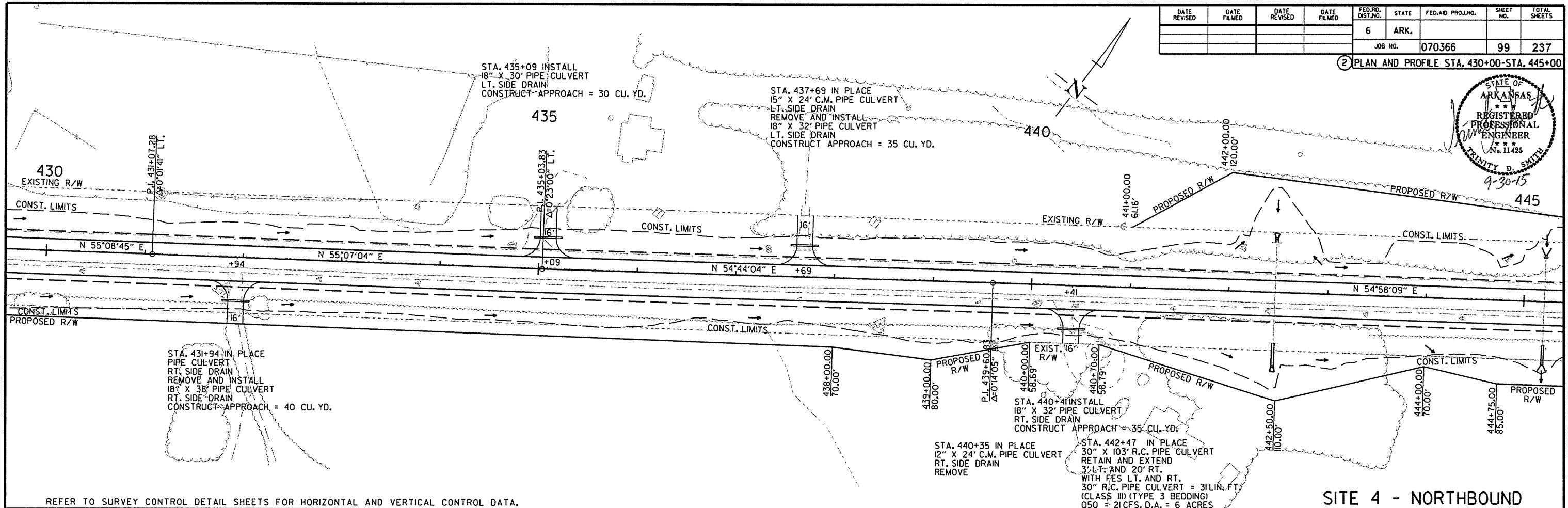
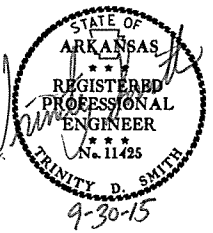
SITE 4 - NORTHBOUND



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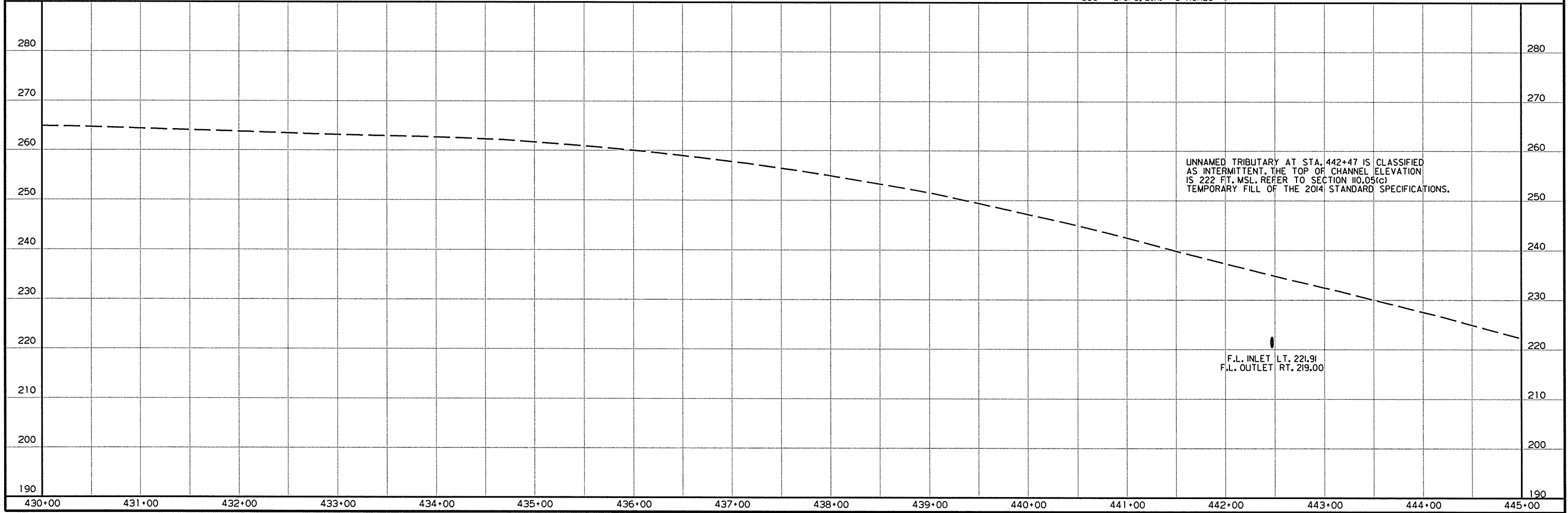
DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. NO. DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		99	237

2 PLAN AND PROFILE STA. 430+00-STA. 445+00



REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

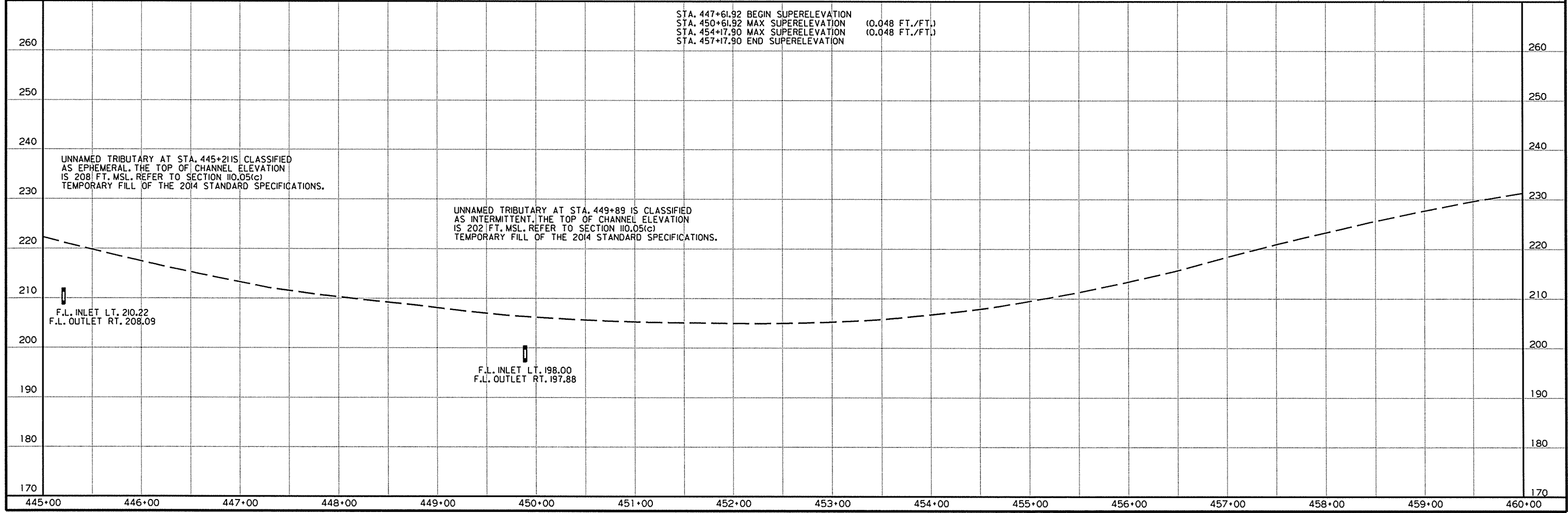
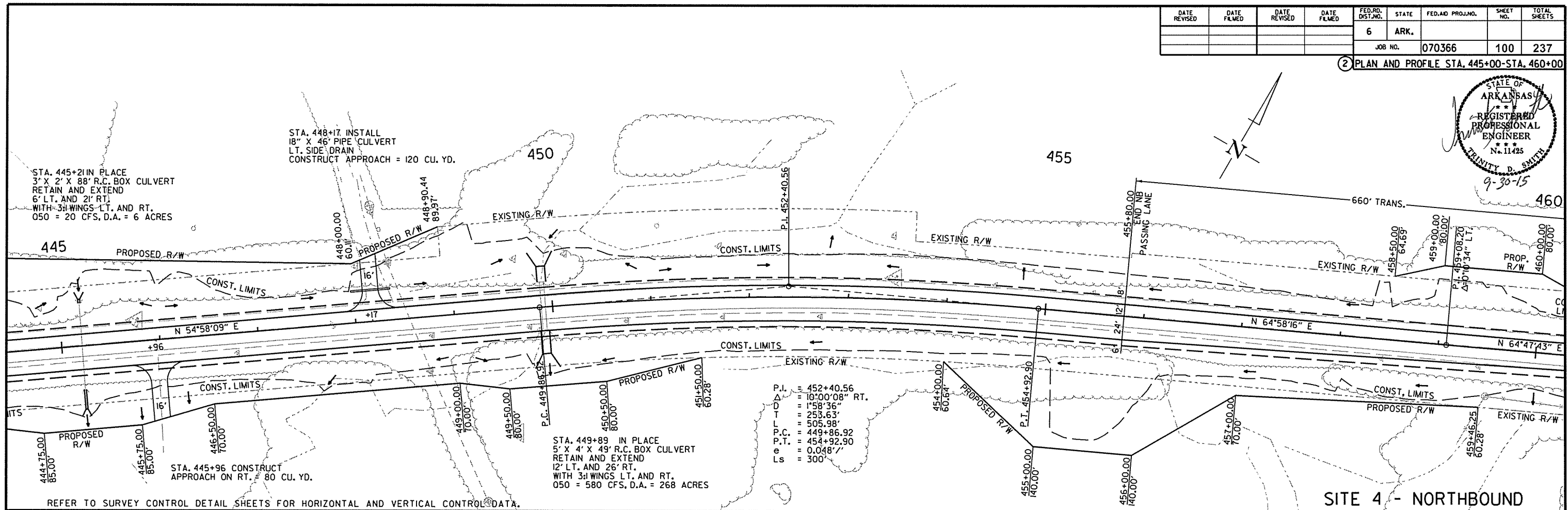
SITE 4 - NORTHBOUND



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DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		100	237

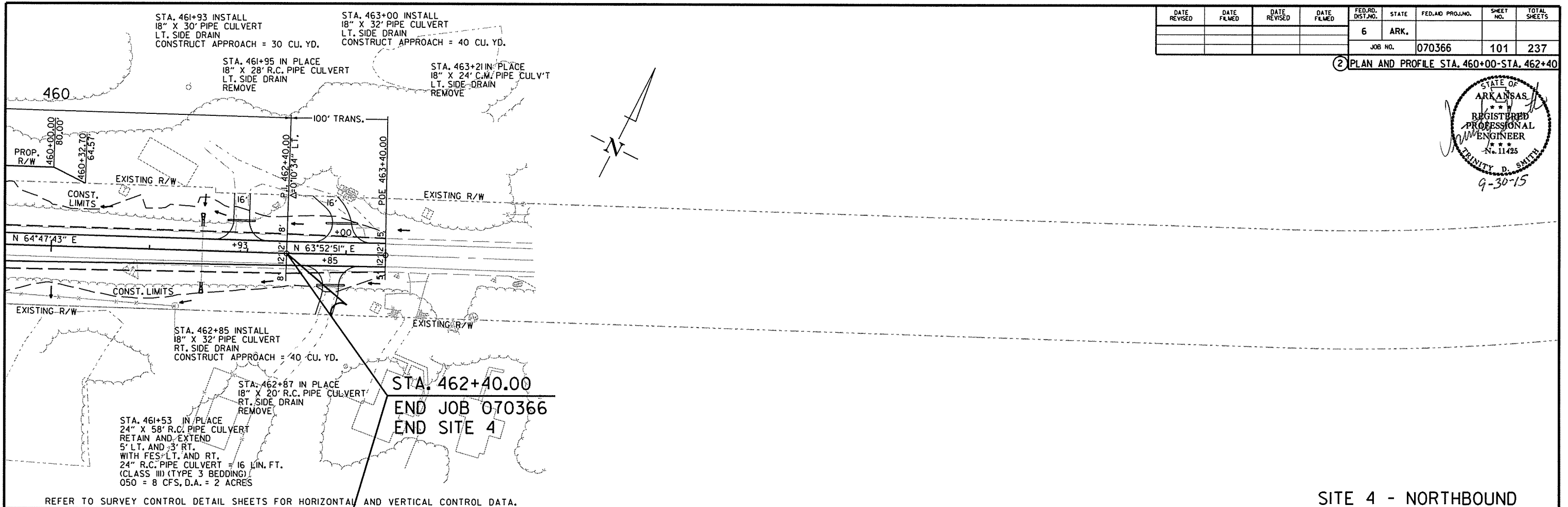
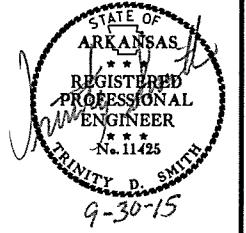
2 PLAN AND PROFILE STA. 445+00-STA. 460+00



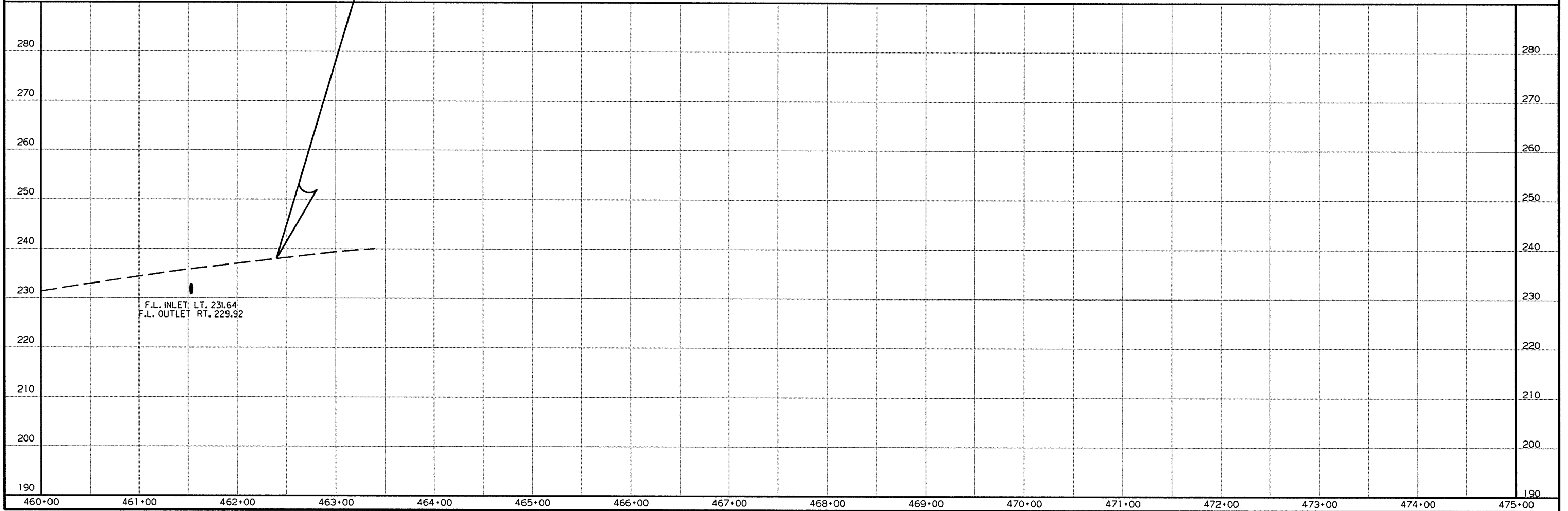
R070366.DGN 9/14/2015

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	101	237

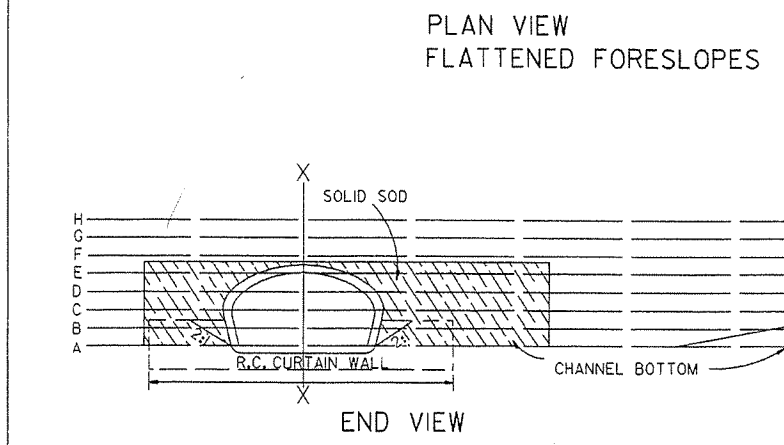
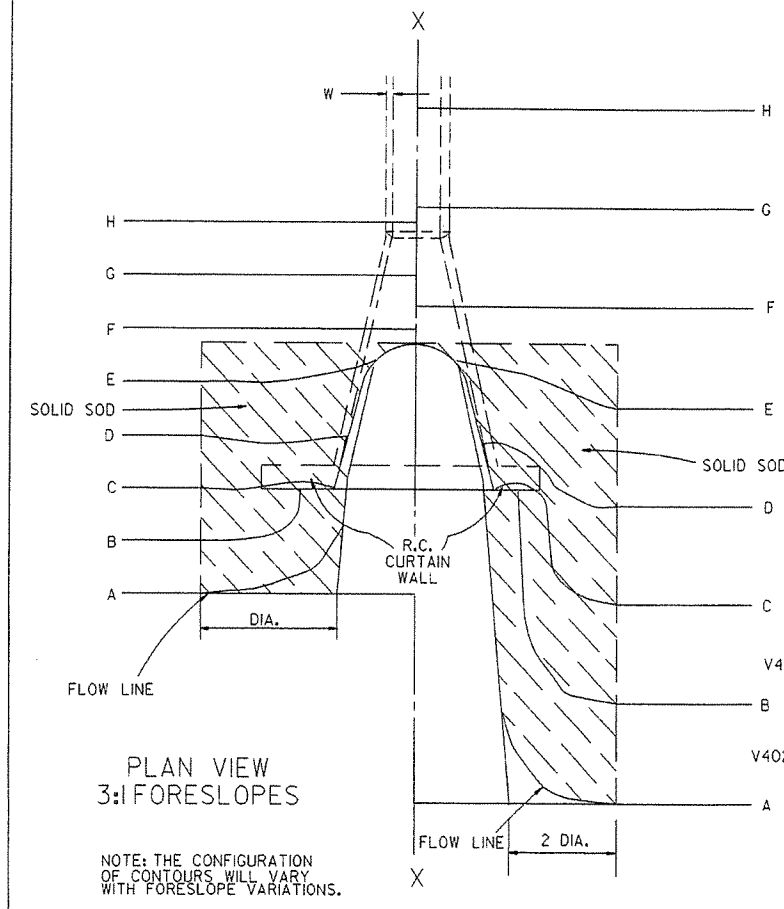
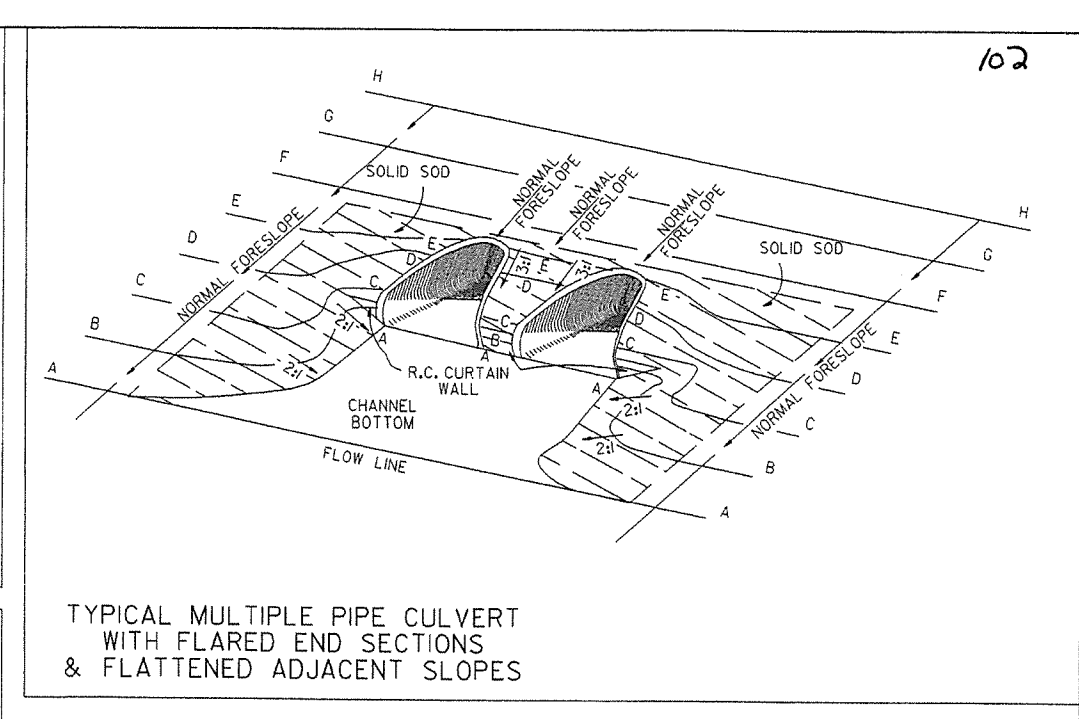
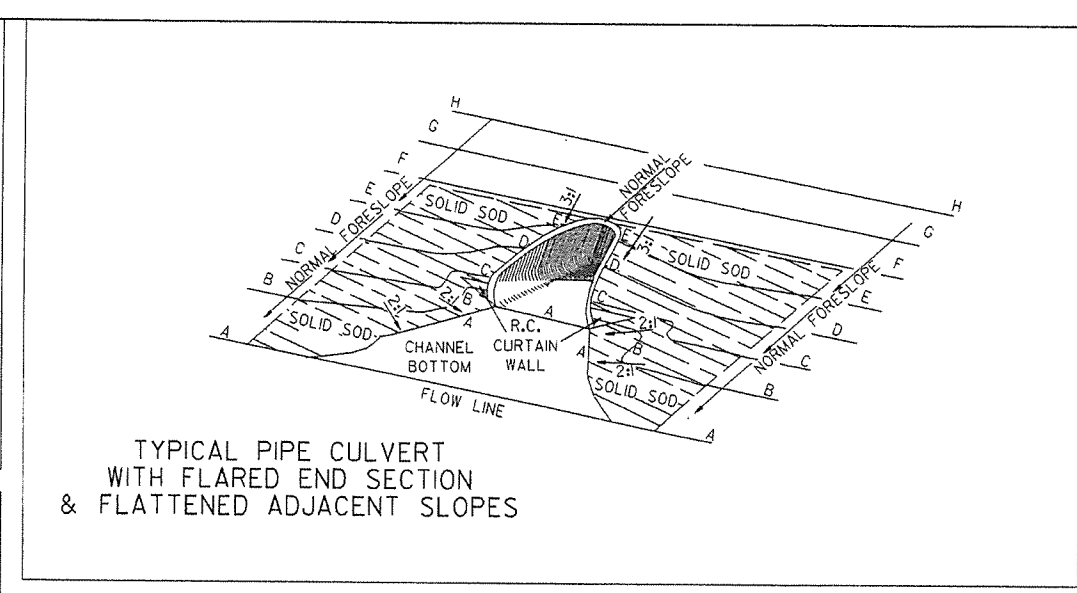
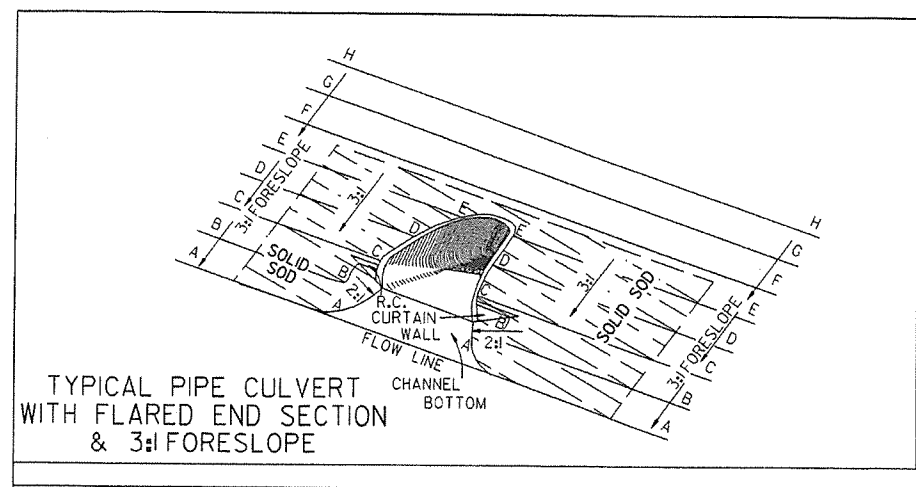
② PLAN AND PROFILE STA. 460+00-STA. 462+40



SITE 4 - NORTHBOUND



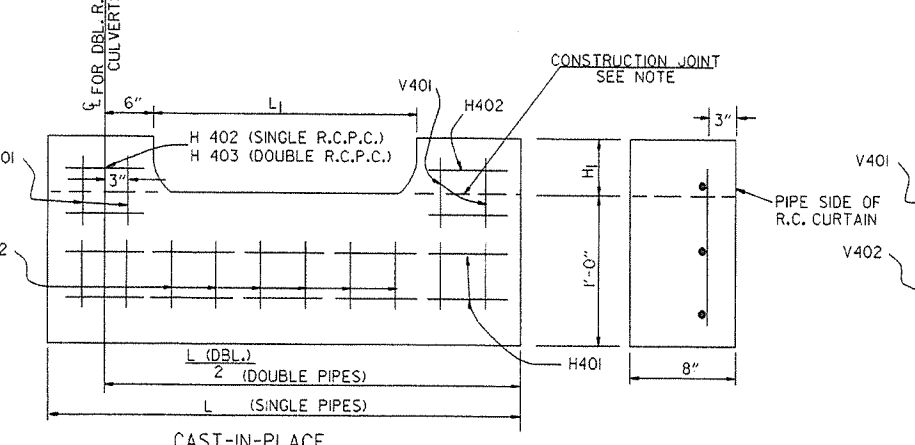
R070366.DGN 9/2/2015



R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

PIPE DIA.	H ₁	L ₁	L	L (DBL.) / 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1 1/2"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9 1/2"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.

R.C. CURTAIN WALL DETAILS

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11 1/2"	4	1'-7 1/2"	8	8"	8	12'-2"	2	1'-11 1/2"	4	8"	2	1'-7 1/2"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8 1/2"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8 1/2"	12	8"	18
30"	10'-8"	2	2'-4 1/2"	4	1'-11 1/2"	10	8"	12	17'-8"	2	2'-4 1/2"	4	8"	2	1'-11 1/2"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9 1/2"	8	2'-9 1/2"	16	8"	15	23'-8"	2	3'-9 1/2"	8	8"	4	2'-9 1/2"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8 1/2"	12	3'-5 1/2"	20	8"	17	27'-8"	2	4'-8 1/2"	12	8"	6	3'-5 1/2"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

ALL REINFORCING STEEL #4 BARS @ 6" O.C.

SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.			DOUBLE R.C.P.C.		
	3:1	4:1	6:1	3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

- GENERAL NOTES
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 3/4".
 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 W/10 MAY BE USED IN LIEU OF REINFORCING BARS.

10-18-96	ADDED NOTE TO SOLID SODDING		ARKANSAS STATE HIGHWAY COMMISSION
10-12-95	CORRECTED SPELLING	10-18-96	
11-3-94	ADDED GENERAL NOTE NO. 4		
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80	ADDED PRECAST WALL & GENERAL NOTES		
10-2-72	REVISED AND REDRAWN		
DATE	REVISION	FILMED	STANDARD DRAWING FES-1

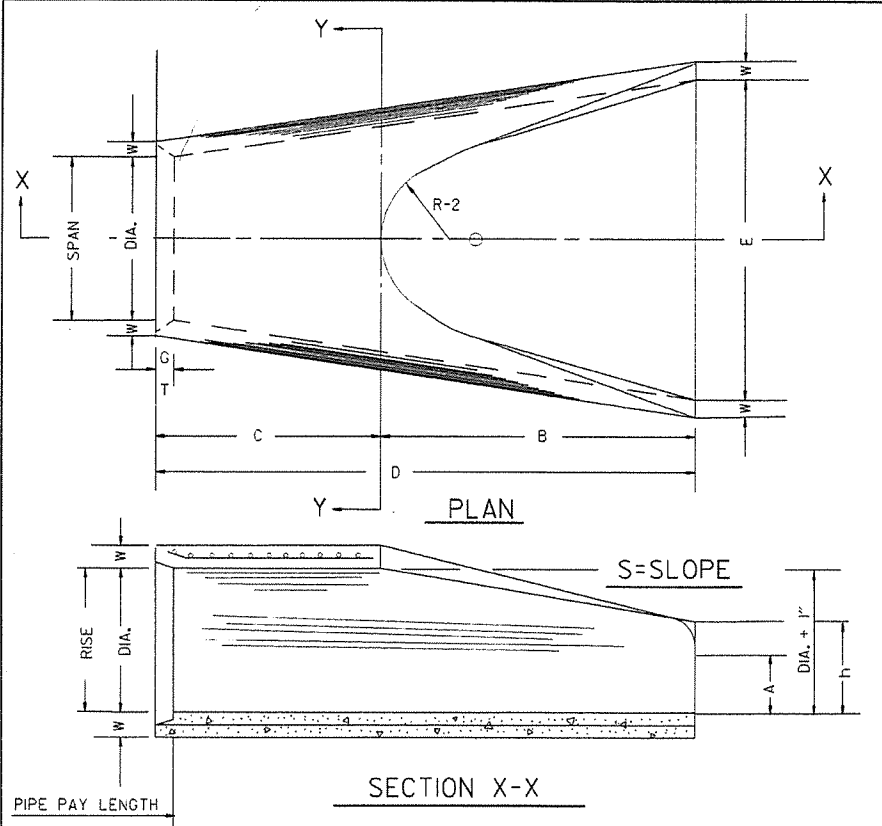


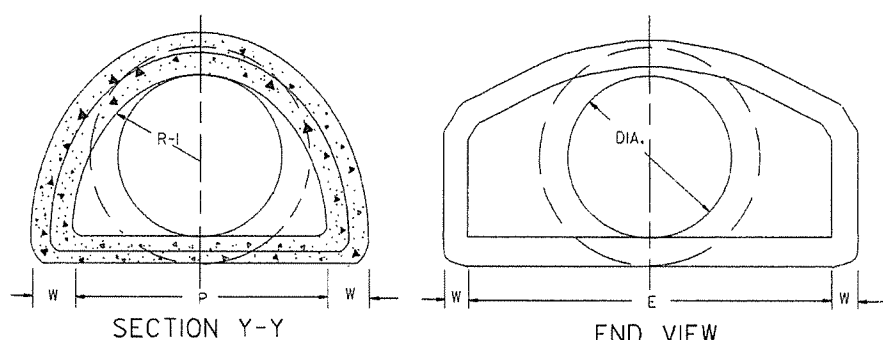
TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. - 1"	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 9/16"	14"	2 1/2"	1600	1'-11 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 1/8"	24 5/8"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 1/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 3/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 3/8"	38 9/16"	24"	5"	13250	4'-6"

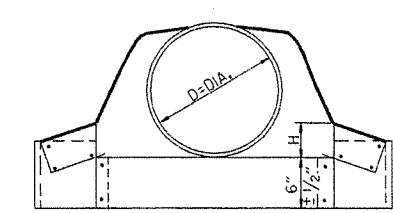
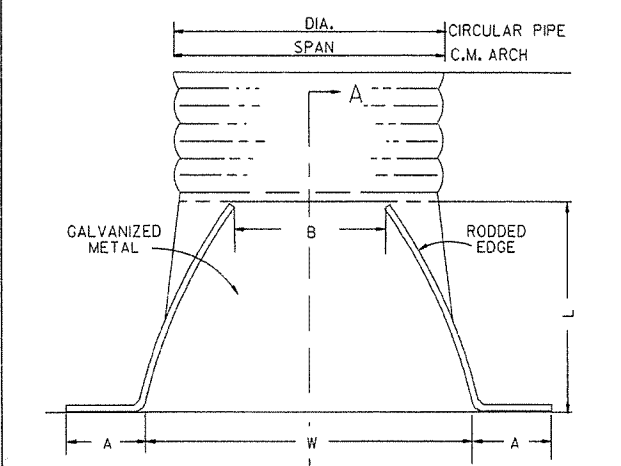
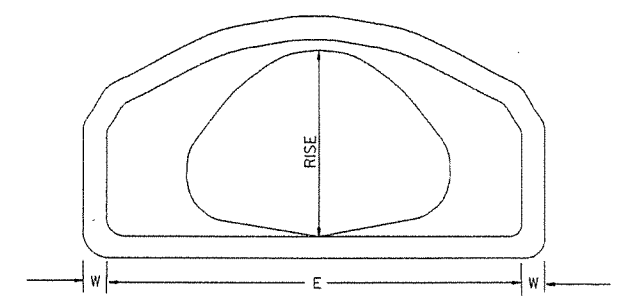
ARCH PIPE

EQUIV. DIA.	SPAN		RISE		W	A	B	C	D	E	P	R2	G-T	S
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL										
INCHES														
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 1/8"	15"	2 1/2"	2 1/2:1
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 1/8"	20"	3"	2 1/2:1
36	43 3/4	44	26 3/8	27	4"	10 1/2"	4'-0"	2'-11 1/2"	6'-1 1/2"	6'-6"	54 1/8"	22"	3 1/2"	2 1/2:1
42	51 1/8	51	31 1/8	31	4 1/2"	11 1/2"	4'-7"	1'-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2 1/2:1
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	7'-10"	70 3/8"	24"	4 1/4"	2 1/2:1
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4 3/4"	2 1/2:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 3/16"	24"	5"	2 1/4:1

* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

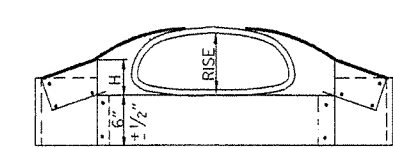


NOTE: TONGUE END ON UPSTREAM SECTION GROOVE END ON DOWNSTREAM SECTION



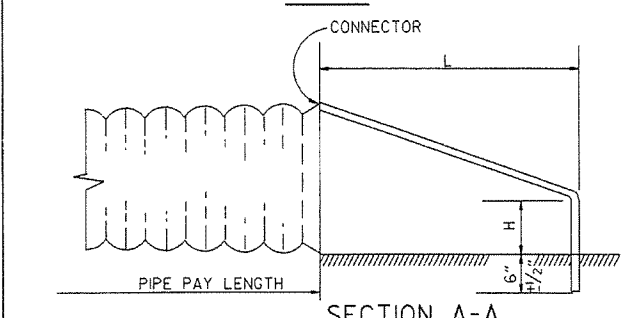
CIRCULAR PIPE

D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1 1/2" ± 2" ±	W	S
INCHES							
12	16	6	6	6	21	24	2 1/2:1
15	16	7	8	6	26	30	2 1/2:1
18	16	8	10	6	31	36	2 1/2:1
21	16	9	12	6	36	42	2 1/2:1
24	16	10	13	6	41	48	2 1/2:1
30	14	12	16	8	51	60	2 1/2:1
36	14	14	19	9	60	72	2 1/2:1
42	12	16	22	11	69	84	2 1/2:1
48	12	18	27	12	78	90	2 1/2:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1 1/2:1
66	12	18	36	12	87	120	1 1/2:1
72	12	18	39	12	87	126	1 1/3:1



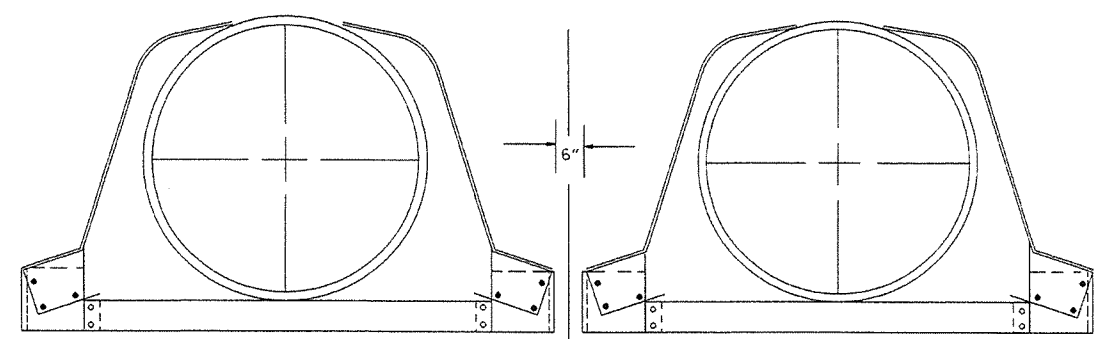
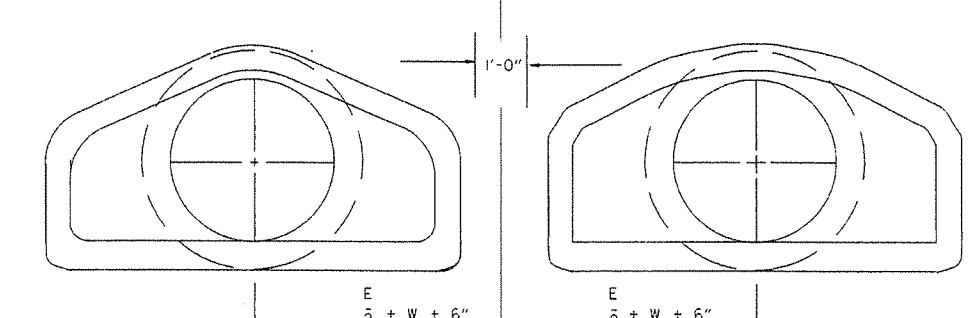
C.M. ARCH PIPE

EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1 1/2" ± 2" ±	W	S	GAUGE
INCHES									
15"	17	13	7	9	6	19	30	2 1/2:1	16
18"	21	15	7	10	6	23	36	2 1/2:1	16
21"	24	18	8	12	6	28	42	2 1/2:1	16
24"	28	20	9	14	6	32	48	2 1/2:1	16
30"	35	24	10	16	6	39	60	2 1/2:1	14
36"	42	29	12	18	8	46	75	2 1/2:1	14
42"	49	33	13	21	9	53	85	2 1/2:1	12
48"	57	38	18	26	12	63	90	2 1/2:1	12
54"	64	43	18	30	12	70	102	2 1/4:1	12
60"	71	47	18	33	12	77	114	2 1/4:1	12



NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

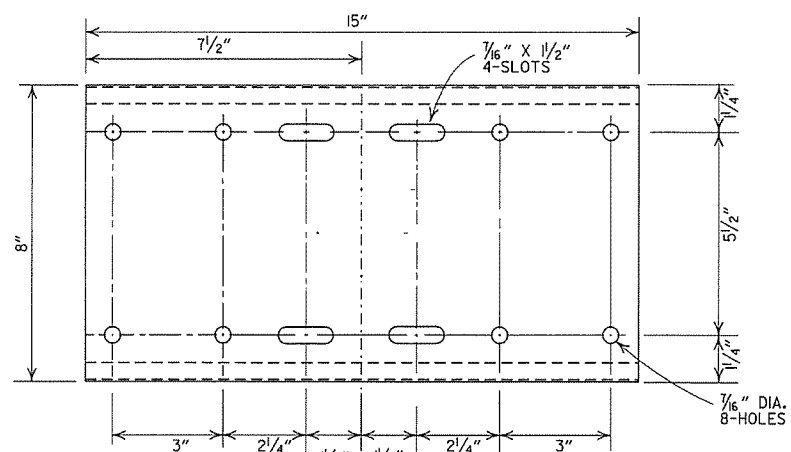
END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



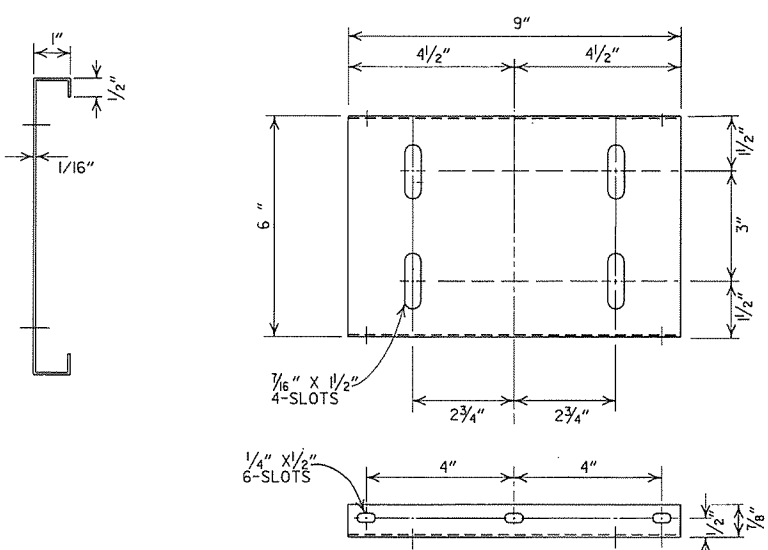
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96	ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78	
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75	
12-5-74	REMOVED NOTE RE REINF. FOR R.C. 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	
DATE	REVISION	FILMED	

FLARED END SECTION

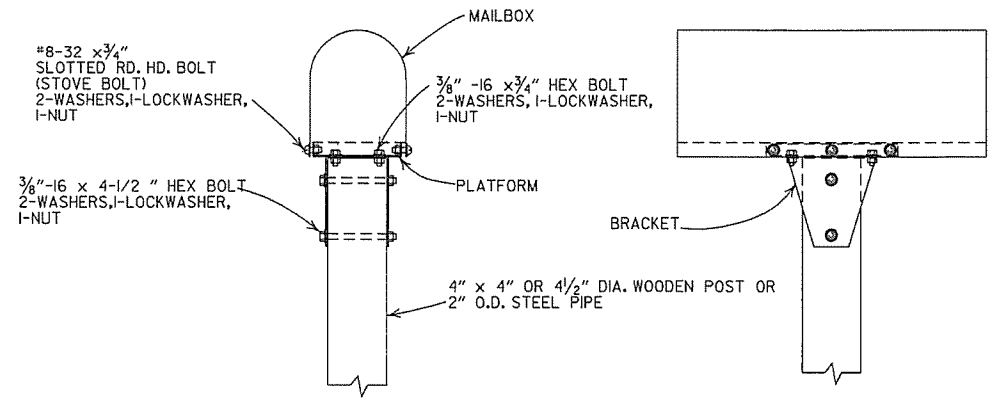
STANDARD DRAWING FES-2



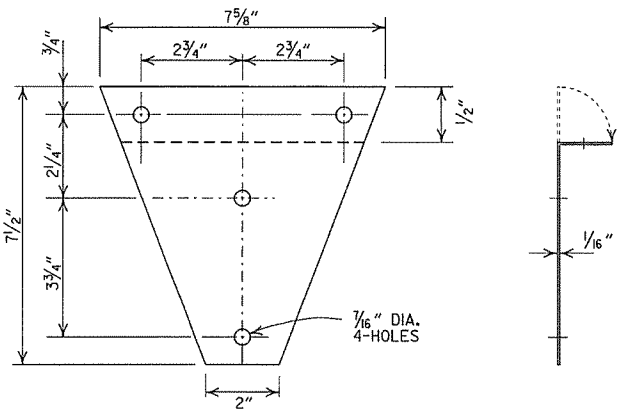
SHELF



PLATFORM

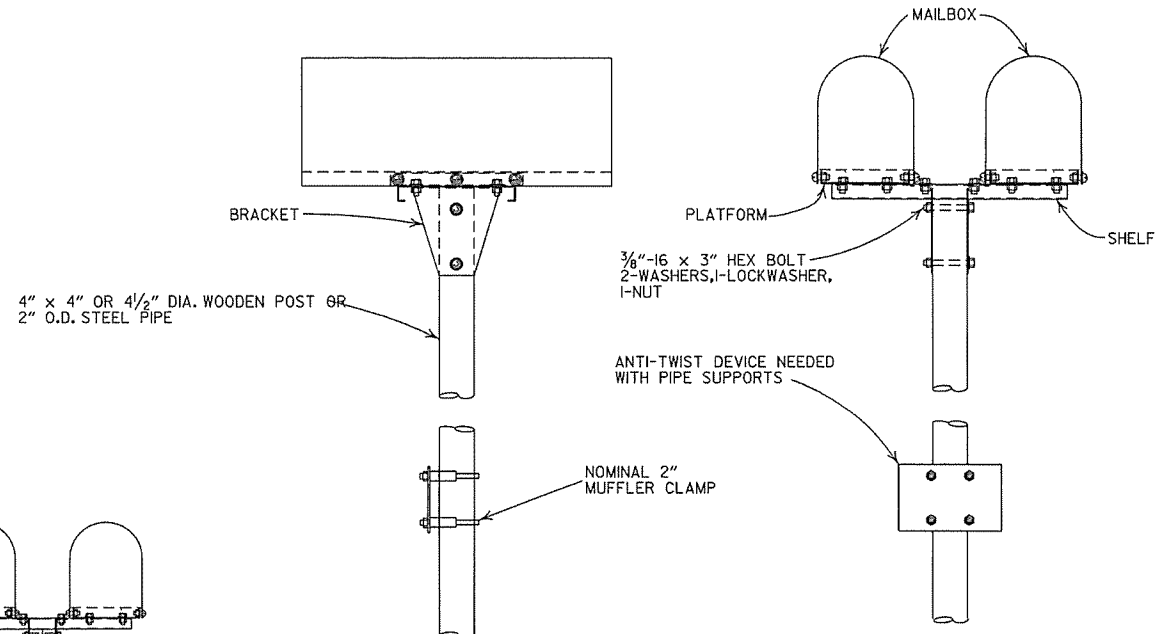


SINGLE INSTALLATION

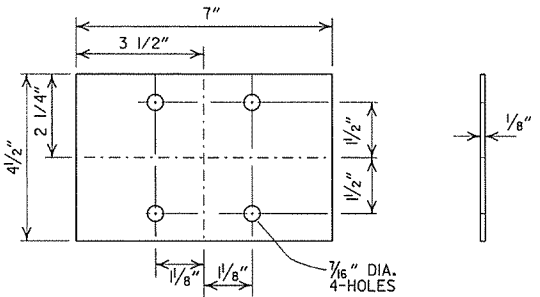


BRACKET

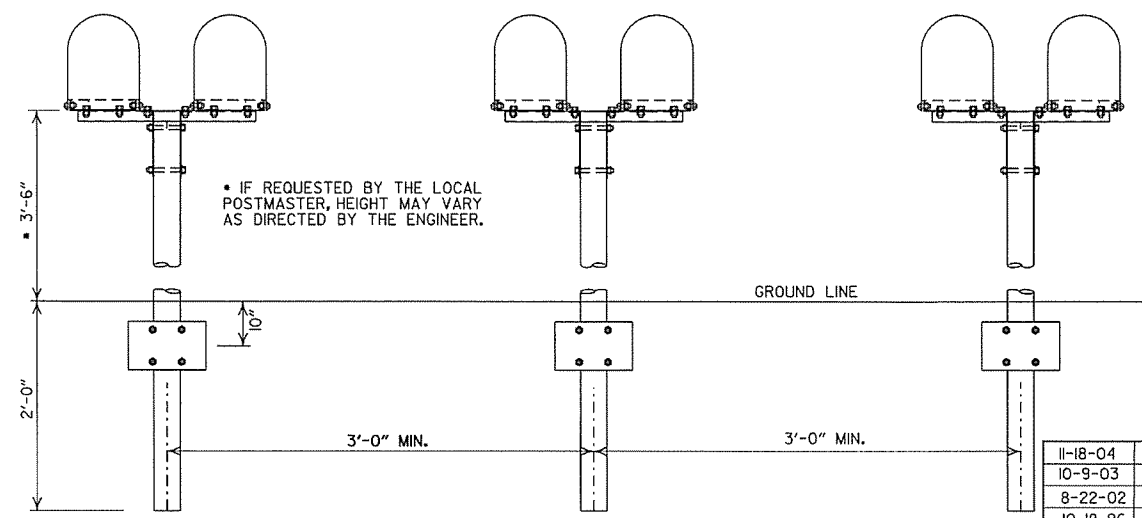
- GENERAL NOTES
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
 2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
 3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF 3/4" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X 3/4" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
 4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
 5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
 6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



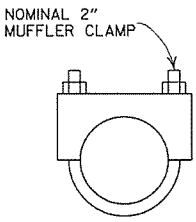
DOUBLE INSTALLATION



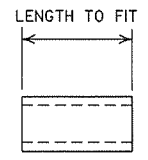
ANTI-TWIST PLATE



SPACING FOR MULTIPLE POST INSTALLATION



CLAMP



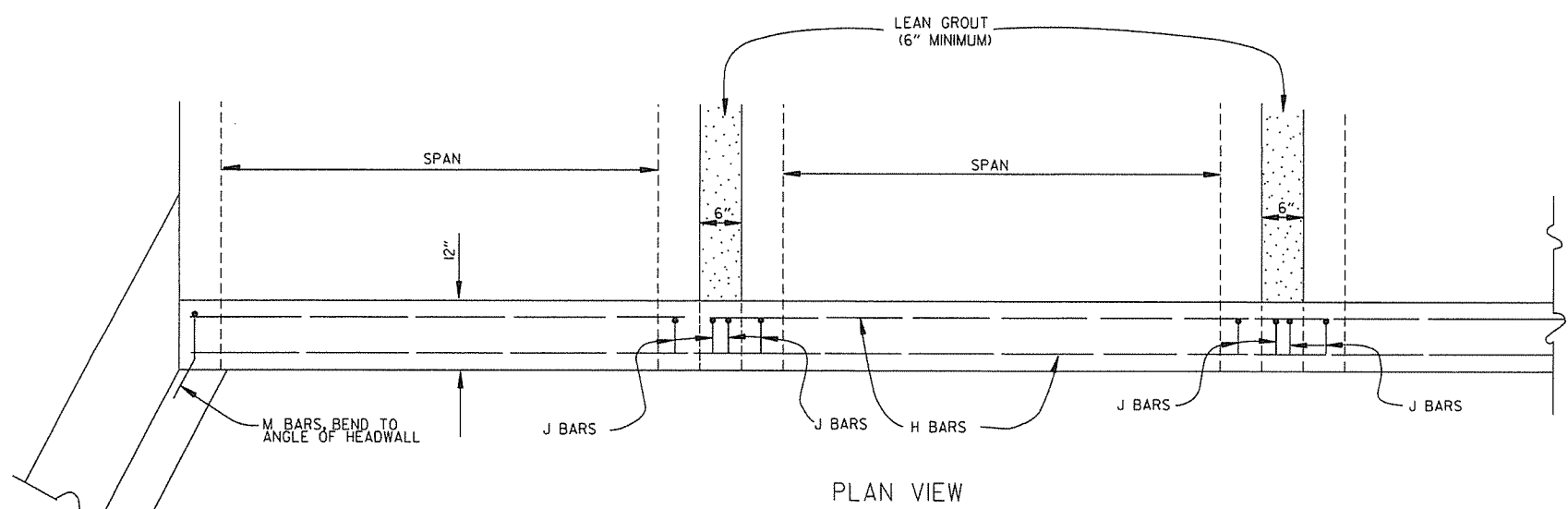
SPACER

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	120-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1



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

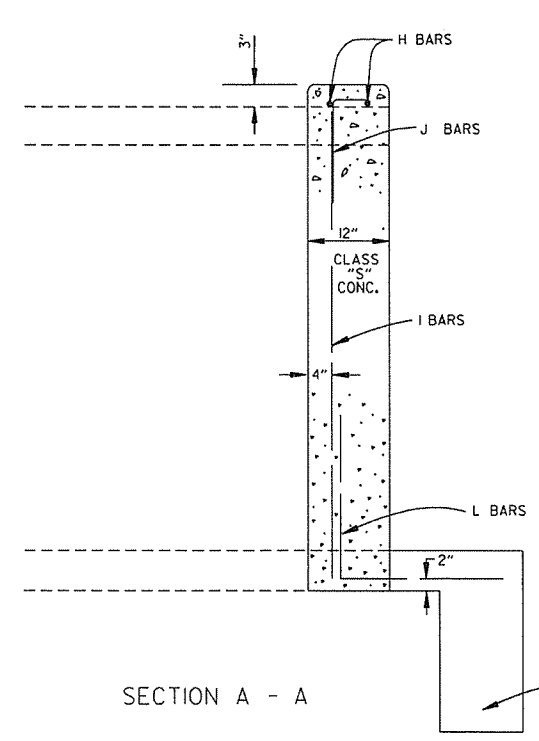
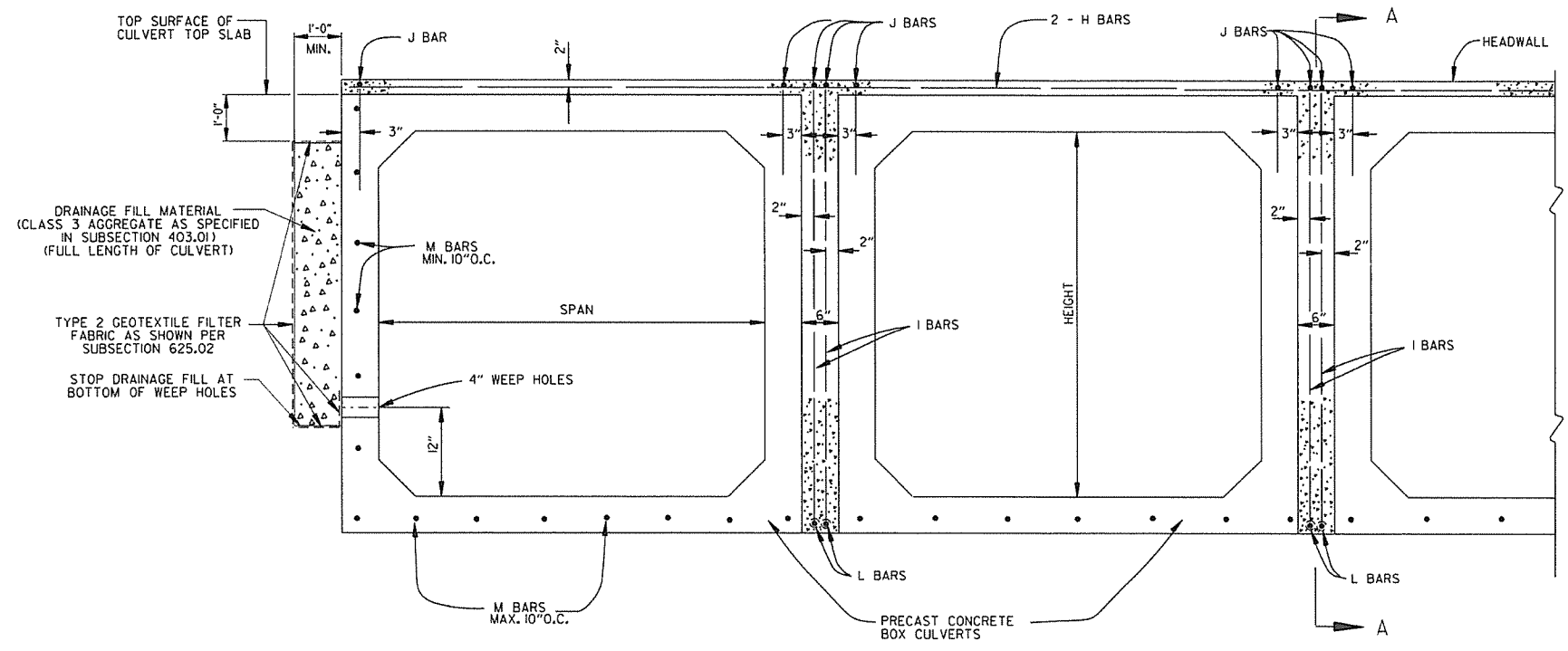
WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF 10" IN PRECAST BOX.

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 3/4" 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

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	
DATE	REVISION	DATE FILMED

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	13 1/2	14
21	26	26	15 1/2	16
24	28 1/2	29	18	18
30	36 1/4	36	22 1/2	23
36	43 3/8	44	26 5/8	27
42	51 1/8	51	31 5/8	31
48	58 1/2	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	77 1/2	77
108	138	138	87 1/8	87
120	154	154	96 5/8	97
132	168 3/4	169	106 1/2	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).

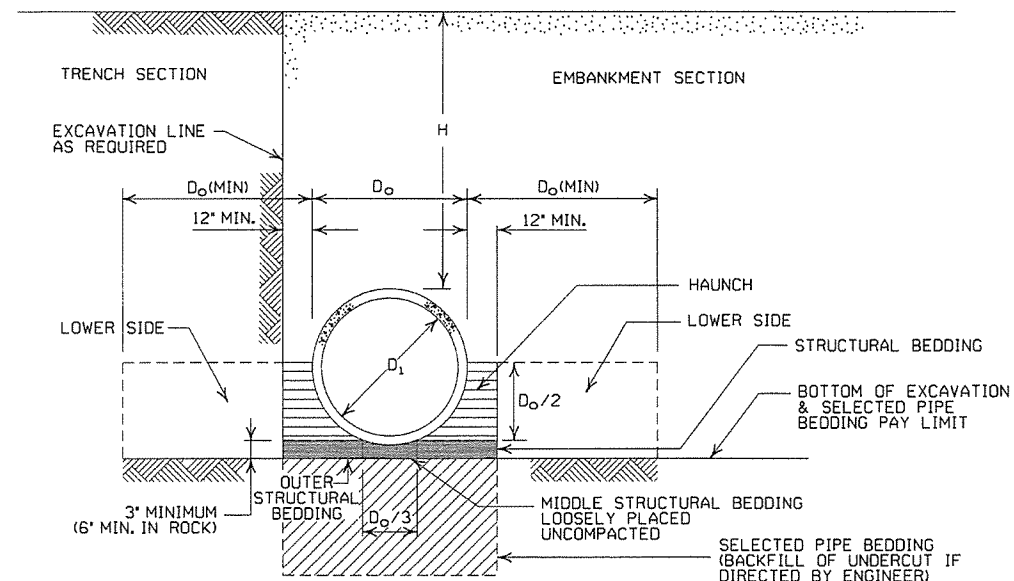
NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

- LEGEND -

- D₁ = 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

INSTALLATION TYPE	CLASS OF PIPE			
	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
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
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
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)

Table with columns: PIPE DIAMETER (INCHES), MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET), MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET), METAL THICKNESS (INCHES) (0.064, 0.079, 0.109, 0.138, 0.168), and corrugation details.

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...

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.

Table: INSTALLATION TYPE vs MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING (Type 1, Type 2).

SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

Table: METAL THICKNESS IN INCHES vs GAUGE NUMBER (Steel, Zinc Coated, Uncoated, Aluminum).

CORRUGATED ALUMINUM PIPE (ROUND)

Table with columns: PIPE DIAMETER (INCHES), MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET), MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET), METAL THICKNESS IN INCHES (0.060, 0.075, 0.105, 0.135, 0.164), and corrugation details.

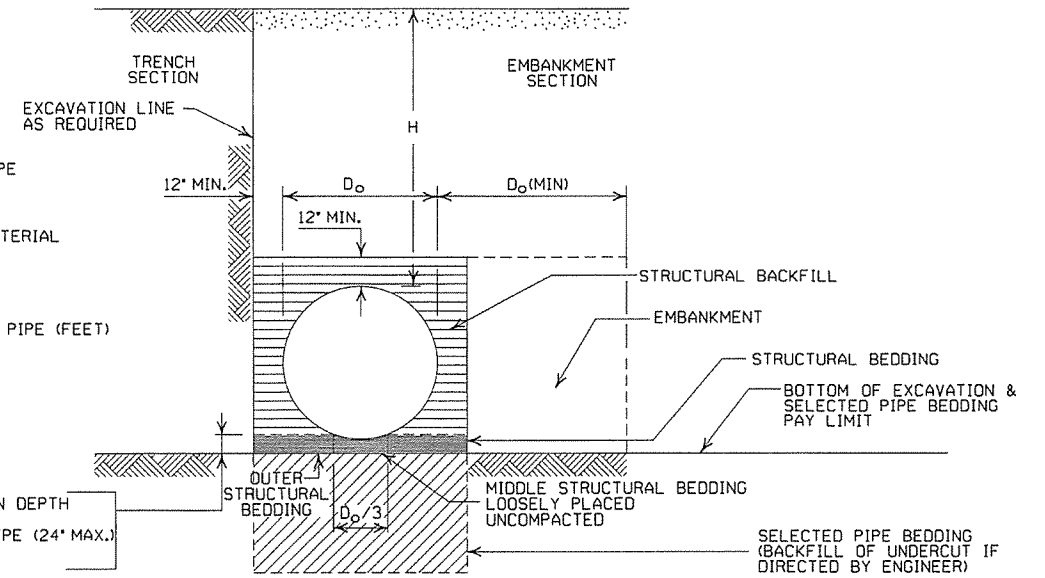
CORRUGATED METAL PIPE ARCHES

Table with columns: EQUIV. DIA. (INCHES), PIPE DIMENSION SPAN X RISE (INCHES), MINIMUM CORNER RADIUS (INCHES), MIN. THICKNESS REQUIRED INCHES, MIN. HEIGHT OF FILL, "H" (FT.) (Installation, Type 1, Type 2), MAX. HEIGHT OF FILL, "H" (FT.) (Installation, Type 1, Type 2).

- 1. FOR MINIMUM COVER VALUES, 'H' SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.
2. WHERE THE STANDARD 2 2/3 x 1/2 CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3' x 1' OR 5' x 1' CORRUGATION MAY BE SUBSTITUTED...

- LEGEND -

- Do = 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...
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 2/3" x 1/2" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" x 1" OR 5" x 1" CORRUGATION.

GENERAL NOTES

- 1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS...
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS...
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...
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE...
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT...
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH...
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE...

Table with columns: DATE, REVISION, DATE FILMED. Includes revision history from 2-27-14 to 11-06-97.

ARKANSAS STATE HIGHWAY COMMISSION
METAL PIPE CULVERT
FILL HEIGHTS & BEDDING
STANDARD DRAWING PCM-1

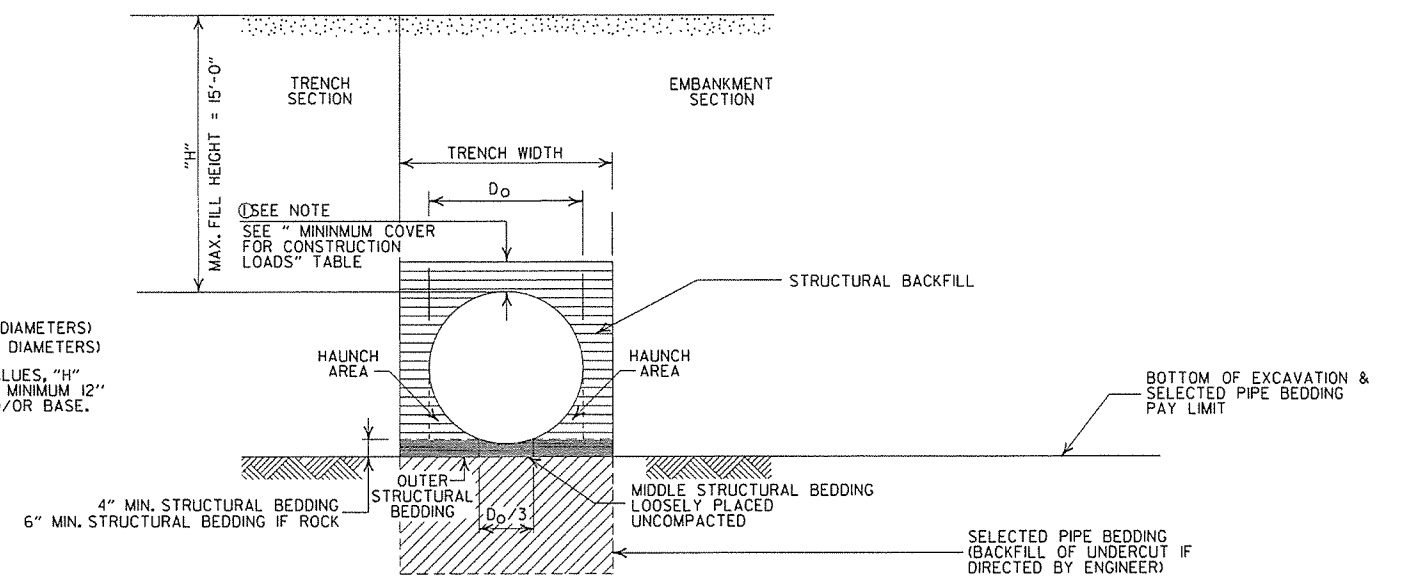
INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

- 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 1/8 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"

NOTE:
 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
 I. 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	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"

MINIMUM 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.

- LEGEND -

- H = FILL HEIGHT (FT.)
- Ø = OUTSIDE DIAMETER OF PIPE
- MAX. = MAXIMUM
- MIN. = MINIMUM
- ===== = STRUCTURAL BACKFILL MATERIAL
- ||||| = UNDISTURBED SOIL

GENERAL NOTES


1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS 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.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE I	
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 1/8 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.

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 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"

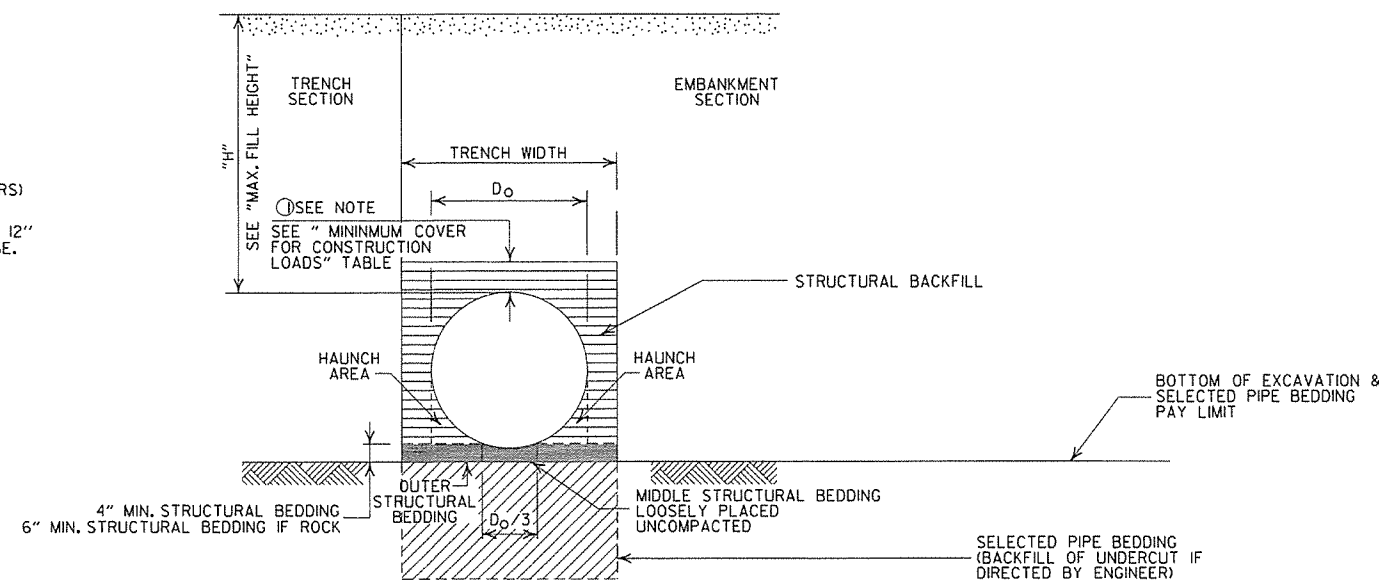
MULTIPLE INSTALLATION OF
PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"

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"

② MINIMUM 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.

- LEGEND -

H = FILL HEIGHT (FT.)
D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

==== = STRUCTURAL BACKFILL MATERIAL
===== = UNDISTURBED SOIL

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS 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.

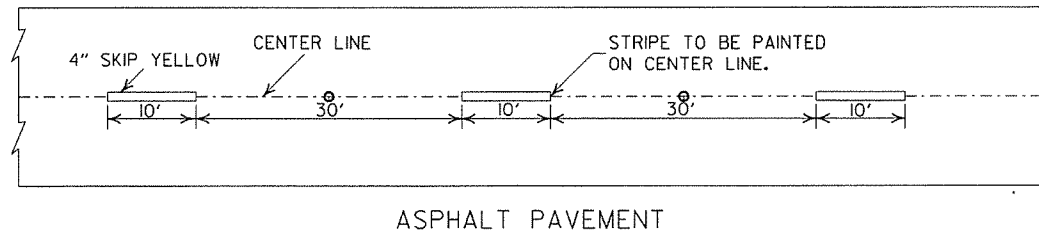
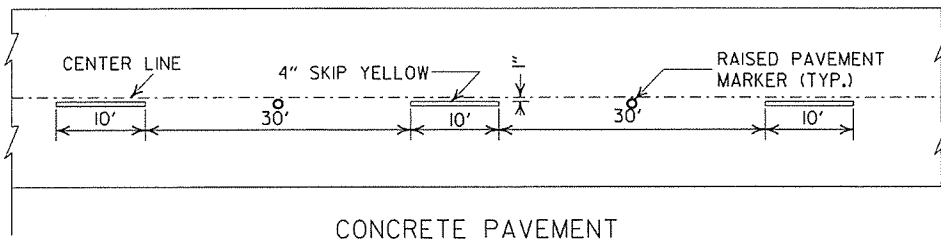
DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

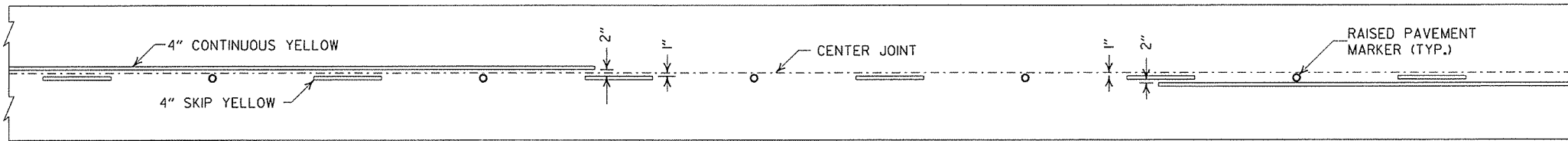
PLASTIC PIPE CULVERT
(PVC F949)

STANDARD DRAWING PCP-2

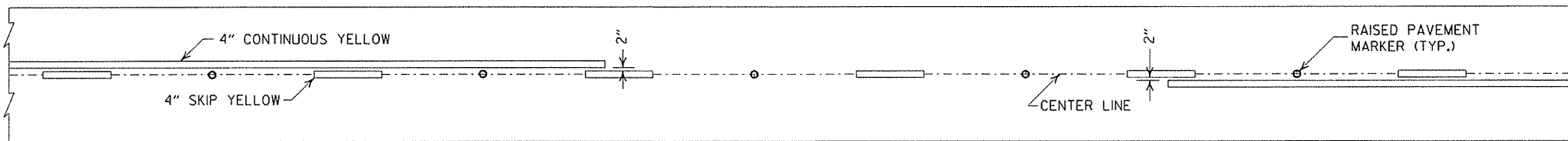




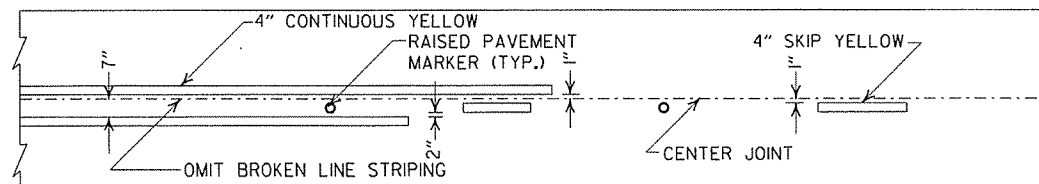
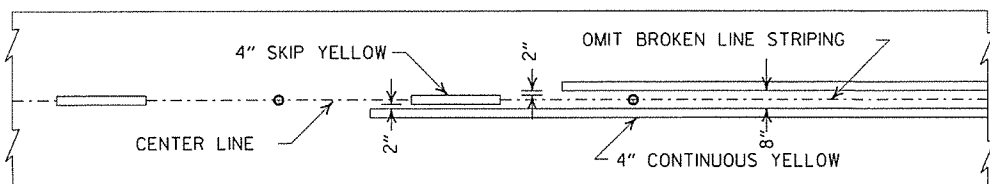
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT



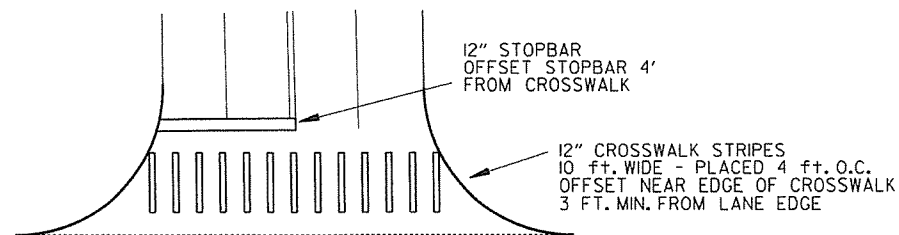
SOLID LINE STRIPING ON ASPHALT PAVEMENT



ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

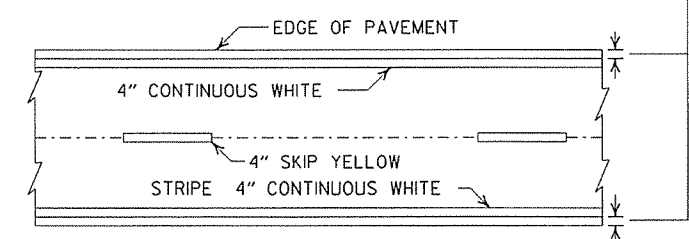


CROSSWALK AND STOPBAR DETAILS

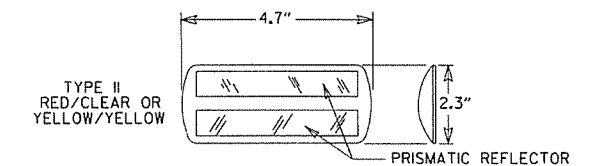
NOTES:

1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.

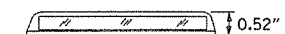
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING



NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

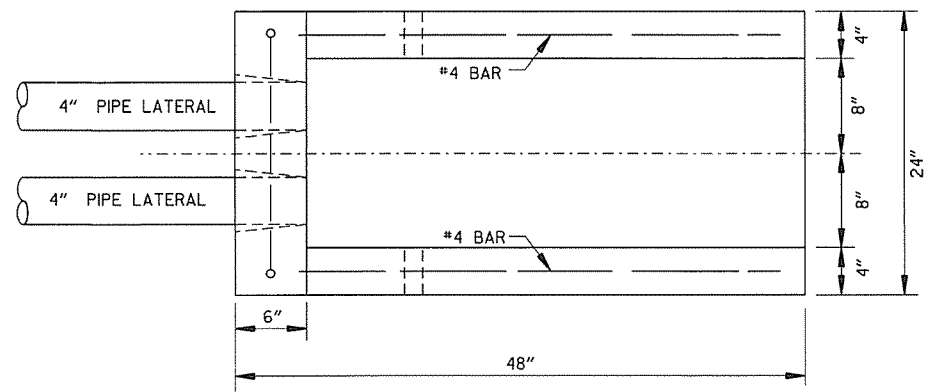
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80
DATE	REVISION	FILMED

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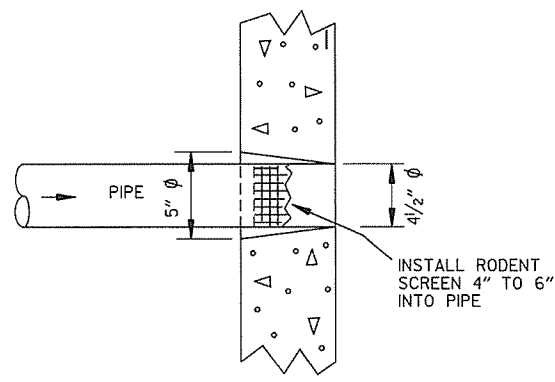
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

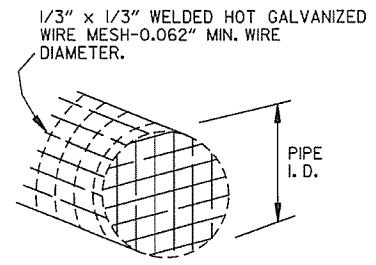
NOTE:
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



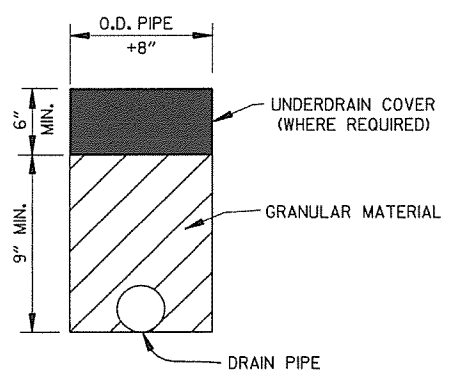
PLAN VIEW



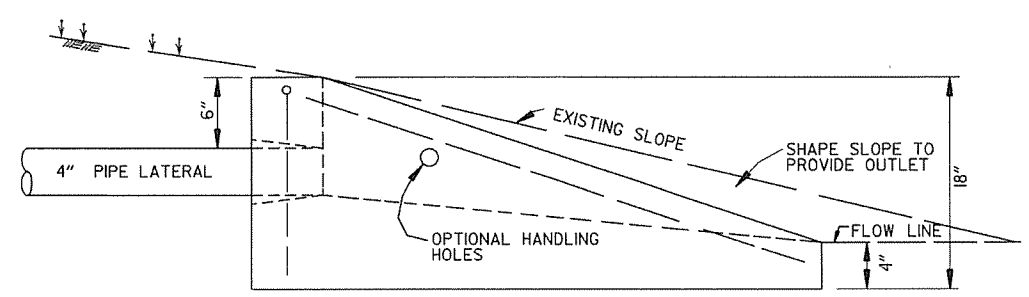
DETAIL OF HOLE FOR 4" PIPE



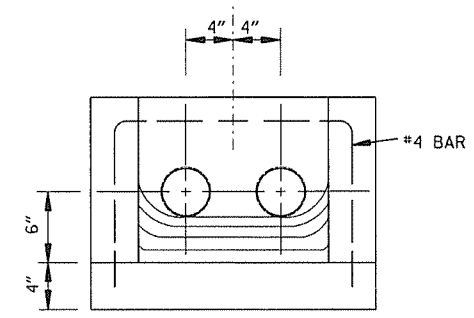
DETAIL OF RODENT SCREEN



DETAILS OF PIPE UNDERDRAIN



SIDE VIEW

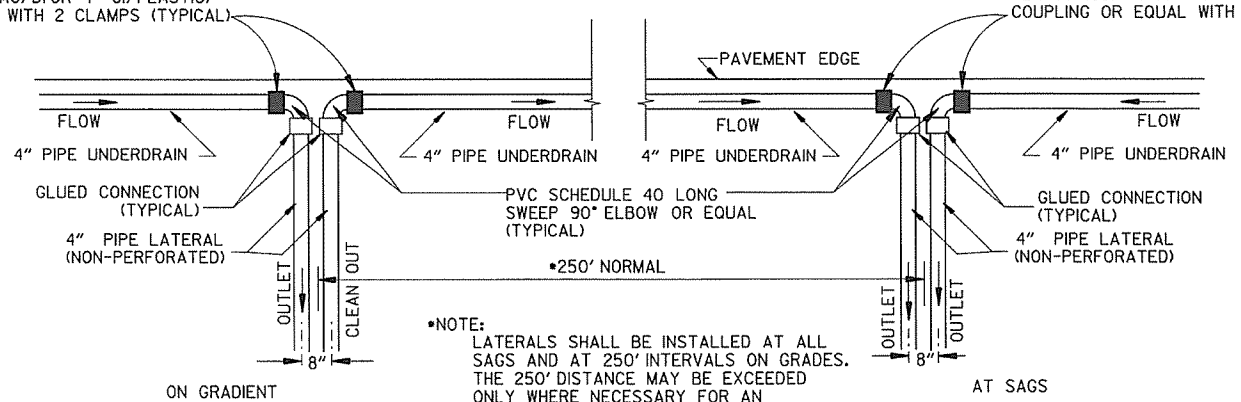


FRONT VIEW

FERNCO 1056-44 (4" CI/PLASTIC) OR FERNCO 1051-44 (4" AC/DI OR 4" CI/PLASTIC) COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)

UNDERDRAIN OUTLET PROTECTORS

FERNCO 1056-44 (4" CI/PLASTIC) OR FERNCO 1051-44 (4" AC/DI OR 4" CI/PLASTIC) COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)



*NOTE:
 LATERALS SHALL BE INSTALLED AT ALL SAGS AND AT 250' INTERVALS ON GRADES. THE 250' DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5 1/2" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11-3-94	REVISED FOR DUAL LATERALS	11-3-94
10-1-92	SUBSTITUTED GEOTEXTILE	10-1-92
8-15-91	ADDED POLYETHYLENE PIPE	8-15-91
11-8-90	DELETED ALTERNATE NOTE	11-8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

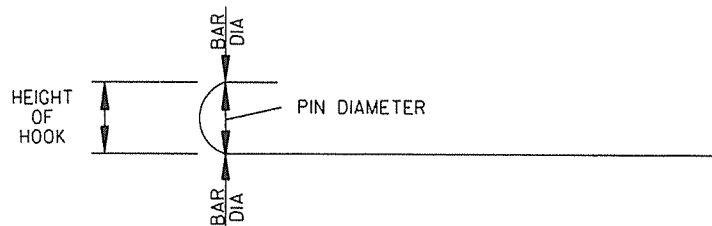
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2 1/4"	4"
4	3"	4 1/2"
5	3 3/4"	5"
6	4 1/2"	6"
7	5 1/4"	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 2 3/4 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

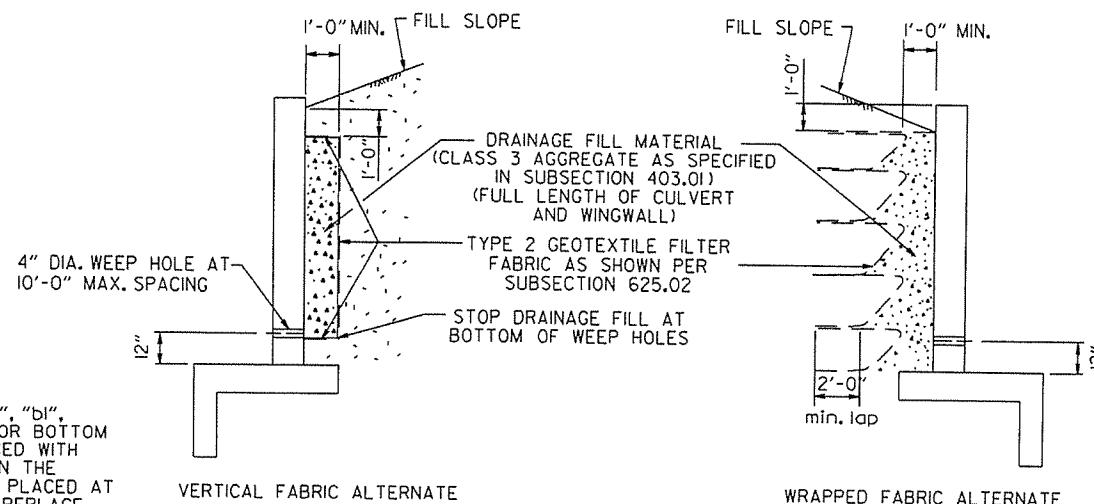
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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.

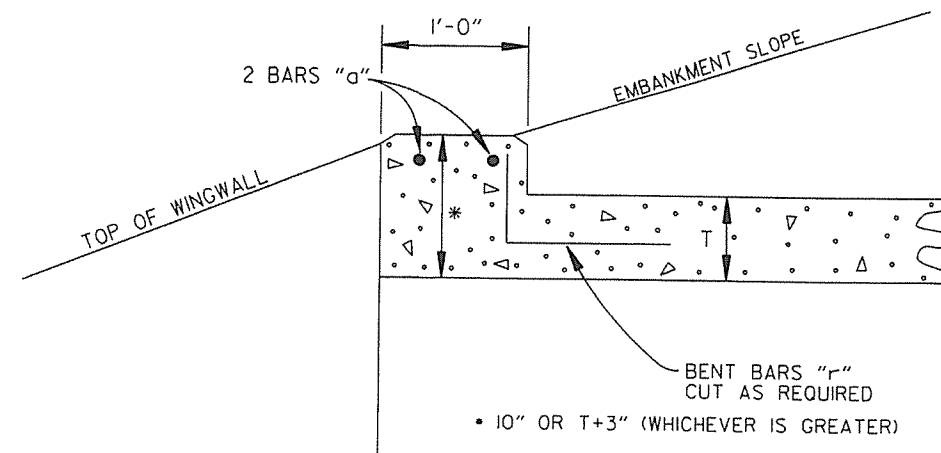
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

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 1/2 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.

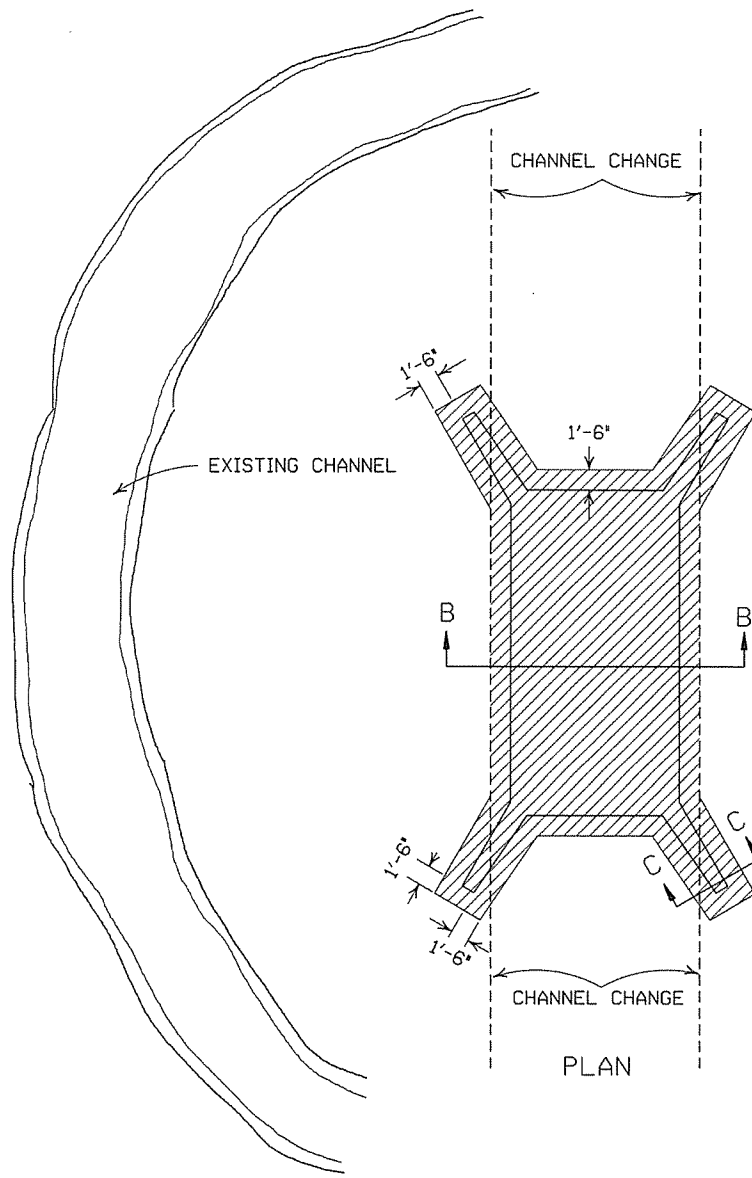
R.C. BOX CULVERT HEADWALL MODIFICATIONS

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	

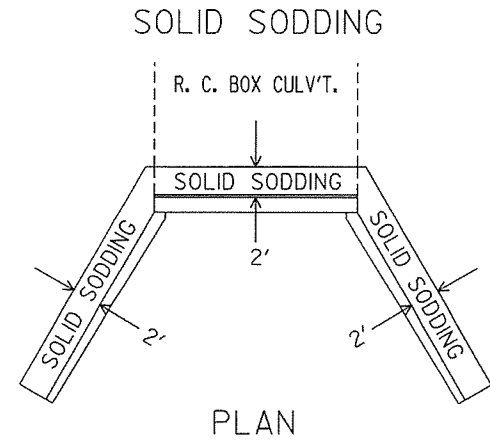
ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



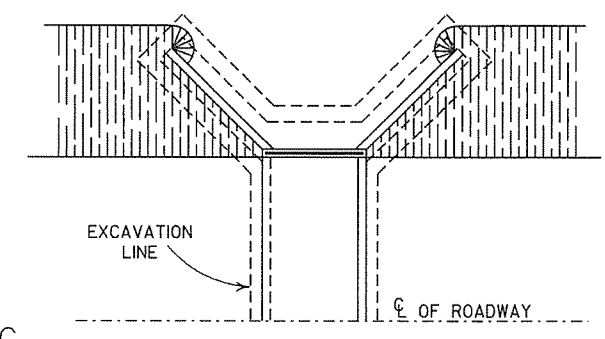
PLAN



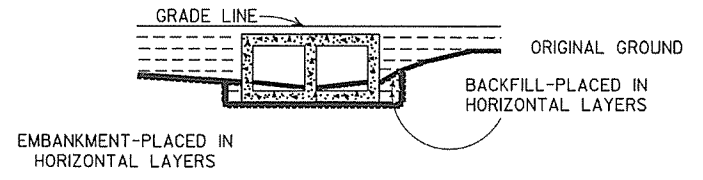
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

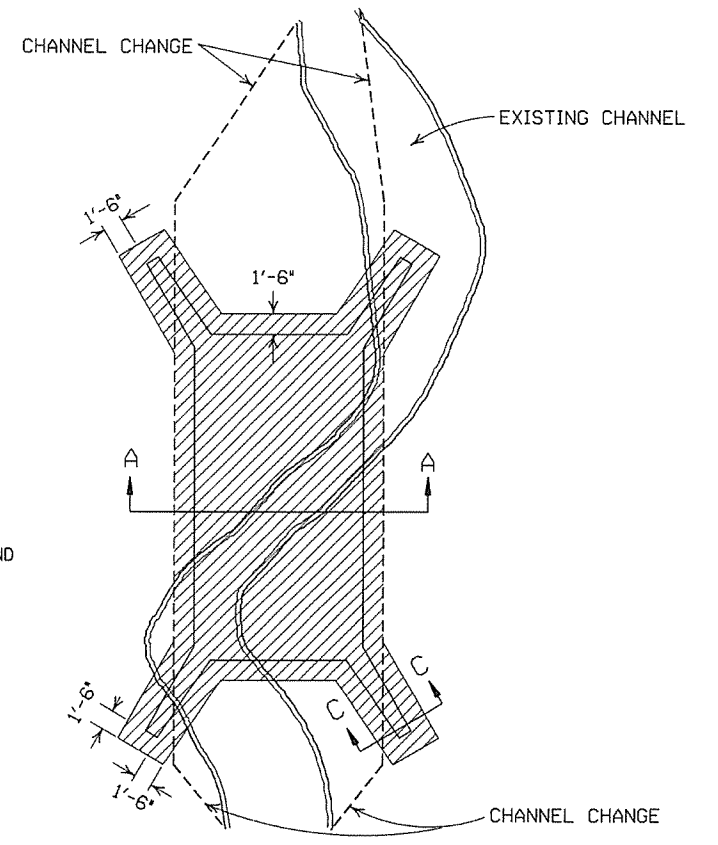


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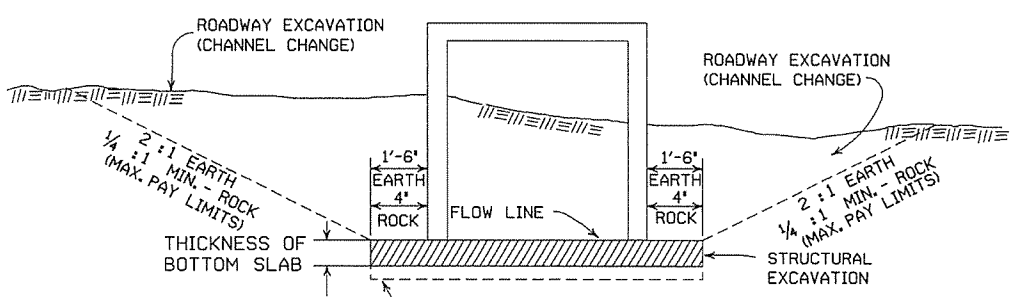


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

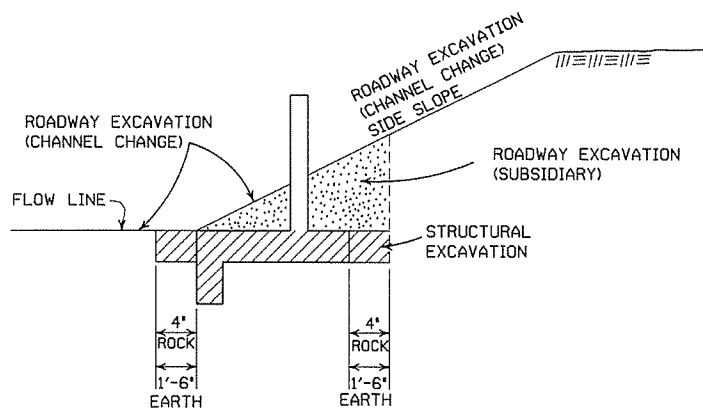


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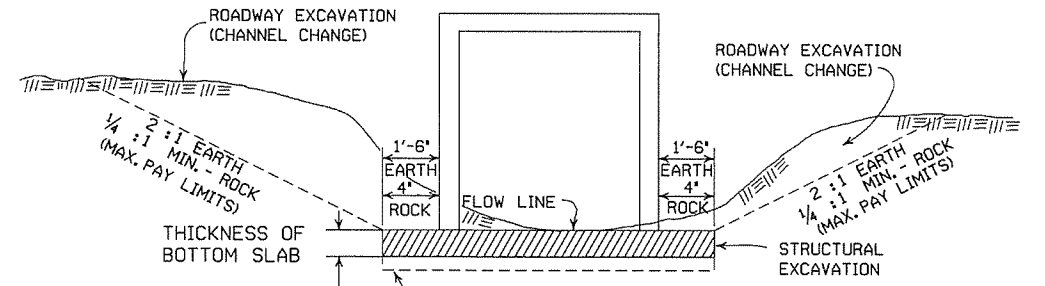


SECTION B-B
DETAILS FOR NEW CHANNELS

UNDERCUT SHALL BE MEASURED AND PAID FOR ACCORDING TO SECTIONS 801.10 AND 801.11, RESPECTIVELY, OF THE STANDARD SPECIFICATIONS.



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

UNDERCUT SHALL BE MEASURED AND PAID FOR ACCORDING TO SECTIONS 801.10 AND 801.11, RESPECTIVELY, OF THE STANDARD SPECIFICATIONS.

GENERAL NOTES:

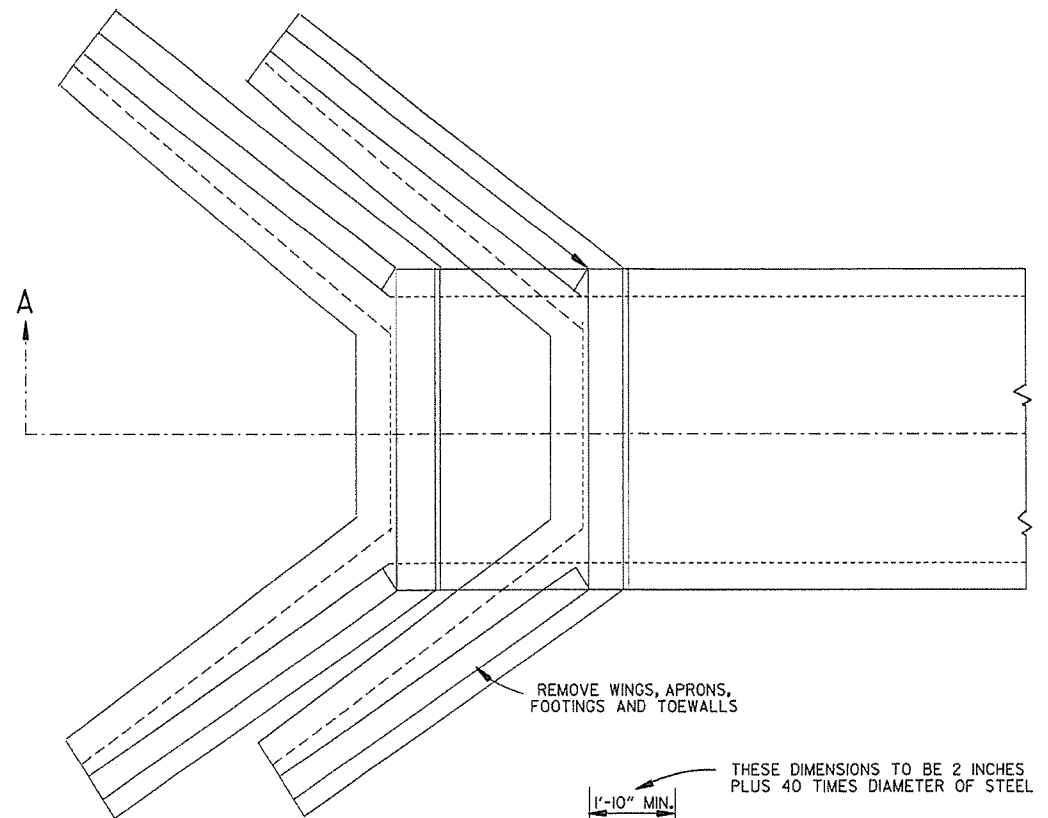
ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED 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.

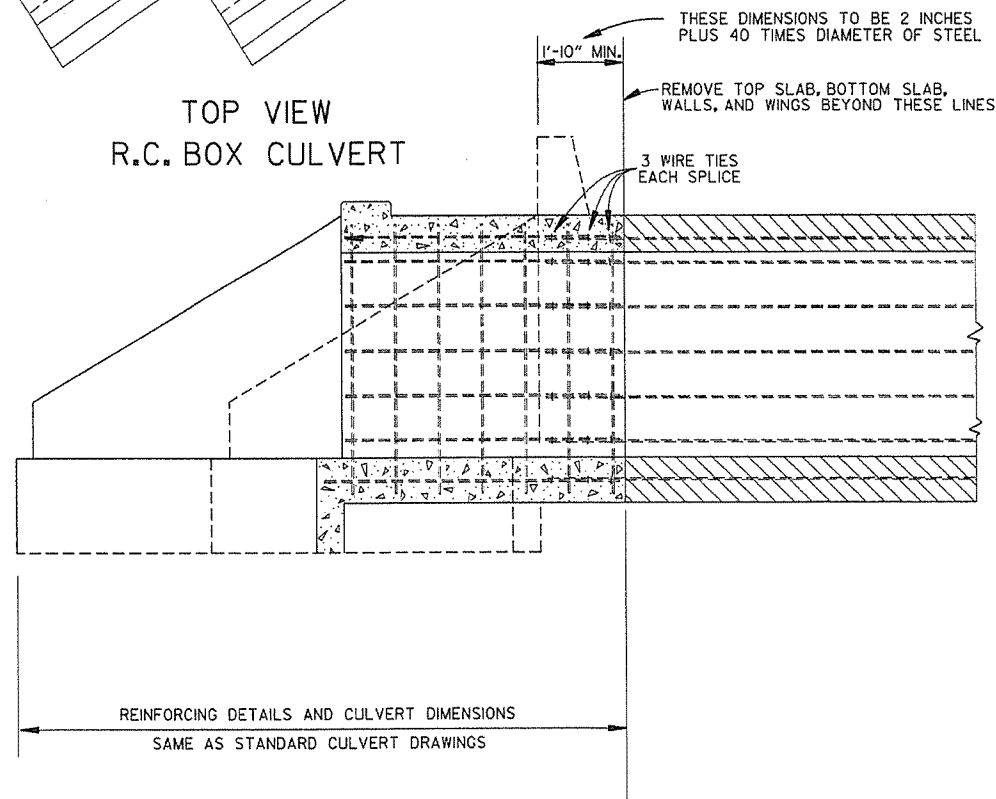
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

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 AND ADDED MAXIMUM PAY LIMIT NOTES.	674-1-4-83
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72
DATE	REVISION	FILMED

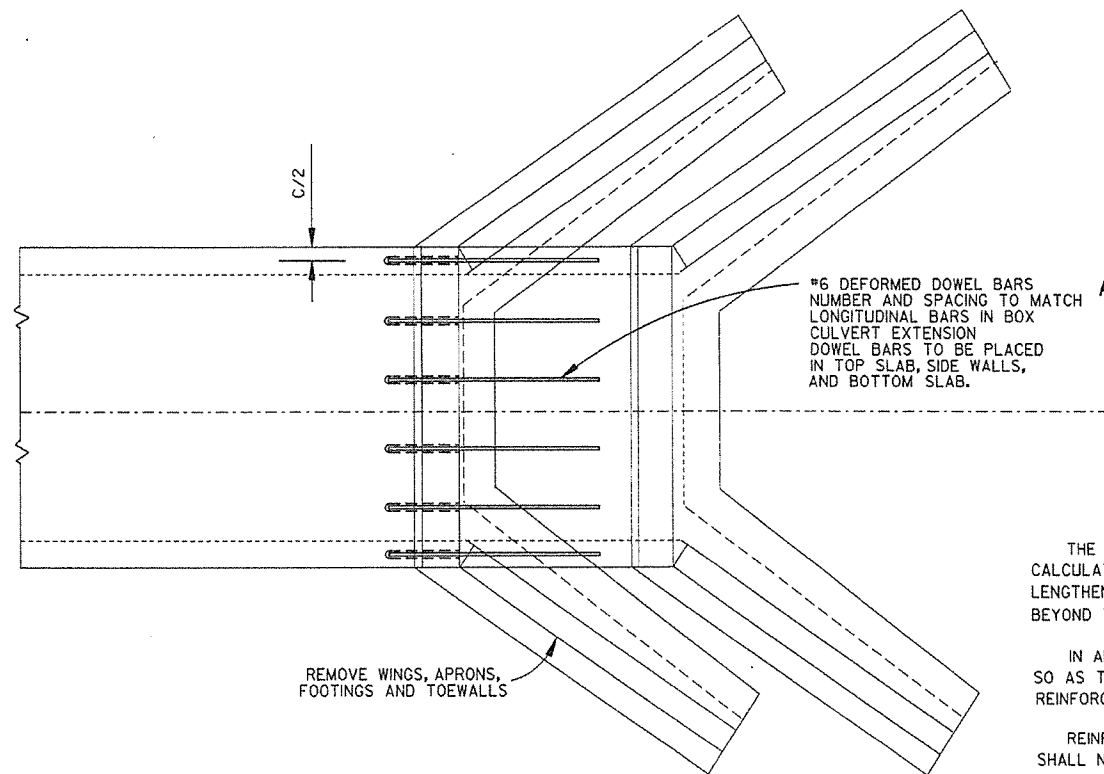
ARKANSAS STATE HIGHWAY COMMISSION	
EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	
STANDARD DRAWING RCB-2	



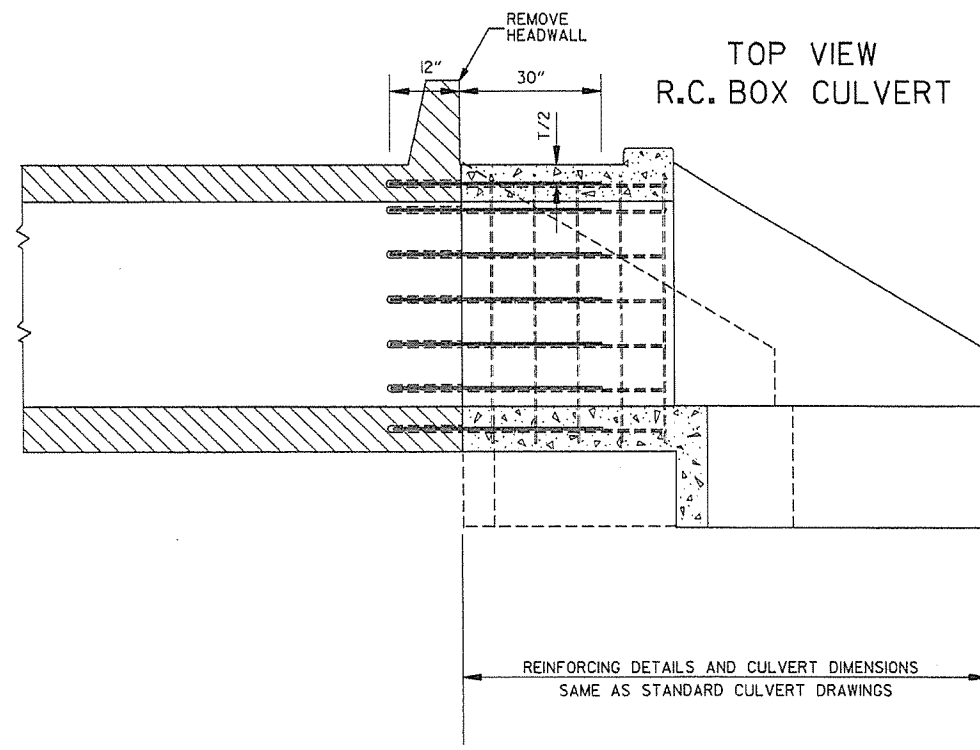
TOP VIEW
R.C. BOX CULVERT



SECTION A-A
METHOD 1



TOP VIEW
R.C. BOX CULVERT



SECTION A-A
METHOD 2

- GENERAL NOTES
- THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.
- IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.
- REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.
- 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.
- MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.
- 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.
- 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.

USE FOR METHOD
1
1
1&2
1&2
2
2
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.

ARKANSAS STATE HIGHWAY COMMISSION		
METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS		
STANDARD DRAWING RCB-3		
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	
DATE	REVISION	DATE FILE

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH		40 MPH		50 MPH		55 MPH		60 MPH		70 MPH	
	e	Ls (FT)	e	Ls (FT)	e	Ls (FT)	e	Ls (FT)	e	Ls (FT)	e	Ls (FT)
	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE
0° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 45'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 00'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 30'	N.C.		0.021		0.031		0.043		0.043		0.054	
1° 45'	N.C.		0.025		0.036		0.048		0.049		0.062	
2° 00'	R.C.		0.028	175	0.040	200	0.048	225	0.055	300	0.070	300
2° 15'	R.C.		0.031		0.045		0.053		0.061		0.078	300
2° 30'	0.021		0.034		0.049	250	0.058		0.067		0.085	350
2° 45'	0.023		0.037		0.053		0.063		0.072		0.091	350
3° 00'	0.025		0.040		0.057		0.067	230	0.077	260	0.096	350
3° 15'	0.027	150	0.043		0.061		0.072	245	0.082	275	0.100	360
3° 30'	0.029		0.046		0.065	205	0.076	255	0.086	285		400
3° 45'	0.031		0.049		0.069	215	0.080	265	0.090	295		
4° 00'	0.033	200	0.051		0.072	225	0.083	270	0.093	305		
4° 30'	0.037		0.056		0.078	240	0.087	280	0.096	315		
5° 00'	0.040		0.061		0.083	250	0.091	295	0.098	320		
5° 30'	0.043		0.066	185	0.088	260	0.094	300				
6° 00'	0.046		0.070	190	0.092	270	0.096	305				
6° 30'	0.050		0.074	200	0.095	280						
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								
9° 00'	0.063		0.089	230								
10° 00'	0.066	160	0.094	235								
11° 00'	0.072	170	0.097	250								
12° 00'	0.076	175	0.099	250								
13° 00'	0.080	180	0.100	250								
14° 00'	0.083	190										
15° 00'	0.086	195										
16° 00'	0.089	200										
17° 00'	0.091	200										
18° 00'	0.093	205										
19° 00'	0.095	210										
20° 00'	0.097	215										
21° 00'	0.098	215										
22° 00'	0.099	215										
23° 00'	0.099	215										
24° 00'	0.100	220										

D MAX = 24° 45'

ABBREVIATIONS

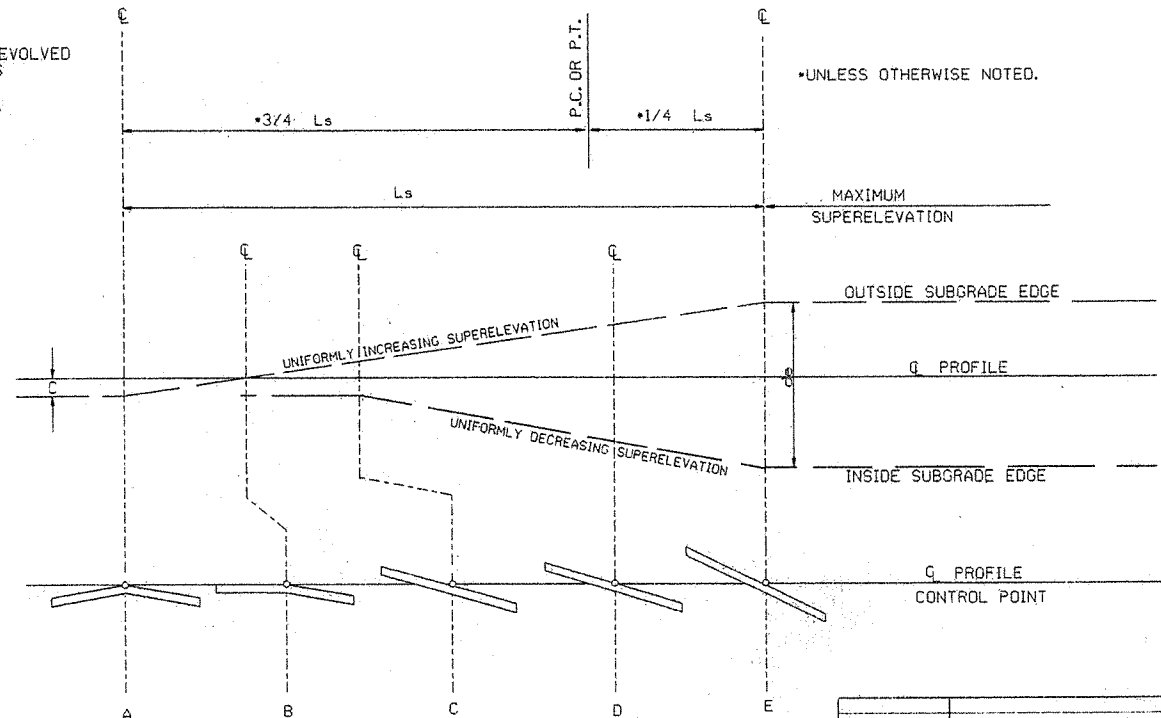
- NC - NORMAL CROWN
- RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
- e - RATE OF SUPERELEVATION (FT. PER FT.)
- Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
- L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
- d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
- C - NORMAL CROWN (FT.)

GENERAL NOTES

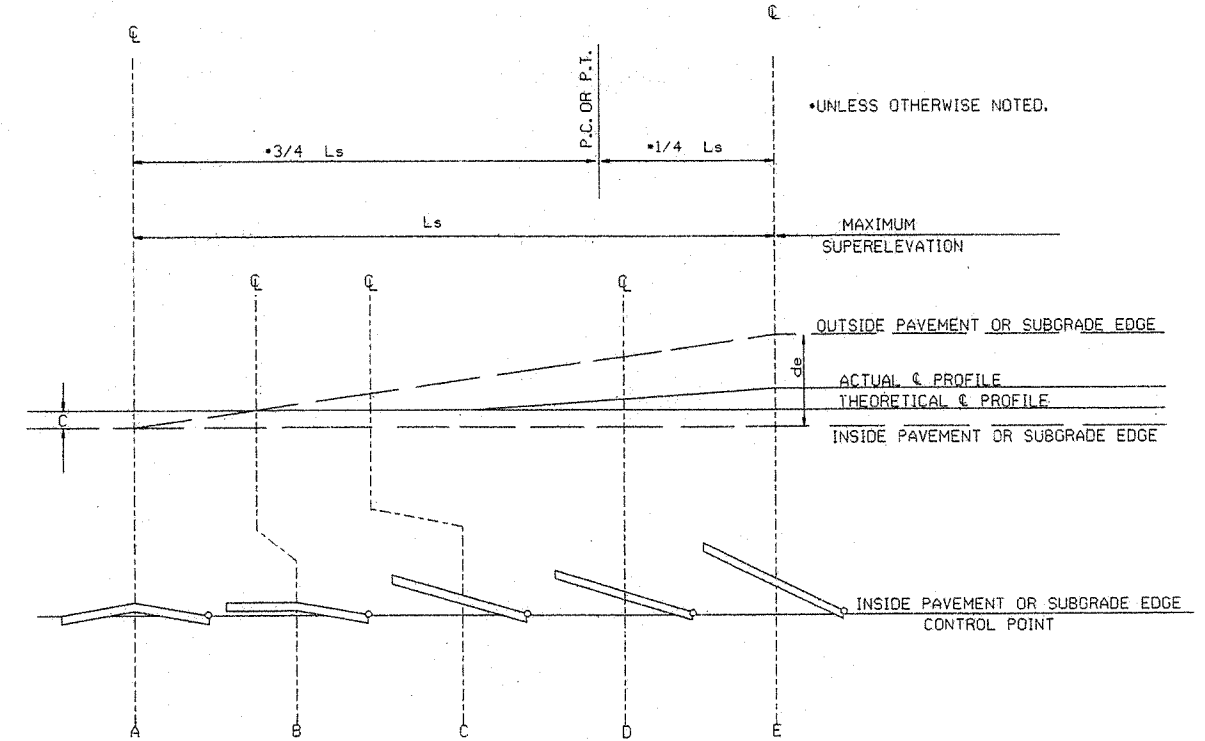
1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED 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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

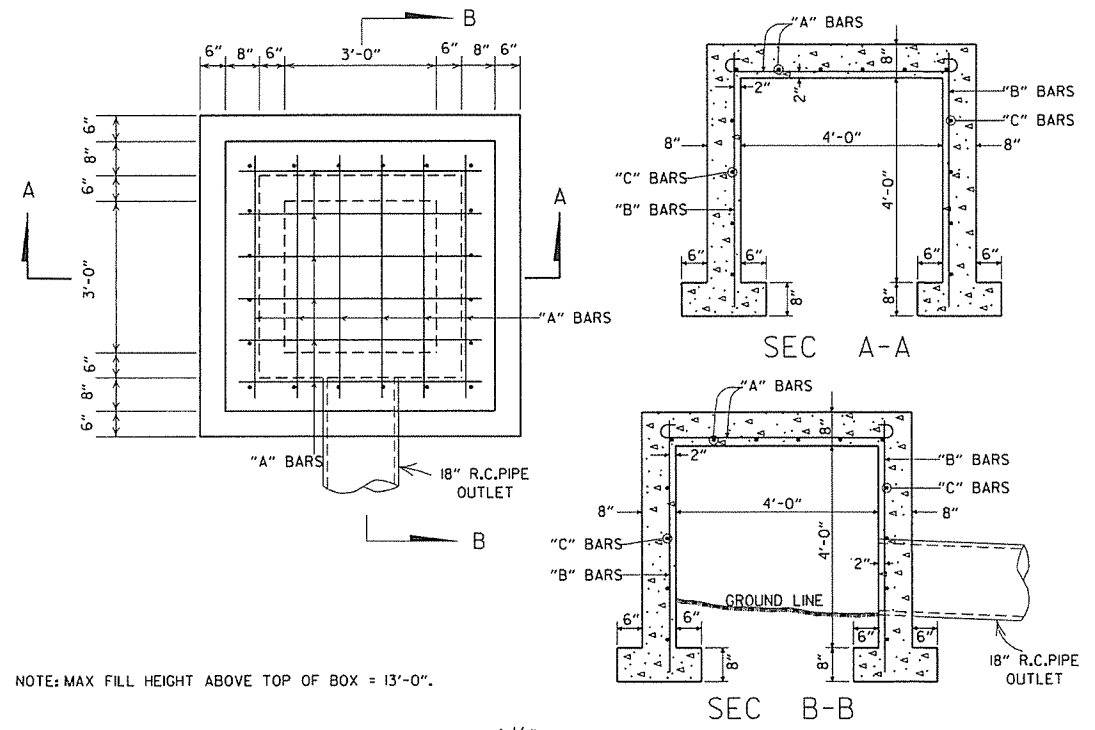
SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87
DATE	REVISION	DATE FILLED

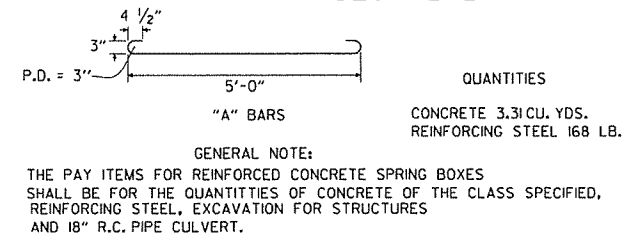


NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

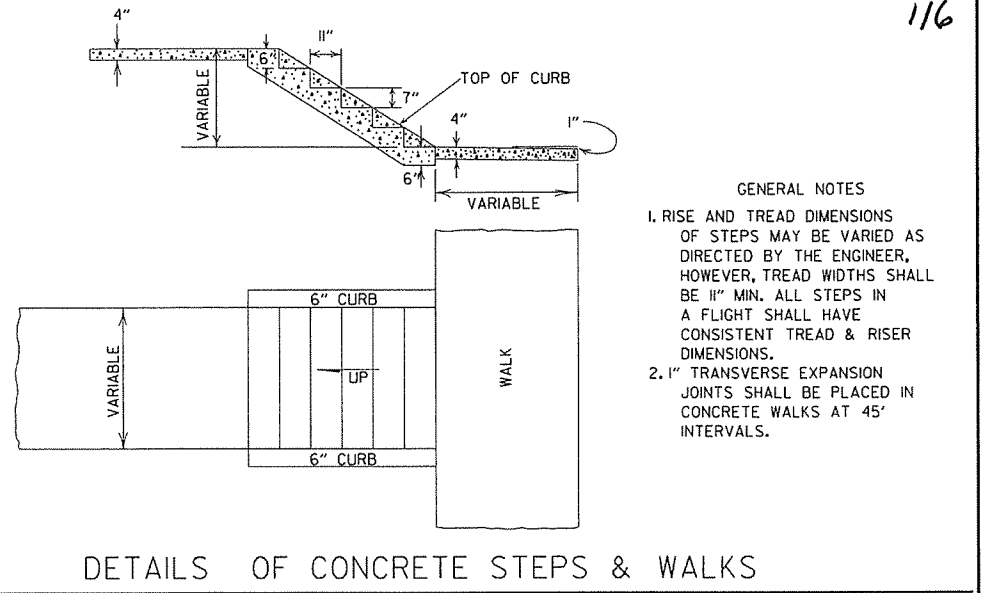
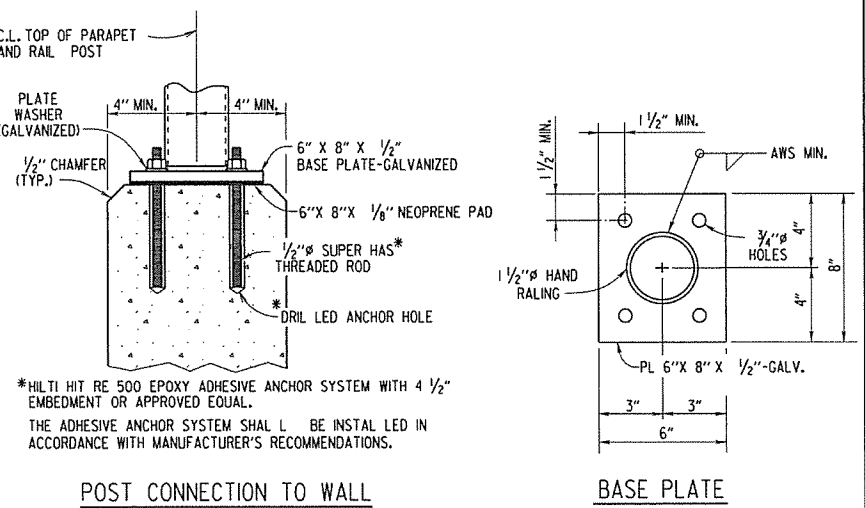
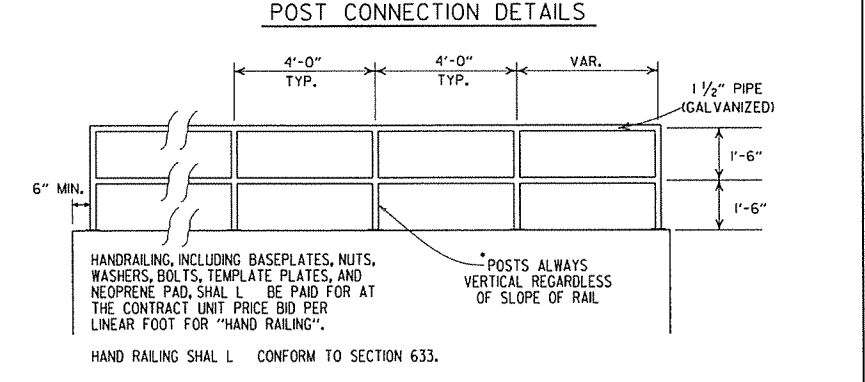
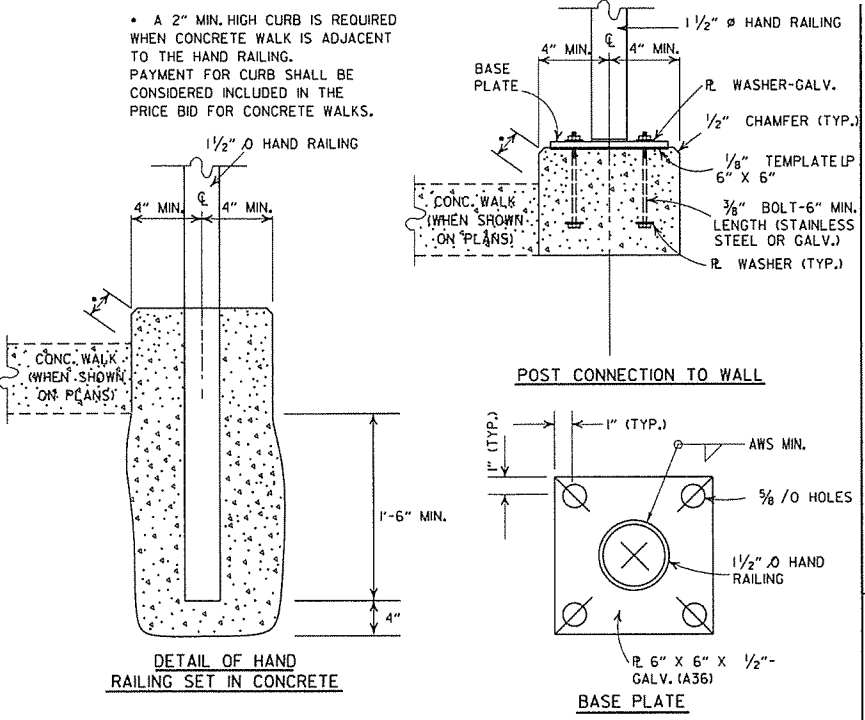
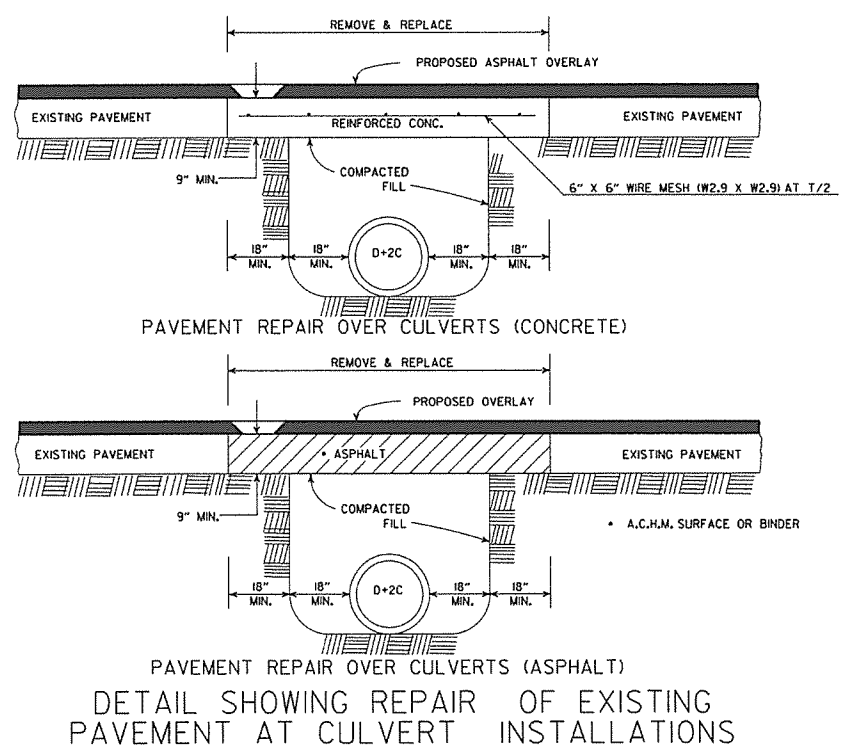
STEEL SCHEDULE

BAR	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 1/2"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



REINFORCED CONCRETE SPRING BOX



DATE	REVISION	DATE FILMED
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-96	ADD WEEP HOLE; REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR	649-7-15-88
	ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET & PAVEMENT REPAIR	674-4-20-79
2-2-76	12" MIN. GRAN. MAT'L OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L	568-4-10-75-853
5-22-74	GRANULAR MAT'L TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

ADVANCE DISTANCES (XXXX)


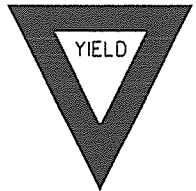



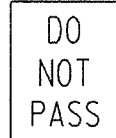



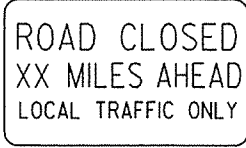
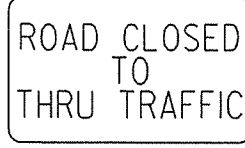

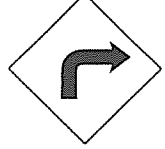



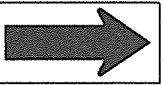
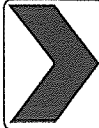
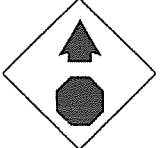
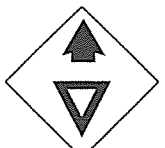
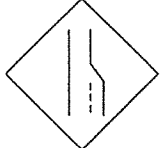

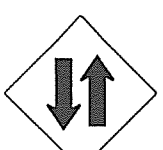

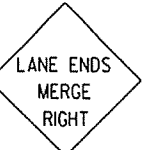









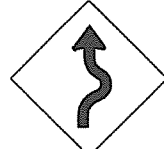





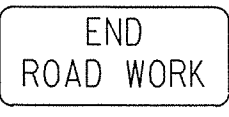
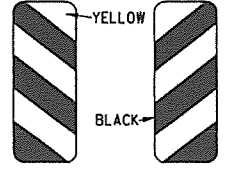
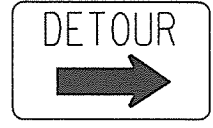

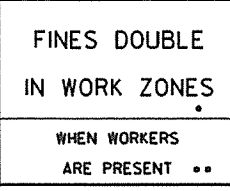
500 FT	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE AHEAD

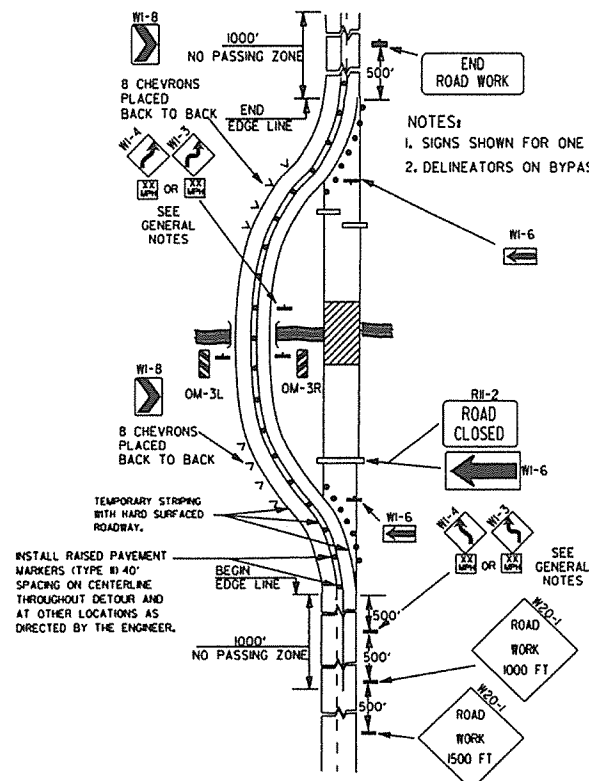
GENERAL NOTES:

- 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.
 - 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.
 - 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.
 - SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SO. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
 - 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 REFLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
 - 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.
 - 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.
 - FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
 - 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.
 - R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.
- * NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED, COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

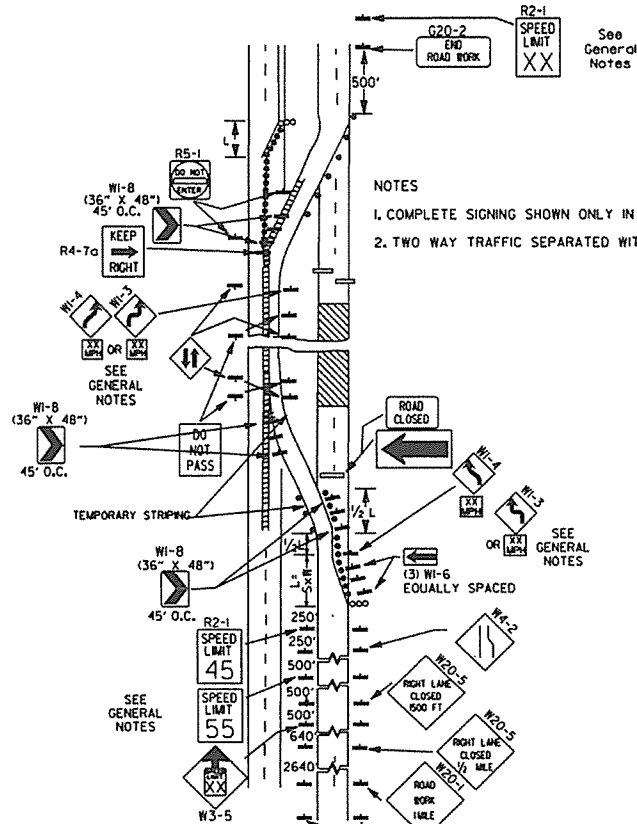
9-2-95	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-95-1	REVISED W24-1	
1-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
8-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
1-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
1-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION
 STANDARD TRAFFIC CONTROLS
 FOR HIGHWAY CONSTRUCTION
 STANDARD DRAWING TC-1

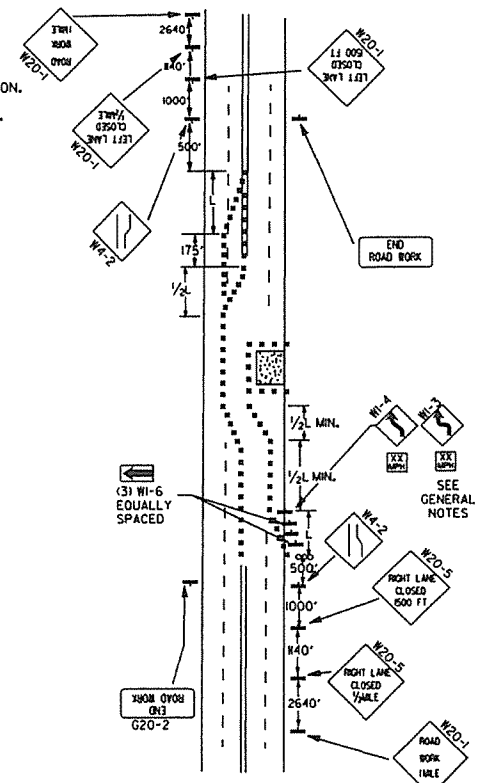
<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>W3-5</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>W3-5a</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>RSP-1</p>  <p>48"x30"</p>	<p>W1-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W1-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W1-3</p>  <p>STD. 48"x48"</p>	<p>W1-4</p>  <p>STD. 48"x48"</p>	<p>W1-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>W1-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>	<p>W20-3</p>  <p>STD. 48"x48"</p>
<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>500 FEET 24" W6-2</p> <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>	<p>W1-4b</p>  <p>STD. 48"x48"</p>	<p>R56-1</p>  <p>STD. 18"x18"</p>
<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>	<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>	<p>R55-1</p>  <p>36"x60"</p> <p>• USE 6" C LETTERS •• USE 4" D LETTERS</p>



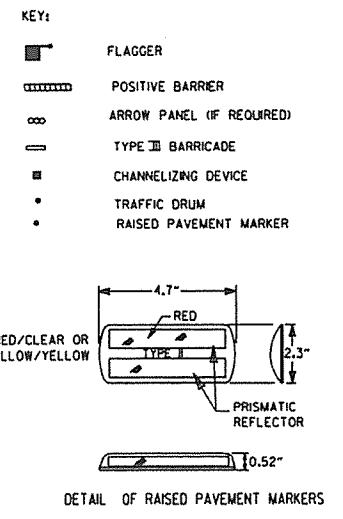
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

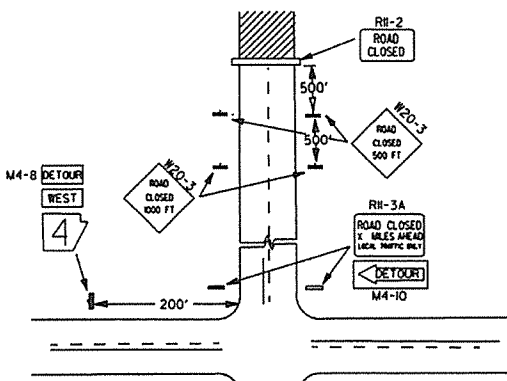


TYPICAL ADVANCE WARNING SIGN PLACEMENT

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.

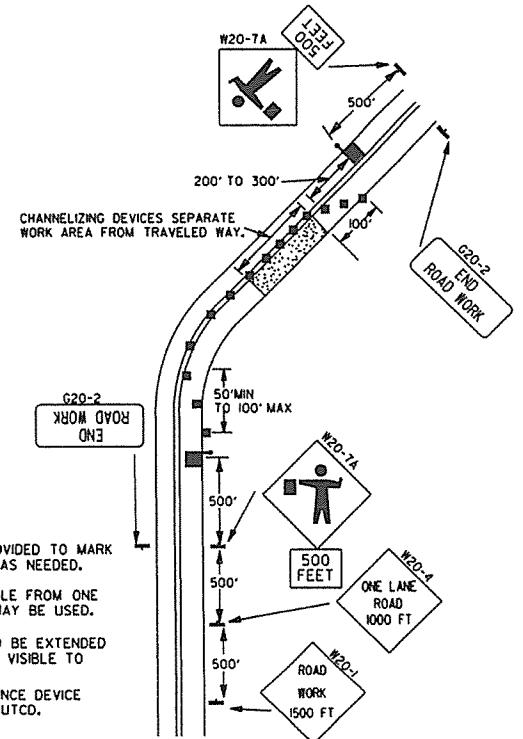
- GENERAL NOTES:
- ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
 - WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(45) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 - 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(55)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 - 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.
 - WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
 - PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
 - TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUOUS 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.
 - DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH R3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-1-10	ADDED (AFAD)	
8-20-08	REVISED SIGN DESIGNATIONS	
8-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED



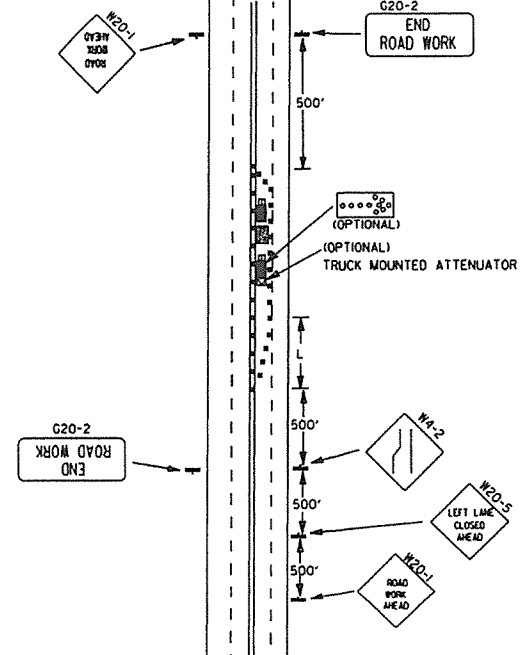
- NOTES:
 1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
 2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



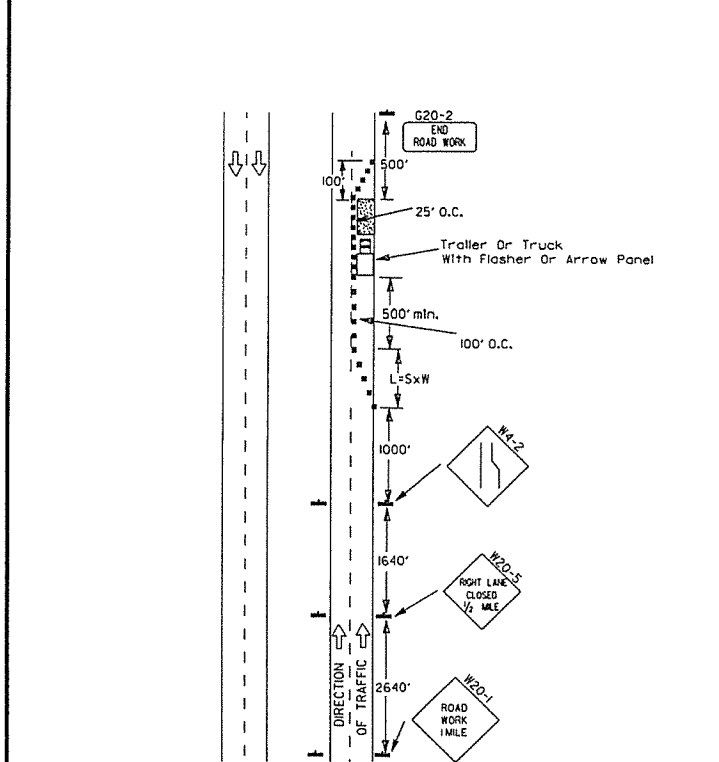
- NOTES:
 1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
 2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
 3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
 4. AUTOMATED FLAGGER ASSISTANCE 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.

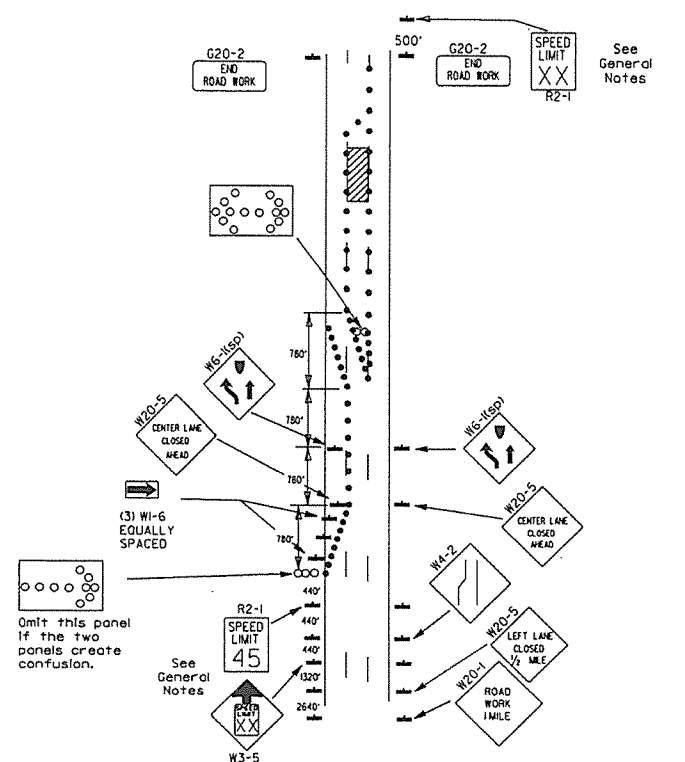


(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

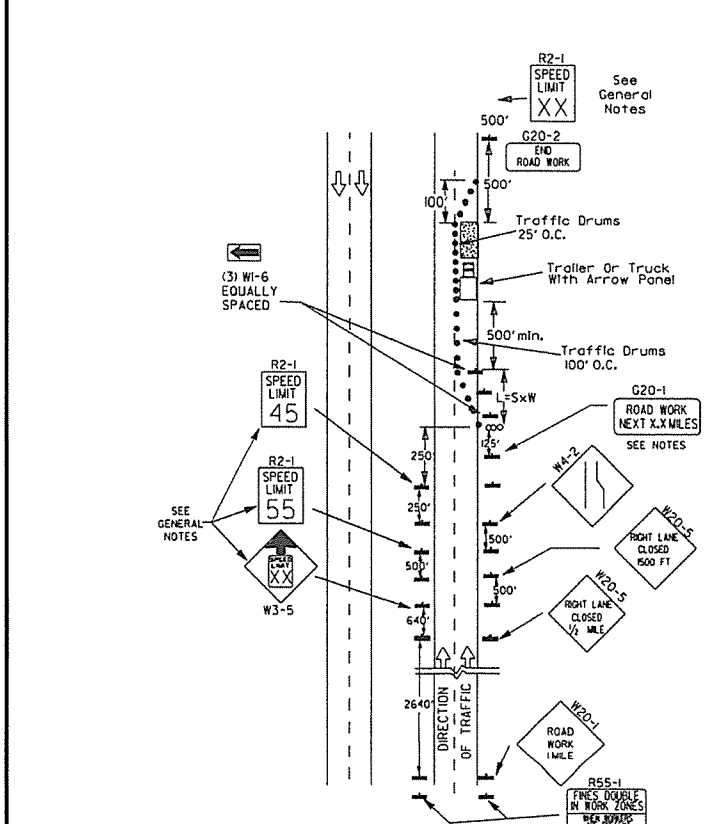
Channelizing devices



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



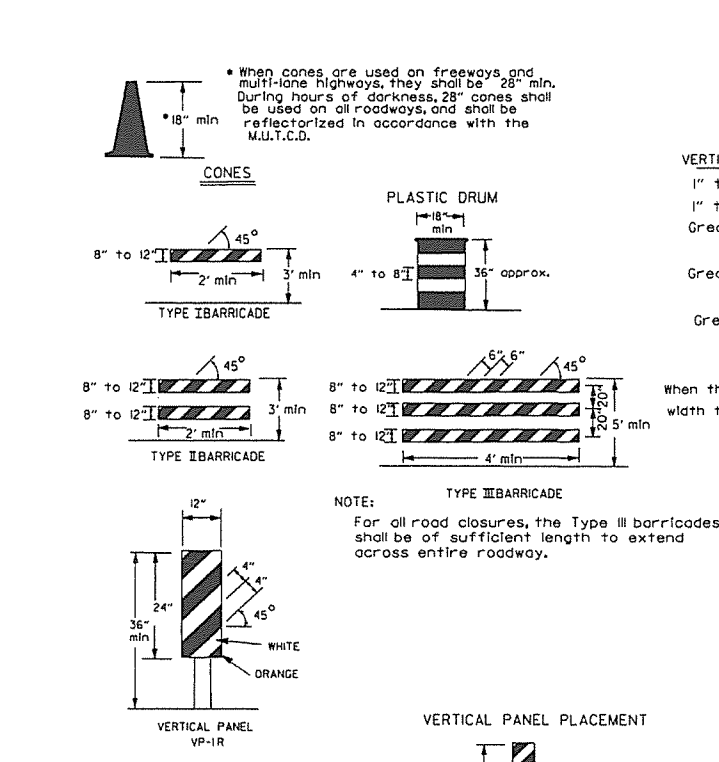
(B) Typical application - 3-lane one-way roadway where center lane is closed.



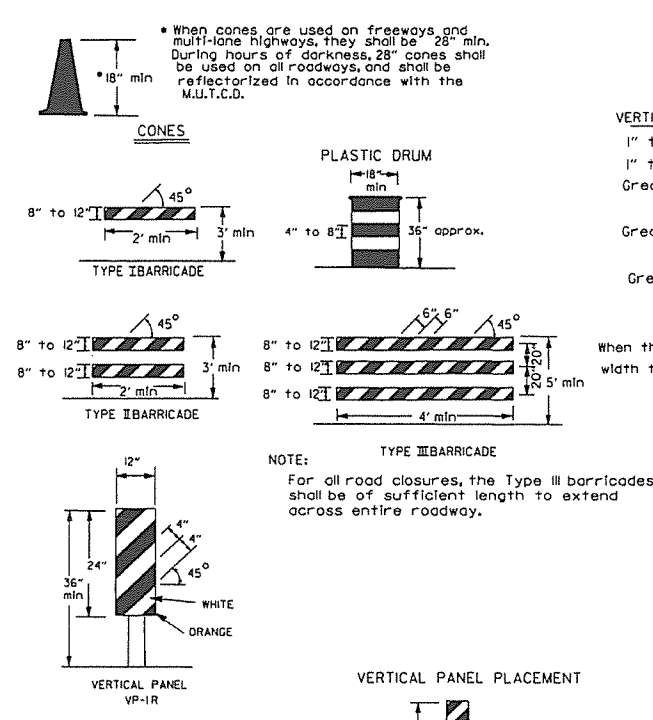
(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

KEY:
 ○ Arrow Panel (if Required)
 ■ Channelizing Device
 ● Traffic drum

- GENERAL NOTES:
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
 2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1(45) speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
 3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(65) shall be omitted. Additional R2-1(55) speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
 4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
 5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
 6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
 7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1/2 MILE) signs are not required in advance of lane closures that begin inside the project limits.
 8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
 9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
 10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.



(D) Typical application - closing multiple lanes of a multilane highway.

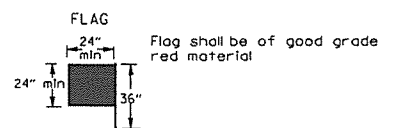


NOTE:
 For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

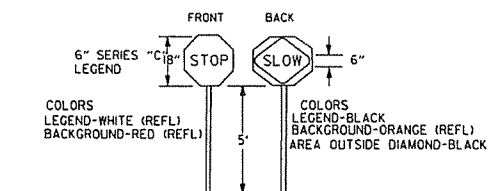
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	WB-11
1" to 3"	Edge of shoulder	WB-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

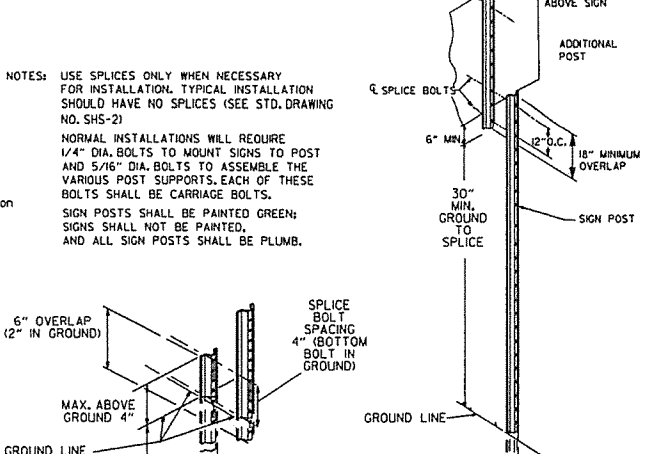
* When shown on the plans concrete barrier will be used.
 When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



STOP SLOW PADDLE



DETAIL OF SPLICES

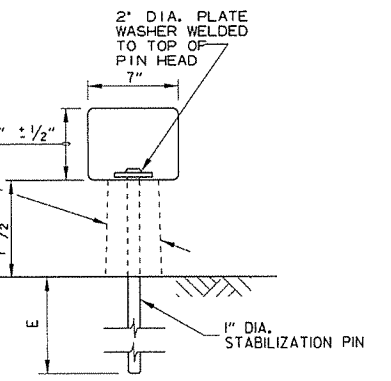
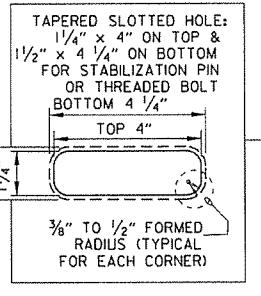
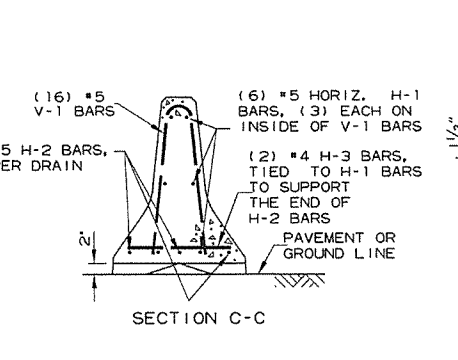
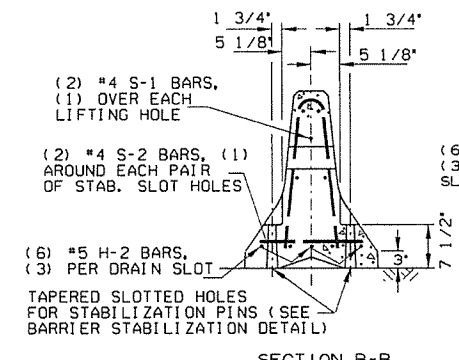
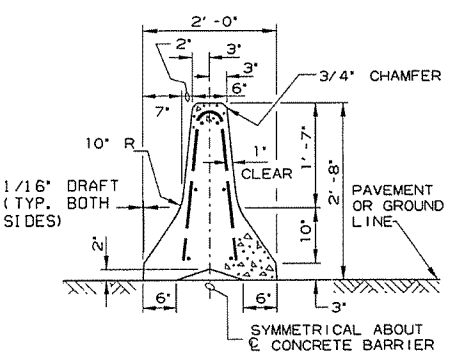
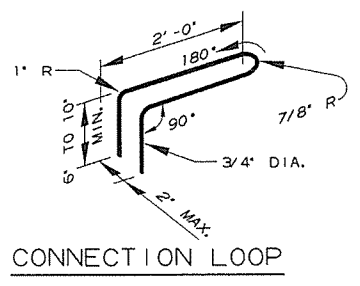
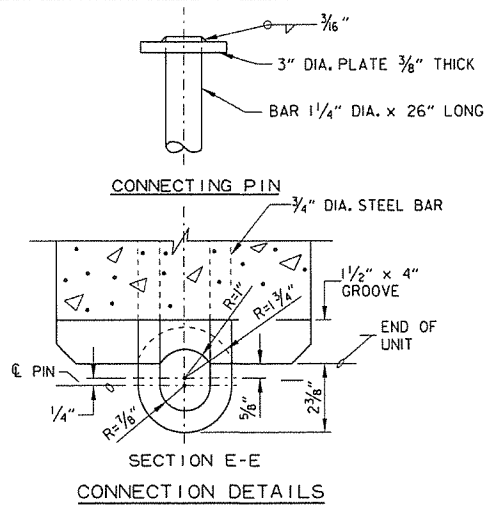


NOTES:
 USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)
 NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE 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)
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)
S-1	OVER LIFT HOLES	#4	(2)
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS	#4	(2)
V-1	VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)

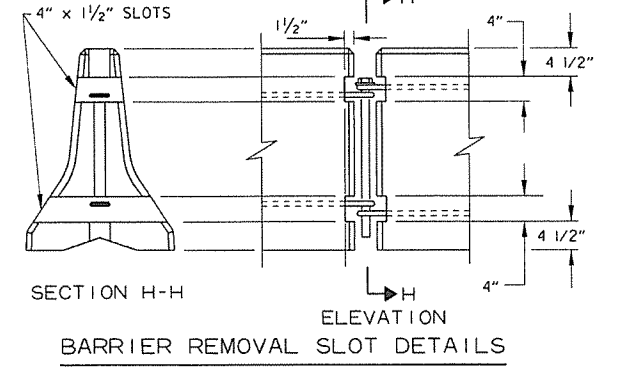
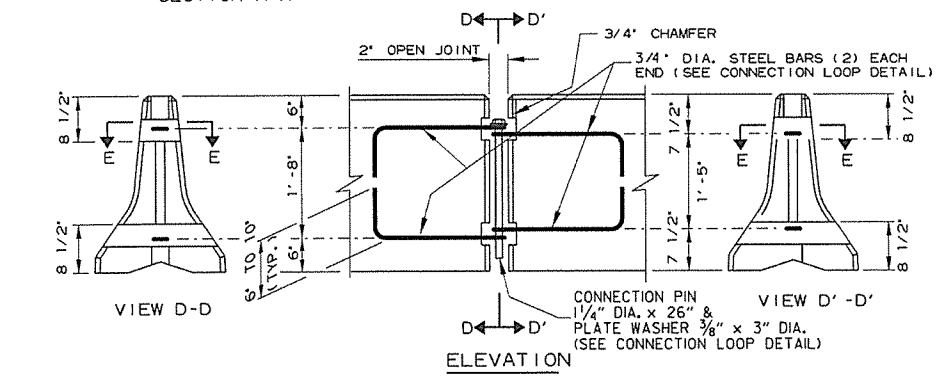


BARRIER STABILIZATION DETAIL
ROADWAY SECTION

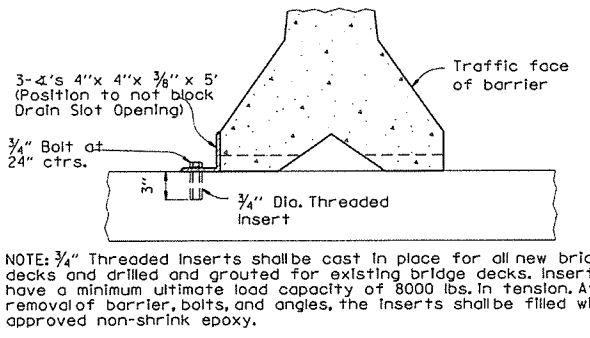
- (E) 4" - Concrete Pavement
- 8" - Asphalt Pavement
- 12" - Shoulder Areas

- General Notes**
- The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.
 - Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier walls within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers. Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Ln. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.
 - Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

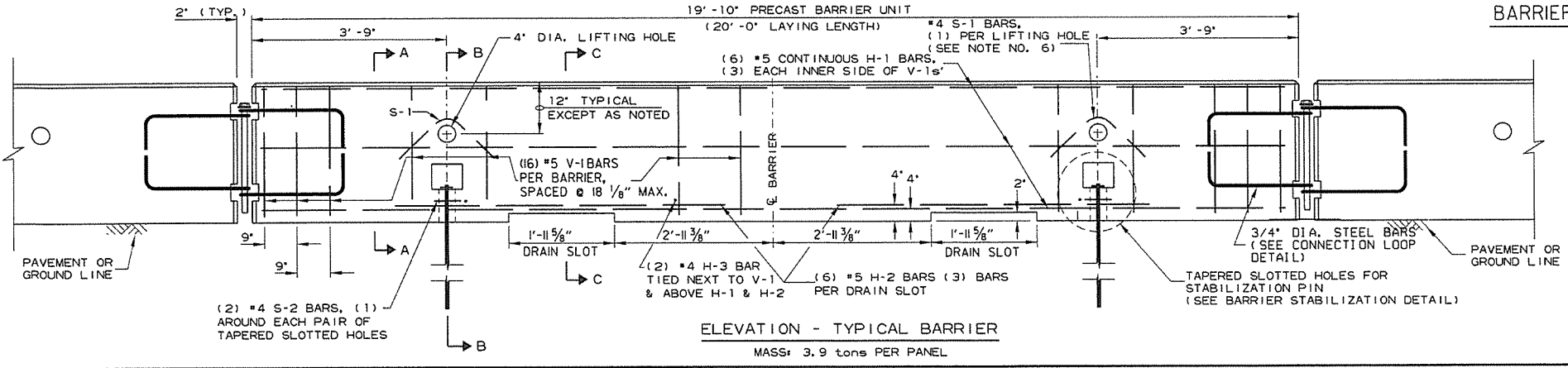


BARRIER REMOVAL SLOT DETAILS



BARRIER STABILIZATION DETAIL
BRIDGE DECKS

- Attach Units to Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.
- A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.



ELEVATION - TYPICAL BARRIER
MASS: 3.9 tons PER PANEL

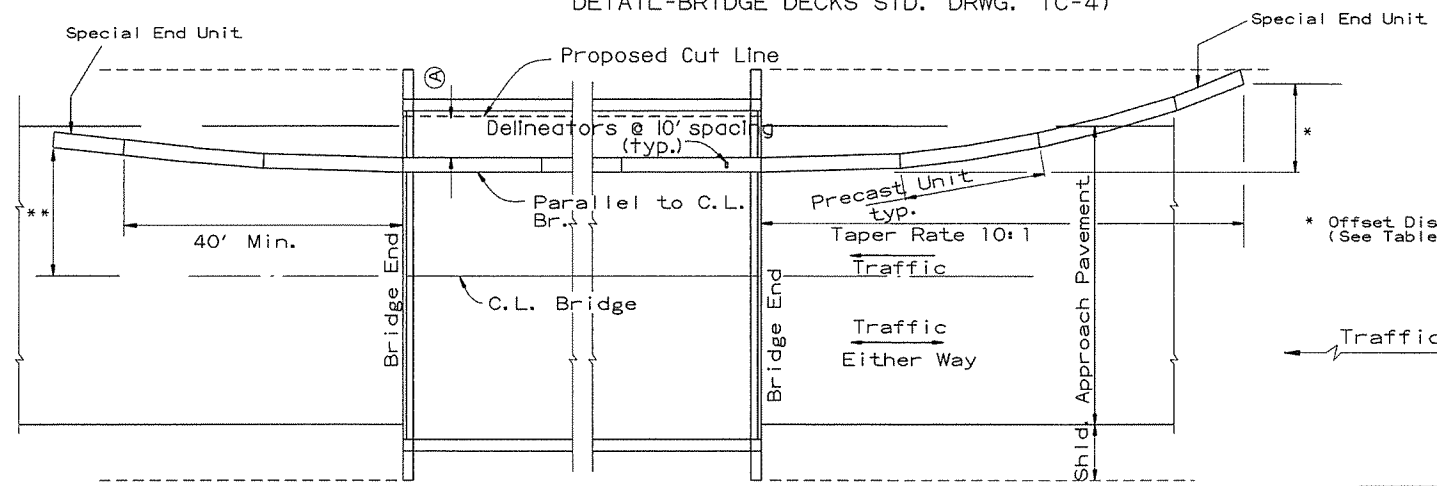
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION -
TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

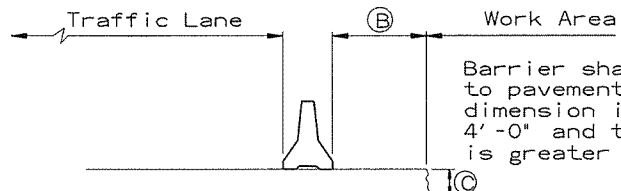
(A) 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

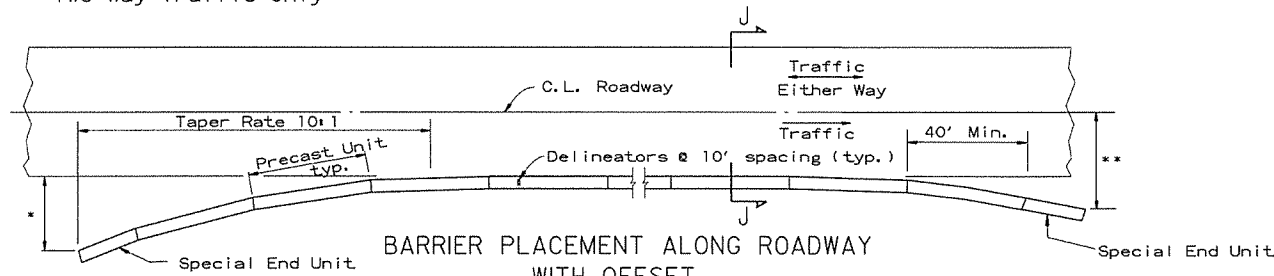
No Scale

** Offset Distance for Two Way Traffic Only



SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

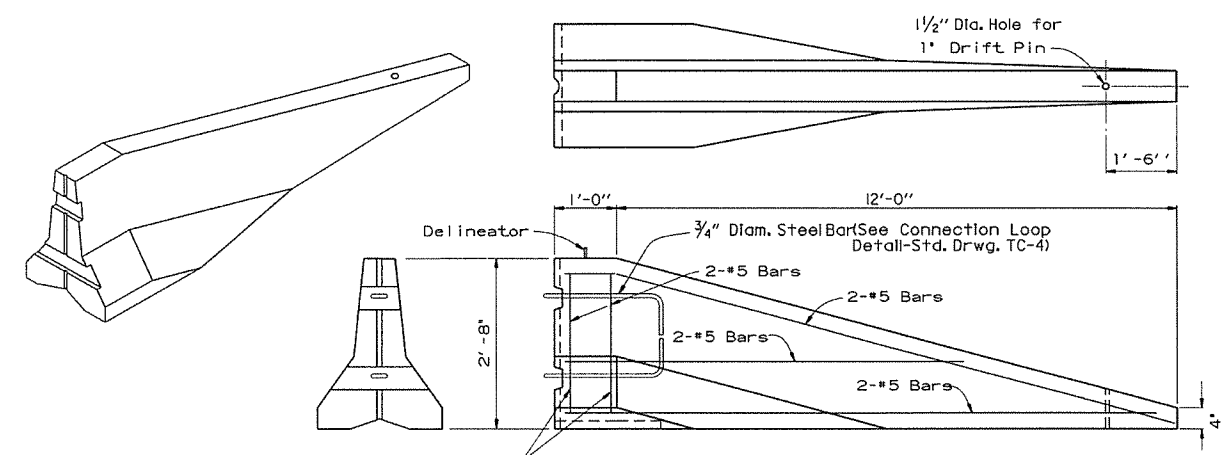
No Scale

** Offset Distance For Two Way Traffic Only

* Offset Distance (See 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.

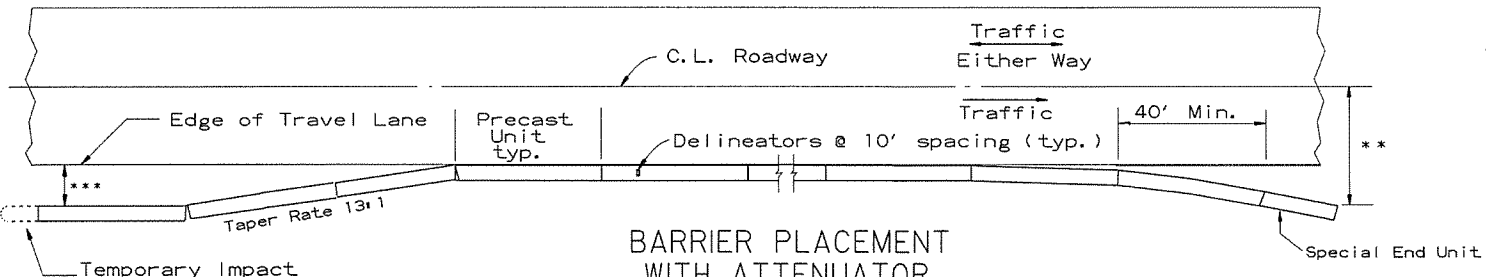


SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."



BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

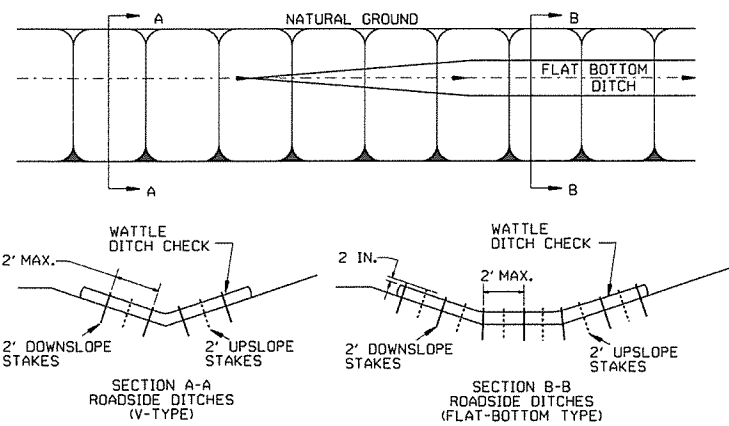
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

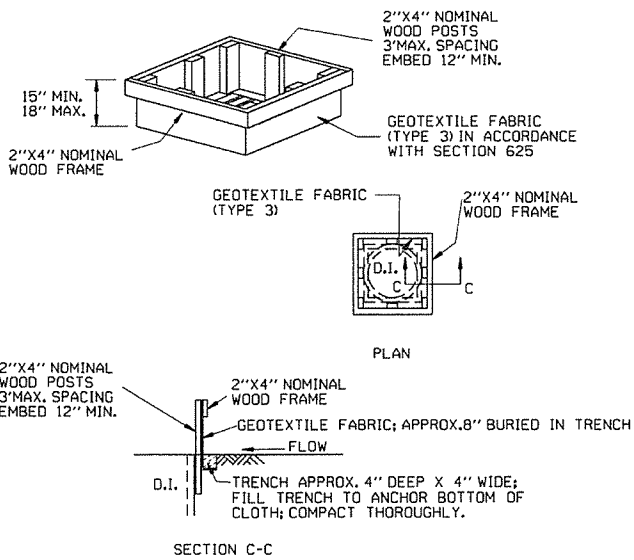
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-5

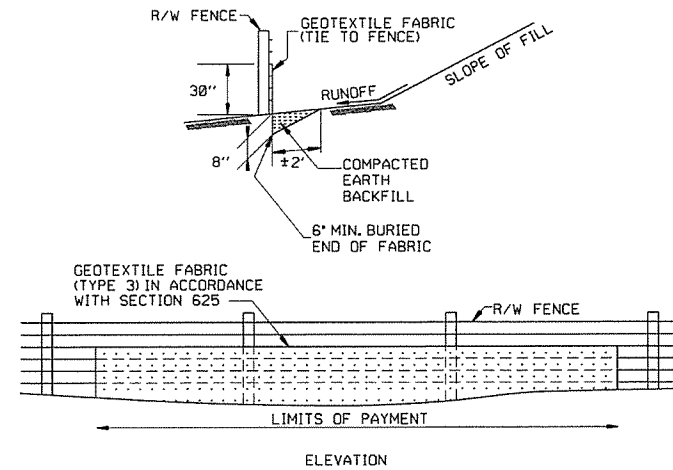
GENERAL NOTES
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



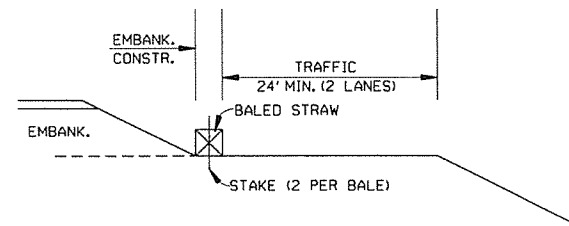
DROP INLET SILT FENCE (E-7)



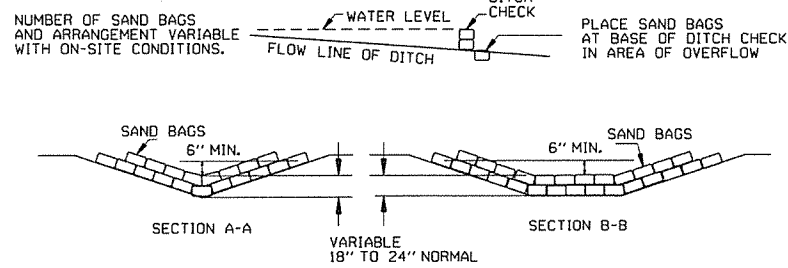
SILT FENCE ON R/W FENCE (E-4)

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.

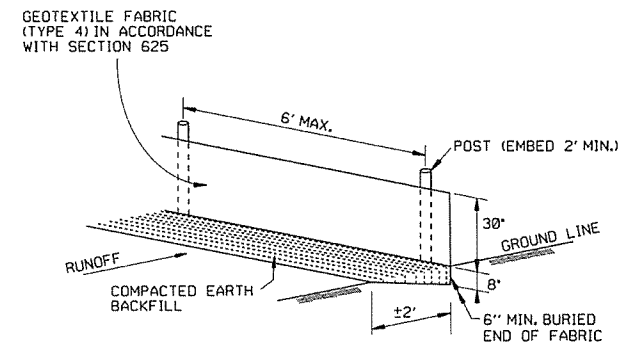
GENERAL NOTES
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL 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)

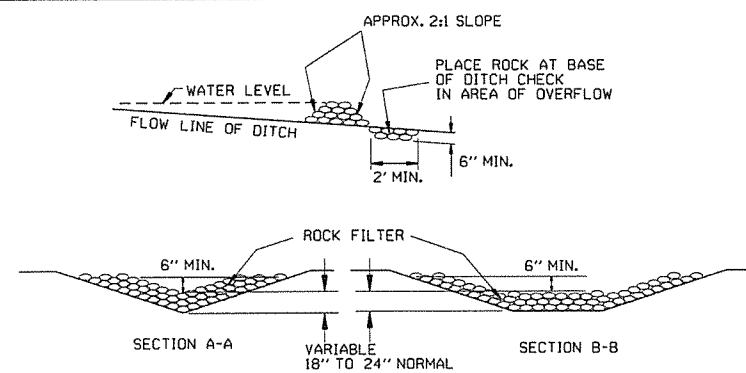


SAND BAG DITCH CHECK (E-5)



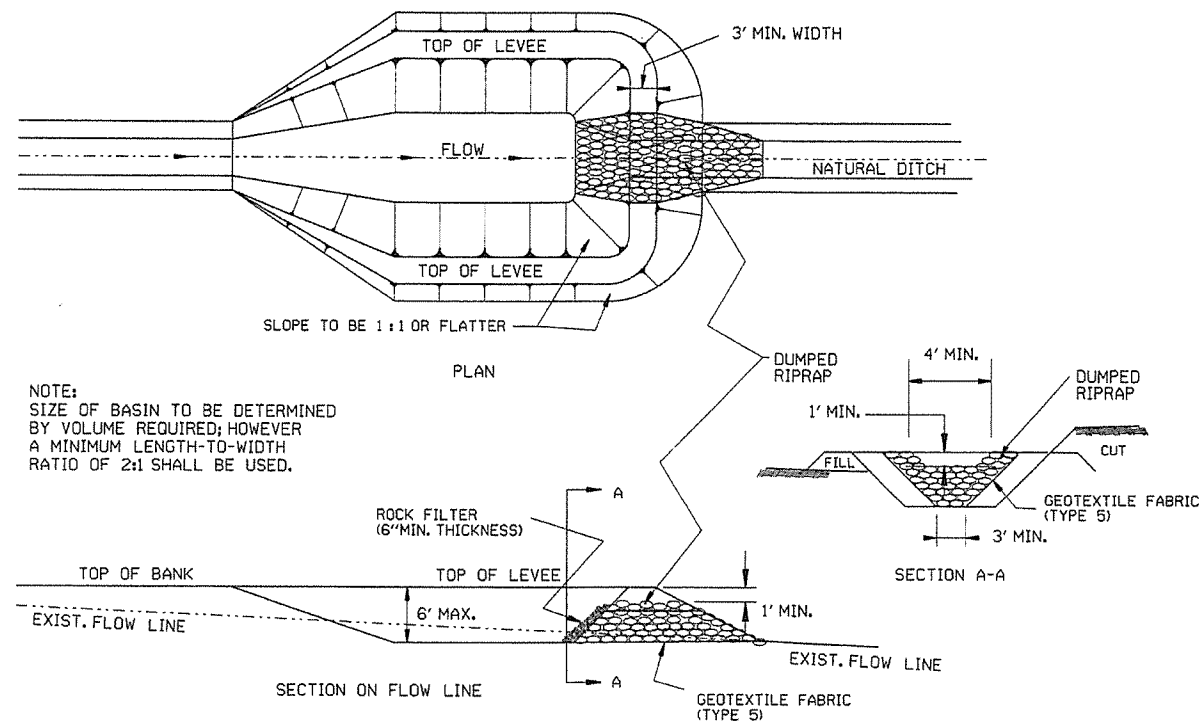
SILT FENCE (E-11)

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.



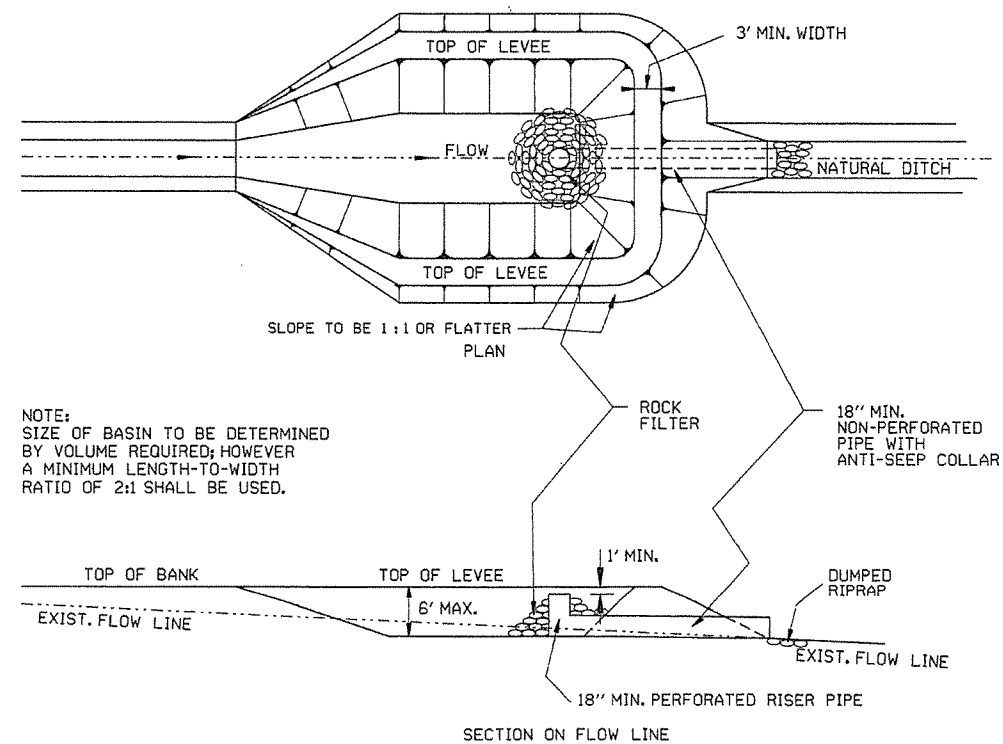
ROCK DITCH CHECK (E-6)

12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK		ARKANSAS STATE HIGHWAY COMMISSION
11-18-98	ADDED NOTES		
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)		
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95	
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC		
6-2-94	REVISED E-1, 4, 7 & 11; DELETED E-2 & 3	6-2-94	
4-1-93	REDRAWN		
10-1-92	REDRAWN		
8-2-76	ISSUED R.D.M.	298-7-28-76	
DATE	REVISION	FILMED	STANDARD DRAWING TEC-1



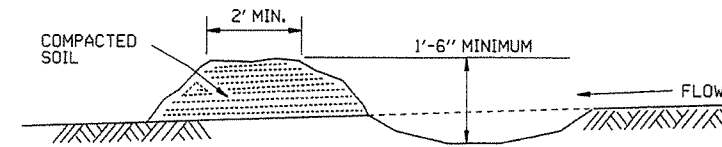
NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.

SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)

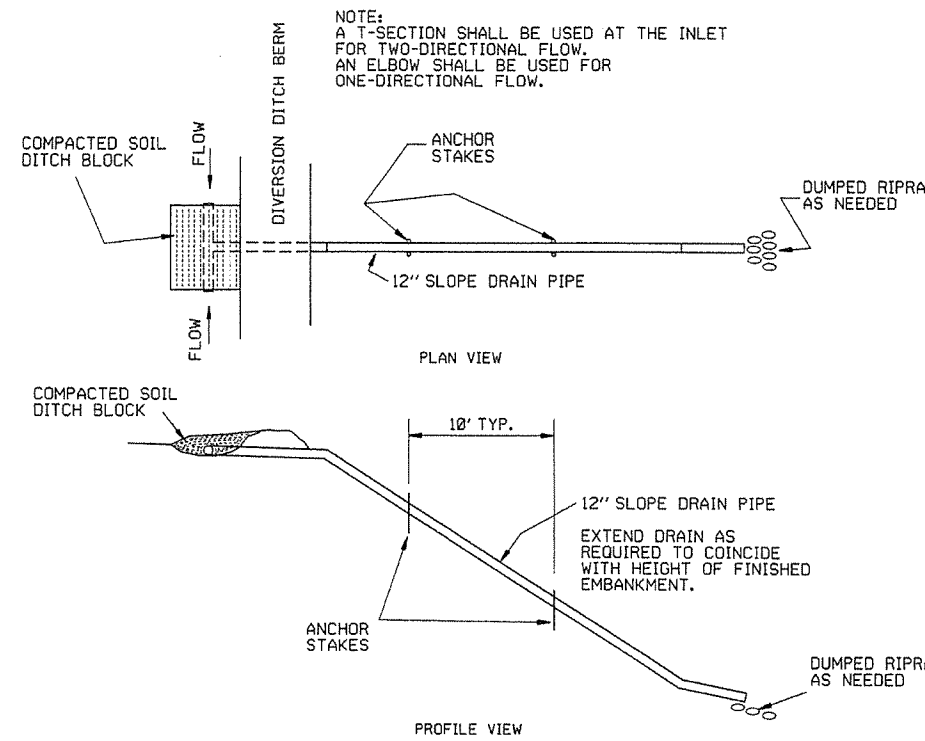


NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.

SEDIMENT BASIN WITH PIPE OUTLET (E-10)

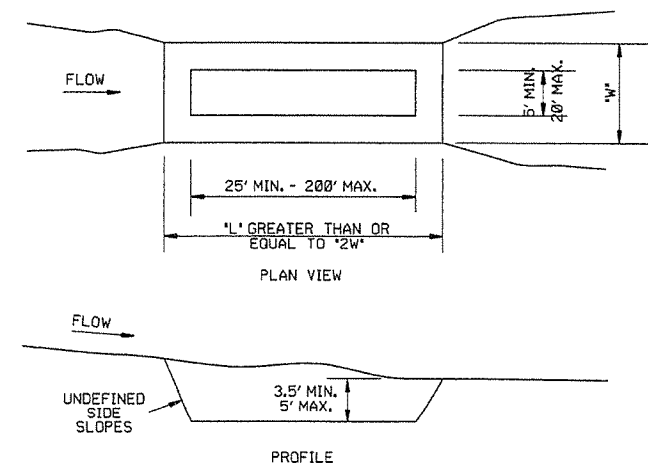


DIVERSION DITCH (E-8)



NOTE:
A T-SECTION SHALL BE USED AT THE INLET
FOR TWO-DIRECTIONAL FLOW.
AN ELBOW SHALL BE USED FOR
ONE-DIRECTIONAL FLOW.

SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

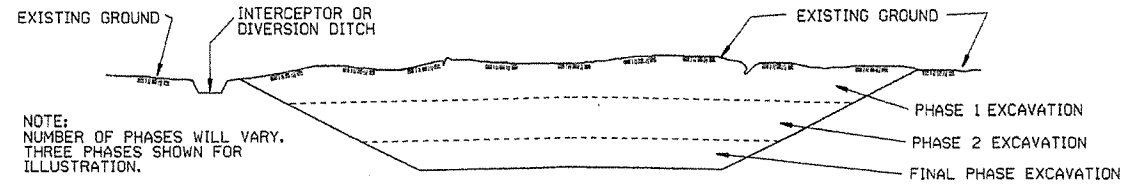
		ARKANSAS STATE HIGHWAY COMMISSION	
		TEMPORARY EROSION CONTROL DEVICES	
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		
4-1-93	ISSUED		
DATE	REVISION	FILMED	

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



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

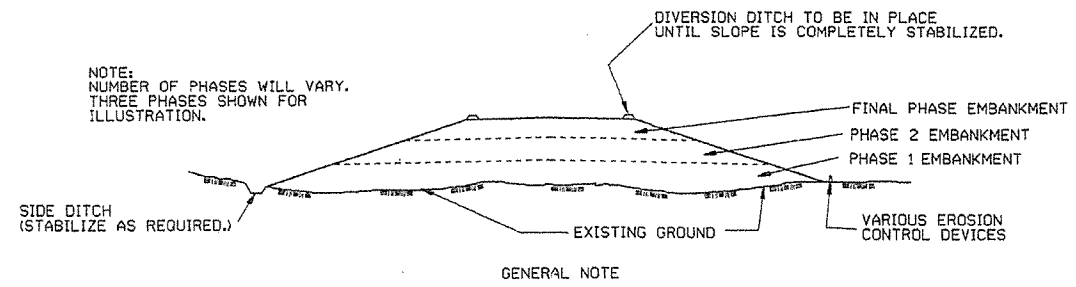
GENERAL NOTE

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



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR
ILLUSTRATION.

GENERAL NOTE

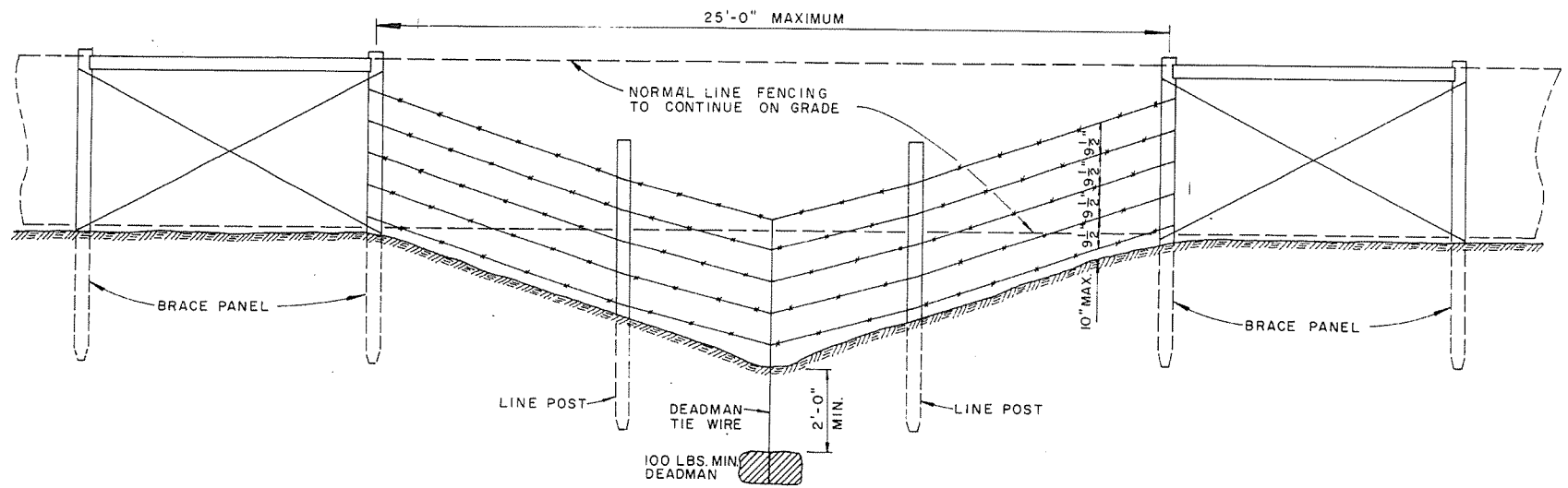
ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

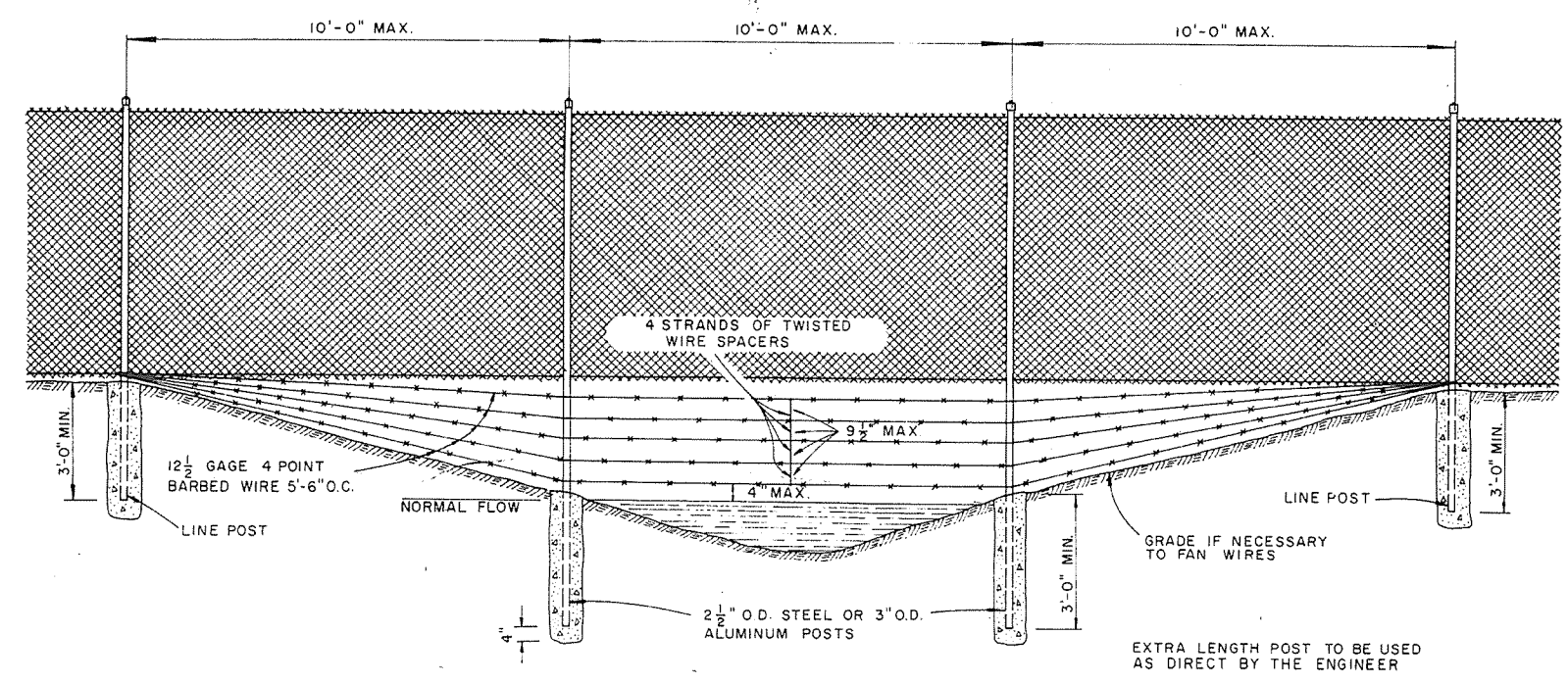
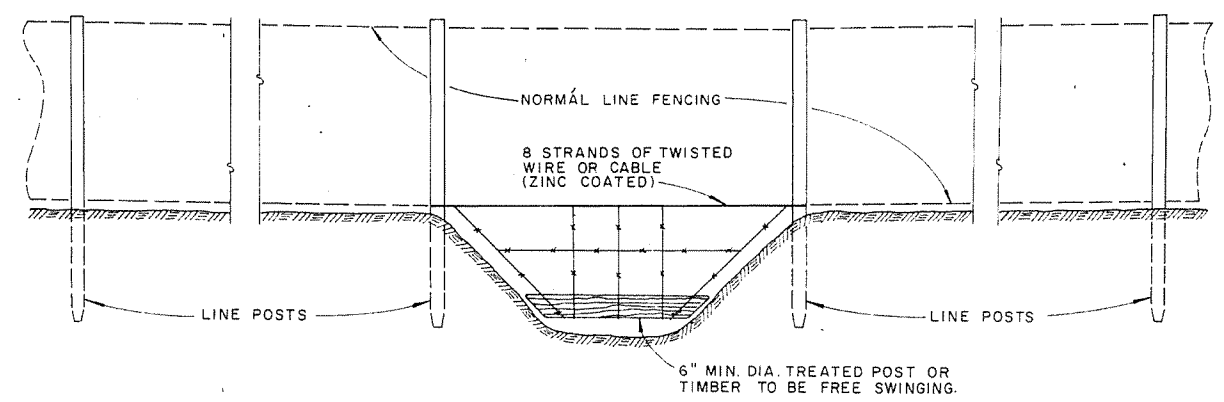
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

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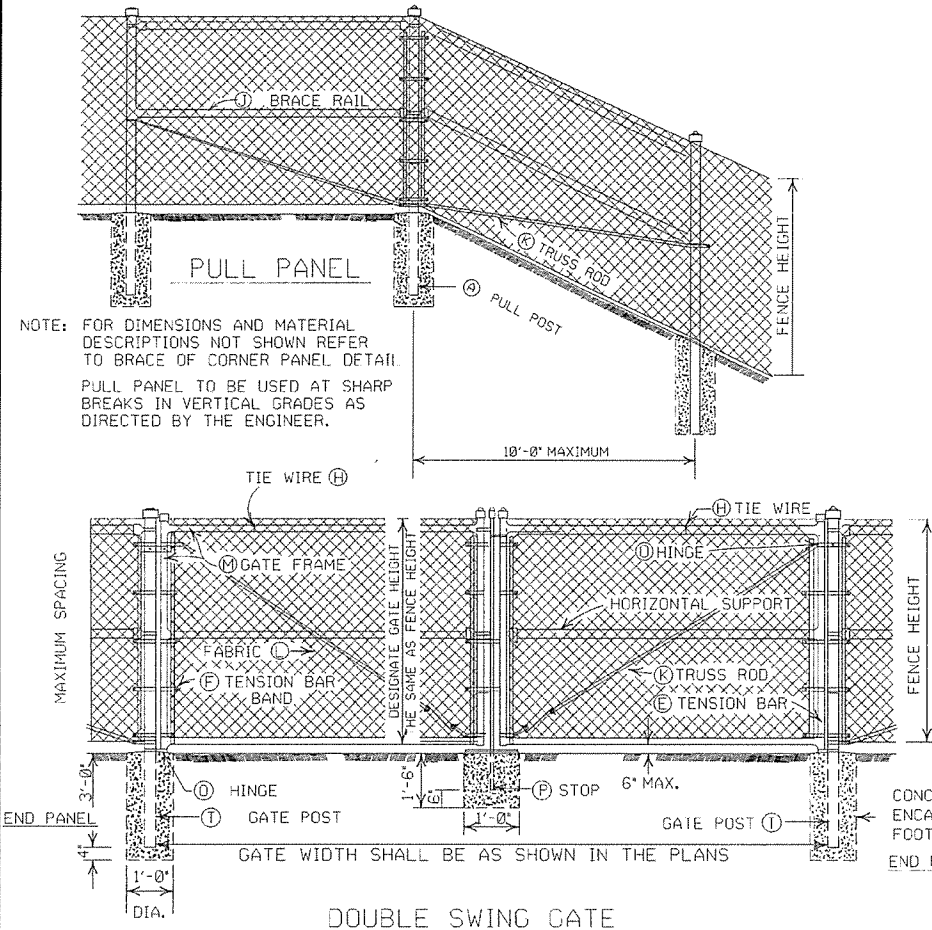
ARKANSAS STATE HIGHWAY COMMISSION		
TEMPORARY EROSION CONTROL DEVICES		
STANDARD DRAWING TEC-3		
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94
DATE	REVISION	FILMED



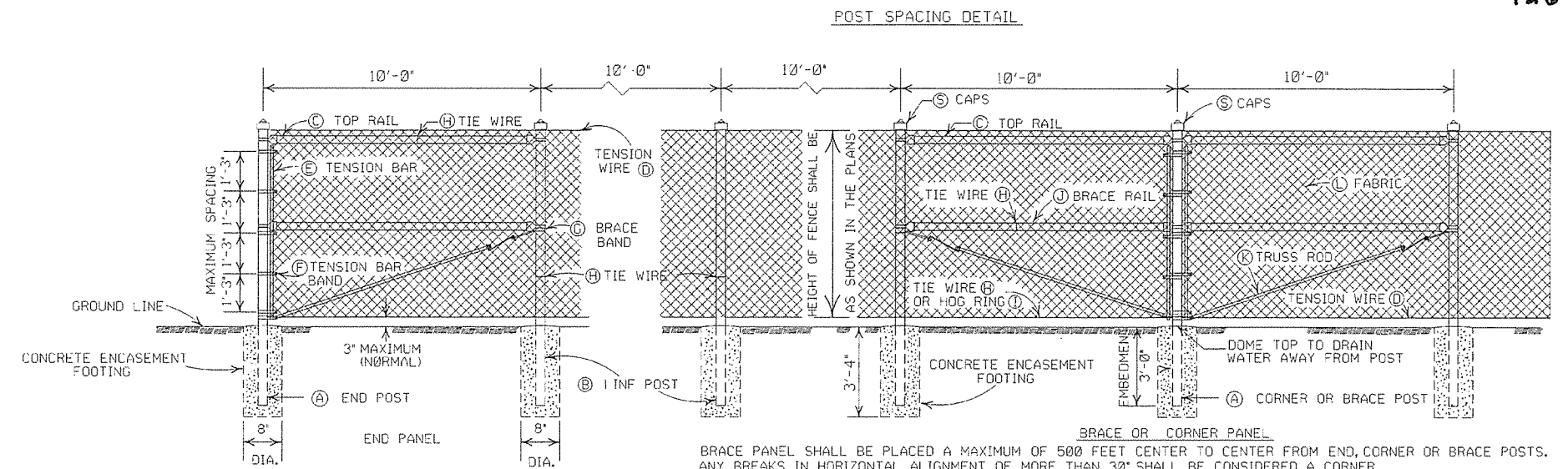
GENERAL NOTES:
 THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.
 WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, 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.



ARKANSAS STATE HIGHWAY COMMISSION		
WIRE FENCE WATER GAPS		
STANDARD DRAWING		
WF-2		
4-20-79	REVISED TOP RAIL & TENSION WIRE	676-4-20-79
10-2-72	REVISED & REDRAWN	529 10-2-72
DATE	REVISION	DATE FILMD.



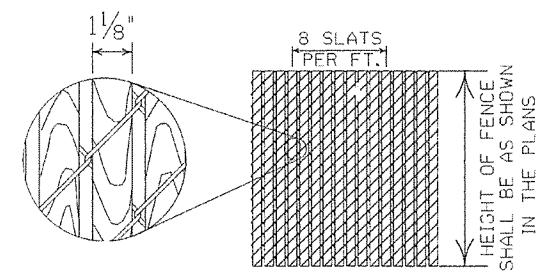
NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL. PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.



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.

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.



1 1/8" x 1/4" REDWOOD SLATS (LENGTH TO MATCH HEIGHT OF FENCE) (L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS. (WHERE APPLICABLE)

HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST		(B) LINE POSTS		(C) TOP RAIL			(D) TENSION WIRE		(E) TENSION BAR		(F) TENSION BAR BAND		(G) BRACE BAND	
	SIZE	TIE SPACING	SIZE	TIE SPACING	SIZE	TIE SPACING	MIN. LENGTH	SIZE	TIE SPACING	SIZE	LENGTH	SIZE	BOLT SIZE	SPACING	SIZE
6' AND LESS	2 1/2" O.D.	2' O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1 5/8" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	3/16" x 3/4"	MIN. OF 2" LESS THAN FABRIC HEIGHT	3/4" x 3/4"	3/8" x 1 1/2"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	3/4" x 3/4"	5/16" x 1 1/4"
OVER 6' TO 12' INCL.	3" O.D.	2 1/2" O.D.													

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL		(K) TRUSS ROD	(L) FABRIC		(M) GATE FRAME	(N) HORIZONTAL SUPPORT		(O) HINGE TYPE	(P) GATE POST		
	SIZE	TIE SPACING	SIZE	TIE SPACING	MIN. OF 3/4" ROUND WITH TIGHTENERS AND FITTINGS	SIZE	MESH SELVAGE	SIZE	TIE SPACING	SIZE	TIE SPACING	180° SWING	GATE WIDTH	GATE WIDTH OVER
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1 5/8" O.D.	1 TIE EVERY 2'-0"		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.														

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2 1/2" 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 3 1/2" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3 1/2" 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.

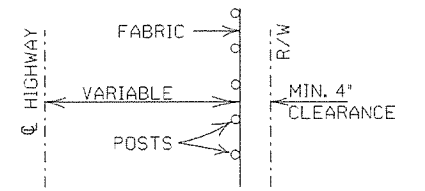
ALL MISCELLANEOUS FITTINGS AND HARDWARE SHALL MEET THE REQUIREMENTS AND PRODUCTION TOLERANCES AS SET FORTH IN THE SPECIFICATIONS. 9 GAUGE ALUMINUM WIRE SHALL BE ACCEPTABLE FOR TIEING FABRIC TO TUBULAR AND ROLL FORMED MEMBERS OF STEEL FENCE.

- (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.



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS
TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY				GRADE 2	
	O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	O.D. INCHES	LBS. PER LINEAR FT.
1 5/8"	1.660	0.140	2.27	0.786	1.660	1.84
2"	1.900	0.145	2.72	0.940	1.900	2.28
2 1/2"	2.375	0.154	3.65	1.264	2.375	3.11
3"	2.875	0.203	5.79	2.004	2.875	4.84
3 1/2"	3.500	0.216	7.56	2.621	3.500	5.71
4"	4.000	0.226	9.11	3.151	4.000	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	
5-21-07	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
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

REV. NO.	DATE	BY	CHKD.	APP.	DATE
1	1-31-63	RHS	WCH		
2	1-31-63	RHS	WCH		
3	5-29-63	RHS	WCH		

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	CLASS S CONCRETE - 4 WINGS				
		HEADWALLS	WING WALLS	FOOTINGS	TOEWALLS AND APRONS	QUANTILE
5	4	102.0	5.94	6.92	7.38	8.34
5	6	169.9	6.24	7.21	8.17	9.13
5	8	254.6	6.33	7.30	8.26	9.22
5	10	357.8	10.72	11.68	12.64	13.60
5	12	483.1	14.55	15.51	16.47	17.43
6	4	102.0	5.94	6.92	7.38	8.34
6	6	169.9	6.24	7.21	8.17	9.13
6	8	254.6	6.33	7.30	8.26	9.22
6	10	357.8	10.72	11.68	12.64	13.60
6	12	483.1	14.55	15.51	16.47	17.43

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 3/8" 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) 1200⁷/₄
 Reinforcing Steel 20,000⁷/₄

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-1	R-200X-1	R-300X-1	R-400X-1	R-500X-1
R-100X-2	R-200X-2	R-300X-2	R-400X-2	R-500X-2
	R-200X-3	R-300X-3		

CLASS S CONCRETE

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, ALL DEPTHS OF COVER

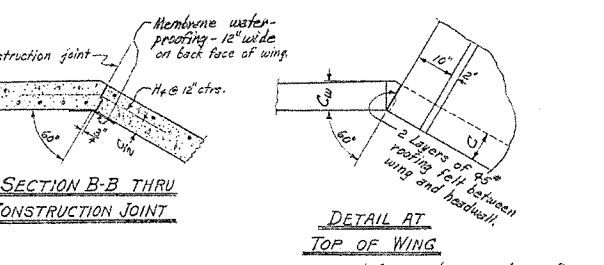
QUADRUPLES & QUINTUPLES. FOR H=8'-0" OR LESS

STANDARD DRAWING NO. W-X003-1

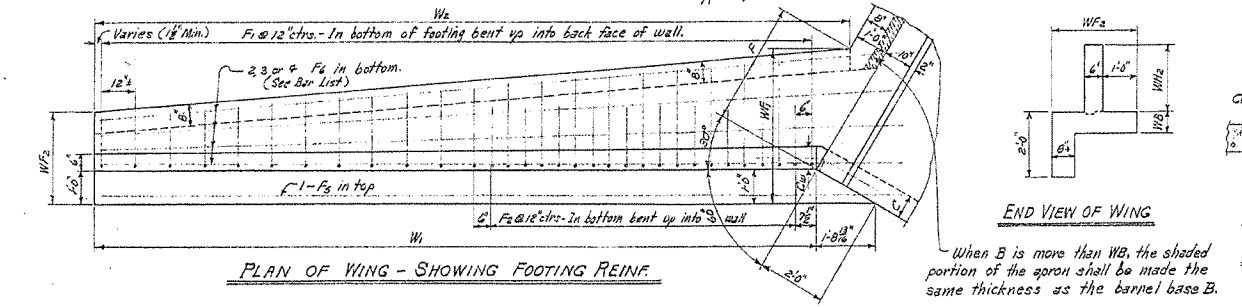
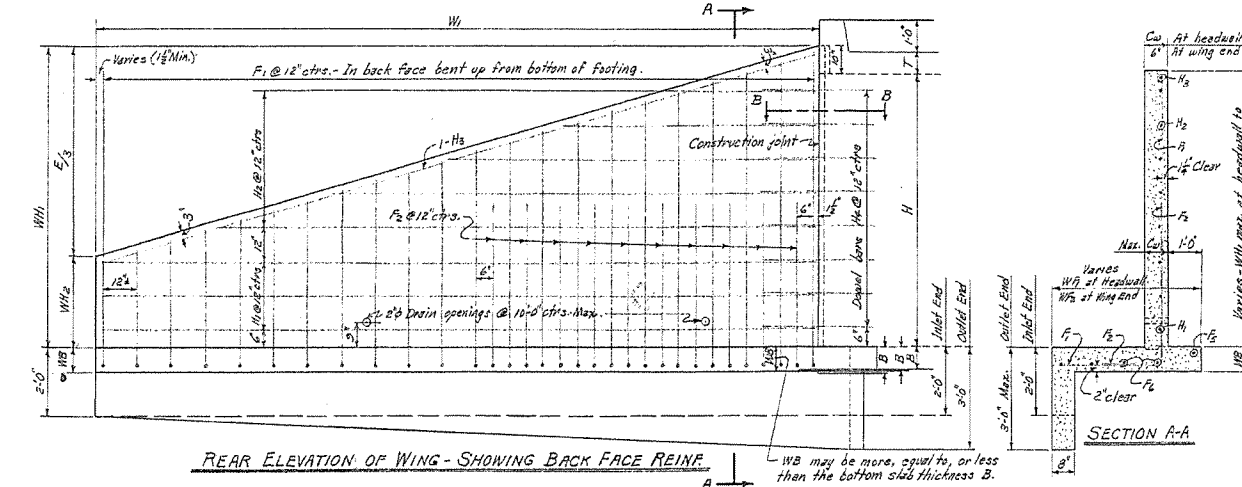
WING DIMENSIONS

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING AT HEADWALL = C	WING WALL HEIGHTS		WIDTHS OF WING FOOTINGS		PERPENDICULAR FOOTING DIMENSION		PERPENDICULAR DIST. FROM INLET TO END OF WING		LENGTH OF WING WALLS		INSIDE FOOTING DIMENSION		* QUANTITY PER WING CLASS S CONCRETE	
		AT HEADWALL	AT END OF WING	AT HEADWALL	AT END OF WING	PERPENDICULAR	PARALLEL	PERPENDICULAR	PARALLEL	PERPENDICULAR	PARALLEL	PERPENDICULAR	PARALLEL	INLET END	OUTLET END
2'	7"	6"	2'-0"	0'-8"	2'-4"	2'-0"	0'-11"	6'-6"	7'-6"	7'-1/2"	0.889	0.996			
3'	7"	6"	3'-0"	1'-0"	2'-8"	2'-4"	1'-4"	8'-6"	9'-6"	9'-7/8"	1.338	1.446			
4'	7"	6"	4'-0"	1'-4"	3'-0"	2'-3"	1'-9"	10'-6"	12'-6"	12'-1/2"	1.868	2.027			
5'	7"	6"	5'-0"	1'-8"	3'-4"	2'-4"	2'-3"	12'-6"	14'-6"	14'-7/8"	2.478	2.668			
6'	8"	7"	6'-0"	2'-0"	3'-8"	2'-6"	2'-6"	14'-6"	16'-6"	17'-1/2"	3.440	3.661			
7'	8"	7"	7'-0"	2'-4"	4'-2"	2'-7"	3'-1/4"	16'-6"	18'-6"	19'-3/8"	4.505	4.758			
8'	9"	8"	8'-0"	2'-8"	4'-8"	2'-9"	3'-3/4"	18'-6"	21'-6"	22'-4"	5.761	6.097			

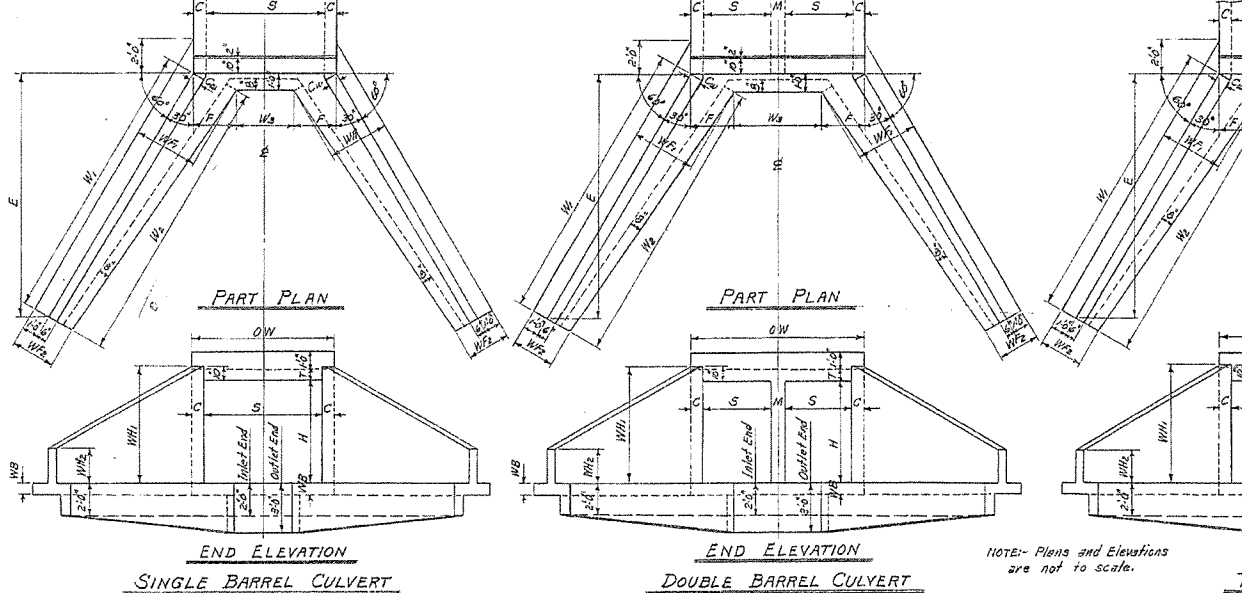
* Quantity per wing does not include headwall or that portion of apron or toewall for the length W₃.



NOTE: Payment for membrane waterproofing and roofing felt to be included in the price bid for Class S Concrete.



When B is more than W₃, the shaded portion of the apron shall be made the same thickness as the barrel base B.



NOTE: Plans and Elevations are not to scale.

BAR LIST FOR ONE WING - 4 REQUIRED

CLEAR HEIGHT	F ₁		F ₂		F ₃		F ₄		H ₁		H ₂		H ₃		H ₄		QUANTITY REINFORCING STEEL PER WING	BAR BENDING DIAGRAMS
	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING	SIZE	SPACING		
2'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	27.0	
3'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	41.1	
4'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	63.7	
5'	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	#3	12"	89.5	
6'	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	145.8	
7'	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	223.7	
8'	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	#4	12"	326.4	

NOTE: Dimensions are to bar centers.

REVISIONS: - Membrane added, 5-10-66 M.C.H.

Designed By: M.C.H. 6-20-62. Checked By: RHS - 1-9-63

Drawn By: W.C.H. 12-4-62. Checked By: RHS - 1-31-63

Quantity By: M.C.H. 12-14-62. Checked By: RHS - 5-29-63

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			129	
JOB No.					

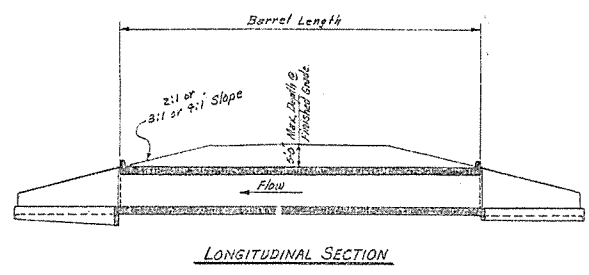
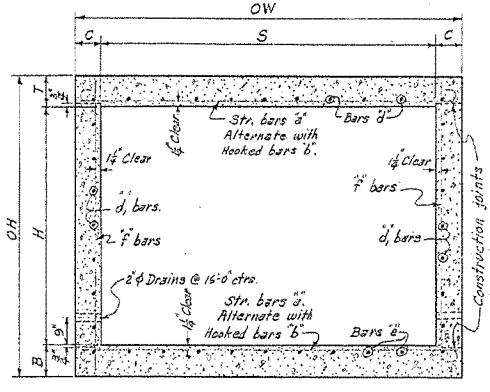
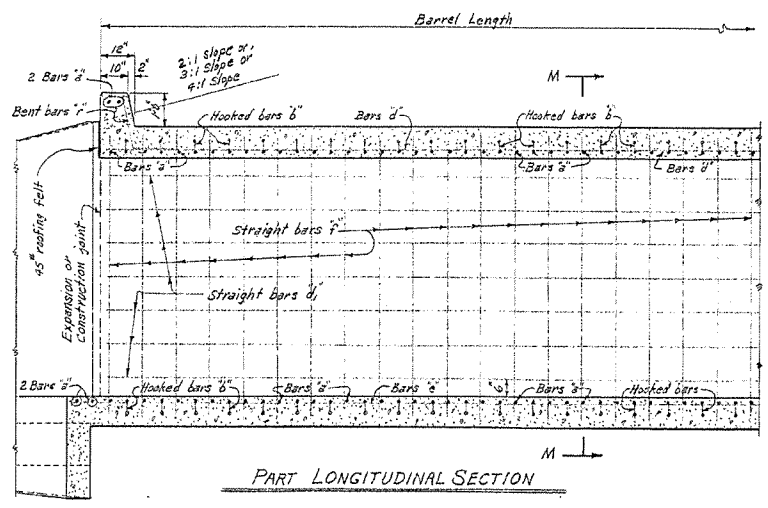
BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	BAR LIST																				
			a bars			b bars			c bars			d bars			e bars			f bars					
			STRAIGHT	BENT - See Diagram below		STRAIGHT		STRAIGHT		STRAIGHT		STRAIGHT		STRAIGHT		STRAIGHT		STRAIGHT					
D	S	H	SIZE	SPACING	NUMBER REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D	LENGTH	X	SIZE	SPACING	NUMBER REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D	LENGTH	SIZE	SPACING	NUMBER REQ'D	LENGTH

DIMENSIONS QUANTITIES

MAX. DESIGN DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	DIMENSIONS												QUANTITIES					
			BARREL DIMENSIONS						UNIT QUANTITIES						REINFORCING STEEL		ADDITIONAL			
			D <th>S <th>H <th>A <th>OW <th>T <th>C <th>B <th>OH <th>CUYD <th>LB. <th>LB. <th>LB. <th>LB. </th></th></th></th></th></th></th></th></th></th></th></th></th>	S <th>H <th>A <th>OW <th>T <th>C <th>B <th>OH <th>CUYD <th>LB. <th>LB. <th>LB. <th>LB. </th></th></th></th></th></th></th></th></th></th></th></th>	H <th>A <th>OW <th>T <th>C <th>B <th>OH <th>CUYD <th>LB. <th>LB. <th>LB. <th>LB. </th></th></th></th></th></th></th></th></th></th></th>	A <th>OW <th>T <th>C <th>B <th>OH <th>CUYD <th>LB. <th>LB. <th>LB. <th>LB. </th></th></th></th></th></th></th></th></th></th>	OW <th>T <th>C <th>B <th>OH <th>CUYD <th>LB. <th>LB. <th>LB. <th>LB. </th></th></th></th></th></th></th></th></th>	T <th>C <th>B <th>OH <th>CUYD <th>LB. <th>LB. <th>LB. <th>LB. </th></th></th></th></th></th></th></th>	C <th>B <th>OH <th>CUYD <th>LB. <th>LB. <th>LB. <th>LB. </th></th></th></th></th></th></th>	B <th>OH <th>CUYD <th>LB. <th>LB. <th>LB. <th>LB. </th></th></th></th></th></th>	OH <th>CUYD <th>LB. <th>LB. <th>LB. <th>LB. </th></th></th></th></th>	CUYD <th>LB. <th>LB. <th>LB. <th>LB. </th></th></th></th>	LB. <th>LB. <th>LB. <th>LB. </th></th></th>	LB. <th>LB. <th>LB. </th></th>	LB. <th>LB. </th>	LB.				
D	S	H	A	OW	T	C	B	OH	CUYD	LB.	LB.	LB.	LB.							

Notes for details of wings and bar lists, see Drawing Nos. W-X003-1, W-X003-2, W-X004-1, or W-X004-2.



GENERAL NOTES:-
 CONCRETE:- All concrete to be Class S, and shall be poured in the dry.
 All exposed corners to have 3/8" 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' length of barrel over 32'. 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.

DESIGN LIVE LOAD
 H20-S16 LOADING A.A.S.H.O. 1961
 AND
 SPECIAL MILITARY LOADING
 Two 20,000 Lb. Axles @ 9'-0" ctrs.

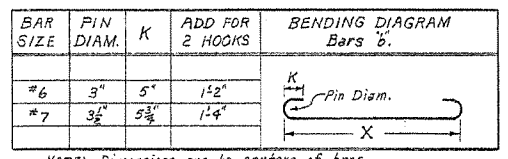
UNIT STRESSES:-
 Class S Concrete (n=10) 1200^{psi}/_f
 Reinforcing Steel 20,000^{psi}/_f

Notes:- 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 No. W-X002-1 or W-X002-2.

CLASS S CONCRETE

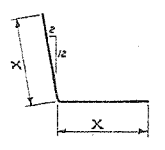
ARKANSAS STATE HIGHWAY COMMISSION
 DETAILS OF STANDARD BARREL SECTIONS
 FOR
 REINFORCED CONCRETE BOX CULVERTS
 4, 5, 6, 7, 8, 9, 10, 11 & 12 SPANS 3:1 OR 4:1 SLOPES
 SINGLES UNDER 5'-0" COVER
 STANDARD DRAWING NO. R-100X-0

Designed By: W.C.H. 1-23-63. Checked By: ZMS-5-8-63.
 Drawn By: W.C.H. 2-8-63. Checked By: ZMS-5-27-63.
 Quantities By: W.C.H. 2-12-63. Checked By: ZMS-5-27-63.



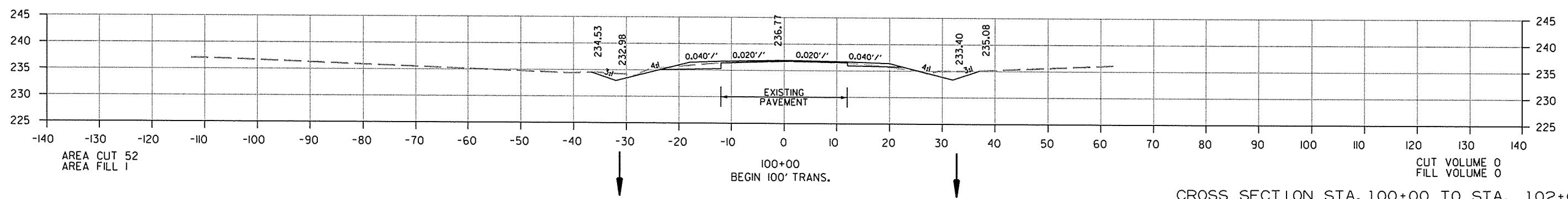
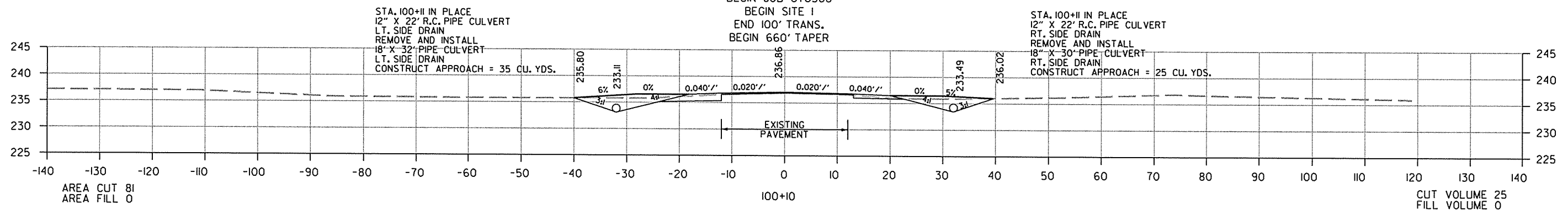
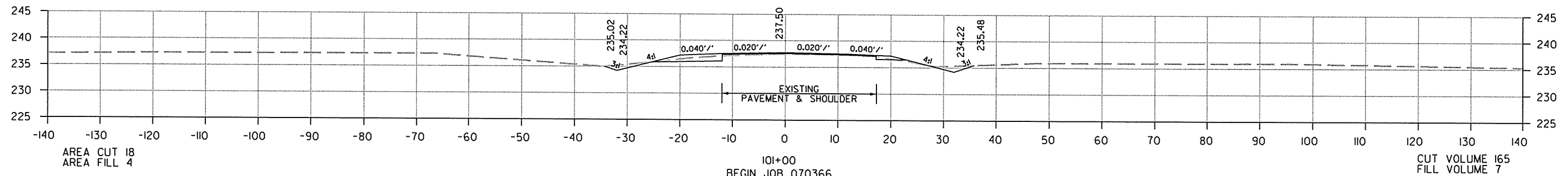
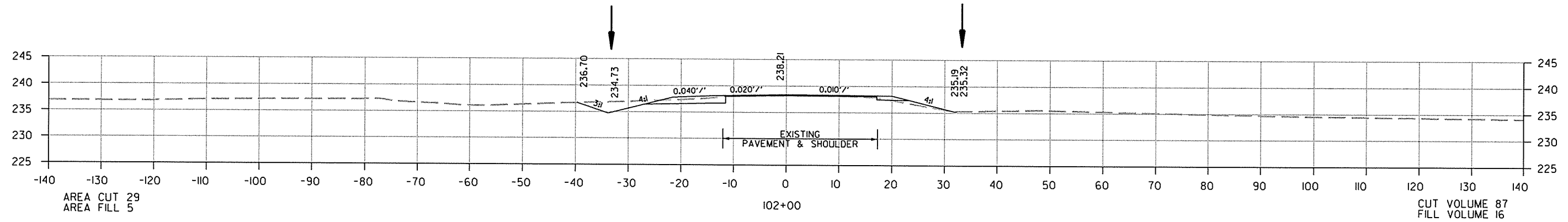
DOWEL BARS FOR TWO HEADWALLS

SPAN	SIZE	SPACING	NUMBER	LENGTH	X
4'	#4	11"	12	2'-0"	1'-3"
5'	#4	11"	14	2'-7"	1'-3 1/2"
6'	#4	11"	16	2'-8"	1'-4"
7'	#4	11 1/2"	18	2'-9"	1'-4 1/2"
8'	#4	11 1/2"	20	2'-11"	1'-5 1/2"
9'	#4	11 1/2"	22	3'-0"	1'-6"
10'	#4	11 1/2"	24	3'-1"	1'-6 1/2"
11'	#4	12"	26	3'-2"	1'-7"
12'	#4	12"	28	3'-3"	1'-7 1/2"



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	130	237

② CROSS SECTIONS - SITE I

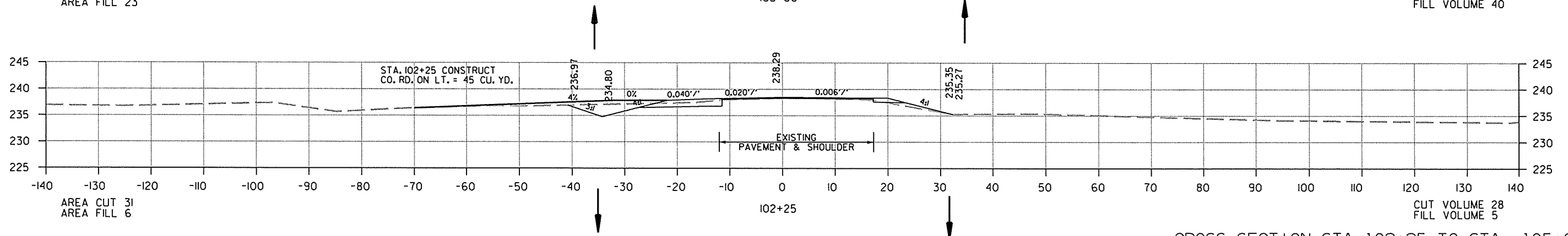
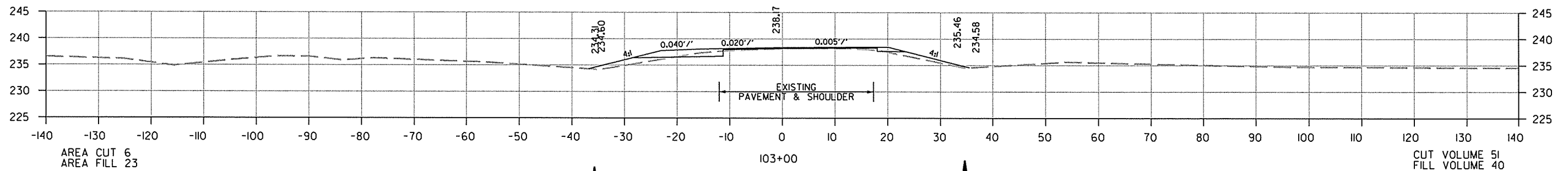
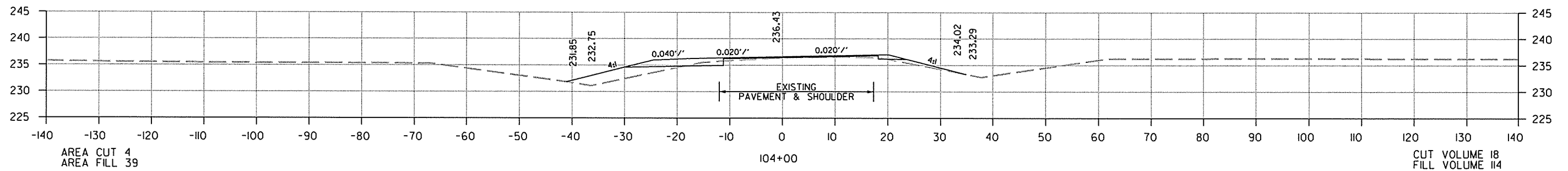
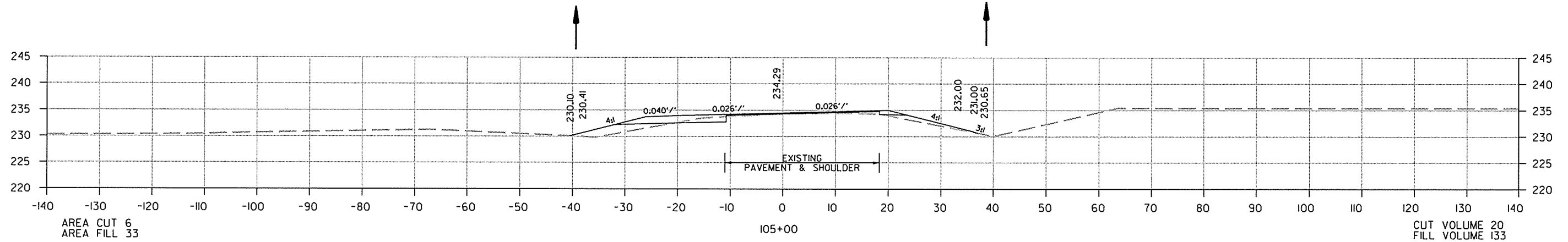


CROSS SECTION STA. 100+00 TO STA. 102+00

10/25/2013 R070366.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. 070366							131	237

2 CROSS SECTIONS - SITE I



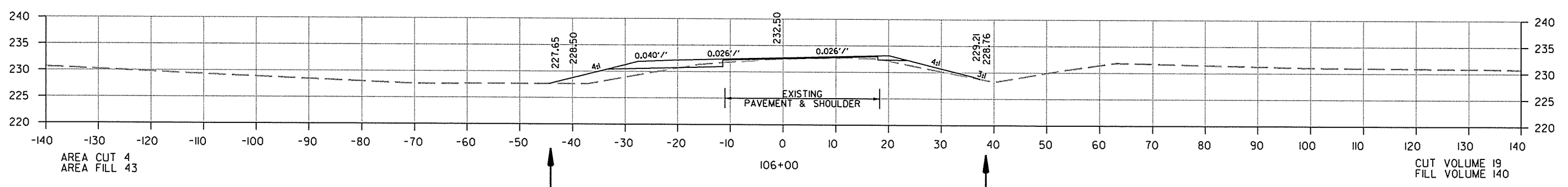
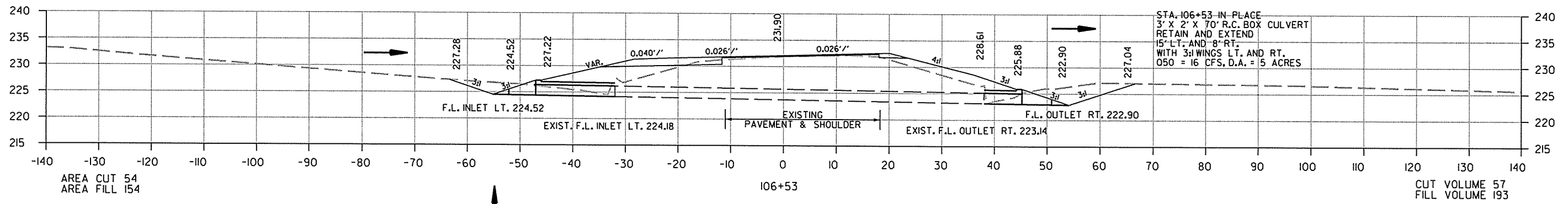
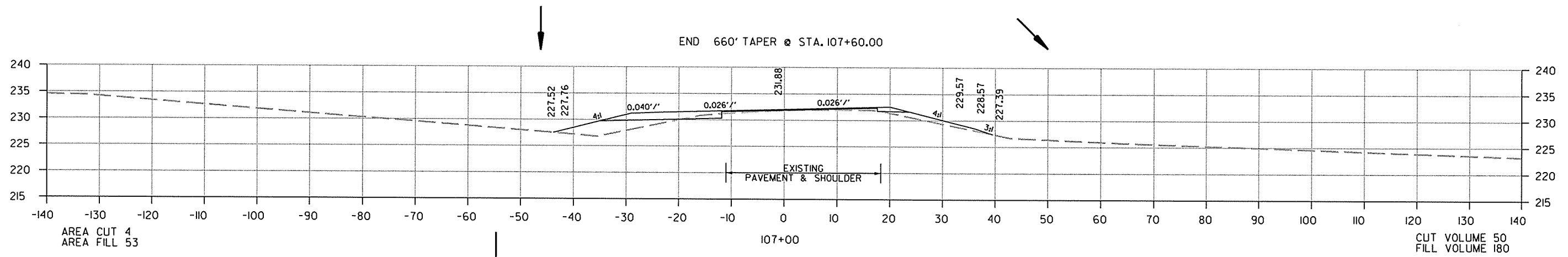
CROSS SECTION STA. 102+25 TO STA. 105+00

10/25/2013

R070366.DCN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366						132	237	

② CROSS SECTIONS - SITE 1

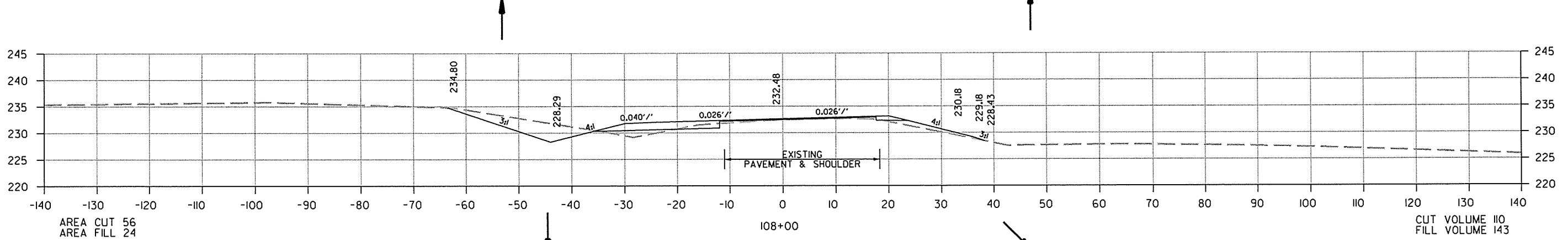
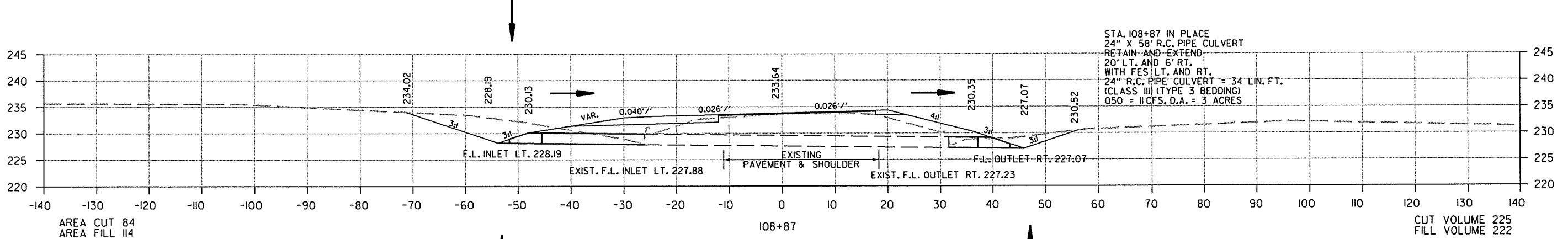
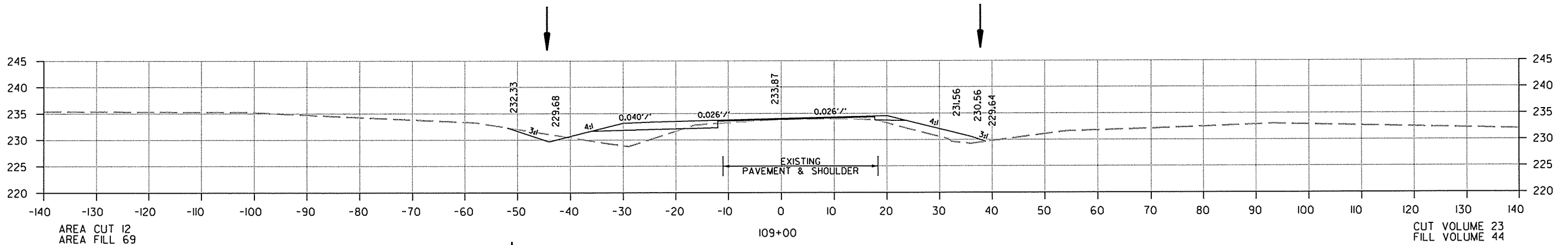


CROSS SECTION STA. 106+00 TO STA. 107+00

10/25/2013
R070366.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.	070366		133	237

② CROSS SECTIONS - SITE I

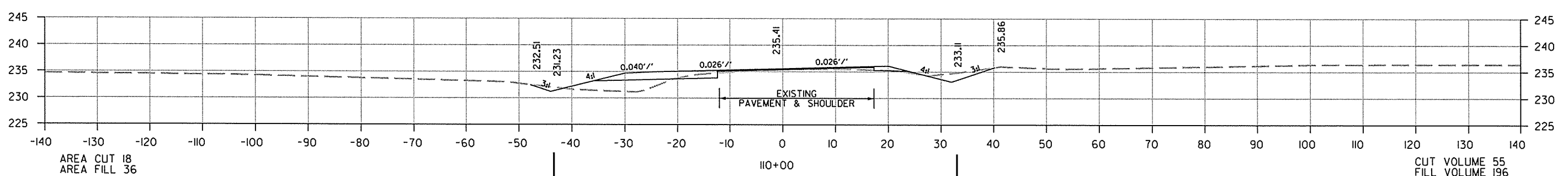
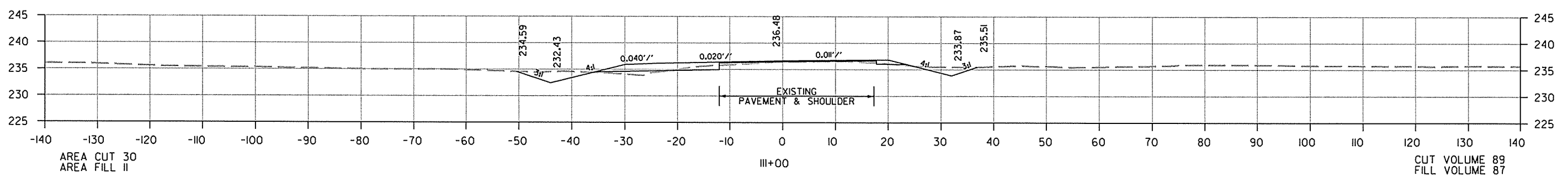
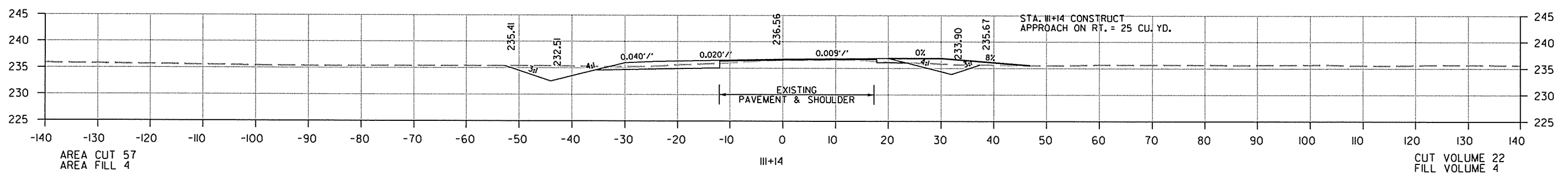
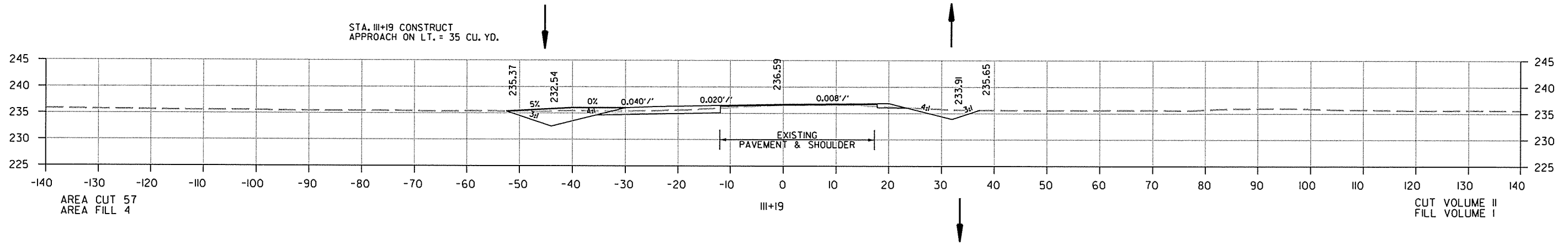


CROSS SECTION STA. 108+00 TO STA. 109+00

10/25/2013
R070366.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. 070366	134	237

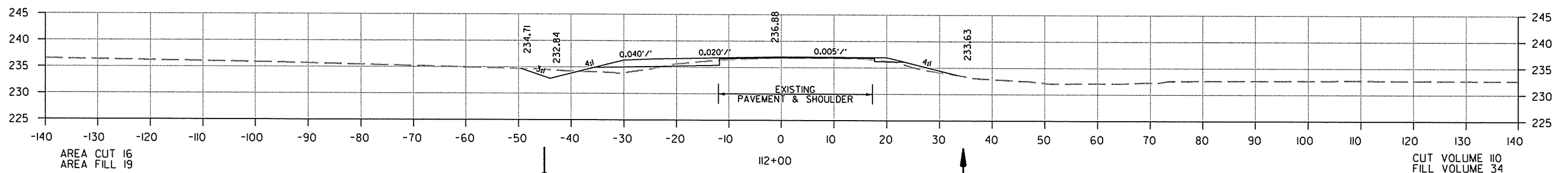
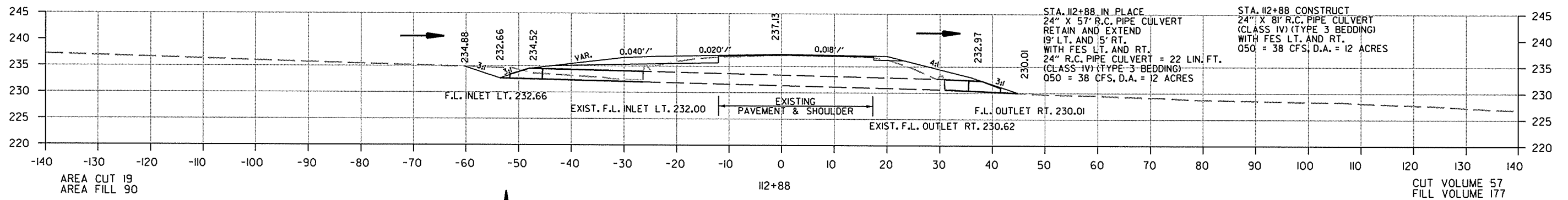
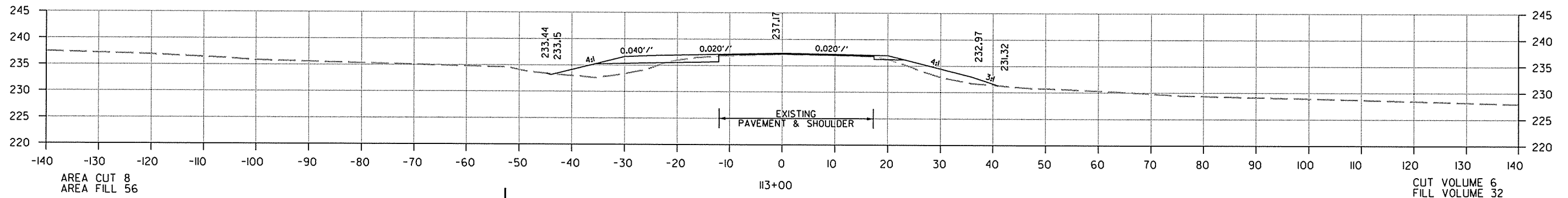
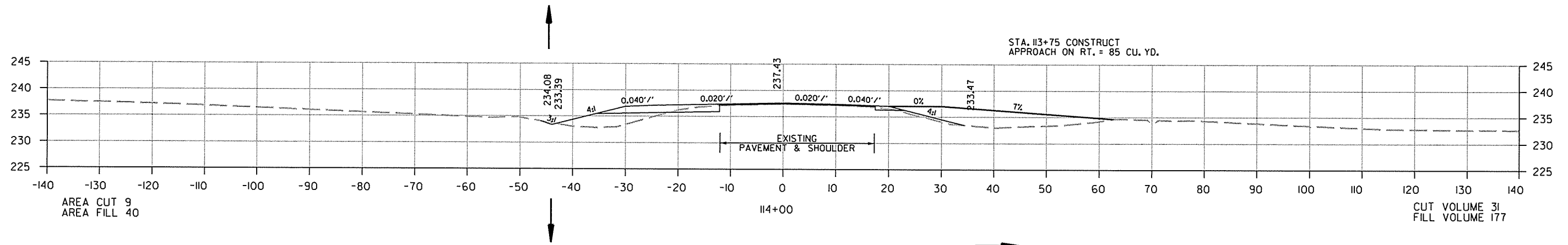
② CROSS SECTIONS - SITE I



CROSS SECTION STA. 110+00 TO STA. 111+19

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		135	237

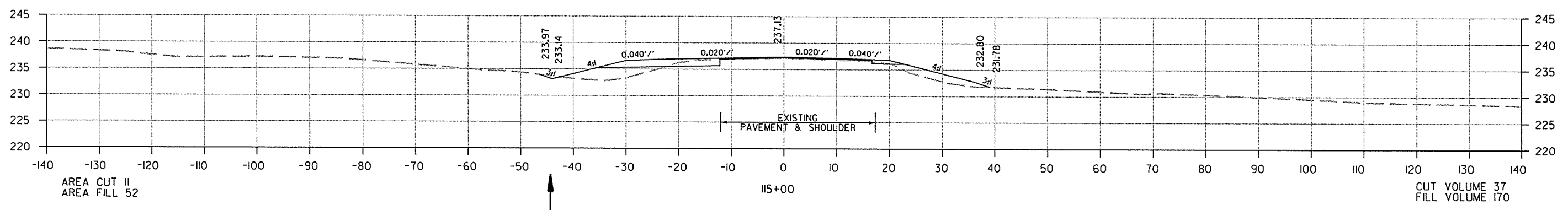
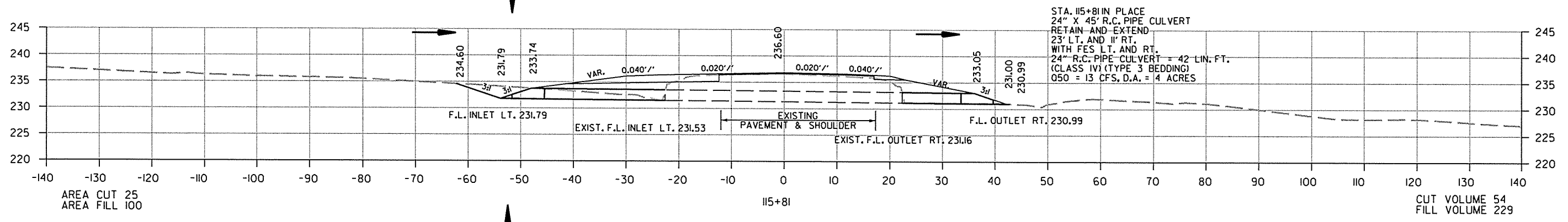
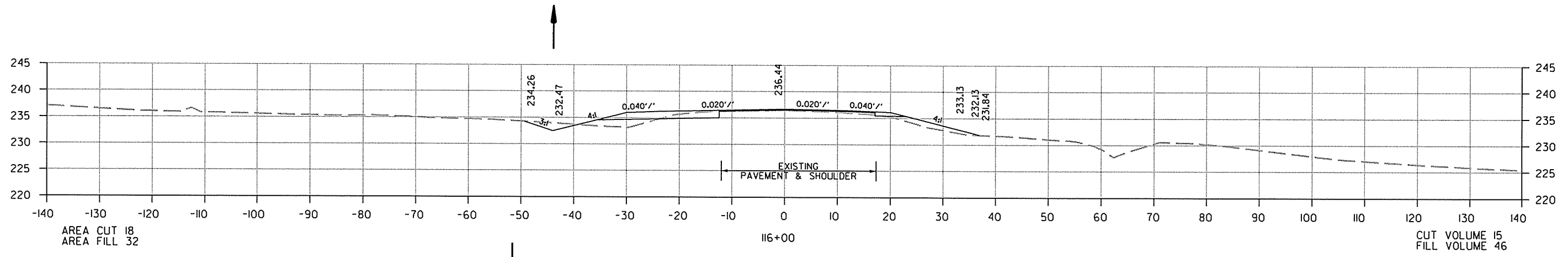
② CROSS SECTIONS - SITE 1



CROSS SECTION STA. 112+00 TO STA. 114+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		136	237

② CROSS SECTIONS - SITE 1

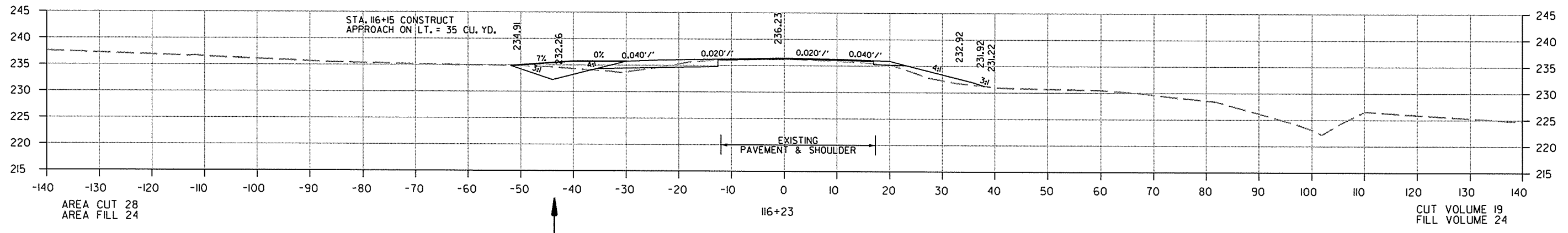
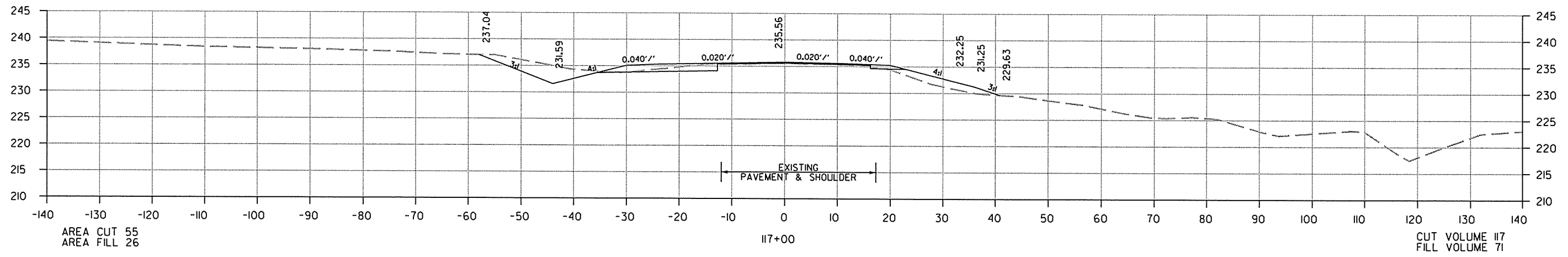
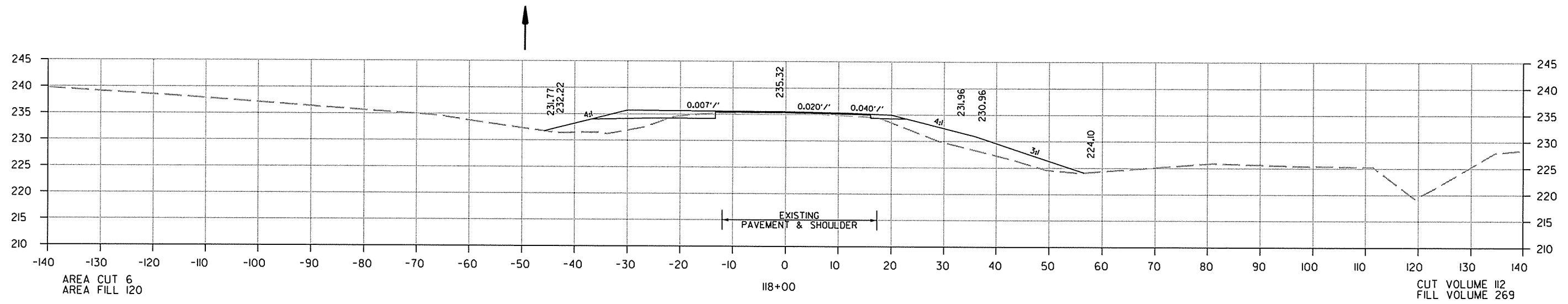


CROSS SECTION STA. 115+00 TO STA. 116+00

10/25/2013 R070366.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.						070366	137	237

2 CROSS SECTIONS - SITE I

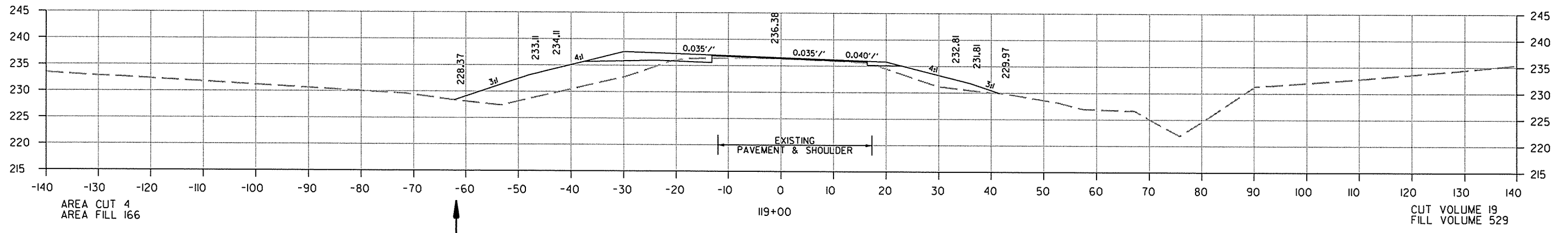
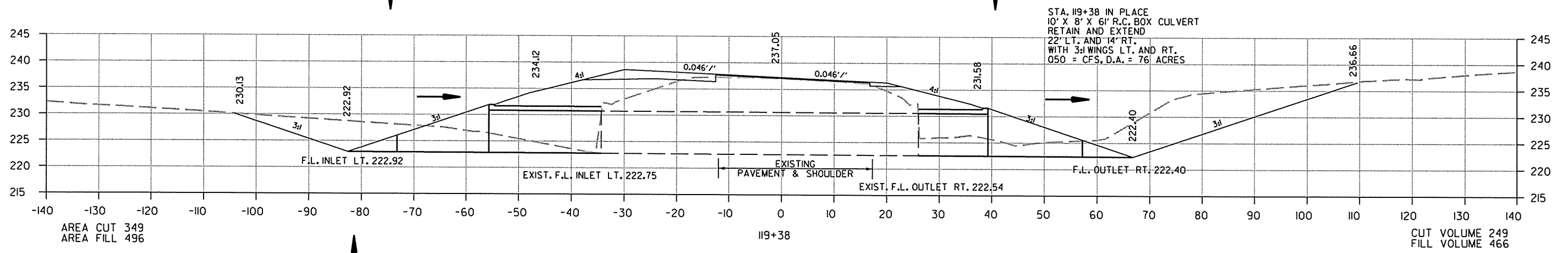
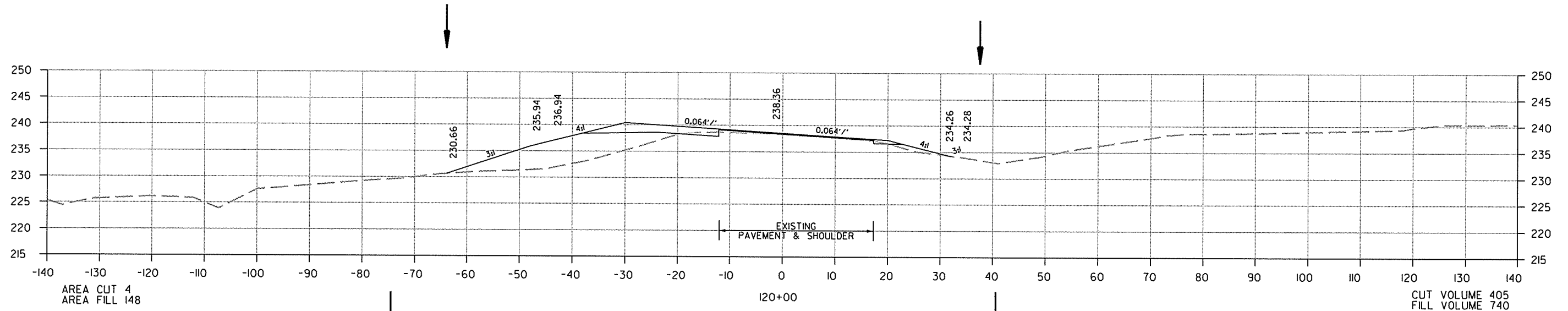


CROSS SECTION STA. 116+23 TO STA. 118+00

10/25/2013 R070366.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.						070366	138	237

② CROSS SECTIONS - SITE 1



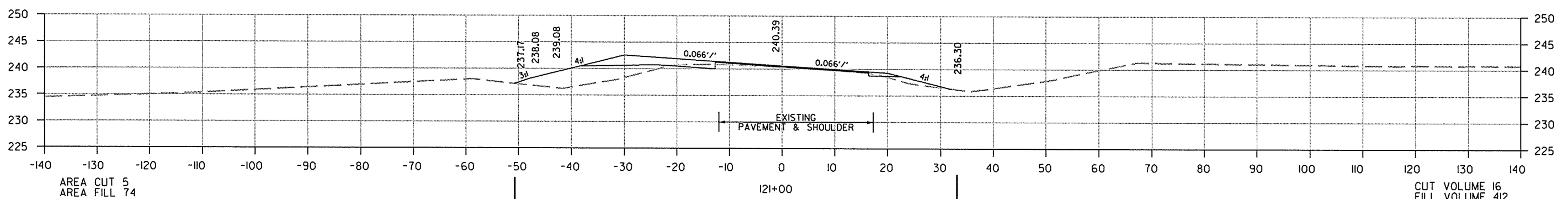
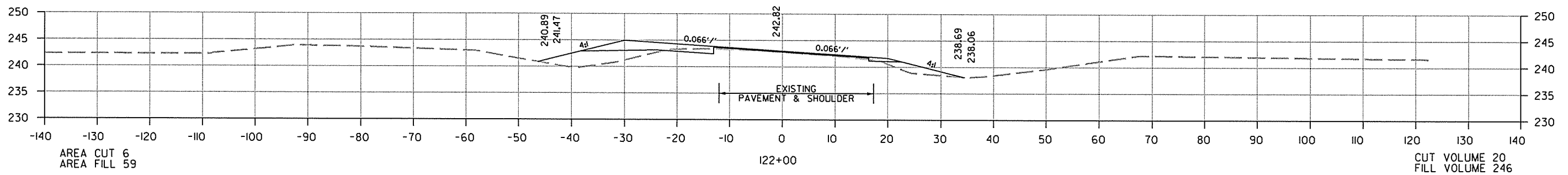
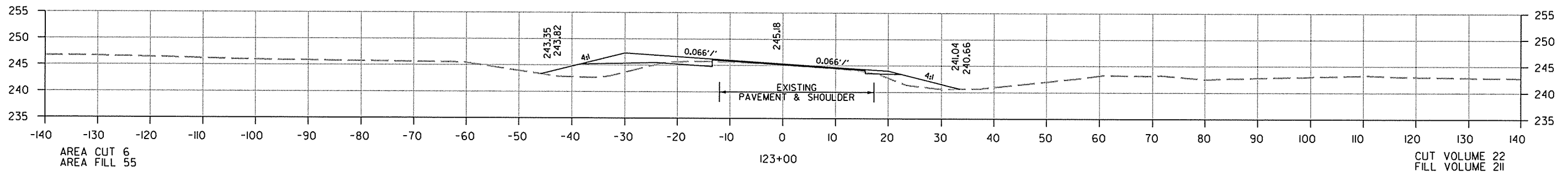
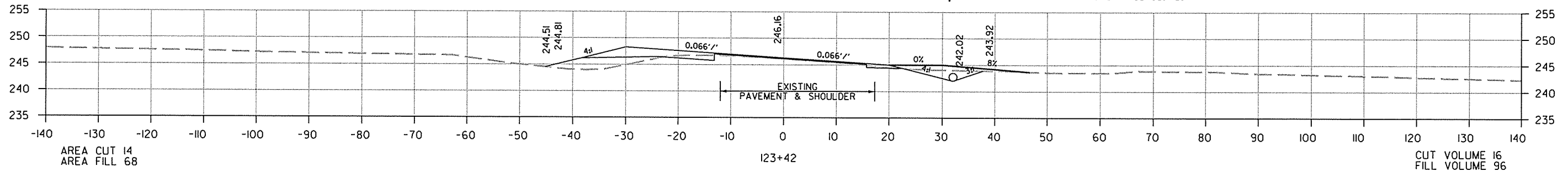
CROSS SECTION STA. 119+00 TO STA. 120+00

10/25/2013 R070366.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.	070366		139	237

② CROSS SECTIONS - SITE 1

STA. 123+42 IN PLACE
 24" X 26' R.C. PIPE CULVERT
 RT. SIDE DRAIN
 REMOVE AND INSTALL
 24" X 28' PIPE CULVERT
 RT. SIDE DRAIN
 CONSTRUCT APPROACH = 55 CU. YD.

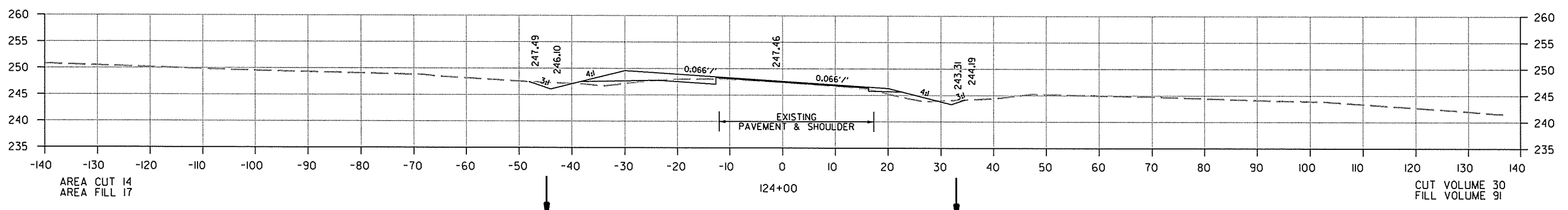
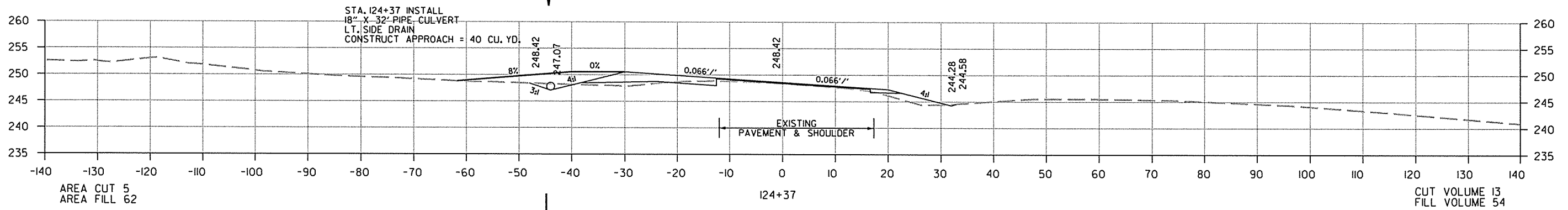
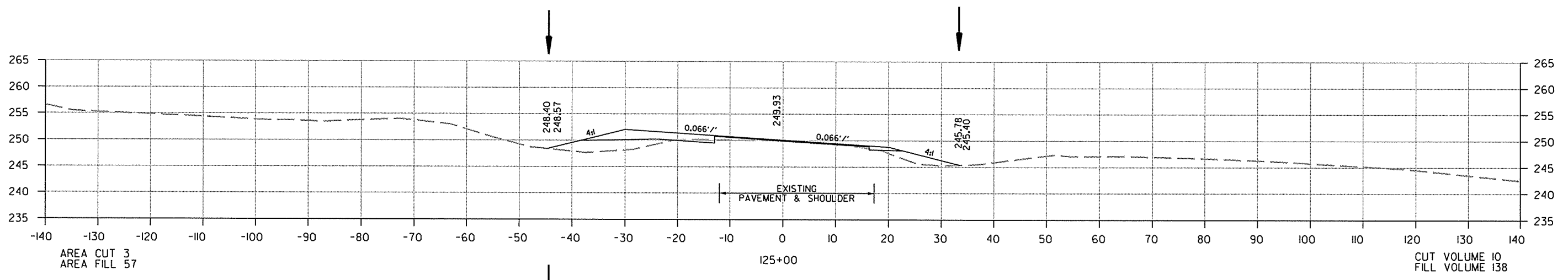


CROSS SECTION STA. 121+00 TO STA. 123+42

10/25/2013
R070366.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. 070366	140	237

② CROSS SECTIONS - SITE I

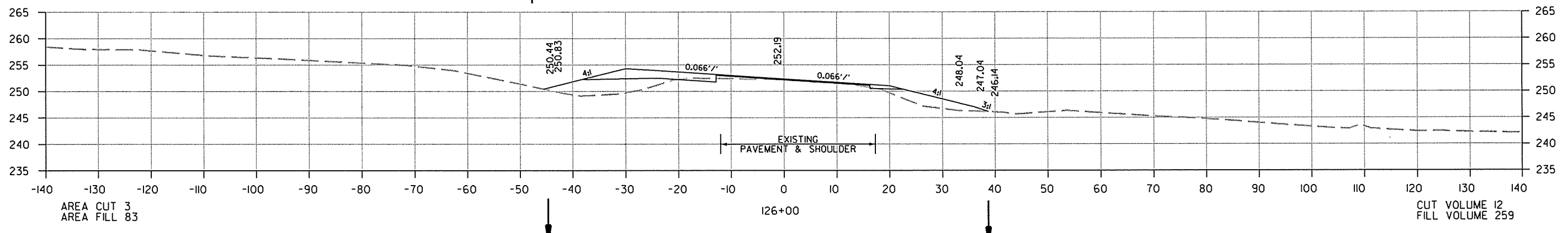
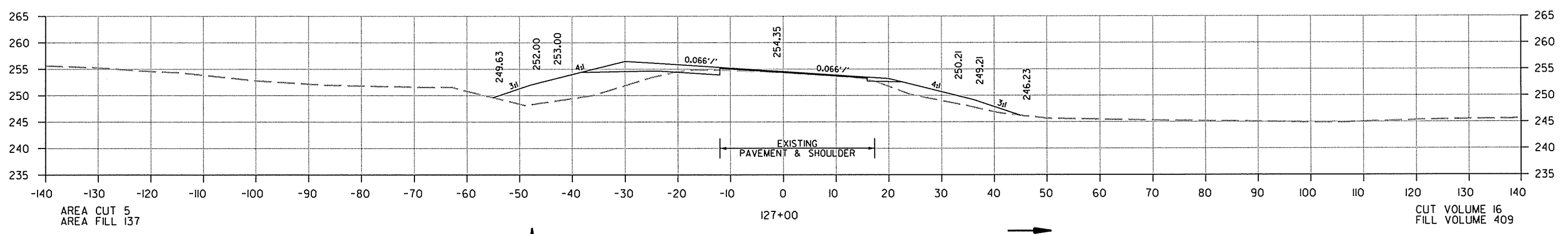
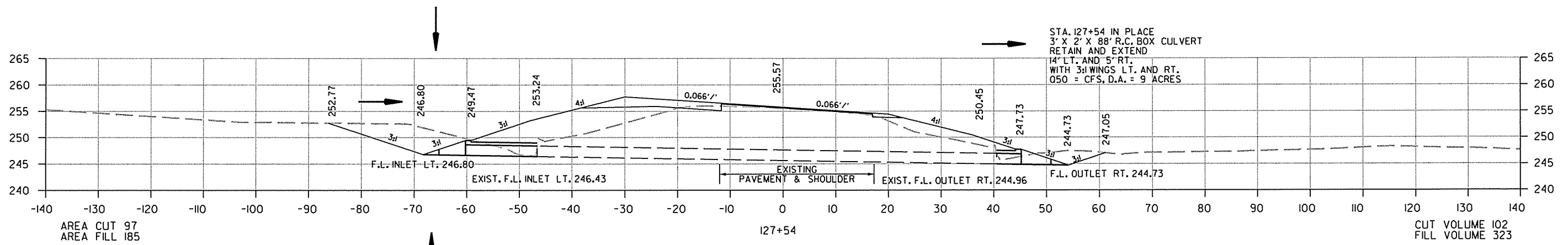


CROSS SECTION STA. 124+00 TO STA. 125+00

10/25/2013 R070366.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. 070366	141	237

2 CROSS SECTIONS - SITE I

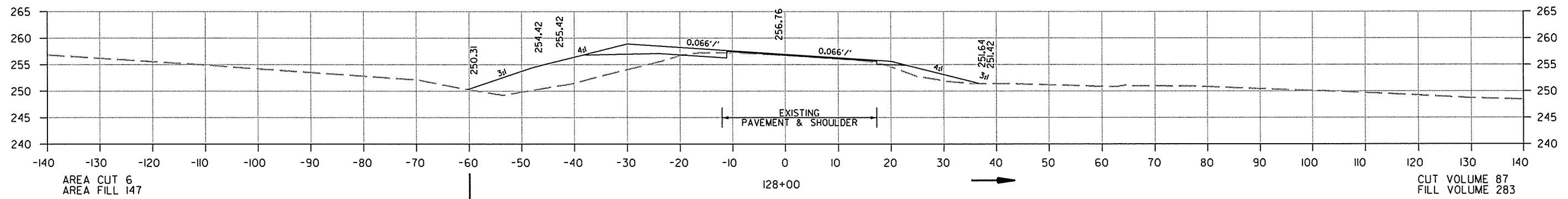
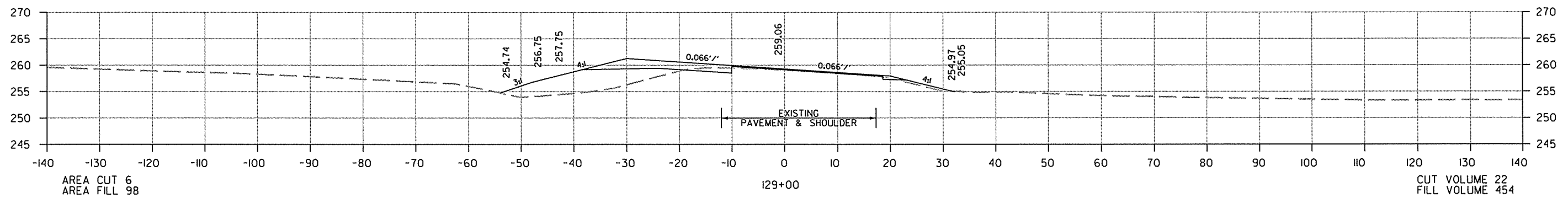
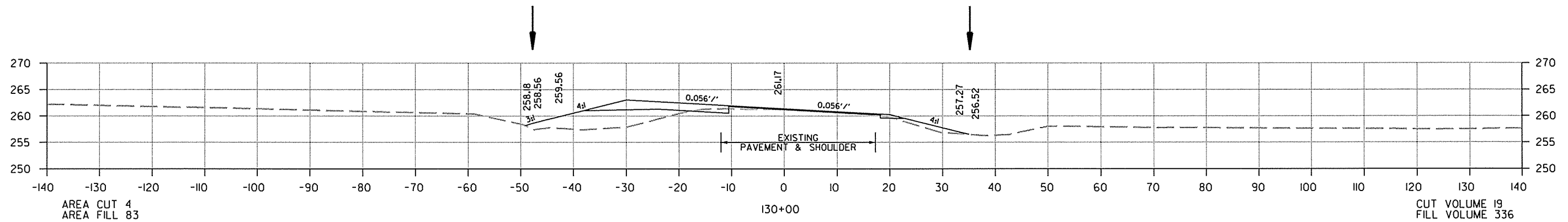


CROSS SECTION STA. 126+00 TO STA. 127+54

10/25/2013
R070366.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.	070366		142	237

② CROSS SECTIONS - SITE 1

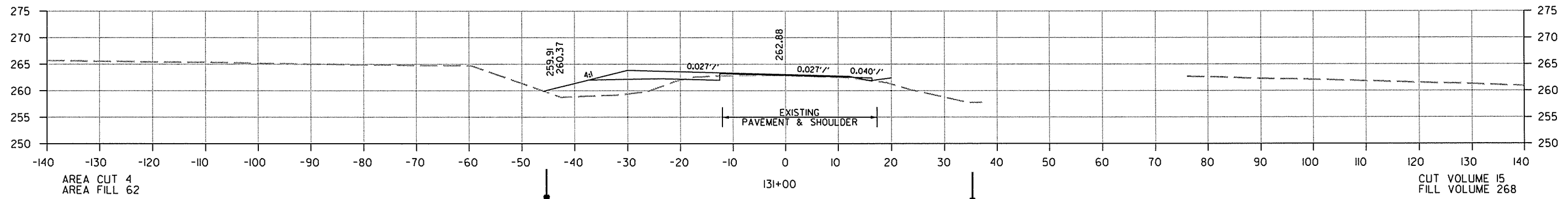
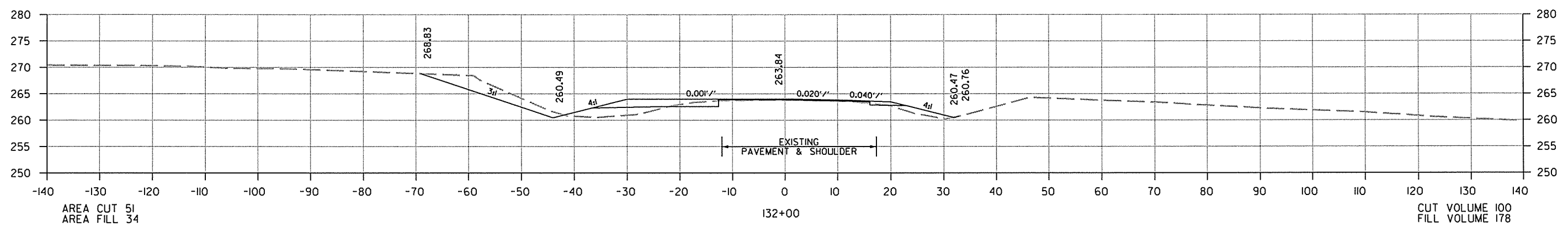
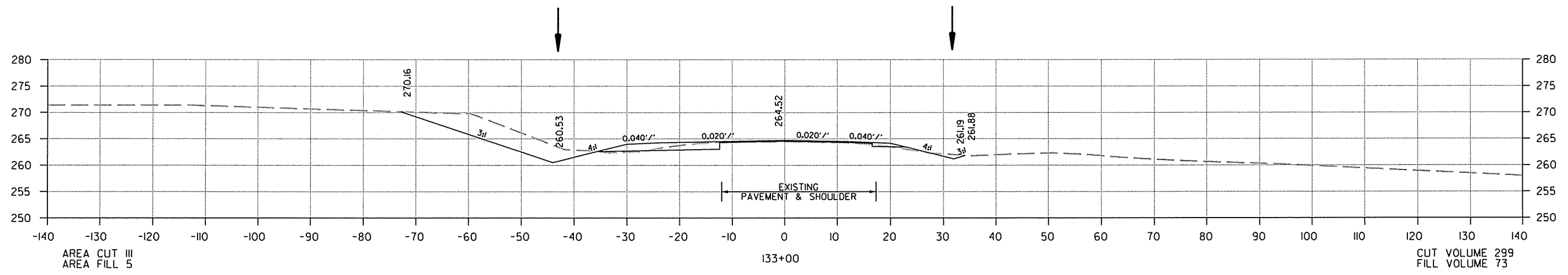


CROSS SECTION STA. 128+00 TO STA. 130+00

10/25/2013 R070366.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.	070366		143	237

② CROSS SECTIONS - SITE 1

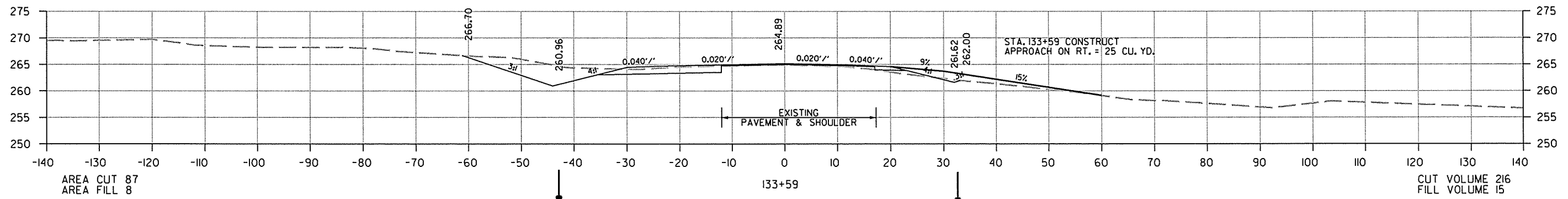
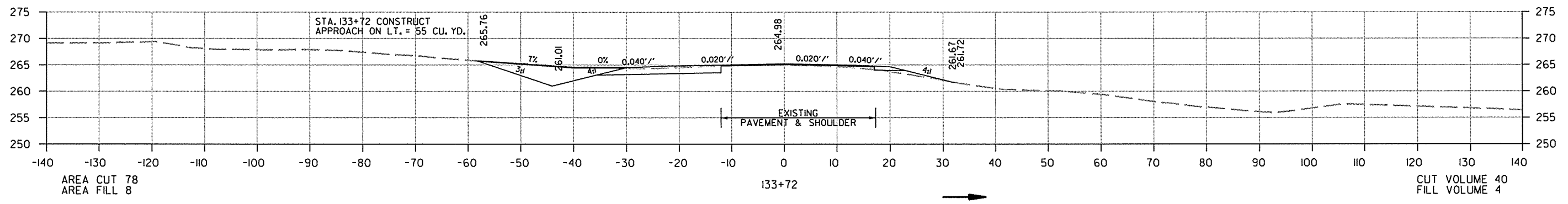
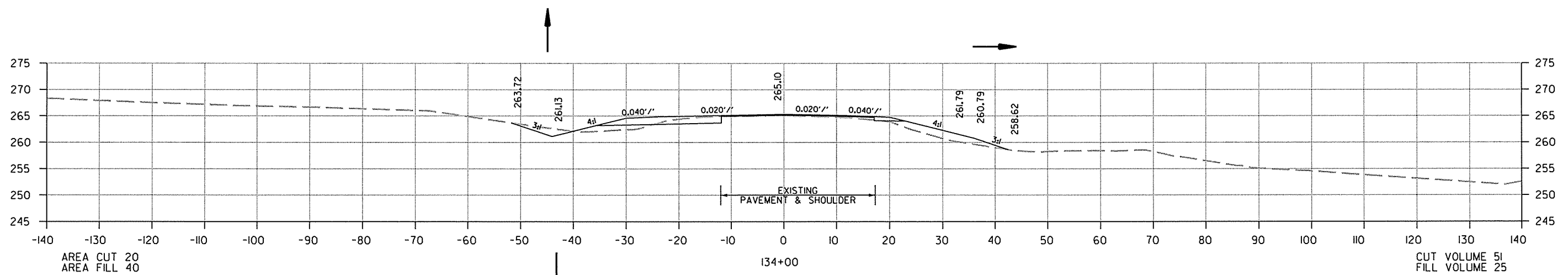


CROSS SECTION STA. 131+00 TO STA. 133+00

10/25/2013 R070366.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.	070366		144	237

② CROSS SECTIONS - SITE 1

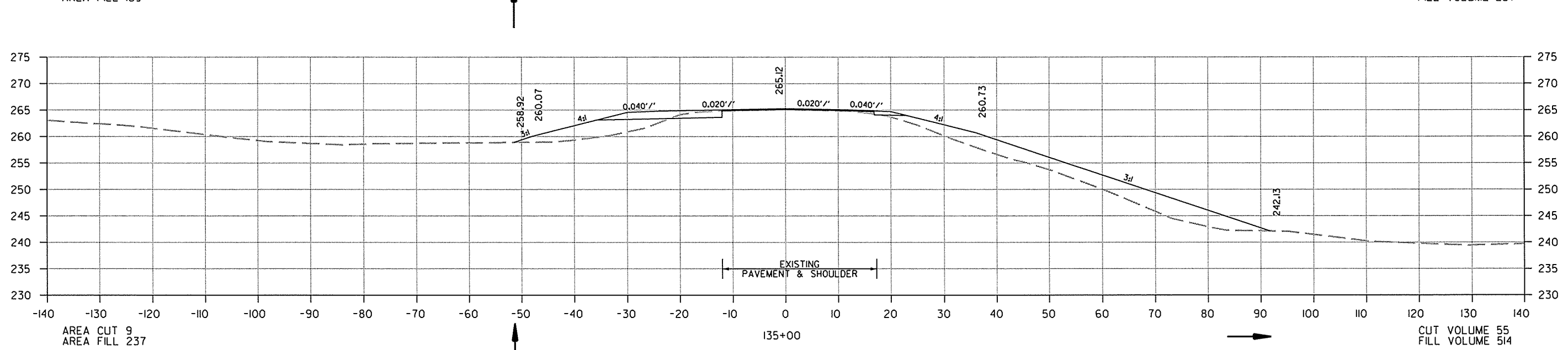
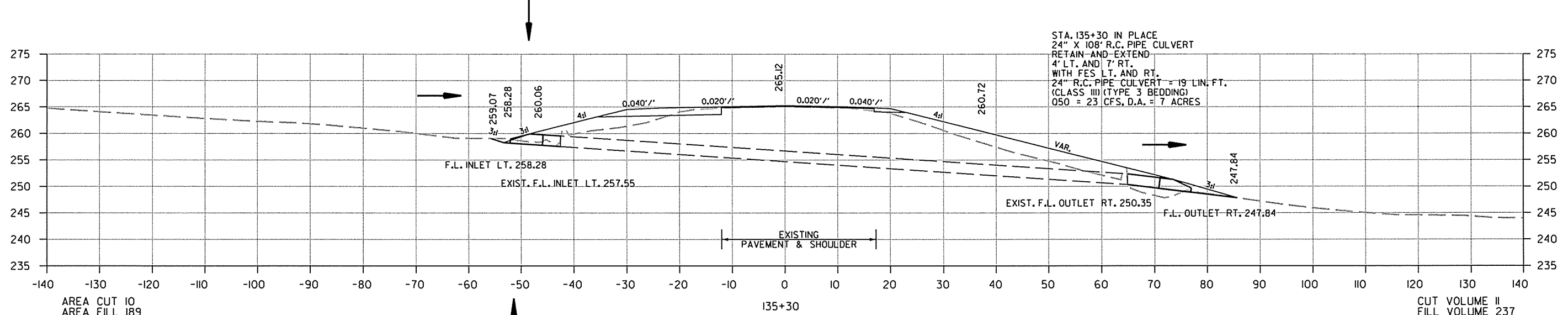
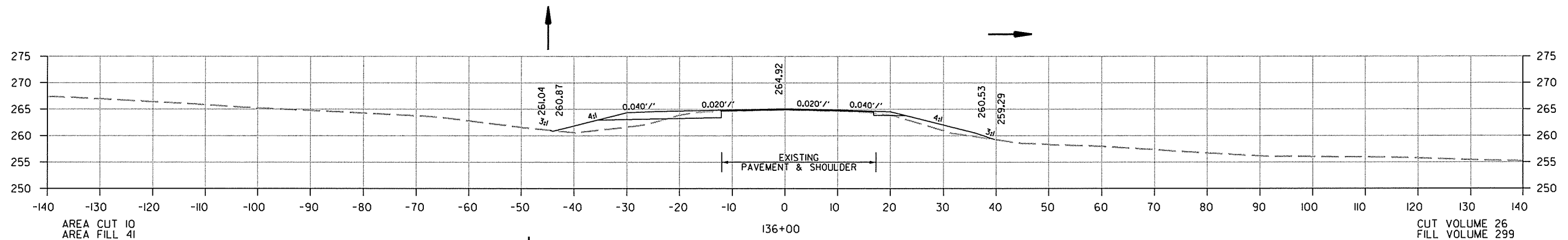


CROSS SECTION STA. 133+59 TO STA. 134+00

10/25/2013 R070366.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. 070366						145	237	

2 CROSS SECTIONS - SITE 1

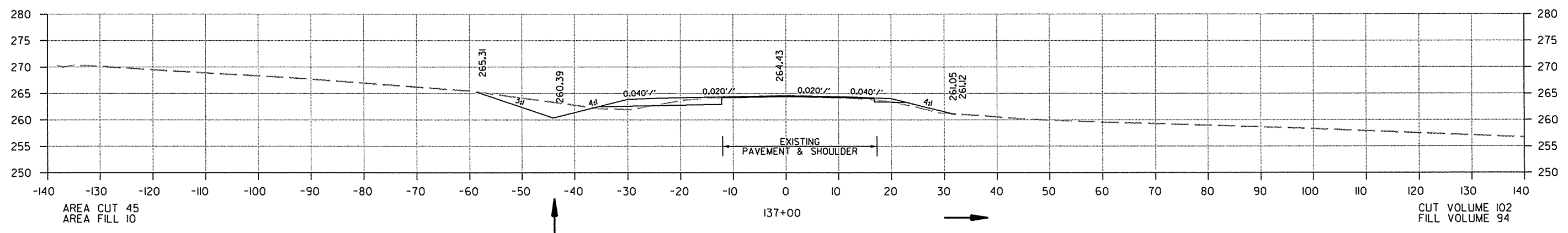
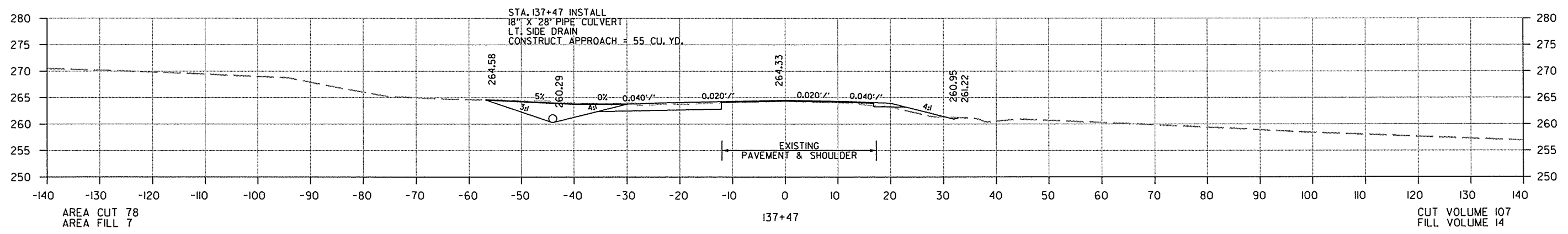
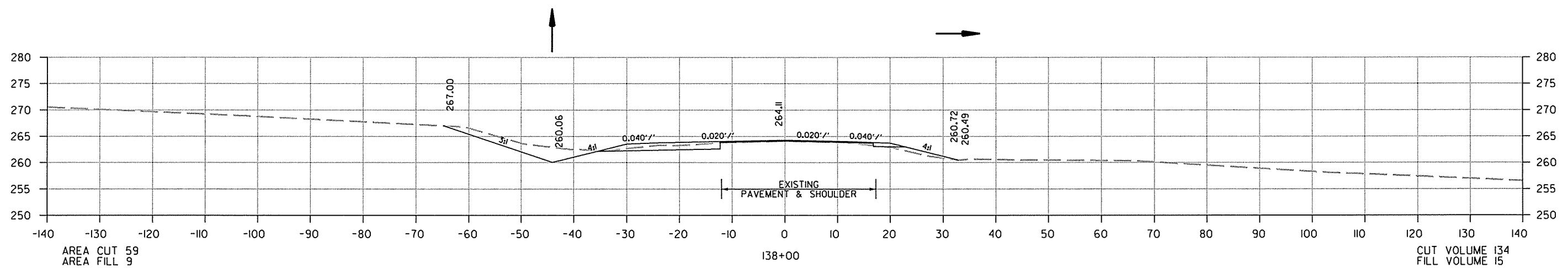


CROSS SECTION STA. 135+00 TO STA. 136+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		146	237

2 CROSS SECTIONS - SITE I

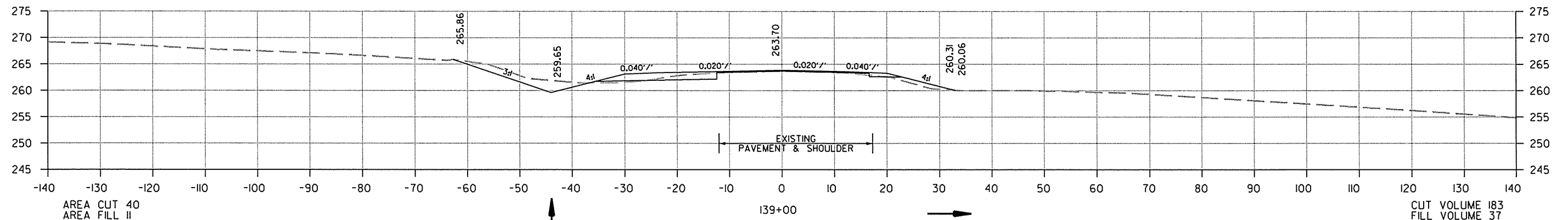
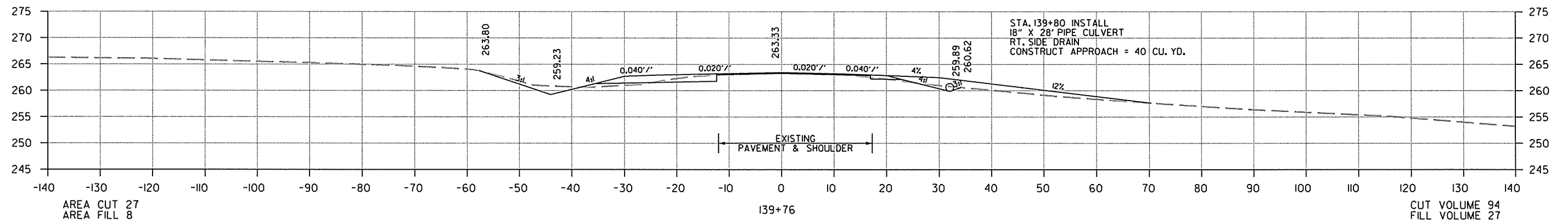
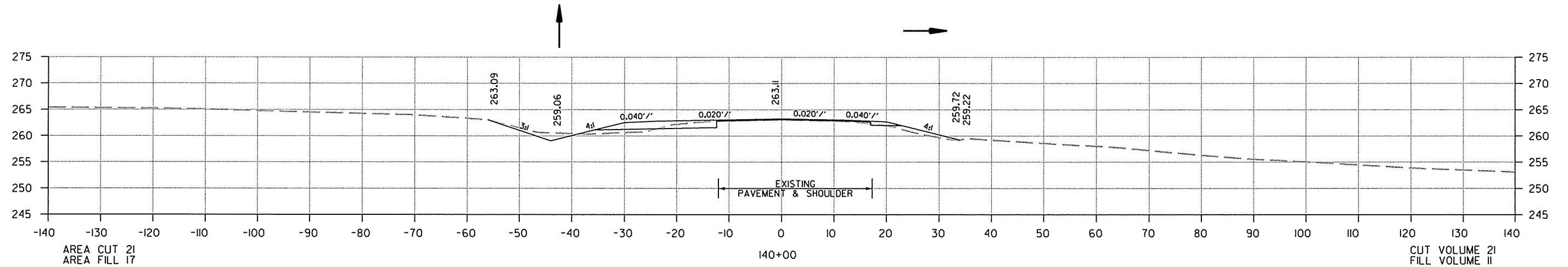


CROSS SECTION STA. 137+00 TO STA. 138+00

10/25/2013 R070366.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. 070366							147	237

2 CROSS SECTIONS - SITE 1



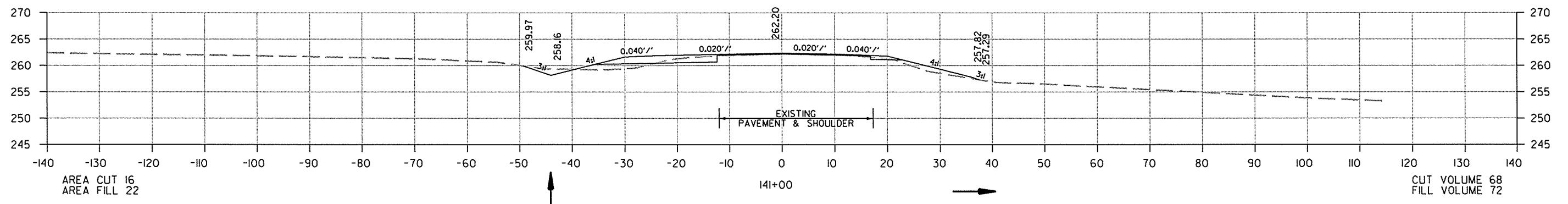
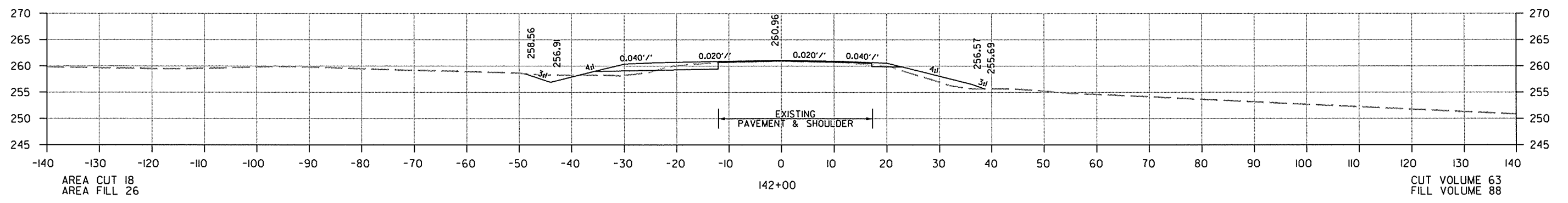
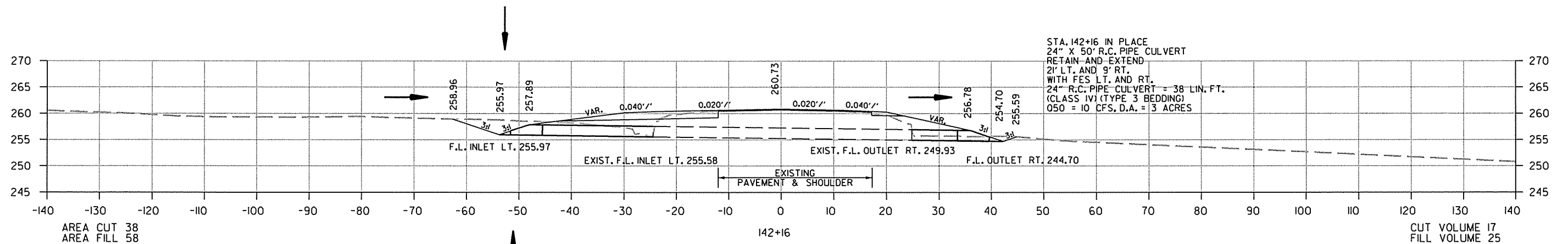
CROSS SECTION STA. 139+00 TO STA. 140+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		148	237

2 CROSS SECTIONS - SITE 1



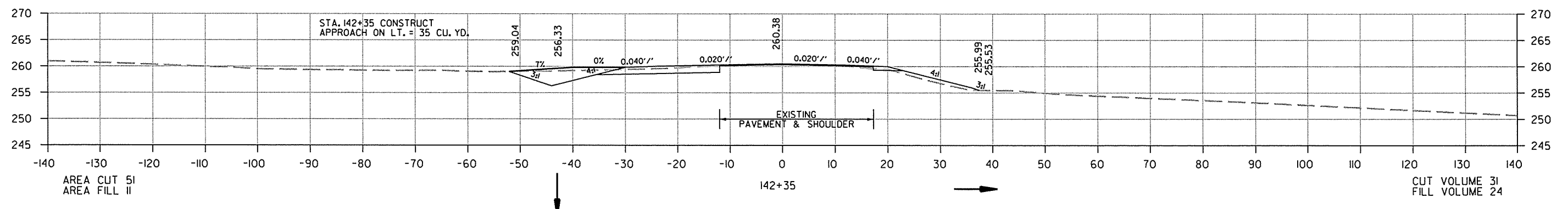
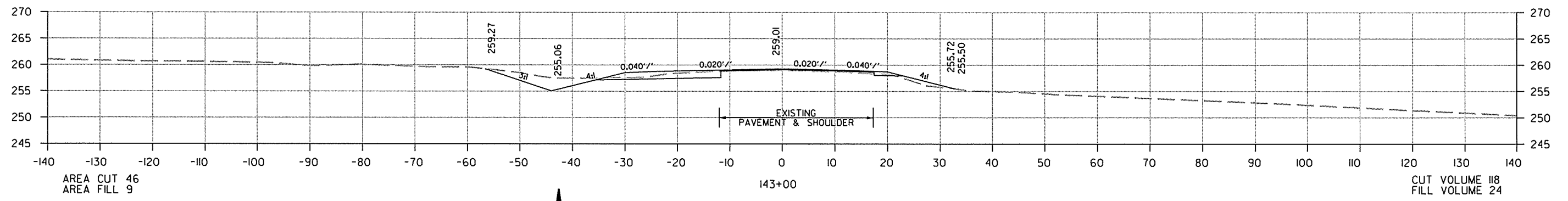
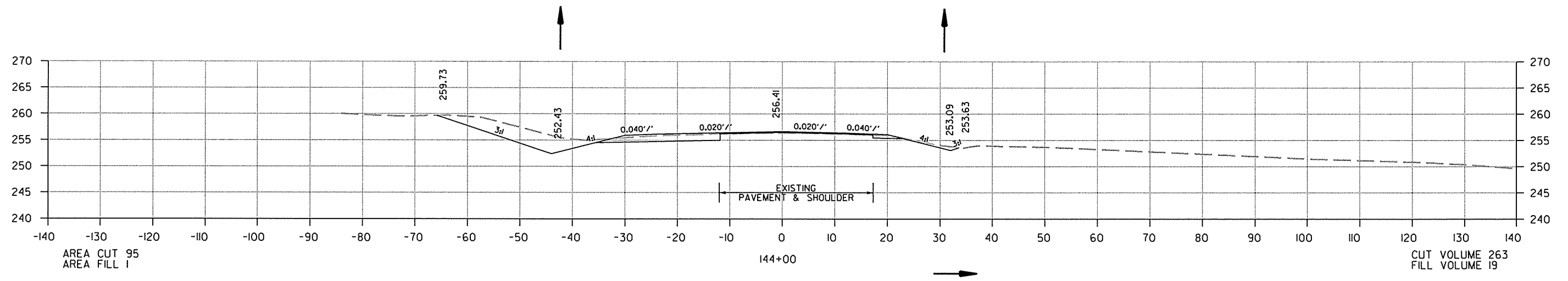
CROSS SECTION STA. 141+00 TO STA. 142+16

10/25/2013

R070366.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. 070366	149	237

② CROSS SECTIONS - SITE I



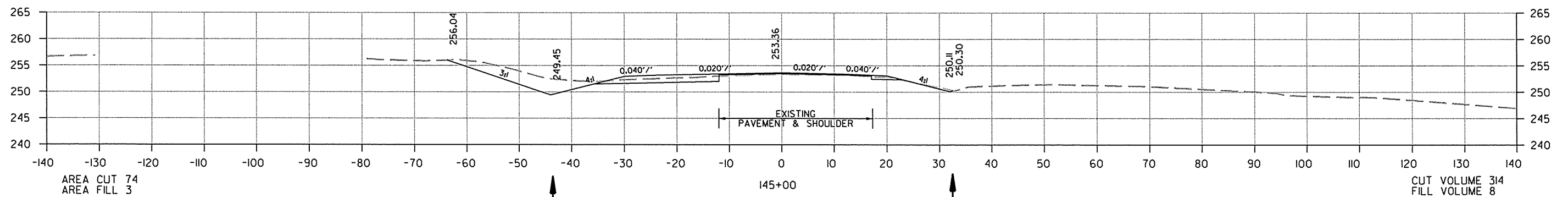
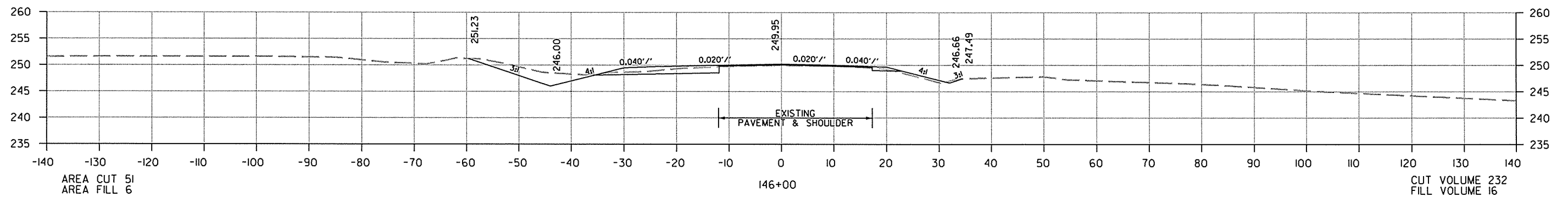
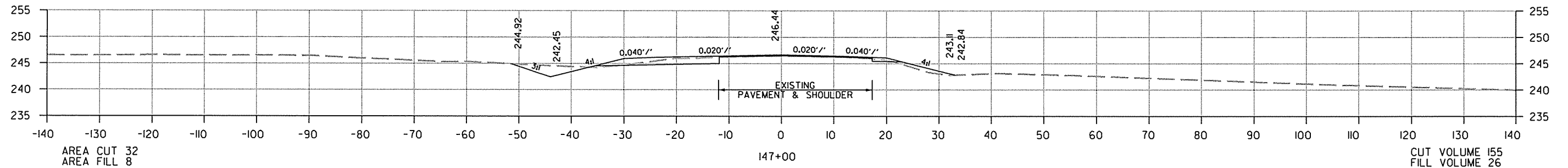
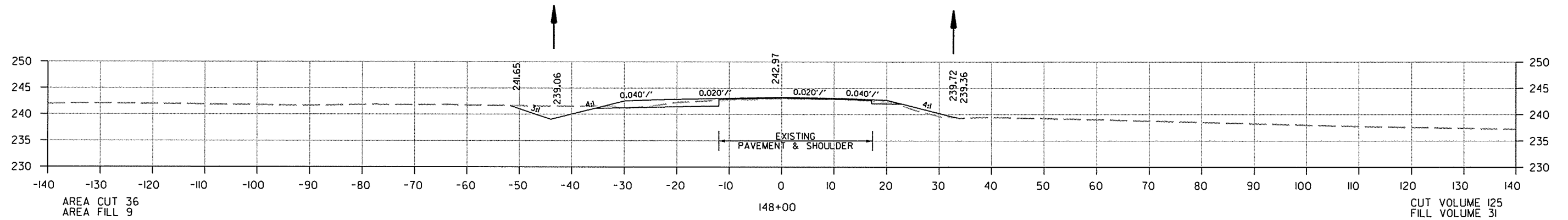
CROSS SECTION STA. 142+35 TO STA. 144+00

10/25/2013

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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. 070366							150	237

2 CROSS SECTIONS - SITE 1



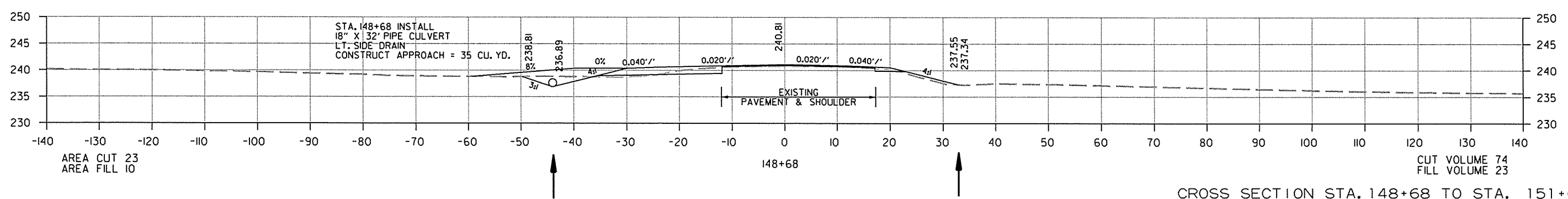
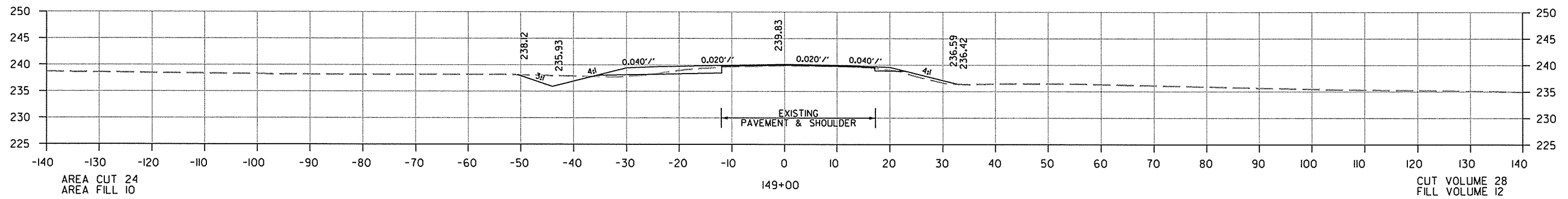
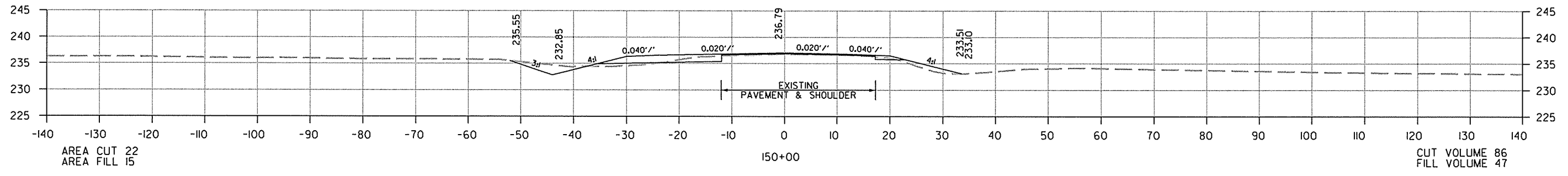
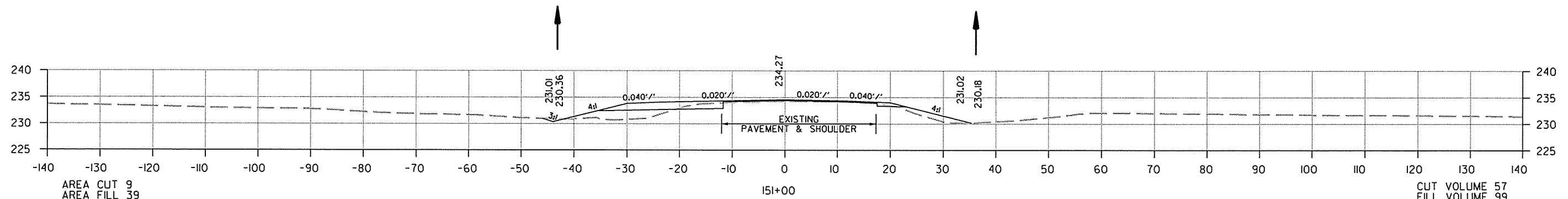
CROSS SECTION STA. 145+00 TO STA. 148+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	151	237

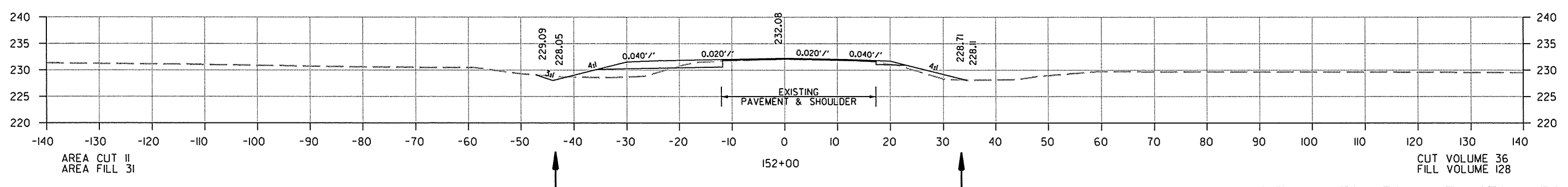
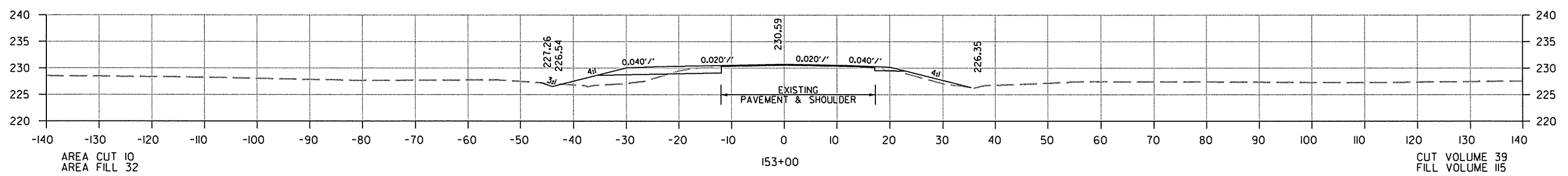
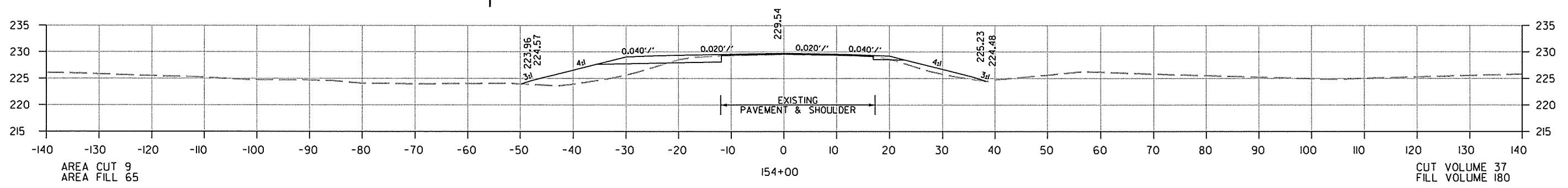
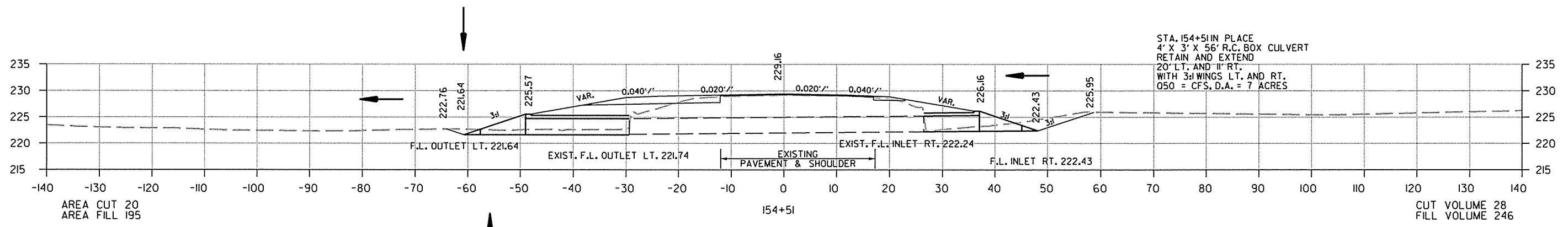
2 CROSS SECTIONS - SITE I



CROSS SECTION STA. 148+68 TO STA. 151+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							152	237

2 CROSS SECTIONS - SITE I

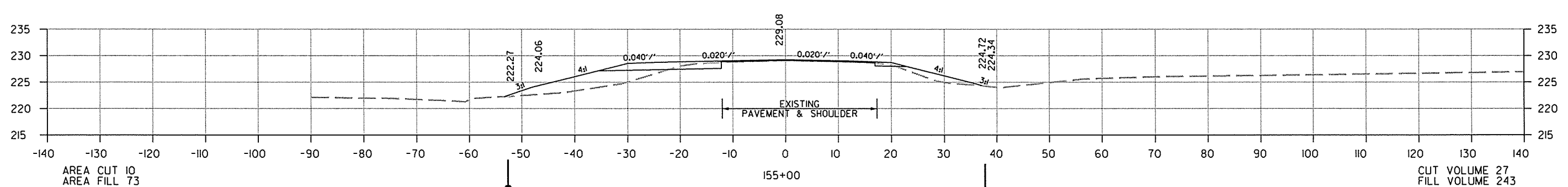
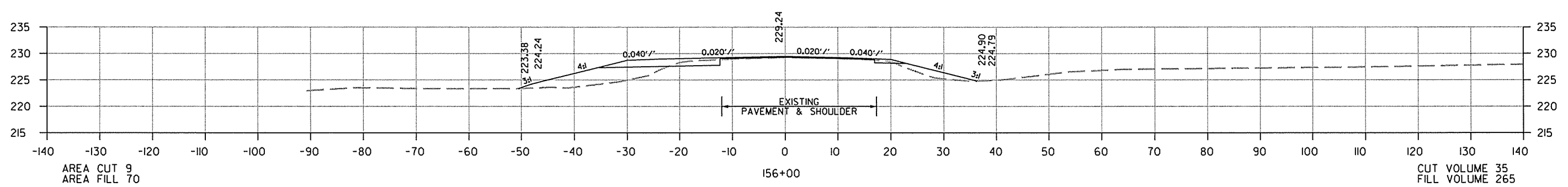
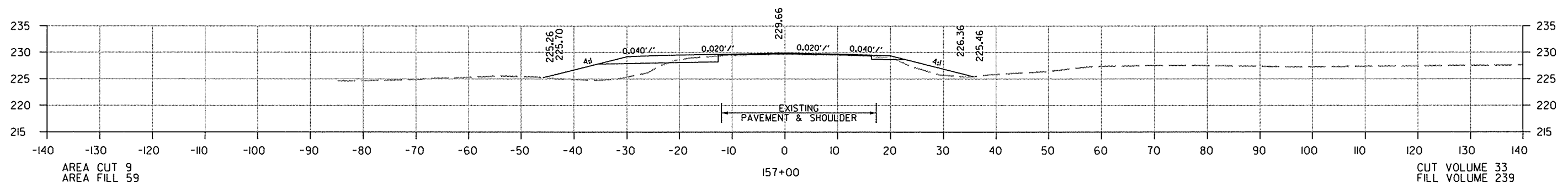
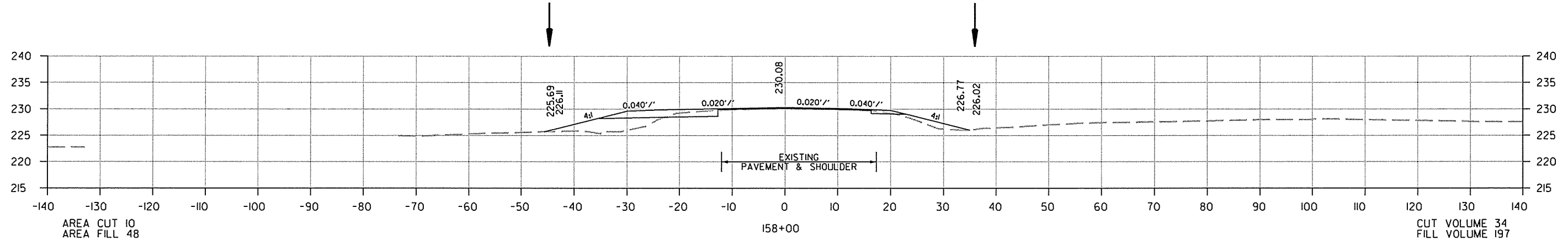


CROSS SECTION STA. 152+00 TO STA. 154+51

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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. 070366							153	237

2 CROSS SECTIONS - SITE I

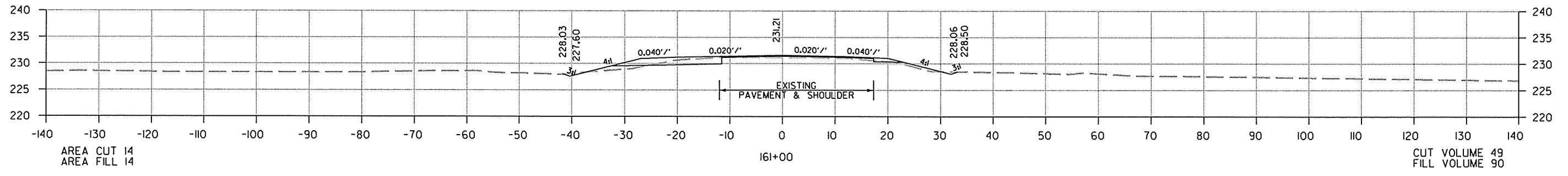
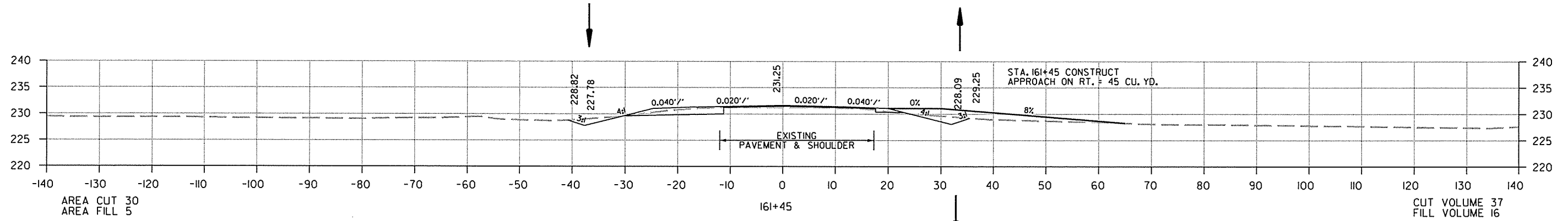


CROSS SECTION STA. 155+00 TO STA. 158+00

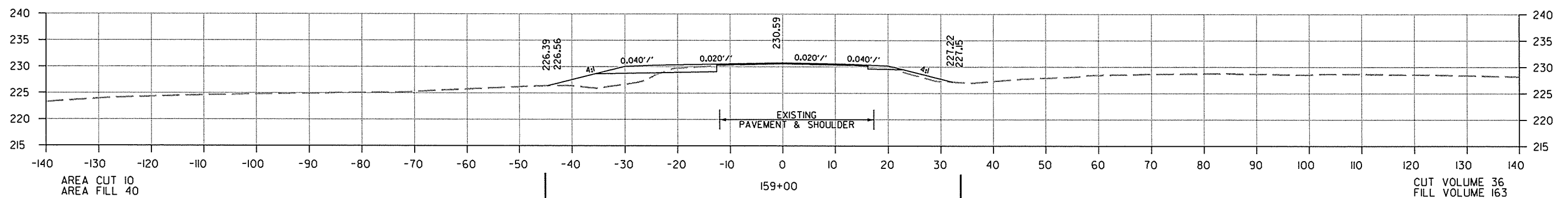
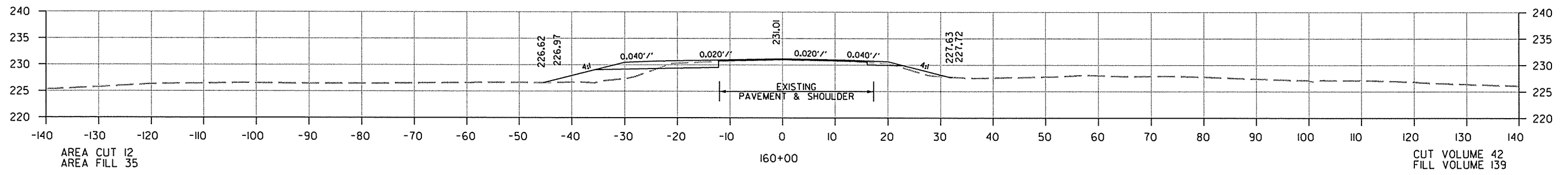
10/25/2013 R070366.DGN

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. 070366							154	237

2 CROSS SECTIONS - SITE I



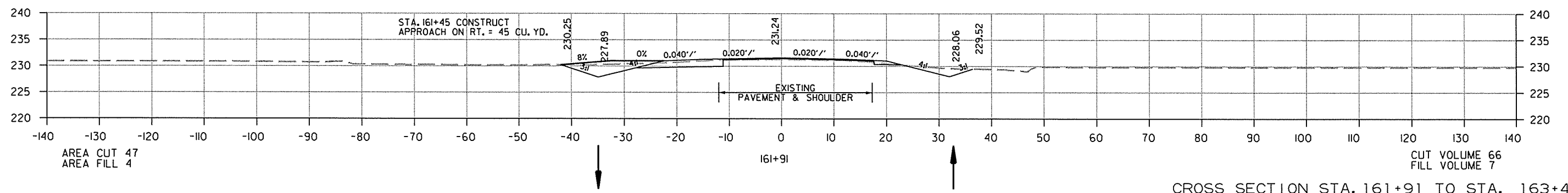
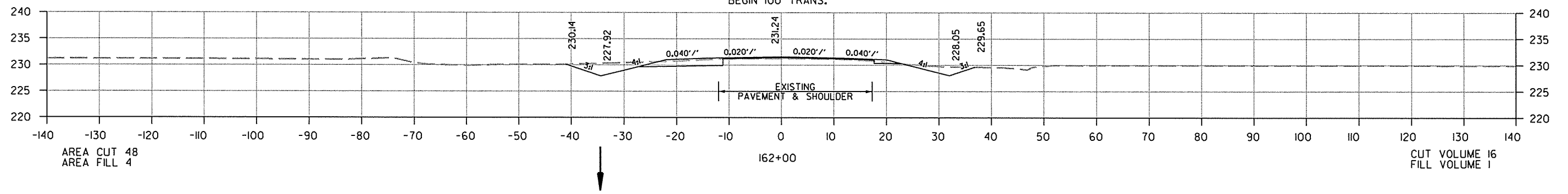
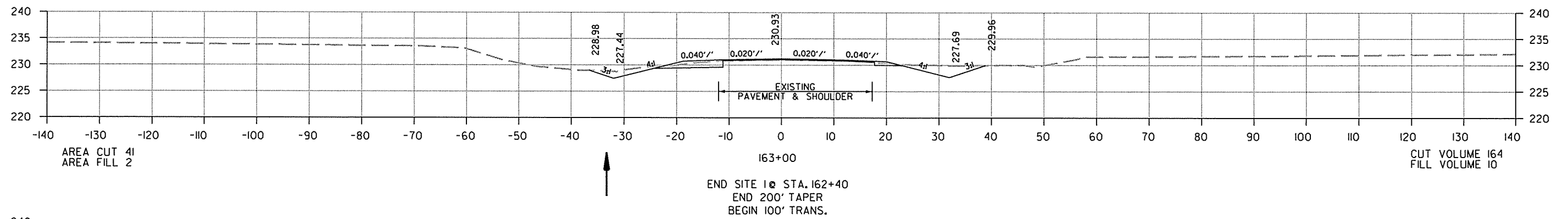
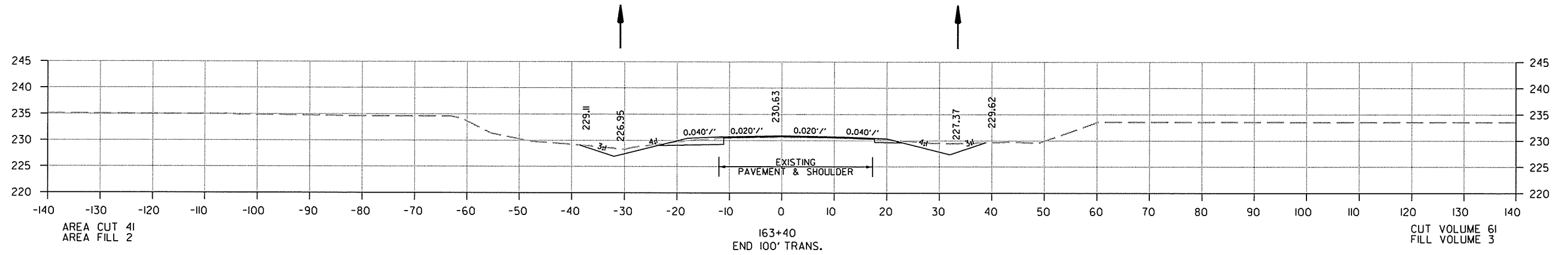
BEGIN 200' TAPER @ STA. 160+40



CROSS SECTION STA. 159+00 TO STA. 161+45

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	155	237

② CROSS SECTIONS - SITE 1



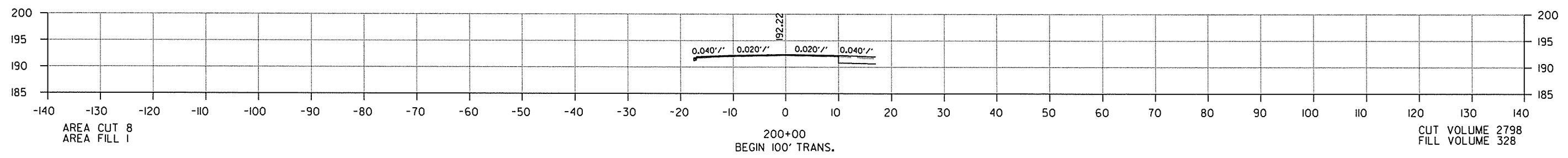
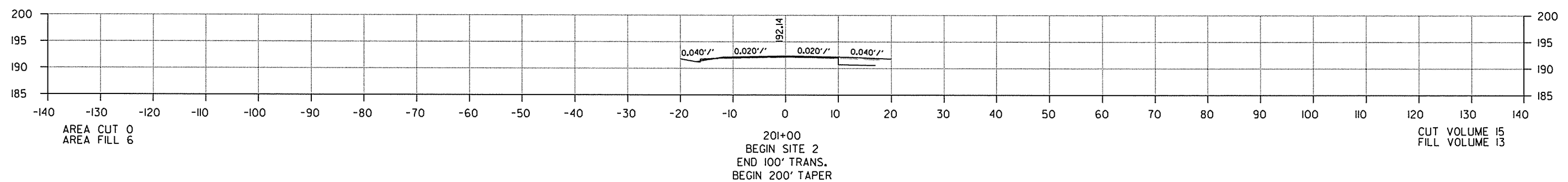
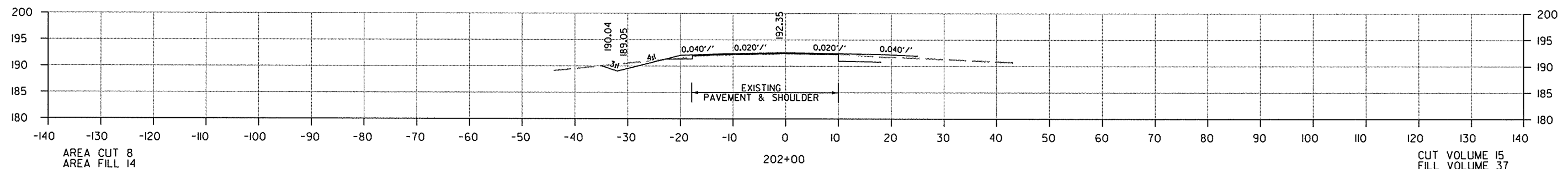
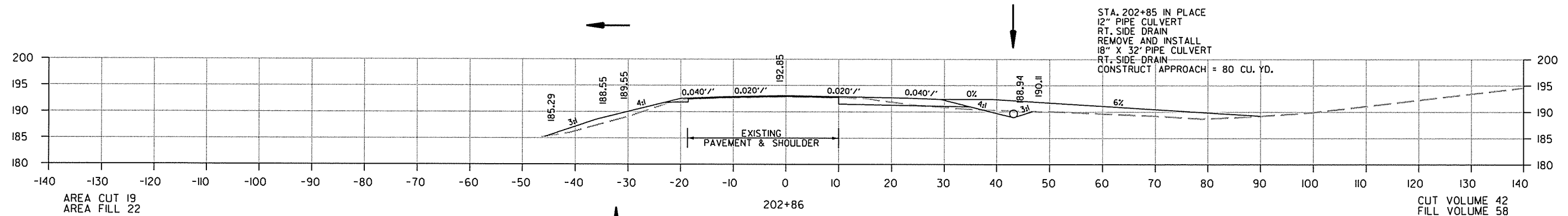
CROSS SECTION STA. 161+91 TO STA. 163+40

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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. 070366							156	237

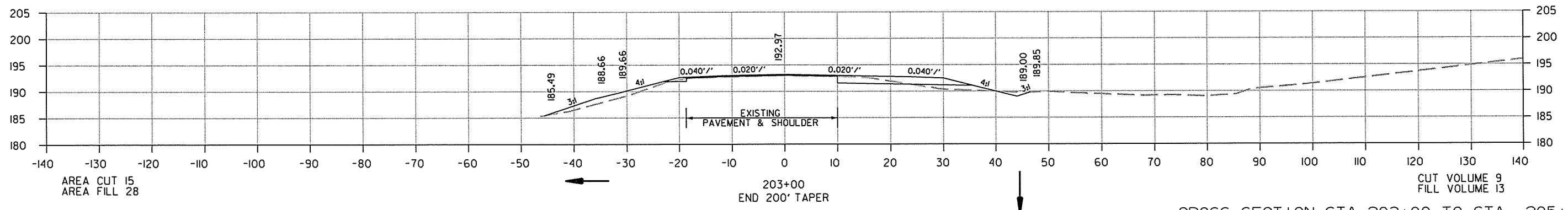
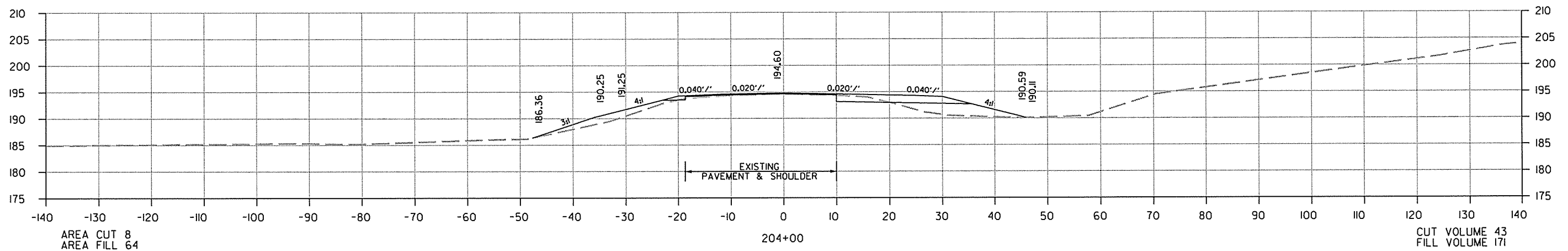
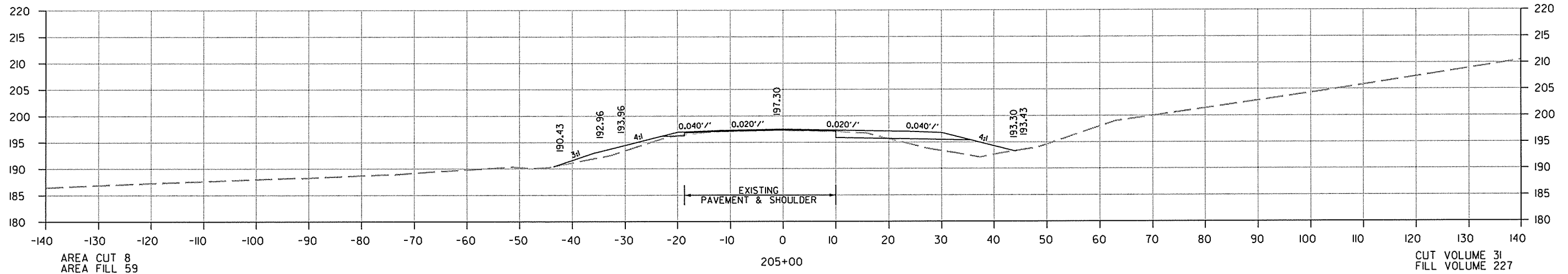
2 CROSS SECTIONS - SITE 2



CROSS SECTION STA. 200+00 TO STA. 202+86

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		157	237

2 CROSS SECTIONS - SITE 2

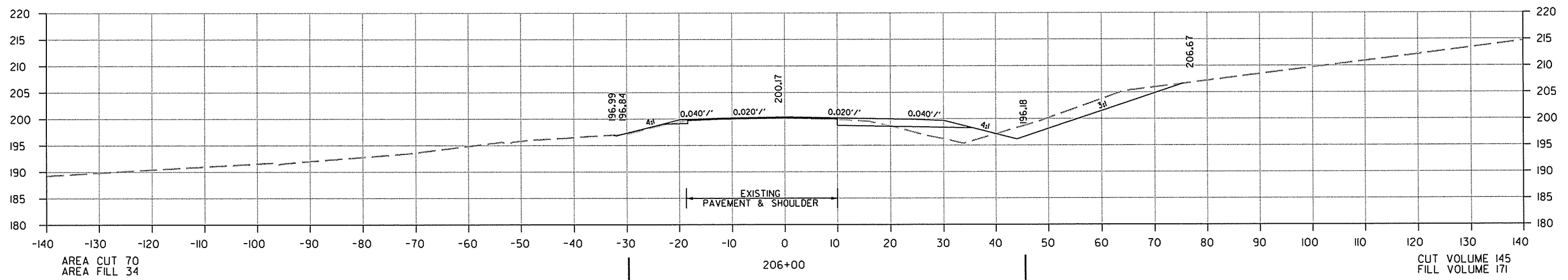
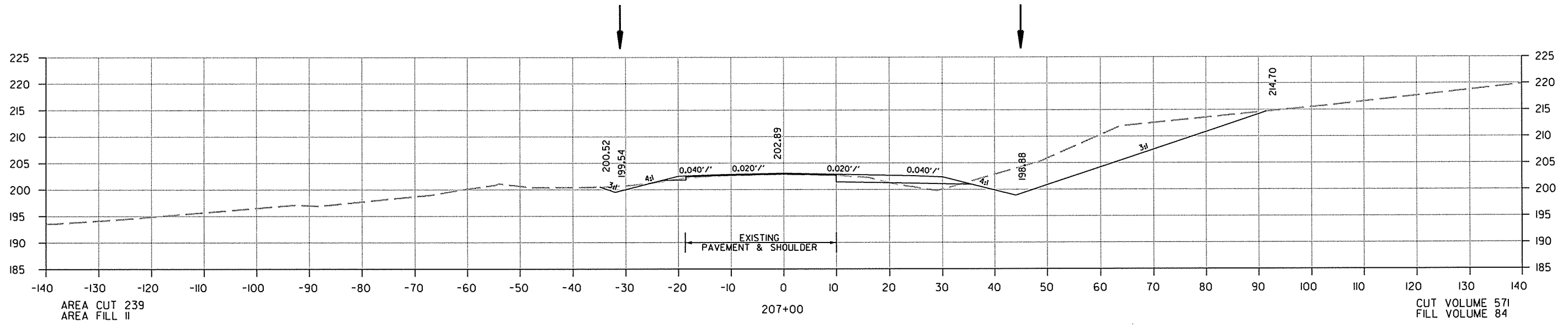


CROSS SECTION STA. 203+00 TO STA. 205+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		158	237

2 CROSS SECTIONS - SITE 2

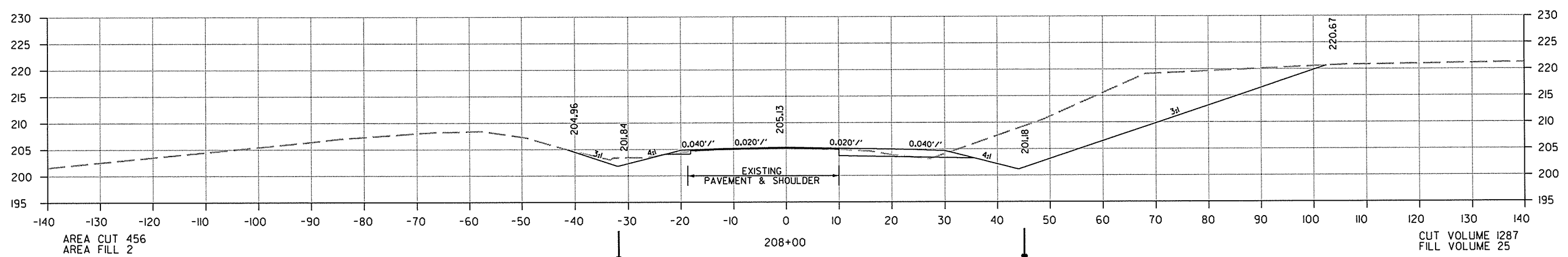
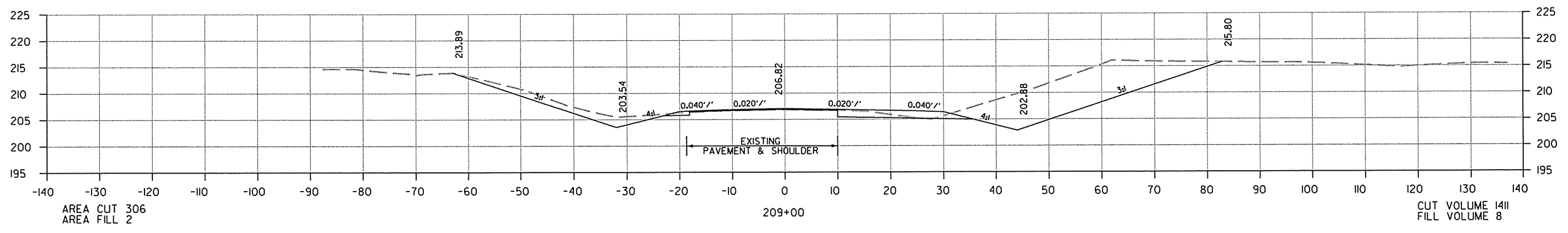
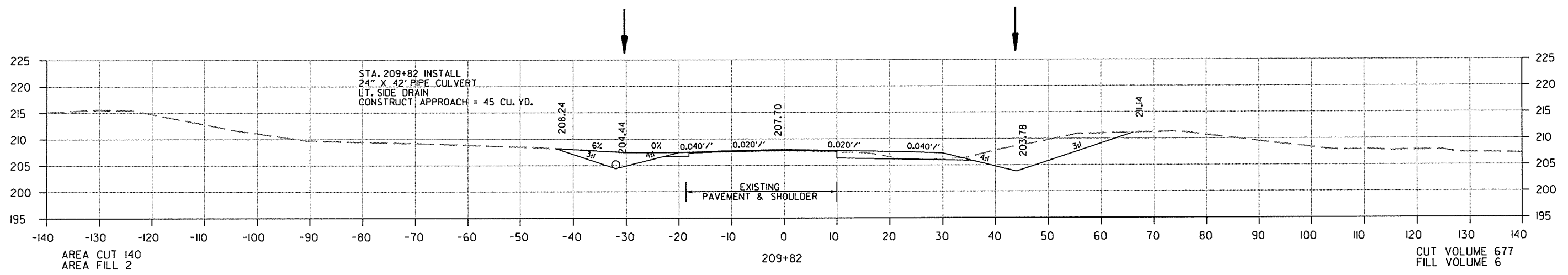


CROSS SECTION STA. 206+00 TO STA. 207+00

10/25/2013 R070366.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.	070366		159	237

2 CROSS SECTIONS - SITE 2

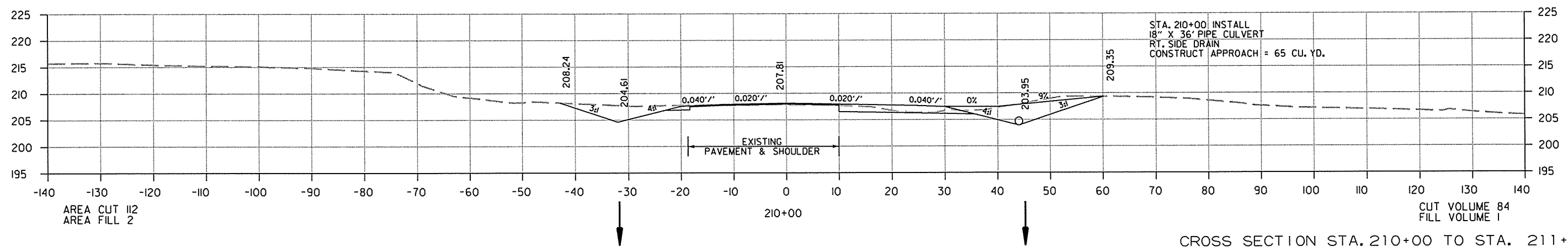
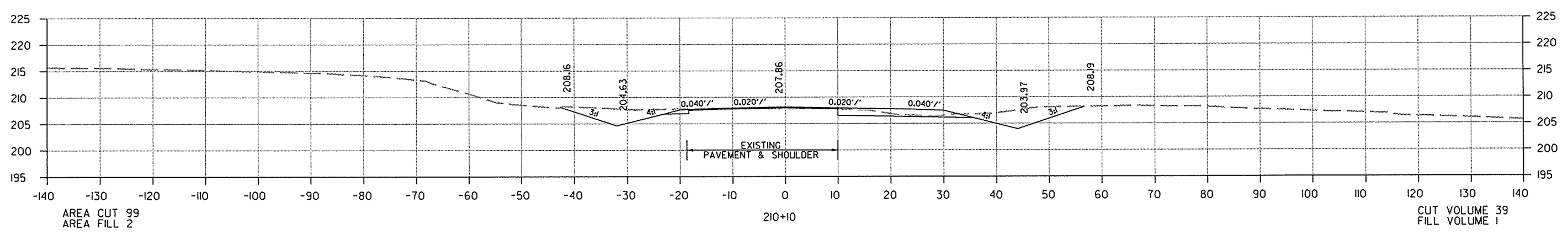
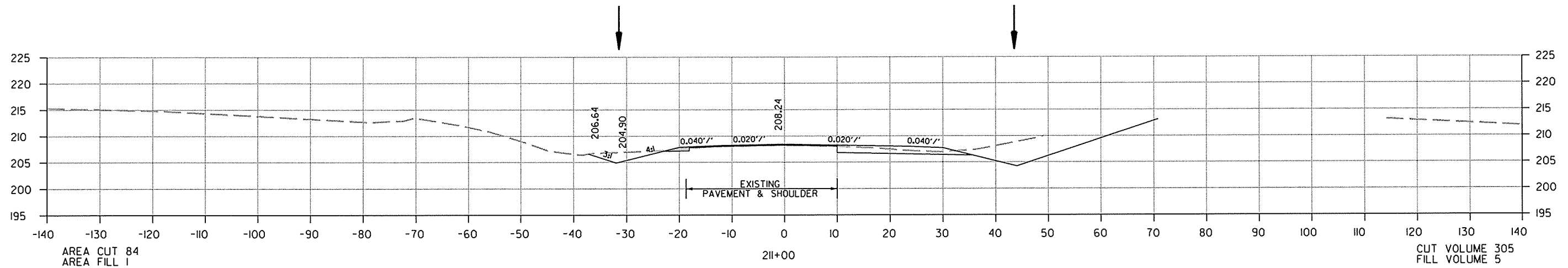


CROSS SECTION STA. 208+00 TO STA. 209+82

10/25/2013 R070366.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.	070366		160	237

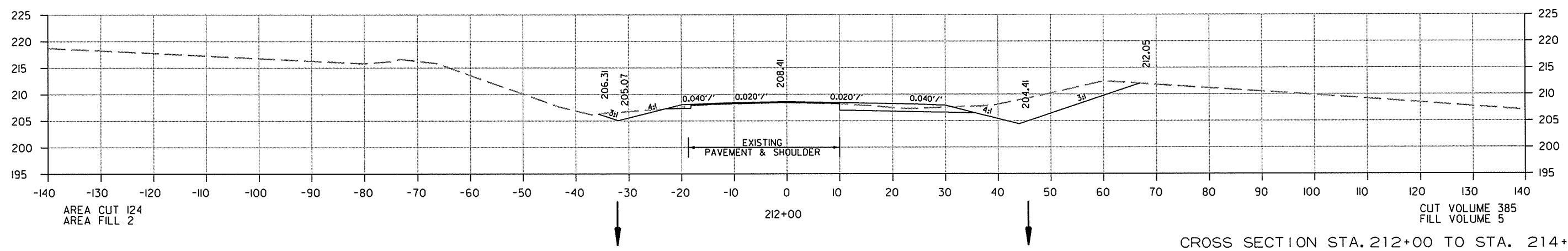
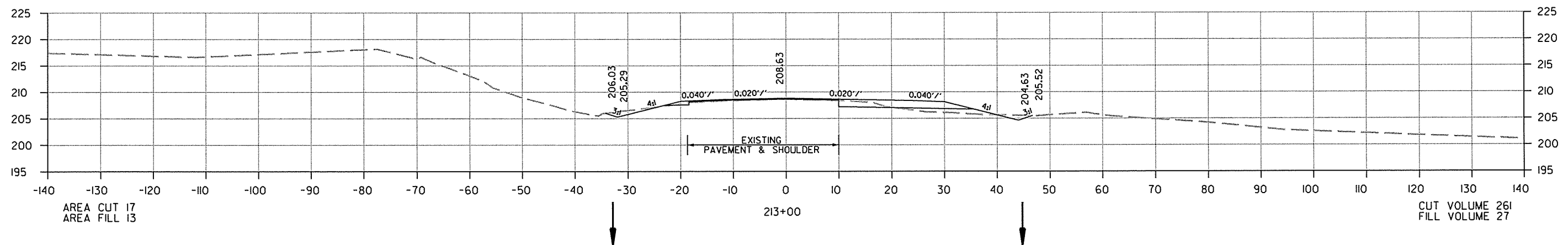
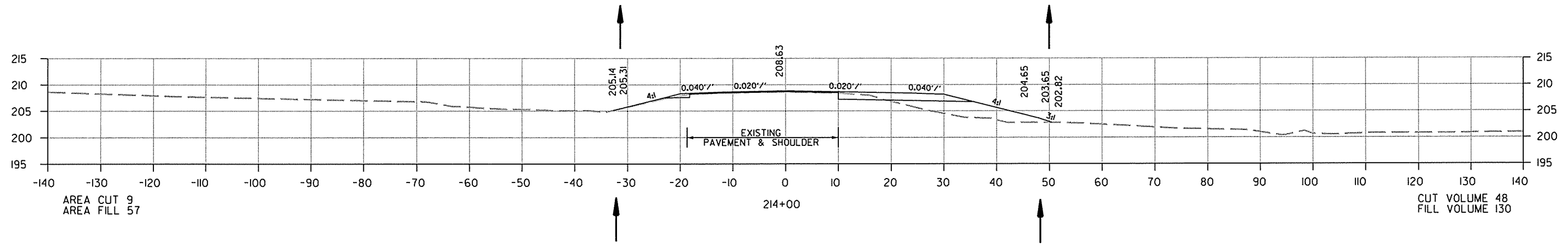
② CROSS SECTIONS - SITE 2



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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.	070366		161	237

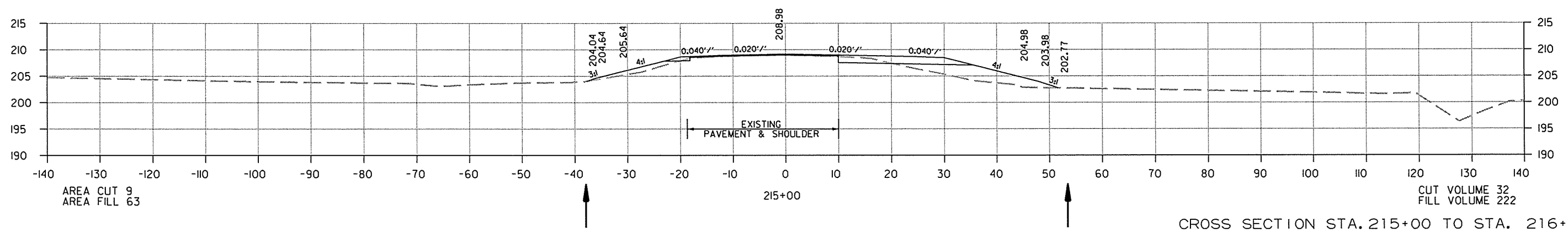
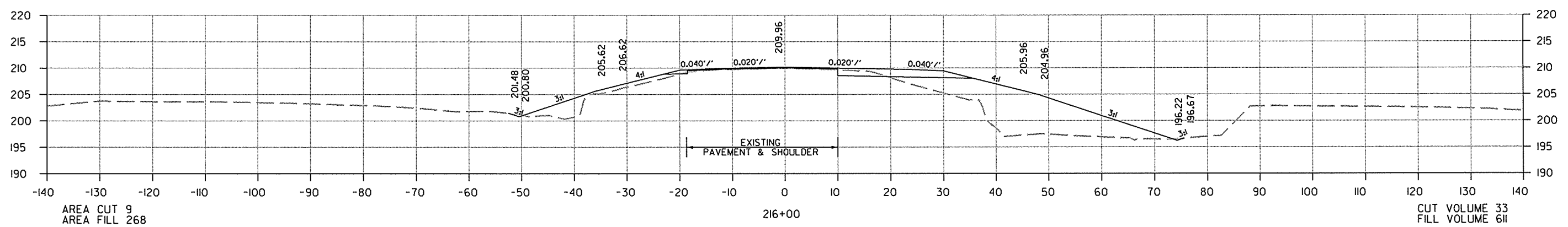
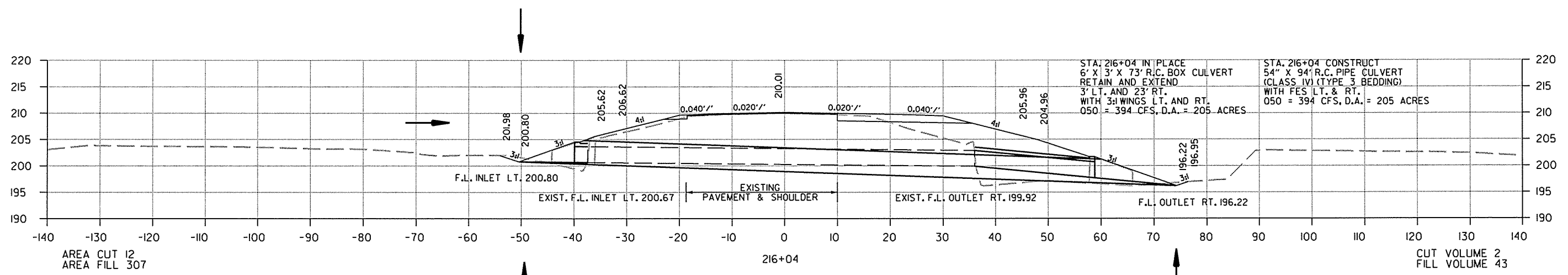
2 CROSS SECTIONS - SITE 2



CROSS SECTION STA. 212+00 TO STA. 214+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		162	237

2 CROSS SECTIONS - SITE 2

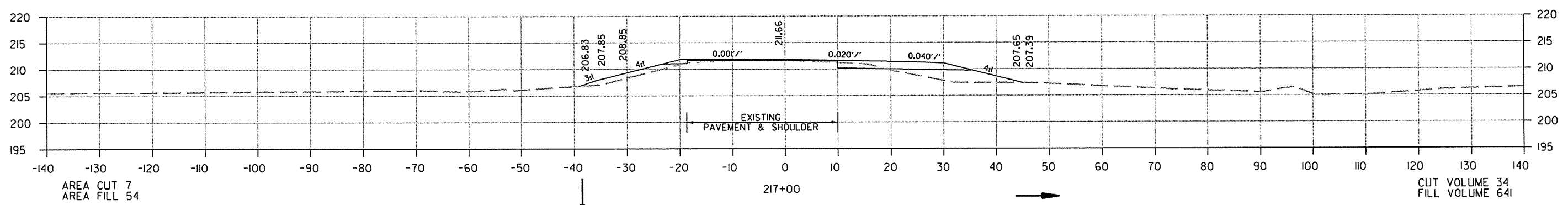
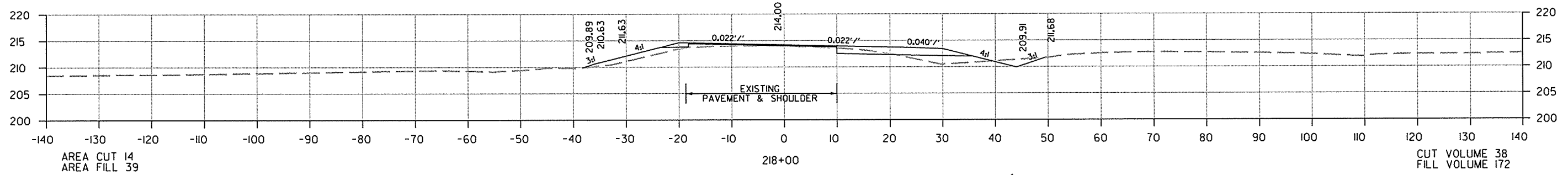
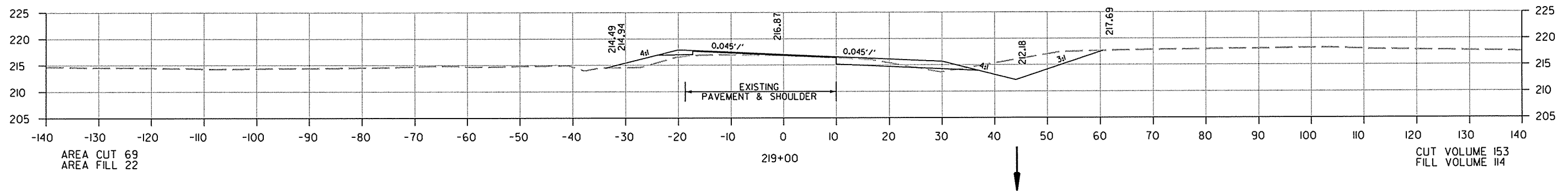
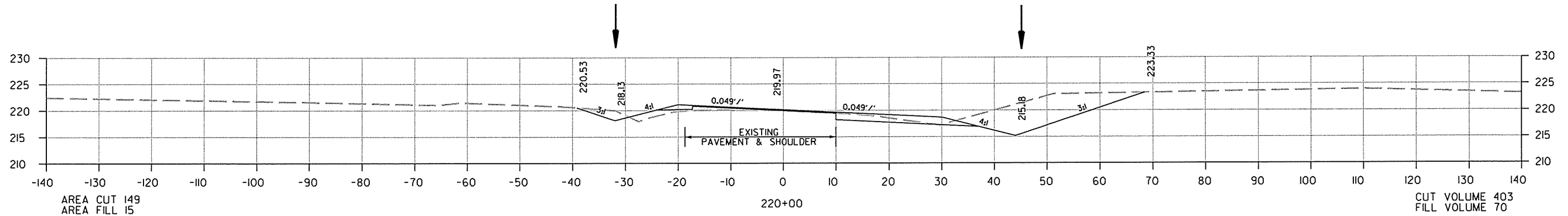


CROSS SECTION STA. 215+00 TO STA. 216+04

10/25/2013
R070366.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.	070366		163	237

② CROSS SECTIONS - SITE 2

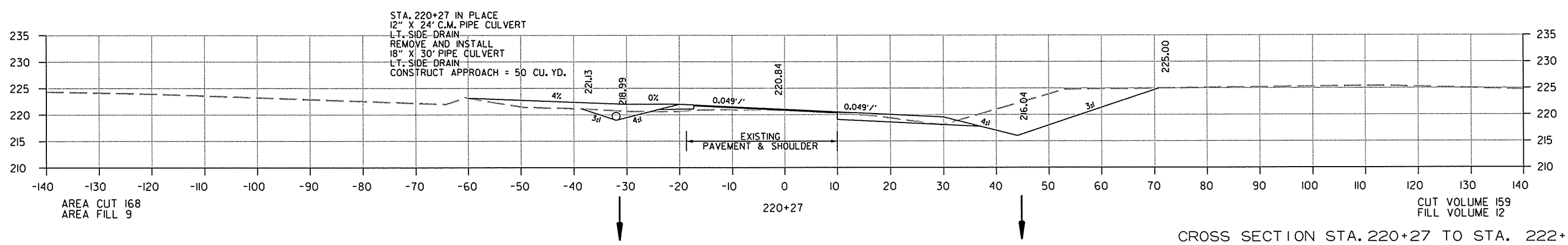
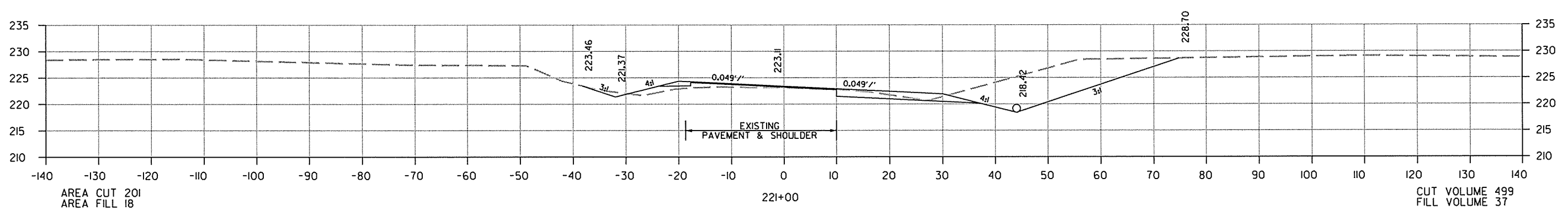
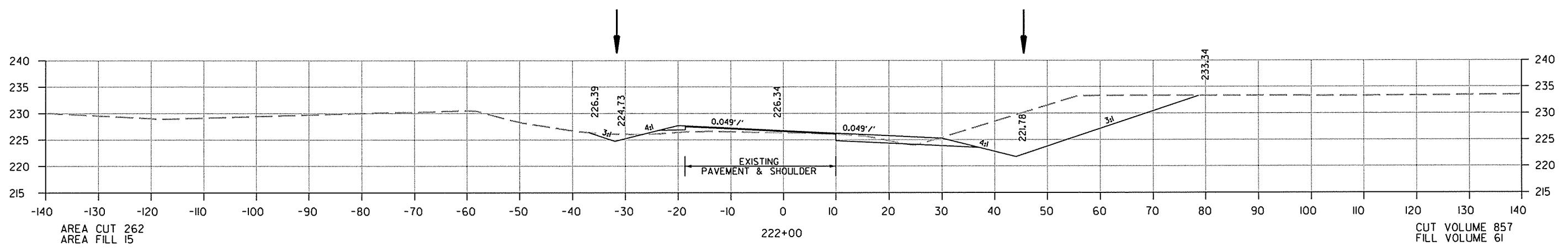


CROSS SECTION STA. 217+00 TO STA. 220+00

10/25/2013 R070366.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.	070366		164	237

② CROSS SECTIONS - SITE 2

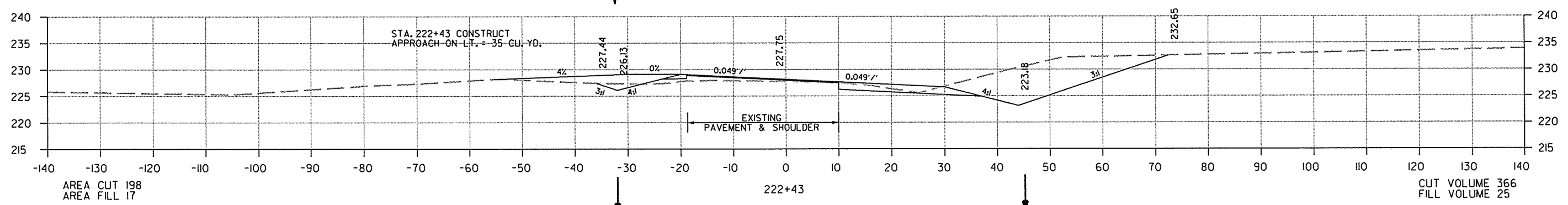
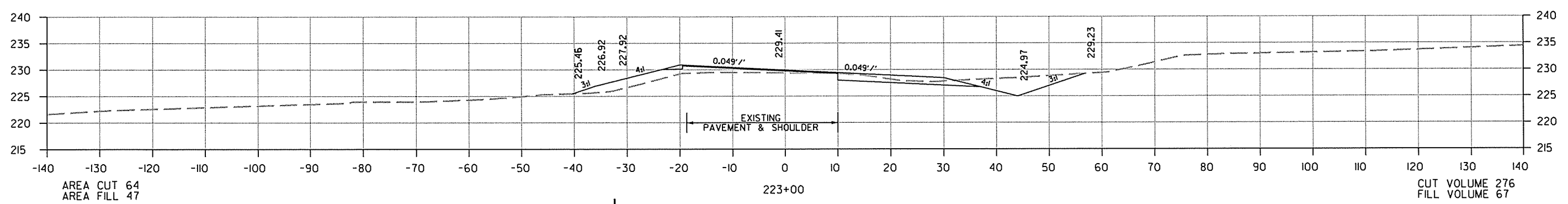
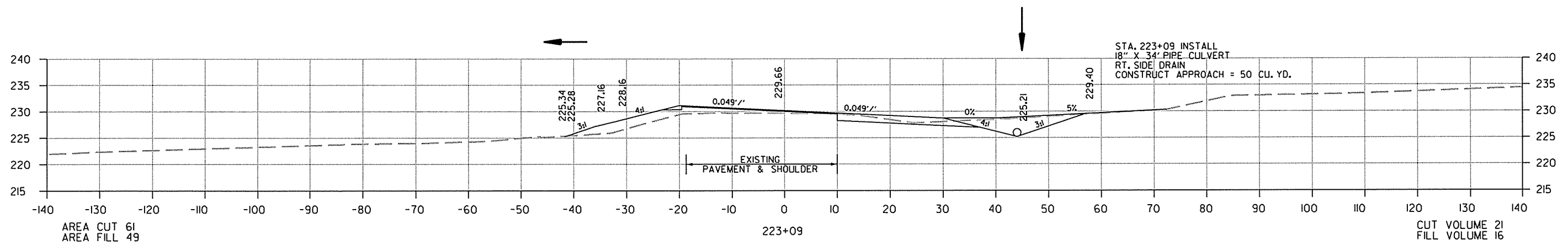


CROSS SECTION STA. 220+27 TO STA. 222+00

10/25/2013 R070366.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.	070366		165	237

2 CROSS SECTIONS - SITE 2

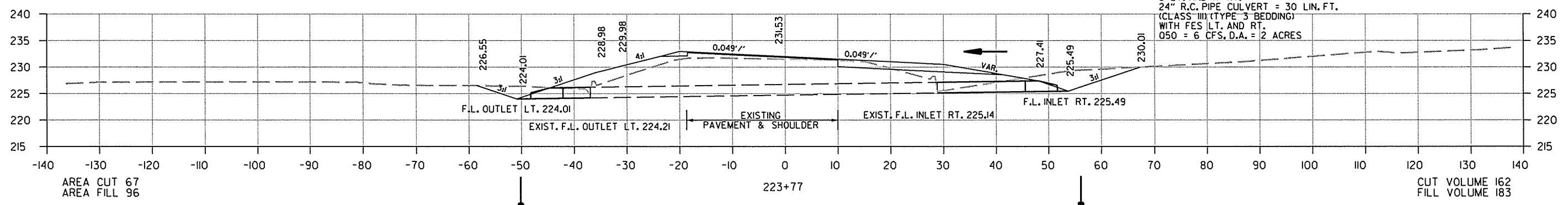
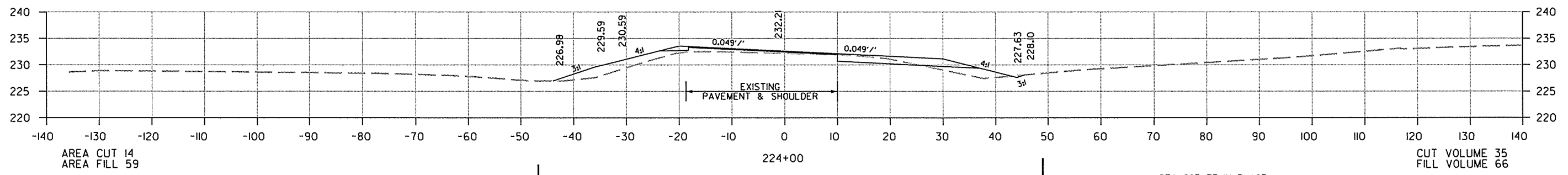
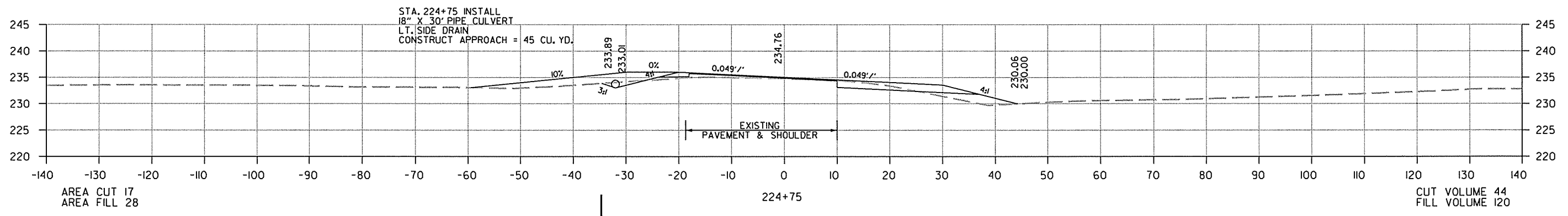
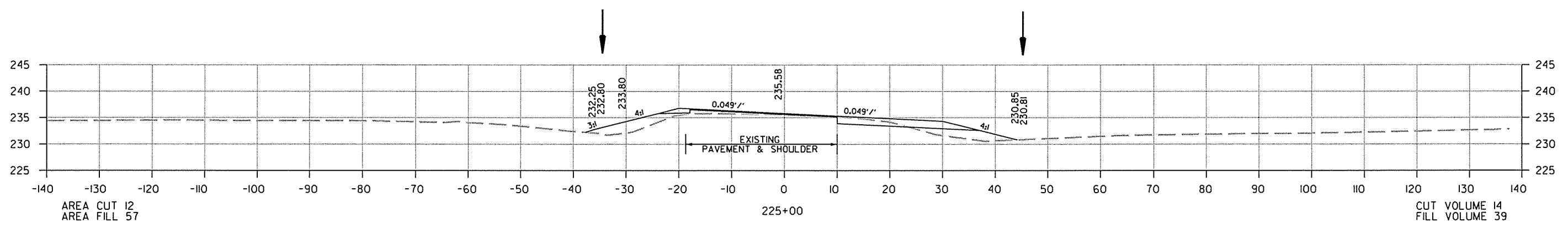


CROSS SECTION STA. 222+43 TO STA. 223+09

10/25/2013 R070366.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. 070366							166	237

2 CROSS SECTIONS - SITE 2

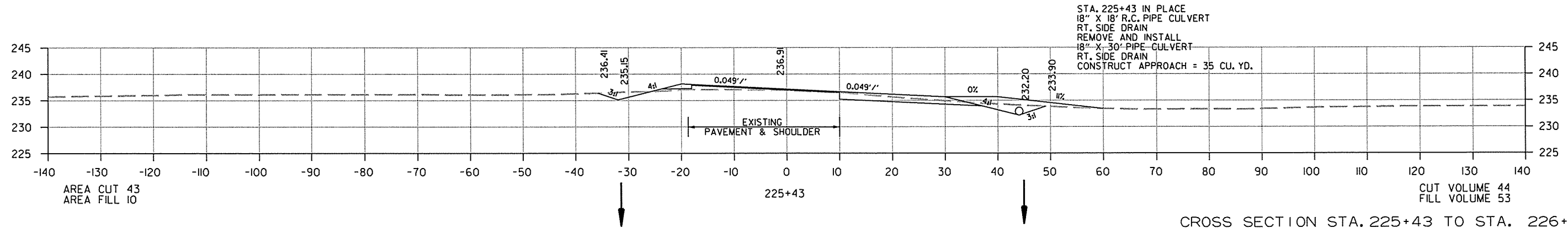
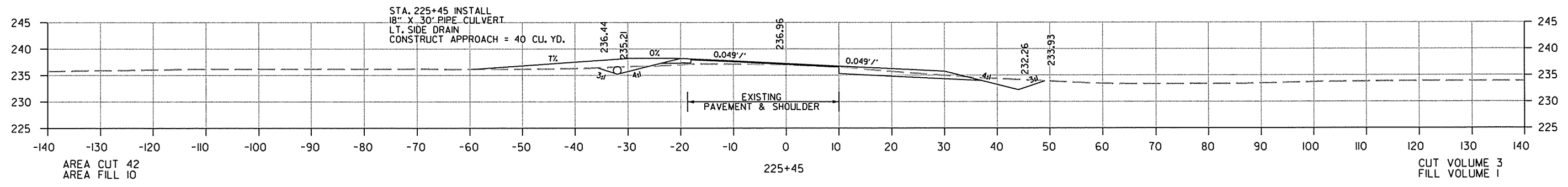
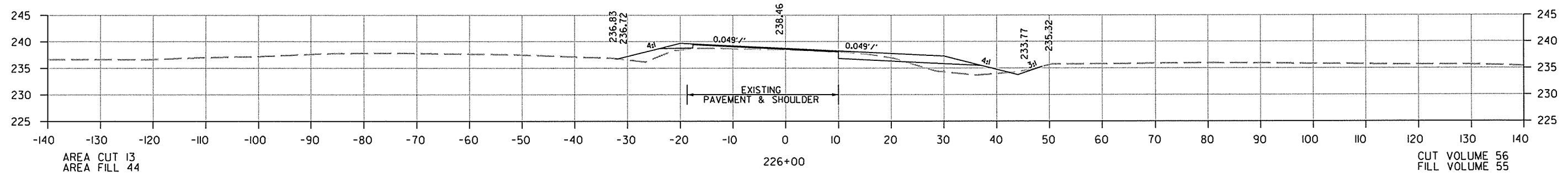
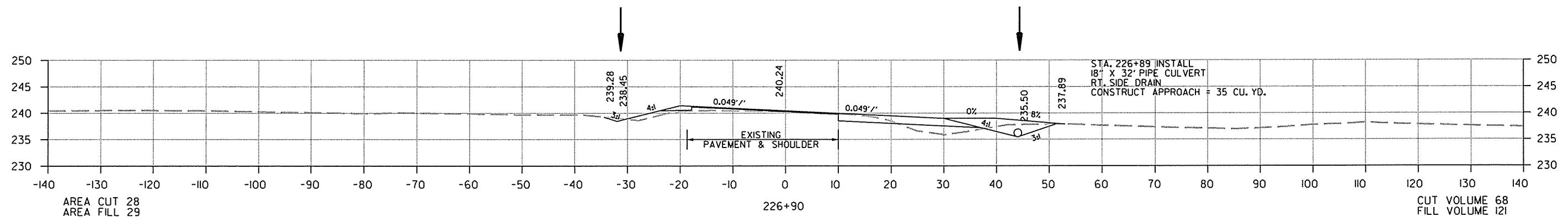


CROSS SECTION STA. 223+77 TO STA. 225+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	167	237

② CROSS SECTIONS - SITE 2

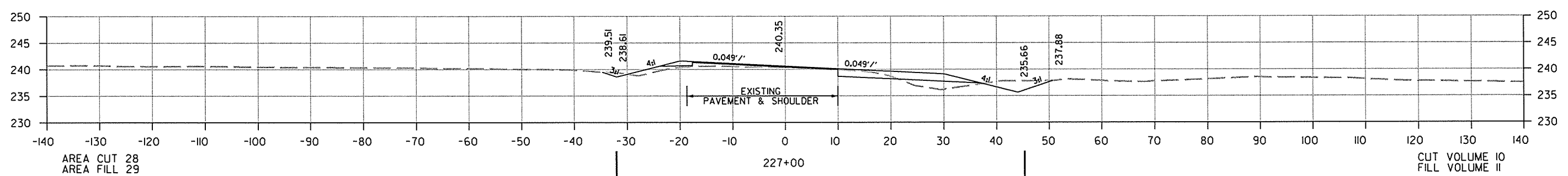
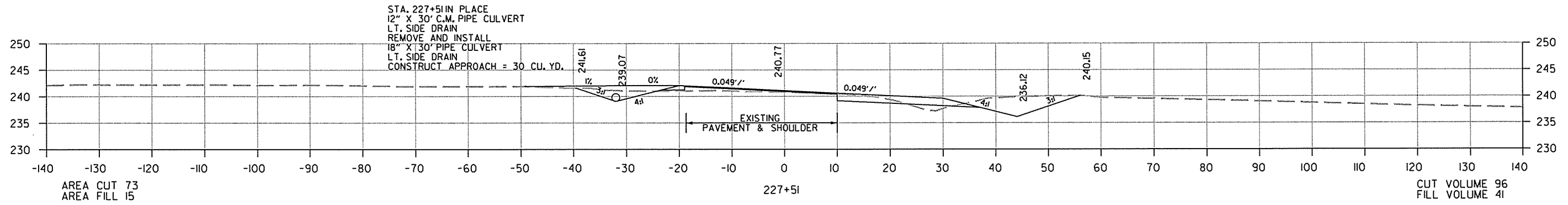
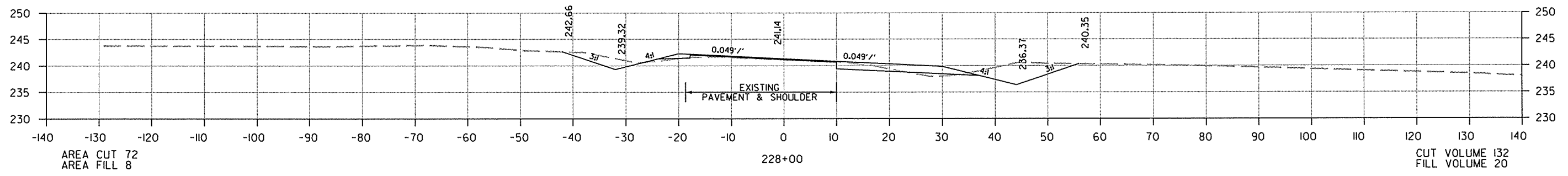
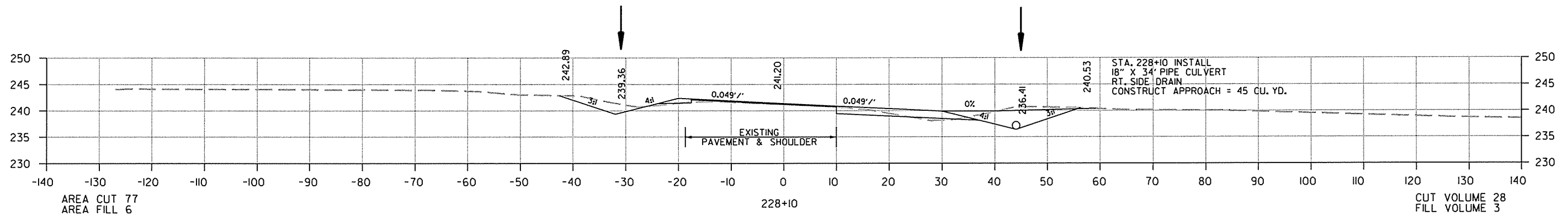


CROSS SECTION STA. 225+43 TO STA. 226+90

10/25/2013 R070366.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.	070366		168	237

2 CROSS SECTIONS - SITE 2

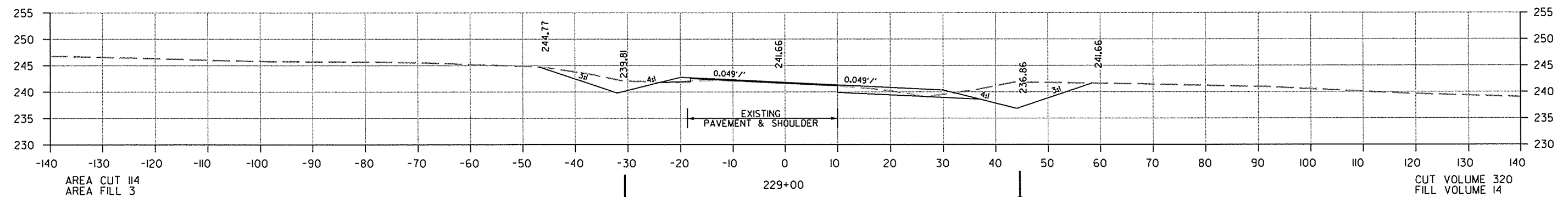
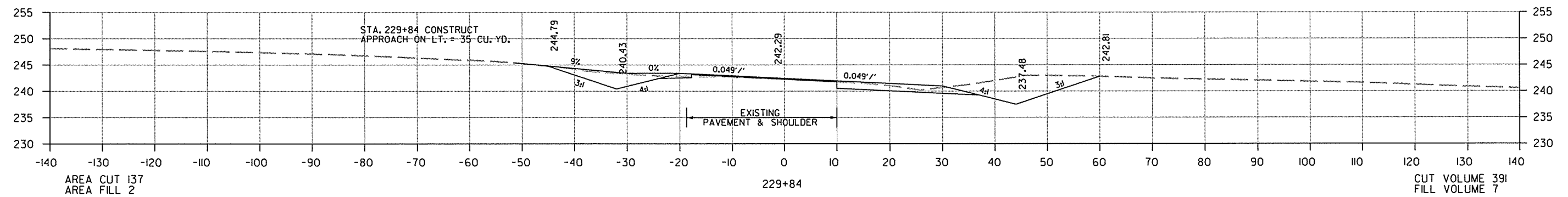
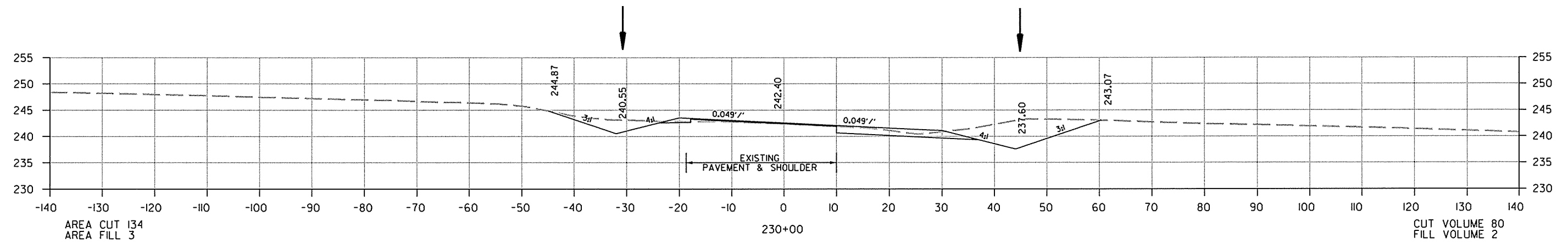


CROSS SECTION STA. 227+00 TO STA. 228+10

10/25/2013
R070366.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.	070366		169	237

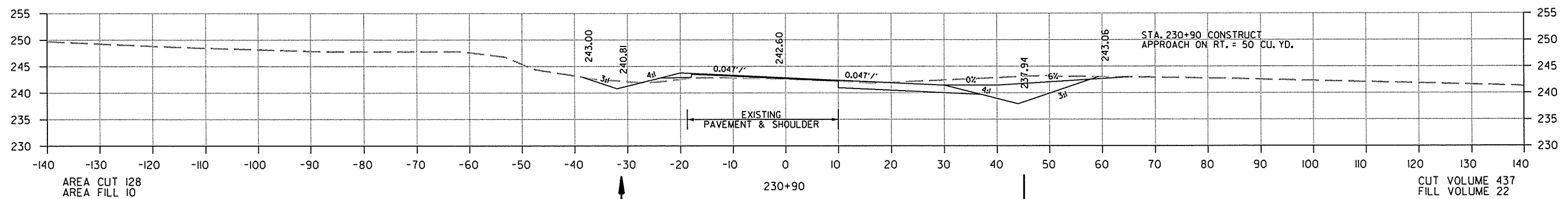
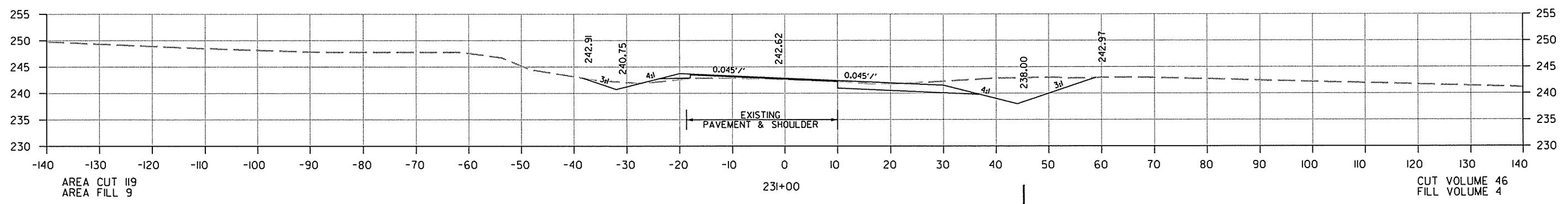
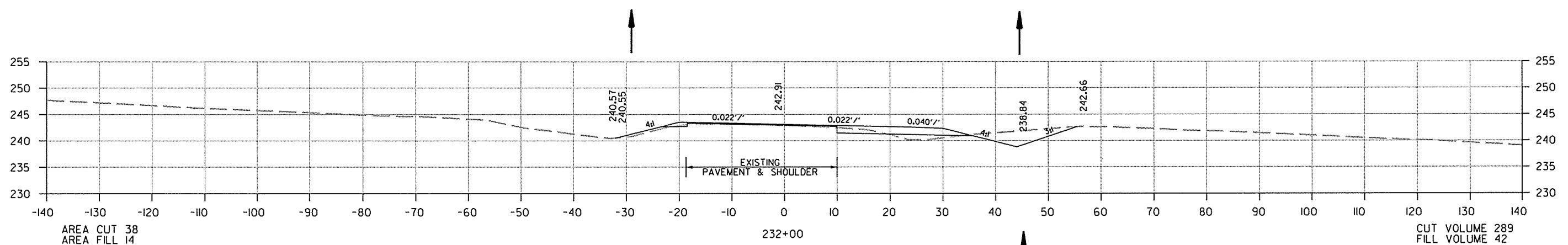
② CROSS SECTIONS - SITE 2



CROSS SECTION STA. 229+00 TO STA. 230+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		170	237

2 CROSS SECTIONS - SITE 2



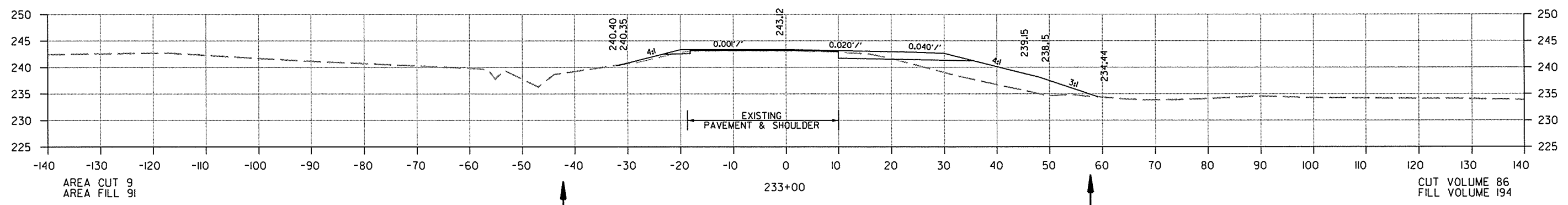
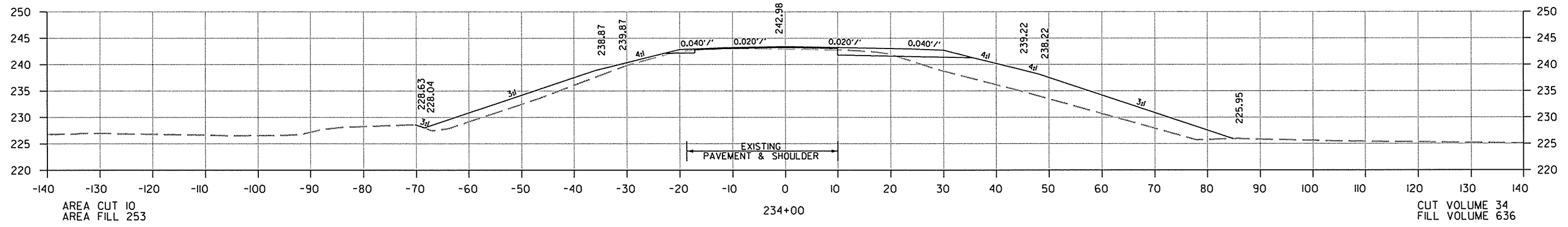
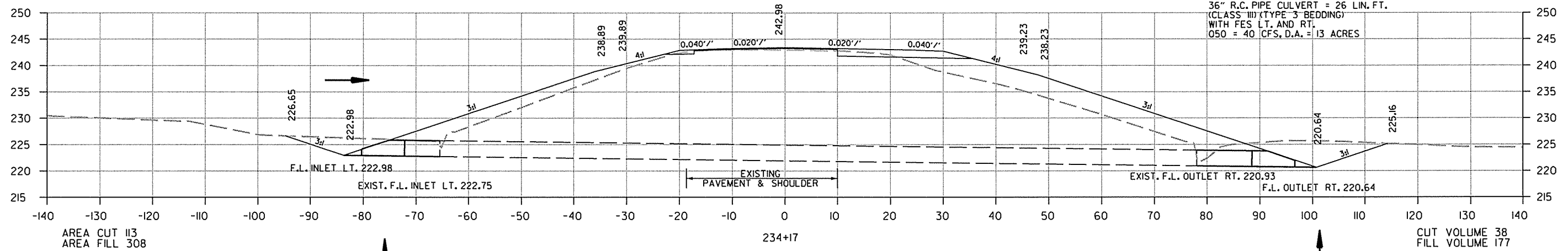
CROSS SECTION STA. 230+90 TO STA. 232+00

10/25/2013 R070366.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. 070.366			171	237

② CROSS SECTIONS - SITE 2

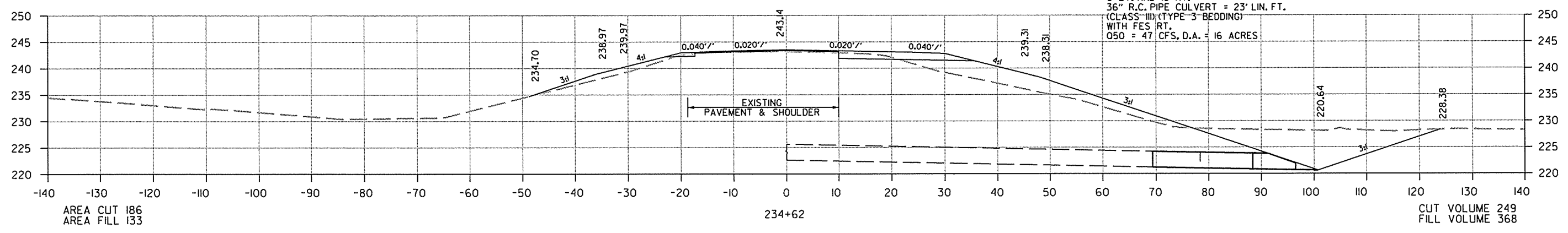
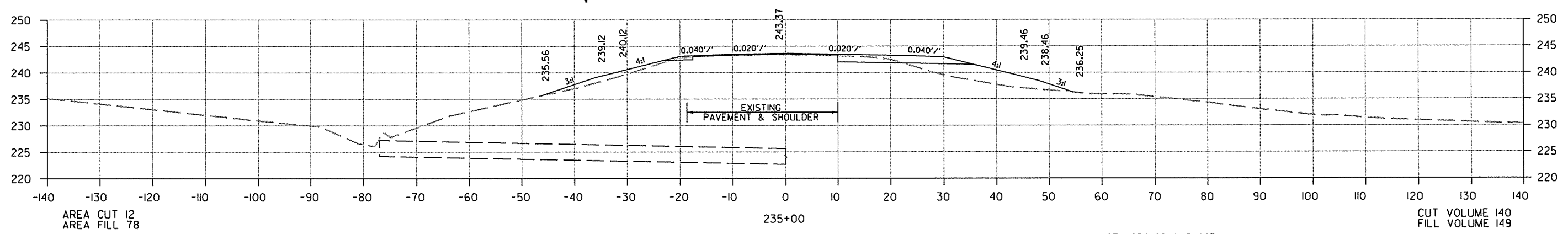
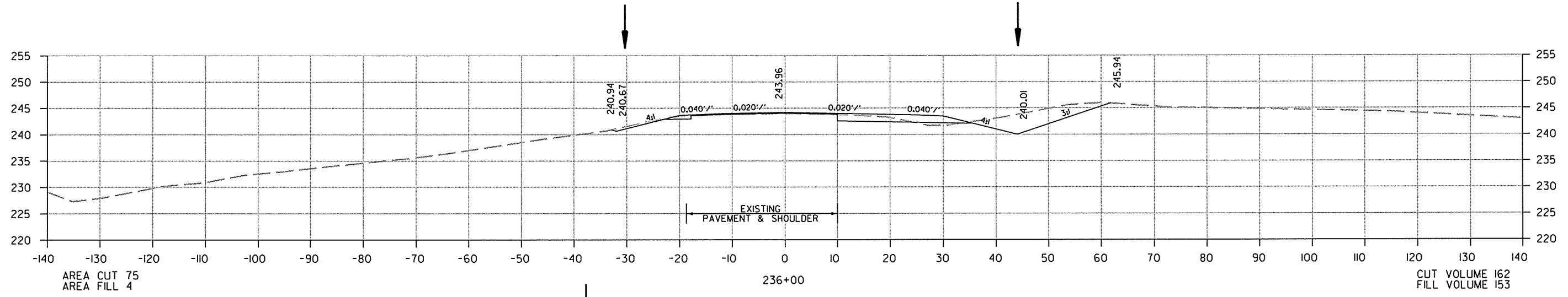
STA. 234+17 IN PLACE
 36" X 144" R.C. PIPE CULVERT
 RETAIN AND EXTEND
 7' L.T. AND 11' RT.
 36" R.C. PIPE CULVERT = 26 LIN. FT.
 (CLASS III) (TYPE 3 BEDDING)
 WITH FES L.T. AND RT.
 050 = 40 CFS, D.A. = 13 ACRES



CROSS SECTION STA. 233+00 TO STA. 234+17

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070366	172	237

2 CROSS SECTIONS - SITE 2



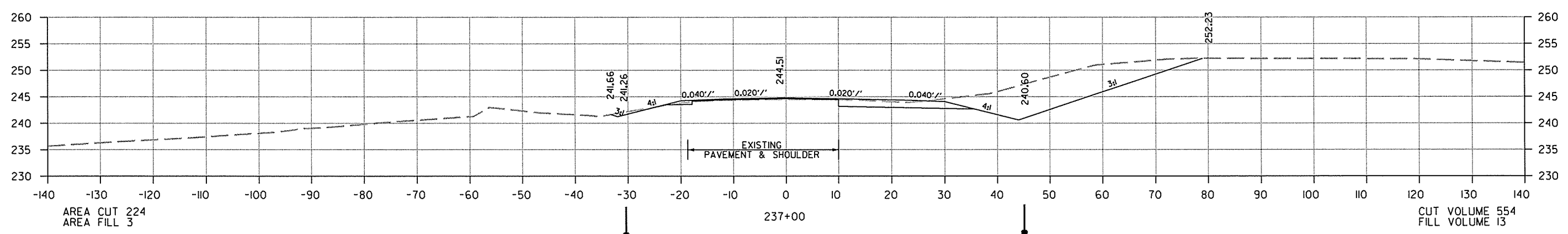
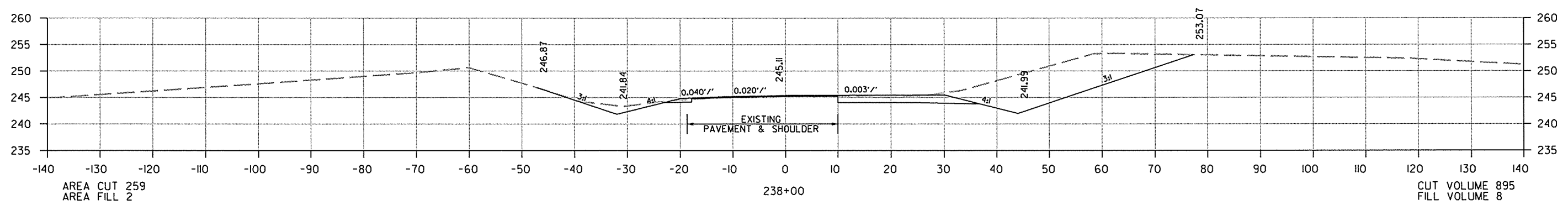
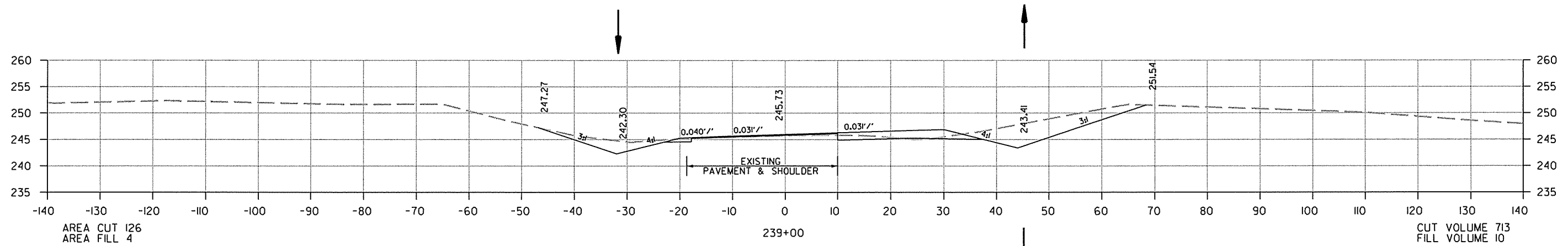
STA. 234+62 IN PLACE
36" X 177' R.C. PIPE CULVERT
RETAIN AND EXTEND
0' LT. AND 19' RT.
36" R.C. PIPE CULVERT = 23' LIN. FT.
(CLASS III) (TYPE 3 BEDDING)
WITH FES RT.
Q50 = 47 CFS, D.A. = 16 ACRES

CROSS SECTION STA. 234+62 TO STA. 236+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		173	237

② CROSS SECTIONS - SITE 2

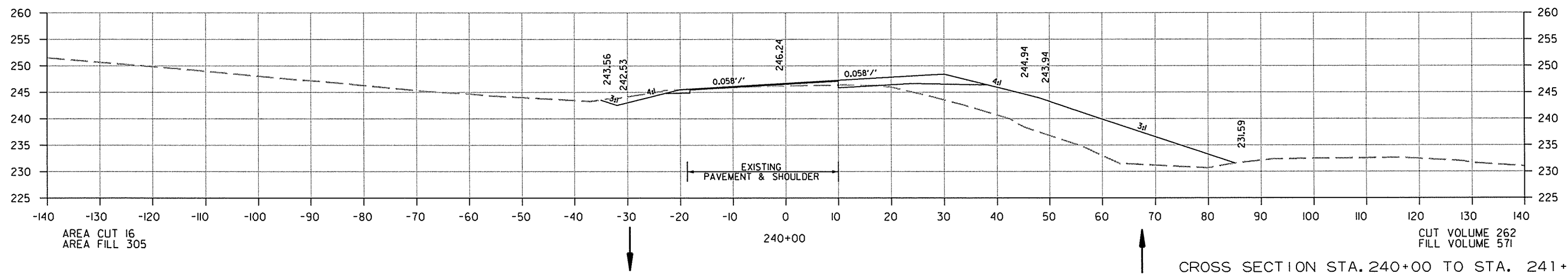
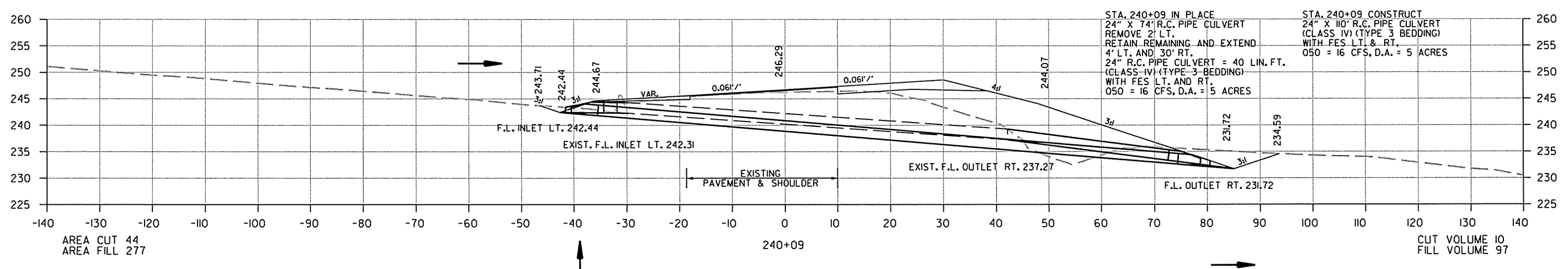
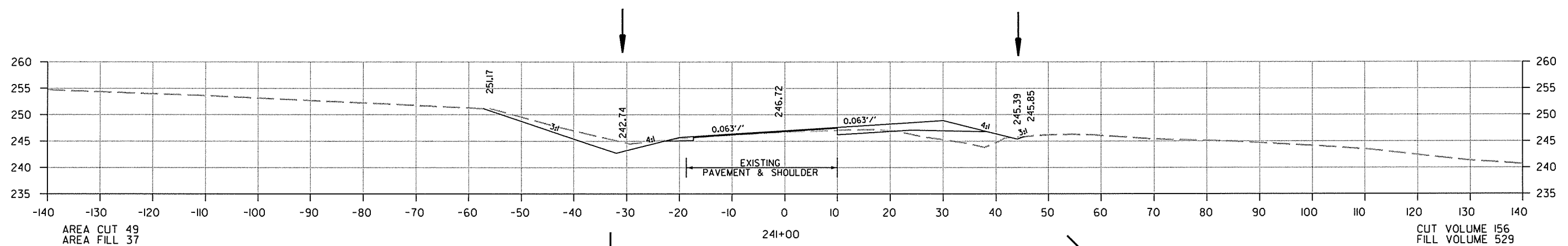


CROSS SECTION STA. 237+00 TO STA. 239+00

10/25/2013 R070366.DCN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							174	237

② CROSS SECTIONS - SITE 2

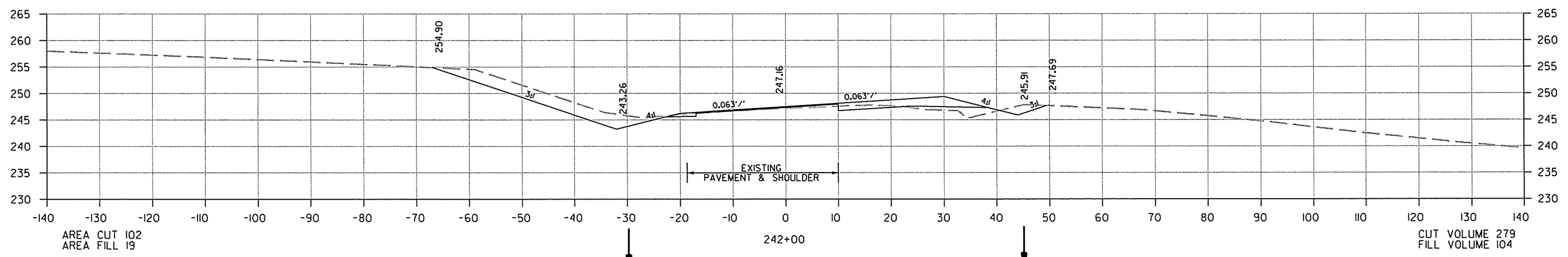
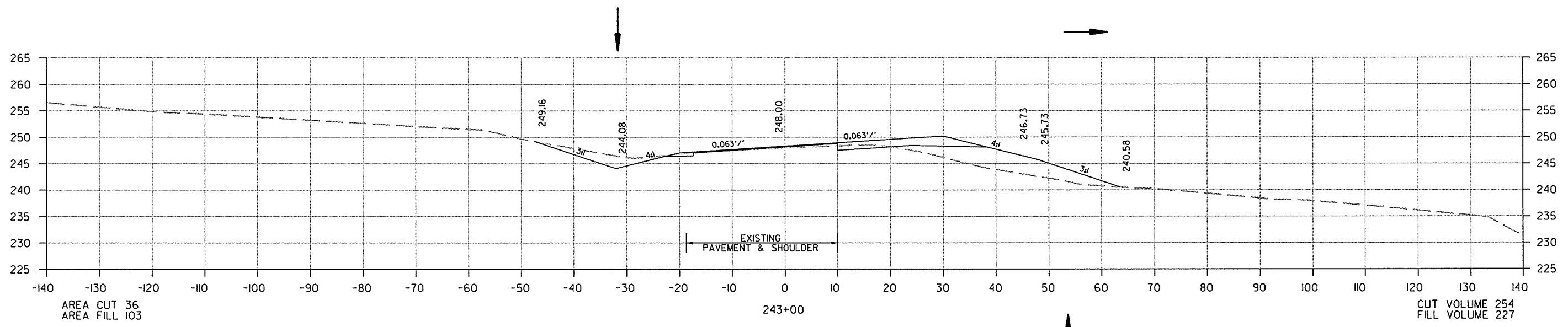


CROSS SECTION STA. 240+00 TO STA. 241+00

10/25/2013
R070366.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.		070366	175	237

② CROSS SECTIONS - SITE 2

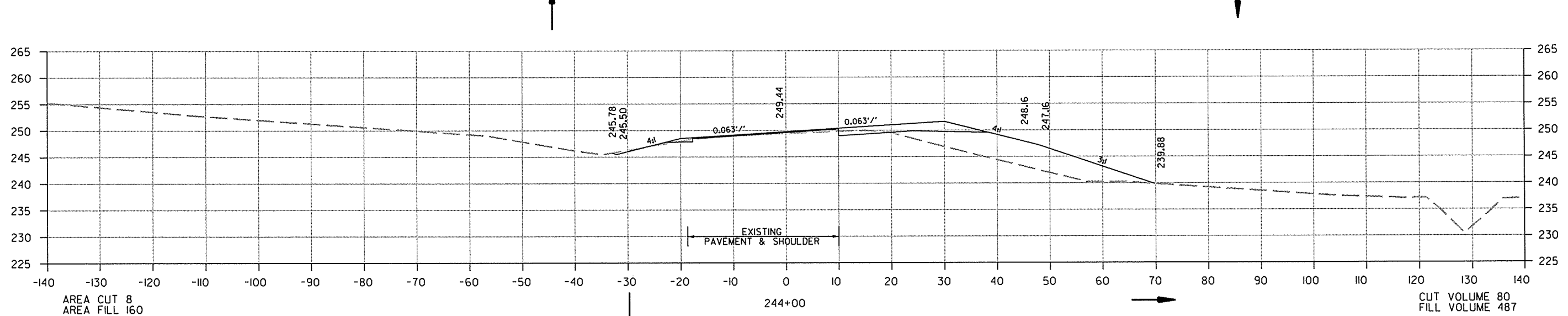
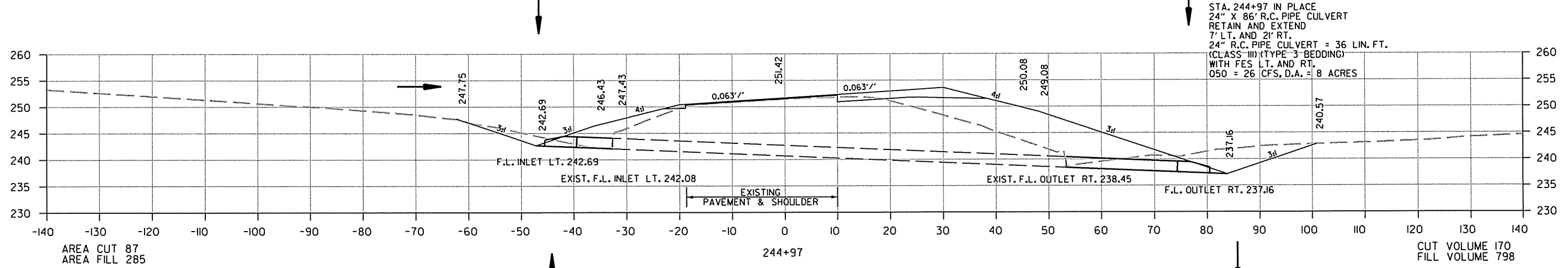
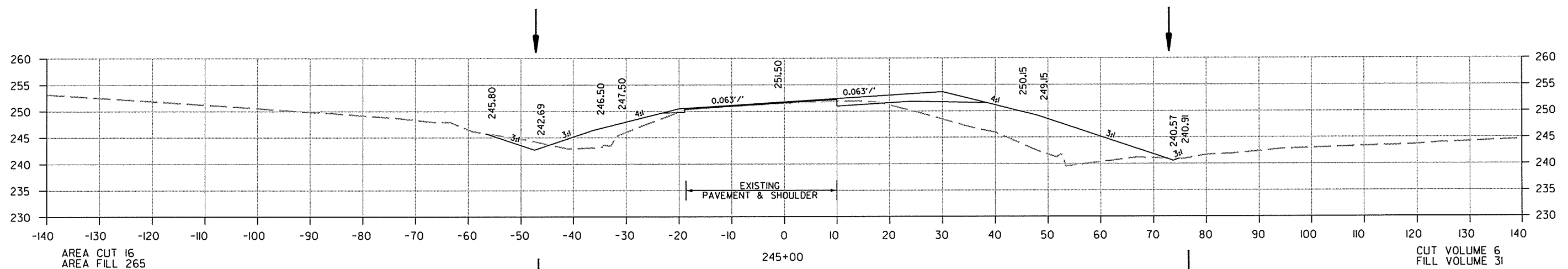


CROSS SECTION STA. 242+00 TO STA. 243+00

R070366.DCN 10/25/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	176	237

2 CROSS SECTIONS - SITE 2

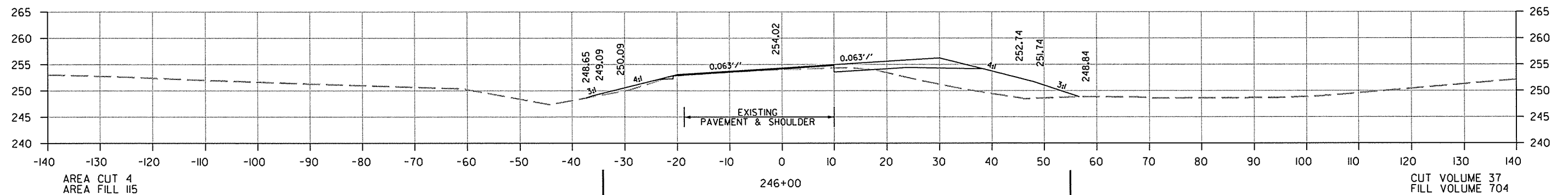
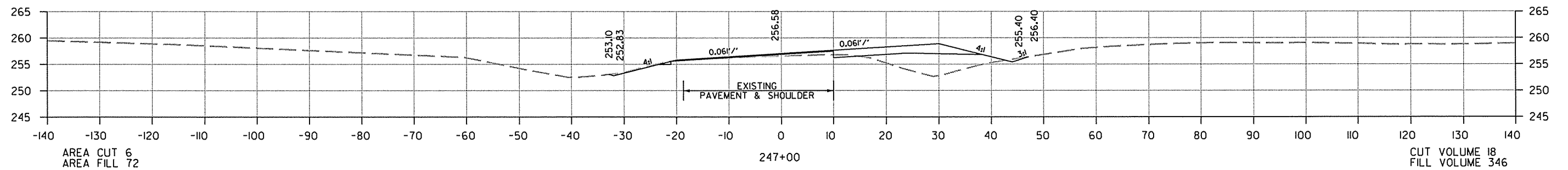
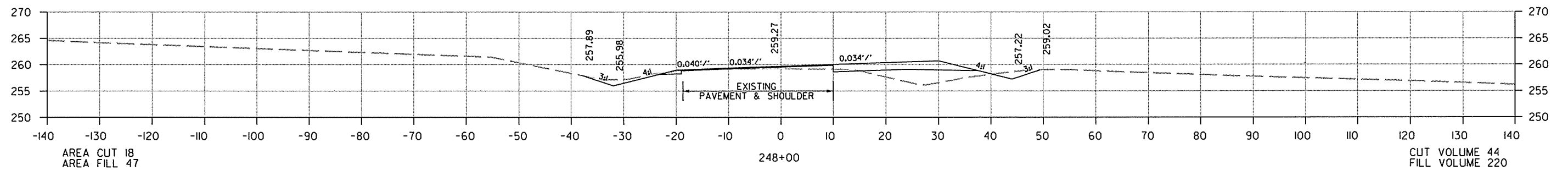
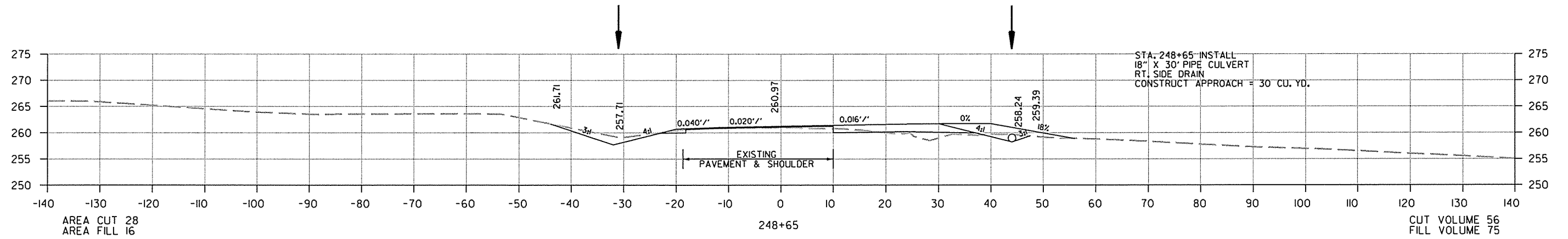


CROSS SECTION STA. 244+00 TO STA. 245+00

10/25/2013
R070366.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.	070366		177	237

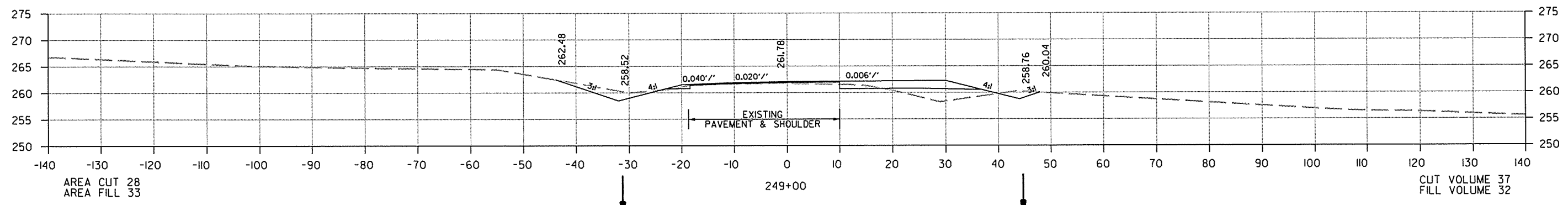
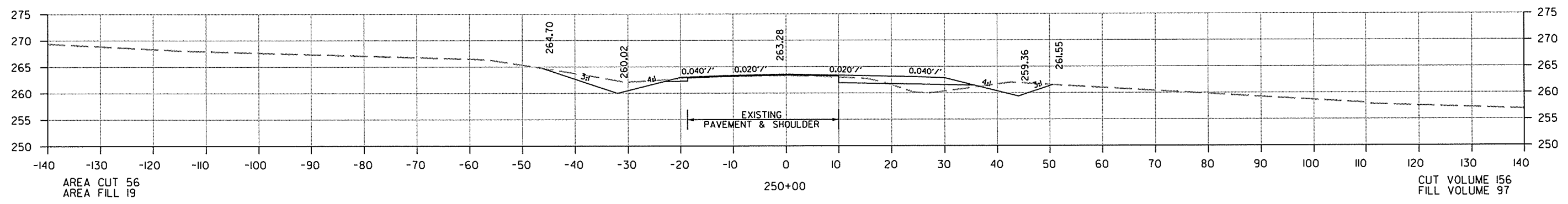
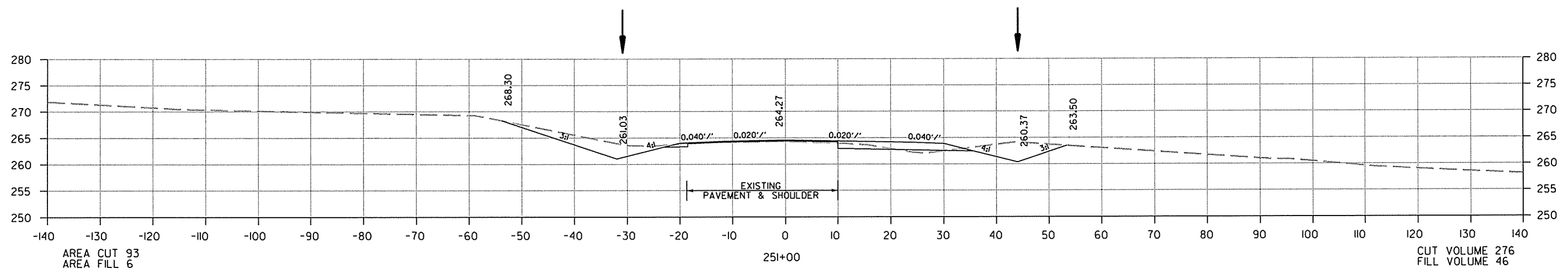
2 CROSS SECTIONS - SITE 2



CROSS SECTION STA. 246+00 TO STA. 248+65

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	178	237

2 CROSS SECTIONS - SITE 2

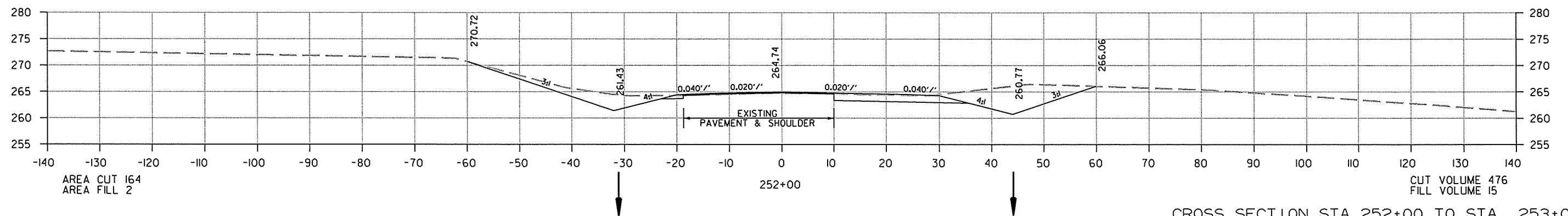
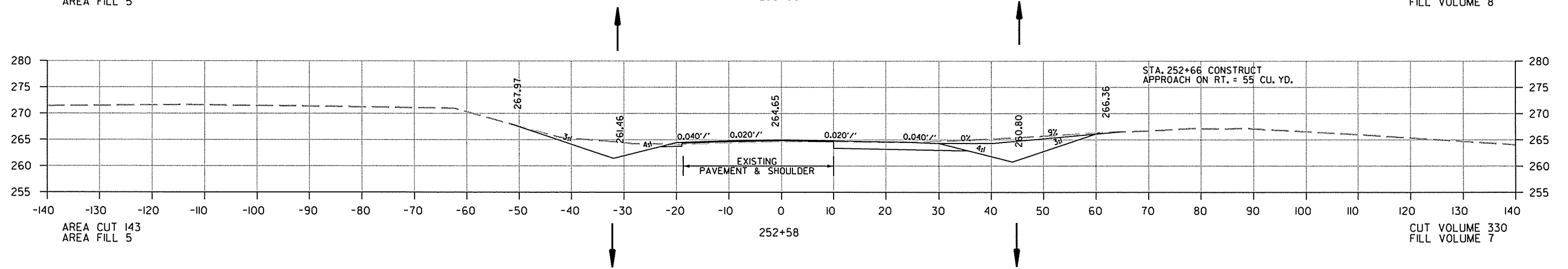
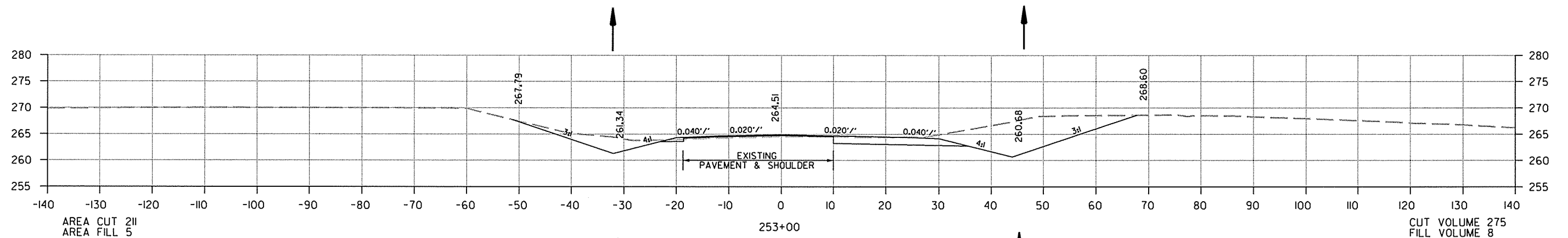


CROSS SECTION STA. 249+00 TO STA. 251+00

10/25/2013 R070366.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.	070366		179	237

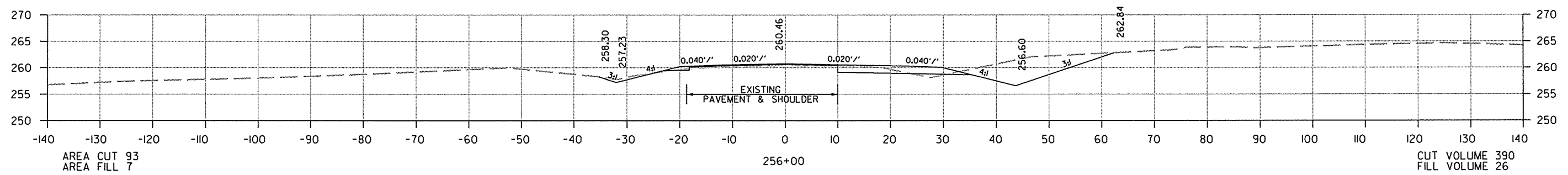
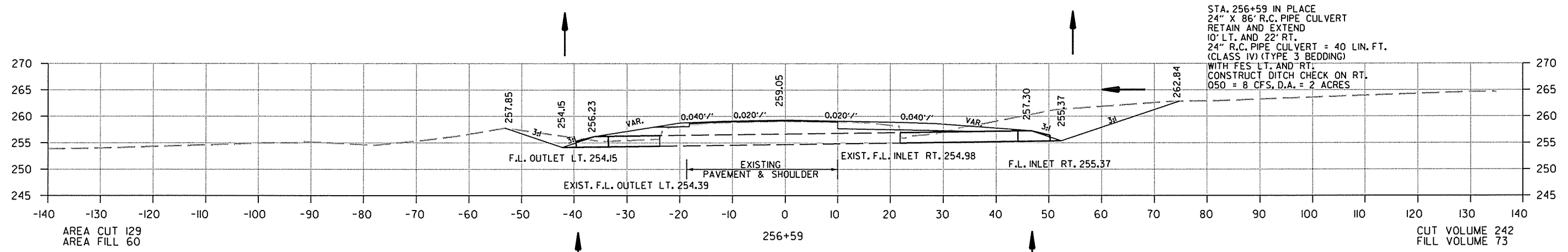
② CROSS SECTIONS - SITE 2



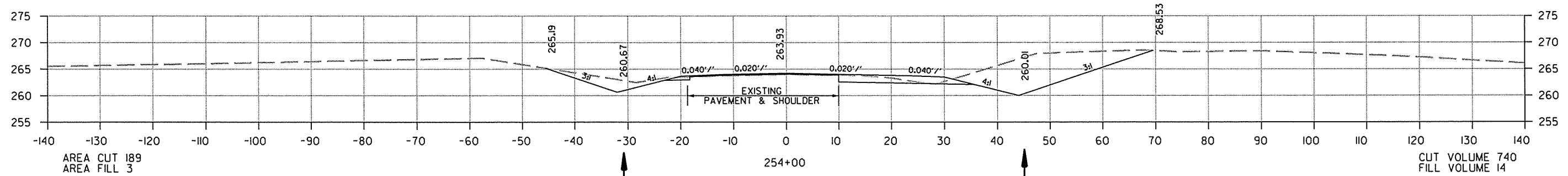
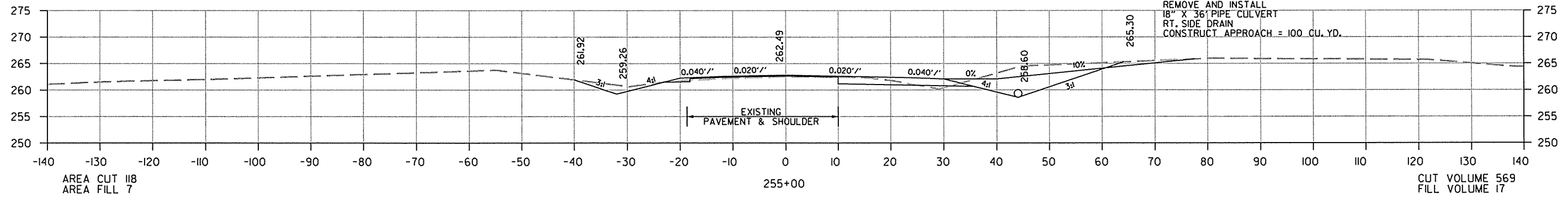
CROSS SECTION STA. 252+00 TO STA. 253+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							180	237

2 CROSS SECTIONS - SITE 2



BEGIN 660' TAPER @ STA. 255+80

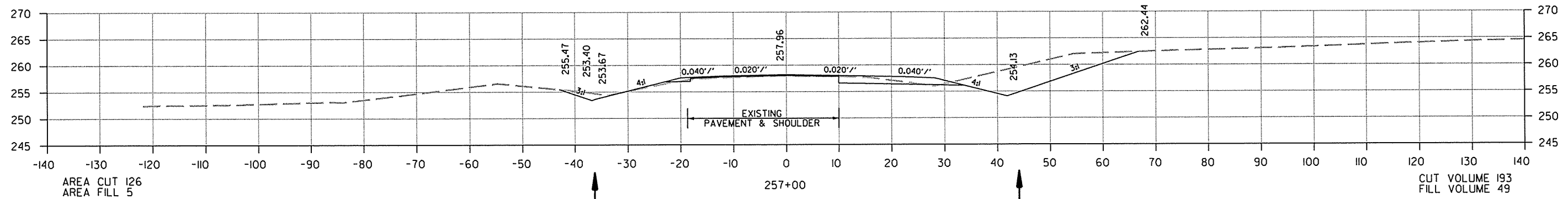
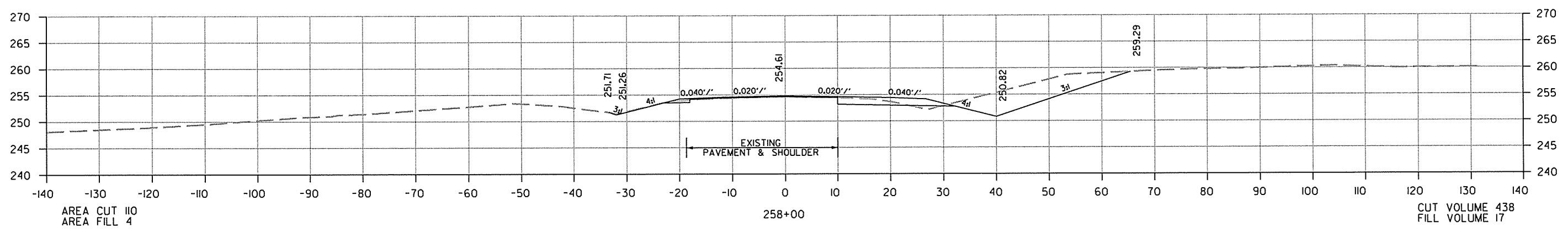
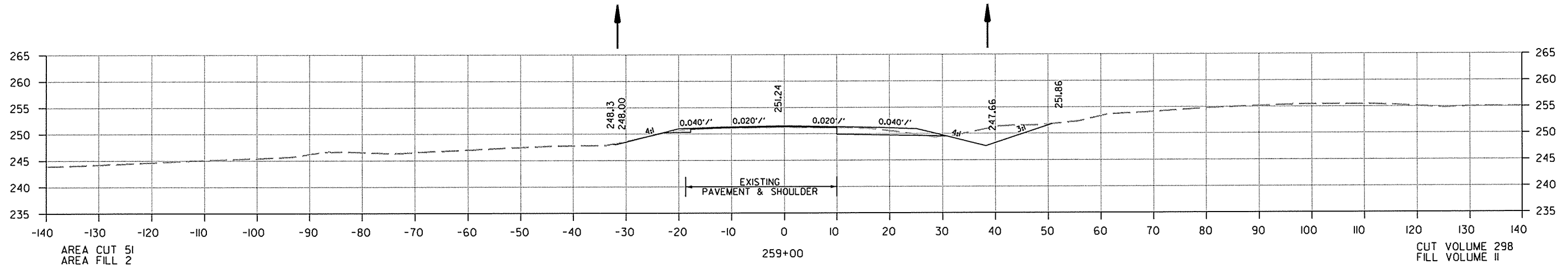


CROSS SECTION STA. 254+00 TO STA. 256+59

10/25/2013
 R070366.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.	070366		181	237

2 CROSS SECTIONS - SITE 2

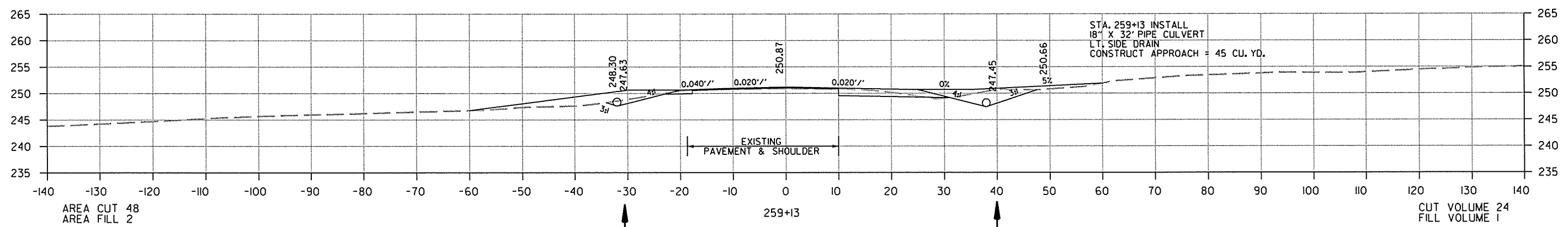
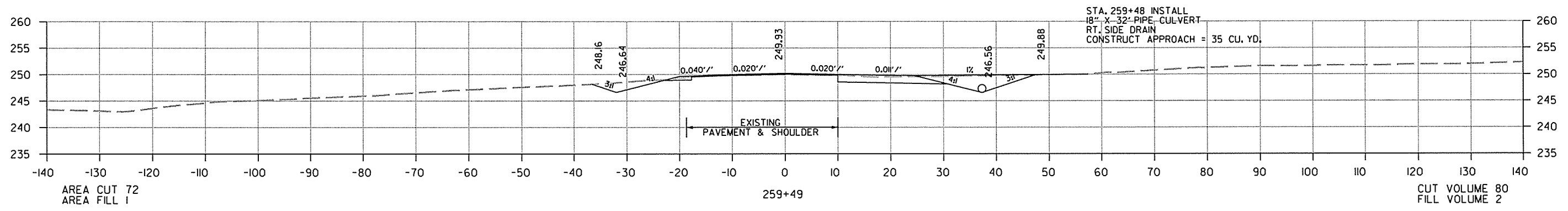
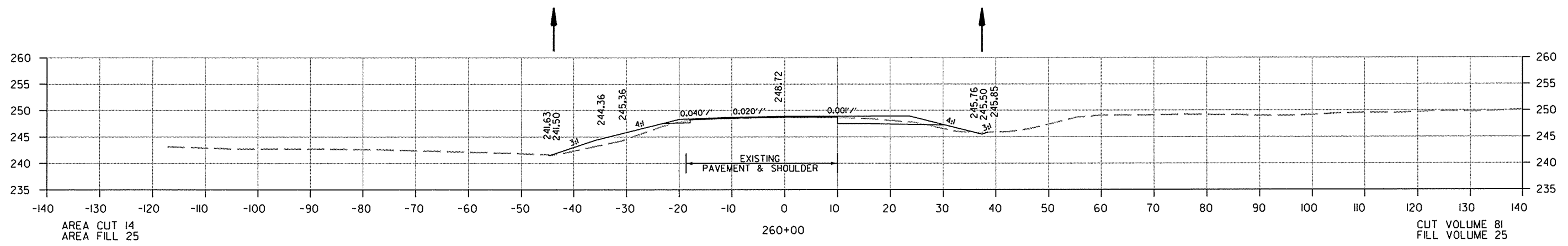


CROSS SECTION STA. 257+00 TO STA. 259+00

10/25/2013 R070366.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.	070366		182	237

2 CROSS SECTIONS - SITE 2

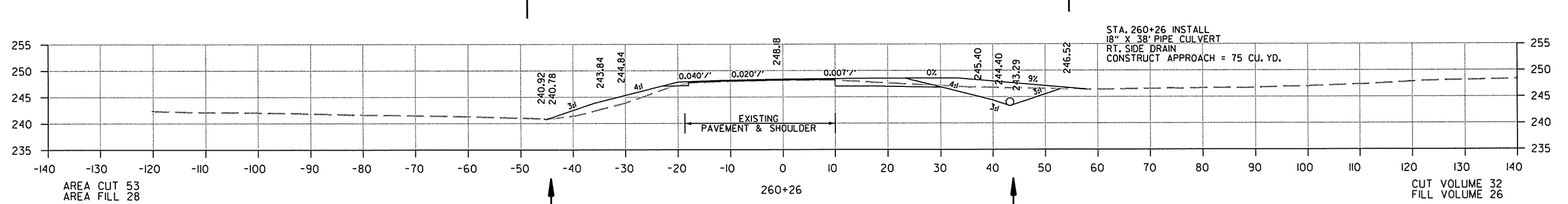
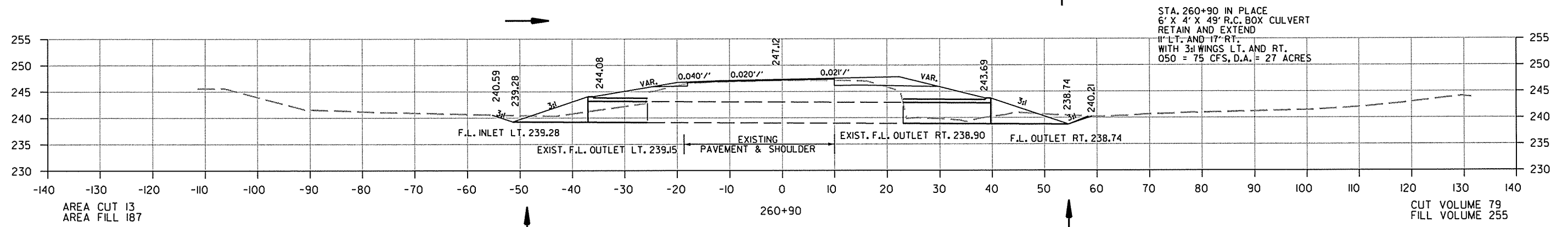
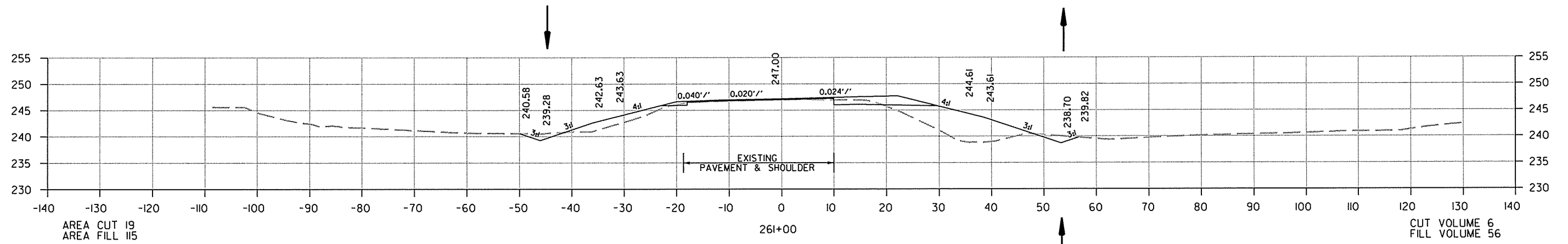


CROSS SECTION STA. 259+13 TO STA. 260+00

10/25/2013 R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. RD. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		183	237

② CROSS SECTIONS - SITE 2

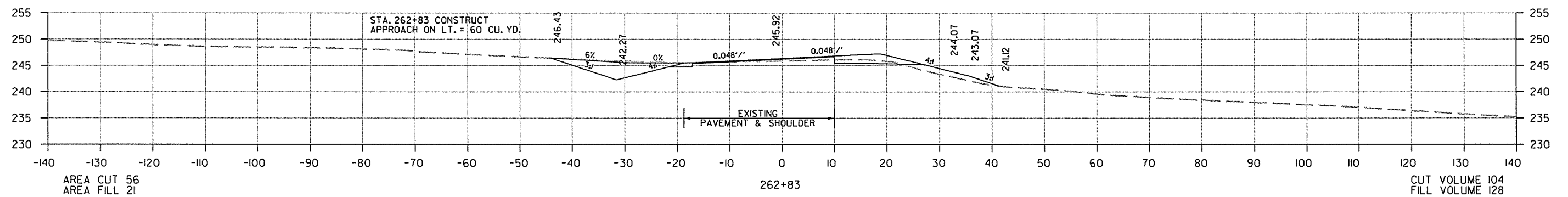
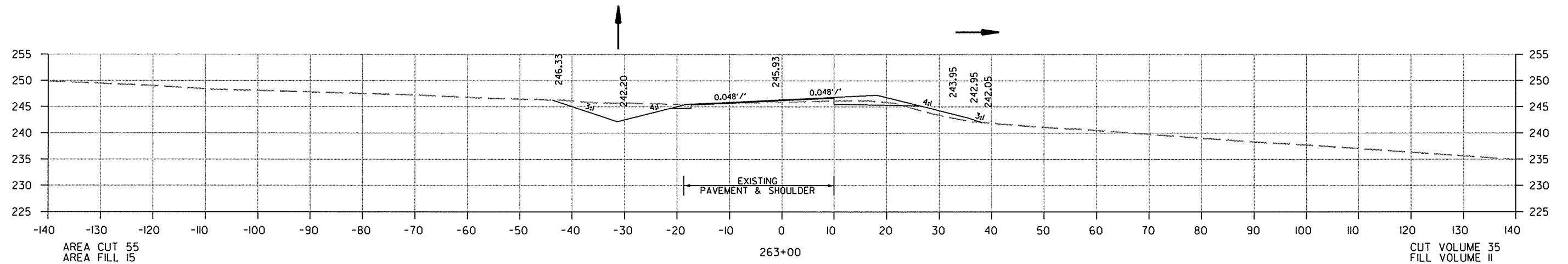


CROSS SECTION STA. 260+26 TO STA. 261+00

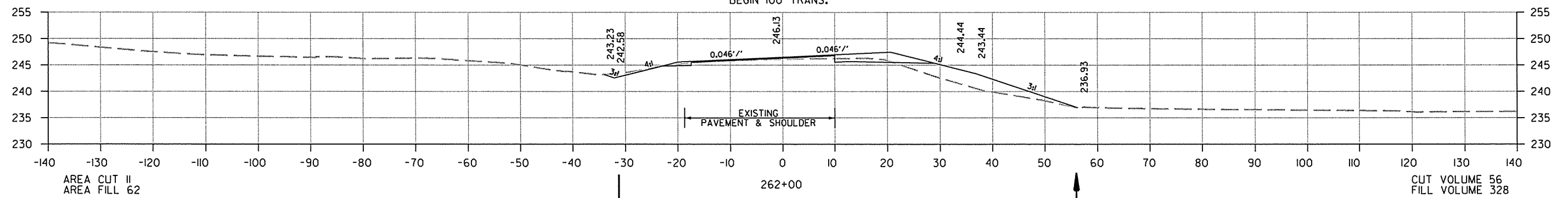
10/25/2013 R070366.DGN

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.	070366		184	237

2 CROSS SECTIONS - SITE 2



END SITE 2 @ STA. 262+40
END 660' TAPER
BEGIN 100' TRANS.



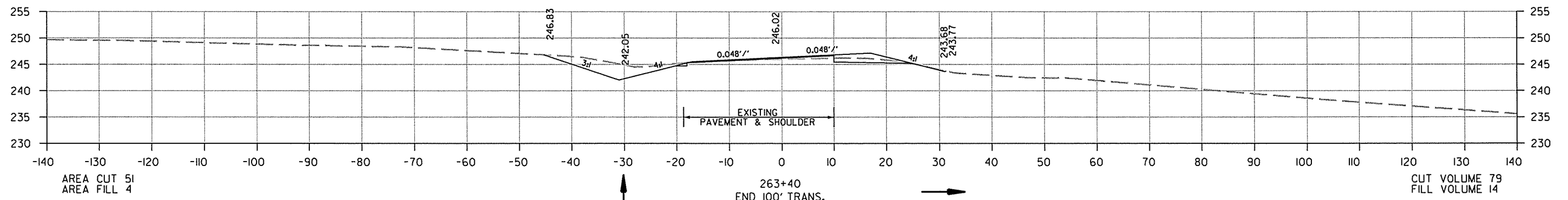
CROSS SECTION STA. 262+00 TO STA. 263+00

10/25/2013

R070366.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. RD. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		070366	185	237

② CROSS SECTIONS - SITE 2



AREA CUT 51
AREA FILL 4

263+40
END 100' TRANS.

CUT VOLUME 79
FILL VOLUME 14

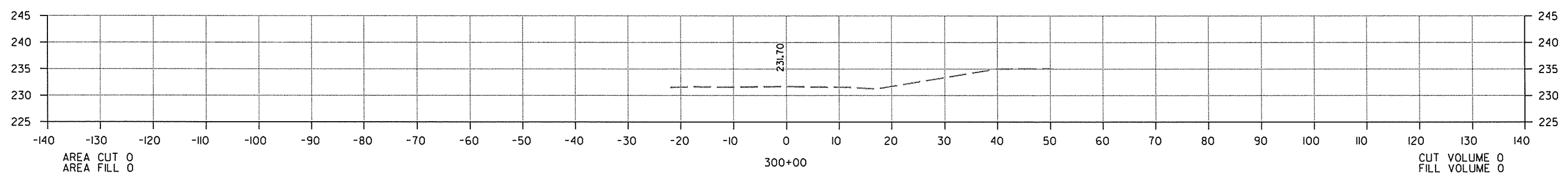
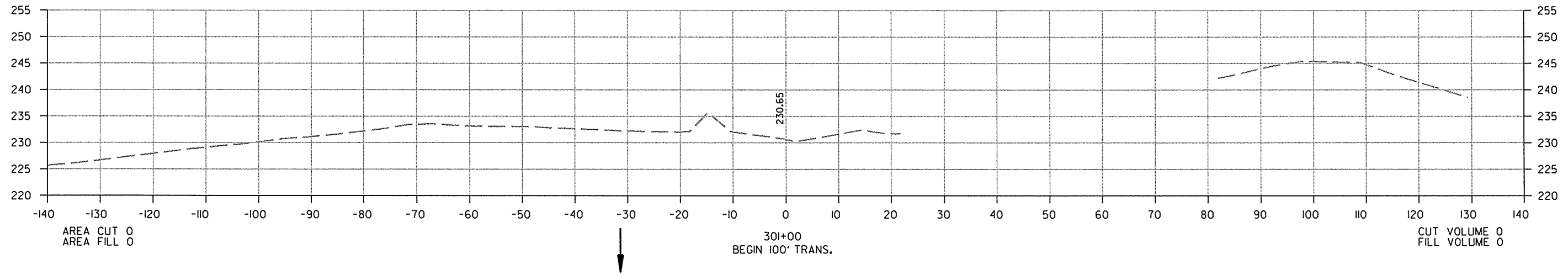
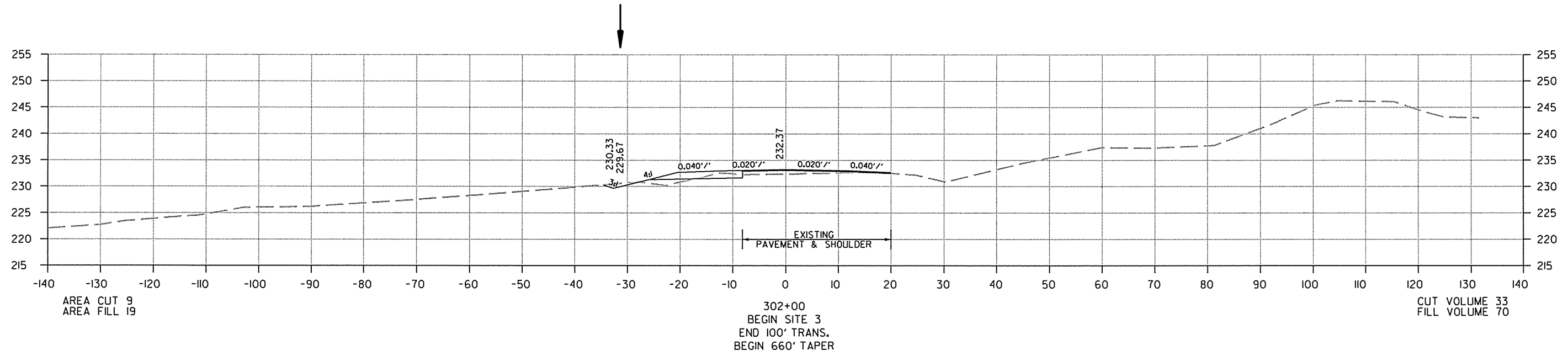
CROSS SECTION STA. 263+40 TO STA. 263+40

10/25/2013

R070366.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. 070366							186	237

2 CROSS SECTIONS - SITE 3

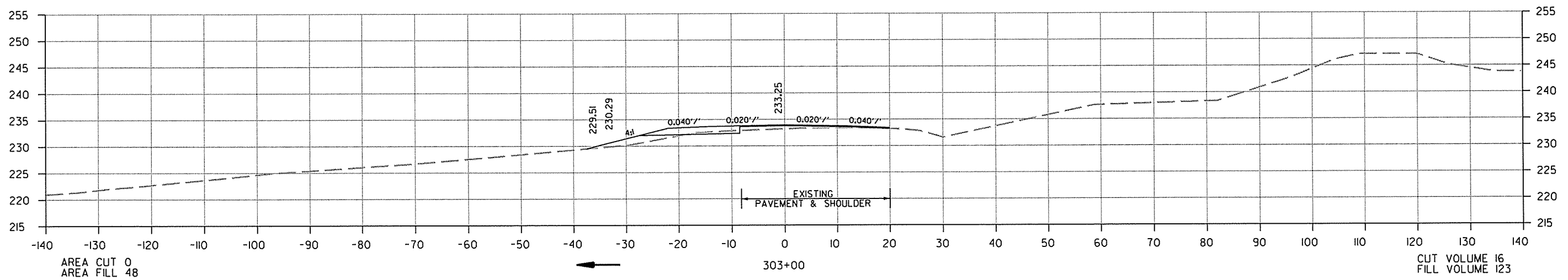
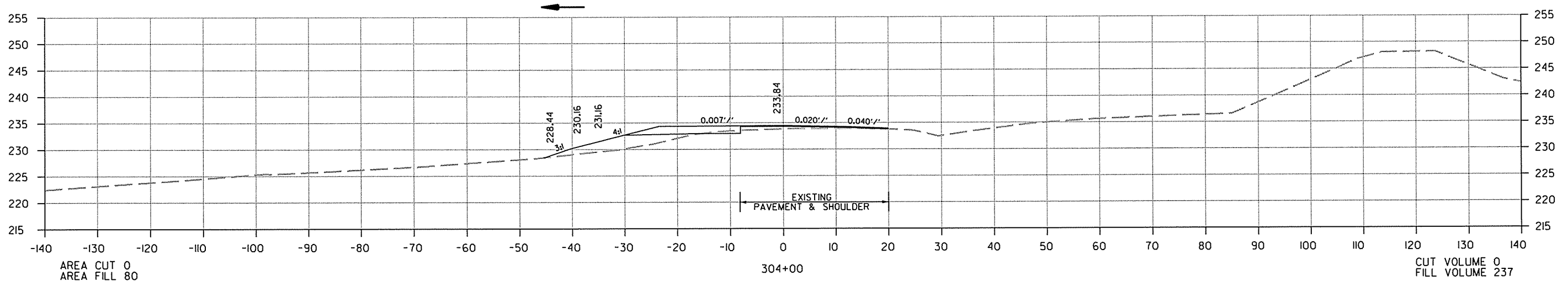


CROSS SECTION STA. 300+00 TO STA. 302+00

10/25/2013 R070366.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. 070366							187	237

2 CROSS SECTIONS - SITE 3

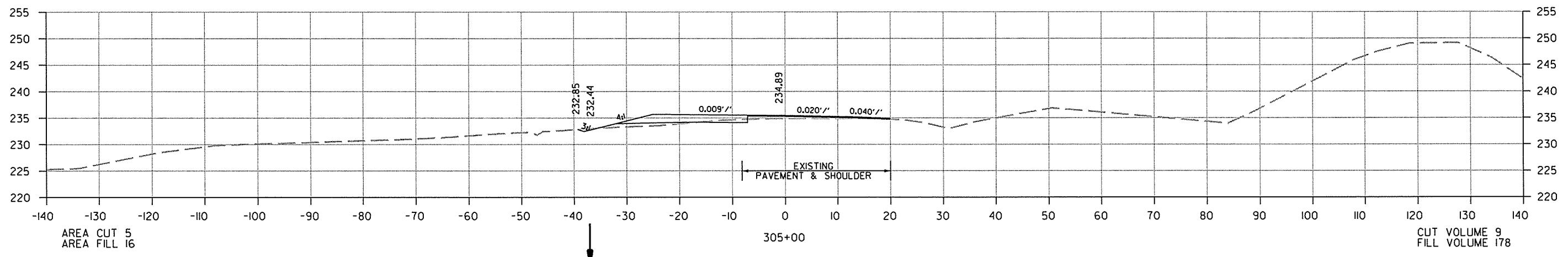
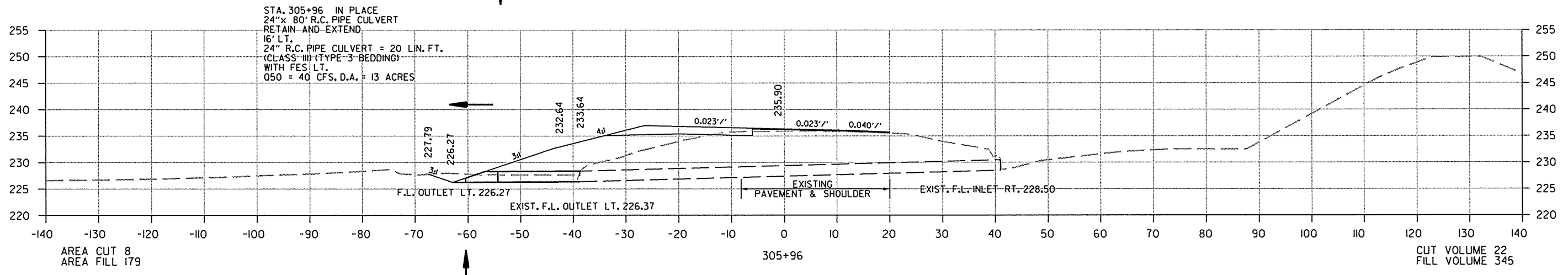
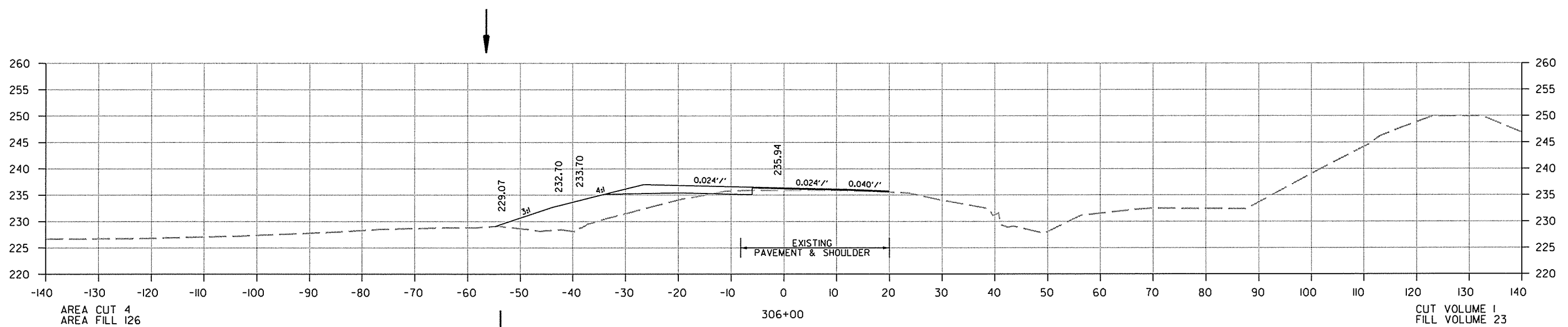


CROSS SECTION STA. 303+00 TO STA. 304+00

10/25/2013 R070366.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. 070366							188	237

2 CROSS SECTIONS - SITE 3

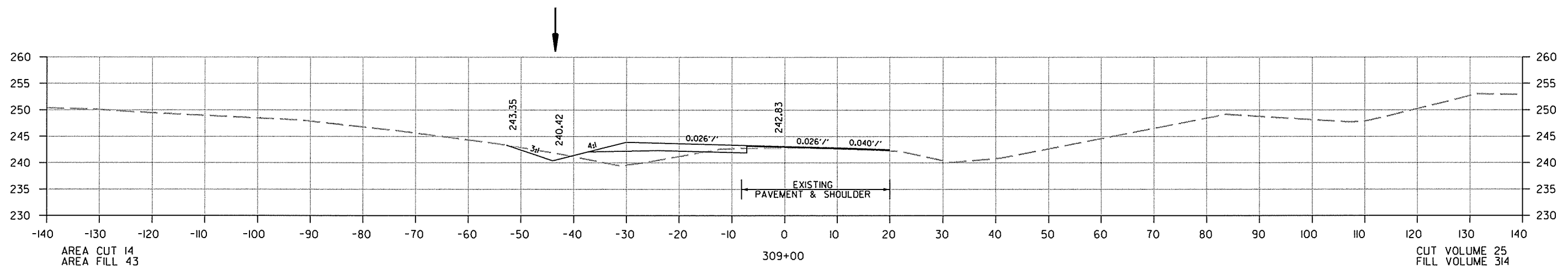


CROSS SECTION STA. 305+00 TO STA. 306+00

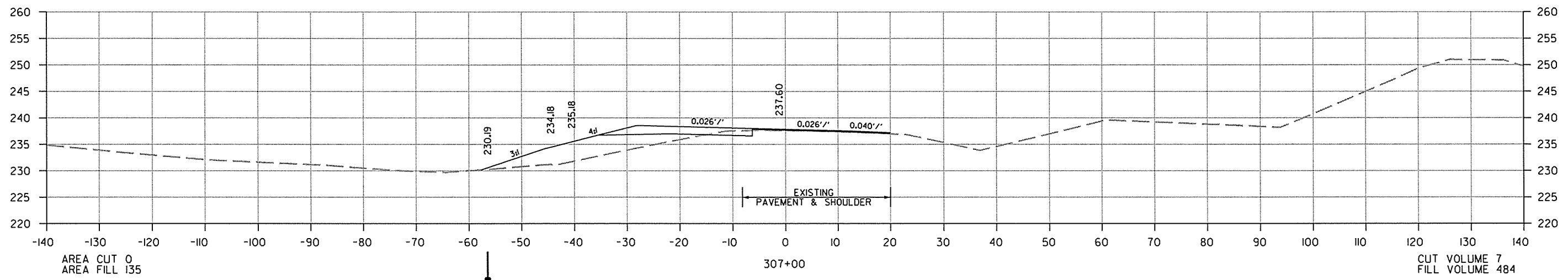
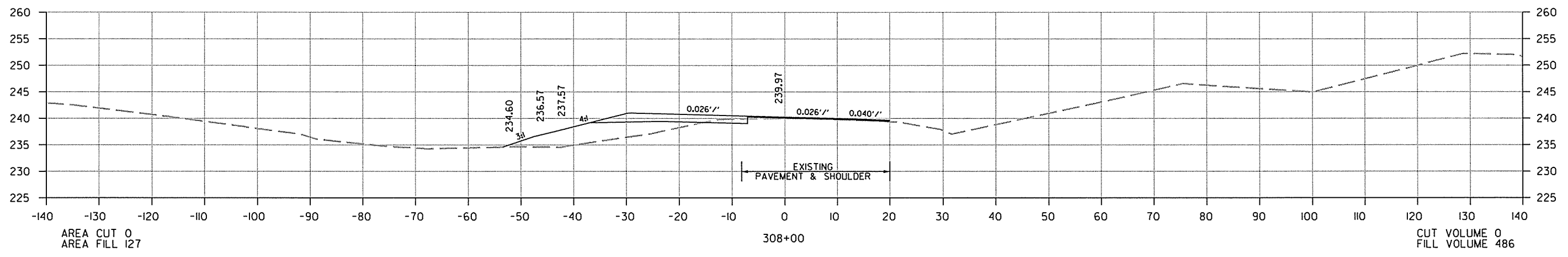
10/25/2013
R070366.DGN

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.	070366		189	237

② CROSS SECTIONS - SITE 3



END 660' TAPER @ STA. 308+60.00

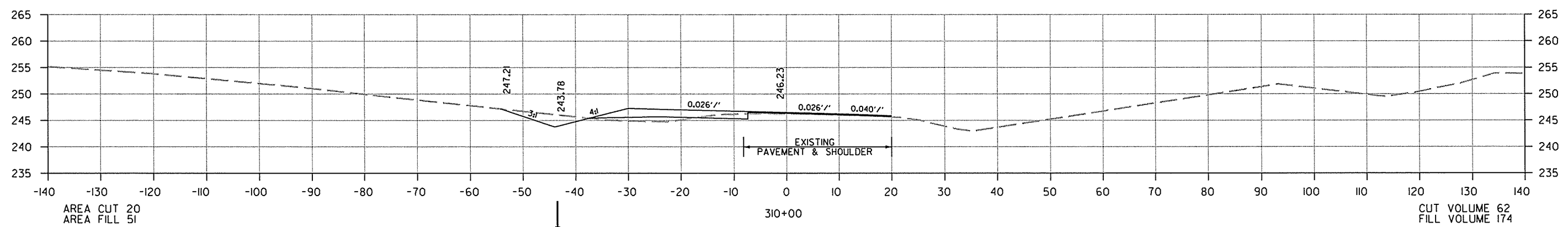
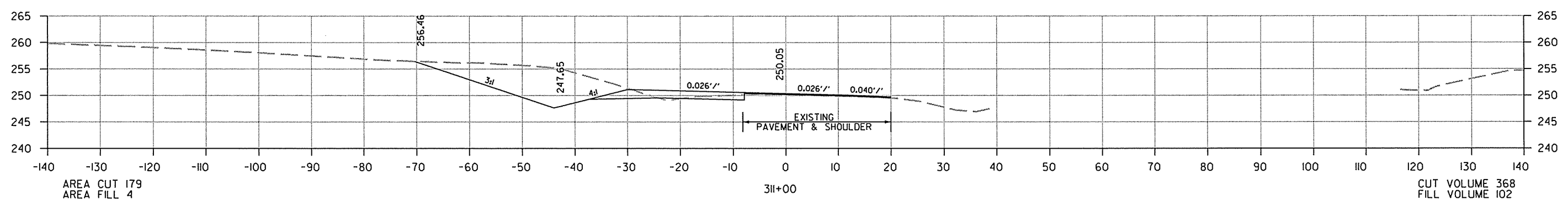
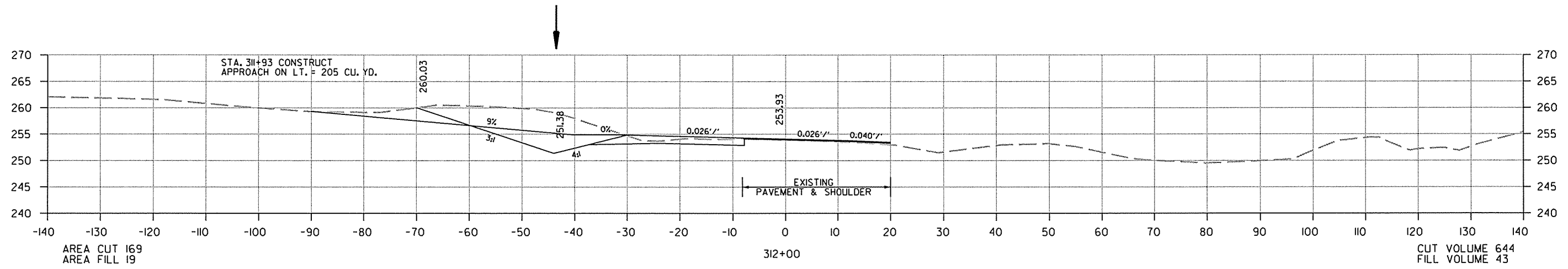


CROSS SECTION STA. 307+00 TO STA. 309+00

10/25/2013
R070366.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.	070366		190	237

2 CROSS SECTIONS - SITE 3

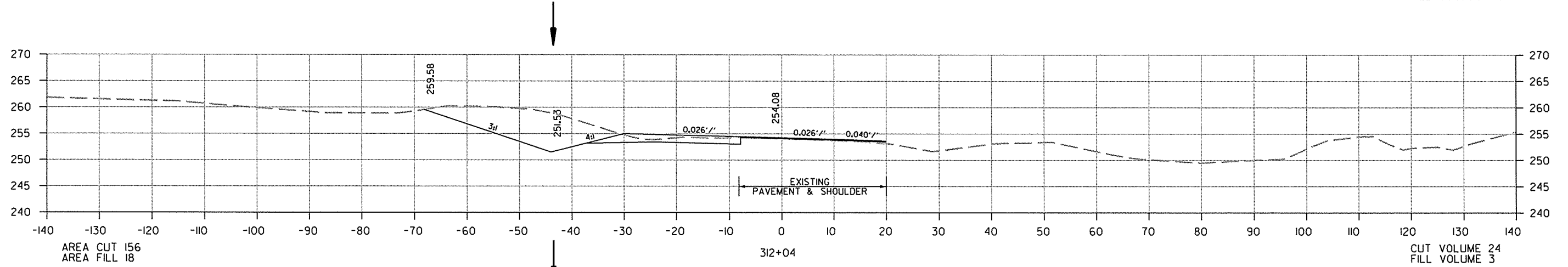
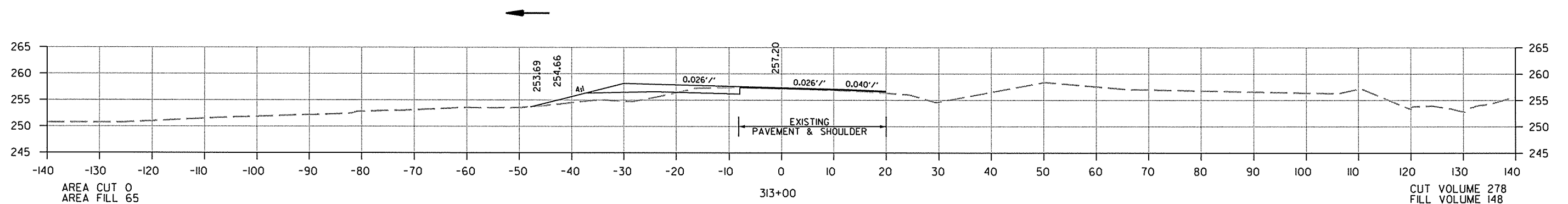
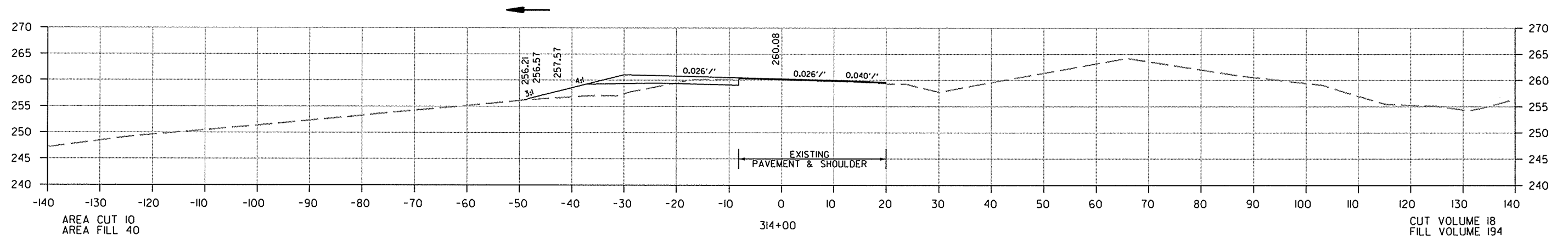


CROSS SECTION STA. 310+00 TO STA. 312+00

10/25/2013
R070366.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. 070366	191	237

② CROSS SECTIONS - SITE 3

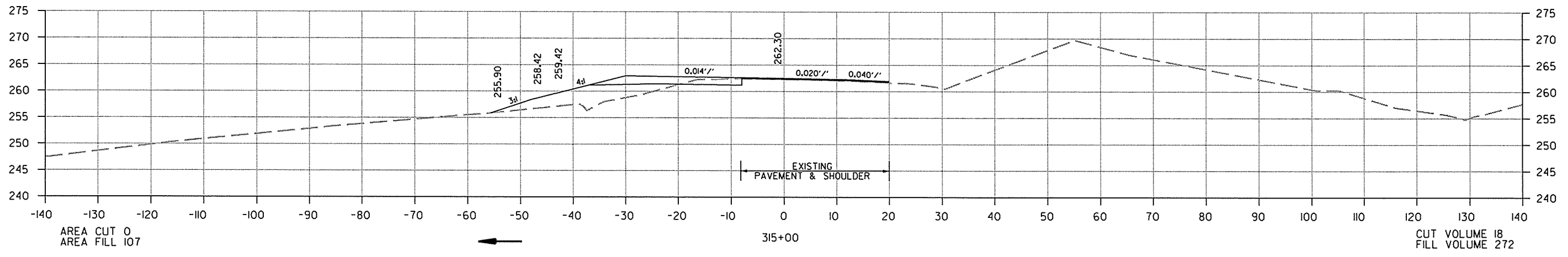
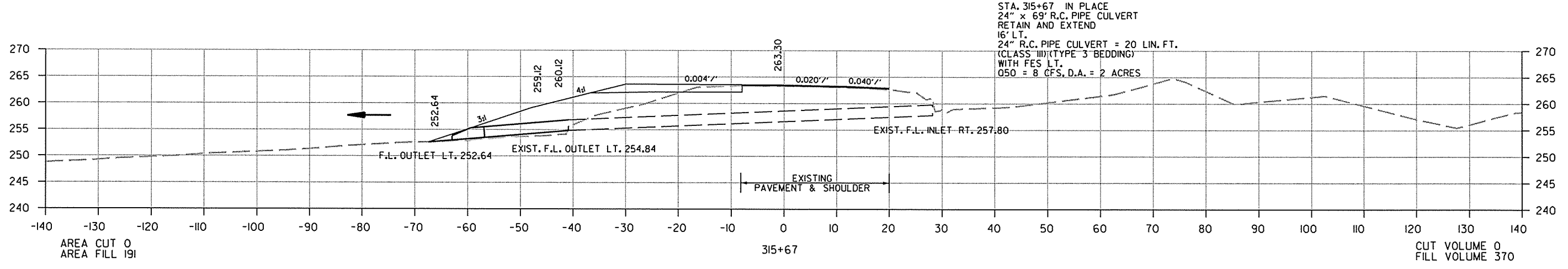
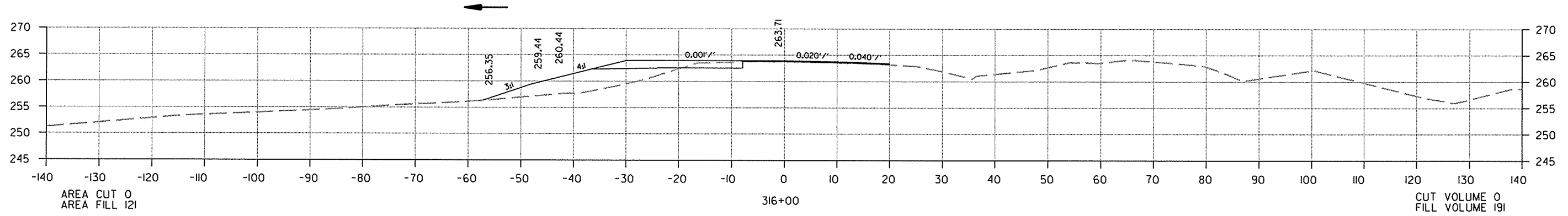


CROSS SECTION STA. 312+04 TO STA. 314+00

10/25/2013 R070366.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. 070366	192	237

2 CROSS SECTIONS - SITE 3

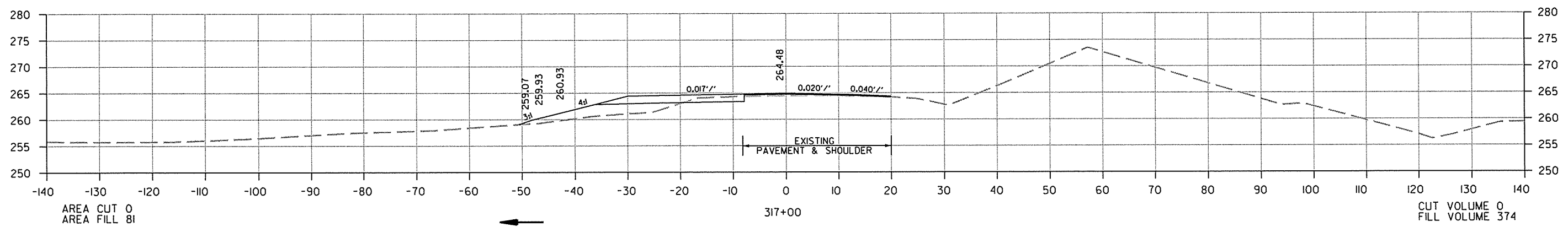
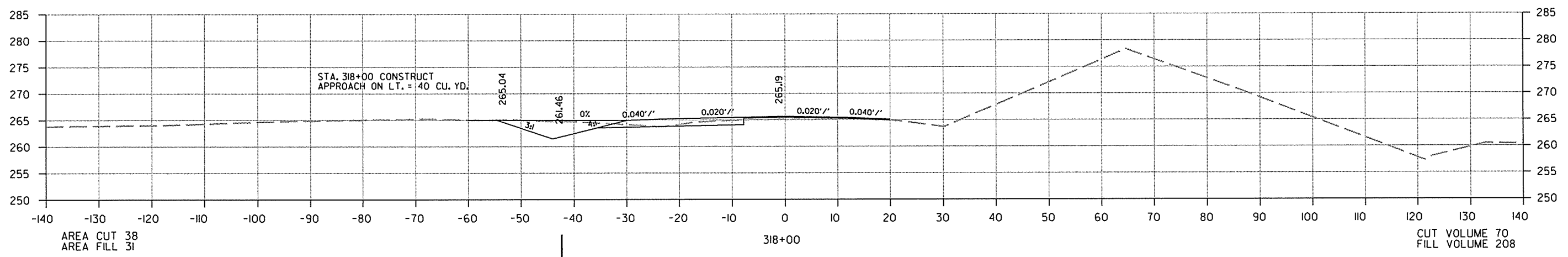
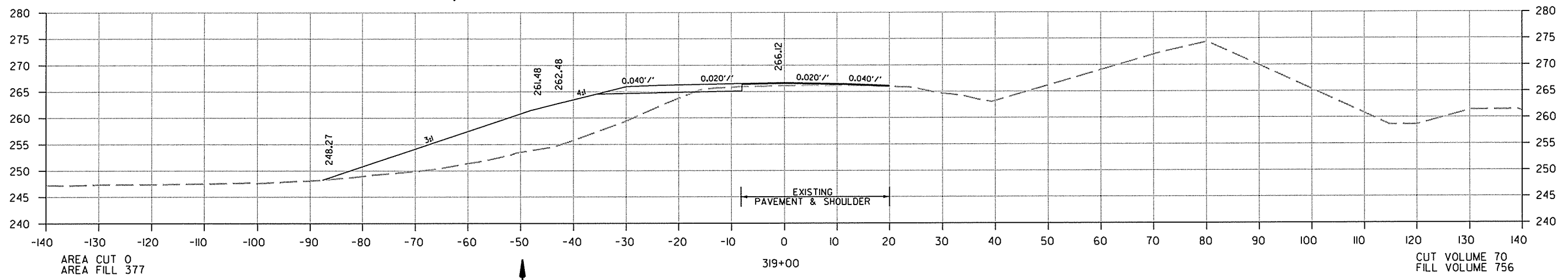


CROSS SECTION STA. 315+00 TO STA. 316+00

10/25/2013 R070366.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.	070366		193	237

2 CROSS SECTIONS - SITE 3

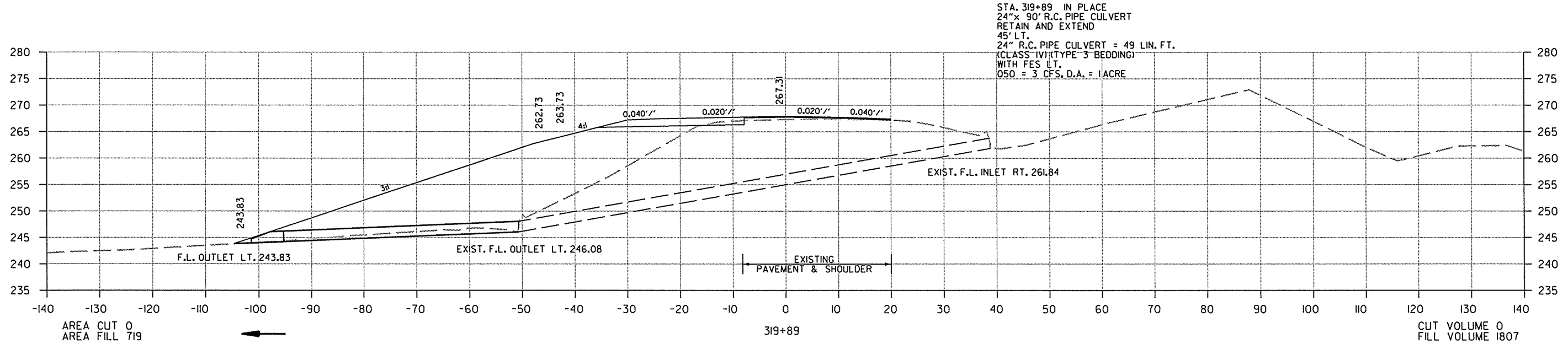
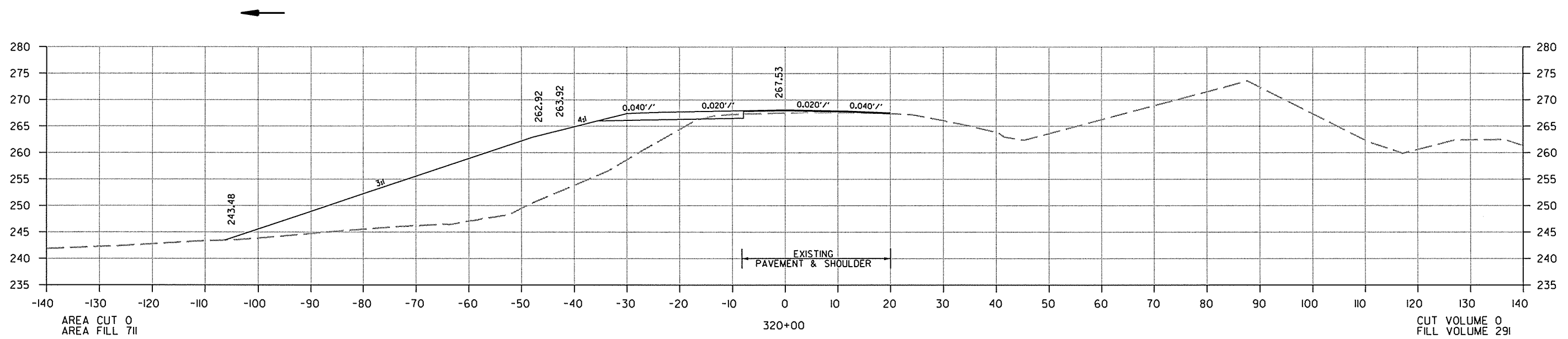


CROSS SECTION STA. 317+00 TO STA. 319+00

10/25/2013 R070366.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.	070366		194	237

2 CROSS SECTIONS - SITE 3

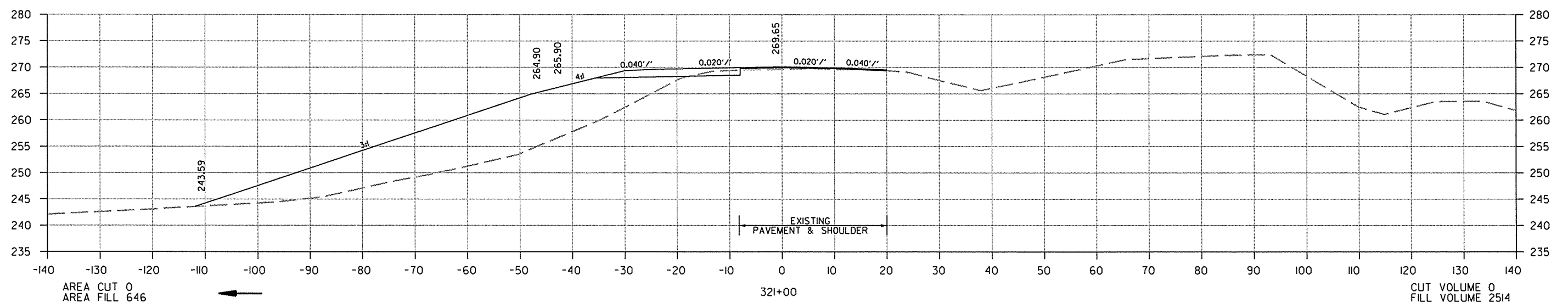
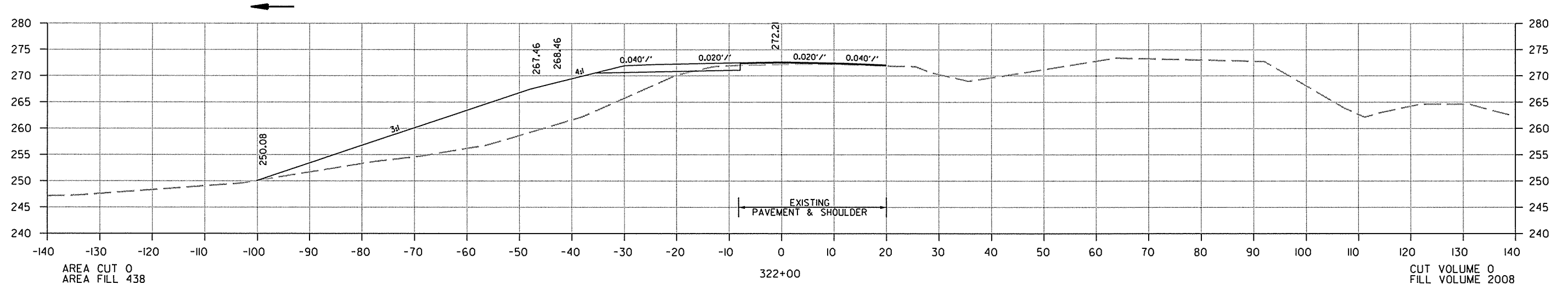


CROSS SECTION STA. 319+89 TO STA. 320+00

10/25/2013
R070366.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. 070366	195	237

② CROSS SECTIONS - SITE 3

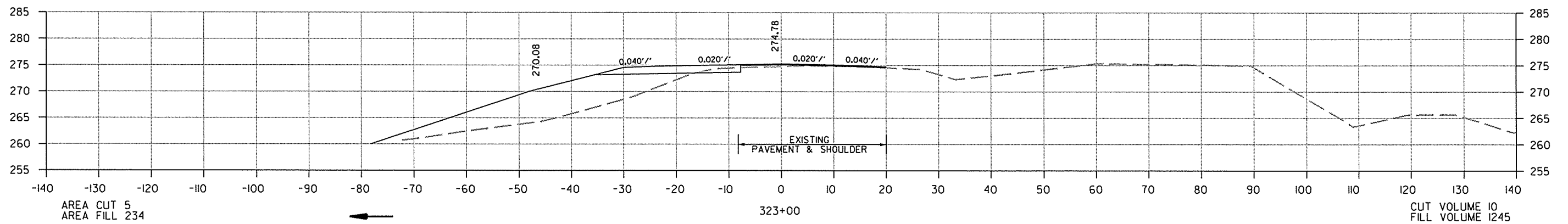
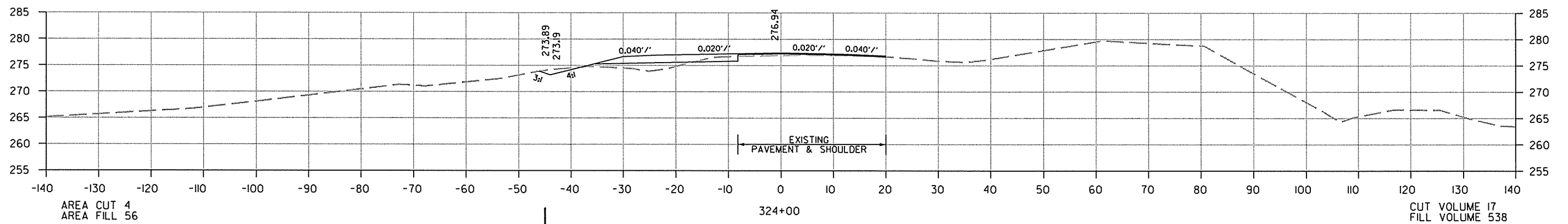
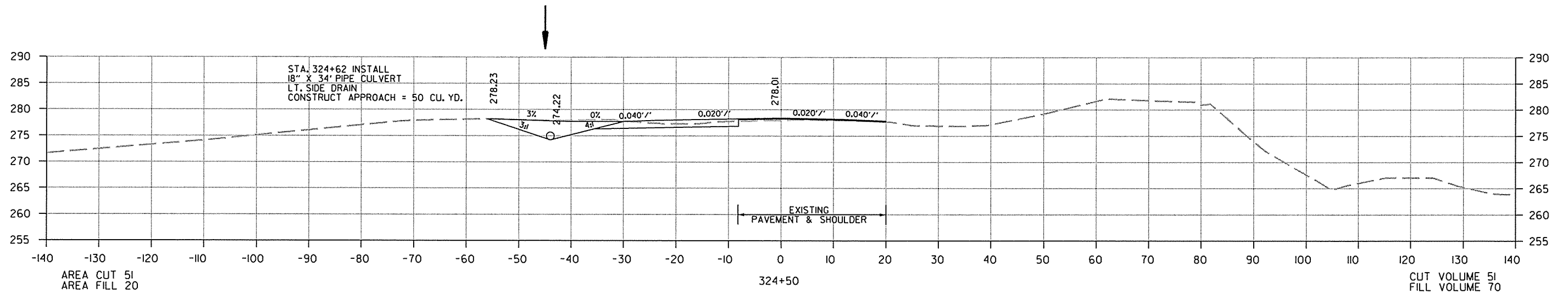


CROSS SECTION STA. 321+00 TO STA. 322+00

10/25/2013 R070366.DCN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	196	237

2 CROSS SECTIONS - SITE 3

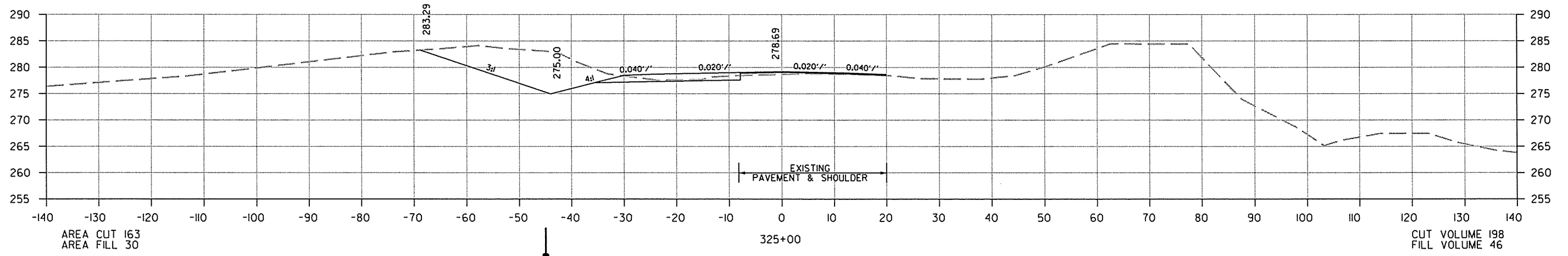
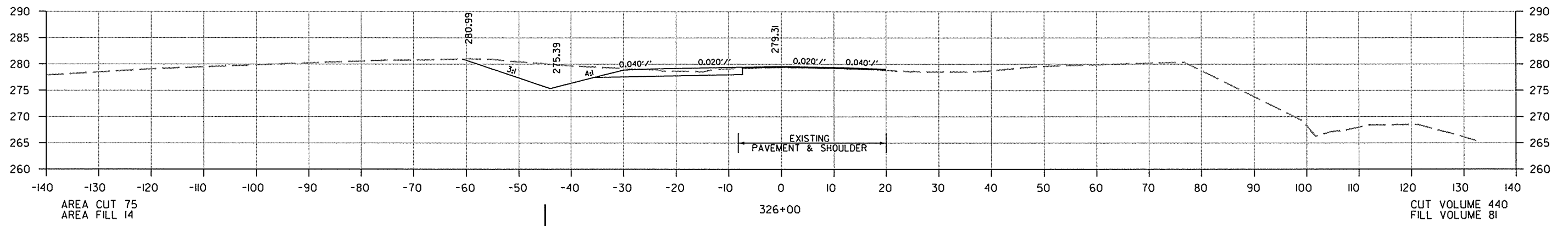
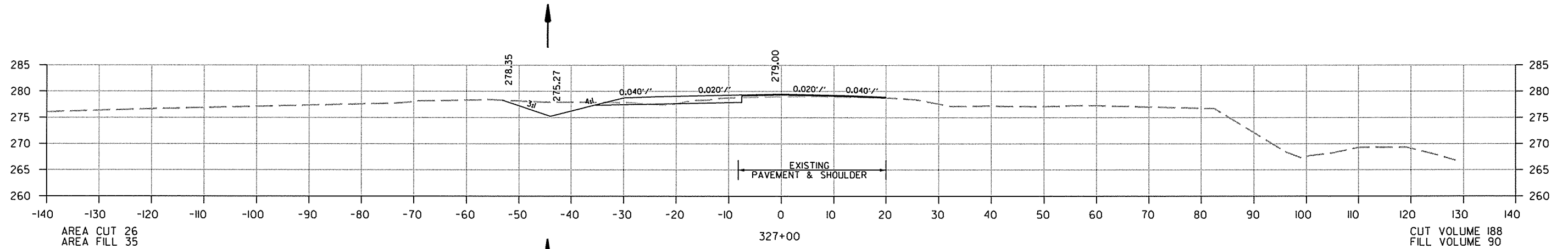


CROSS SECTION STA. 323+00 TO STA. 324+50

10/25/2013
R070366.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. 070366	197	237

② CROSS SECTIONS - SITE 3



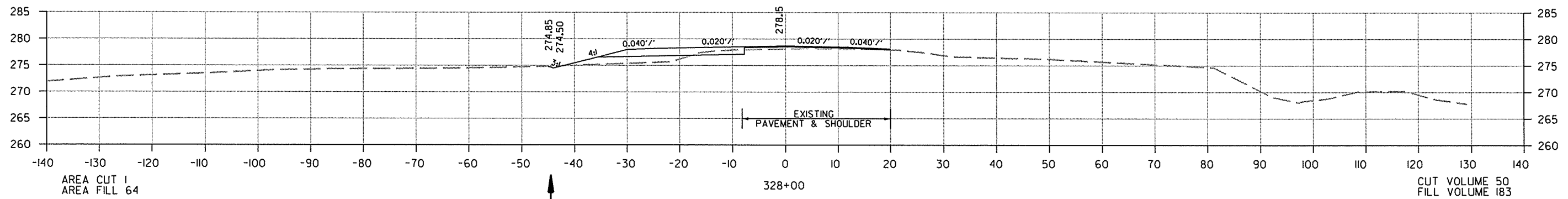
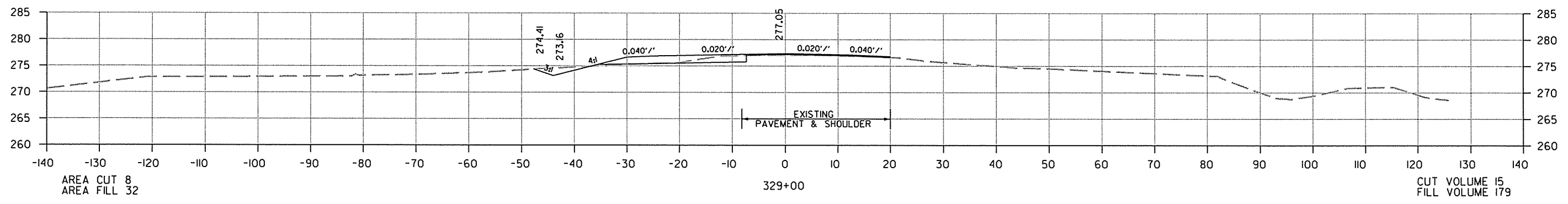
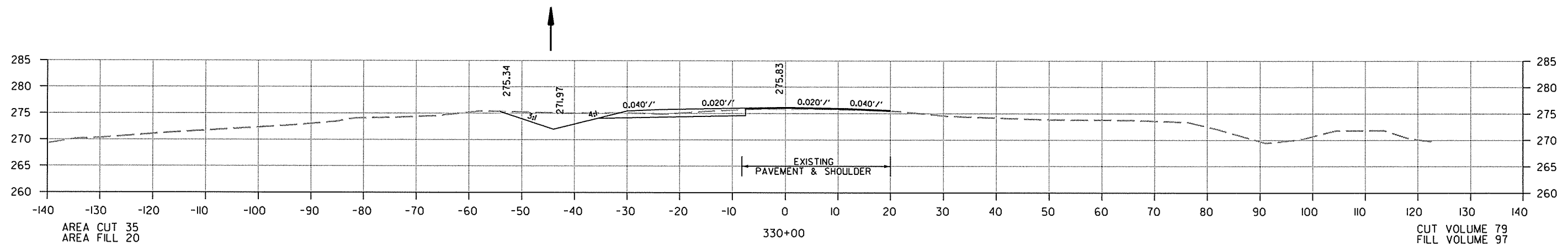
CROSS SECTION STA. 325+00 TO STA. 327+00

10/25/2013

R070366.DCN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		198	237

② CROSS SECTIONS - SITE 3

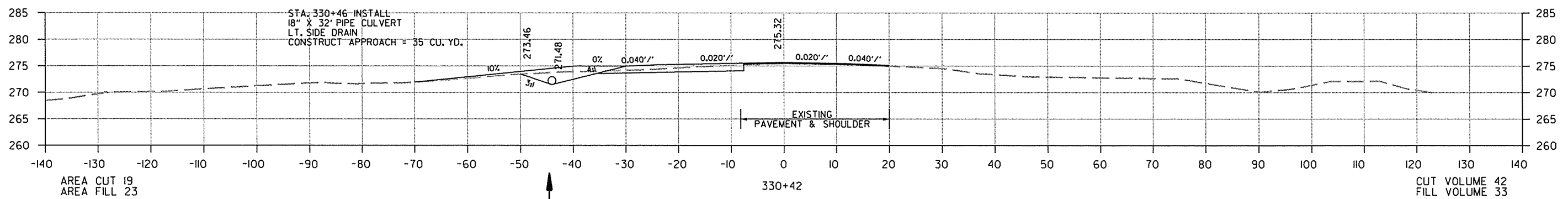
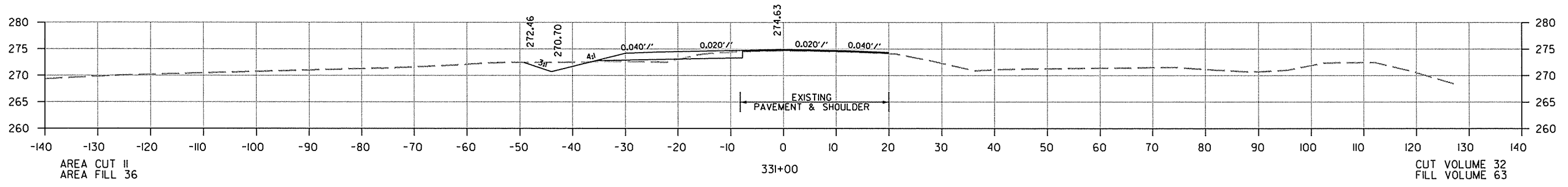
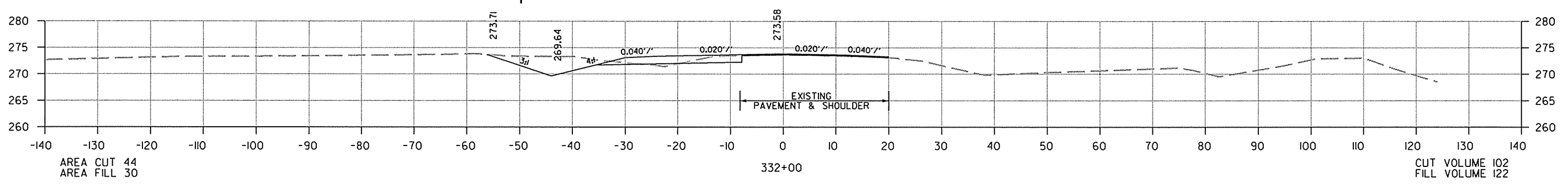
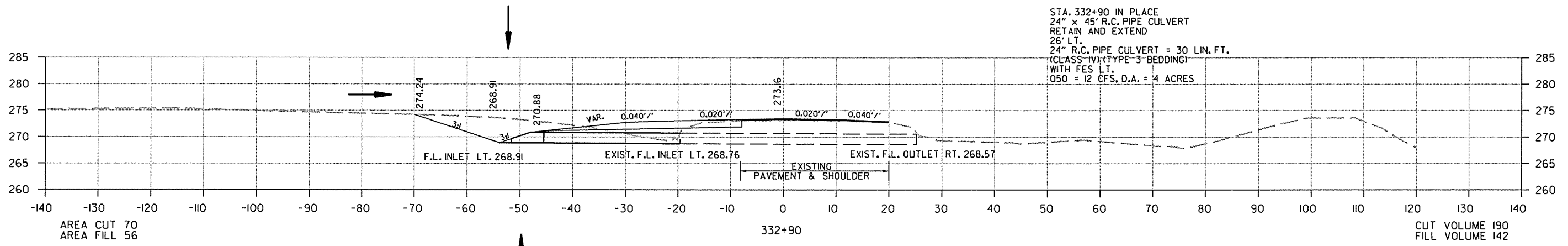


CROSS SECTION STA. 328+00 TO STA. 330+00

10/25/2013 R070366.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.	070366		199	237

2 CROSS SECTIONS - SITE 3

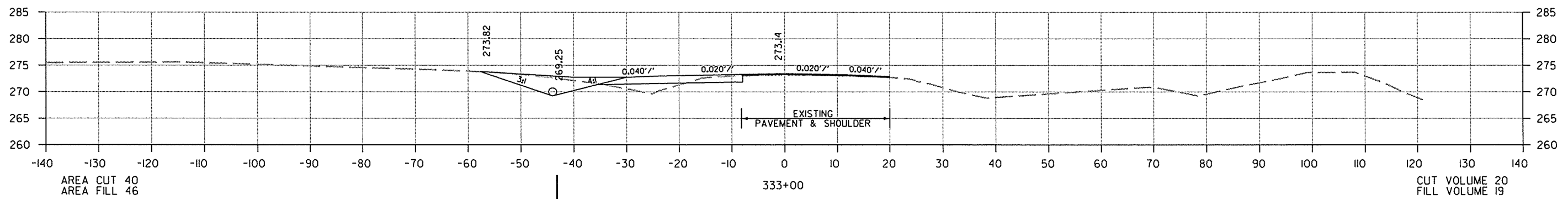
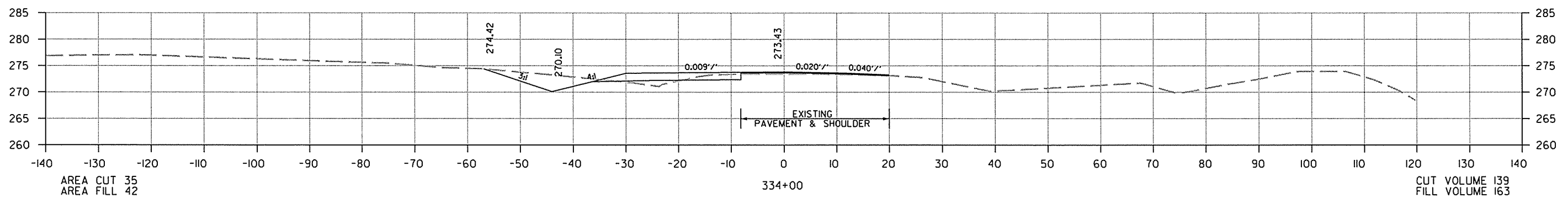
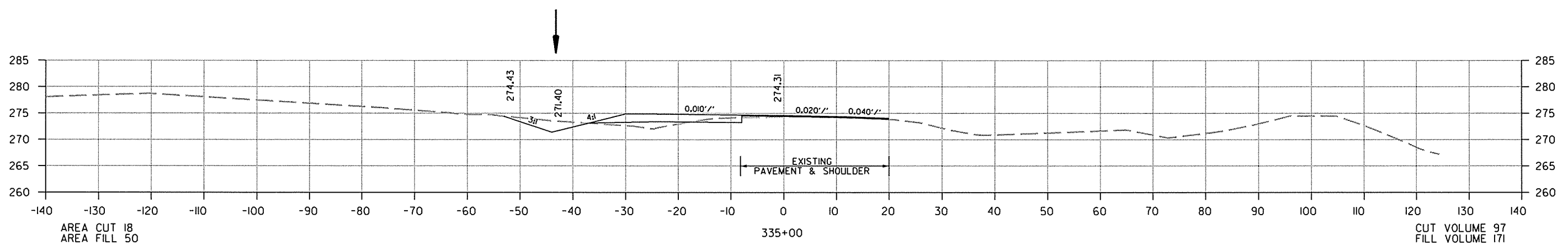


CROSS SECTION STA. 330+42 TO STA. 332+90

10/25/2013 R070366.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.	070366		200	237

2 CROSS SECTIONS - SITE 3

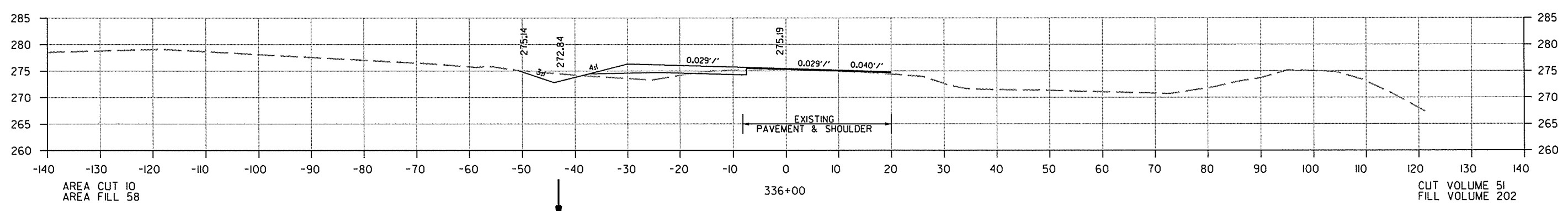
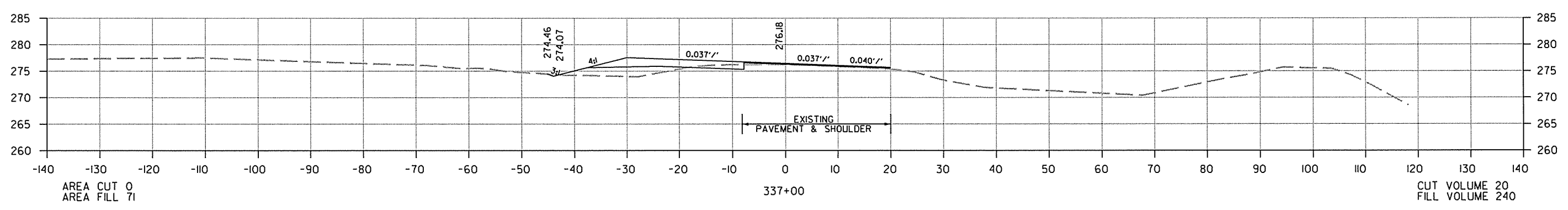
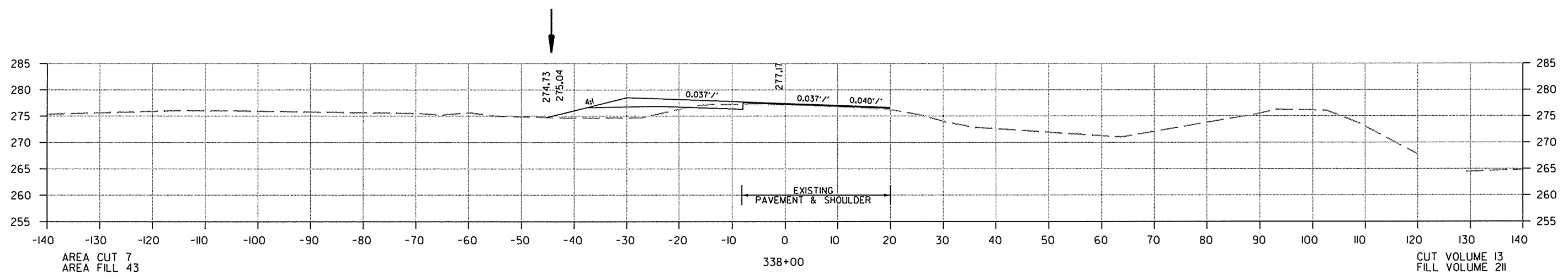


CROSS SECTION STA. 333+00 TO STA. 335+00

10/25/2013
R070366.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. 070366	201	237

2 CROSS SECTIONS - SITE 3

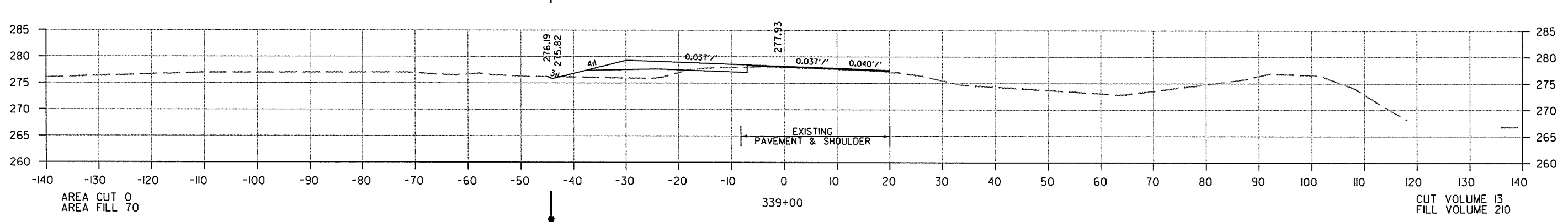
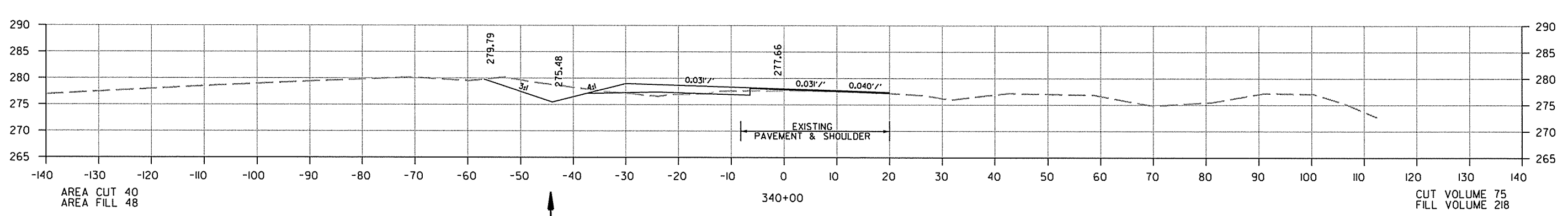
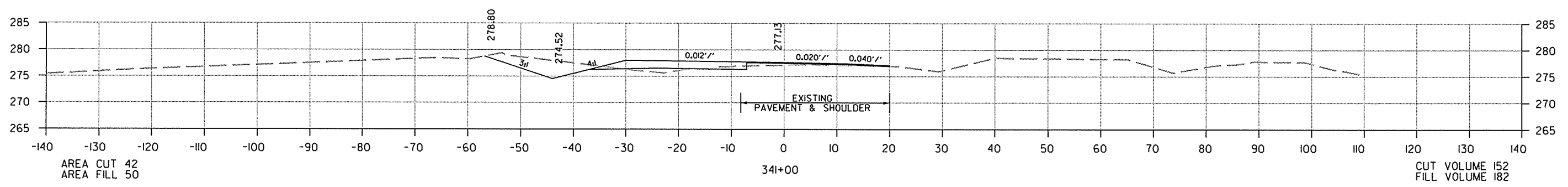
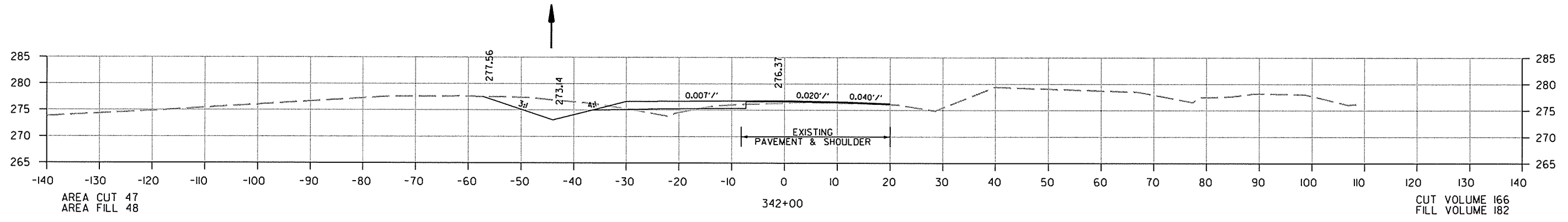


CROSS SECTION STA. 336+00 TO STA. 338+00

10/25/2013
R070366.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. 070366							202	237

2 CROSS SECTIONS - SITE 3

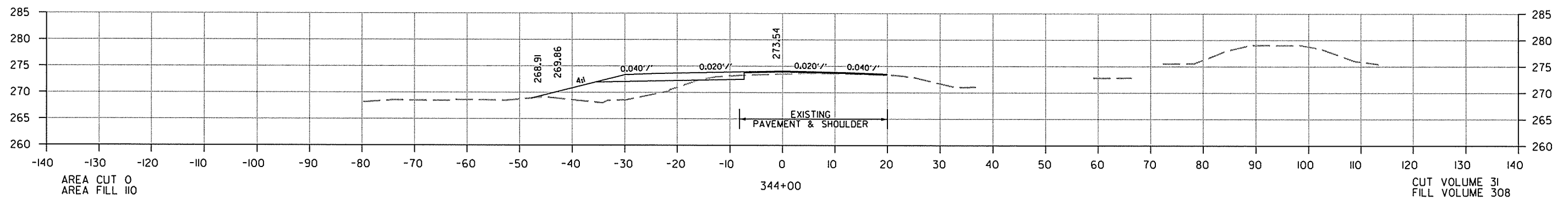
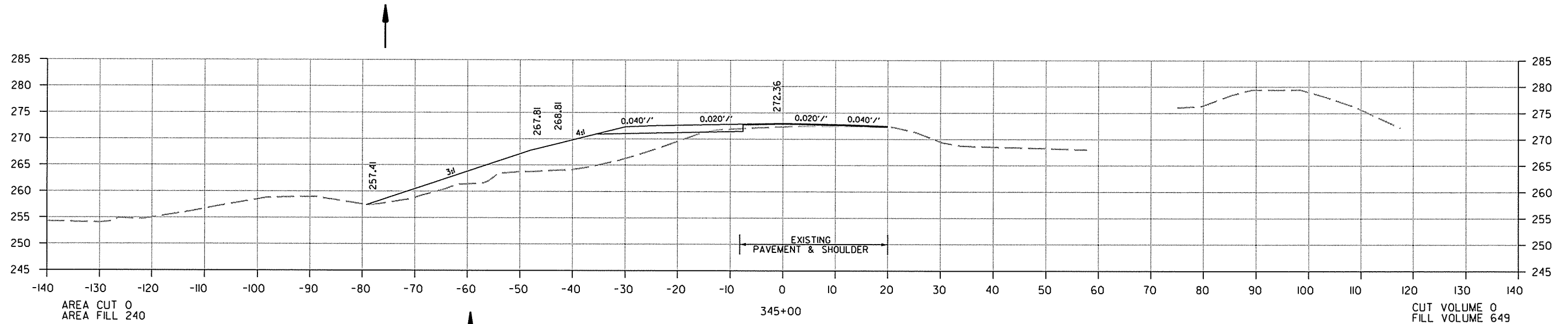


CROSS SECTION STA. 339+00 TO STA. 342+00

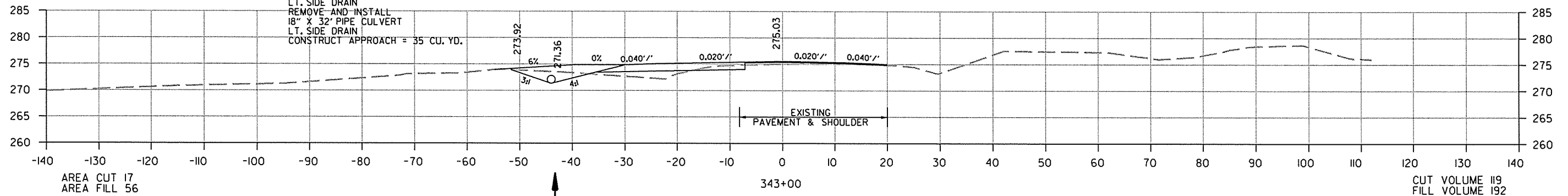
10/25/2013 R070366.DGN

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.	070366
							SHEET NO.	203
							TOTAL SHEETS	237

② CROSS SECTIONS - SITE 3



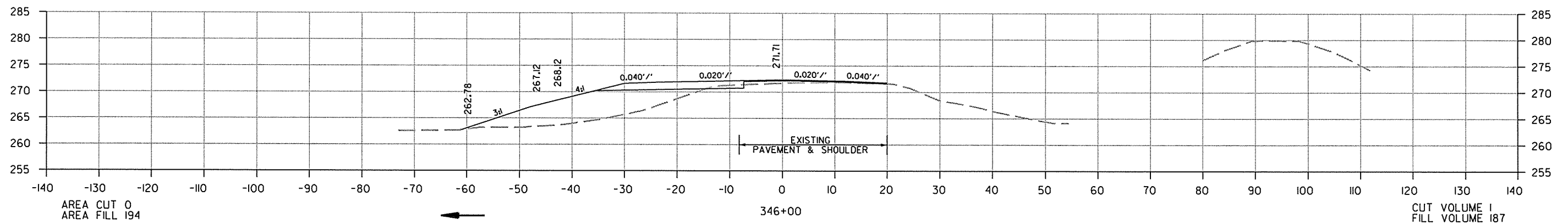
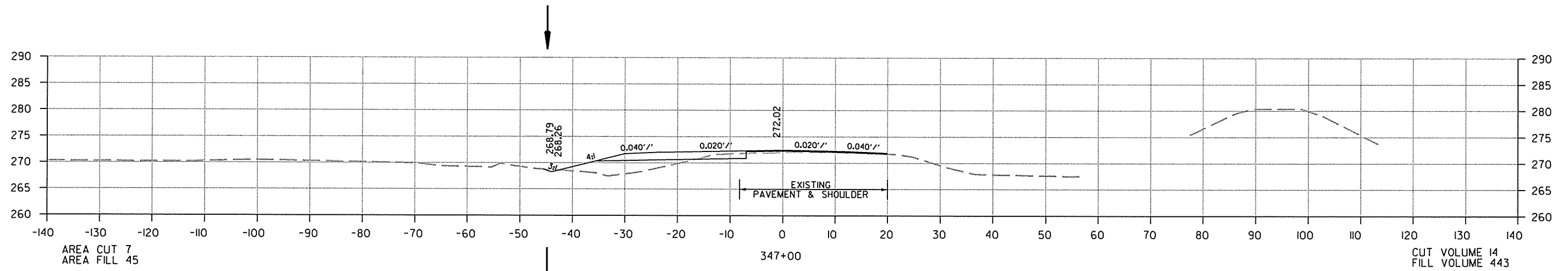
STA. 343+50 INPLACE
18" X 18" R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YD.



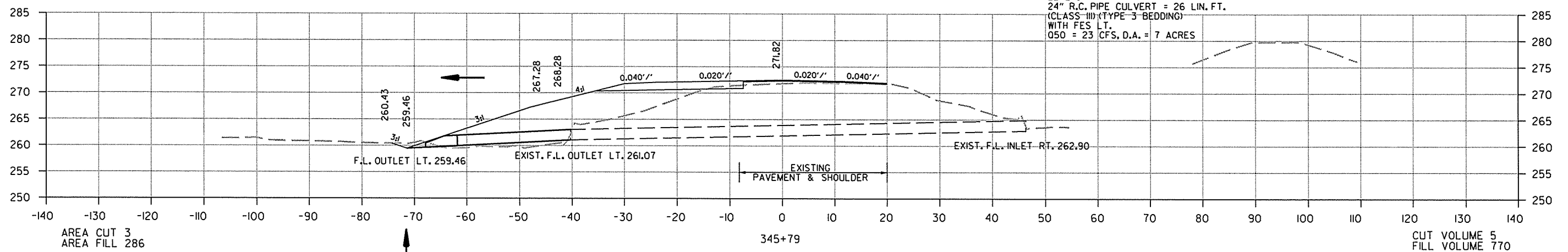
CROSS SECTION STA. 343+00 TO STA. 345+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							204	237

2 CROSS SECTIONS - SITE 3



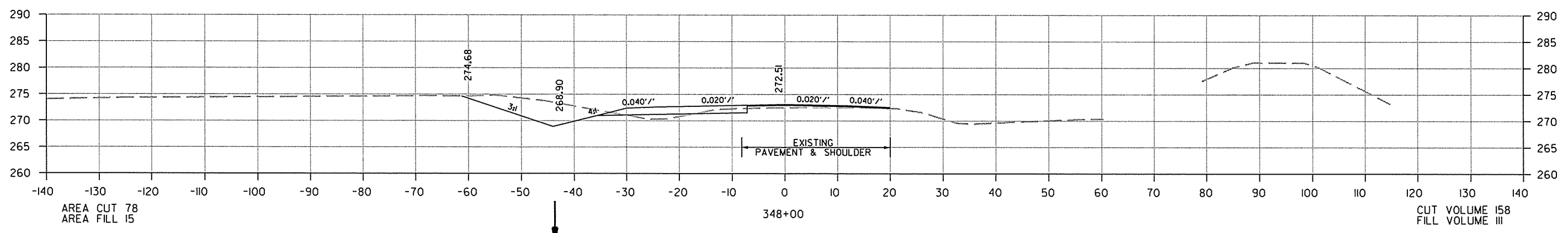
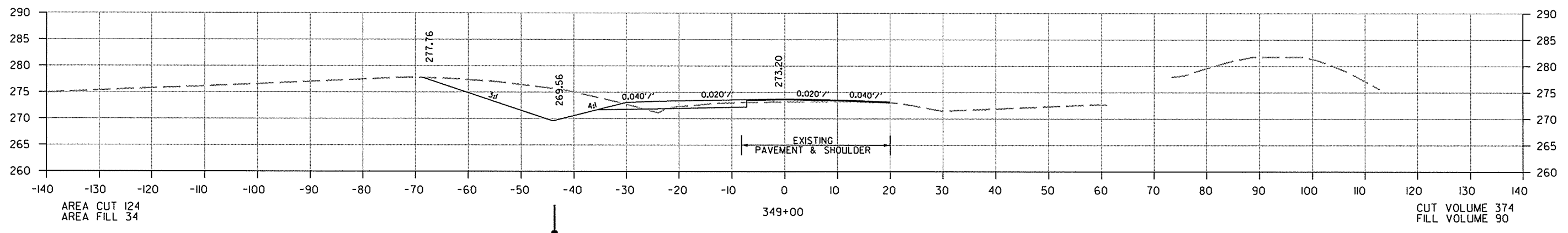
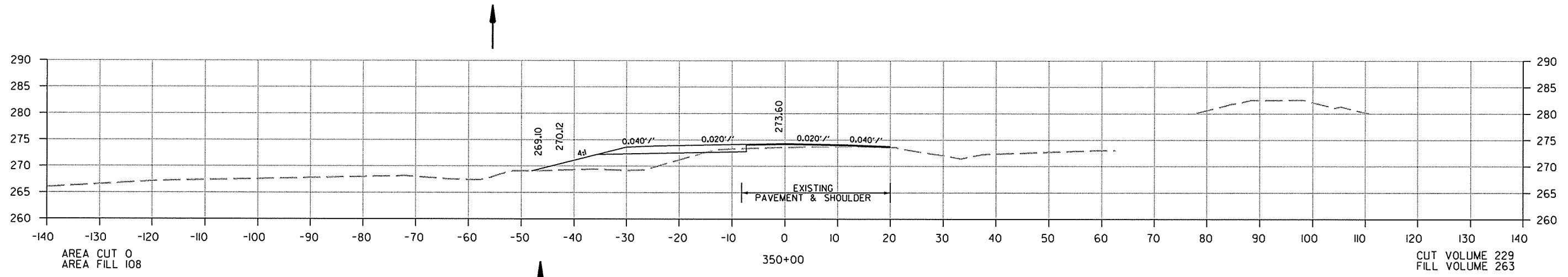
STA. 345+79 IN PLACE
24" x 86' R.C. PIPE CULVERT
RETAIN AND EXTEND
22' LT.
24" R.C. PIPE CULVERT = 26 LIN. FT.
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT.
Q50 = 23 CFS, D.A. = 7 ACRES



CROSS SECTION STA. 345+79 TO STA. 347+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							205	237

② CROSS SECTIONS - SITE 3

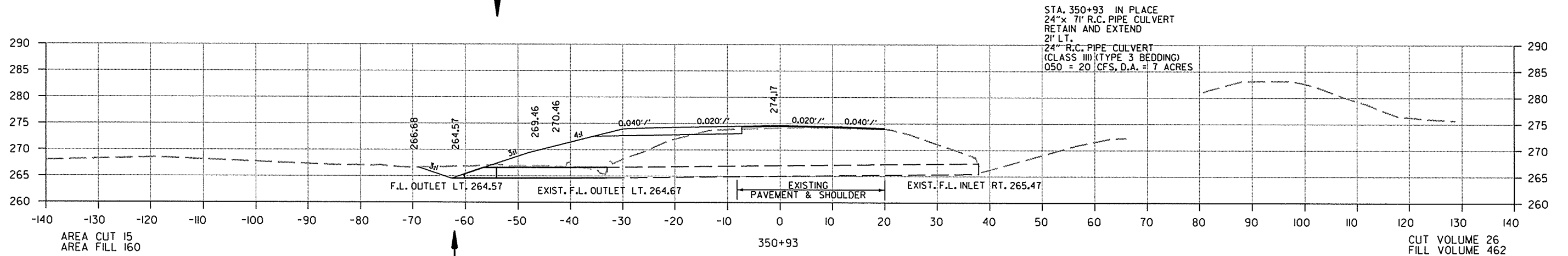
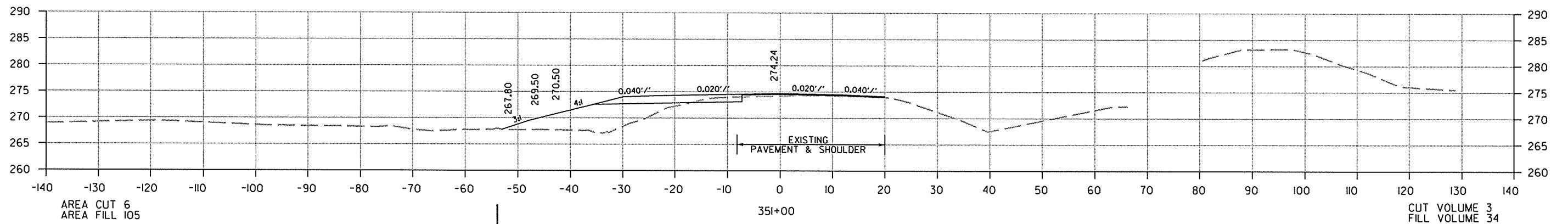
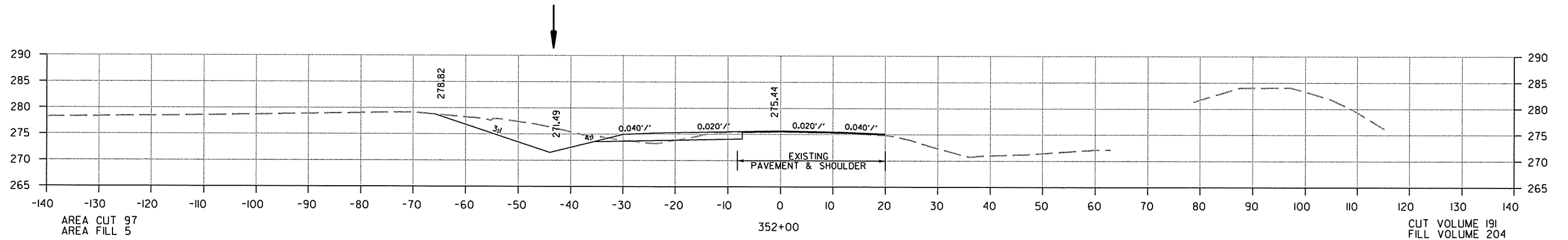


CROSS SECTION STA. 348+00 TO STA. 350+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							206	237

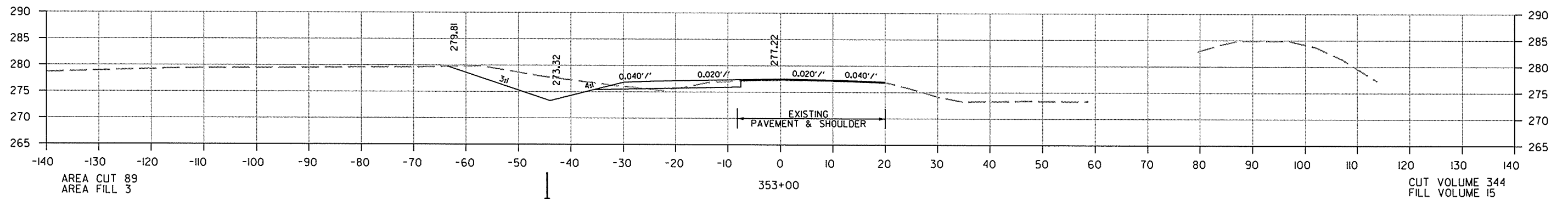
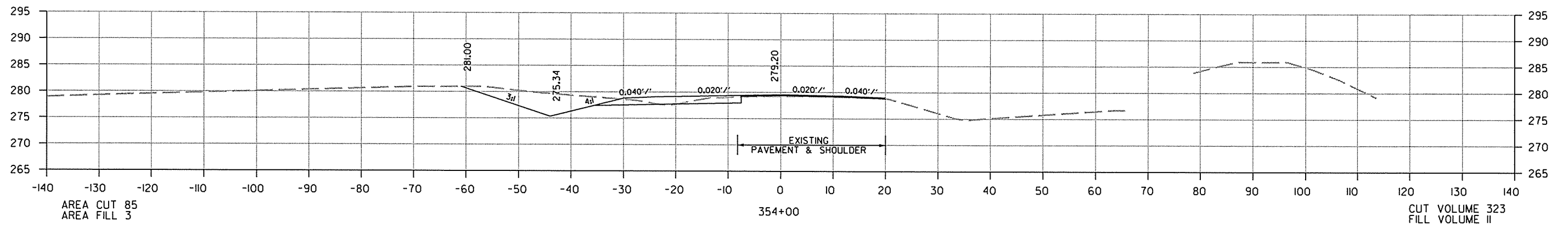
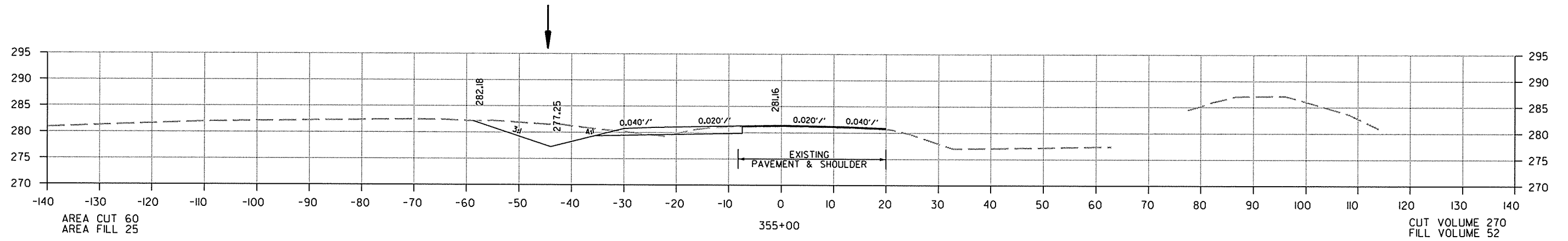
② CROSS SECTIONS - SITE 3



CROSS SECTION STA. 350+93 TO STA. 352+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	207	237

2 CROSS SECTIONS - SITE 3



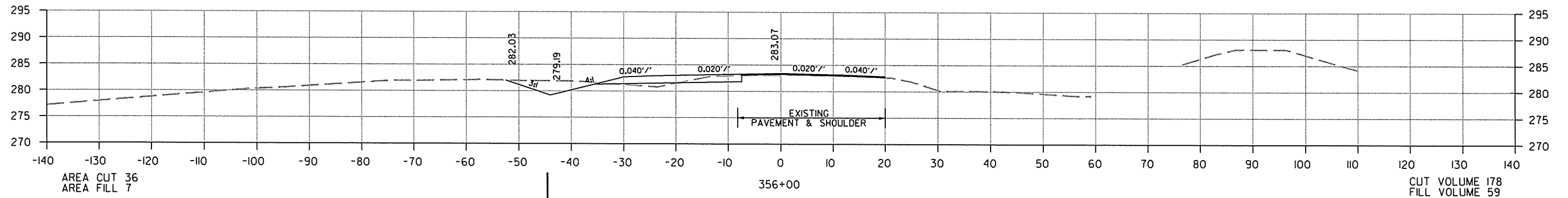
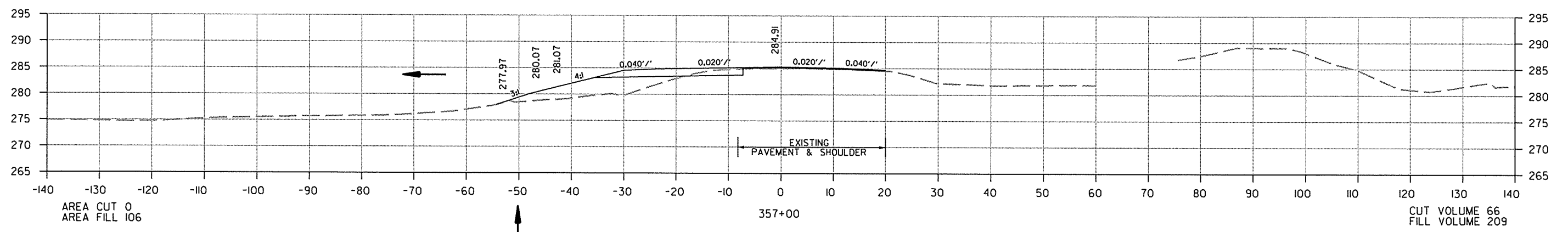
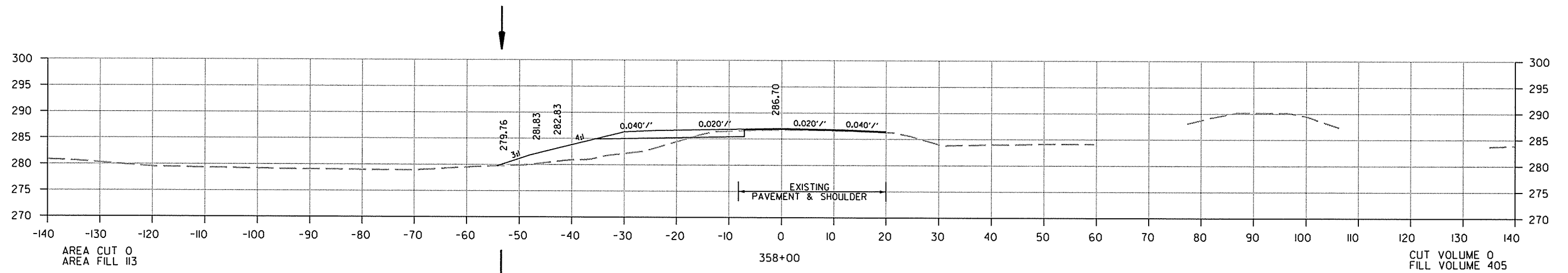
CROSS SECTION STA. 353+00 TO STA. 355+00

10/25/2013

R070366.DCN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	208	237

2 CROSS SECTIONS - SITE 3



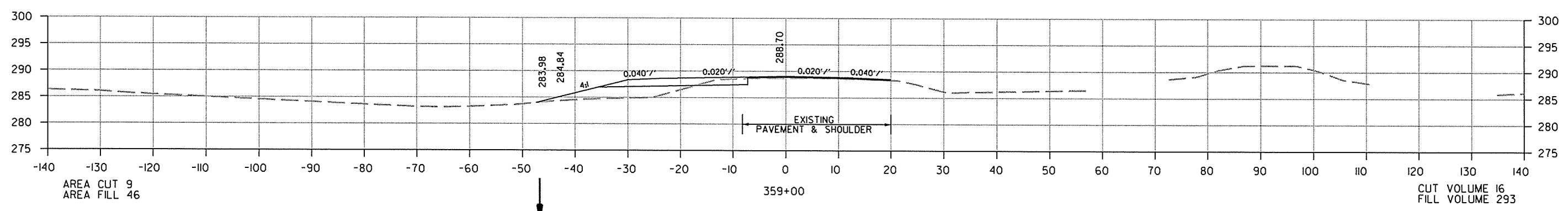
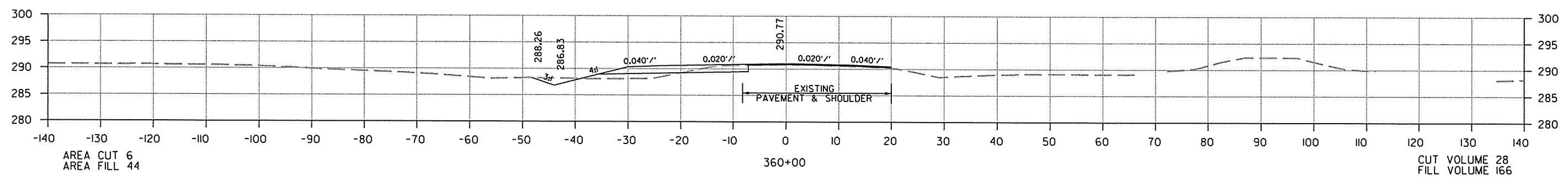
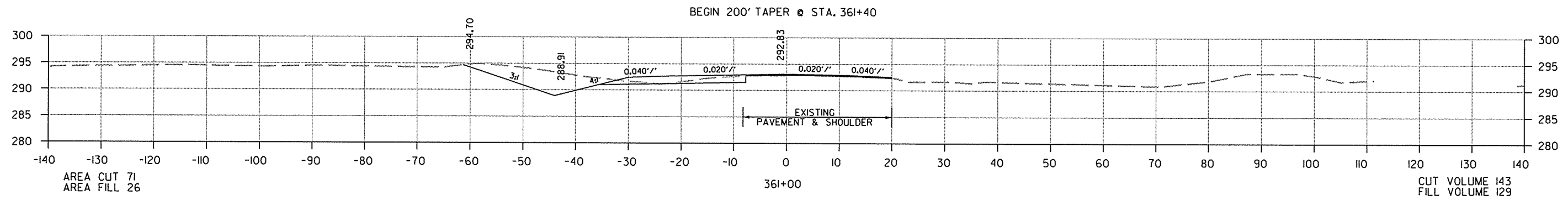
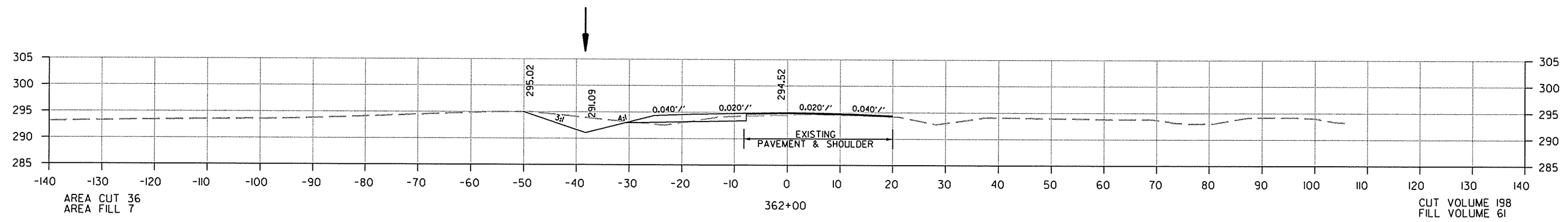
CROSS SECTION STA. 356+00 TO STA. 358+00

10/25/2013

R070366.DCN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	209	237

② CROSS SECTIONS - SITE 3

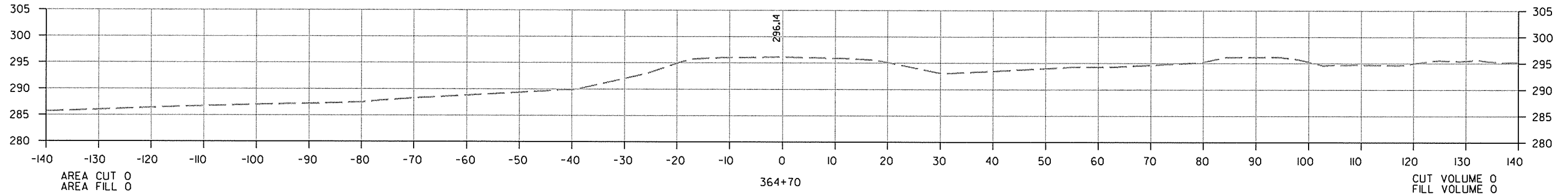


CROSS SECTION STA. 359+00 TO STA. 362+00

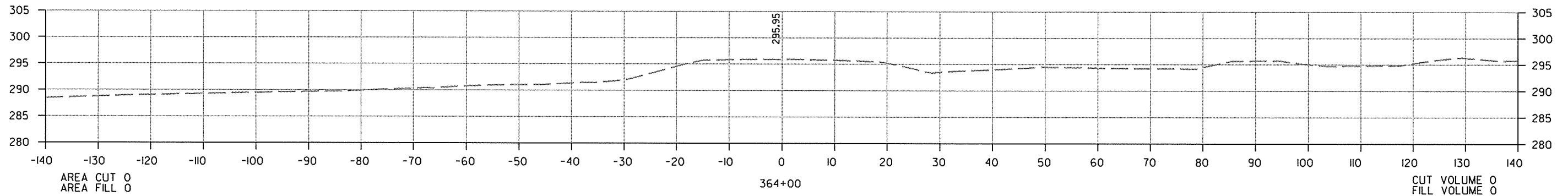
10/25/2013
R070366.DGN

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. 070366							210	237

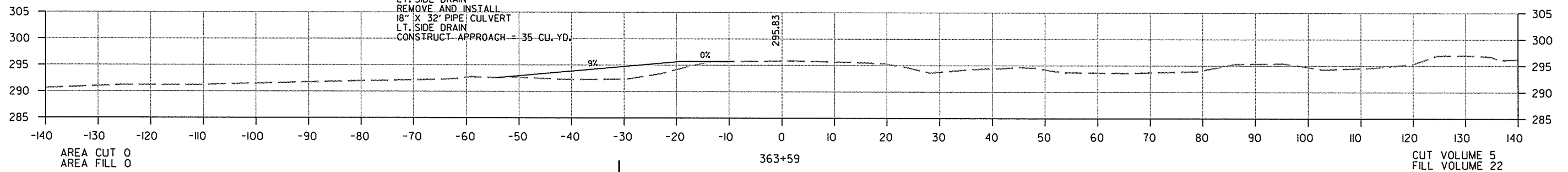
2 CROSS SECTIONS - SITE 3



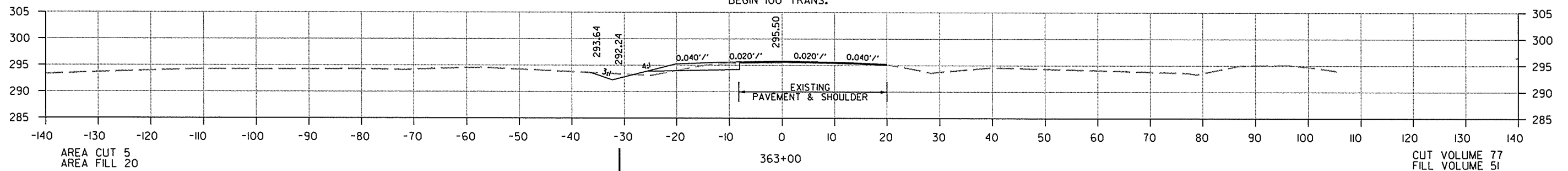
END 100' TRANS. @ STA. 364+40



STA. 343+50 INPLACE
18" X 18" R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YD.



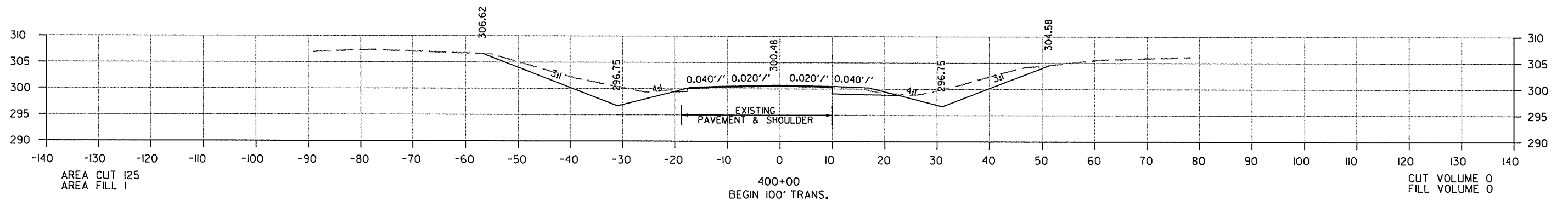
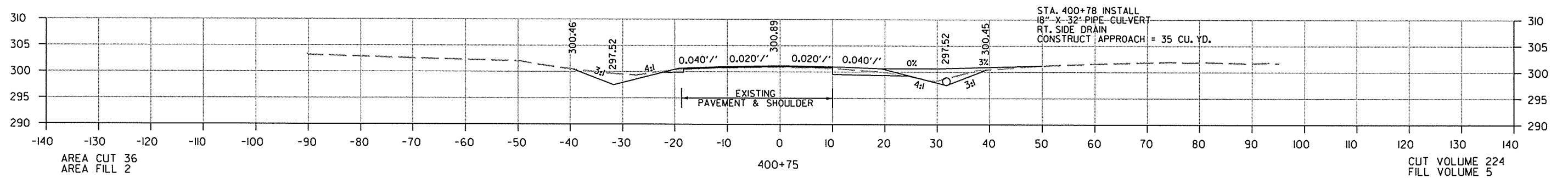
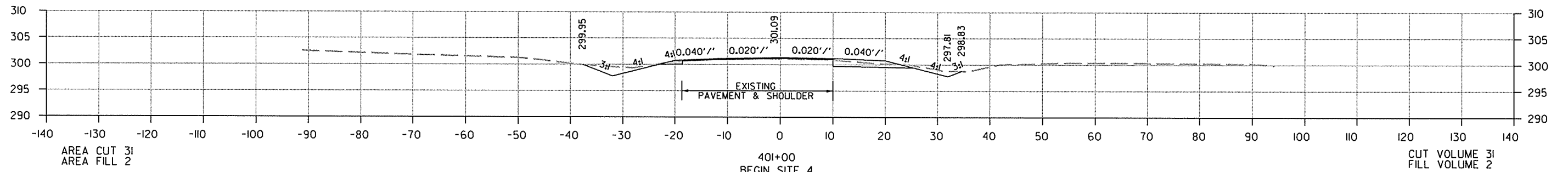
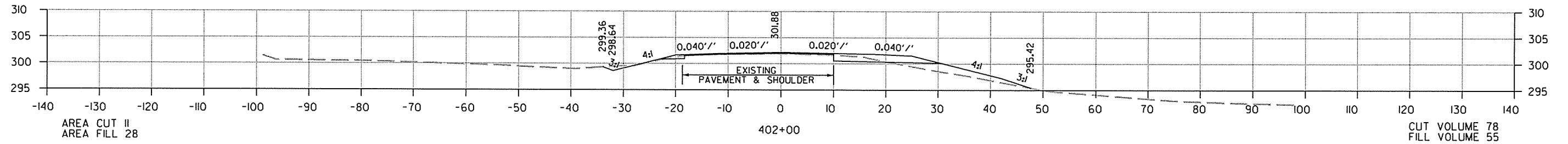
END SITE 3 @ STA. 363+40
END 200' TAPER
BEGIN 100' TRANS.



CROSS SECTION STA. 363+00 TO STA. 364+70

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							211	237

2 CROSS SECTIONS - SITE 4



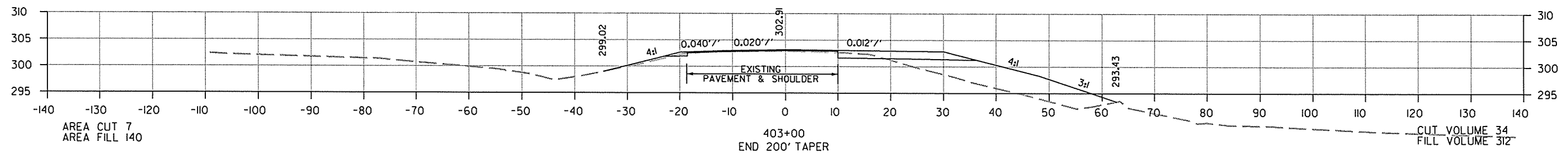
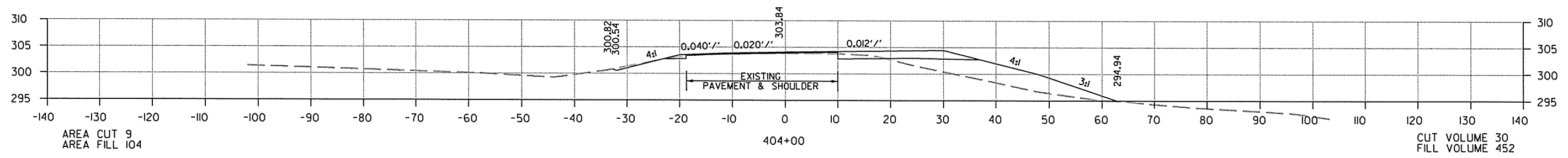
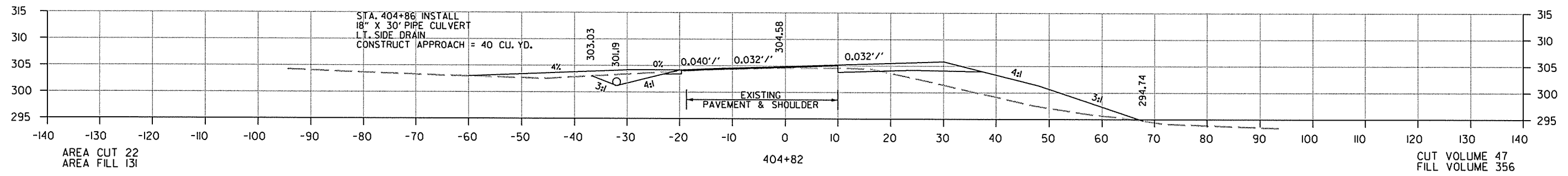
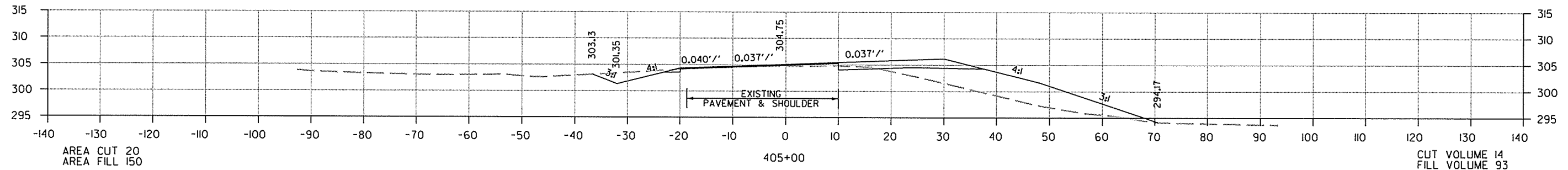
CROSS SECTION STA. 400+00 TO STA. 402+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		212	237

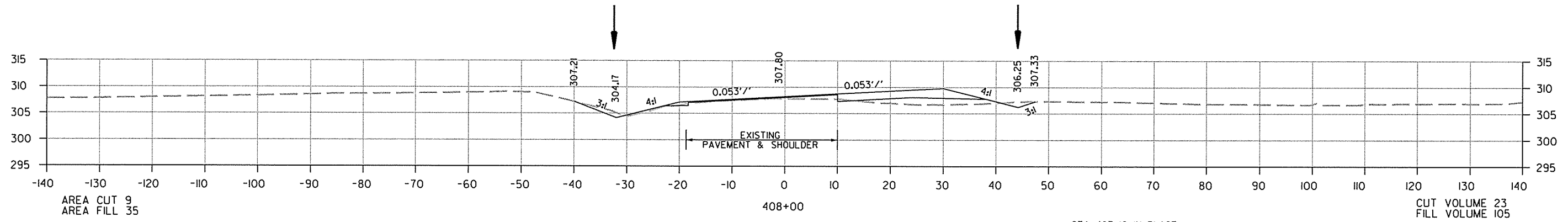
2 CROSS SECTIONS - SITE 4



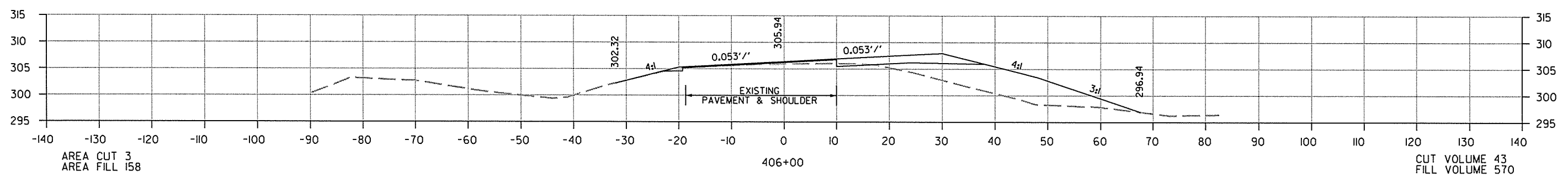
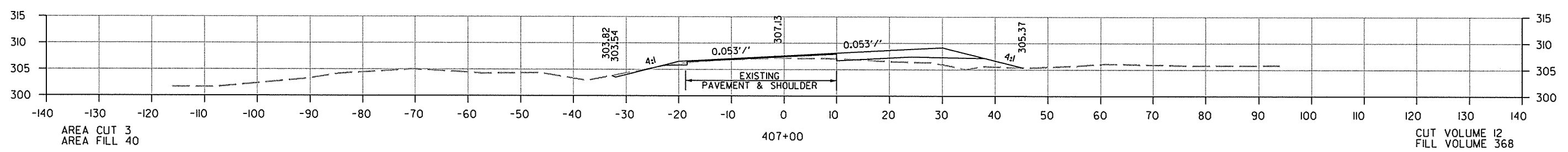
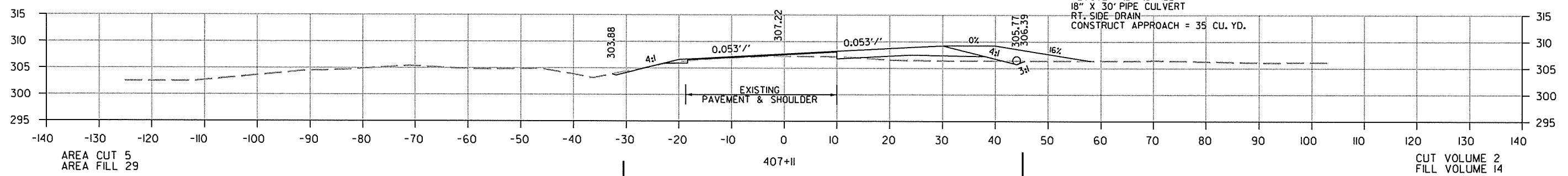
CROSS SECTION STA. 403+00 TO STA. 405+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							213	237

2 CROSS SECTIONS - SITE 4



STA. 407+10 IN PLACE
 18" X 22' C.M. PIPE CULVERT
 RT. SIDE DRAIN
 REMOVE AND INSTALL
 18" X 30' PIPE CULVERT
 RT. SIDE DRAIN
 CONSTRUCT APPROACH = 35 CU. YD.

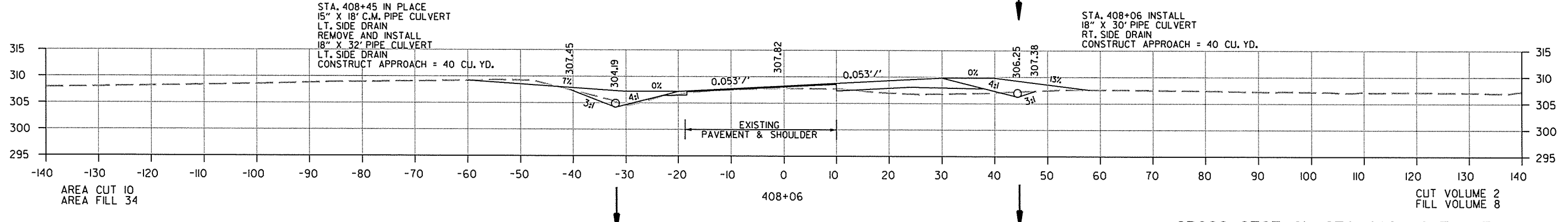
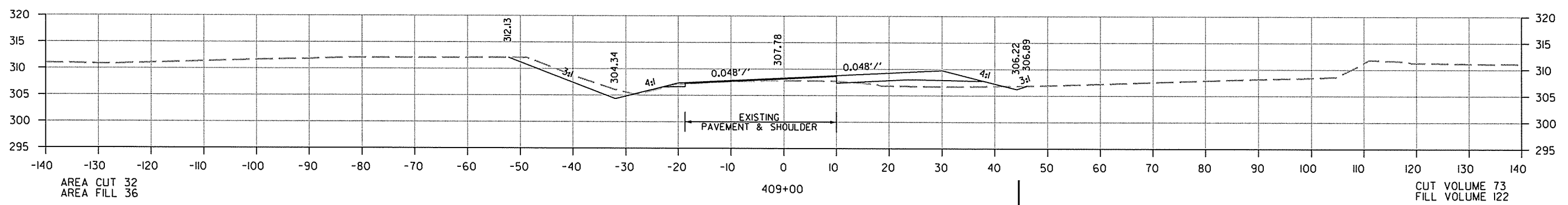
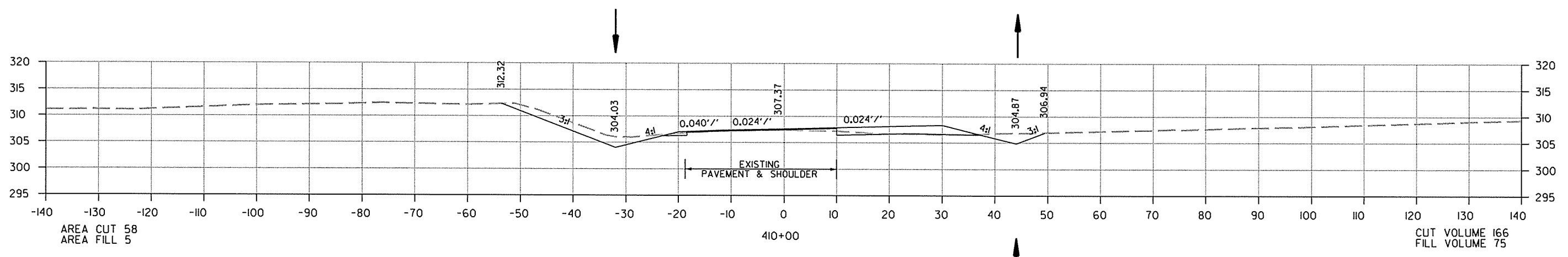


CROSS SECTION STA. 406+00 TO STA. 408+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							214	237

2 CROSS SECTIONS - SITE 4

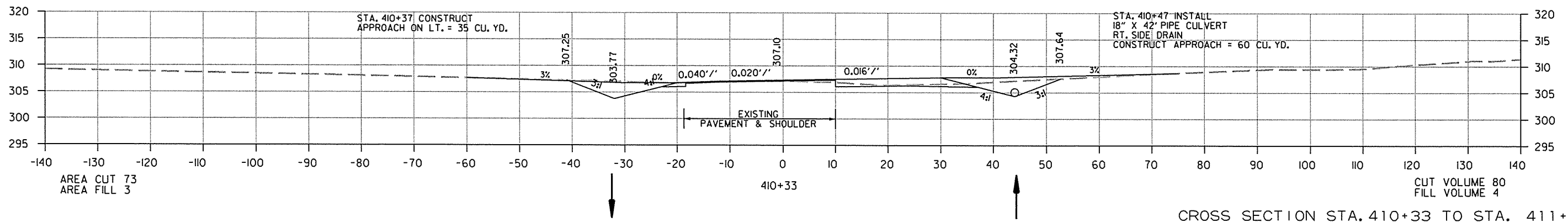
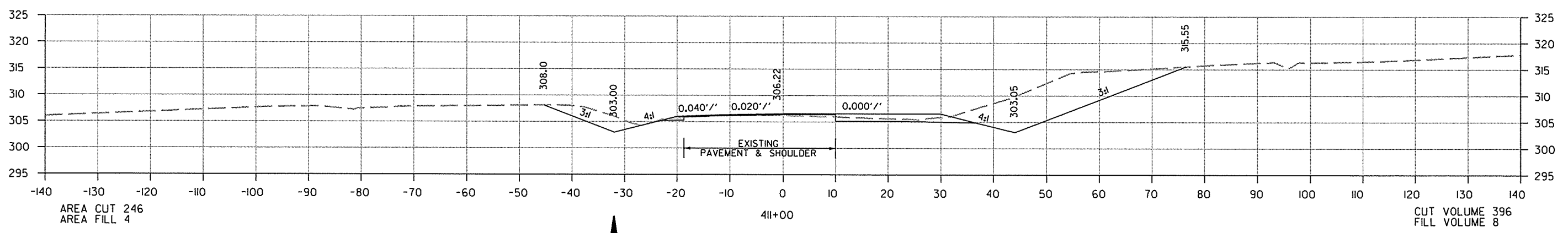
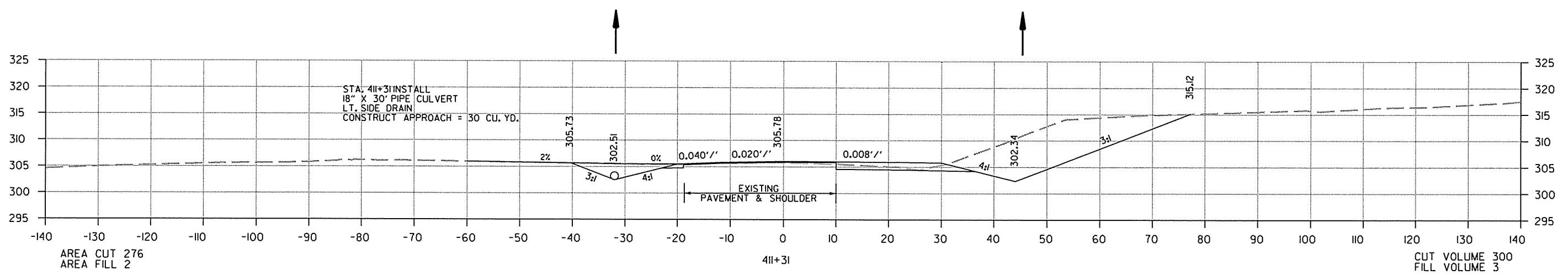


CROSS SECTION STA. 408+06 TO STA. 410+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							215	237

2 CROSS SECTIONS - SITE 4

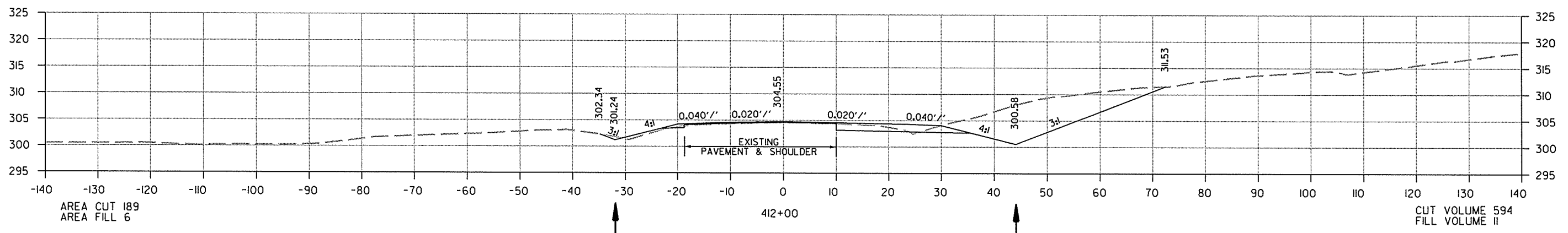
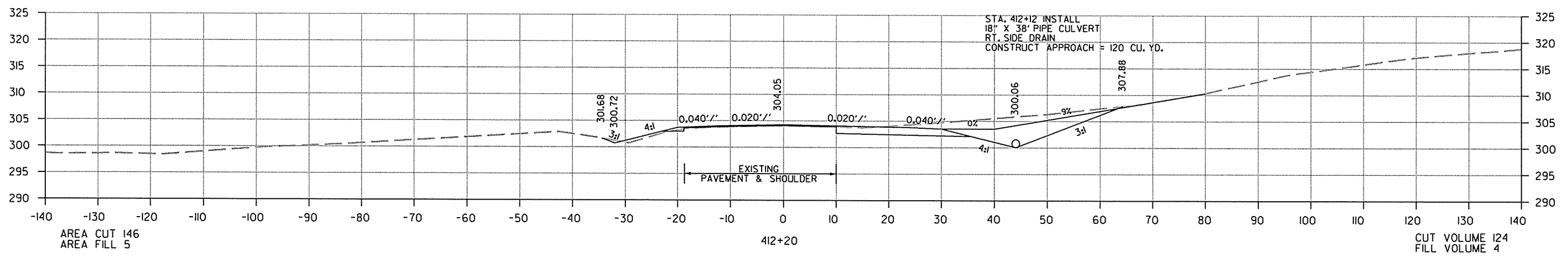
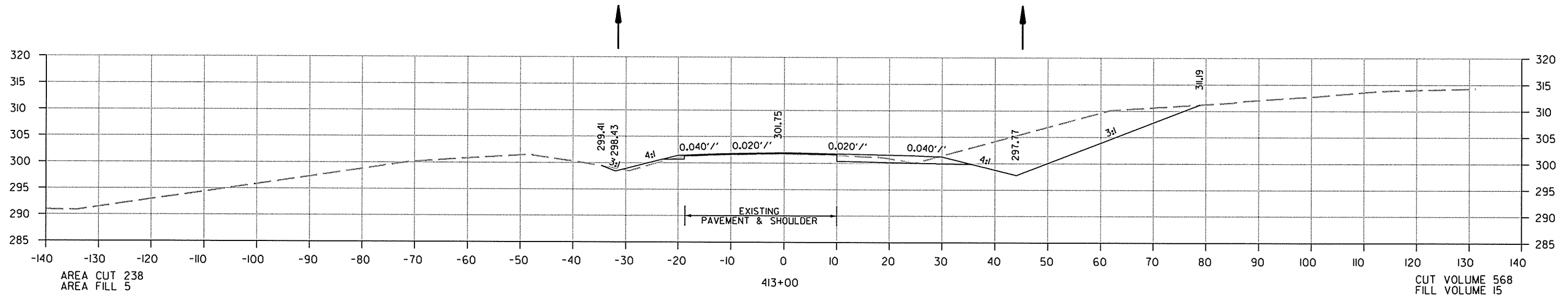


CROSS SECTION STA. 410+33 TO STA. 411+31

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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. 070366							216	237

② CROSS SECTIONS - SITE 4

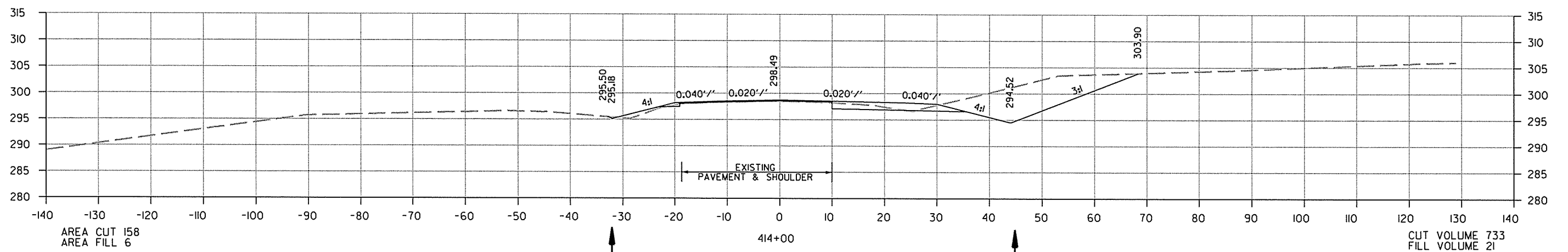
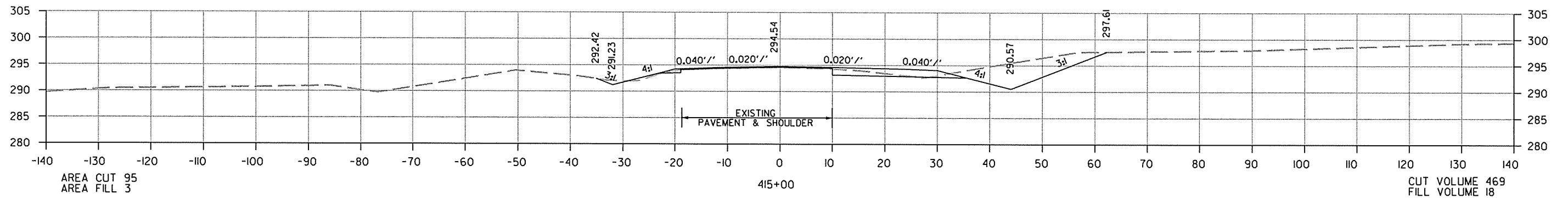
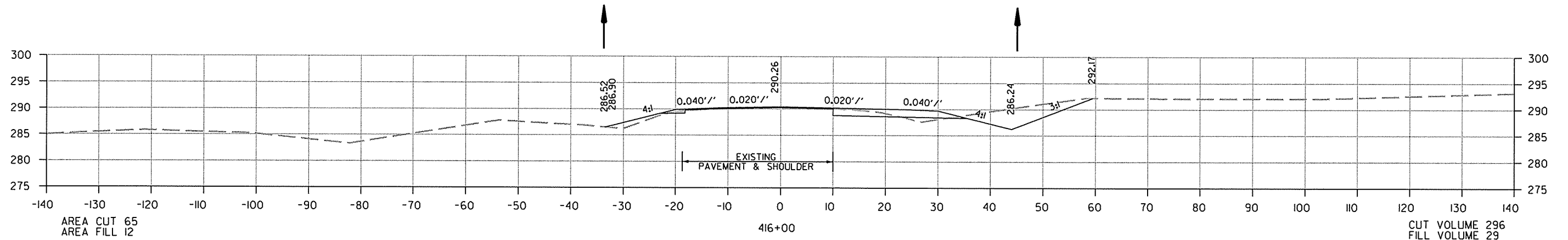


CROSS SECTION STA. 412+00 TO STA. 413+00

10/25/2013 R070366.DCN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							217	237

2 CROSS SECTIONS - SITE 4



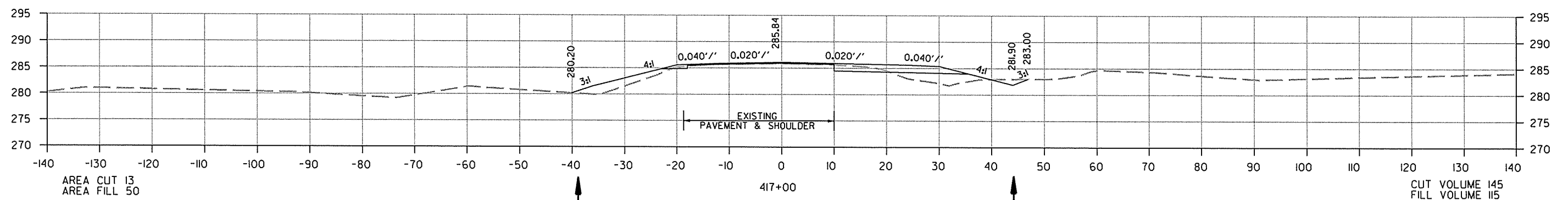
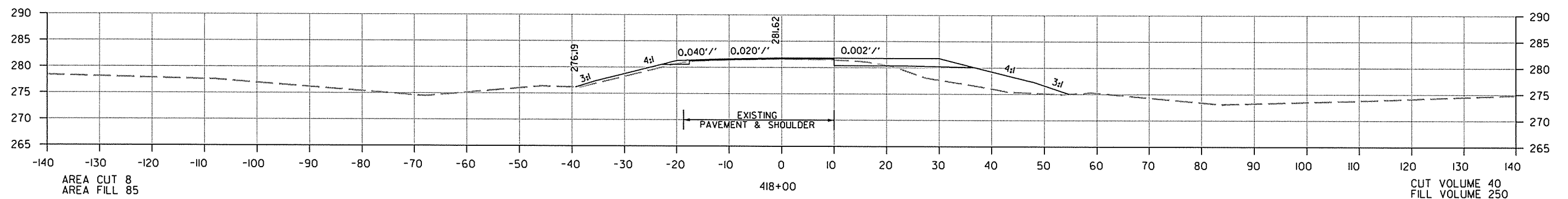
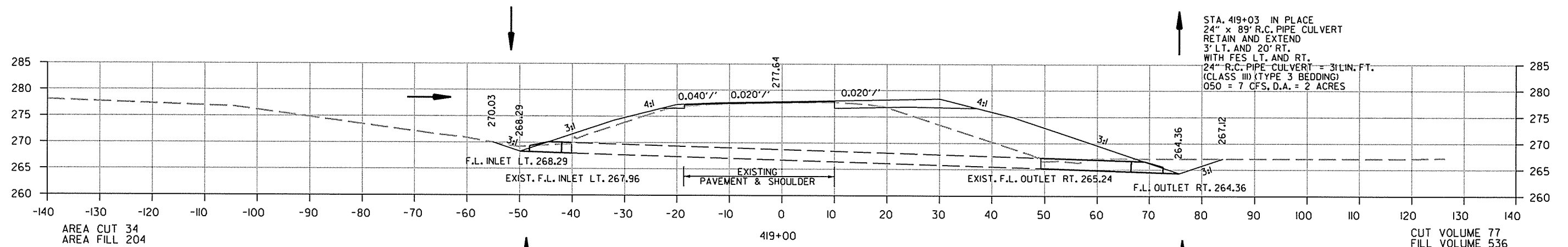
CROSS SECTION STA. 414+00 TO STA. 416+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							218	237

2 CROSS SECTIONS - SITE 4



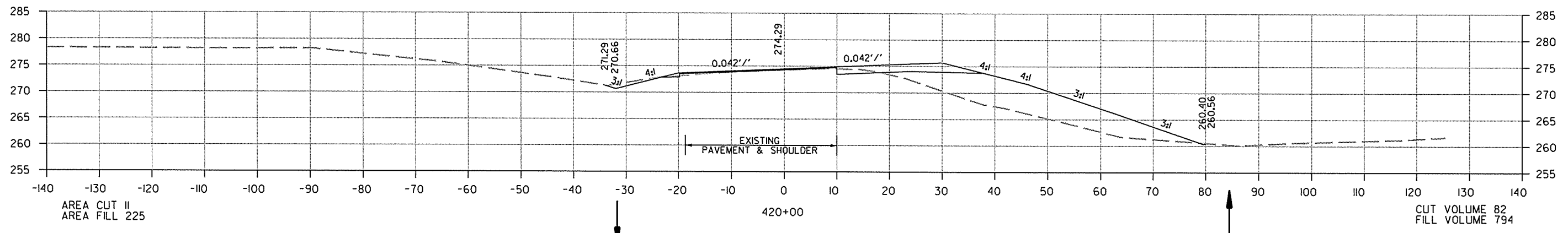
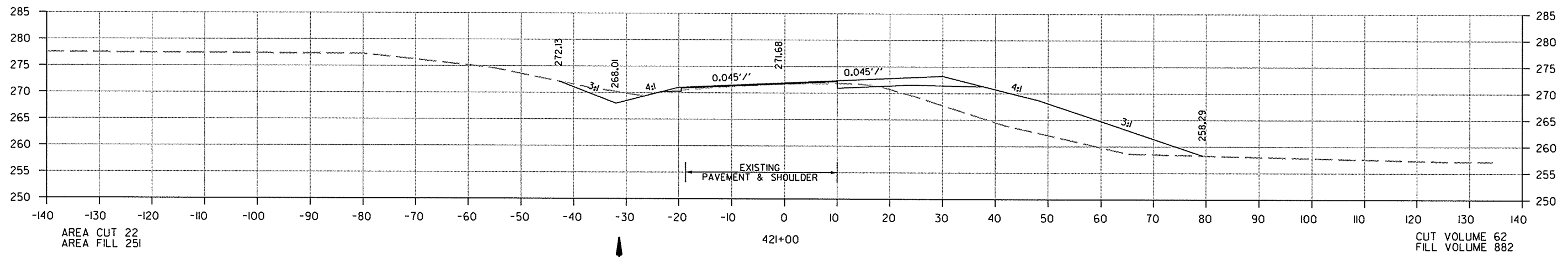
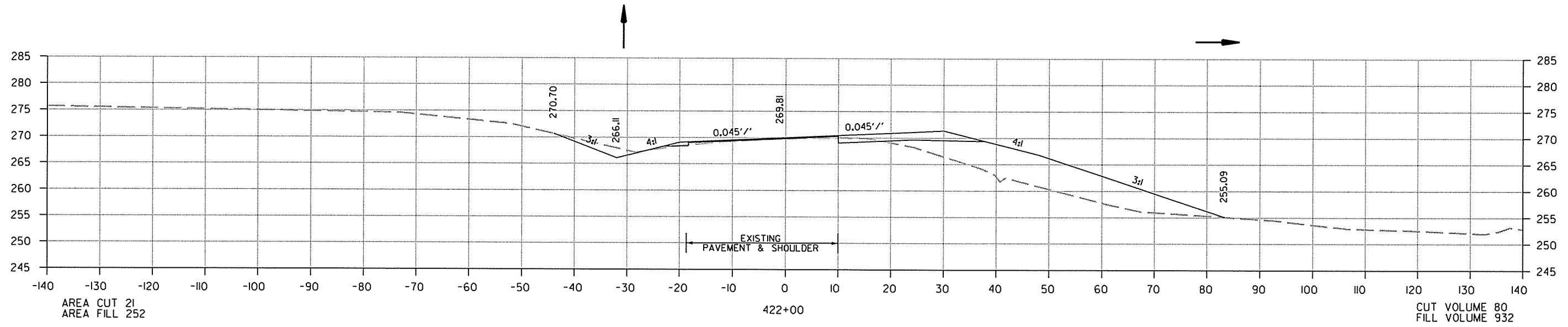
CROSS SECTION STA. 417+00 TO STA. 419+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							219	237

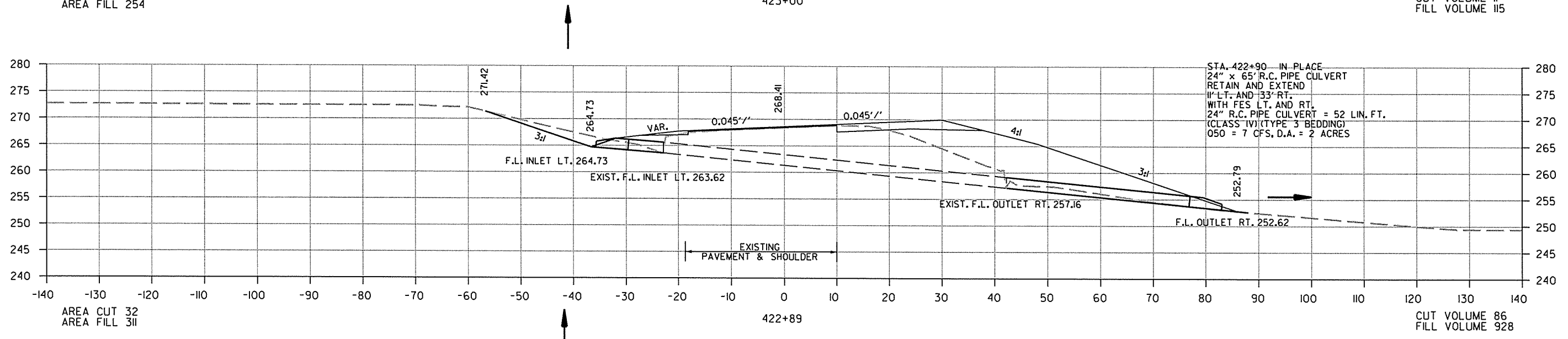
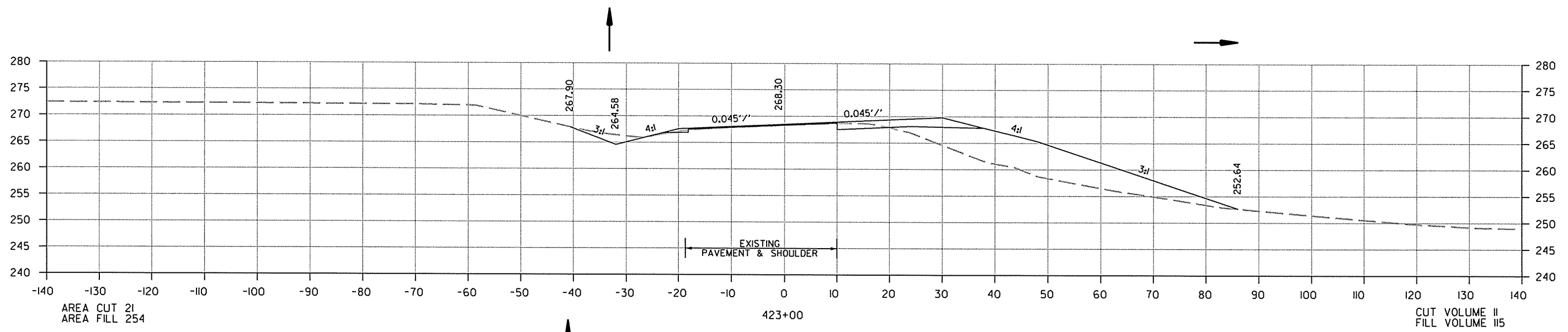
② CROSS SECTIONS - SITE 4



CROSS SECTION STA. 420+00 TO STA. 422+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		220	237

② CROSS SECTIONS - SITE 4

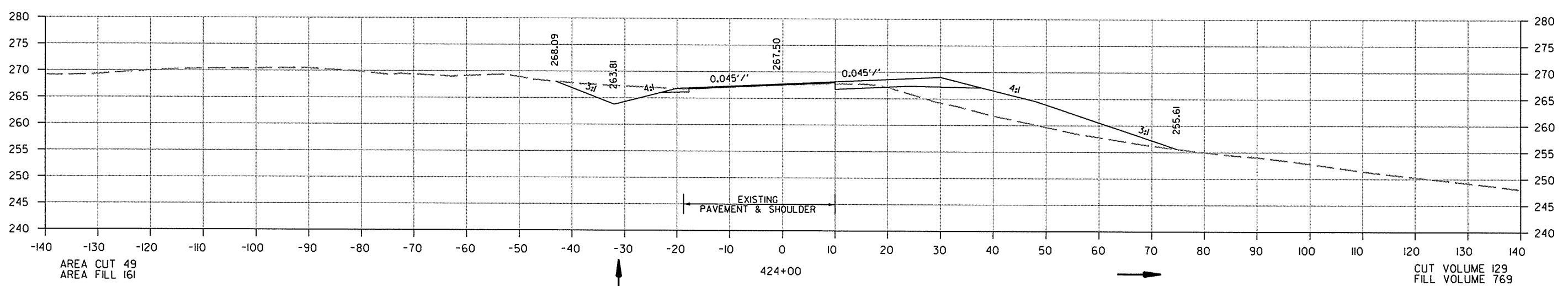
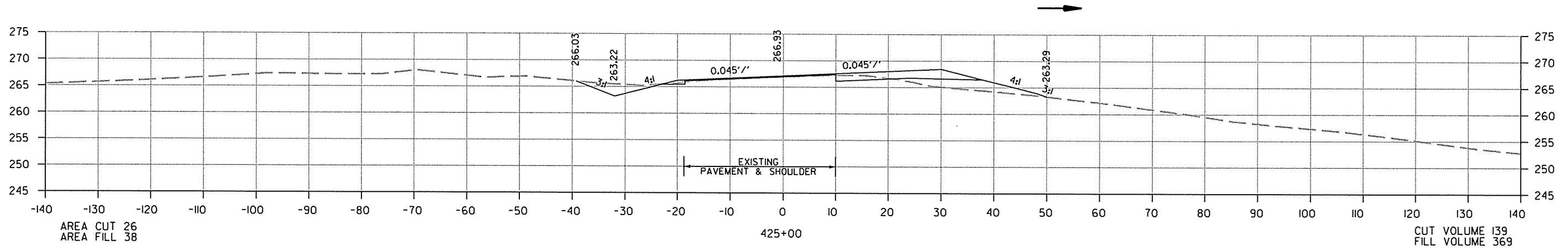
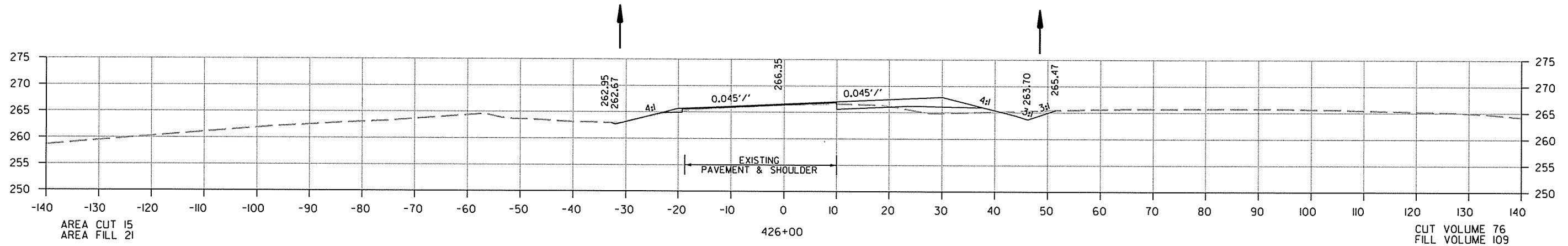


CROSS SECTION STA. 422+89 TO STA. 423+00

10/25/2013
R070366.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. 070366							221	237

② CROSS SECTIONS - SITE 4

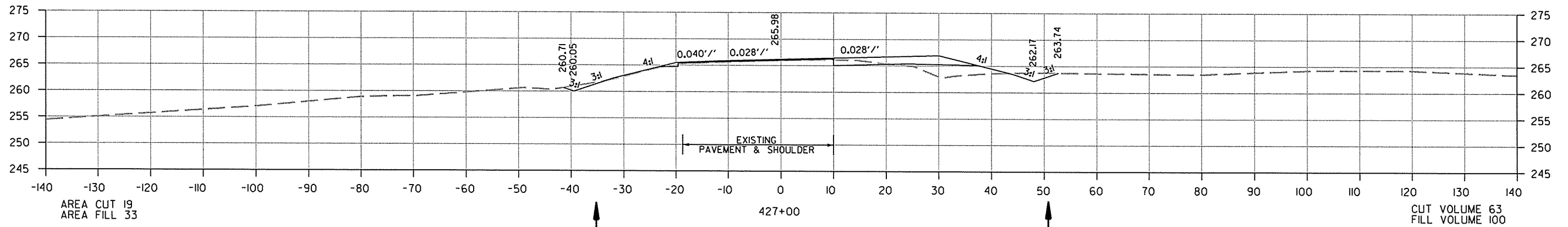
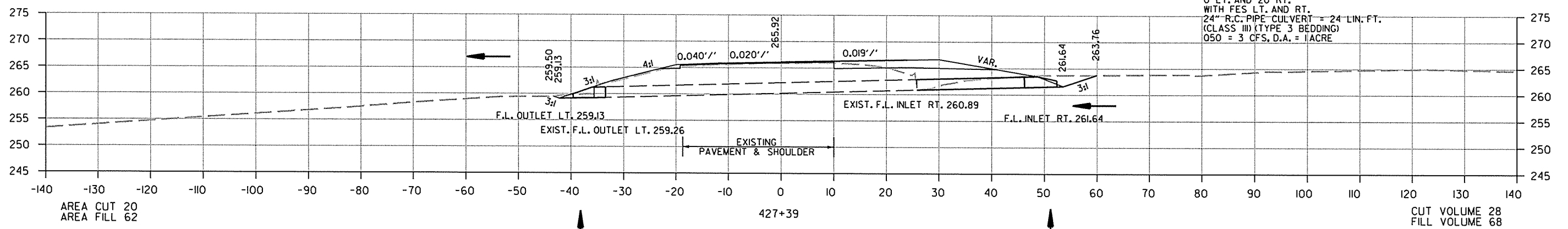
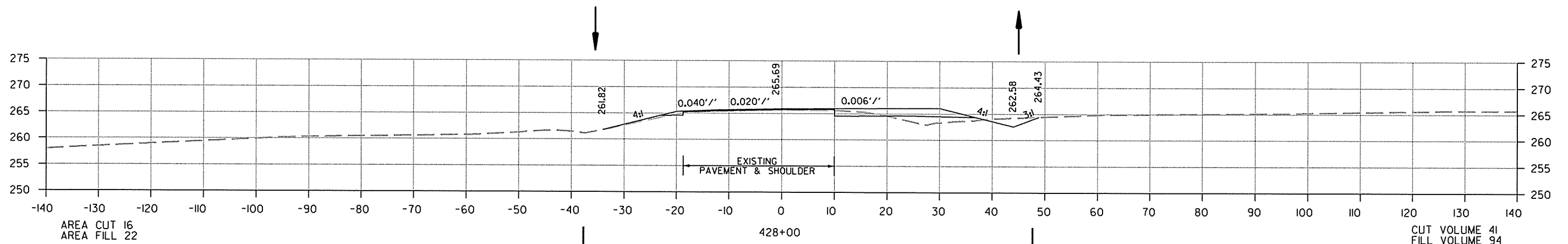


CROSS SECTION STA. 424+00 TO STA. 426+00

R070366.DCN 10/25/2013

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		222	237

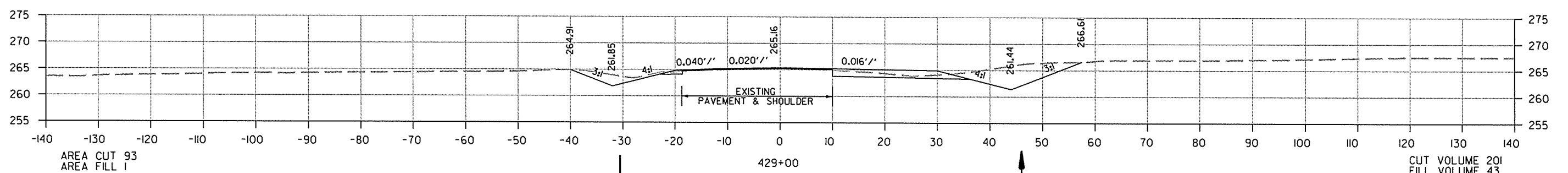
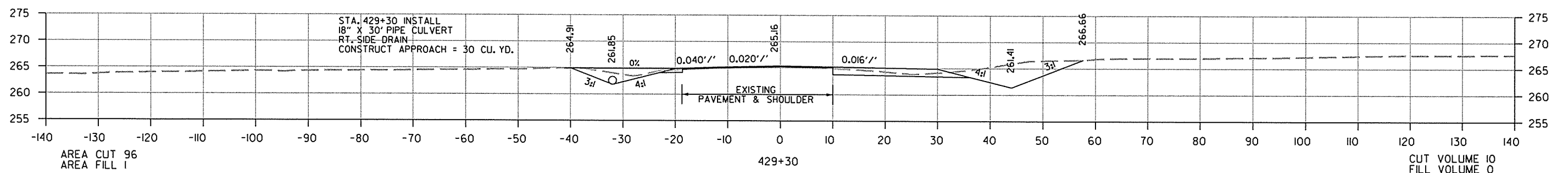
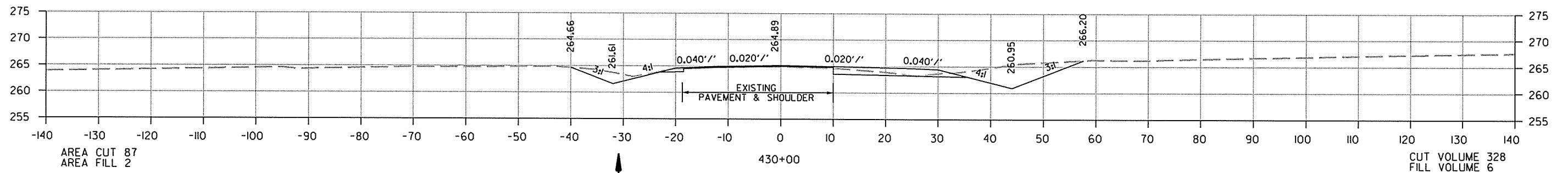
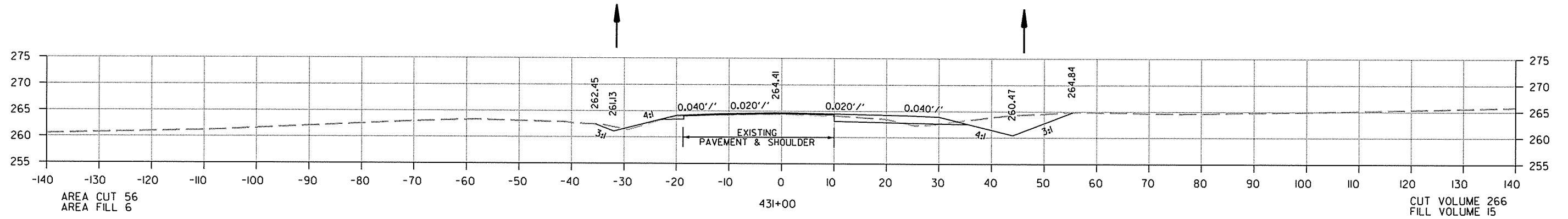
2 CROSS SECTIONS - SITE 4



CROSS SECTION STA. 427+00 TO STA. 428+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							223	237

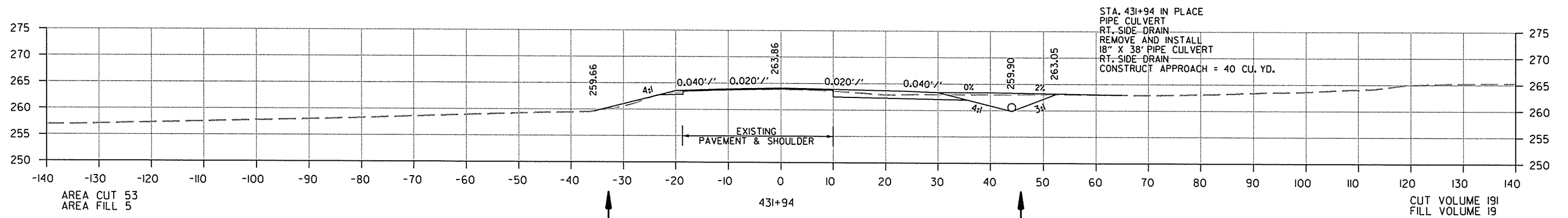
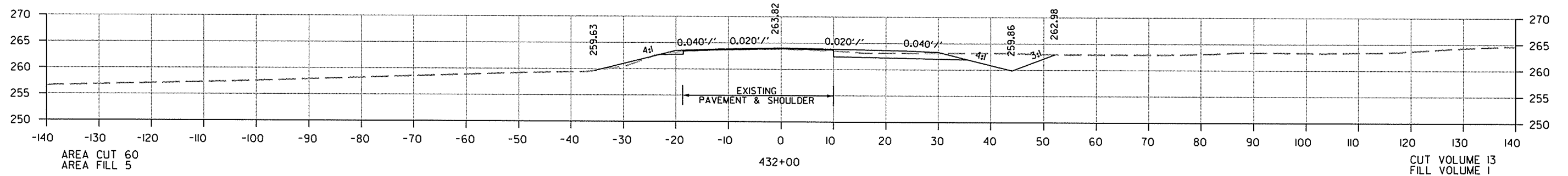
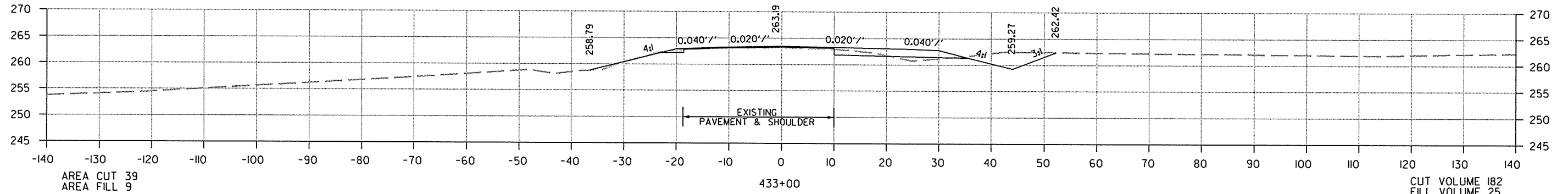
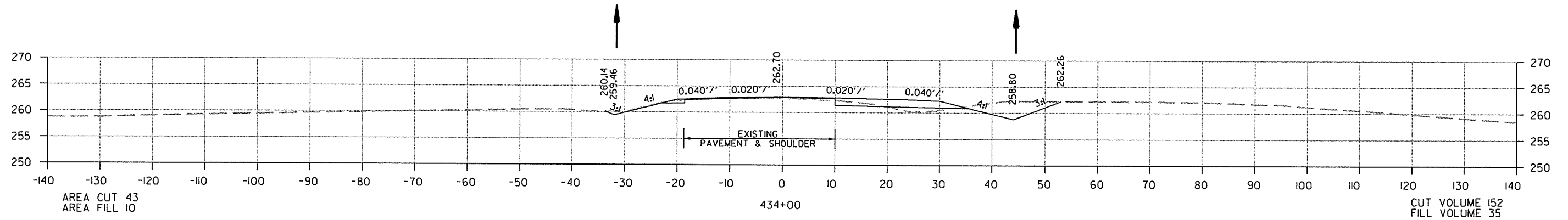
2 CROSS SECTIONS - SITE 4



CROSS SECTION STA. 429+00 TO STA. 431+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							224	237

② CROSS SECTIONS - SITE 4



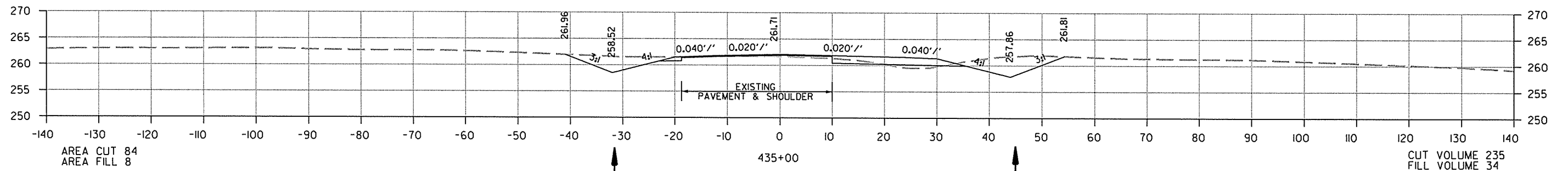
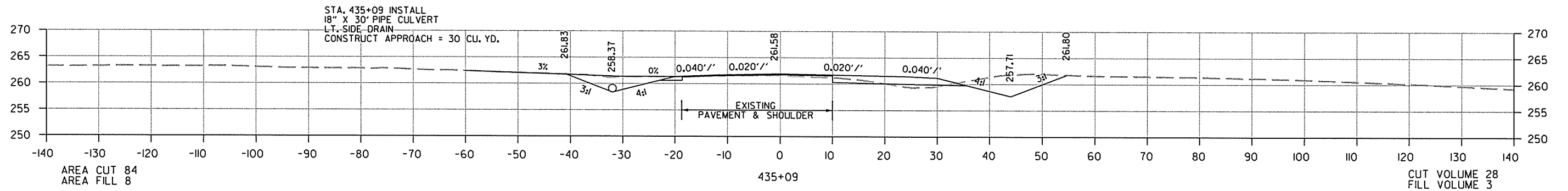
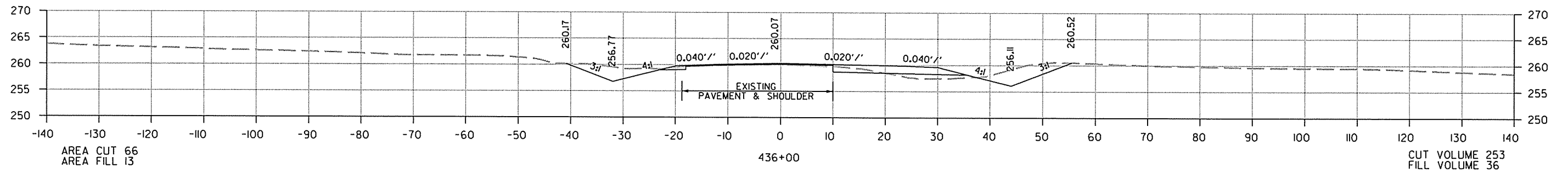
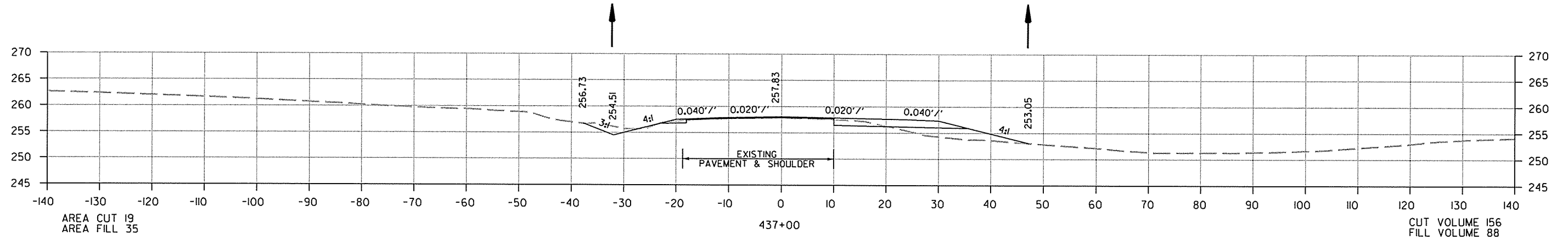
CROSS SECTION STA. 431+94 TO STA. 434+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		225	237

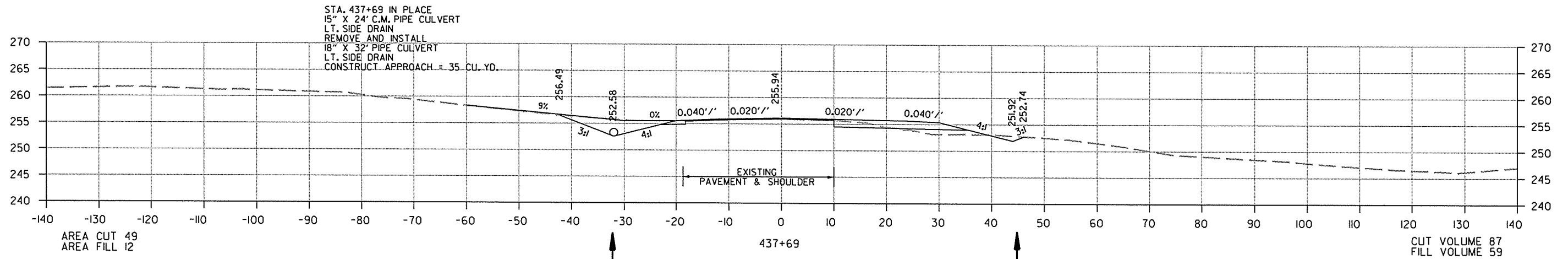
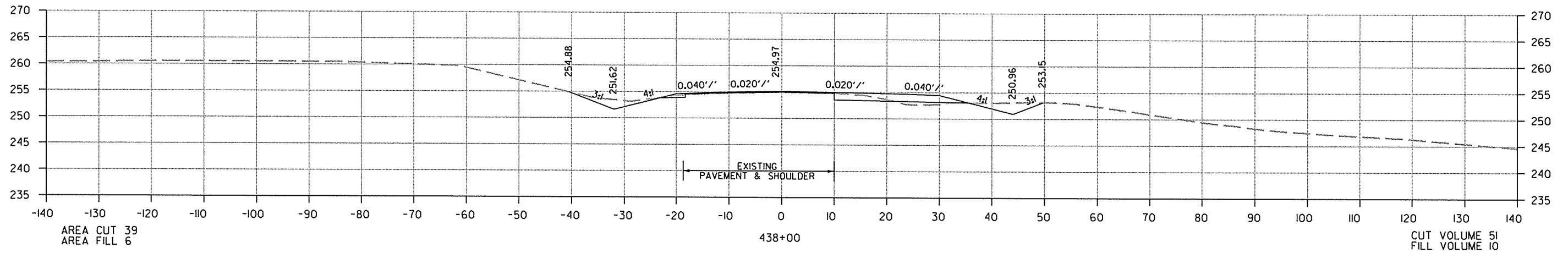
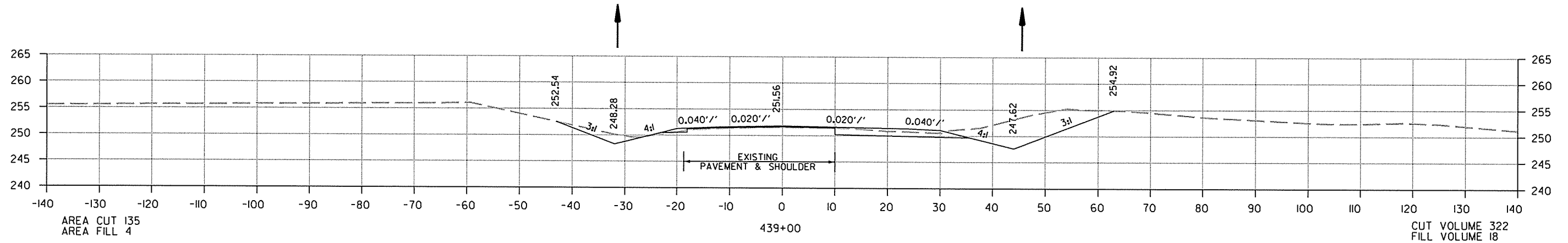
2 CROSS SECTIONS - SITE 4



CROSS SECTION STA. 435+00 TO STA. 437+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							226	237

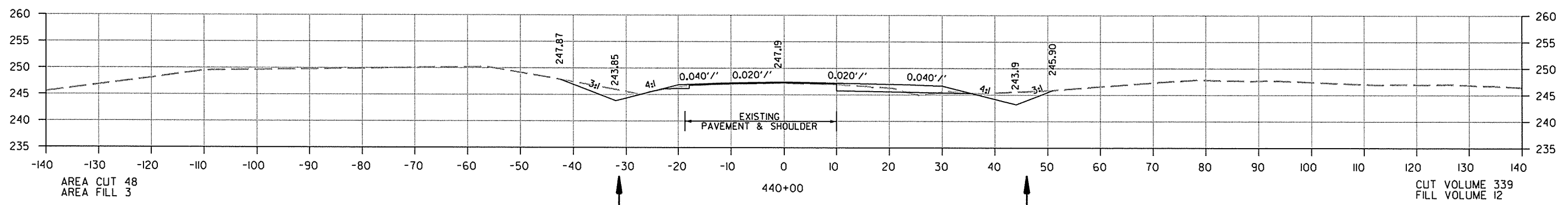
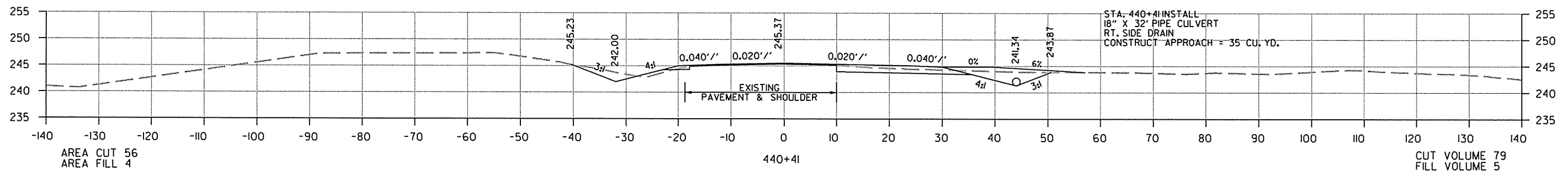
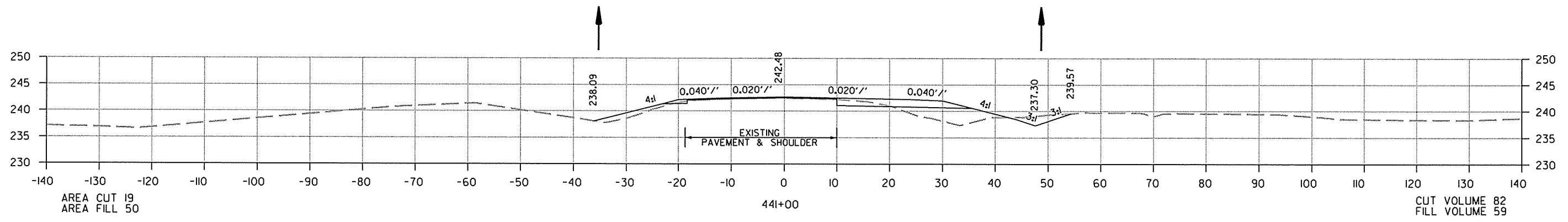
2 CROSS SECTIONS - SITE 4



CROSS SECTION STA. 437+69 TO STA. 439+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. RD. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		227	237

② CROSS SECTIONS - SITE 4

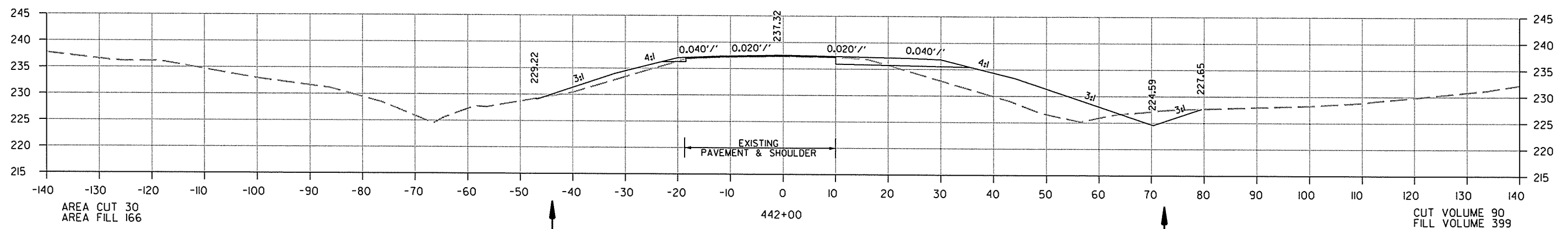
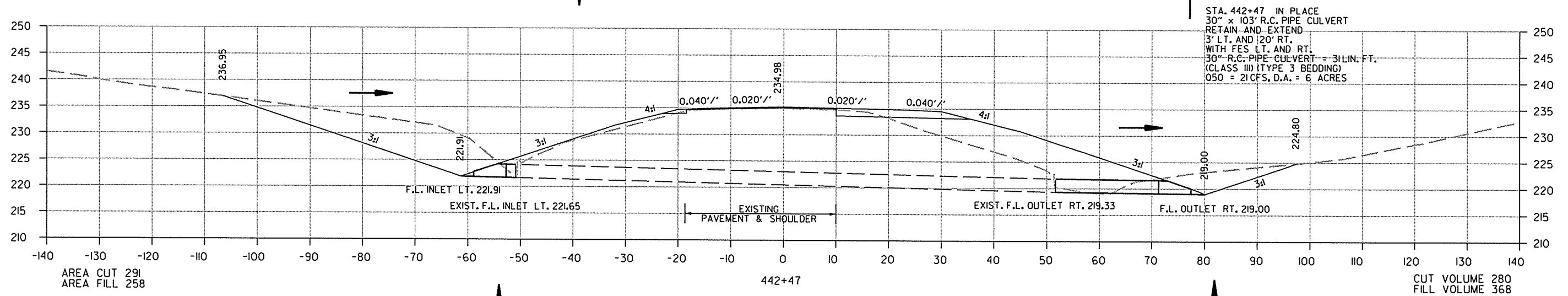
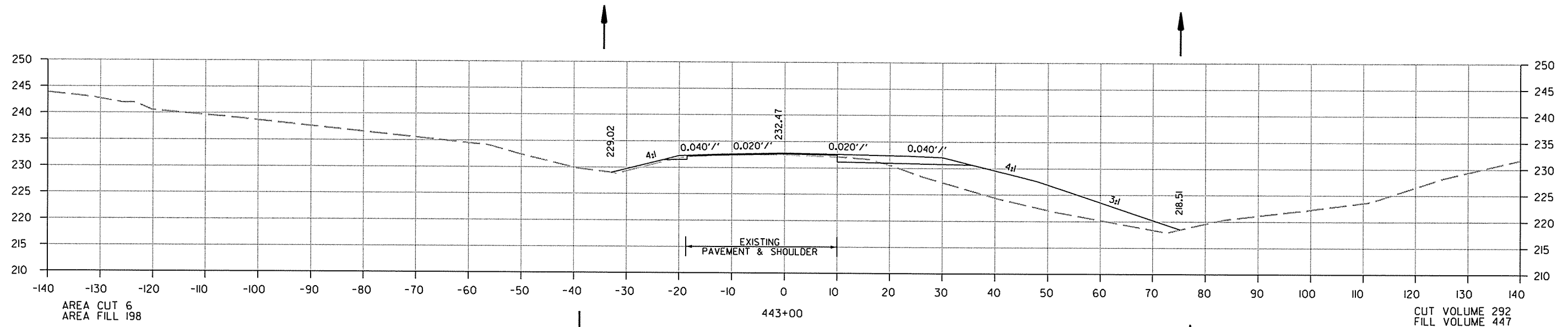


CROSS SECTION STA. 440+00 TO STA. 441+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 070366							228	237

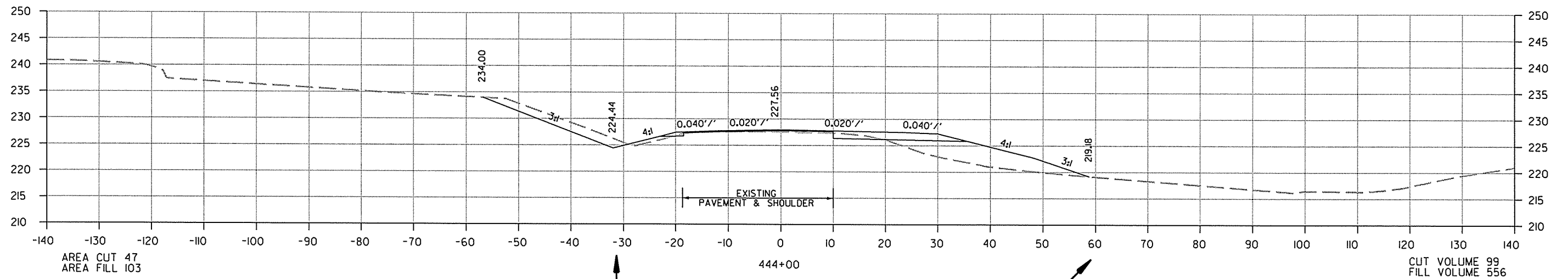
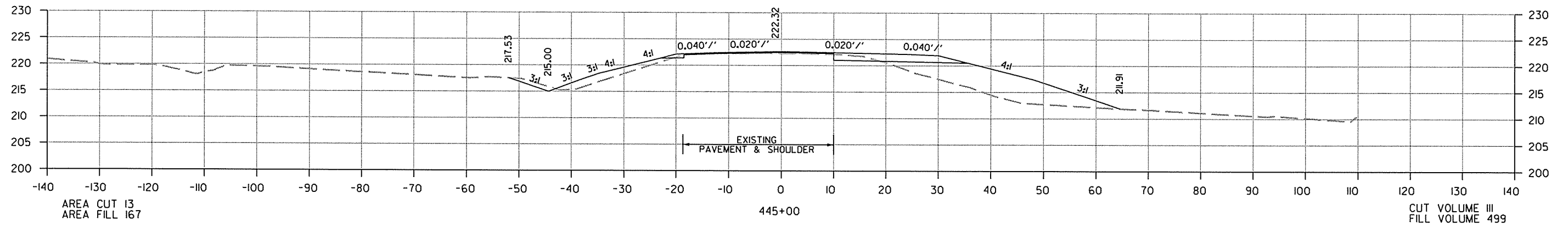
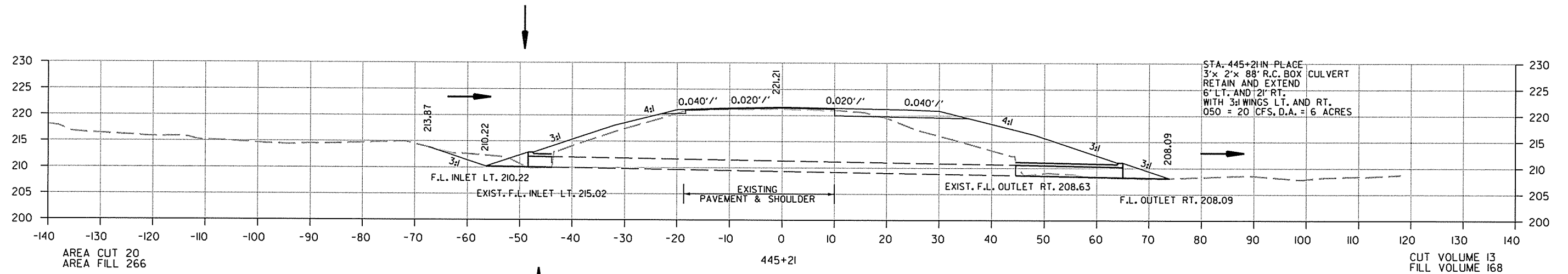
2 CROSS SECTIONS - SITE 4



CROSS SECTION STA. 442+00 TO STA. 443+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	229	237

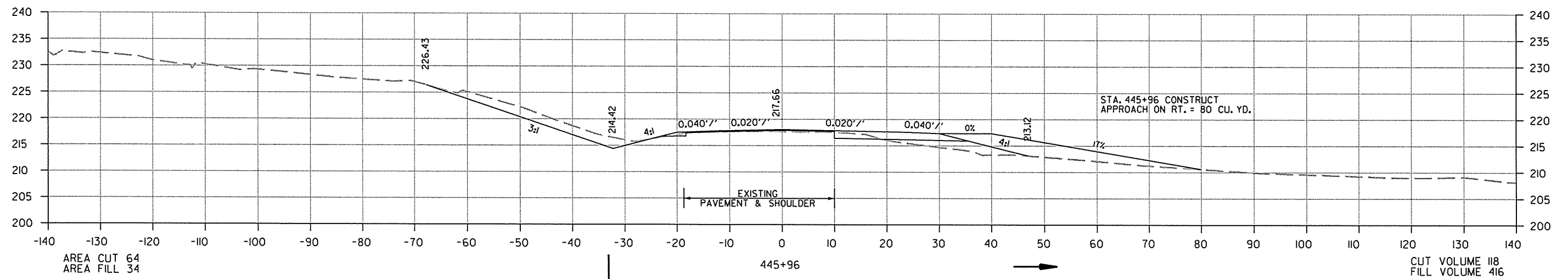
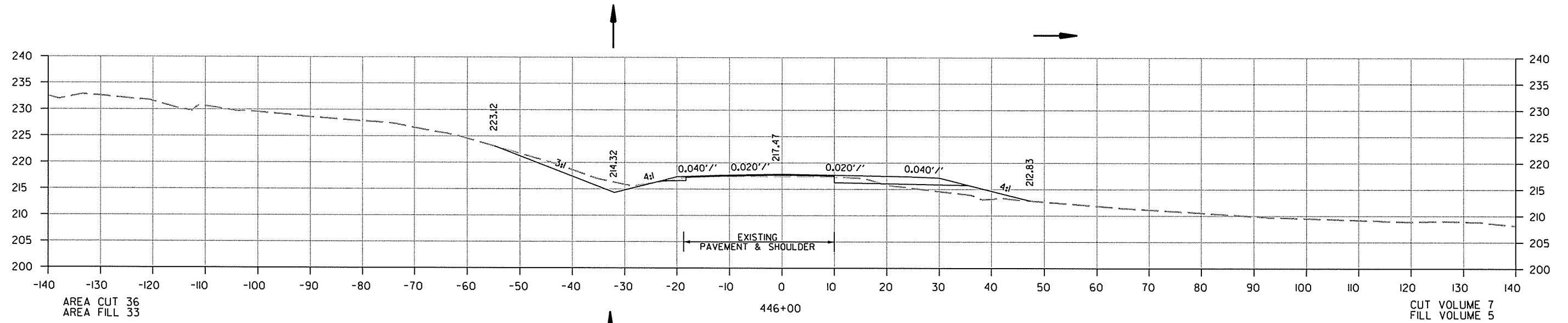
2 CROSS SECTIONS - SITE 4



CROSS SECTION STA. 444+00 TO STA. 445+21

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	230	237

② CROSS SECTIONS - SITE 4



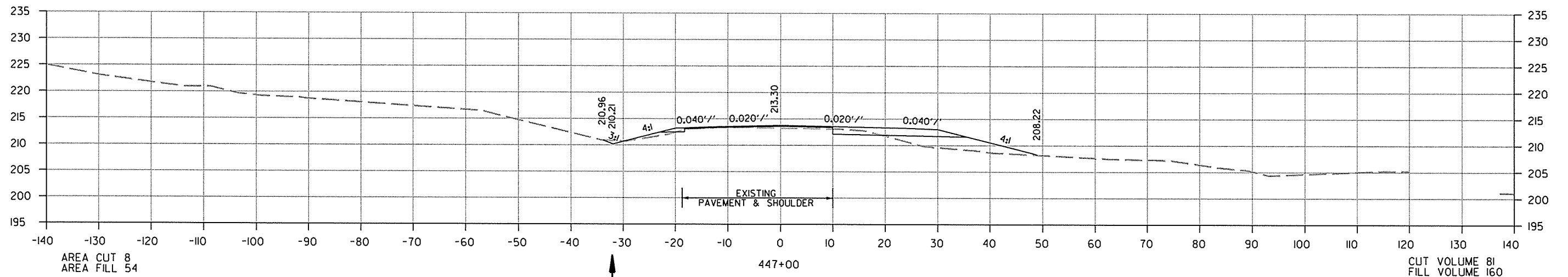
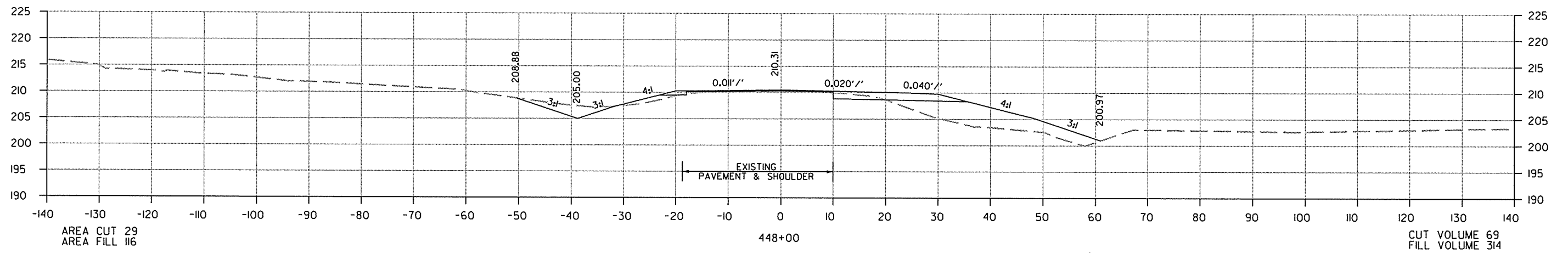
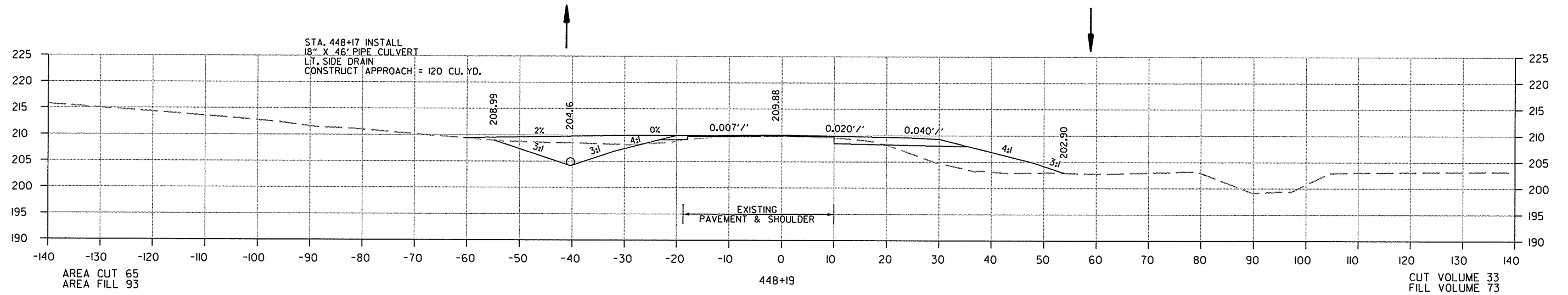
CROSS SECTION STA. 445+96 TO STA. 446+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	231	237

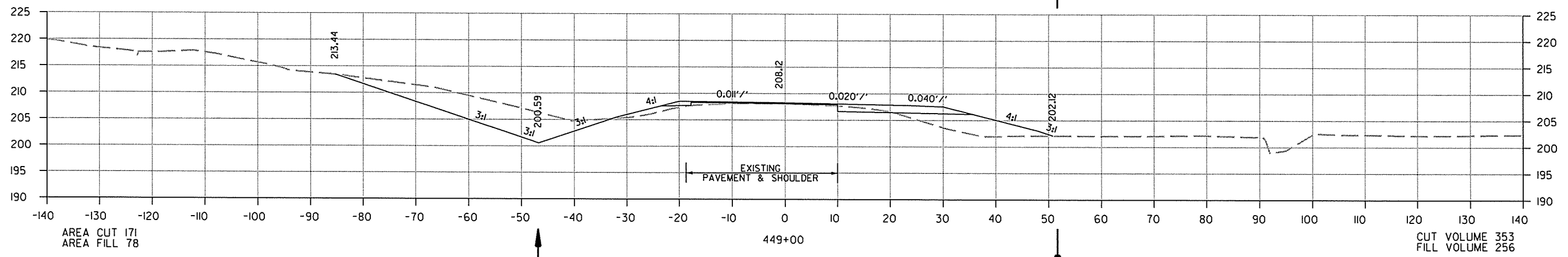
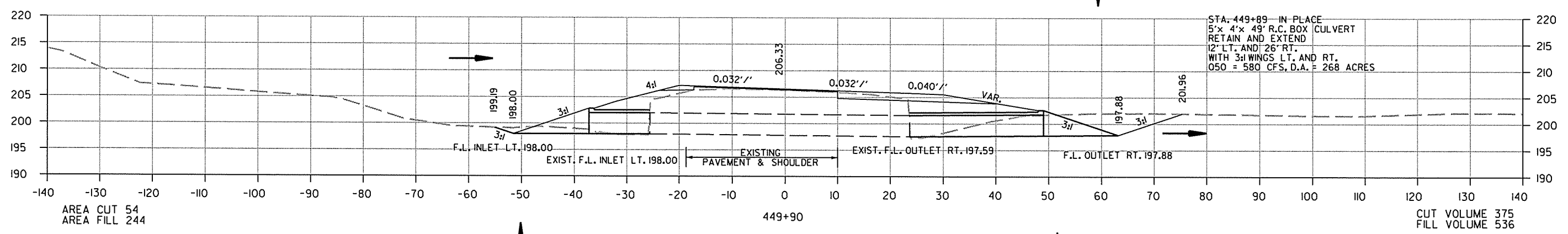
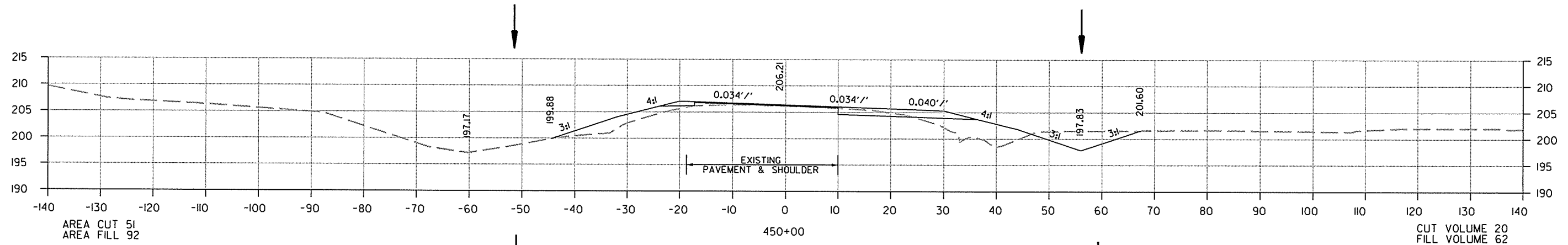
② CROSS SECTIONS - SITE 4



CROSS SECTION STA. 447+00 TO STA. 448+19

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	232	237

② CROSS SECTIONS - SITE 4

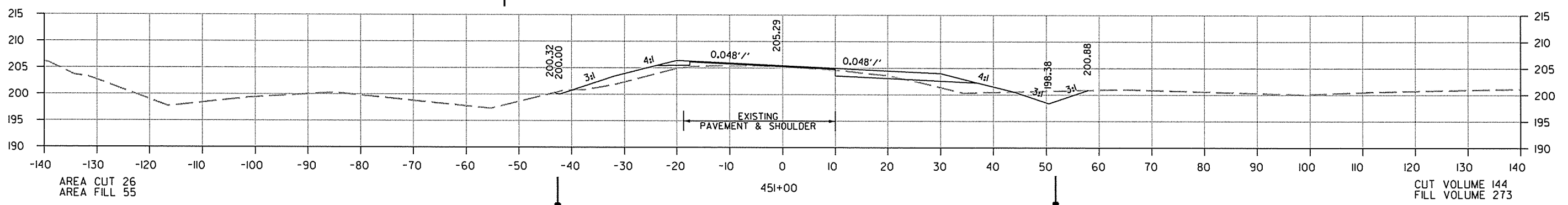
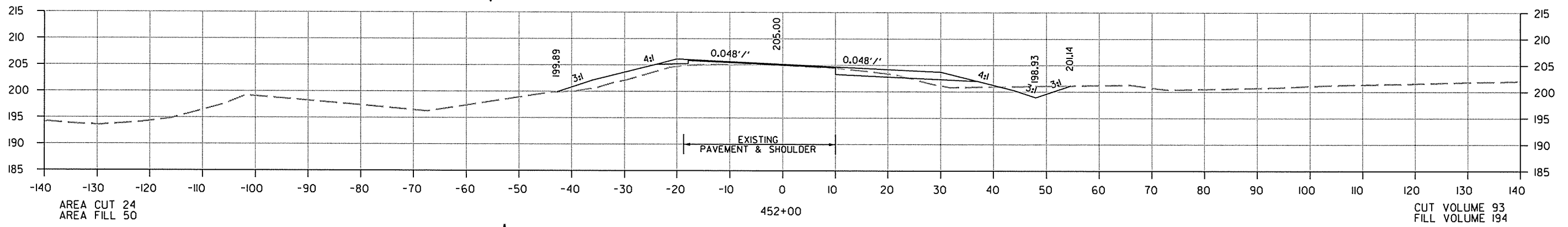
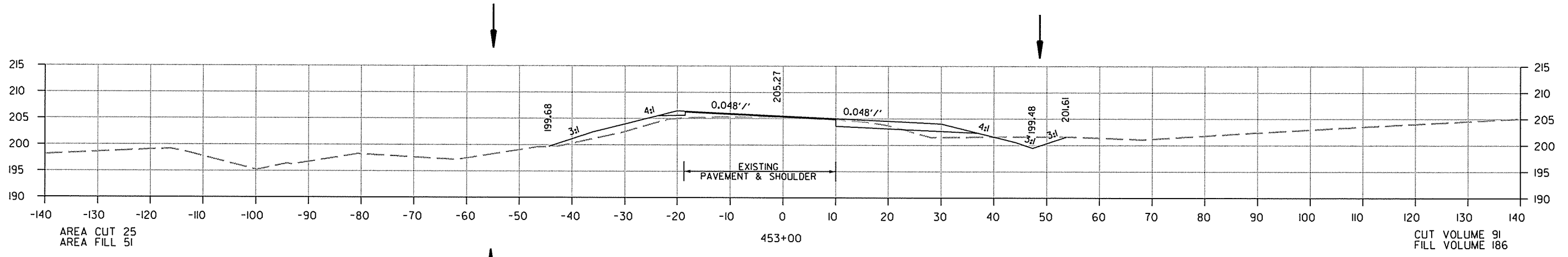


CROSS SECTION STA. 449+00 TO STA. 450+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		233	237

2 CROSS SECTIONS - SITE 4

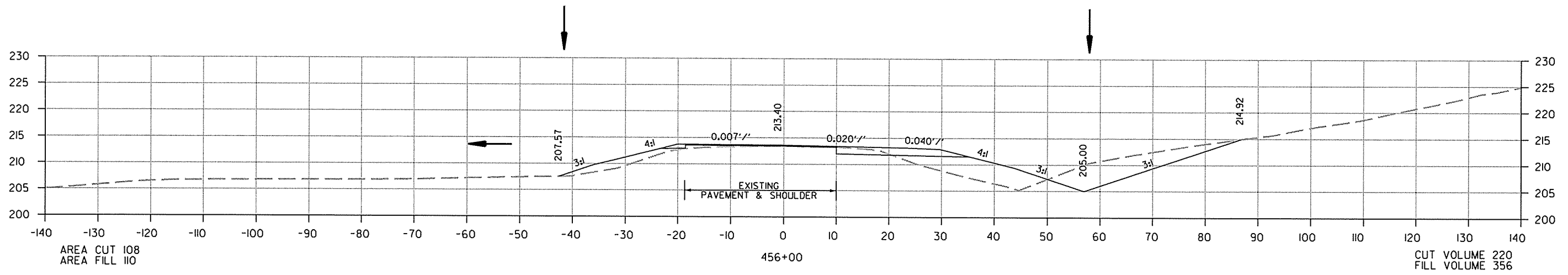


CROSS SECTION STA. 451+00 TO STA. 453+00

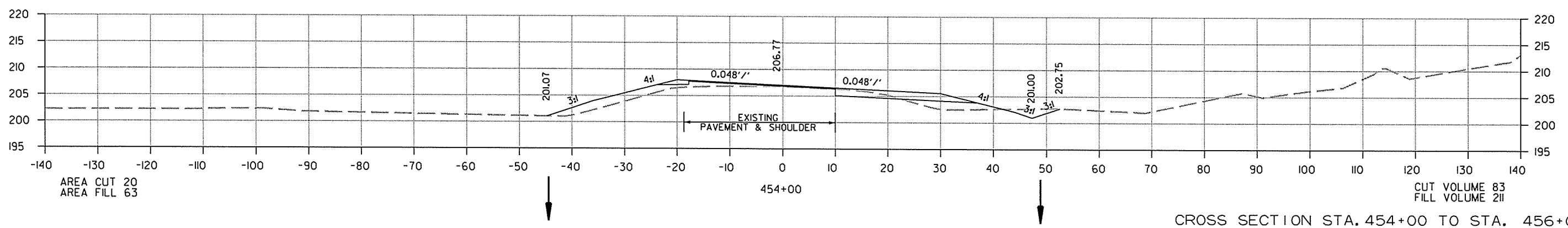
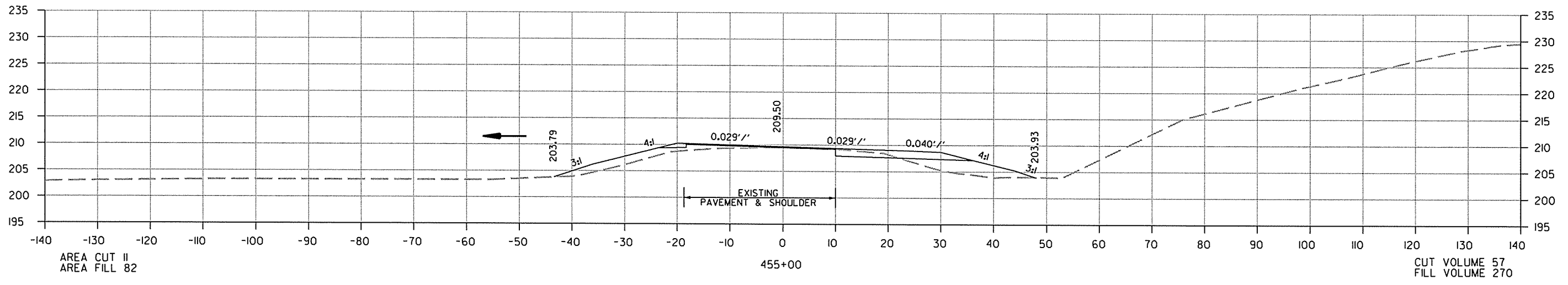
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		234	237

2 CROSS SECTIONS - SITE 4



BEGIN 660' TAPER @ STA. 455+80

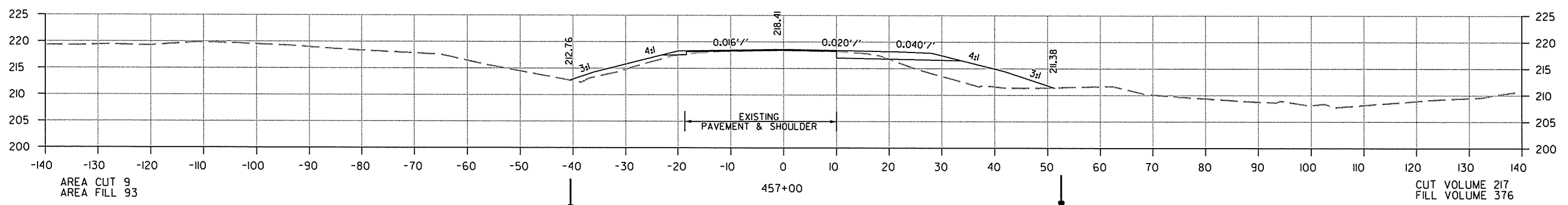
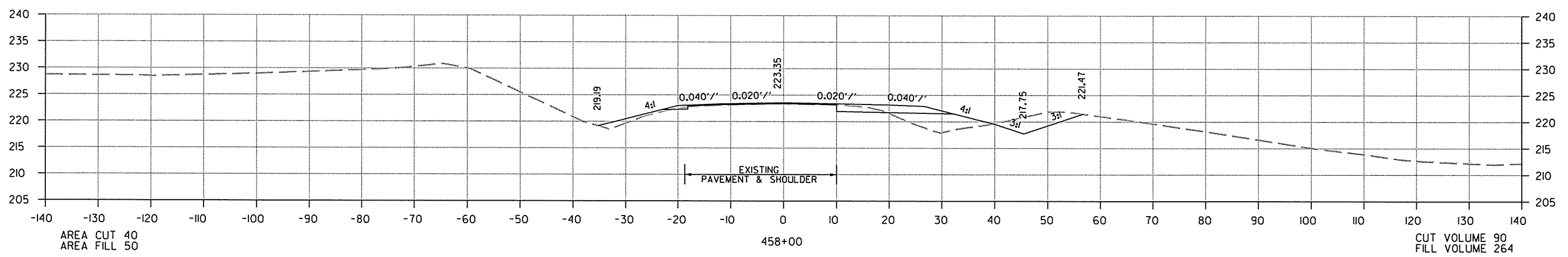
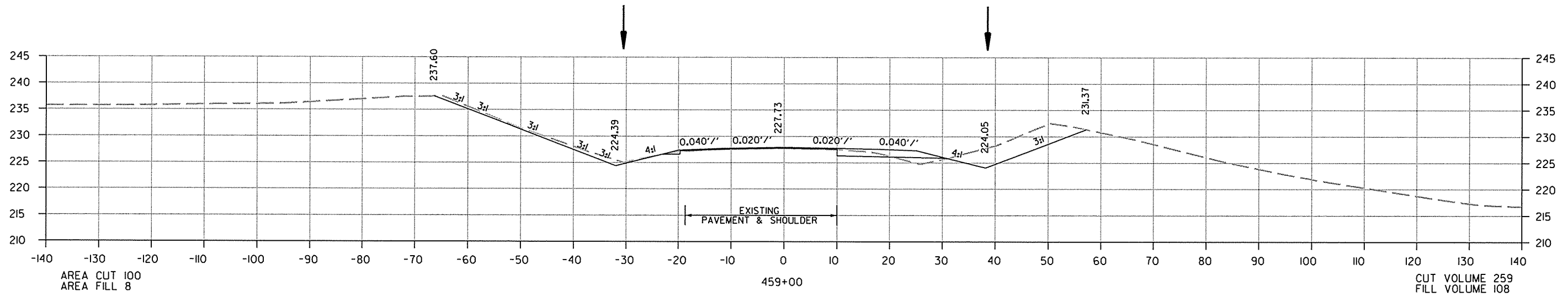


CROSS SECTION STA. 454+00 TO STA. 456+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 070366	235	237

② CROSS SECTIONS - SITE 4

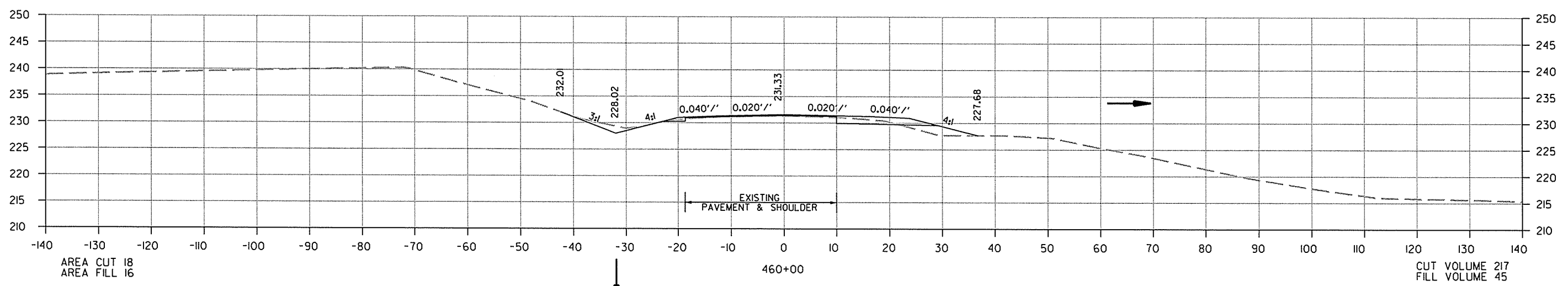
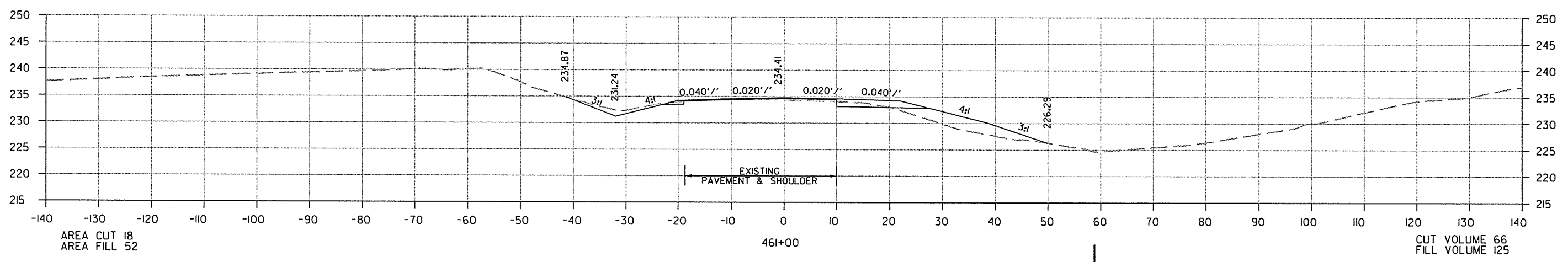
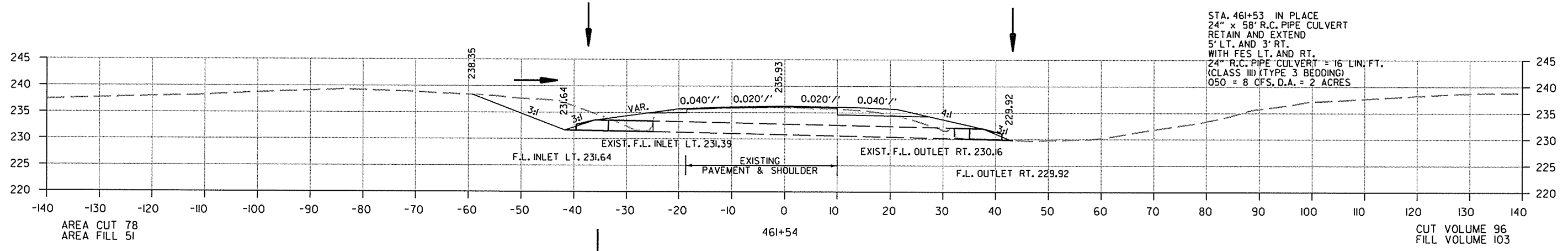


CROSS SECTION STA. 457+00 TO STA. 459+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	070366		236	237

② CROSS SECTIONS - SITE 4

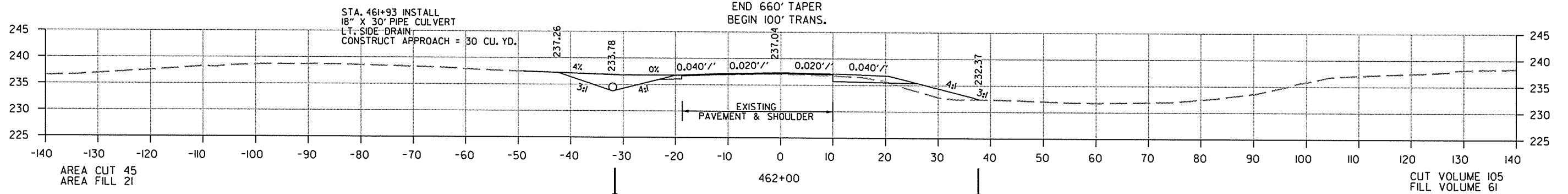
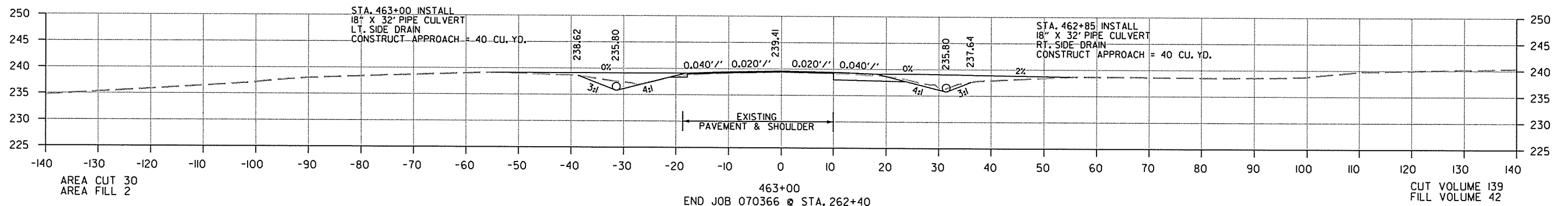
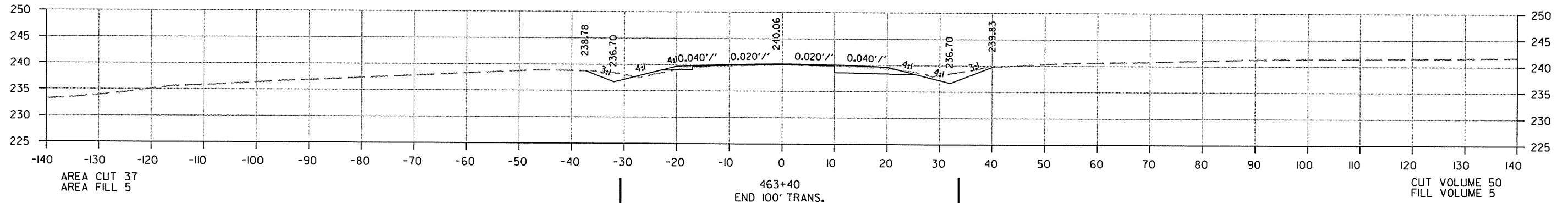


CROSS SECTION STA. 460+00 TO STA. 461+54

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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. 070366							237	237

② CROSS SECTIONS - SITE 4



CROSS SECTION STA. 462+00 TO STA. 463+40