DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	1	277

(2) BRYANT RD. - HWY. 298 WEST (SAFETY IMPVTS.) (SEL.SECS.) (S)

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

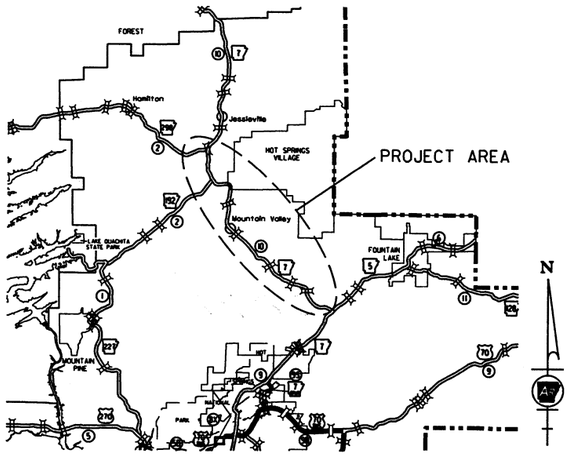
BRYANT RD. - HWY. 298 WEST (SAFETY IMPVTS.) (SEL. SECS.) (S)

GARLAND COUNTY

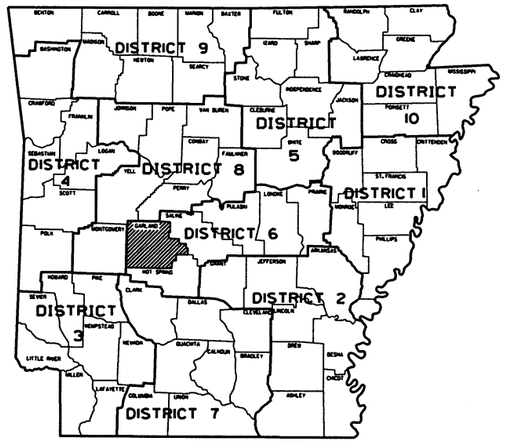
ROUTE 7 SECTION 10

FED. AID PROJ. HSIP-0026(31)

JOB 061438

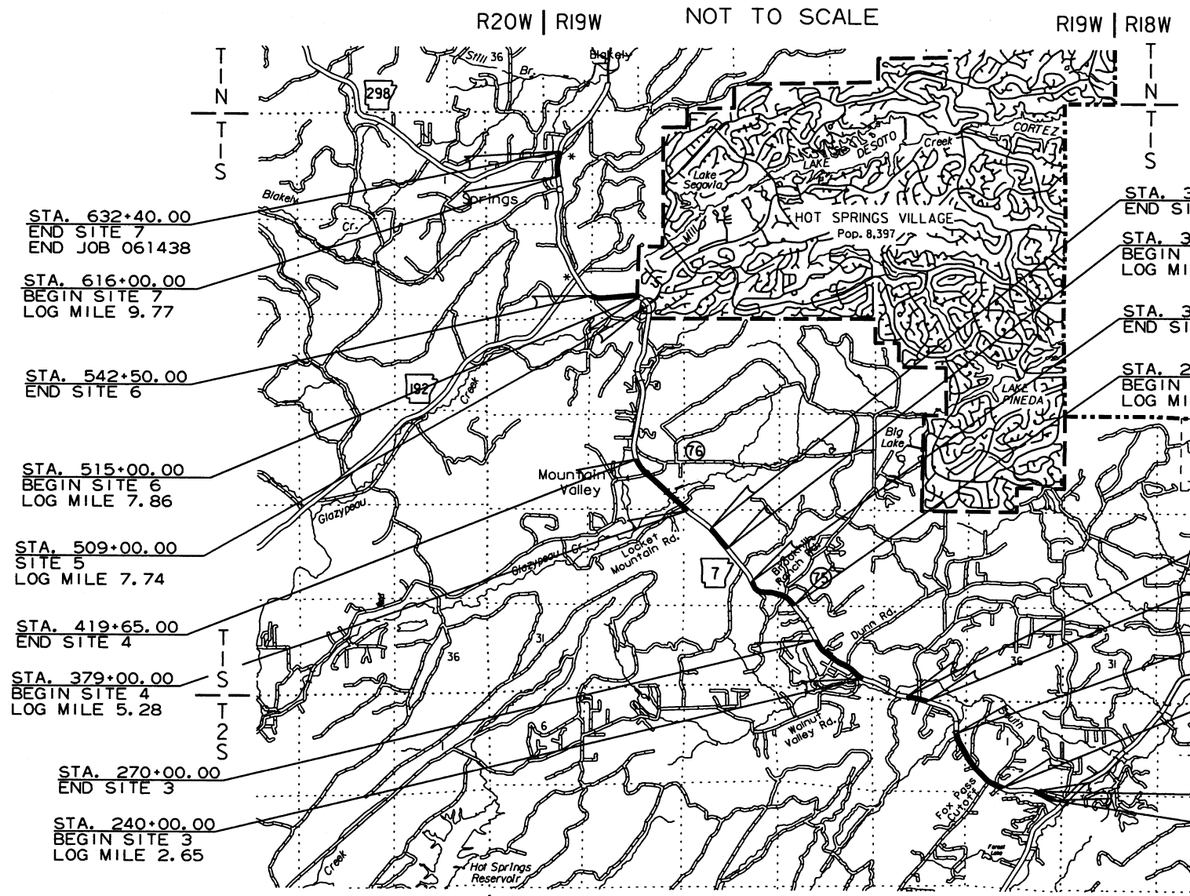


VICINITY MAP



ARK. HWY. DIST. NO. 6

NOT TO SCALE



STA. 632+40.00
END SITE 7
END JOB 061438

STA. 616+00.00
BEGIN SITE 7
LOG MILE 9.77

STA. 542+50.00
END SITE 6

STA. 515+00.00
BEGIN SITE 6
LOG MILE 7.86

STA. 509+00.00
SITE 5
LOG MILE 7.74

STA. 419+65.00
END SITE 4

STA. 379+00.00
BEGIN SITE 4
LOG MILE 5.28

STA. 270+00.00
END SITE 3

STA. 240+00.00
BEGIN SITE 3
LOG MILE 2.65

STA. 366+26.00
END SITE 3B

STA. 354+17.00
BEGIN SITE 3B
LOG MILE 4.81

STA. 326+73.00
END SITE 3A

STA. 298+80.00
BEGIN SITE 3A
LOG MILE 3.76

STA. 213+00.00
END SITE 2

STA. 204+50.00
BEGIN SITE 2
LOG MILE 1.98

STA. 180+40.00
END SITE 1

STA. 170+00.00
BEGIN SITE 1
LOG MILE 1.32

STA. 116+00.00
END SITE 1A

STA. 107+00.00
BEGIN JOB 061438
BEGIN SITE 1A
LOG MILE 0.13

DESIGN TRAFFIC DATA

DESIGN YEAR	2040
2020 ADT	7900
2040 ADT	10000
2040 DHV	1100
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	4%
AVERAGE RUNNING SPEED	
SITES 1A, 1, 2, 3, 3A, 3B	53 MPH
SITES 4, 5, 6	45 MPH
SITE 7	50 MPH

APPROVED

STATE OF ARKANSAS ★★★ LICENSED PROFESSIONAL ENGINEER No. 7634 W.E. BANKS

12-9-19

DEPUTY DIRECTOR
AND CHIEF ENGINEER

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 34°34'45"	N 34°37'14"	N 34°40'47"
LONGITUDE	W 92°59'02"	W 93°02'43"	W 93°04'19"

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF PROJECT	18247.00	FEET	OR	3.456	MILES
NET : : ROADWAY	18247.00	:		3.456	MILES
NET : : BRIDGES	00000.00	:		0.000	MILES
NET : : PROJECT	18247.00	:		3.456	MILES

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R0614 38.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
12-20-19				6	ARK.			
				JOB NO.		061438	2	277

(2) INDEX OF SHEETS AND STANDARD DRAWINGS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-20-19

INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS AND STANDARD DRAWINGS
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES
4 - 13	TYPICAL SECTIONS OF IMPROVEMENT
14 - 22	SPECIAL DETAILS
23 - 52	TEMPORARY EROSION CONTROL DETAILS
53 - 75	MAINTENANCE OF TRAFFIC DETAILS
76 - 88	PERMANENT PAVEMENT MARKING DETAILS
89 - 100	QUANTITIES
101	SUMMARY OF QUANTITIES AND REVISIONS
102 - 111	SURVEY CONTROL DETAILS
112 - 137	PLAN AND PROFILE SHEETS
138	TRAFFIC SIGNAL NOTES
139	TRAFFIC SIGNAL QUANTITIES
140 - 143	SIGNALIZATION PLAN SHEETS
144 - 277	CROSS SECTIONS

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

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CG-1	CURBING DETAILS	11-29-07
DR-1	DETAILS OF DRIVEWAYS & ISLANDS	11-07-19
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
FPC-9	DETAILS OF DROP INLETS & JUNCTION BOXES	11-16-01
FPC-9E	DETAILS OF DROP INLETS (TYPE C)	08-22-02
FPC-9M	DETAILS OF DROP INLET (TYPE MO)	08-22-02
FPC-9S	DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)	07-26-12
MB-1	MAILBOX DETAILS	11-18-04
PBC-1	PRECAST CONCRETE BOX CULVERTS	01-28-15
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PCP-3	PLASTIC PIPE CULVERT (POLYPROPYLENE)	11-07-19
PM-1	PAVEMENT MARKING DETAILS	06-01-17
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
RCB-1	REINFORCED CONCRETE BOX CULVERT DETAILS	07-26-12
RCB-2	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	11-20-03
RCB-3	METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS	10-12-95
SD-5	CONTROLLER CABINET UTILITY DRAWER	09-12-13
SD-6	HEAVY DUTY PULL BOX	11-16-17
SD-8	SIGNAL HEAD PLACEMENT	12-08-16
SD-9	SERVICE POINT	11-07-19
SD-11	STEEL POLE WITH MAST ARM	11-16-17
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
SI-1	DETAILS OF SPECIAL ITEMS	10-25-18
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
WF-2	WIRE FENCE WATER GAPS	04-20-79
WF-3	CHAIN LINK FENCE	11-17-10
WF-4	WIRE FENCE TYPE C AND D	08-22-02
WR-1	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	11-10-05
W-X003-1	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	05-10-66
R-100X-0	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	02-08-63
R-200X-0	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	02-15-63

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12-20-19				6	ARK.			
01-03-20				JOB NO.		061438	3	277
				(2) GOVERNING SPECIFICATIONS AND GENERAL NOTES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
1-3-20

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 - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1_____	PROTECTION OF WATER QUALITY AND WETLANDS
303-1_____	AGGREGATE BASE COURSE
306-1_____	QUALITY CONTROL AND ACCEPTANCE
400-1_____	TACK COATS
400-4_____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5_____	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6_____	LIQUID ANTI-STRIP ADDITIVE
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2_____	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
505-1_____	PORTLAND CEMENT CONCRETE DRIVEWAY
600-2_____	INCIDENTAL CONSTRUCTION
603-1_____	LANE CLOSURE NOTIFICATION
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1_____	PIPE CULVERTS FOR SIDE DRAINS
620-1_____	MULCH COVER
621-1_____	FILTER SOCKS
633-1_____	CONCRETE WALKS, CONCRETE STEPS, AND HAND RAILING
634-1_____	CURBING
800-1_____	STRUCTURES
802-3_____	CONCRETE FOR STRUCTURES
804-2_____	REINFORCING STEEL FOR STRUCTURES
JOB 061438__	ACTUATED CONTROLLER
JOB 061438__	ASSESSMENT OF WORKING DAYS - MAINTENANCE OF TRAFFIC
JOB 061438__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 061438__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061438__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 061438__	CABINET DRAWER ASSEMBLY
JOB 061438__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 061438__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 061438__	COORDINATION OF WORK
JOB 061438__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 061438__	EDGE CARD VIDEO PROCESSOR
JOB 061438__	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 061438__	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 061438__	EXTENSION FOR PIPE CULVERTS
JOB 061438__	FLEXIBLE BEGINNING OF WORK – CALENDAR DAY CONTRACT
JOB 061438__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 061438__	LED LUMINAIRE ASSEMBLY (BUG U0 TYPE)
JOB 061438__	LED TRAFFIC SIGNAL HEAD
JOB 061438__	MAINTENANCE OF TRAFFIC
JOB 061438__	MANDATORY ELECTRONIC CONTRACT
JOB 061438__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 061438__	OFF-SITE RESTRAINING CONDITIONS FOR NORTHERN LONG-EARED BATS
JOB 061438__	PARTNERING REQUIREMENTS
JOB 061438__	PLASTIC PIPE
JOB 061438__	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 061438__	PROSECUTION AND PROGRESS WITH BID SCHEDULE
JOB 061438__	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
JOB 061438__	RUMBLE STRIPS
JOB 061438__	SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES)
JOB 061438__	SHORING FOR CULVERTS
JOB 061438__	SITE USE (A+C METHOD) - CALENDAR DAY CONTRACT
JOB 061438__	SOIL STABILIZATION
JOB 061438__	STORM WATER POLLUTION PREVENTION PLAN
JOB 061438__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 061438__	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
JOB 061438__	UTILITY ADJUSTMENTS
JOB 061438__	VALUE ENGINEERING
JOB 061438__	VEGETATED BUFFER ZONE
JOB 061438__	VIDEO DETECTOR (COLOR)
JOB 061438__	WARM MIX ASPHALT
JOB 061438__	WELLHEAD PROTECTION

GENERAL NOTES

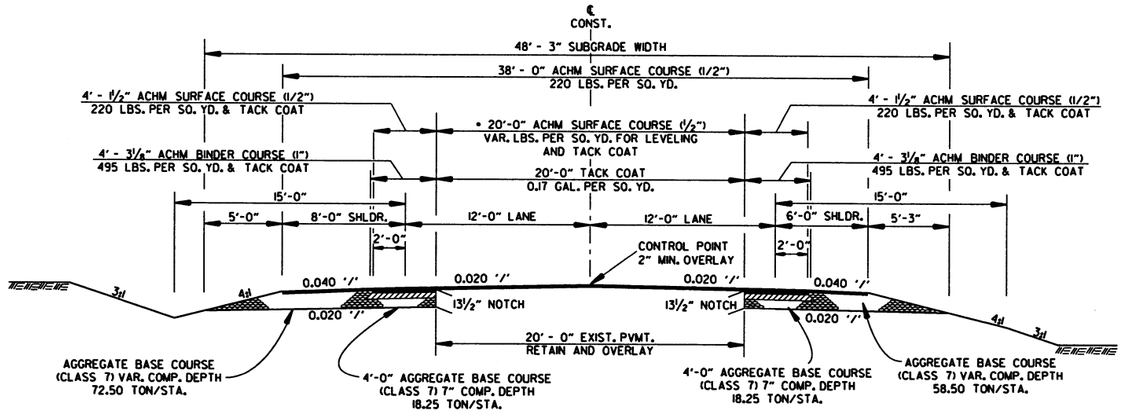
1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. 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.
11. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.

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				6	ARK.			
				JOB NO.		061438	4	277

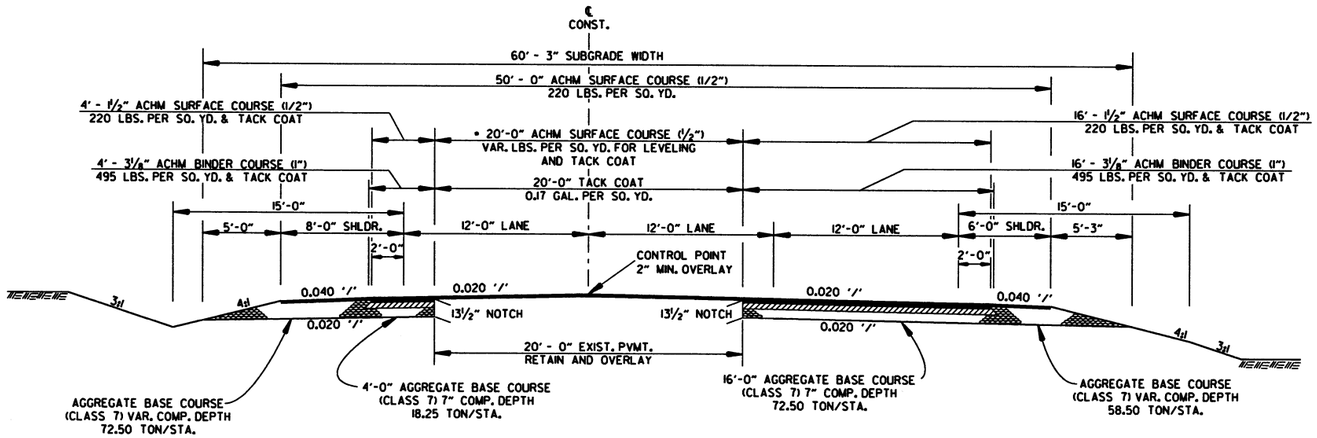
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



HWY. 7 - OPEN SHOULDER

SITES IA:
SITE IA: STA. 107+00.00
NOTE: 107+00.00 - STA. 109+00.00 - TAPER FROM 24'-0" TO 36'-0"



HWY. 7 - OPEN SHOULDER

SITE IA:
STA. 109+00.00 - STA. 115+50.00

SITE 3B:
STA. 359+42.00 - STA. 364+26.00
NOTE: STA. 364+26.00 - STA. 366+26.00 - TAPER FROM 36'-0" TO 24'-0"

* TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

NOTES:

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

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

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

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

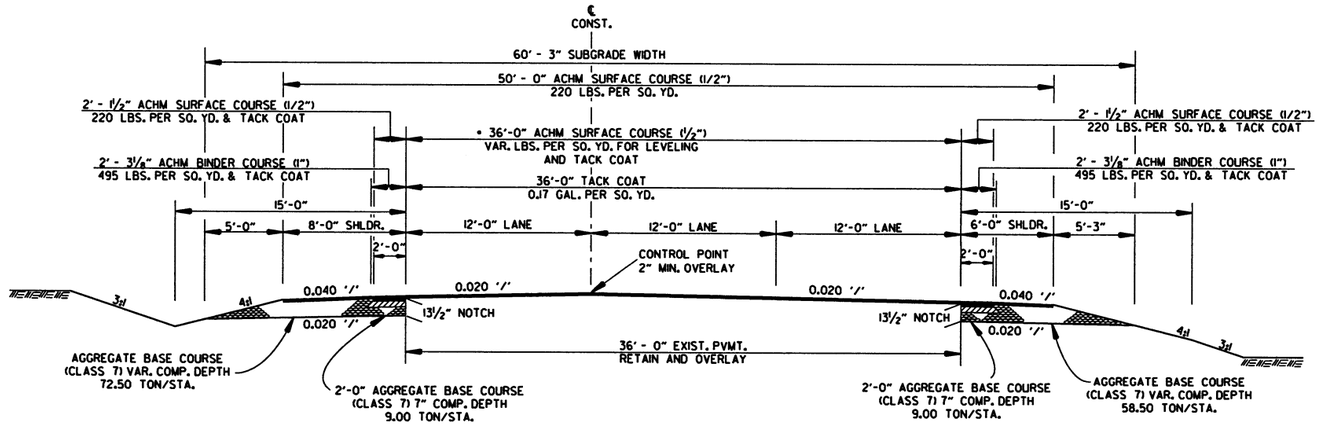
ikge653 12/4/2019
R061438.DGN

SITE IA & 3B
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



HWY. 7 - OPEN SHOULDER

SITE 1A:
STA. 115+50.00 - STA. 116+00.00

SITE 3B:
STA. 354+17.00 - STA. 359+42.00

* TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

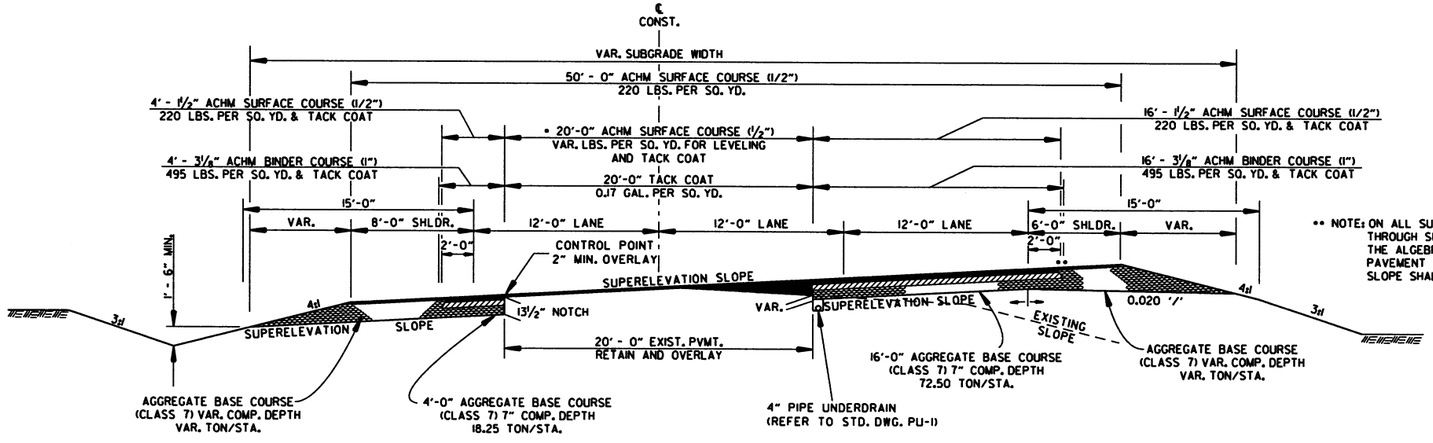
NOTES:

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

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

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

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



** NOTE: ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8%.

HWY. 7 - OPEN SHOULDER - SUPERELEVATION SECTION

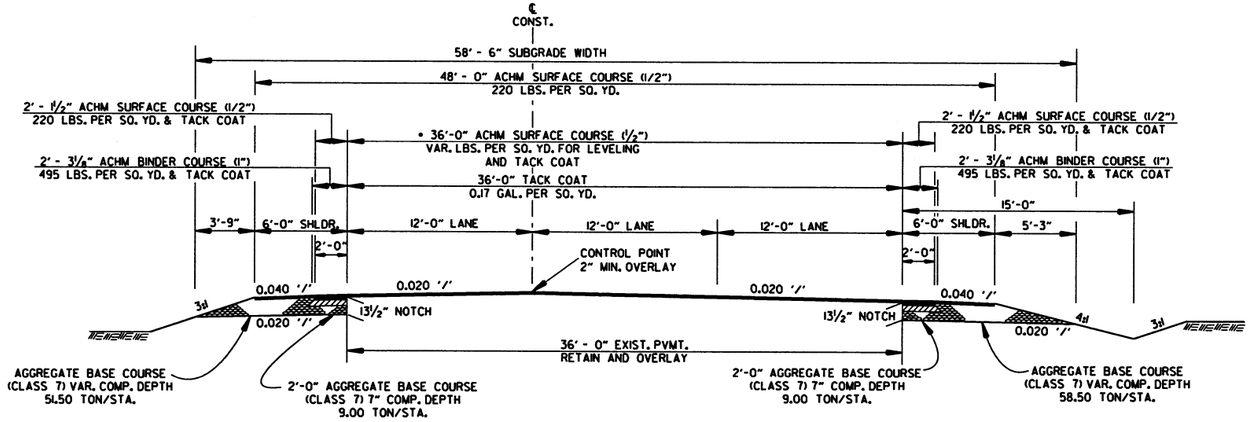
akge653 12/4/2019
R061438.DGN

SITE 1A & 3B
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



HWY. 7 - OPEN SHOULDER

SITE 1:
STA. 170+00.00 - STA. 173+80.00

* TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

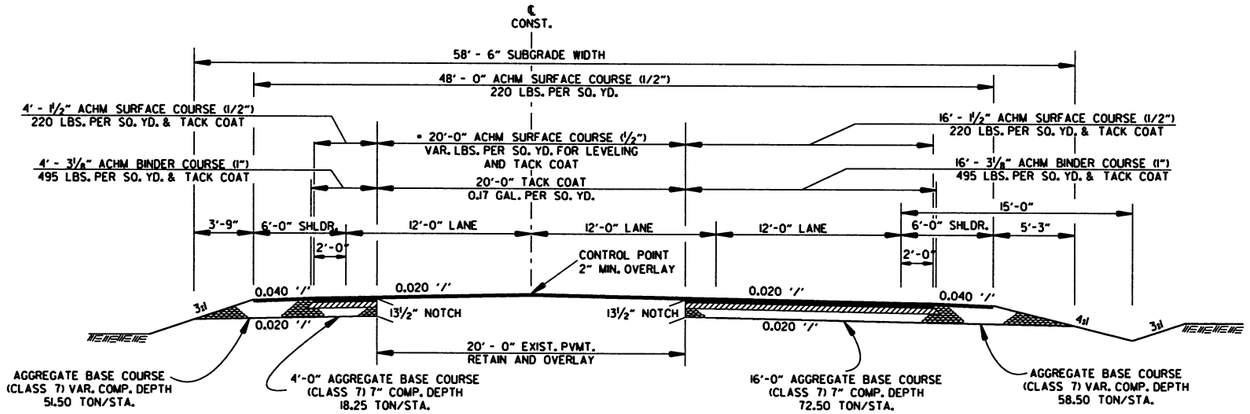
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REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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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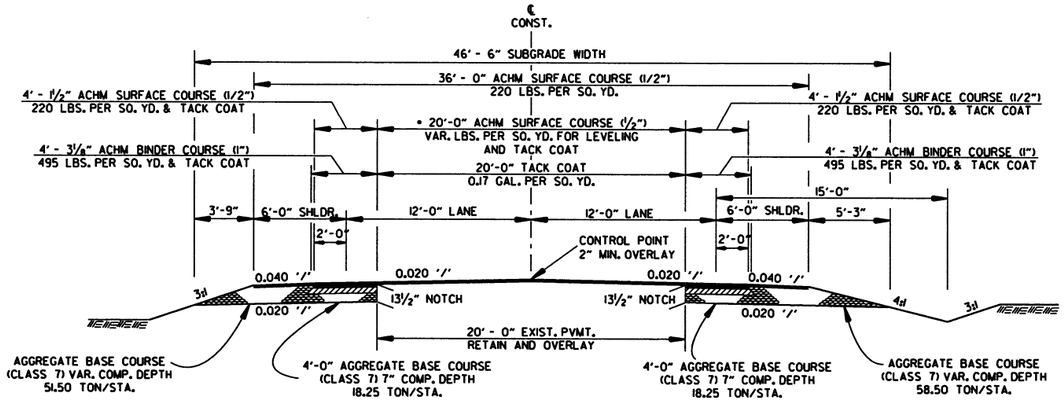
HWY. 7 - OPEN SHOULDER

SITE 1:
STA. 173+80.00
NOTE: STA. 173+80.00 - STA. 180+40.00 - TAPER FROM 36'-0" TO 24'-0"

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	7	277

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



HWY. 7 - OPEN SHOULDER

SITE I:
STA. 180+40.00

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

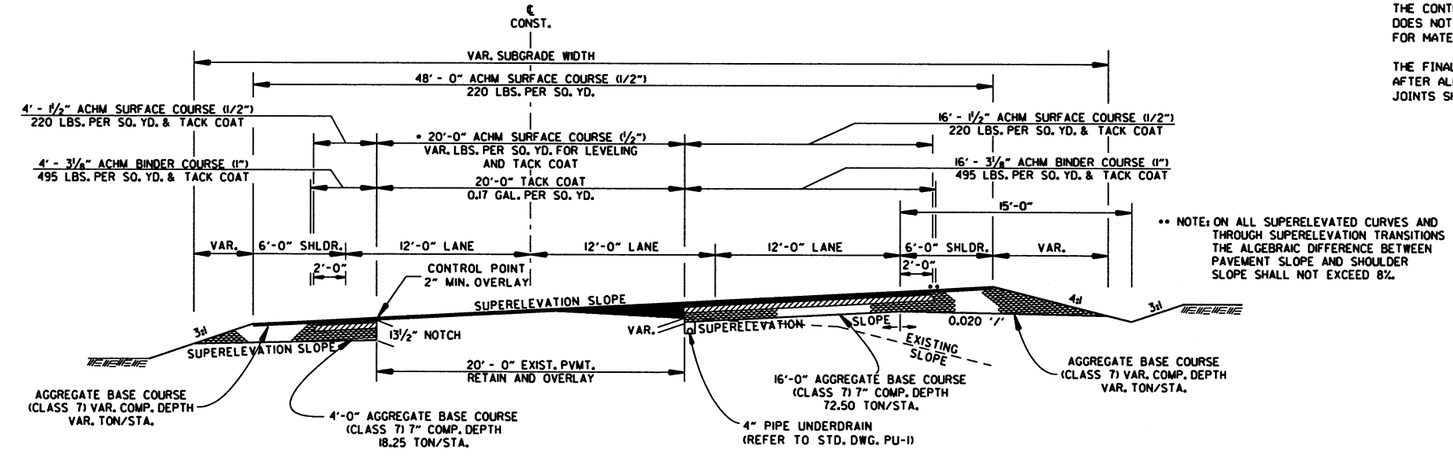
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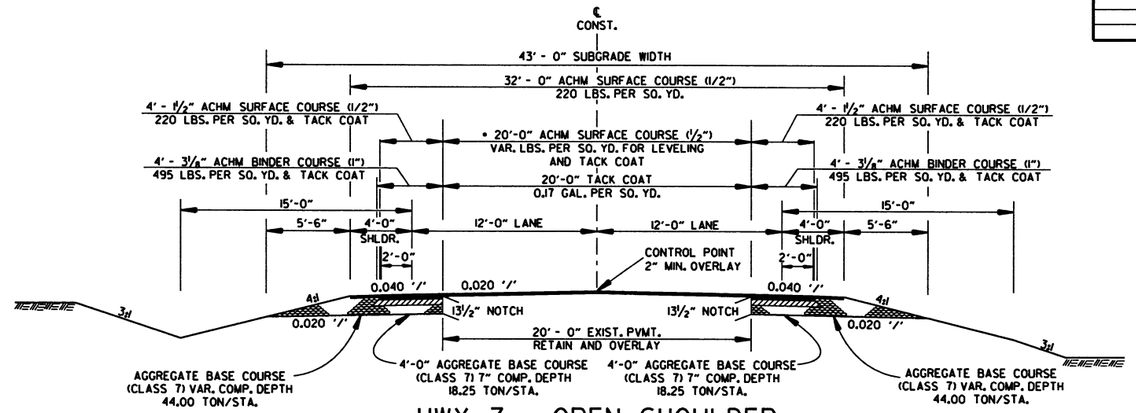
HWY. 7 - OPEN SHOULDER - SUPERELEVATION SECTION

SITE I
TYPICAL SECTIONS OF IMPROVEMENT

ikge653 12/4/2019
R061438.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.		061438	8	277

(2) TYPICAL SECTIONS OF IMPROVEMENT



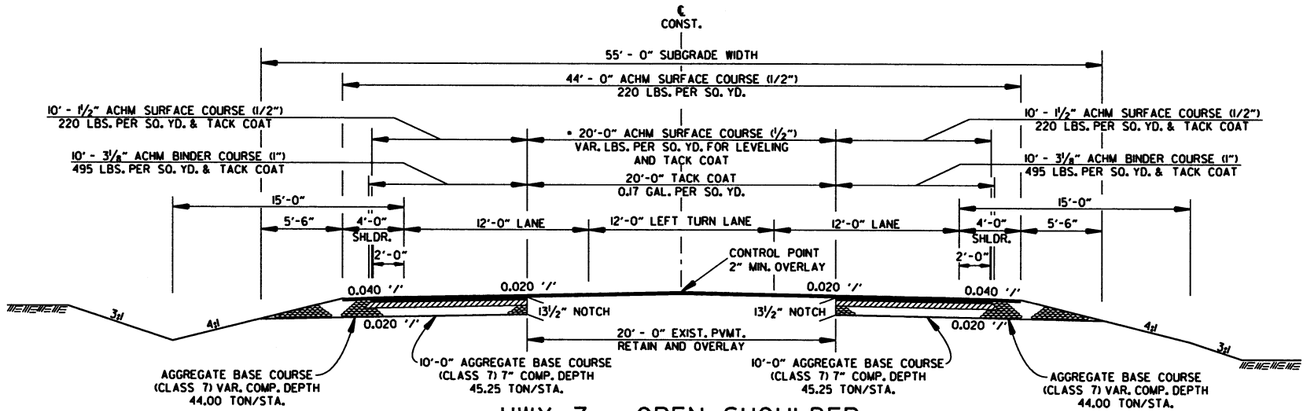
HWY. 7 - OPEN SHOULDER

SITE 2:
STA. 204+50.00 - STA. 205+10.00
NOTE: STA. 205+10.00 - STA. 208+40.00 - TAPER FROM 24'-0" TO 36'-0"
NOTE: STA. 209+40.00 - STA. 213+00.00 - TAPER FROM 36'-0" TO 24'-0"

SITE 7:
STA. 616+00.00 - STA. 619+40.00
NOTE: STA. 619+40.00 - STA. 625+40.00 - TAPER FROM 24'-0" TO 36'-0"
NOTE: STA. 626+40.00 - STA. 632+40.00 - TAPER FROM 36'-0" TO 24'-0"

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



HWY. 7 - OPEN SHOULDER

SITE 2:
STA. 208+40.00 - STA. 209+40.00

SITE 7:
STA. 625+40.00 - STA. 626+40.00

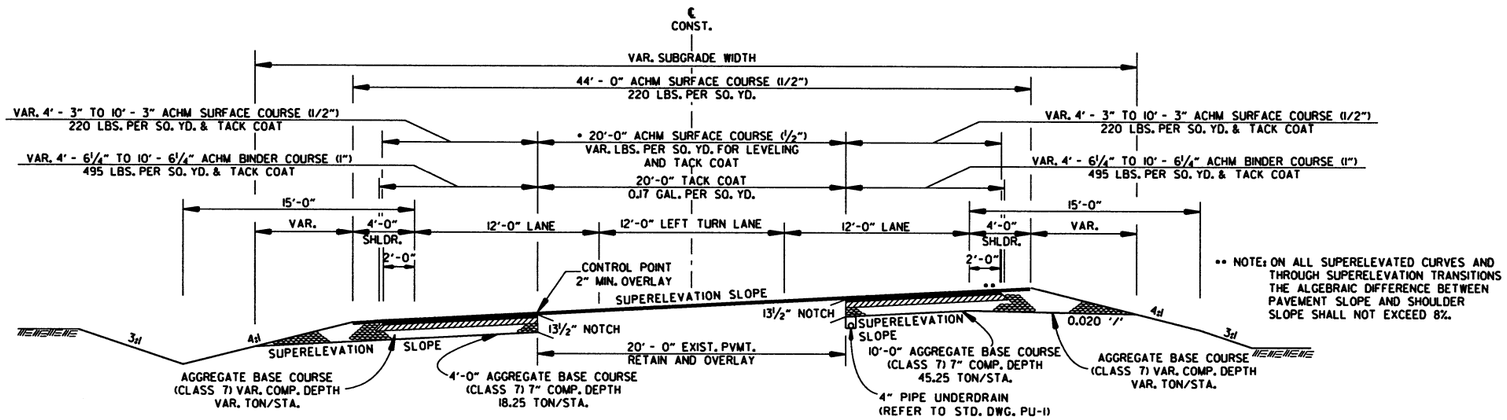
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HWY. 7 - OPEN SHOULDER - SUPERELEVATION SECTION

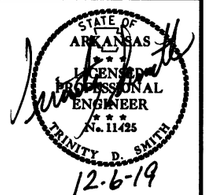
•• NOTE: ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8%.

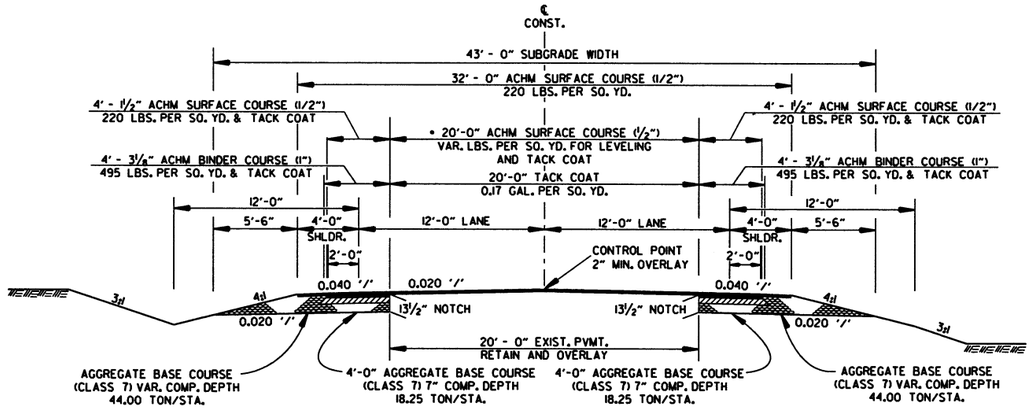
SITES 2 & 7
TYPICAL SECTIONS OF IMPROVEMENT

ikge653 12/4/2019
R061438.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.		061438	9	277

(2) TYPICAL SECTIONS OF IMPROVEMENT





HWY. 7 - OPEN SHOULDER

SITE 4:
STA. 379+00.00 - STA. 380+95.00
NOTE: STA. 380+95.00 - STA. 383+65.00 - TAPER FROM 24'-0" TO 36'-0"

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

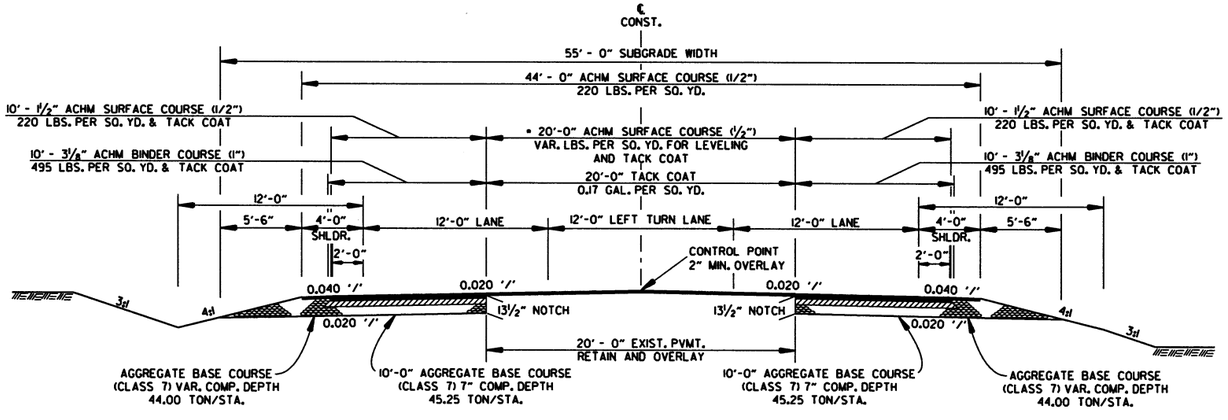
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HWY. 7 - OPEN SHOULDER

SITE 4:
STA. 383+65.00 - STA. 416+45.00
NOTE: STA. 416+45.00 - 419+00.00 - TAPER FROM 20'-0" EXIST. PVMT. TO 36'-0" EXIST. PVMT.

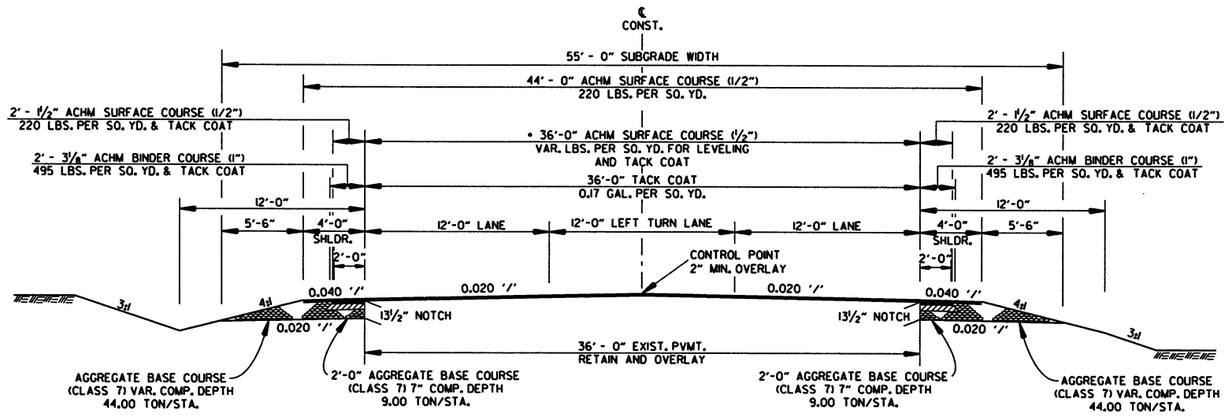
ikge653 12/4/2019
R061438.DGN

SITE 4
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	10	277

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



HWY. 7 - OPEN SHOULDER

SITE 4:
STA. 419+00.00 - STA. 419+65.00

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

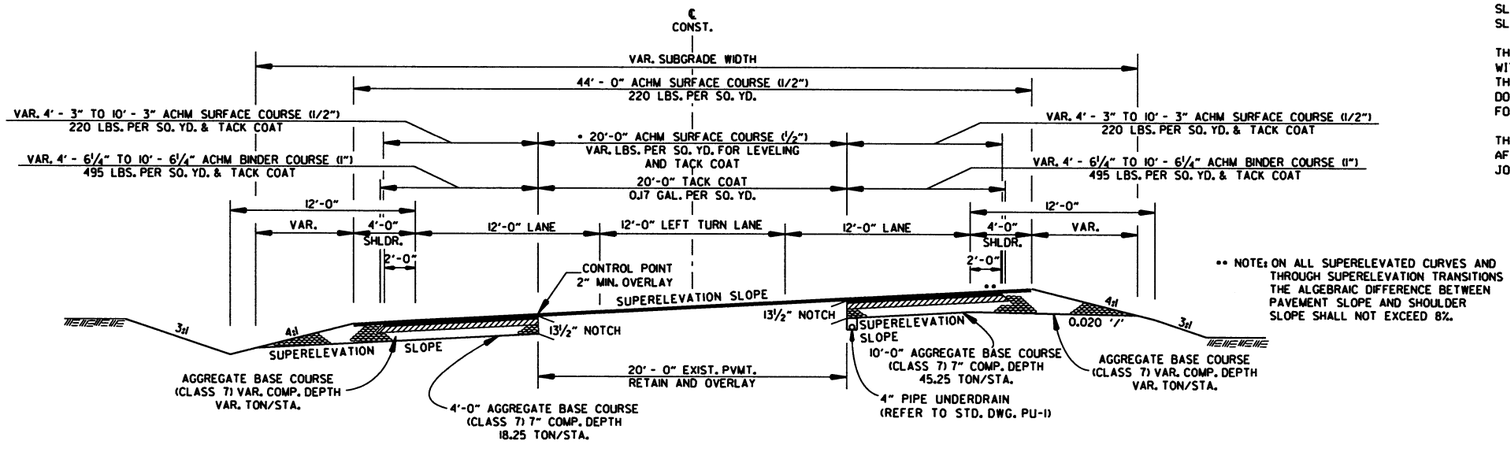
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HWY. 7 - OPEN SHOULDER - SUPERELEVATION SECTION

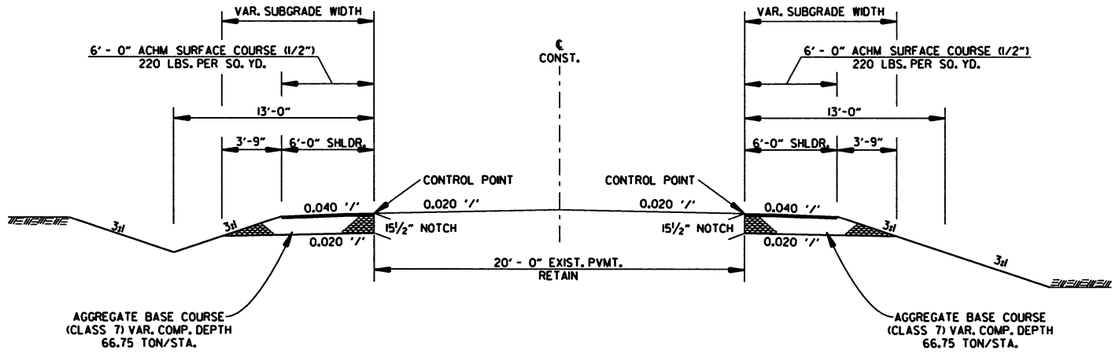
ikge653 12/4/2019
R061438.DGN

SITE 4
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	11	277

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



HWY. 7 - OPEN SHOULDER

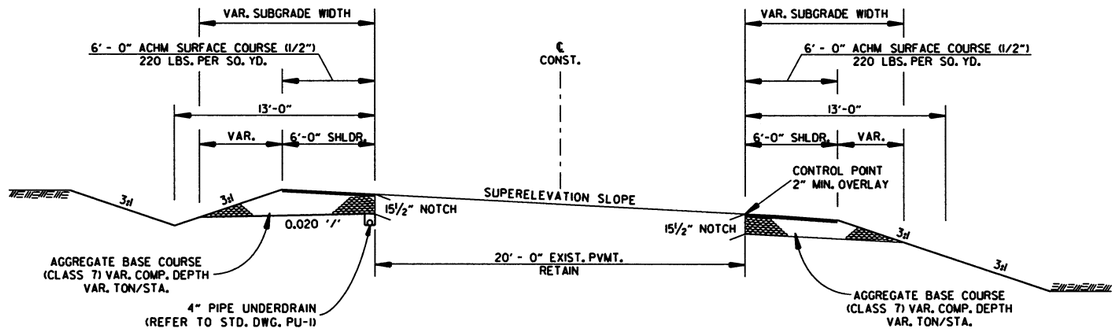
SITE 3:
STA. 240+00.00 - STA. 270+00.00

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

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HWY. 7 - OPEN SHOULDER

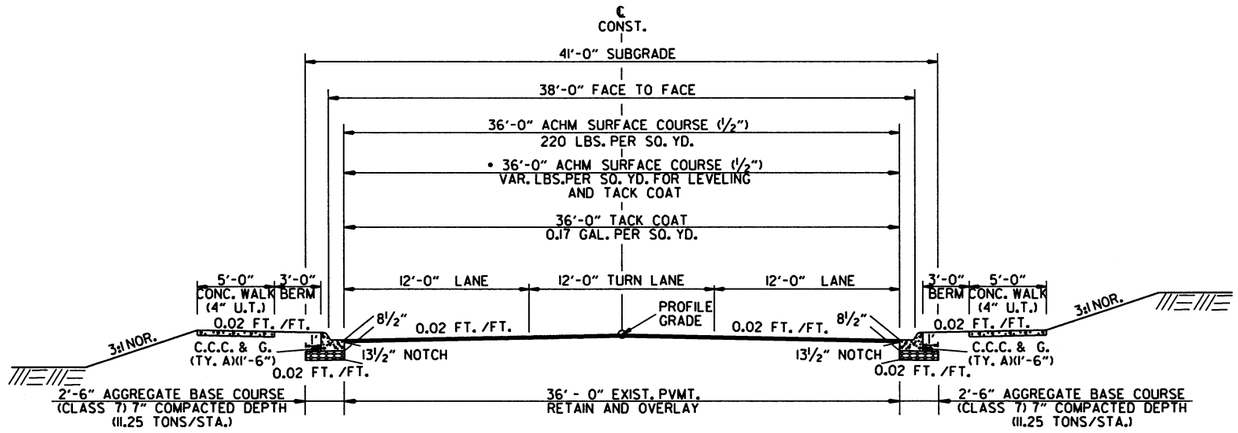
ikge653 12/4/2019
R0614.38.DGN

SITE 3
TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	12	277

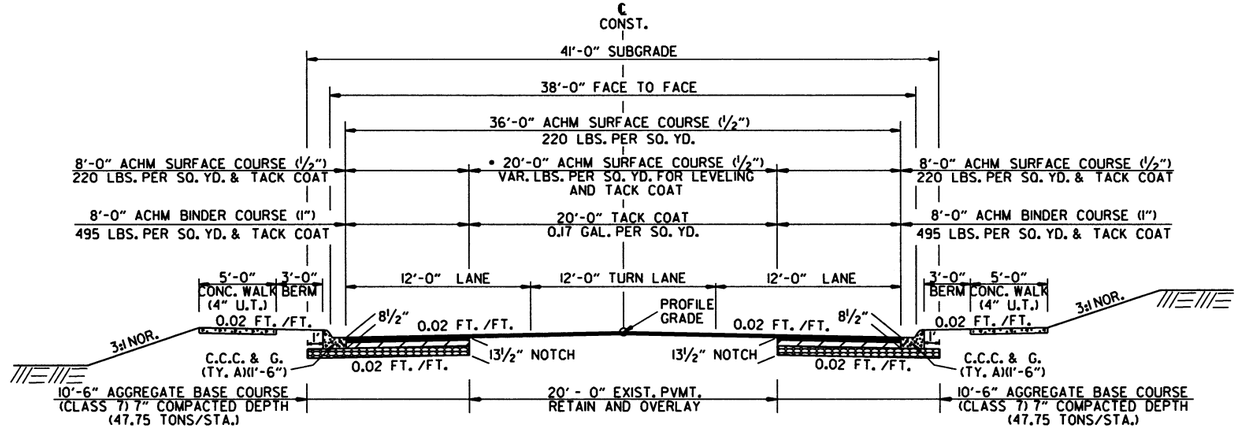
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



HWY. 7 - CURB AND GUTTER

SITE 6:
NOTE: STA. 515+00.00 - STA. 518+50.00 - TRANSITION FROM 36'-0" EXIST. PVMT. TO 20'-0" EXIST. PVMT.



HWY. 7 - CURB AND GUTTER

SITE 6:
STA. 518+50.00 - STA. 539+80.00
NOTE: STA. 539+80.00 - STA. 542+50.00 - TRANSITION FROM 36'-0" TO 24'-0"

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

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TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN THE CONCRETE WALKS AT 45' INTERVALS.

ANY WIDENING AREAS LESS THAN 4' IN WIDTH WILL BE DONE WITH P.C. CONCRETE BASE INSTEAD OF ACHM SURFACE, BINDER AND BASE.

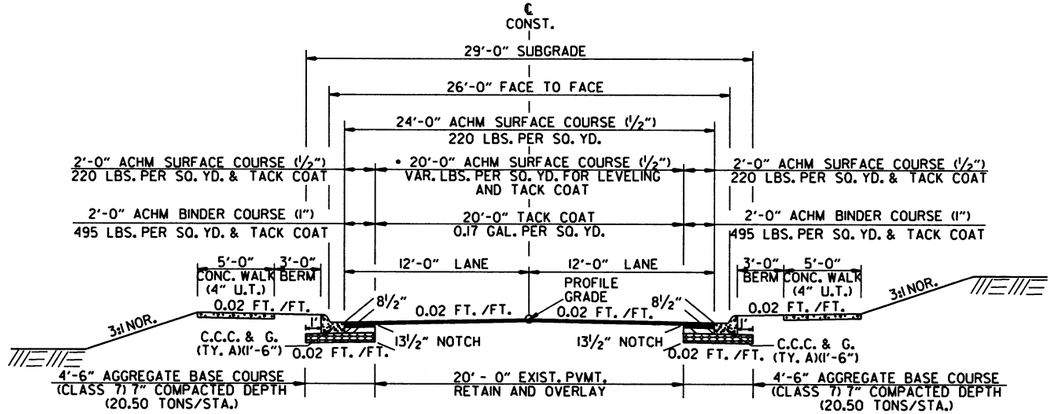
ikge653 12/4/2019
R061438.DGN

SITE 6
TYPICAL SECTIONS OF IMPROVEMENT

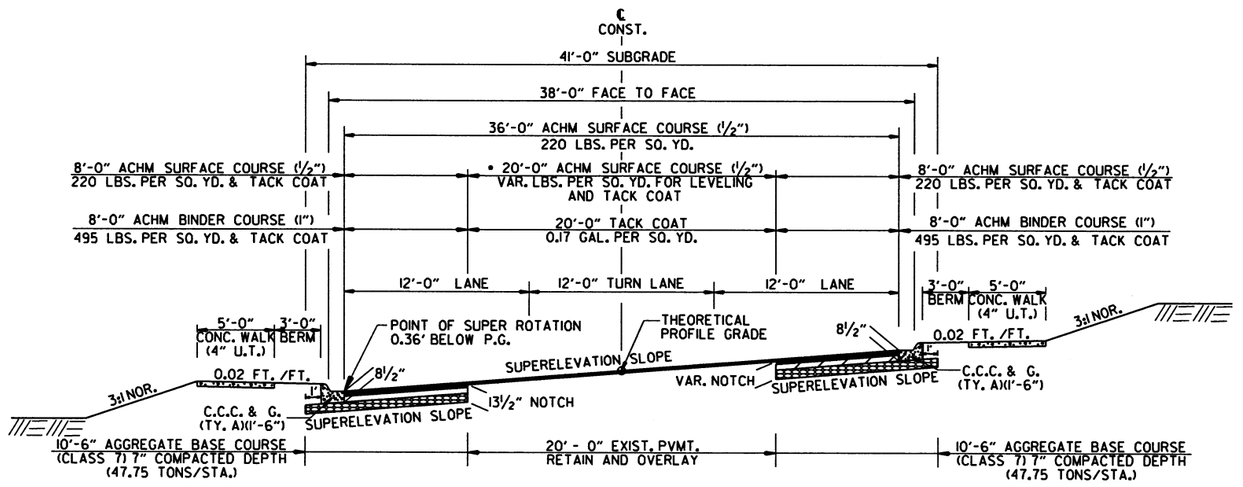
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		061438	13	277

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



HWY. 7 - CURB AND GUTTER
SITE 6:
STA. 542+50.00



HWY. 7 - CURB AND GUTTER - SUPERELEVATION SECTION

• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

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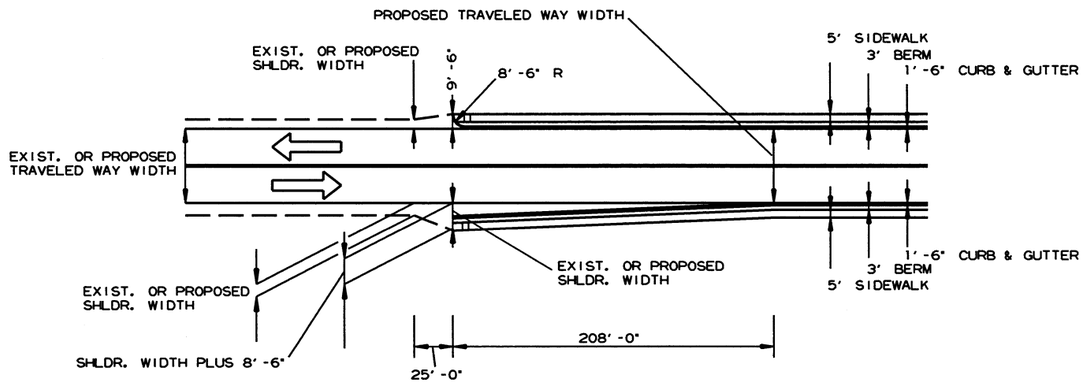
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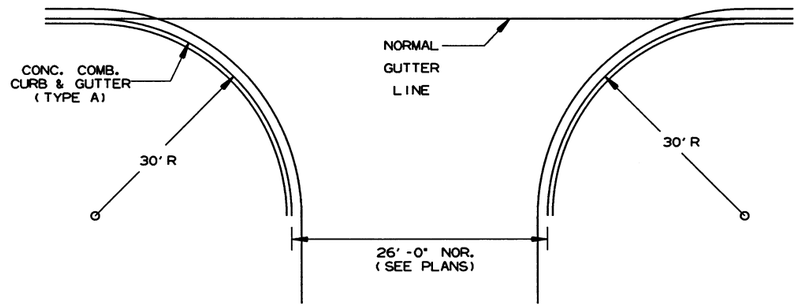
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				6	ARK.			
				JOB NO.		061438	14	277

(2) SPECIAL DETAILS

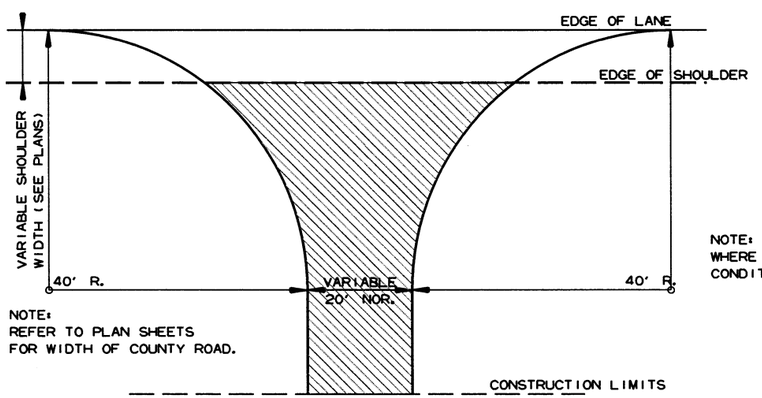


TRANSITION FROM OPEN SHOULDER TO CURB & GUTTER SECTION



NOTE:
PAVEMENT STRUCTURE FOR STATE HIGHWAYS, CITY STREETS, & COUNTY ROADS TO BE SAME AS MAIN LANES.

DETAIL OF TURNOUTS, ASPHALT STREETS, COUNTY ROADS & STATE HIGHWAYS CURB & GUTTER SECTION

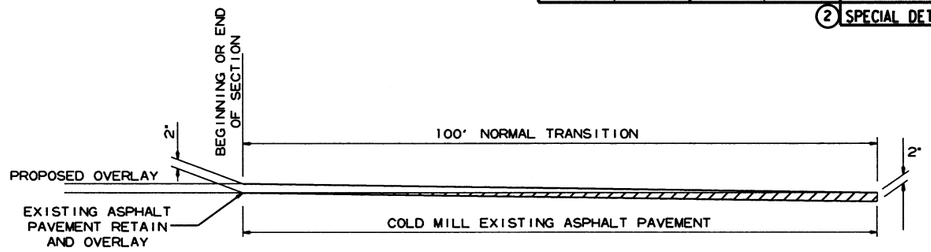


NOTE:
REFER TO PLAN SHEETS FOR WIDTH OF COUNTY ROAD.

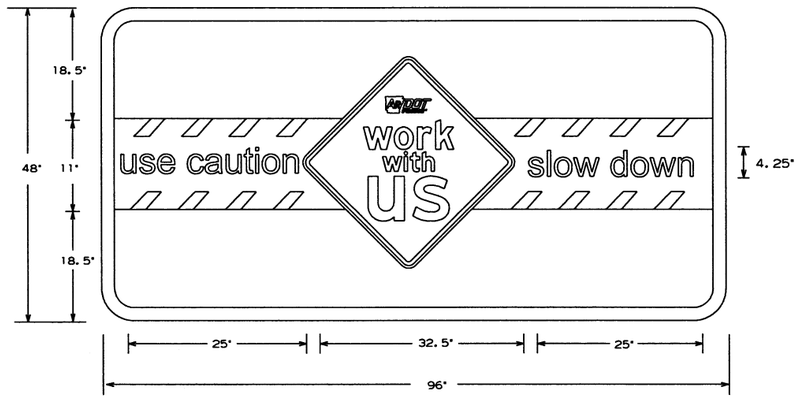
NOTE: TURNOUTS SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

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

DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION



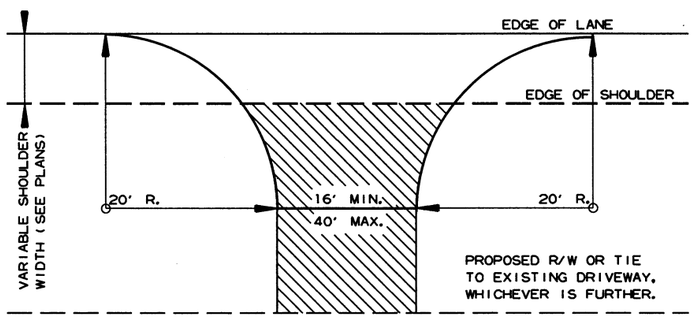
DETAIL FOR TRANSITIONS



1.5" WHITE BORDER, 1.5" RADII, GREEN BACKGROUND
"use caution/slow down" 4.25" NIVEAU GROTESK, REGULAR FONT
"work with us" FRUTIGER LT 75 BLACK FONT

NOTE: DIGITAL ART WORK FILE AVAILABLE FROM ARDOT MAINTENANCE DIVISION SIGN SHOP 501-569-2665.
THIS SIGN SHALL BE PLACED 500' PRECEDING THE FIRST ADVANCE WARNING SIGN, IN THE DIRECTION OF TRAFFIC.

WORK WITH US SIGN



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

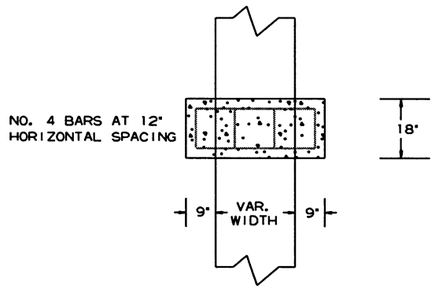
ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT OR GRAVEL DRIVE EXISTING; OR 6" CONCRETE IF CONCRETE DRIVE EXISTING.

DETAIL FOR DRIVEWAY TURNOUTS OPEN SHOULDER SECTION (ARTERIALS)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

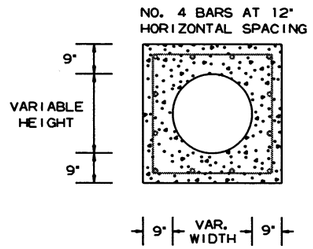
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	15	277

(2) SPECIAL DETAILS

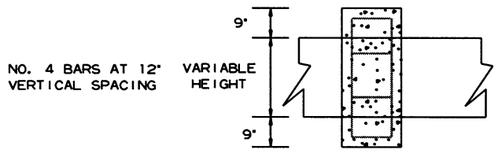


TOP VIEW

MIN 3" COVER

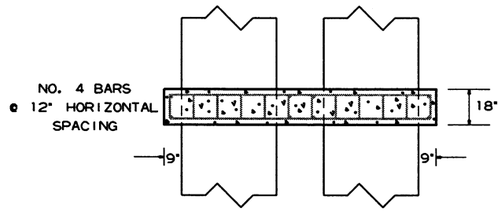


FRONT VIEW



SIDE VIEW

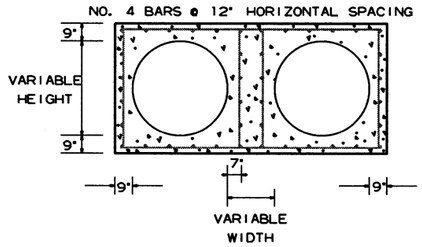
PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



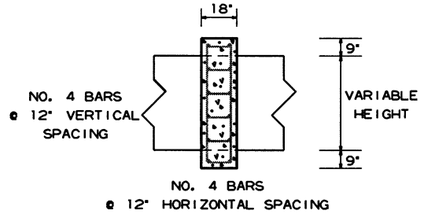
TOP VIEW

NOTE: PIPE COLLAR TO BE UTILIZED AS APPROVED BY THE ENGINEER.

MIN. 3" COVER

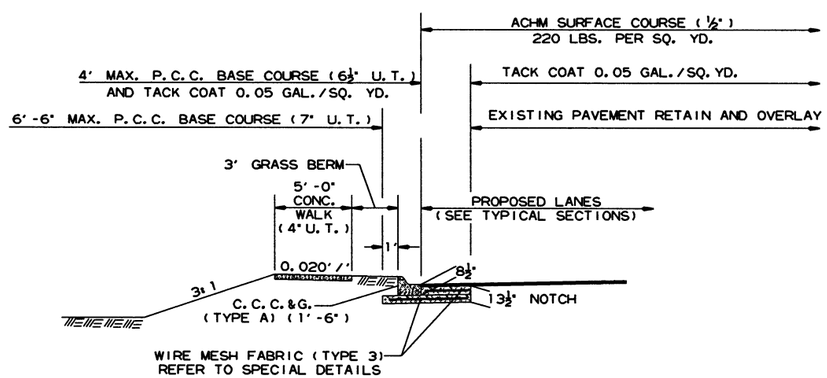


FRONT VIEW



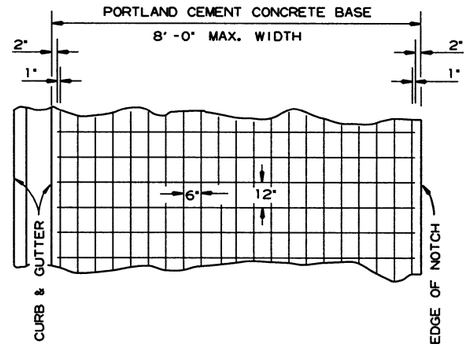
SIDE VIEW

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



P.C.C. BASE WIDENING DETAIL

P.C.C. BASE WIDENING TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.



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

NOTES:

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

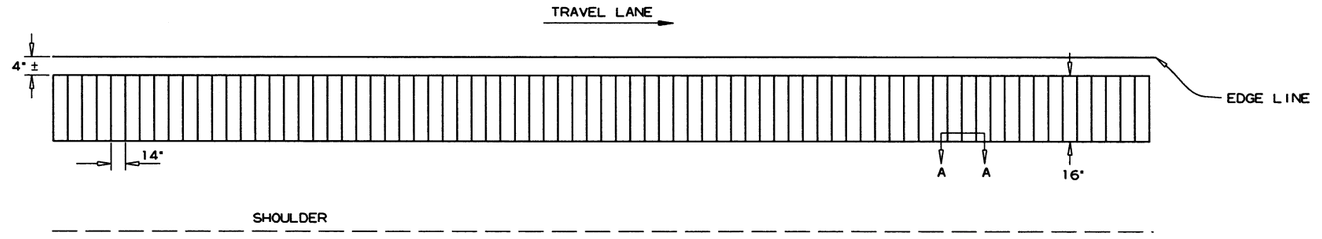
DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 12-6-19

ikge653 12/4/2019
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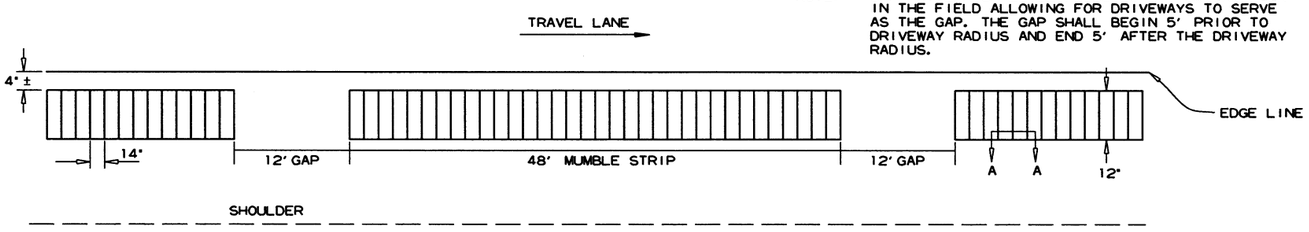
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	16	277

(2) SPECIAL DETAILS

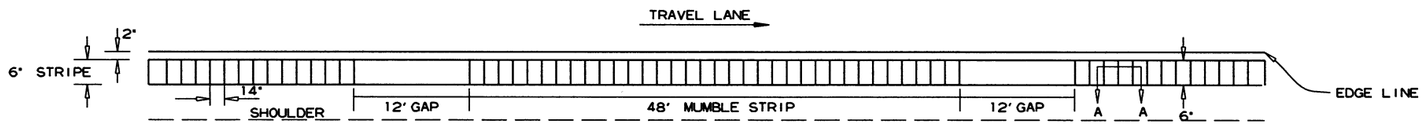


MUMBLE STRIPS (TYPE 1)

NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP. THE GAP SHALL BEGIN 5' PRIOR TO DRIVEWAY RADIUS AND END 5' AFTER THE DRIVEWAY RADIUS.



MUMBLE STRIPS (TYPE 2)

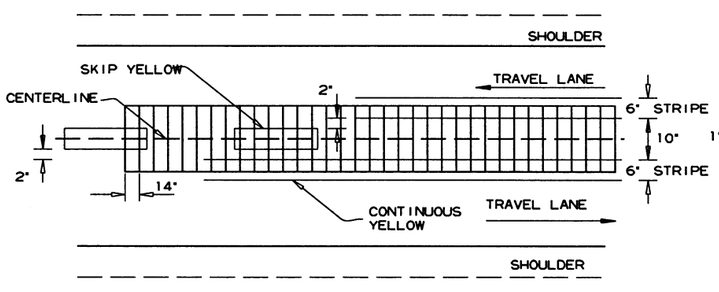


NOTE: IF SHOULDER IS GREATER THAN 4', GAPS SHALL BE PLACED FOR ACCOMMODATION OF BICYCLES.

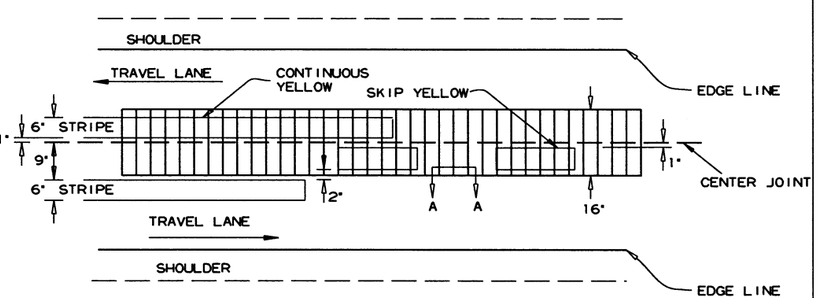
NOTE: STRIPING IS TO BE PLACED AFTER MUMBLE STRIPES HAVE BEEN CONSTRUCTED.

NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP. THE GAP SHALL BEGIN 5' PRIOR TO DRIVEWAY RADIUS AND END 5' AFTER THE DRIVEWAY RADIUS.

MUMBLE STRIPES



ASPHALT PAVEMENT



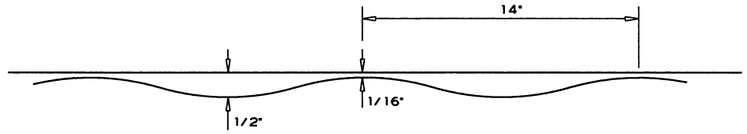
CONCRETE PAVEMENT

NOTE: STRIPING IS TO BE PLACED AFTER MUMBLE STRIPES HAVE BEEN CONSTRUCTED.

NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP. THE GAP SHALL BEGIN 5' PRIOR TO DRIVEWAY RADIUS AND END 5' AFTER THE DRIVEWAY RADIUS.

CENTERLINE MUMBLE STRIPES

STATE OF ARKANSAS
TRINITY D. SMITH
LICENSED PROFESSIONAL ENGINEER
No. 11425
12-6-19



SECTION A-A

DETAIL OF MUMBLE STRIP(E)

NOTES FOR MUMBLE STRIPS (LOW NOISE RUMBLE STRIPS) (TYPE 1 AND 2)

1. MUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. MUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. THE 4" OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.
4. MUMBLE STRIPS SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH MUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE MUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.
5. ALIGNMENT OF MUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE AS WELL AS TO AVOID EXISTING LONGITUDINAL JOINTS.
6. THE ½" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE MUMBLE STRIP LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

NOTES FOR MUMBLE STRIPES (LOW NOISE RUMBLE STRIPES)

1. MUMBLE STRIPES SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. MUMBLE STRIPES SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. THE 2" OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.
4. MUMBLE STRIPES SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH MUMBLE STRIPES HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE MUMBLE STRIPES HAVE NOT BEEN CONSTRUCTED.
5. THE ½" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 6" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

NOTES FOR CENTERLINE MUMBLE STRIPES (LOW NOISE RUMBLE STRIPES)

1. CENTERLINE MUMBLE STRIPES SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. CENTERLINE MUMBLE STRIPES SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE CENTERLINE.
3. THE ½" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SLOPE BREAKS MAY BE NECESSARY.
4. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE CENTERLINE ON WHICH MUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE MUMBLE STRIPES HAVE NOT BEEN CONSTRUCTED.

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	17	277

① SPECIAL DETAILS

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
11'-8"	3'-0"	0'-9"	0'-8"	0	3:1	10'-8"	1'-0"	3'-10"	1'-0"	30	30	2'-2"	2'-2"	2'-2"	0'-0"	0'-0"	9'-6"	9'-6"	11'-4 5/8"	11'-4 5/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
INLET	INLET
CU.YD	LBS.
3.48	348

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY			F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS VARY		F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY
WING A	4	12	10	L	Min	2'-0"	-	-	-	L -	-	-	-	L	-	4	18	2	Min
					Max	4'-8"													5'-5"
				X	Min	0'-9"				X -				X	-				Max
					Max	0'-9"													5'-5"
				Y	Min	1'-4"				Y -				Y	-				
					Max	4'-0"													
WING B	4	12	10	L	Min	2'-0"	-	-	-	L -	-	-	-	L	-	4	18	2	Min
					Max	4'-8"													5'-5"
				X	Min	0'-9"				X -				X	-				Max
					Max	0'-9"													5'-5"
				Y	Min	1'-4"				Y -				Y	-				
					Max	4'-0"													

WING	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY			F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY		F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	4	18	2	9'-2"	4	18	7	L	Min	2'-7"	4	6	12'-3"	6	18	6	Min		-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	174
									Max	5'-3"							1'-8"					-										X	1'-8"	
								X	Min	1'-4"							Max					Max												
									Max	1'-4"							1'-8"					-												
								Y	Min	1'-4"																								
									Max	4'-0"																								
WING B	4	18	2	9'-2"	4	18	7	L	Min	2'-7"	4	6	12'-3"	6	18	6	Min		-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	174
									Max	5'-3"							1'-8"					-										X	1'-8"	
								X	Min	1'-4"							Max					Max												
									Max	1'-4"							1'-8"					-												
								Y	Min	1'-4"																								
									Max	4'-0"																								

MID-SECTION BAR LAP TABLE

# of Long. Laps Req'd.	SL = Section Length
0	< 40.0 ft
1	>40.0 ft - 78.0 ft
2	>78.0 ft - 116.0 ft
3	>116.0 ft - 154.0 ft
4	>154.0 ft - 192.0 ft
5	>192.0 ft - 230.0 ft
6	>230.0 ft - 268.0 ft
7	>268.0 ft - 306.0 ft
8	>306.0 ft -344.0 ft

Min. Bar Lap Length	
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Pin Dia. Table	
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
11-19-19

TABULAR DATA BY: WAC DATE: 10/28/2019
CHECKED BY: DBS DATE: 10/28/19

This drawing to be used in conjunction with
SHEET 1 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE',
SHEET 3 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF MULTI-BARREL R.C. BOX CULVERT',
SHEET 4 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF WINGWALLS', and
STANDARD DRAWING RCB-2.
For additional information and outlet sections, see Sheet 2 of 2.

① Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Gr. 60)."

INLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH

TOP SLAB REINFORCING STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	"c" SIZE	"c" SPACING	"c" LENGTHS VARY	"c" NO. REQ'D
		Max / Min				Max / Min	

BOTTOM SLAB REINFORCING STEEL "d" SIZE	"d" SPACING	"d" LENGTHS VARY	"d" NO. REQ'D	"f" SIZE	"f" SPACING	"f" LENGTHS VARY	"f" NO. REQ'D
		Max / Min				Max / Min	

SIDE WALL REINFORCING STEEL "f0" SIZE	"f0" SPACING	"f0" NO. REQ'D	"f0" LENGTH

INTERIOR WALL REINFORCING STEEL "f1" SIZE	"f1" SPACING	"f1" NO. REQ'D	"f1" LENGTH

TOP SLAB DISTRIBUTION REINFORCING STEEL "g" SIZE	"g" SPACING	"g" NO. REQ'D	"g" LENGTHS VARY
			Max / Min

BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" SIZE	"e" SPACING	"e" NO. REQ'D	"e" LENGTHS VARY
			Max / Min

SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" SIZE	"d1" SPACING	"d1" NO. REQ'D	"d1" LENGTH
			LONG / SHORT

INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" SIZE	"d2" SPACING	"d2" NO. REQ'D	"d2" LENGTH

"k1" HDWL BARS SIZE	"k1" HDWL BARS LENGTH	"k1" HDWL BARS NO. REQ'D	"k2" HDWL BARS SIZE	"k2" HDWL BARS LENGTH	"k2" HDWL BARS NO. REQ'D	"h" HDWL BARS SIZE	"h" HDWL BARS LENGTH	"h" HDWL BARS Y	"h" HDWL BARS NO. REQ'D

CLASS "S" CONCRETE (Includes HDWL) CU. YDS.	① REINFORCING STEEL (GR 60) (Includes HDWL) LBS.

INLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL

TOP SLAB REINFORCING STEEL — LENGTH = OW - 4" + BENDS

"a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D

BOTTOM SLAB REINFORCING STEEL — LENGTH = OW - 4" + BENDS

"d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH

INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH

TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D

BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D

SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D

INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D

HDWL DEPTH HD	ADDITIONAL REINF. FOR HDWL LBS.	"h" HDWL BARS SIZE	"h" HDWL BARS Y	"h" HDWL BARS LENGTH	"h" HDWL BARS NO. REQ'D
3"	15	4	0'-9"	1'-9"	13

CLASS "S" CONCRETE CU. YDS.	REINFORCING STEEL (GR. 60) LBS.
TOTAL	
0.11	30

Design Fill Depth	Range of Actual Fill Depth
2	0.0 ft - 2.0 ft
5	>2.0 ft - 5.0 ft
10	>5.0 ft - 10.0 ft
15	>10.0 ft - 15.0 ft
20	>15.0 ft - 20.0 ft
25	>20.0 ft - 25.0 ft
30	>25.0 ft - 30.0 ft
35	>30.0 ft - 35.0 ft
40	>35.0 ft - 40.0 ft

Data shown for Mid-Section, Slope Section(s), and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL
A	2	5	3	10.0	10	6.0	8	11'-8"	4'-8"	24

TOP SLAB REINFORCING STEEL — LENGTH = OW - 4" + BENDS

"a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D
4	11'-4"	8	11'-7"	5	11'-4"	17	16

BOTTOM SLAB REINFORCING STEEL — LENGTH = OW - 4" + BENDS

"d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D
4	11'-4"	4	11'-7"	4	11'-4"	22	13

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH
4	9	64	4'-4"

INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH
4	12	48	4'-4"

TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D
4	11	27

BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D
4	11	27

SIDE WALL DISTRIBUTION STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D
4	12	6

INTERIOR WALL DISTRIBUTION STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
4	12	6

CLASS "S" CONCRETE CU. YDS.	REINFORCING STEEL (GR. 60) LBS.
21.73	2534

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
DOUBLE BARREL BOX CULVERT
Sta. 206+43

SPECIAL DETAILS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	18	277

① SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-19-19
CHARLES R. ELLIS

TABULAR DATA BY: WAC DATE: 10/28/2019
CHECKED BY: DBS DATE: 10/23/19

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
11'-8"	3'-0"	0'-9"	0'-8"	0	3:1	10'-8"	1'-0"	3'-10"	1'-0"	30	30	2'-2"	2'-2"	2'-2"	0'-0"	0'-0"	9'-6"	9'-6"	11'-4 5/8"	11'-4 5/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OUTLET	OUTLET
CU.YD	LBS.
3.95	348

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F1	F1	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F2	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F3	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY
WING A	4	12	10	L	Min	2'-0"	-	-	-	L	-	-	-	-	L	-	4	18	2	Min
					Max	4'-8"														5'-5"
				X	Min	0'-9"				X	-				X	-				Max
					Max	0'-9"														5'-5"
				Y	Min	1'-4"				Y	-				Y	-				
					Max	4'-0"														
WING B	4	12	10	L	Min	2'-0"	-	-	-	L	-	-	-	-	L	-	4	18	2	Min
					Max	4'-8"														5'-5"
				X	Min	0'-9"				X	-				X	-				Max
					Max	0'-9"														5'-5"
				Y	Min	1'-4"				Y	-				Y	-				
					Max	4'-0"														

WING	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F6	F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS
WING A	4	18	2	9'-2"	4	18	7	L	Min 2'-7"	4	6	12'-3"	6	18	6	Min	-	-	-	Min
									Max 5'-3"							1'-8"				-
								X	Min 1'-4"							Max				Max
									Max 1'-4"							1'-8"				-
								Y	Min 1'-4"											
									Max 4'-0"											
WING B	4	18	2	9'-2"	4	18	7	L	Min 2'-7"	4	6	12'-3"	6	18	6	Min	-	-	-	Min
									Max 5'-3"							1'-8"				-
								X	Min 1'-4"							Max				Max
									Max 1'-4"							1'-8"				-
								Y	Min 1'-4"											
									Max 4'-0"											

WING	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	174
										X	1'-8"	
WING B	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	174
										X	1'-8"	

Min. Bar Lap Length	
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Pin Dia. Table	
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

① Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Gr. 60)."

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	TOP SLAB REINF. "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	TOP SLAB REINF. "c" SIZE	"c" SPACING	"c" LENGTHS VARY	"c" NO. REQ'D
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH								
															Max				Max	
															Min				Min	

BOTTOM SLAB REINF. "d" SIZE	"d" SPACING	"d" LENGTHS VARY	"d" NO. REQ'D	BOTTOM SLAB REINF. "f" SIZE	"f" SPACING	"f" LENGTHS VARY	"f" NO. REQ'D	SIDE WALL REINF. "f0" SIZE	"f0" SPACING	"f0" NO. REQ'D	"f0" LENGTH	INTERIOR WALL REINF. "f1" SIZE	"f1" SPACING	"f1" NO. REQ'D	"f1" LENGTH
		Max				Max									
		Min				Min									

TOP SLAB DISTRIBUTION REINFORCING STEEL "g" SIZE	"g" SPACING	"g" NO. REQ'D	"g" LENGTHS VARY	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" SIZE	"e" SPACING	"e" NO. REQ'D	"e" LENGTHS VARY	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" SIZE	"d1" SPACING	"d1" NO. REQ'D	"d1" LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" SIZE	"d2" SPACING	"d2" NO. REQ'D	"d2" LENGTH
			Max				Max				LONG				
			Min				Min				SHORT				

CLASS "S" CONCRETE (Includes HDWL)	① REINFORCING STEEL (GR 60) (Includes HDWL)
CU. YDS.	LBS.

"k1" HDWL BARS SIZE	"k1" LENGTH	"k1" NO. REQ'D	"k2" HDWL BARS SIZE	"k2" LENGTH	"k2" NO. REQ'D	"h" HDWL BARS SIZE	"h" LENGTH	"h" Y	"h" NO. REQ'D

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINF. LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	TOP SLAB REINF. SPACING	TOP SLAB REINF. NO. REQ'D
D		S	H	T	B	C	W	OW	OH	SL								

BOTTOM SLAB REINF. LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	BOTTOM SLAB REINF. SPACING	BOTTOM SLAB REINF. NO. REQ'D	SIDE WALL REINF. "f0" LENGTH = OH - 4" SIZE	SIDE WALL REINF. "f0" SPACING	SIDE WALL REINF. "f0" NO. REQ'D	SIDE WALL REINF. "f0" LENGTH	INTERIOR WALL REINF. "f1" LENGTH = OH - 4" SIZE	INTERIOR WALL REINF. "f1" SPACING	INTERIOR WALL REINF. "f1" NO. REQ'D	INTERIOR WALL REINF. "f1" LENGTH

TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	"g" SPACING	"g" NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	"e" SPACING	"e" NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	"d1" SPACING	"d1" NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	"d2" SPACING	"d2" NO. REQ'D

HDWL DEPTH	ADDITIONAL REINF. FOR HDWL	"h" HDWL BARS SIZE	"h" Y	"h" LENGTH	"h" NO. REQ'D
HD	LBS.				
3"	15	4	0'-9"	1'-9"	13

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
TOTAL	
0.11	30

The required number of bars and lengths shown are for estimating purpose only. The actual number and length required shall be determined in field.

Unless otherwise noted, all dimensions are in inches.

SHEET 2 OF 2
DETAILS OF R.C. BOX CULVERT

DOUBLE BARREL BOX CULVERT
Sta. 206+43

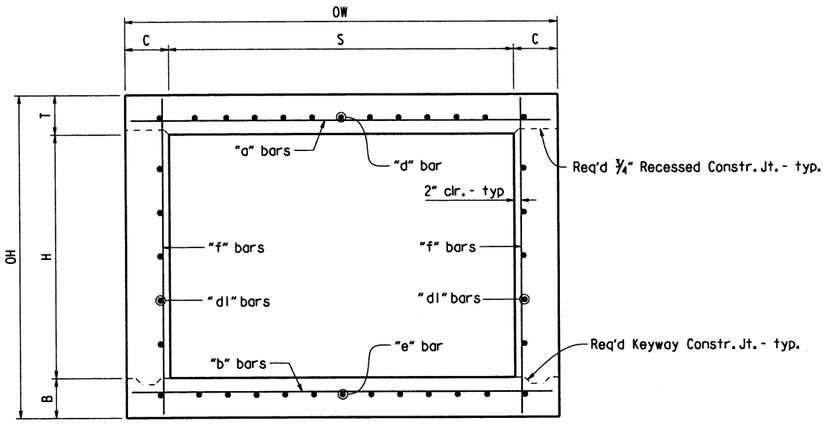
SPECIAL DETAILS

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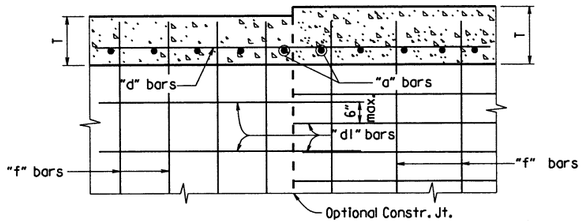
| | | |

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	20	277
				①		SPECIAL DETAILS		

Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



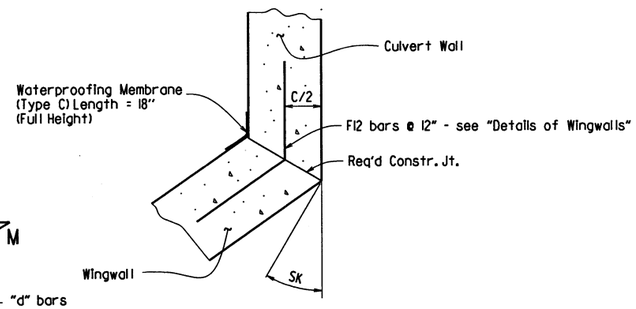
TYPICAL SECTION M-M



Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.

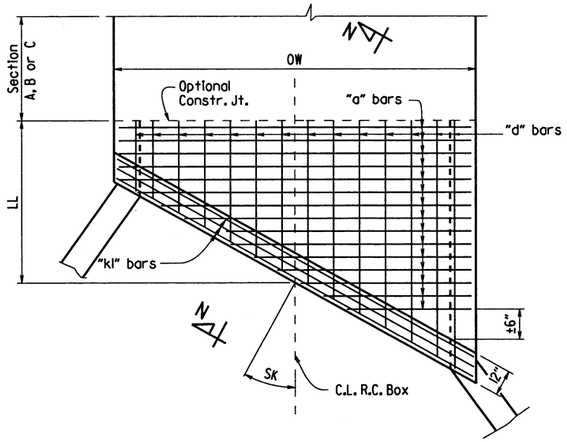
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

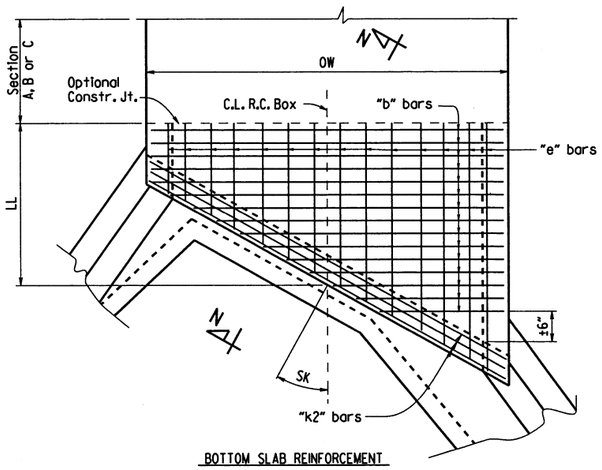


WINGWALL ATTACHMENT

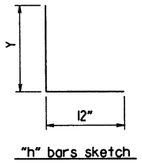
See "Details of Wingwalls" for additional information and wingwall details.



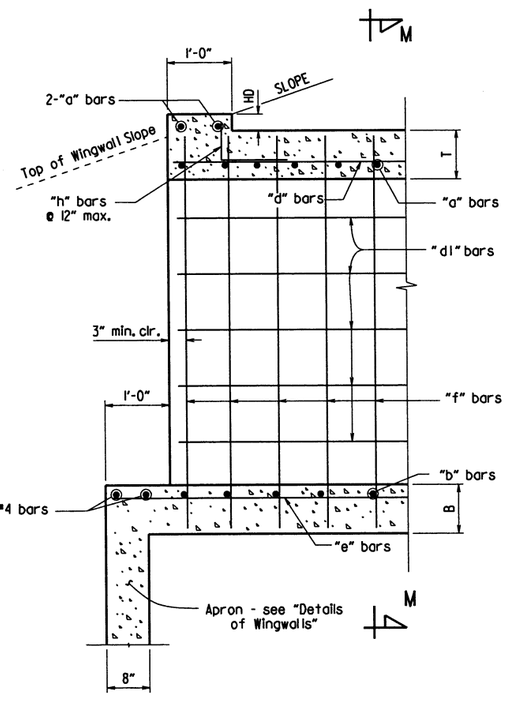
TOP SLAB REINFORCEMENT



BOTTOM SLAB REINFORCEMENT

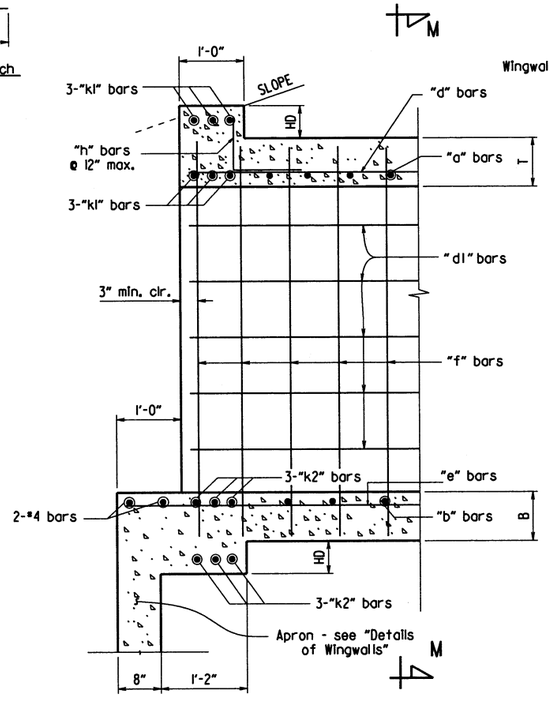


"h" bars sketch



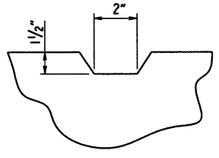
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N

(Skewed Ends)



TYPICAL KEYWAY DETAIL

(All Construction Joints)

SKEWED END SECTION DETAILS

SHEET 2 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT

DETAILS OF SINGLE BARREL
R.C. BOX CULVERT

SPECIAL DETAILS

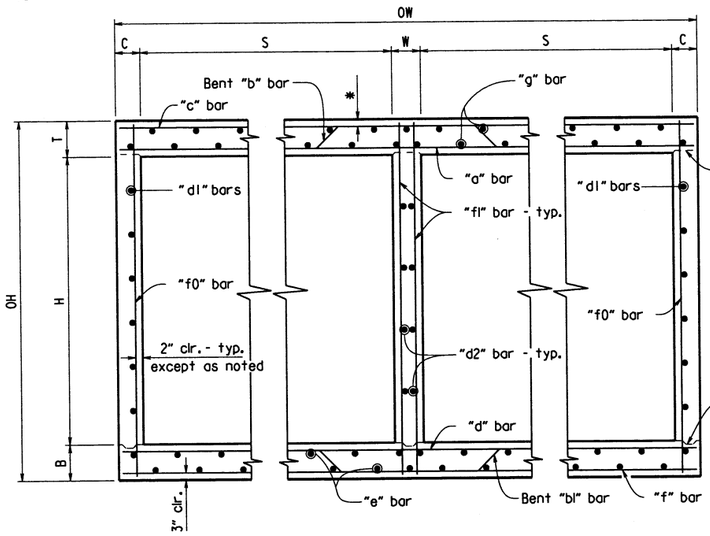
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DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	21	277

SPECIAL DETAILS

*2" clr. for fill depth (D) greater than 2 ft.
2½" clr. for fill depth (D) equal to or less than 2 ft.

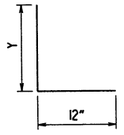
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



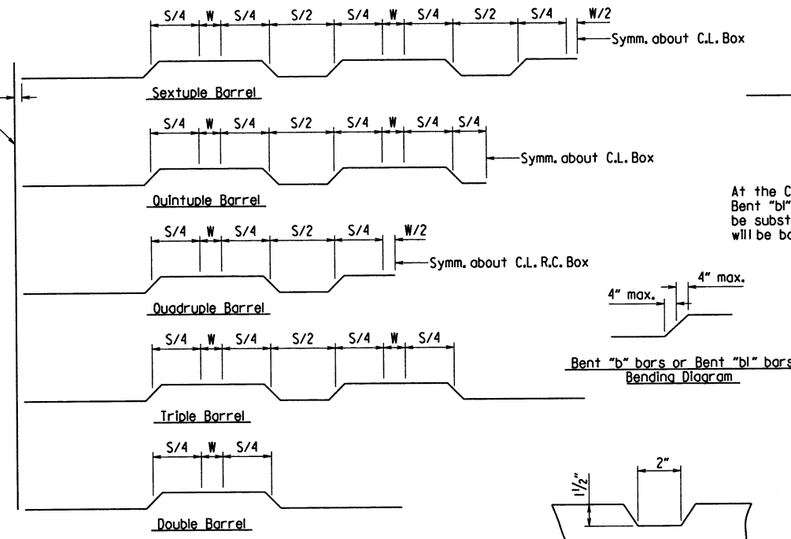
TYPICAL SECTION M-M

Top Slab
Straight "c" bars shall alternate with Bent "b" bars in top.
Straight "a" bars shall alternate with Bent "b" bars in bottom.

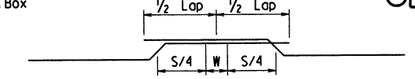
Bottom Slab
Straight "d" bars shall alternate with Bent "b1" bars in top.
Straight "f" bars shall alternate with Bent "b1" bars in bottom.



"h" bars sketch



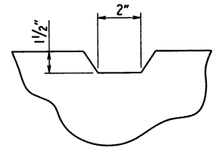
Bent "b" bars or Bent "b1" bars sketch



Lap Detail
For Bent "b" bars and Bent "b1" bars

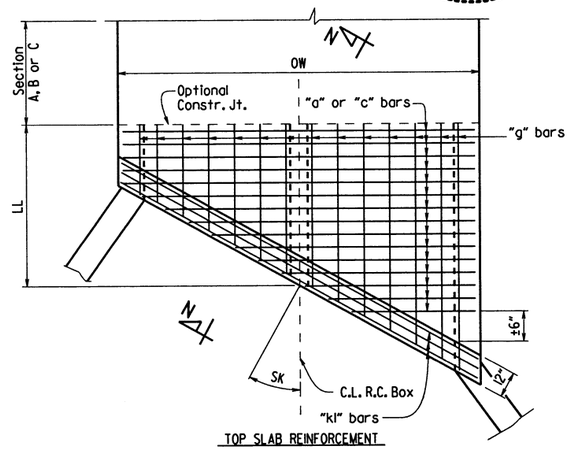
At the Contractor's option in lieu of providing Bent "b" or Bent "b1" bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the "b" or "b1" bar.

Bent "b" bars or Bent "b1" bars Bending Diagram

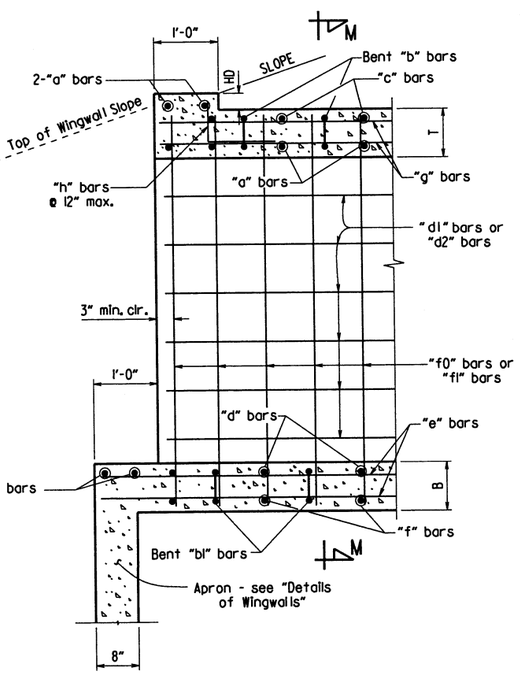


TYPICAL KEYWAY DETAIL

(All Construction Joints)

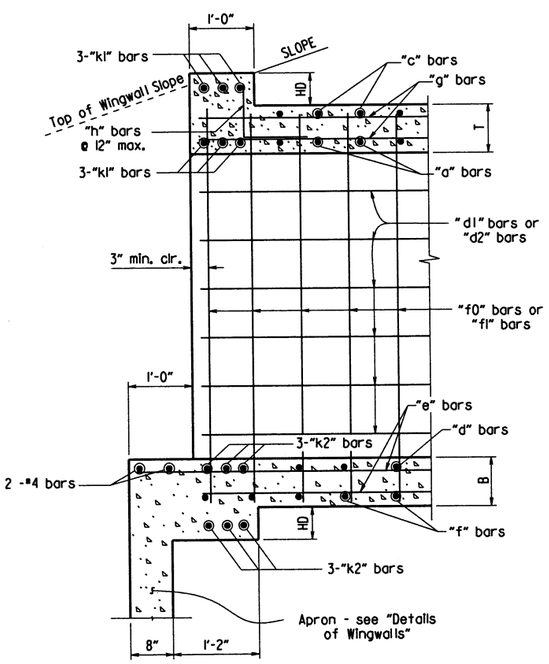


TOP SLAB REINFORCEMENT
Straight "c" bars in top.
Straight "a" bars in bottom.



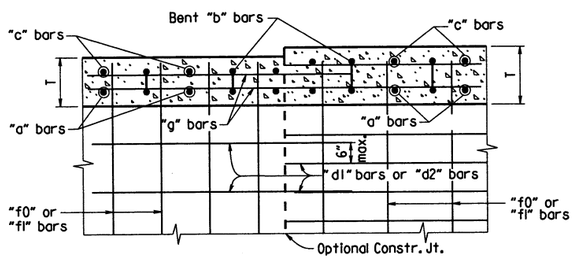
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N

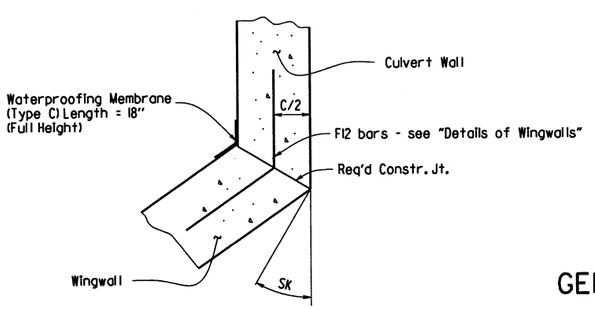
(Skewed Ends)



Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.

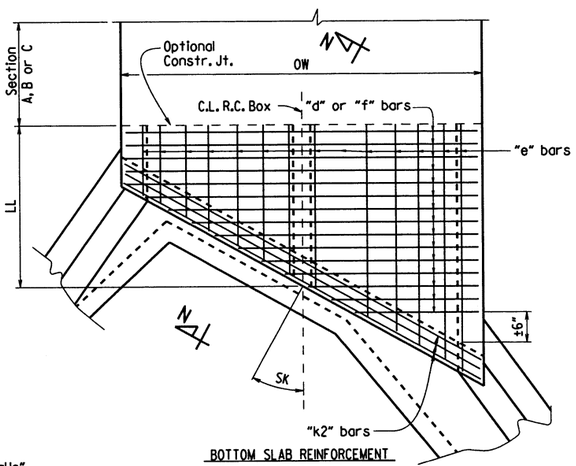
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



WINGWALL ATTACHMENT

See "Details of Wingwalls" for additional information and wingwall details.



BOTTOM SLAB REINFORCEMENT
Straight "d" bars in top.
Straight "f" bars in bottom.

SKEWED END SECTION DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-19-19
CHARLES R. ELLIS

SHEET 3 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT

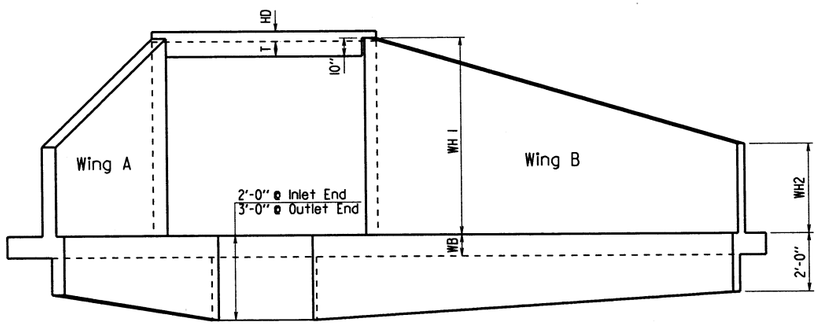
DETAILS OF MULTI-BARREL R.C. BOX CULVERT

SPECIAL DETAILS

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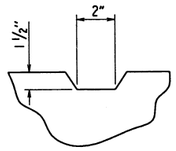
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	22	277

SPECIAL DETAILS



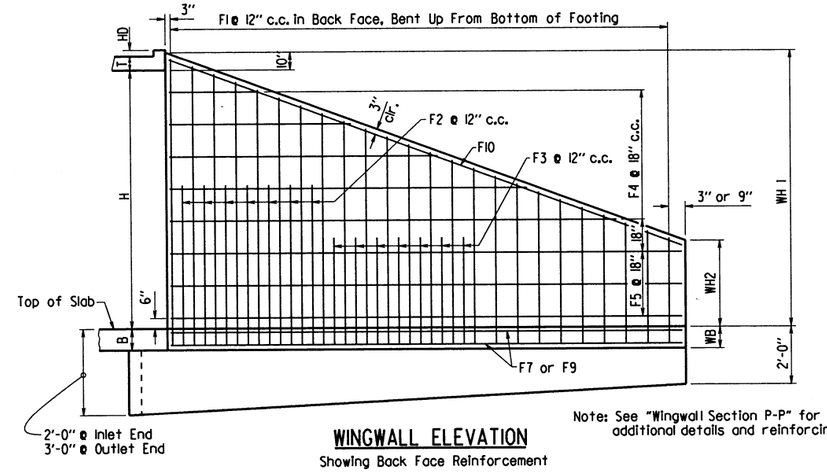
END ELEVATION

Flared Wingwalls Shown



TYPICAL KEYWAY DETAIL

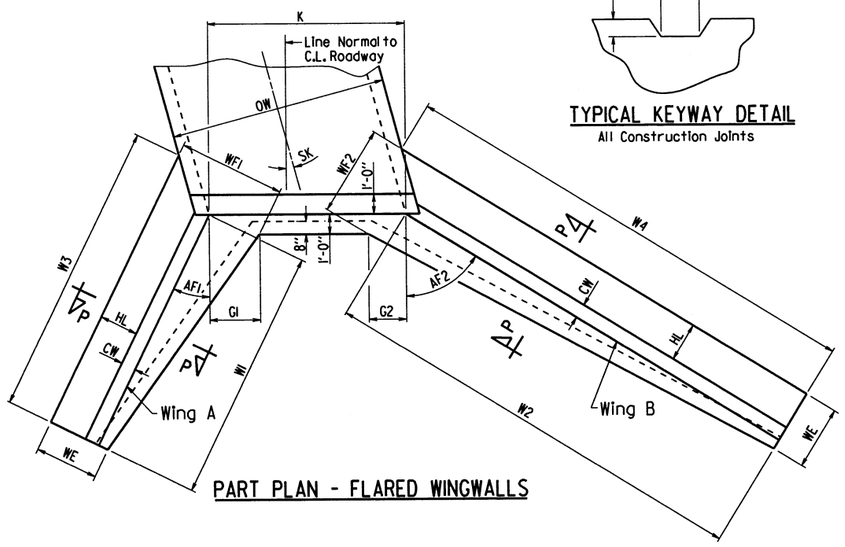
All Construction Joints



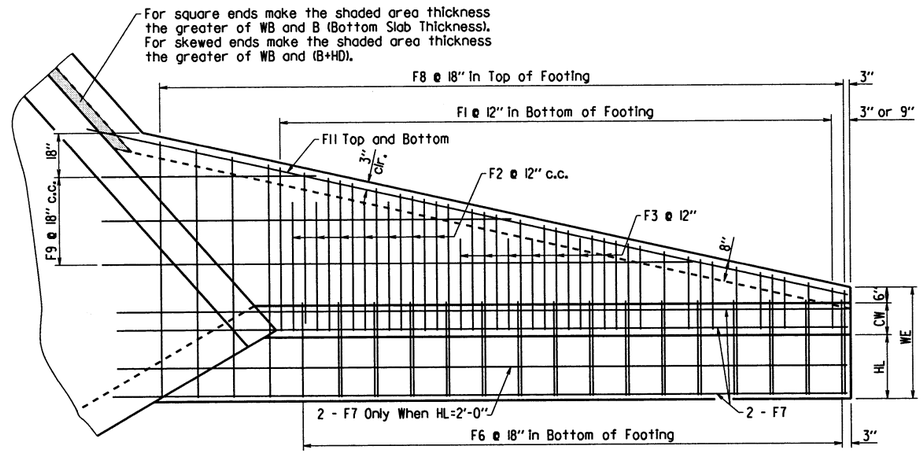
WINGWALL ELEVATION

Showing Back Face Reinforcement

Note: See "Wingwall Section P-P" for additional details and reinforcing.

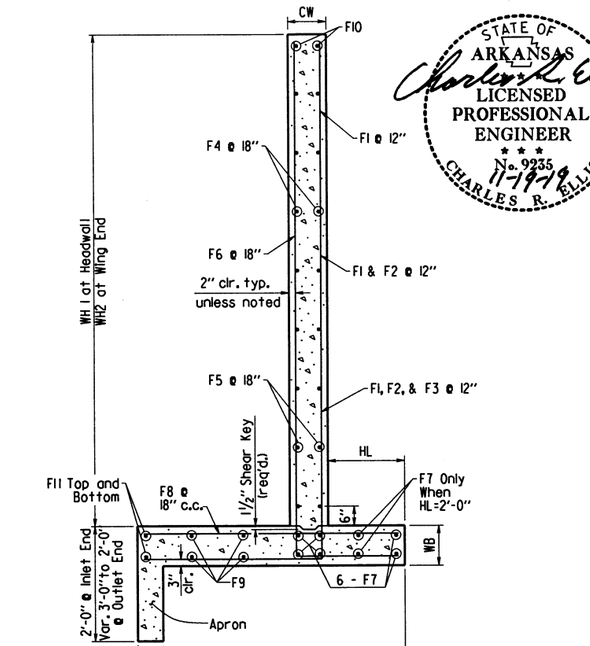


PART PLAN - FLARED WINGWALLS

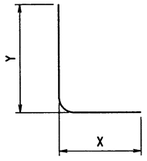


PLAN - FLARED WINGWALLS

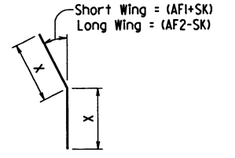
Showing Footing Reinforcement



WINGWALL SECTION P-P

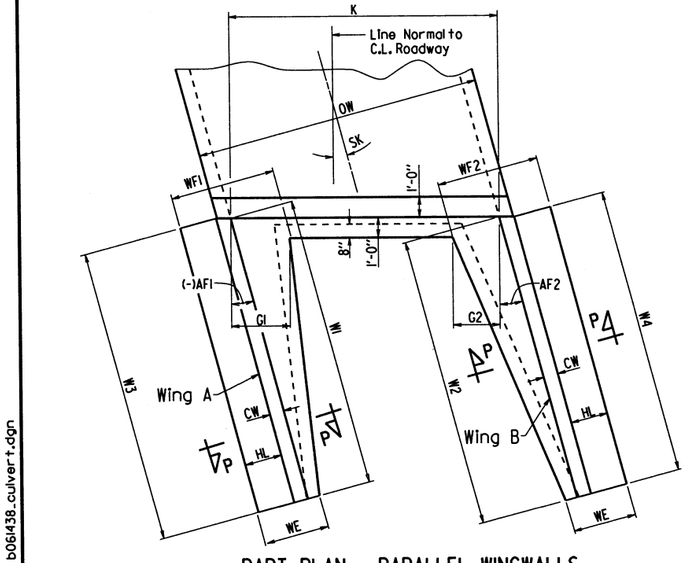


F1, F2, F3, & F6 BARS

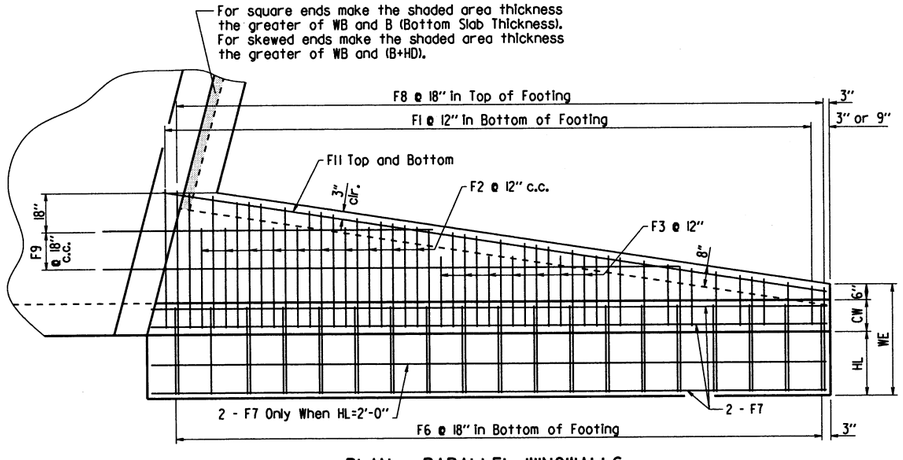


*F12 BAR

*F12 is a straight bar for parallel wingwalls

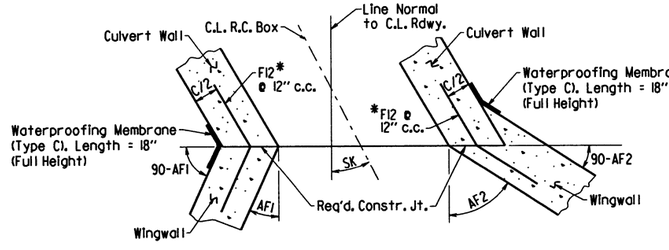


PART PLAN - PARALLEL WINGWALLS



PLAN - PARALLEL WINGWALLS

Showing Footing Reinforcement



CONSTRUCTION JOINTS

Flared Wingwalls Shown

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
11-19-19
CHARLES R. ELLIS

SHEET 4 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF WINGWALLS
SPECIAL DETAILS

V 11.15 b061438_culvert.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.		061438	23	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 107+00.00
BEGIN JOB 061438
BEGIN SITE 1A
LOG MILE 0.13

P.O.B. 700+00.00
700
P.C. 702+04.36
P.T. 702+56.20
Ean 704+95.97
Ean 106+50.00
+67.50
39.24
E-11
905 LIN.FT.
+79.48
60.00
+38.81
40.04
P.C. 111+28.37
P.T. 112+23.90
P.C. 113+00.86
N 50°39' 37" W
N 60°33' 36" W
N 58°28' 53" W
N 59°57' 01" W
N 60°25' 41" W
110
115
E-6
P.I. 702+30.34
P.I. 704+45.00
+45.00
41.36
BEGIN PROP. C/A
P.I. 106+50.00
+99.48
75.00
+29.48
70.00
+79.48
100.00
+39.48
65.00
P.I. 111+76.13
+24.48
15.00
+24.51
15.00
+39.47
16.58

REVISIONS

DATE	REVISION

LEGEND

E-6 ROCK DITCH CHECKS
E-11 SILT FENCE

P.I. 123+94.88
125
S 84°00' 59" W
25' BUFFER
120
115
N 60°25' 41" W
S 84°00' 59" W
E-6
STA. 116+00.00
END SITE 1A
P.I. 118+66.12

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R061438.DGN

SITE 1A
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	24	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 107+00.00
BEGIN JOB 061438
BEGIN SITE IA
LOG MILE 0.13

P.I. 700+00.00
P.C. 702+04.36
P.T. 702+56.20
P.I. 702+30.34
P.I. 704+45.00
+45.00
41.36
BEGIN PROP. C/A
P.I. 704+95.97
Eqn 106+50.00
P.I. 106+50.00
+67.50
39.24
+99.48
75.00
905 LIN. FT.
+79.48
60.00
+98.81
40.00
+29.48
70.00
+79.48
100.00
+39.48
65.00
P.C. 111+28.37
P.I. 111+76.13
P.T. 112+23.90
P.C. 113+00.86
+24.48
15.00
+24.51
15.00
+39.47
16.58

N 50°39'31" W
N 60°33'36" W
N 58°28'53" W
N 59°57'01" W
N 60°25'41" W

110
115
120
125
H5
7
5

E-6 SILT FENCE

REVISIONS

DATE	REVISION

LEGEND
E-6 SILT FENCE

P.I. 123+94.88
S 84°00'59" W
25' BUFFER
STA. 116+00.00
END SITE IA
P.I. 118+66.12

SITE IA
STAGE I
TEMPORARY EROSION CONTROL DETAILS

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R061438.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.		061438	25	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 12-6-19

STA. 107+00.00
BEGIN JOB 061438
BEGIN SITE 1A
LOG MILE 0.13

P.O.B. 700+00.00
P.C. 702+04.36
P.T. 702+36.20
P.I. 702+30.34
P.I. 704+45.00
+45.00 47.36
BEGIN PROP. C/A
P.I. 106+50.00
Eqn 704+95.97 Eqn 106+50.00
+67.50 39.24
+99.48 75.00
905 LIN. FT.
+79.48 60.00
+98.81 40.00
P.C. 111+28.37
P.I. 112+23.90
P.C.C. 113+00.86
+29.48 70.00
+79.48 100.00
+39.48 65.00
P.I. 114+76.13
+24.48 15.00
+24.51 115.00
+39.47 16.58
+81

N 50°39'31" W
N 60°33'36" W
N 58°28'53" W
N 59°57'01" W
N 60°25'41" W

110
115
40'

REVISIONS

DATE	REVISION

LEGEND

E-6 ROCK DITCH CHECKS
E-11 SILT FENCE

P.I. 123+94.88
S 84°00'59" W
125
120
115
25' BUFFER
N 60°25'41" W
S 84°00'59" W
STA. 116+00.00
END SITE 1A
P.I. 118+66.12

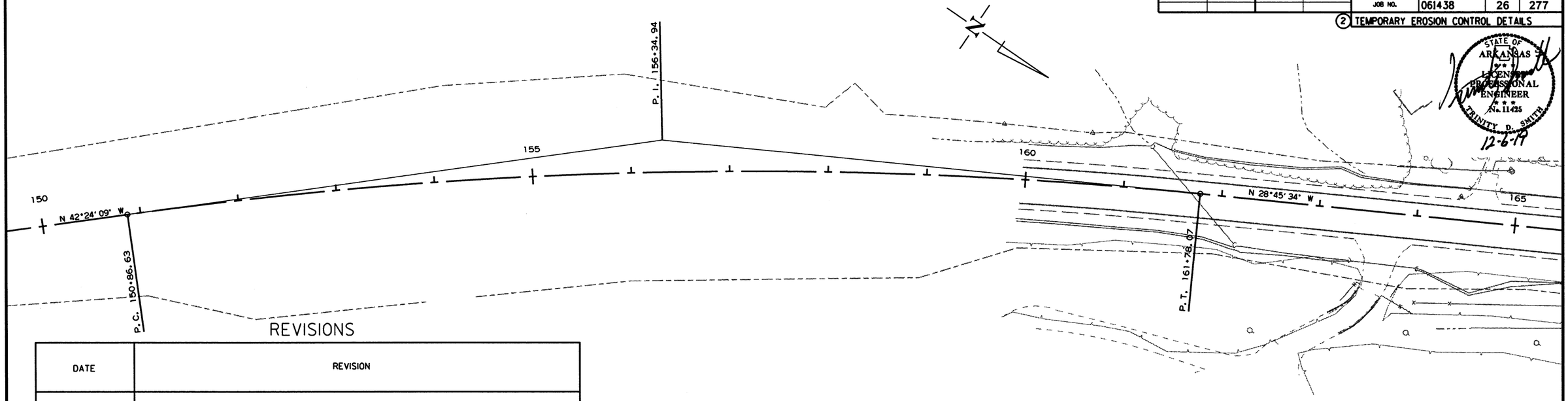
h139710 12/4/2019
R061438.DGN

SITE 1A
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	26	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



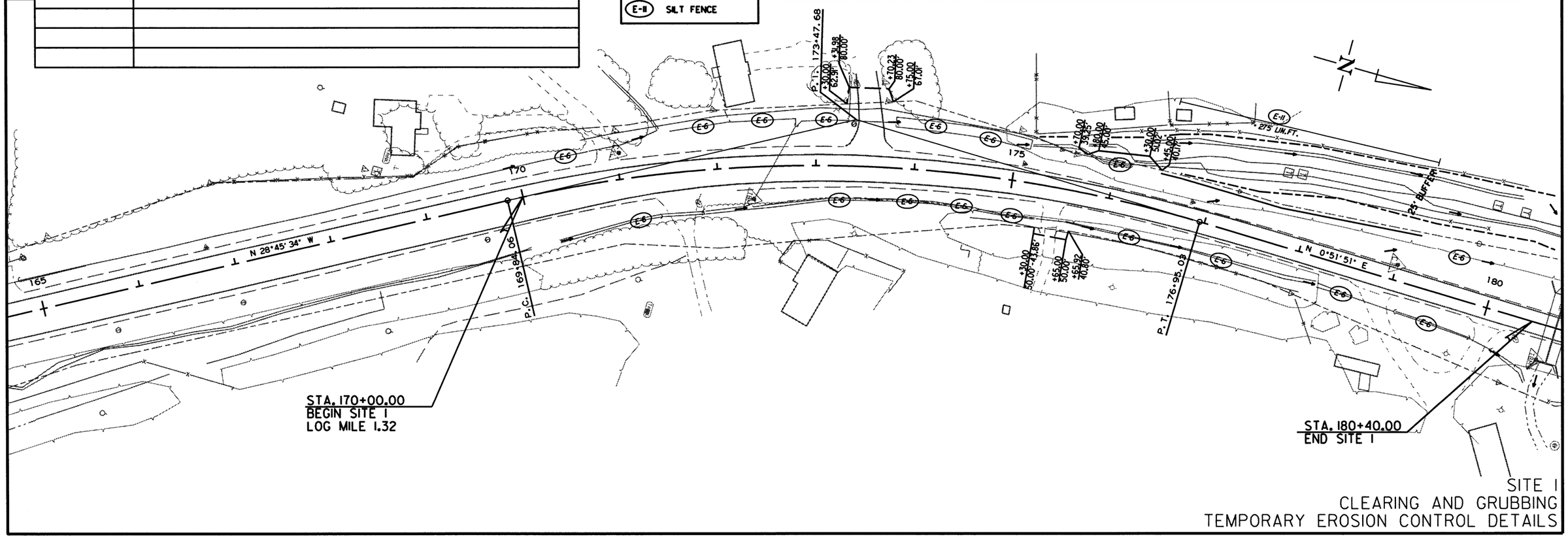
REVISIONS

DATE	REVISION

LEGEND

(E-6) ROCK DITCH CHECKS

(E-11) SILT FENCE



SITE 1
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	27	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12679

P.I. 156+34.94
155
150
N 42°24'09" W
P.C. 150+86.63
160
N 28°45'34" W
165
P.T. 161+78.07

REVISIONS

DATE	REVISION

LEGEND

E-6 ROCK DITCH CHECKS
E-11 SILT FENCE

P.I. 173+47.68
+30.00 62.39' +31.98 60.00
+70.23 80.00 +15.00 67.00
E-11 105 LIN. FT.
E-11 275 LIN. FT.
+70.00 35.23 +80.00 45.00
+30.00 50.00 +45.00 40.71
24'
16'
170
175
25' BUFFER
N 28°45'34" W
165
P.C. 169+86.00
+30.00 50.00 -43.86
+52.00 50.00 +63.92 40.80
P.T. 176+95.05
N 0°51'51" E
180

STA. 170+00.00
BEGIN SITE I
LOG MILE 1.32

STA. 180+40.00
END SITE I

SITE I
STAGE I
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	28	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED
PROFESSIONAL
ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

P.I. 156+34.94
155
150
N 42°24' 09" W
P.C. 150+86.63
160
N 28°45' 34" W
165
P.T. 161+78.07

REVISIONS

DATE	REVISION

LEGEND
E-6 ROCK DITCH CHECKS
E-8 SILT FENCE

P.T. 173+47.68
RANDALL WOOD
105 LIN. FT.
275 LIN. FT.
25' BUFFER
170
N 28°45' 34" W
165
P.C. 169+84.90
N 0°51' 51" E
180
P.T. 176+95.09
STA. 170+00.00
BEGIN SITE 1
LOG MILE 1.32
STA. 180+40.00
END SITE 1

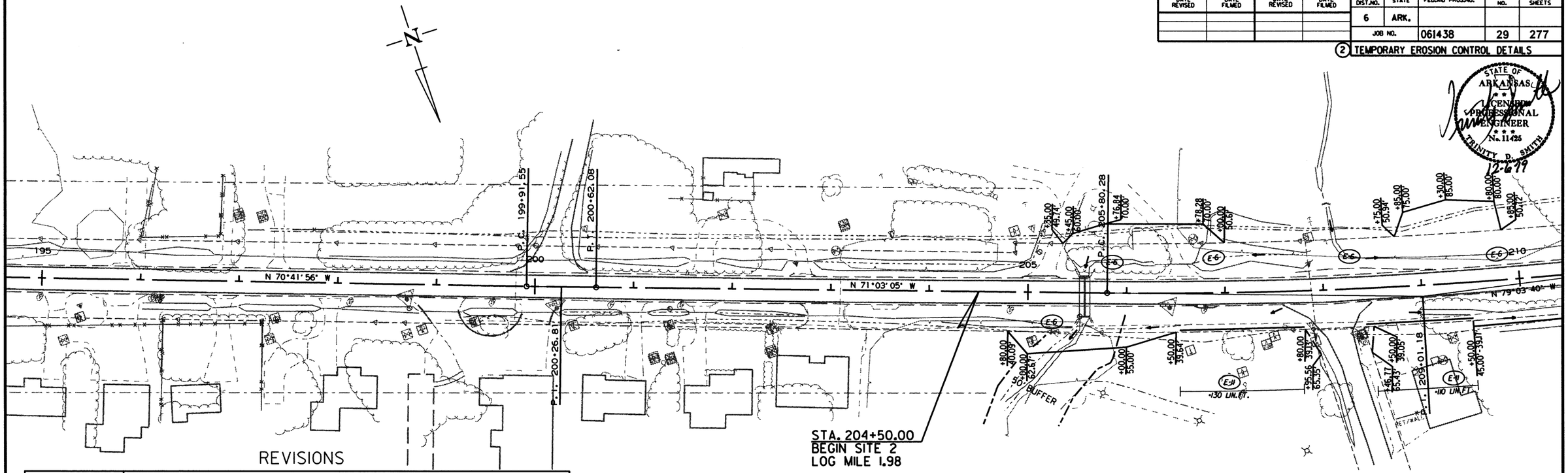
SITE 1
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	29	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

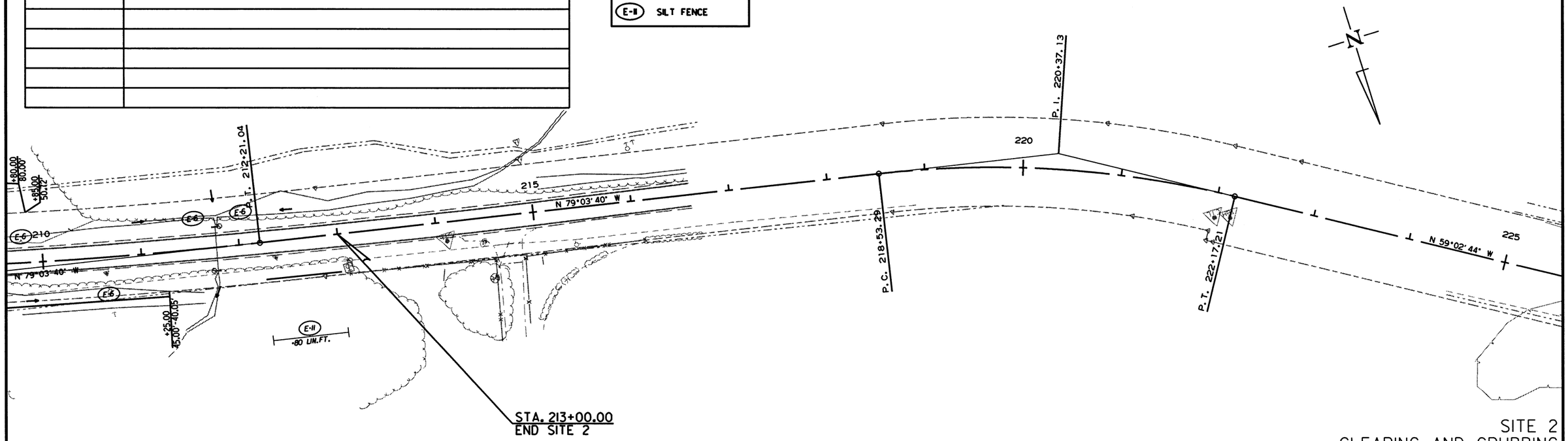


REVISIONS

DATE	REVISION

LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE



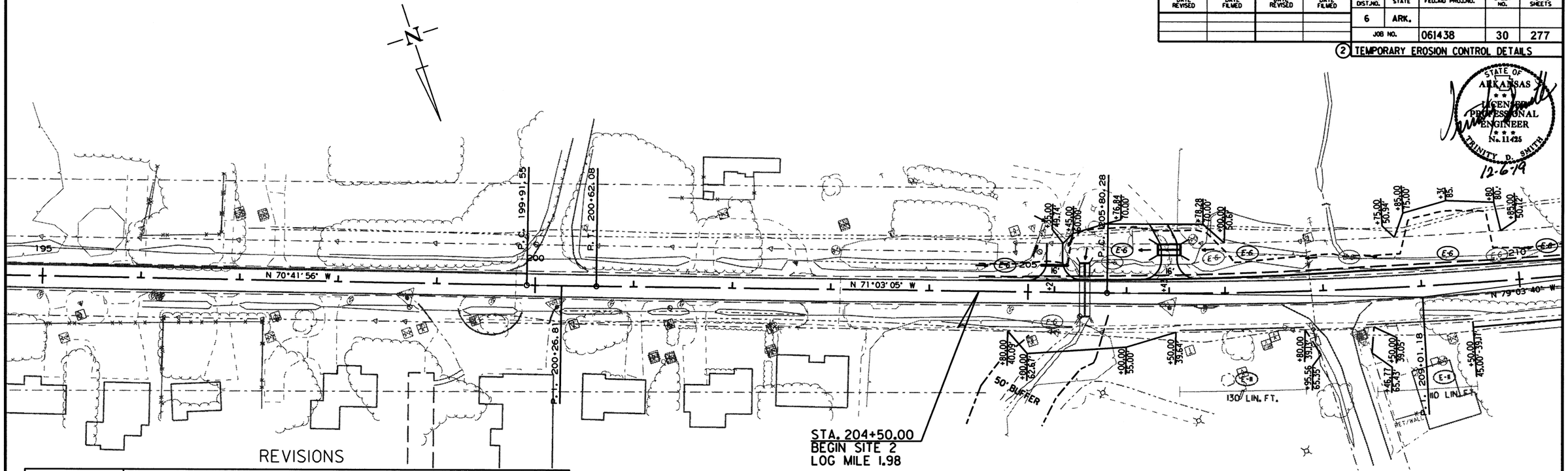
SITE 2
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	30	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

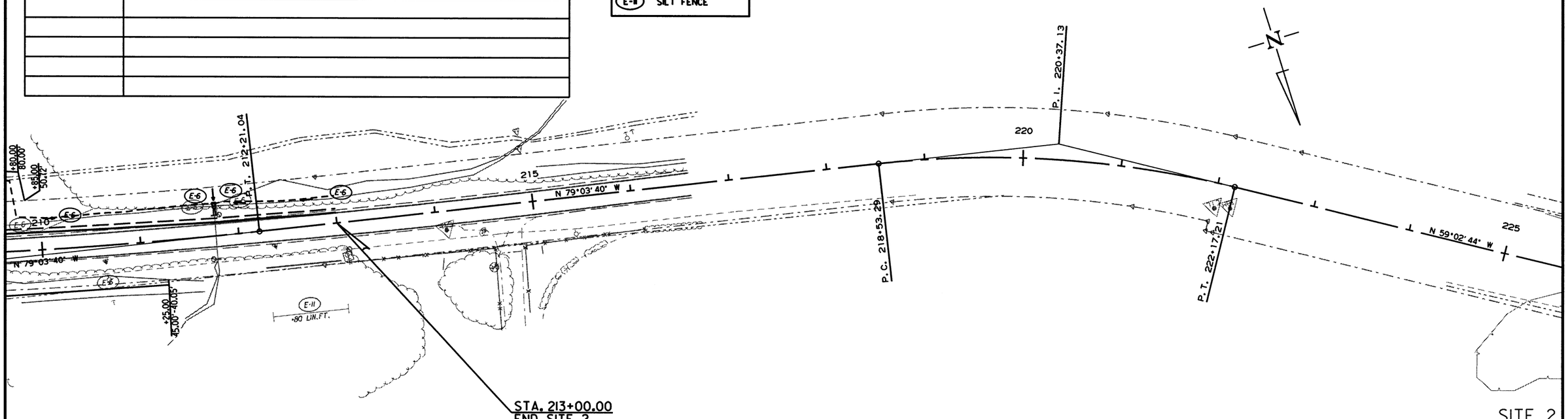


REVISIONS

DATE	REVISION

LEGEND

E-6	ROCK DITCH CHECKS
E-11	SILT FENCE



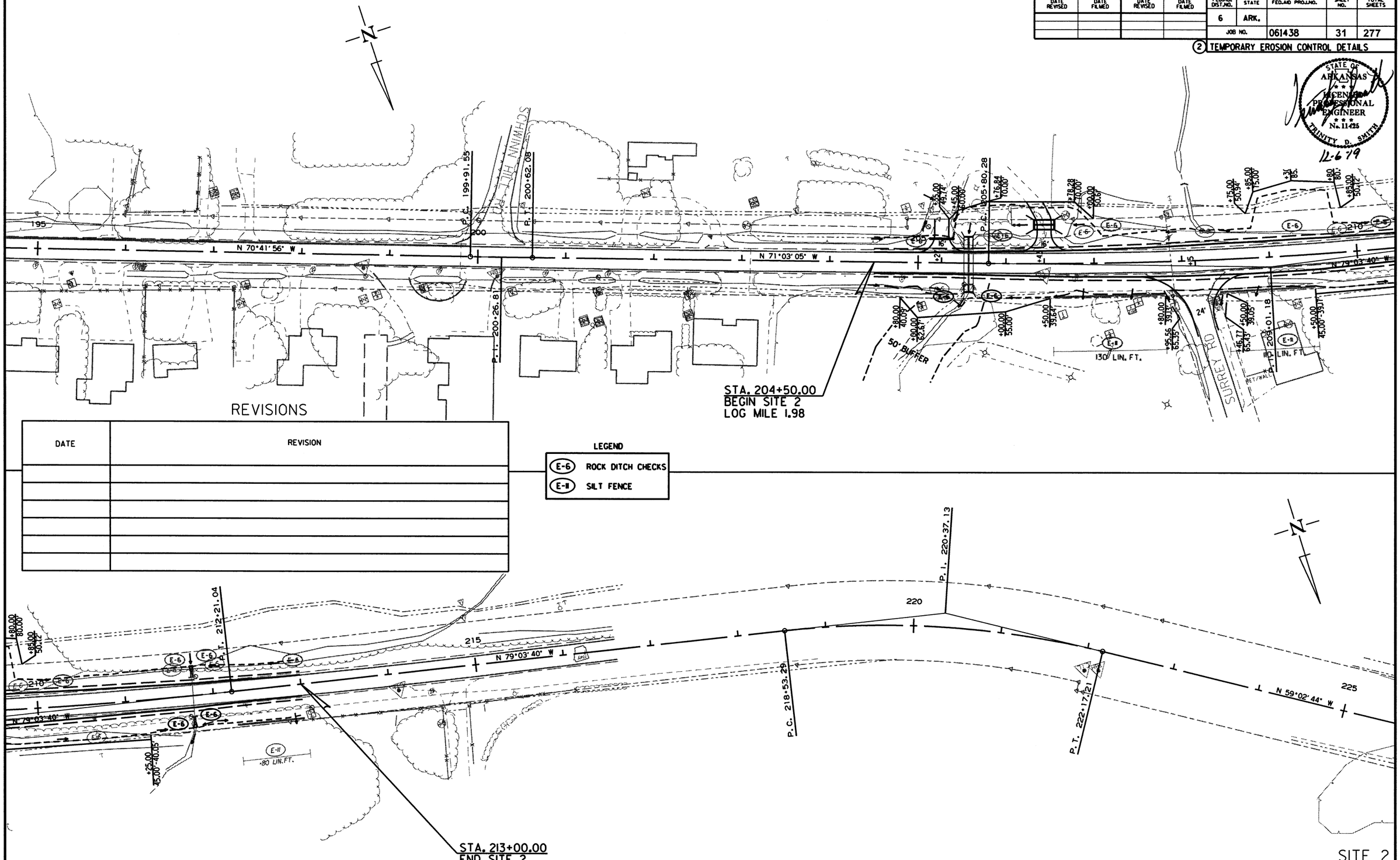
SITE 2
STAGE 1
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	31	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



REVISIONS

DATE	REVISION

LEGEND

E-6	ROCK DITCH CHECKS
E-11	SILT FENCE

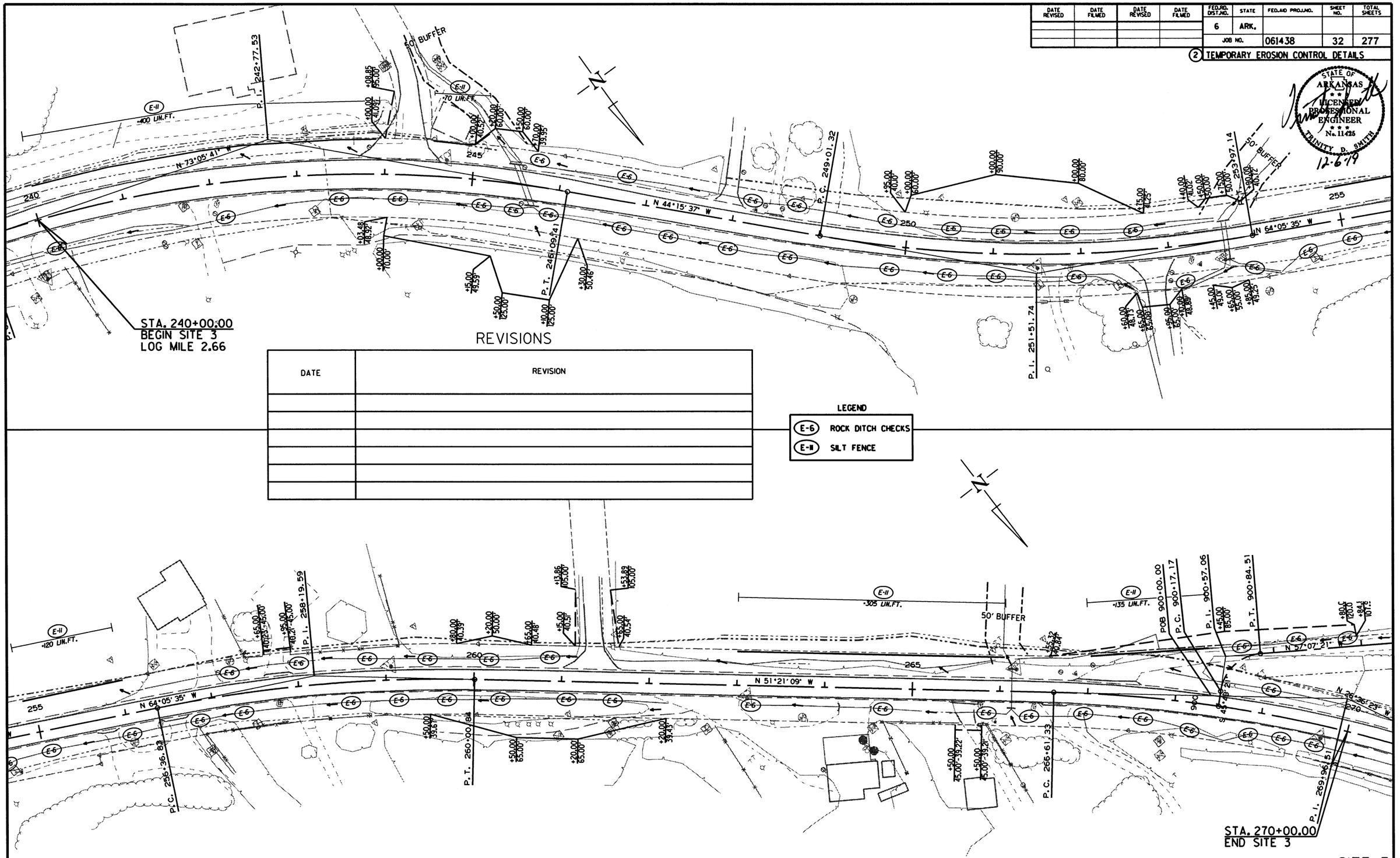
SITE 2
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	32	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



REVISIONS

DATE	REVISION

LEGEND

(E-6) ROCK DITCH CHECKS
(E-11) SILT FENCE

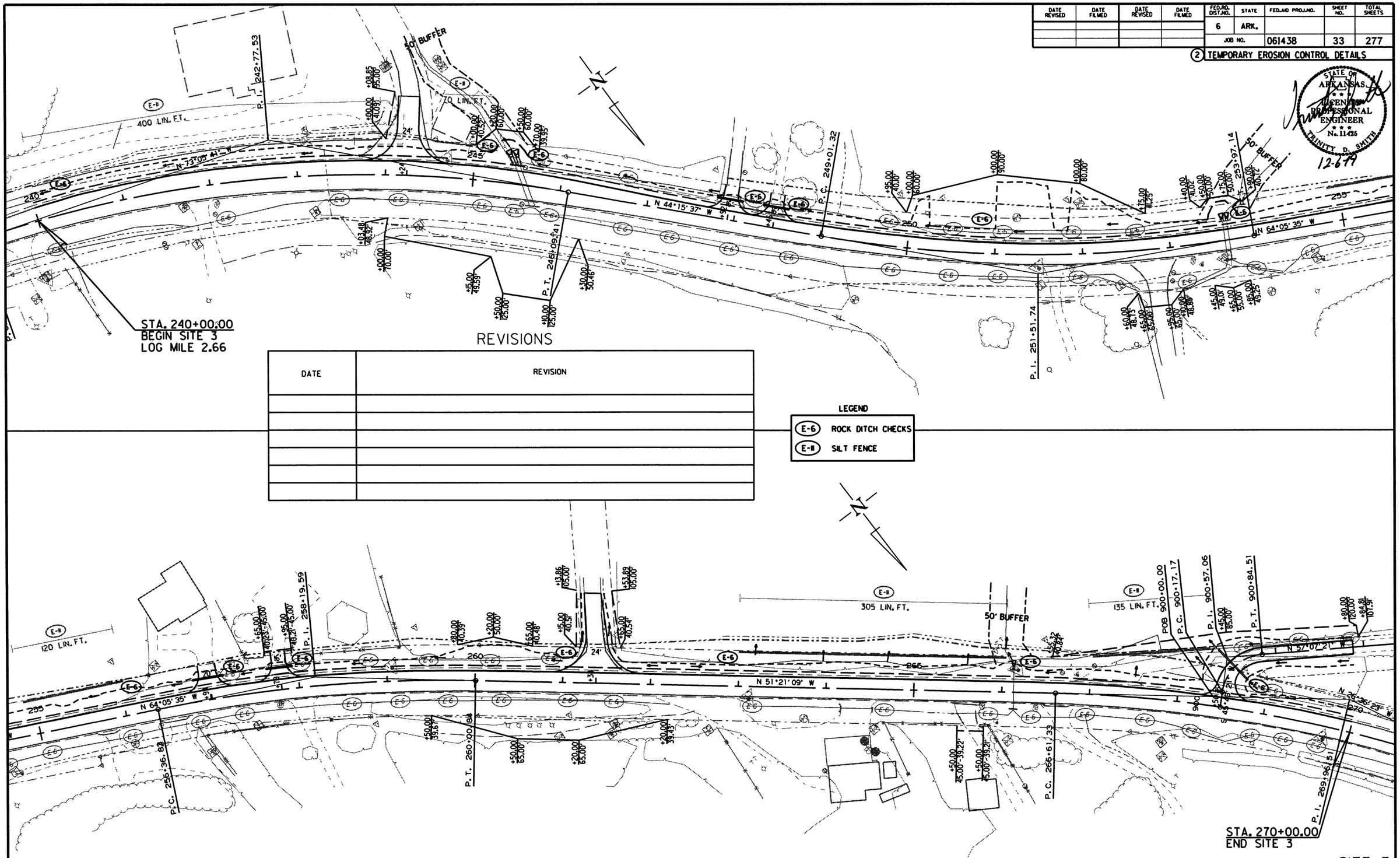
SITE 3
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	33	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



REVISIONS

DATE	REVISION

LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-8) SILT FENCE

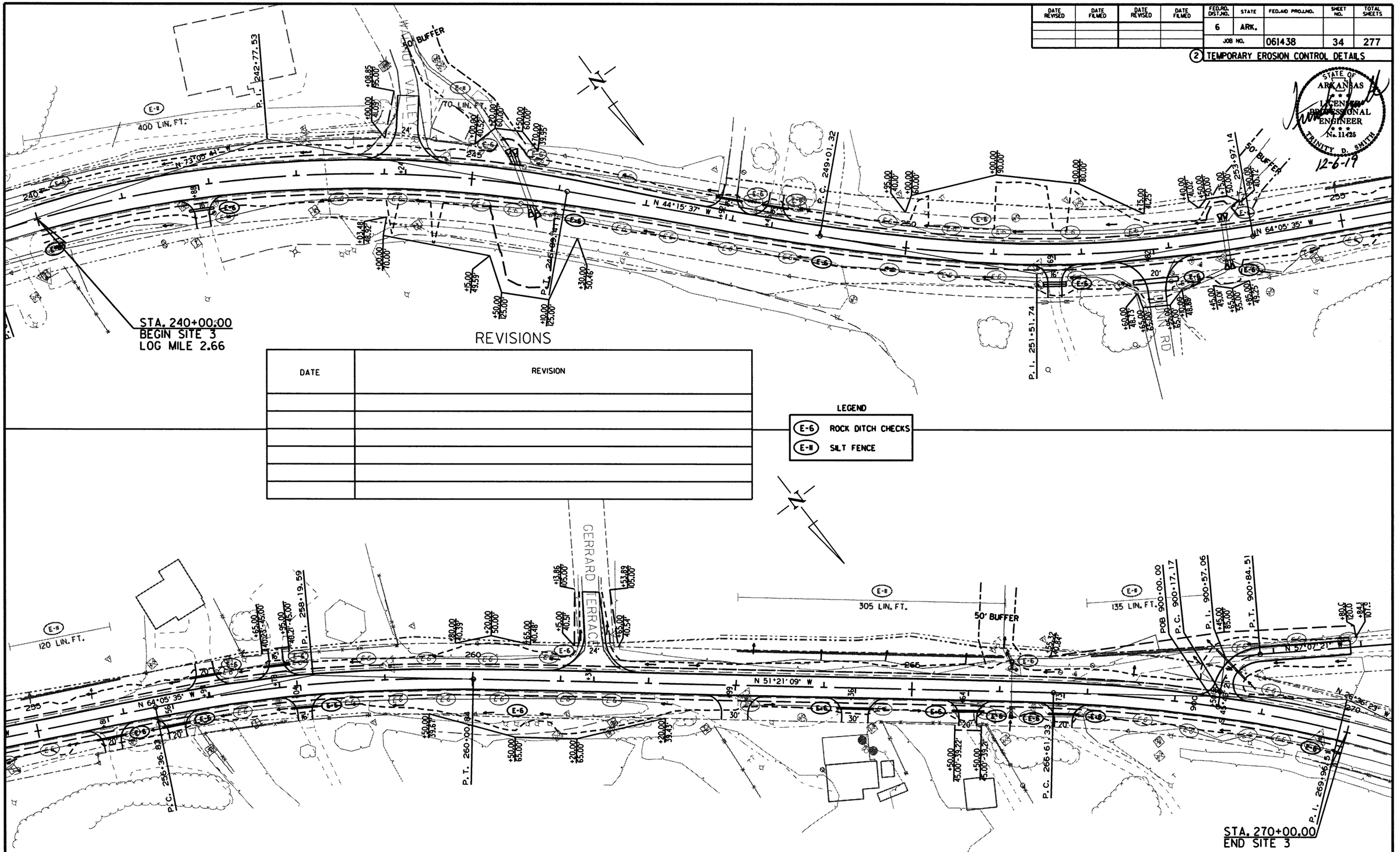
SITE 3
STAGE 1
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	34	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



REVISIONS

DATE	REVISION

LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE

SITE 3
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

ht39710 12/4/2019
R0614.38.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.		061438	35	277

(2) TEMPORARY EROSION CONTROL DETAILS

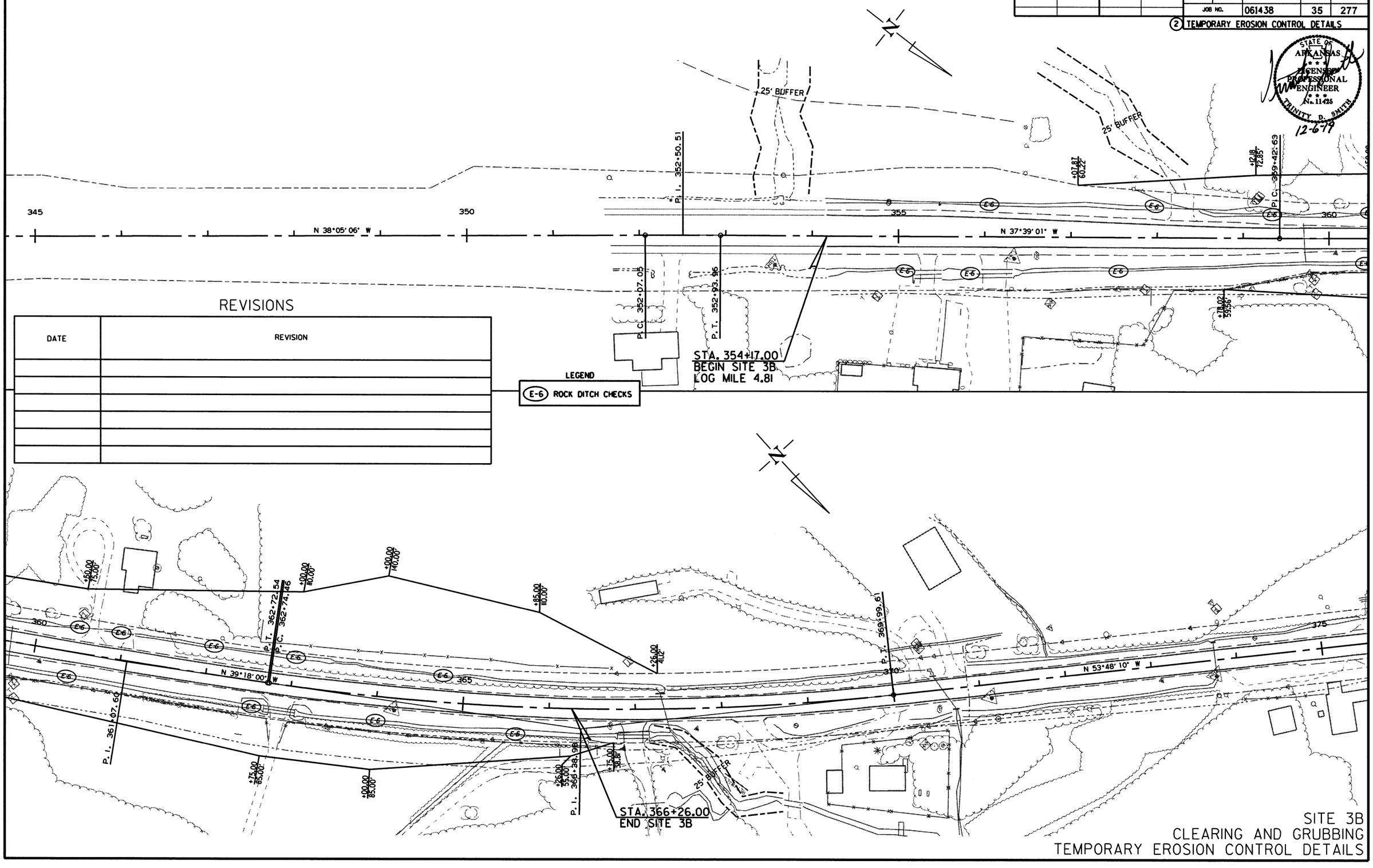
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

REVISIONS

DATE	REVISION

LEGEND

(E-6) ROCK DITCH CHECKS



SITE 3B
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	36	277

(2) TEMPORARY EROSION CONTROL DETAILS

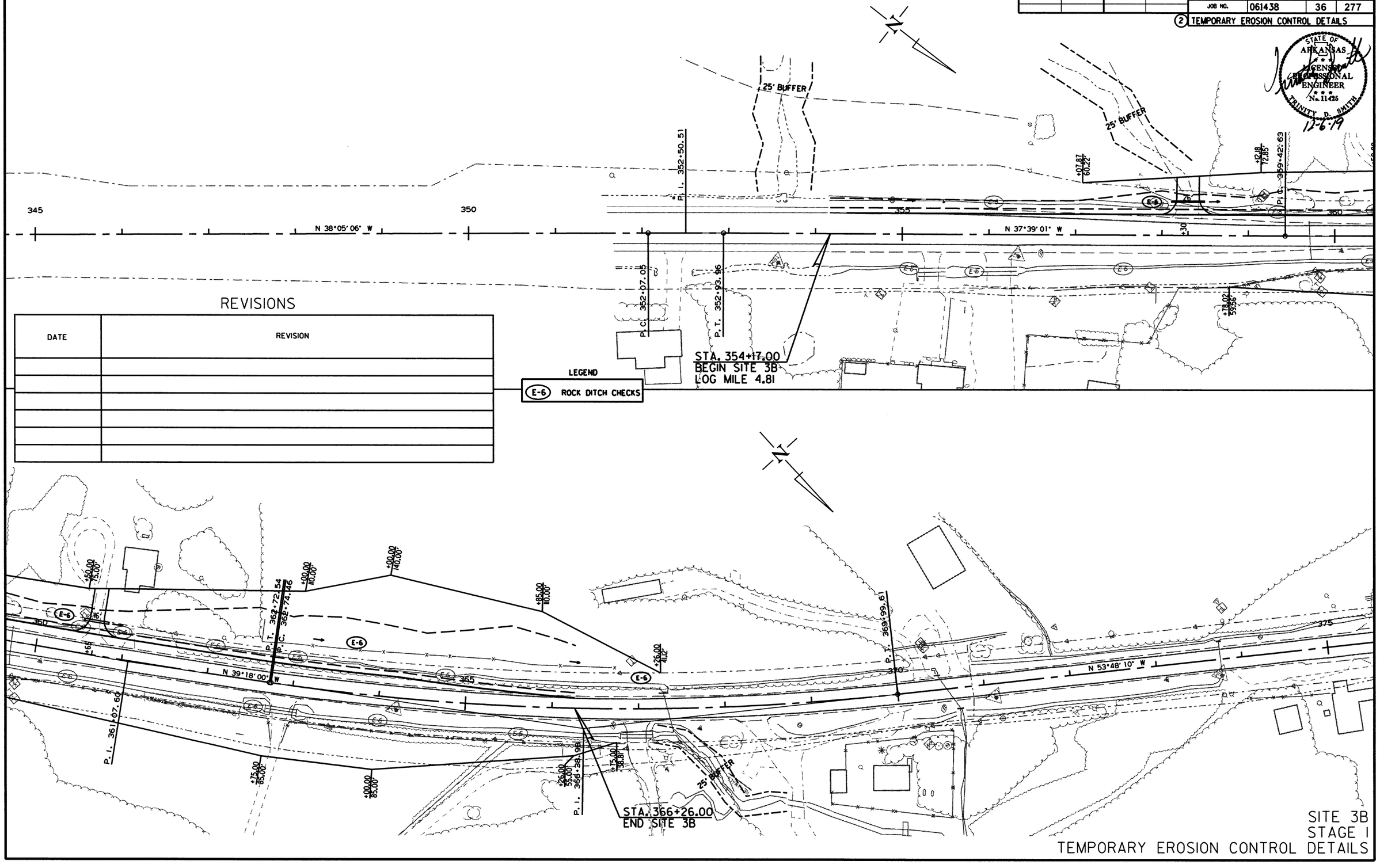
STATE OF ARKANSAS
LICENSED
PROFESSIONAL
ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

REVISIONS

DATE	REVISION

LEGEND

(E-6) ROCK DITCH CHECKS



SITE 3B
STAGE I
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	37	277

(2) TEMPORARY EROSION CONTROL DETAILS

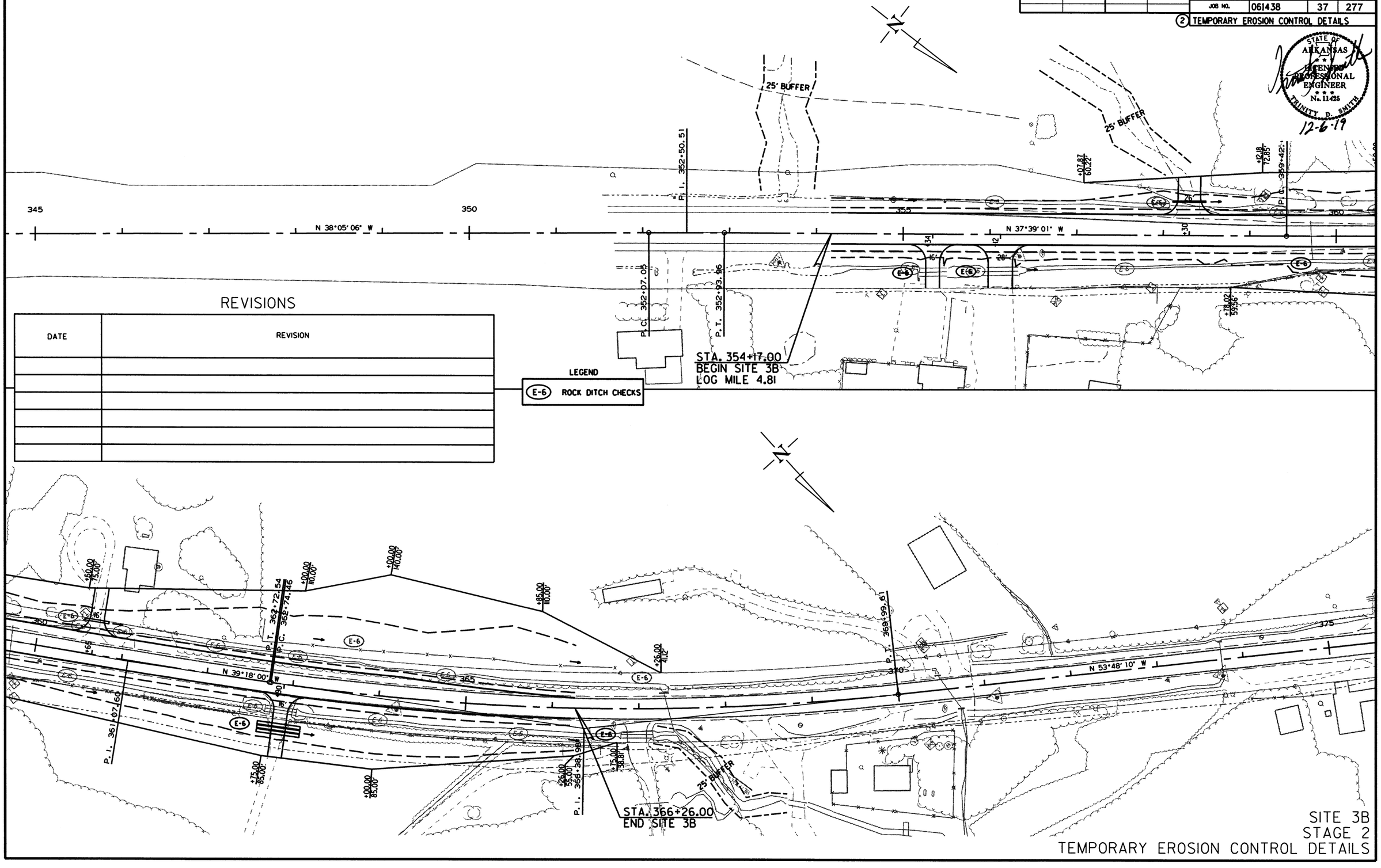
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

REVISIONS

DATE	REVISION

LEGEND

(E-6) ROCK DITCH CHECKS



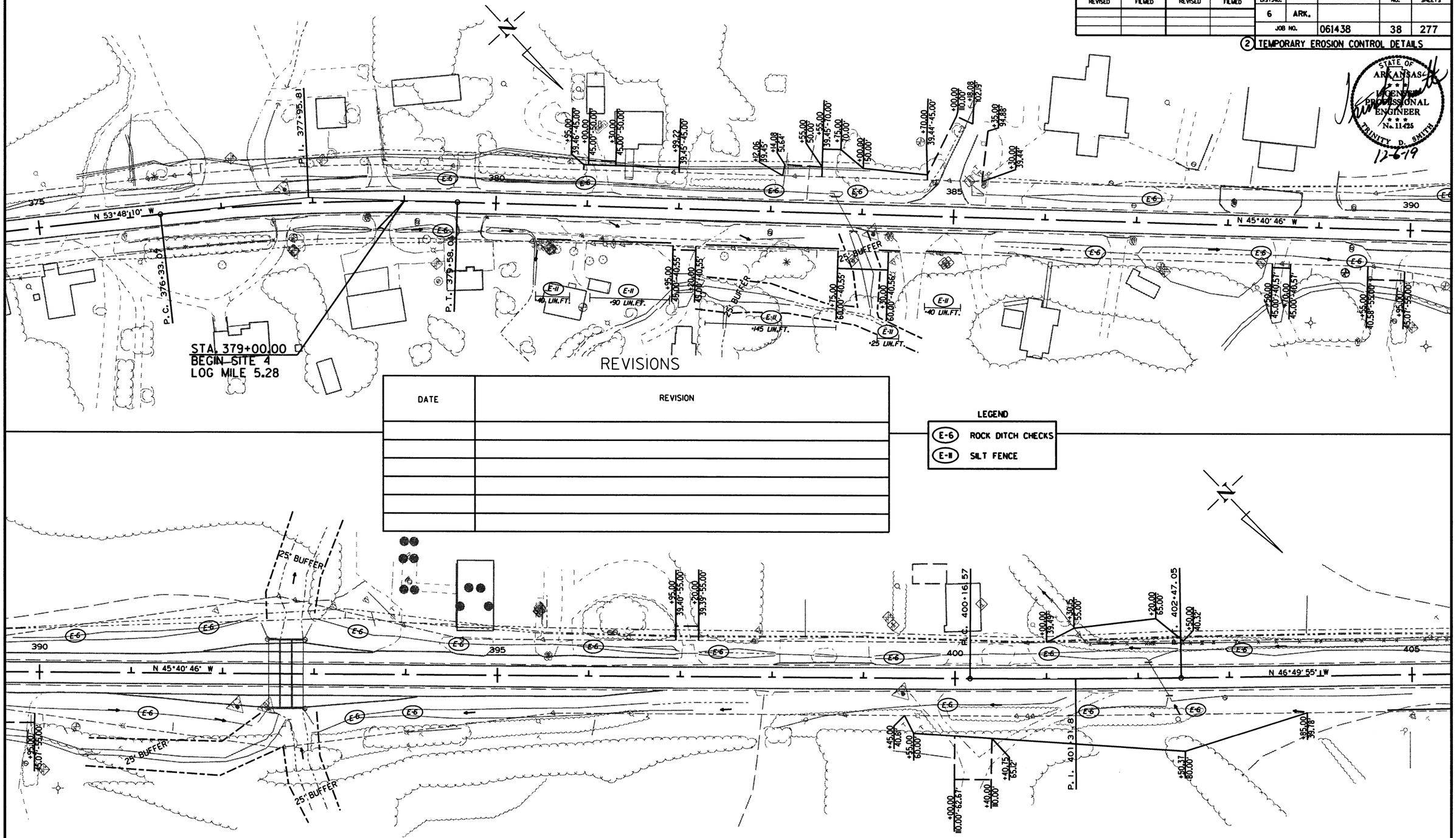
SITE 3B
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	38	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



REVISIONS

DATE	REVISION

LEGEND

E-6	ROCK DITCH CHECKS
E-11	SILT FENCE

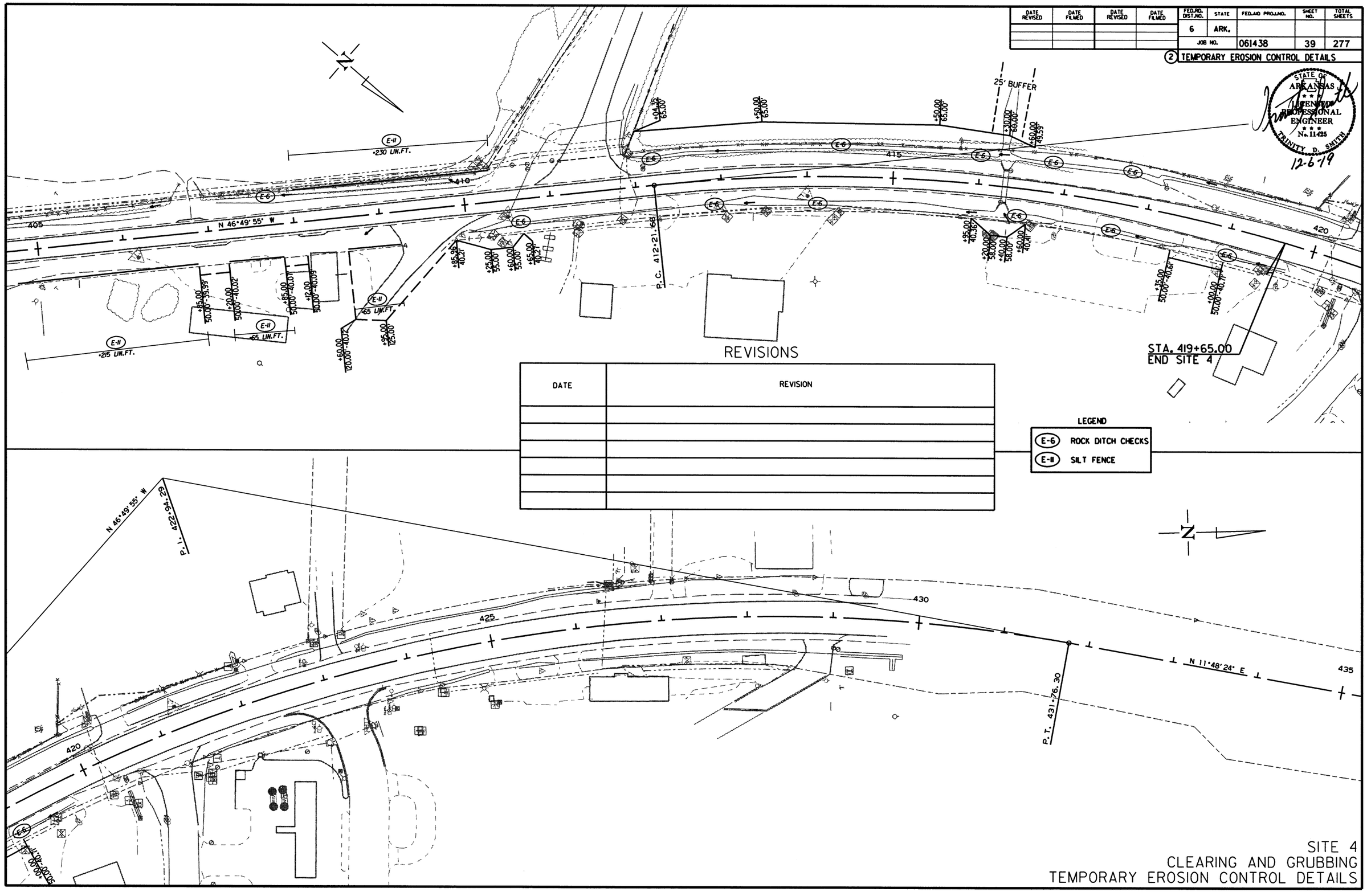
h139710 12/4/2019
R061438.DGN

SITE 4
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	39	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



REVISIONS

DATE	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-II SILT FENCE

SITE 4
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R0614 38.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.		061438	40	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 379+00.00
BEGIN SITE 4
LOG MILE 5.28

REVISIONS

DATE	REVISION

LEGEND

E-6 ROCK DITCH CHECKS
E-II SILT FENCE

SITE 4
STAGE I
TEMPORARY EROSION CONTROL DETAILS

ht39710 12/4/2019
R0614.38.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.		061438	41	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

25' BUFFER

230 LIN. FT.

215 LIN. FT.

65 LIN. FT.

65 LIN. FT.

415

420

P.C. 412+21.68

STA. 419+65.00
END SITE 4

REVISIONS

DATE	REVISION

LEGEND

E-6	ROCK DITCH CHECKS
E-II	SILT FENCE

N 46°49'55" W

P.I. 422+96.29

425

430

N 11°48'24" E

435

P.T. 431+76.30

28'

55'

420

SCALE: 1" = 50'-0"

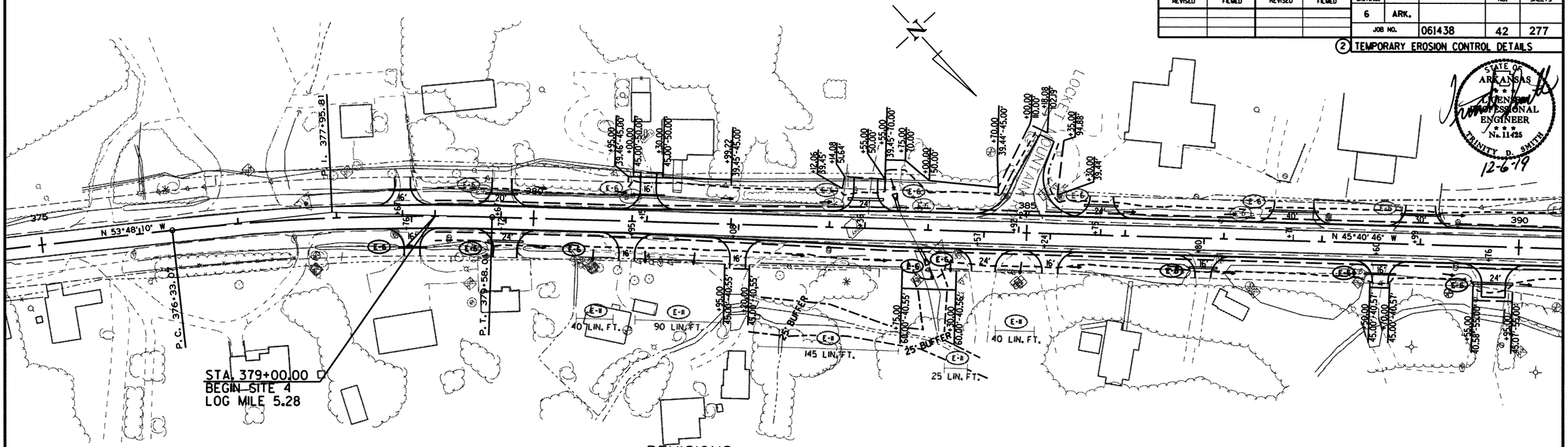
SITE 4
STAGE I
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	42	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



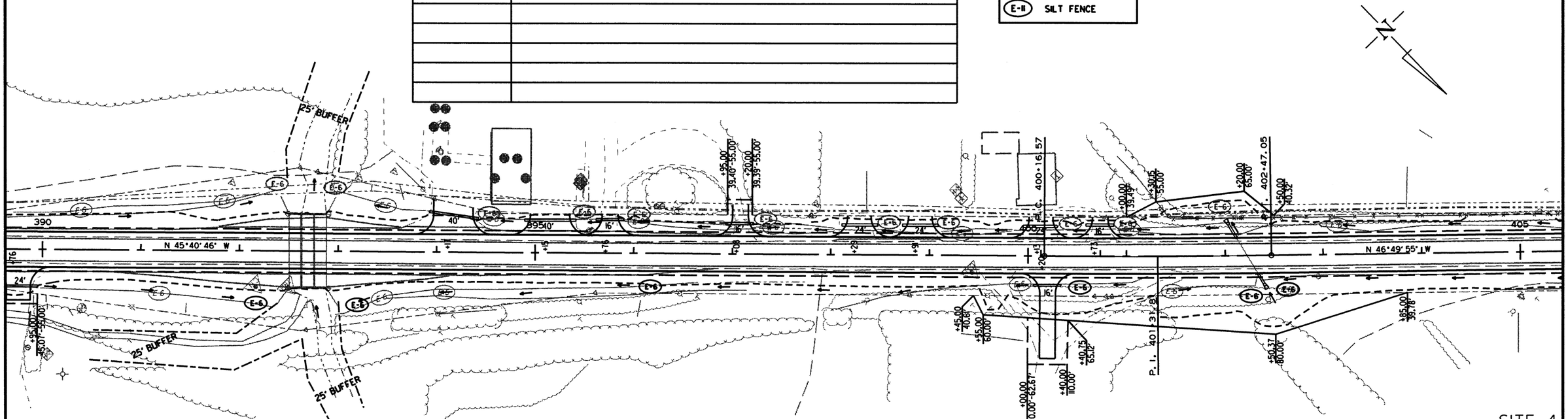
REVISIONS

DATE	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-11 SILT FENCE



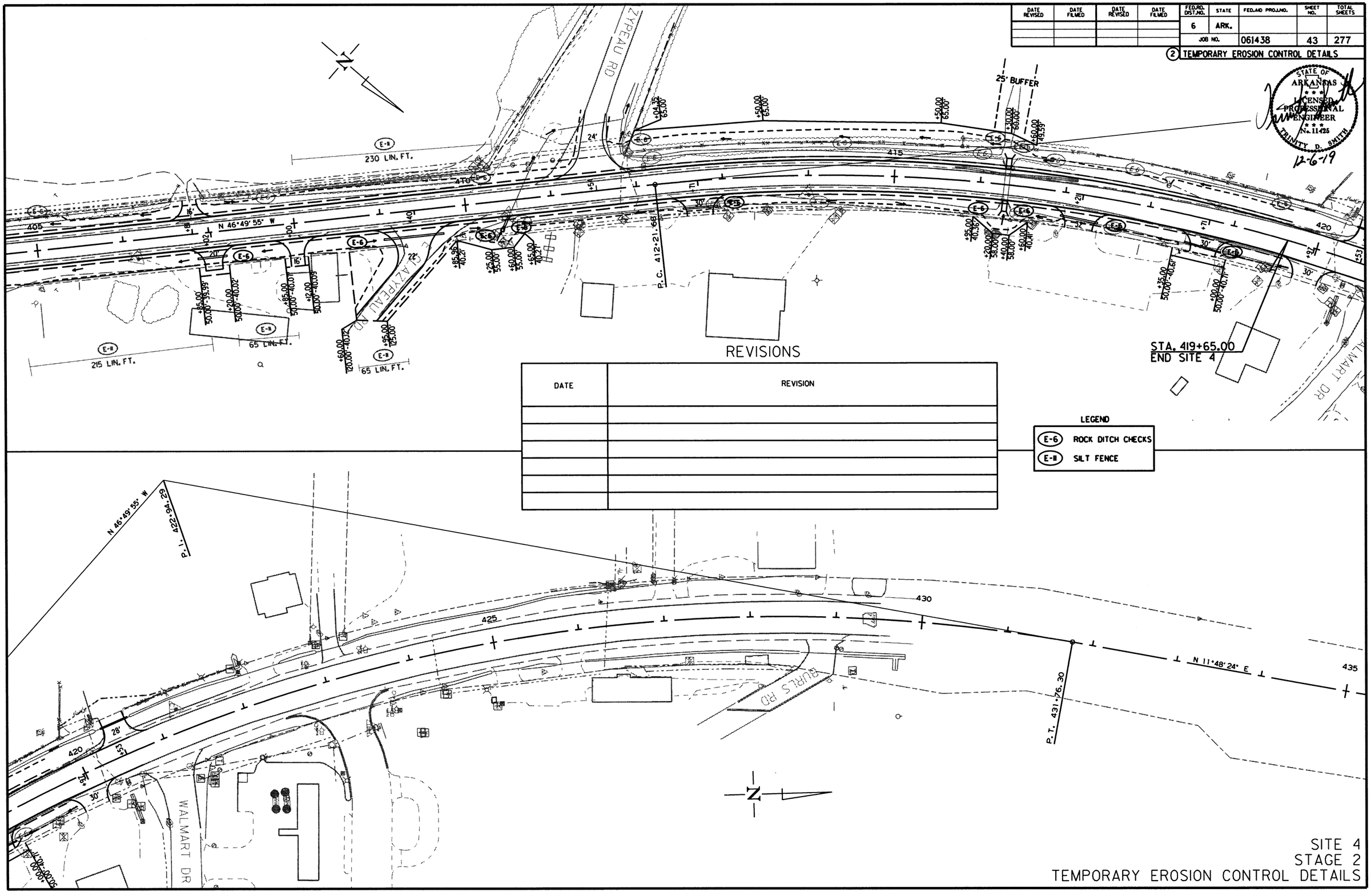
SITE 4
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R0614.38.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.		061438	43	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



REVISIONS

DATE	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-8 SILT FENCE

SITE 4
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

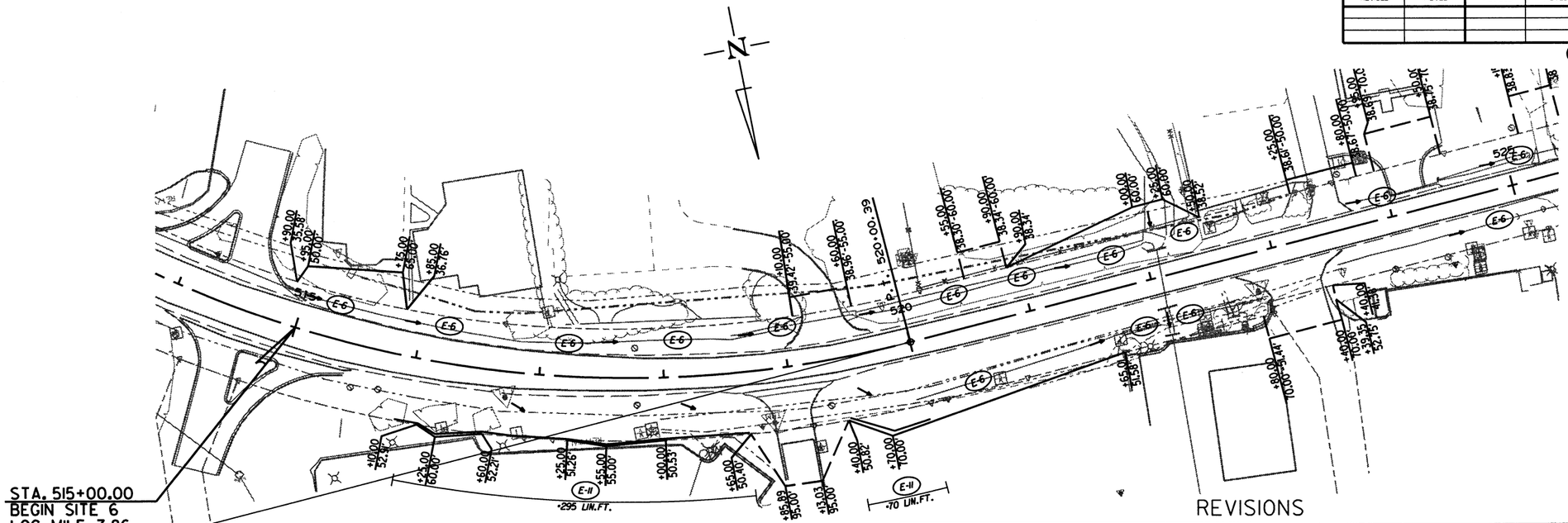
h139710 12/4/2019
R061438.DGN

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.		061438	44	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

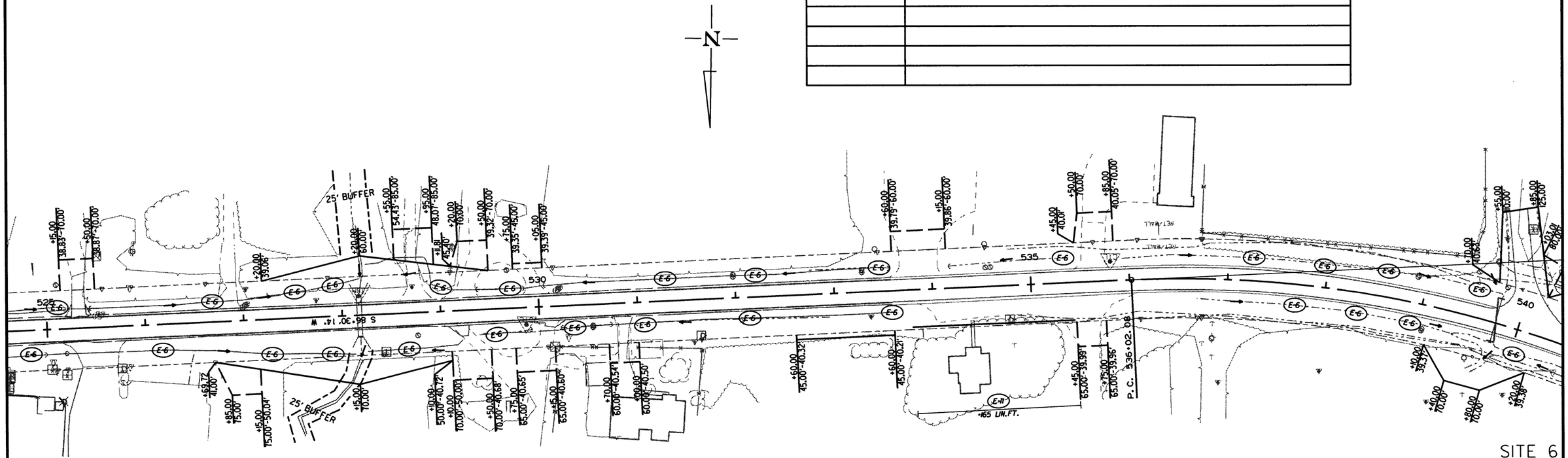


LEGEND

E-6	ROCK DITCH CHECKS
E-11	SILT FENCE

REVISIONS

DATE	REVISION

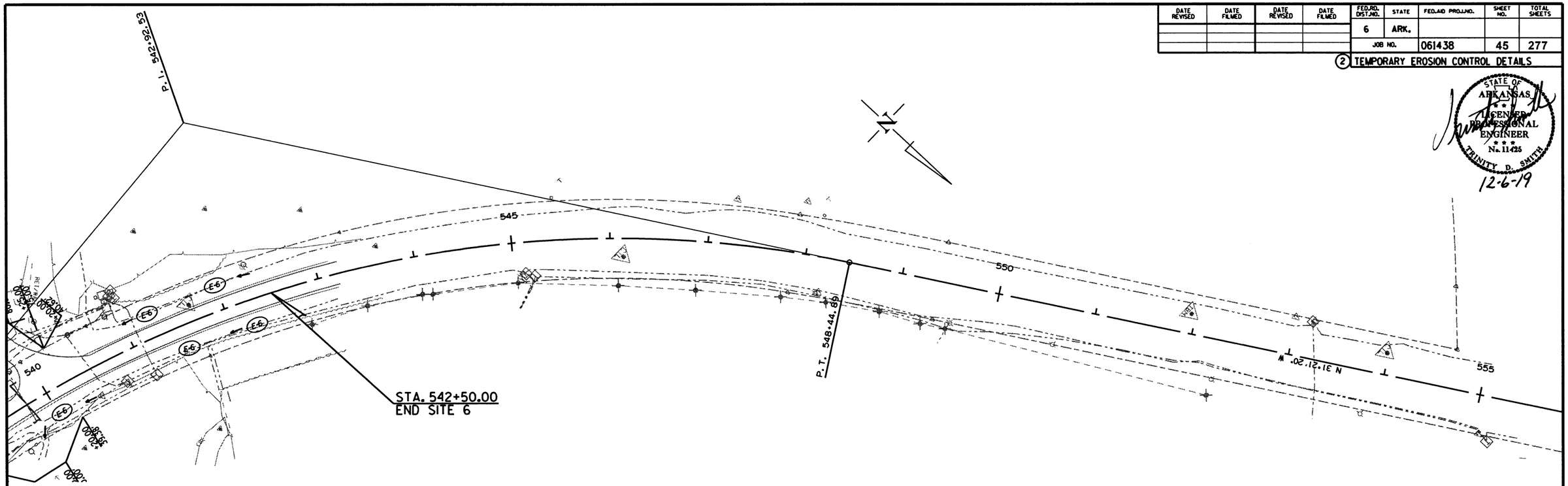


SITE 6
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	45	277

(2) TEMPORARY EROSION CONTROL DETAILS



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

REVISIONS

DATE	REVISION

LEGEND

E-6 ROCK DITCH CHECKS
E-11 SILT FENCE

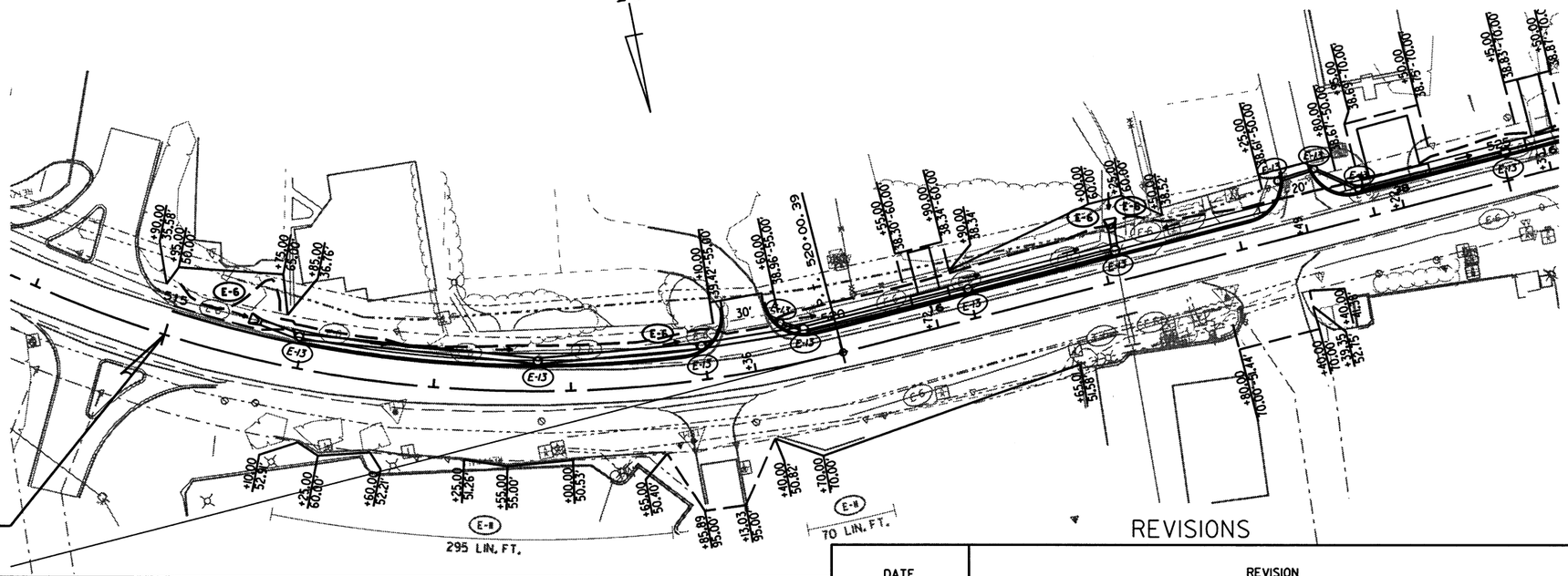
h139710 11/27/2019
R061438.DGN

SITE 6
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	46	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

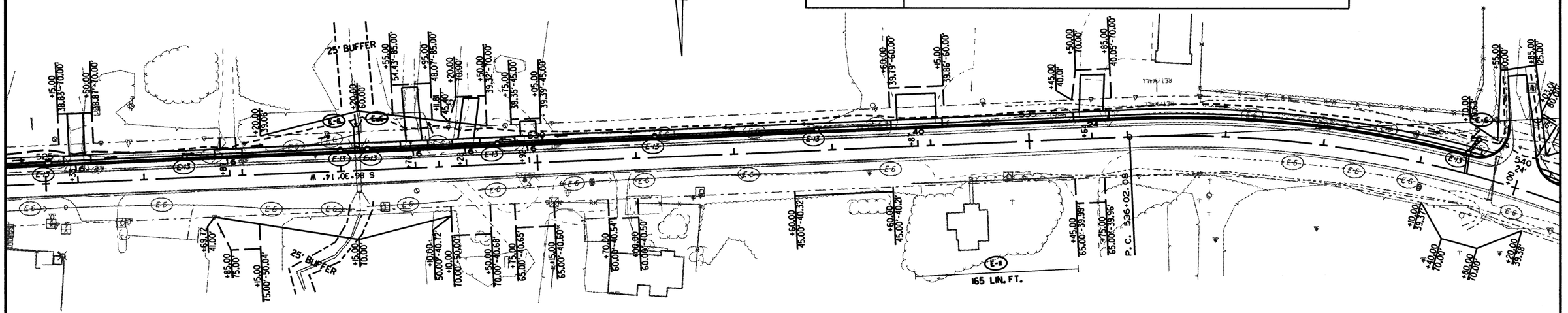


REVISIONS

DATE	REVISION

LEGEND

E-6	ROCK DITCH CHECKS
E-8	SILT FENCE
E-13	DROP INLET FILTER SOCK



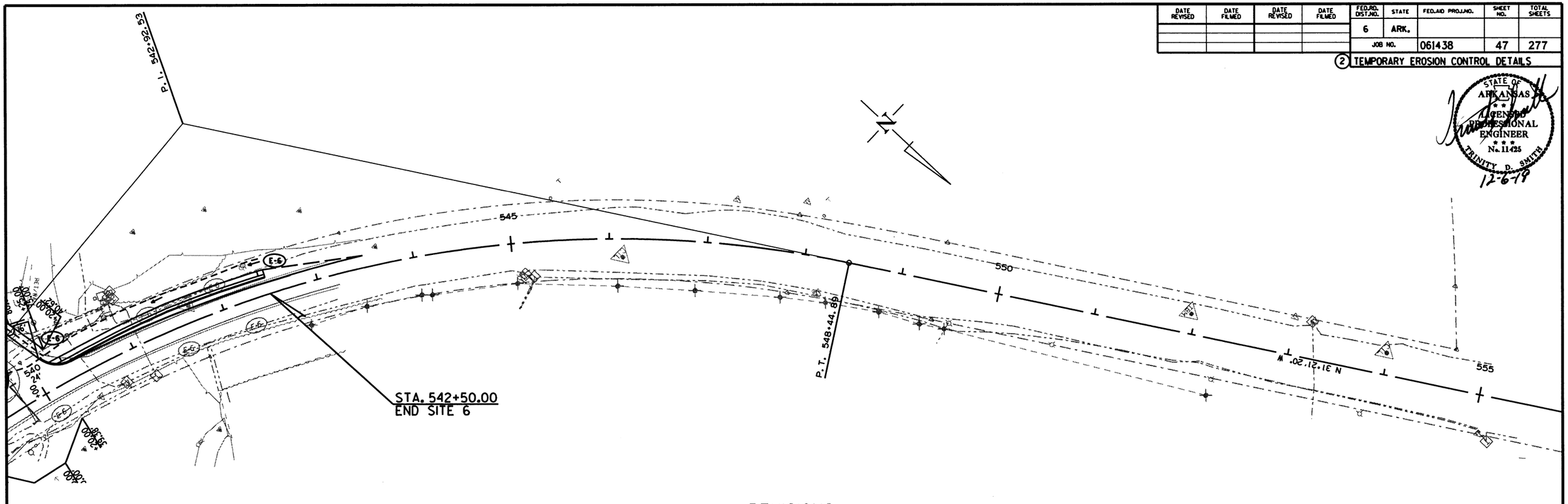
h139710 12/4/2019
R061438.DGN

SITE 6
STAGE I
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	47	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

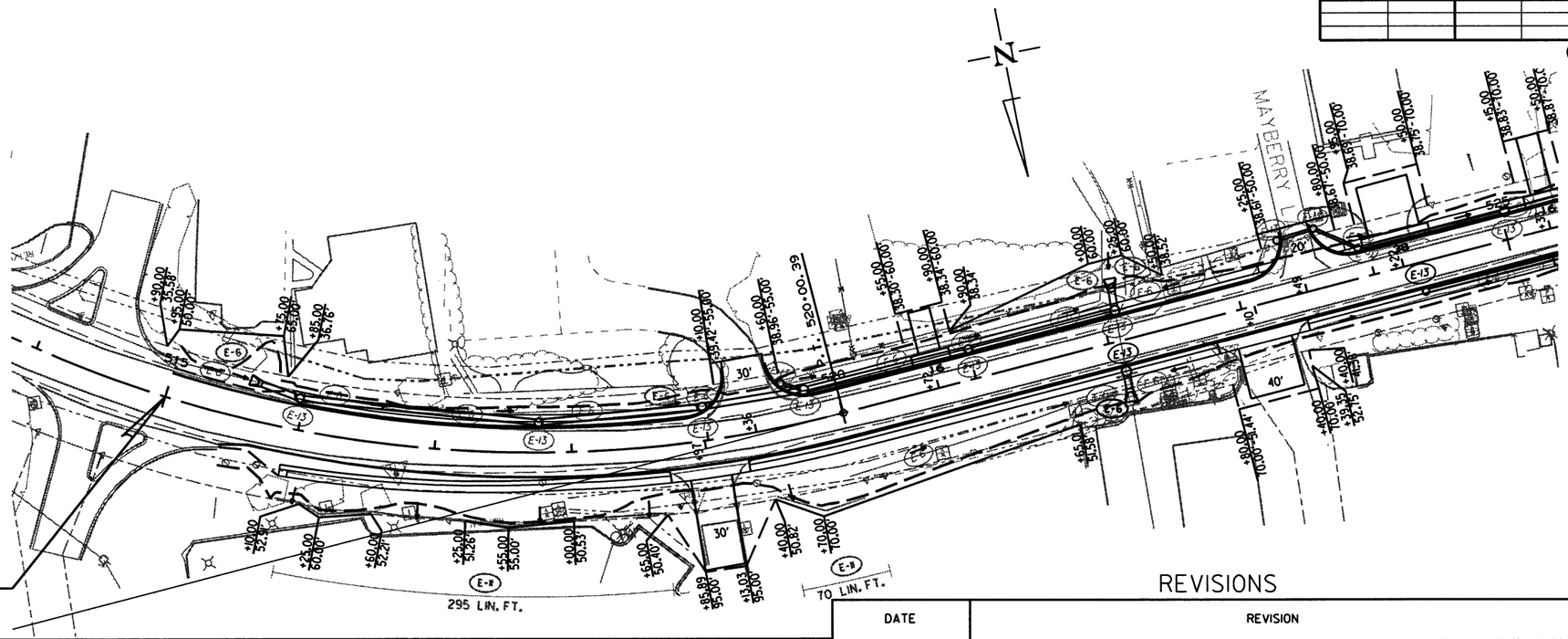

P.I. 542+26.53
545
550
555
P.T. 548+44.89
N 31°02'12" E
STA. 542+50.00
END SITE 6
E-6
E-6
E-

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
	JOB NO.	061438	48	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



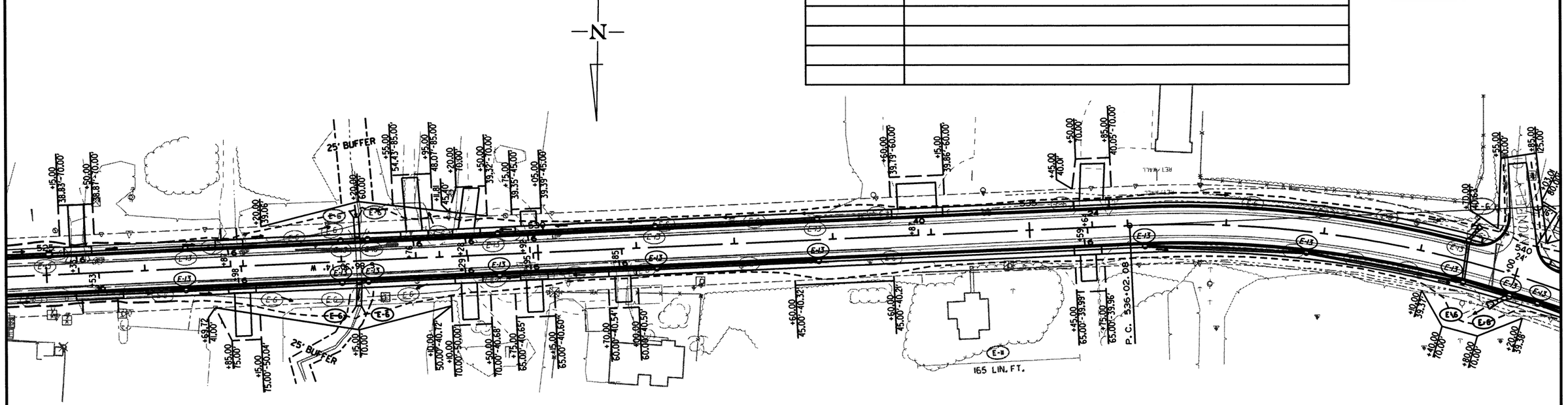
STA. 515+00.00
BEGIN SITE 6
LOG MILE 7.90

REVISIONS

DATE	REVISION

LEGEND

- (E-6) ROCK DITCH CHECKS
- (E-11) SILT FENCE
- (E-13) DROP INLET FILTER SOCK

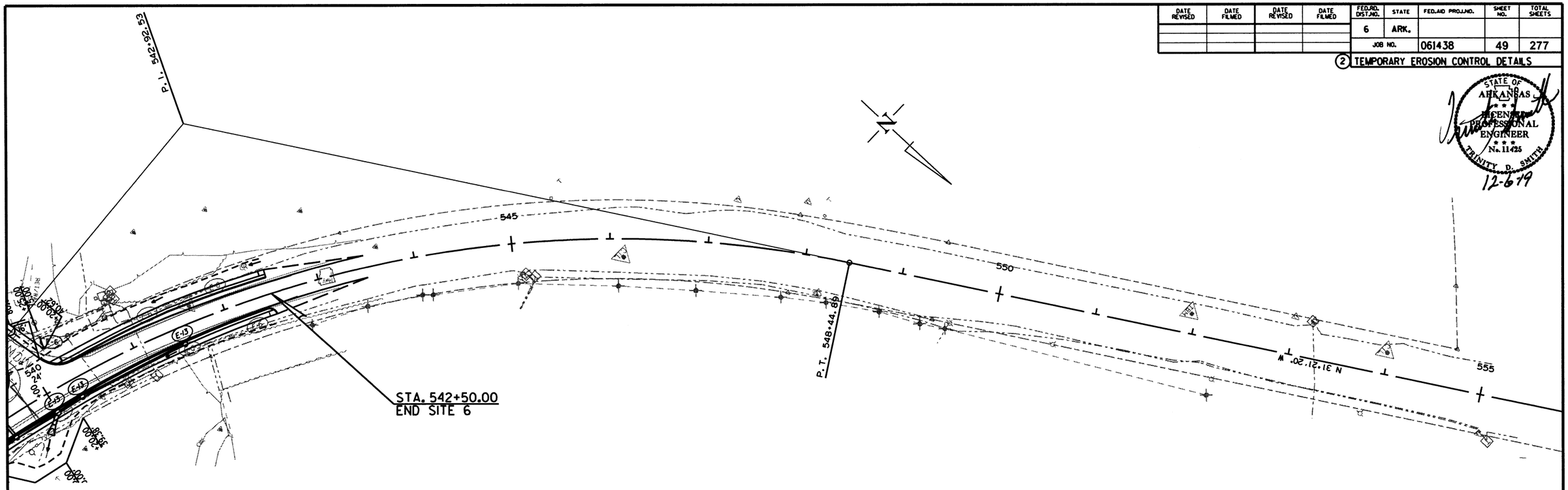


h139710 12/4/2019
R061438.DGN

SITE 6
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	49	277

(2) TEMPORARY EROSION CONTROL DETAILS



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

REVISIONS

DATE	REVISION

LEGEND

E-6	ROCK DITCH CHECKS
E-11	SILT FENCE
E-13	DROP INLET FILTER SOCK

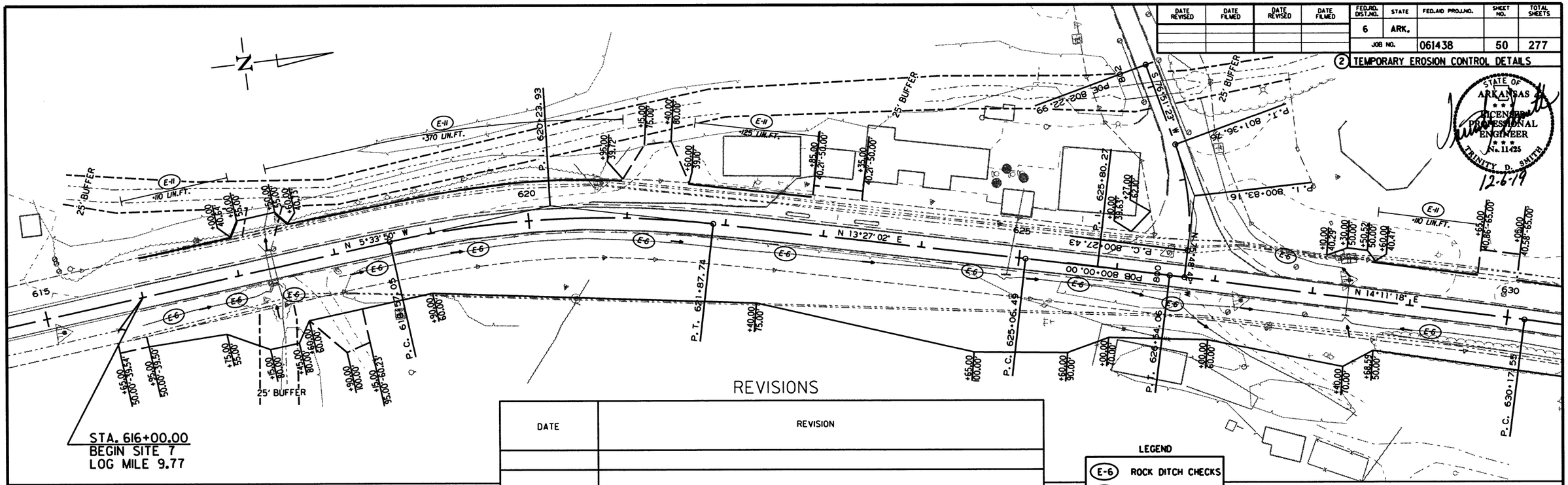
SITE 6
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

h139710 11/27/2019
R0614.38.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.		061438	50	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



REVISIONS

DATE	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-11 SILT FENCE

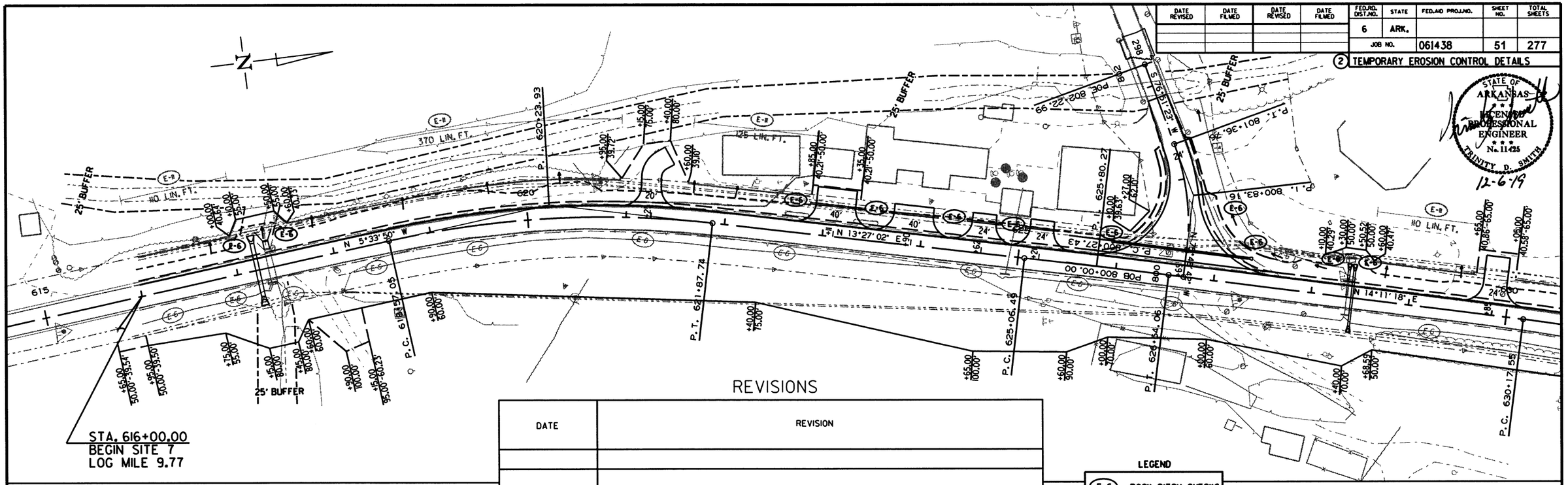
SITE 7
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	51	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



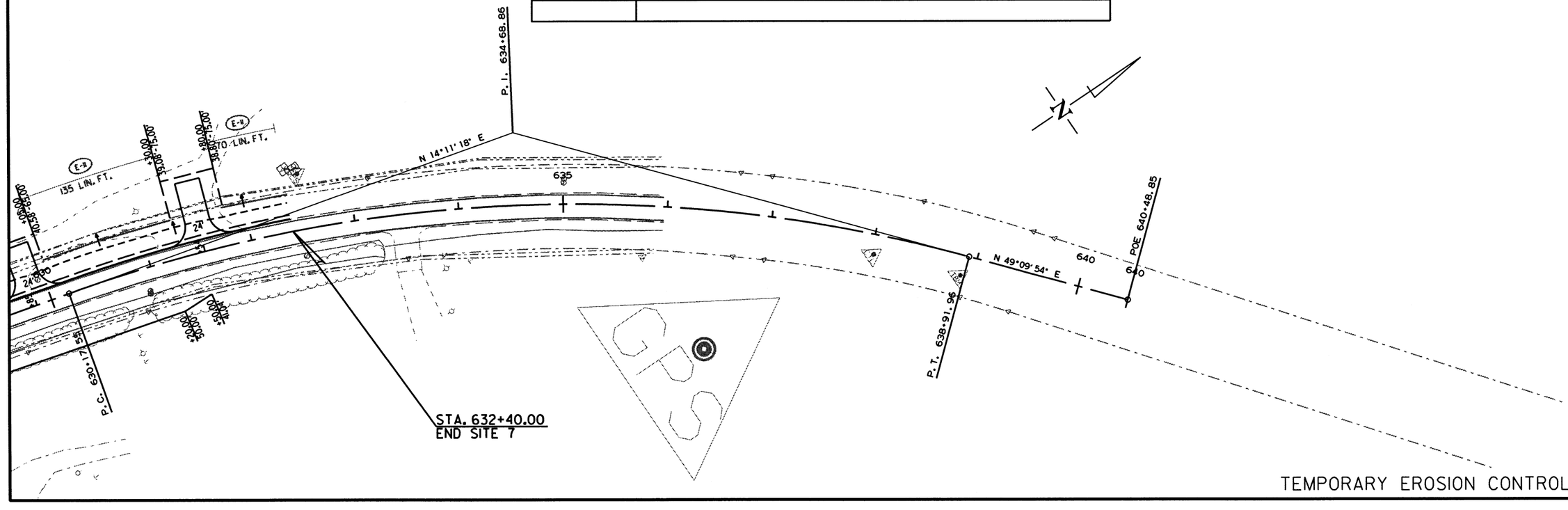
REVISIONS

DATE	REVISION

LEGEND

(E-6) ROCK DITCH CHECKS

(E-11) SILT FENCE



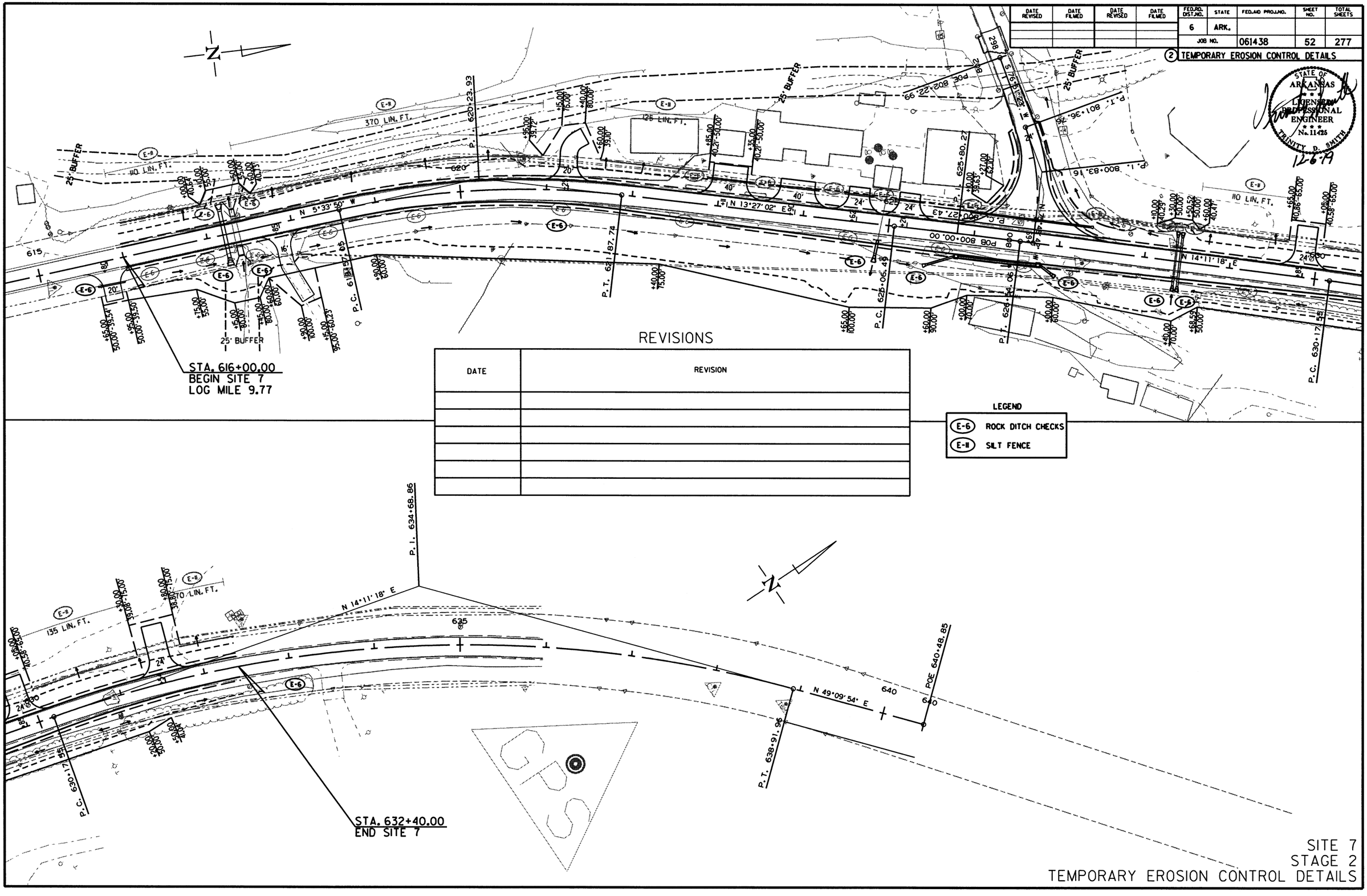
h139710 12/4/2019
R061438.DGN

SITE 7
STAGE I
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	52	277

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



REVISIONS

DATE	REVISION

LEGEND

E-6 ROCK DITCH CHECKS

E-11 SILT FENCE

SITE 7
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

h139710 12/4/2019
R061438.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.		061438	53	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 1:
INSTALL ADVANCE WARNING SIGNS AND END ROAD WORK SIGNS AT THE BEGNNING AND END OF JOB AS SHOWN ON THE ADVANCE WARNING DETAIL. INSTALL ROAD WORK AHEAD SIGNS BETWEEN SITES AND ON SIDE ROADS AS SHOWN ON THE ADVANCE WARNING DETAIL.

MAINTAIN TRAFFIC IN EXISTING LANES. INSTALL CONSTRUCTION PAVEMENT MARKINGS, PRECAST CONCRETE BARRIERS, AND TRAFFIC DRUMS AS SHOWN IN THE STAGE 1MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT LEFT SIDE OF HWY. 7 EXCLUDING SITE 3A.

CONSTRUCT DRAINAGE STRUCTURES AS SHOWN IN THE STAGE 1MAINTENANCE OF TRAFFIC DETAILS. CROSS DRAINS MAY BE REQUIRED TO BE CONSTRUCTED IN THEIR ENTIRETY DURING STAGE 1TO MAINTAIN POSITIVE DRAINAGE. CONSTRUCT BOX CULVERT EXTENSIONS.

STAGE 2:

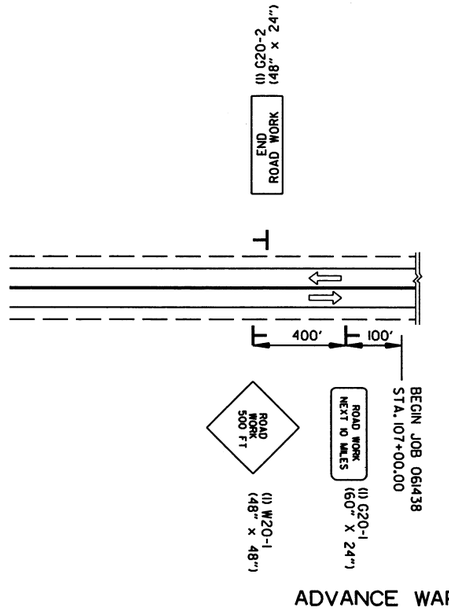
RETAIN ADVANCE WARNING SIGNS AT THE LOCATIONS LISTED ON THE ADVANCE WARNING DETAILS. RETAIN END ROAD WORK SIGNS AND ROAD WORK AHEAD SIGNS AS SHOWN ON THE ADVANCE WARNING DETAILS.

MAINTAIN TRAFFIC IN EXISTING LANES AS SHOWN. INSTALL CONSTRUCTION PAVEMENT MARKINGS AND TRAFFIC DRUMS AND RELOCATE PRECAST CONCRETE BARRIERS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

CONSTRUCT RIGHT SIDE OF HWY. 7 EXCLUDING SITE 3A.

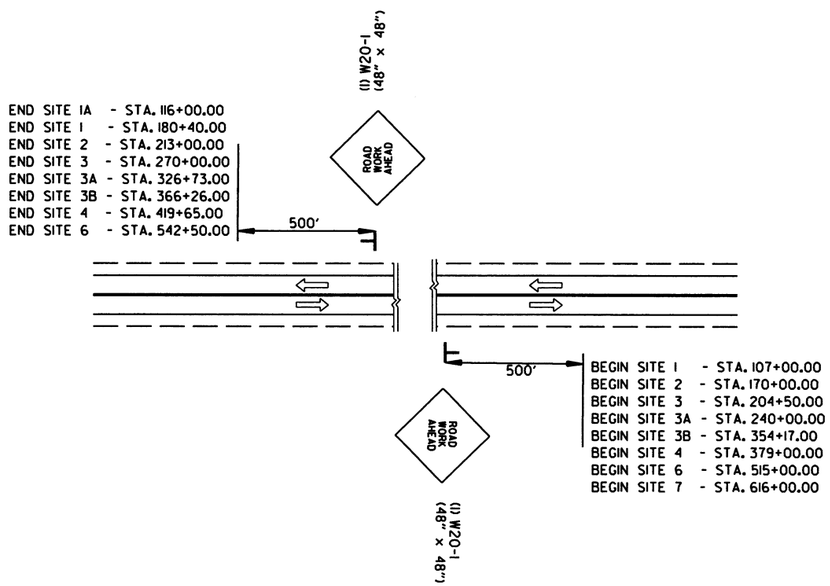
CONSTRUCT DRAINAGE STRUCTURES AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS. CONSTRUCT BOX CULVERT EXTENSIONS.

APPLY THE FINAL 2" OF ACHM SURFACE COURSE AFTER ALL CONSTRUCTION HAS BEEN COMPLETED AND PLACE PERMANENT PAVEMENT MARKINGS AS SHOWN IN THE PERMANENT PAVEMENT MARKINGS DETAILS. SHIFT TRAFFIC ON TO THE NEW CONSTRUCTION AND INSTALL PERMANENT SEEDING.



ADVANCE WARNING (ALL STAGES)

ADVANCE WARNING - BETWEEN SITES
(ALL STAGES)



DO NOT PASS	(24) R4-1 (24" X 30")	ALL STAGES EVERY 1/4 MILE
BUMP	(16) W8-1 (30" X 30")	ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
RIGHT SHOULDER CLOSED	(16 W21-5a (36" x 36")	ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
	(16) W8-17 (36" x 36")	ALL STAGES TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

STATE OF ARKANSAS
TRINITY D. SMITH
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No. 11425
12-6-19

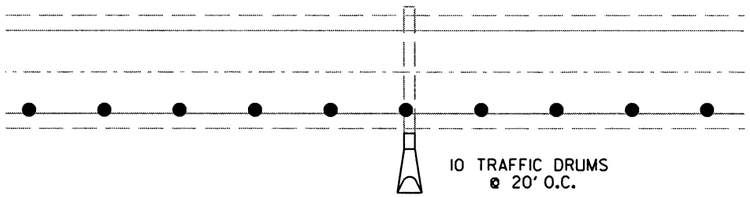
h139710 12/4/2019
R061438.DGN

ADVANCE WARNING
MAINTENANCE OF TRAFFIC DETAILS

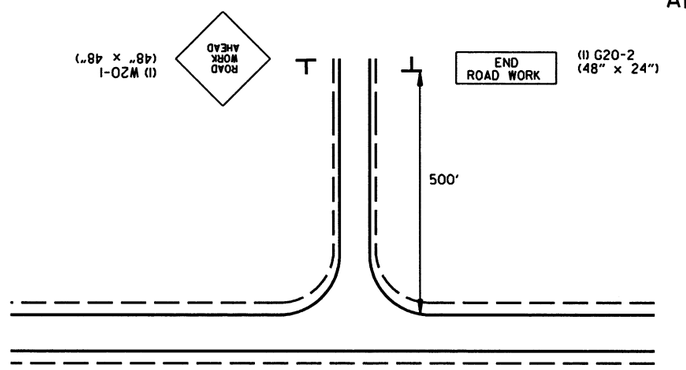
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	54	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



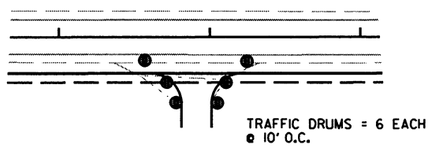
TRAFFIC DRUMS AND SIGNS ON EXISTING SHOULDER
FOR EXTENDING/CONSTRUCTING PIPE CULVERTS LT. AND RT.



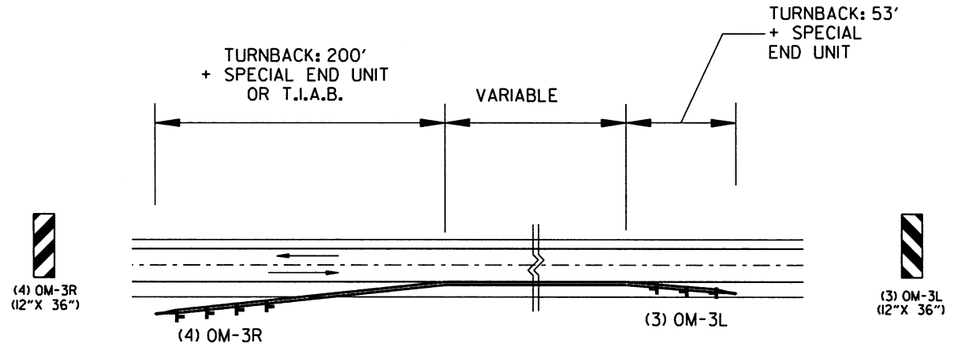
ADVANCE WARNING - SIDE ROADS (ALL STAGES)

STA. 173+54.00 RANDALLWOOD DR.
STA. 208+15.00 SURREY RD.
STA. 244+24.00 WALNUT VALLEY RD.
STA. 247+92.00 JARRELL RD.
STA. 252+82.00 DUNN RD.
STA. 261+38.00 GERRARD TERRACE
STA. 268+50.00 BLUEBERRY TRAIL
STA. 384+92.00 LOCKET MOUNTAIN RD.
STA. 409+40.00 E. GLAZYPEAU RD.
STA. 411+54.00 W. GLAZYPEAU RD.
STA. 540+00.00 MCNEELY CIRCLE
STA. 626+69.00 HIGHWAY 298

NOTE: ALL STATIONS BASED OFF C.L. CONST.



DRIVEWAY/TRAFFIC DRUM DETAIL



REFER ALSO TO STANDARD DRAWING TC-5 FOR DETAILS OF PLACEMENT OF PCCB TURNBACKS.

NOTE: OM-3L & OM-3R SIGNS SHALL BE EQUALLY SPACED ALONG PCCB TURNBACK.

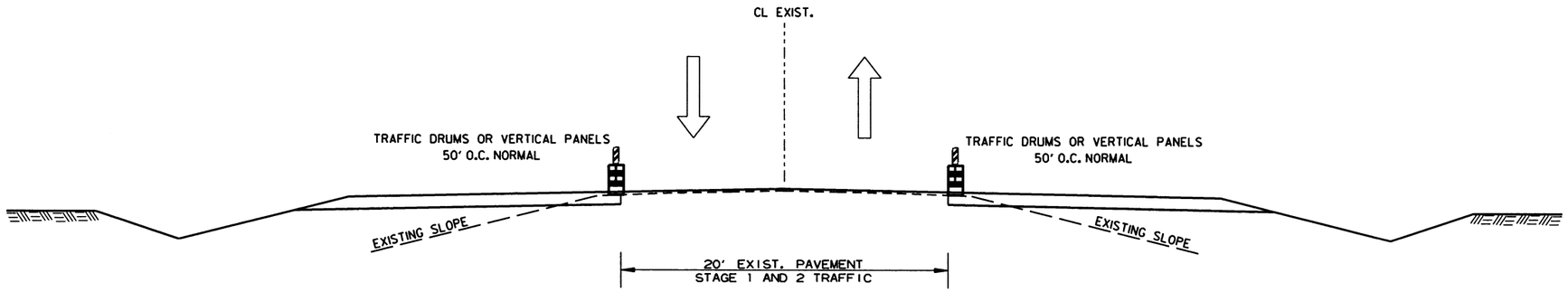
DETAIL OF OBJECT MARKERS
AT PRECAST CONCRETE BARRIER TURNBACKS

h139710 12/4/2019
R061438.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.		061438	55	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



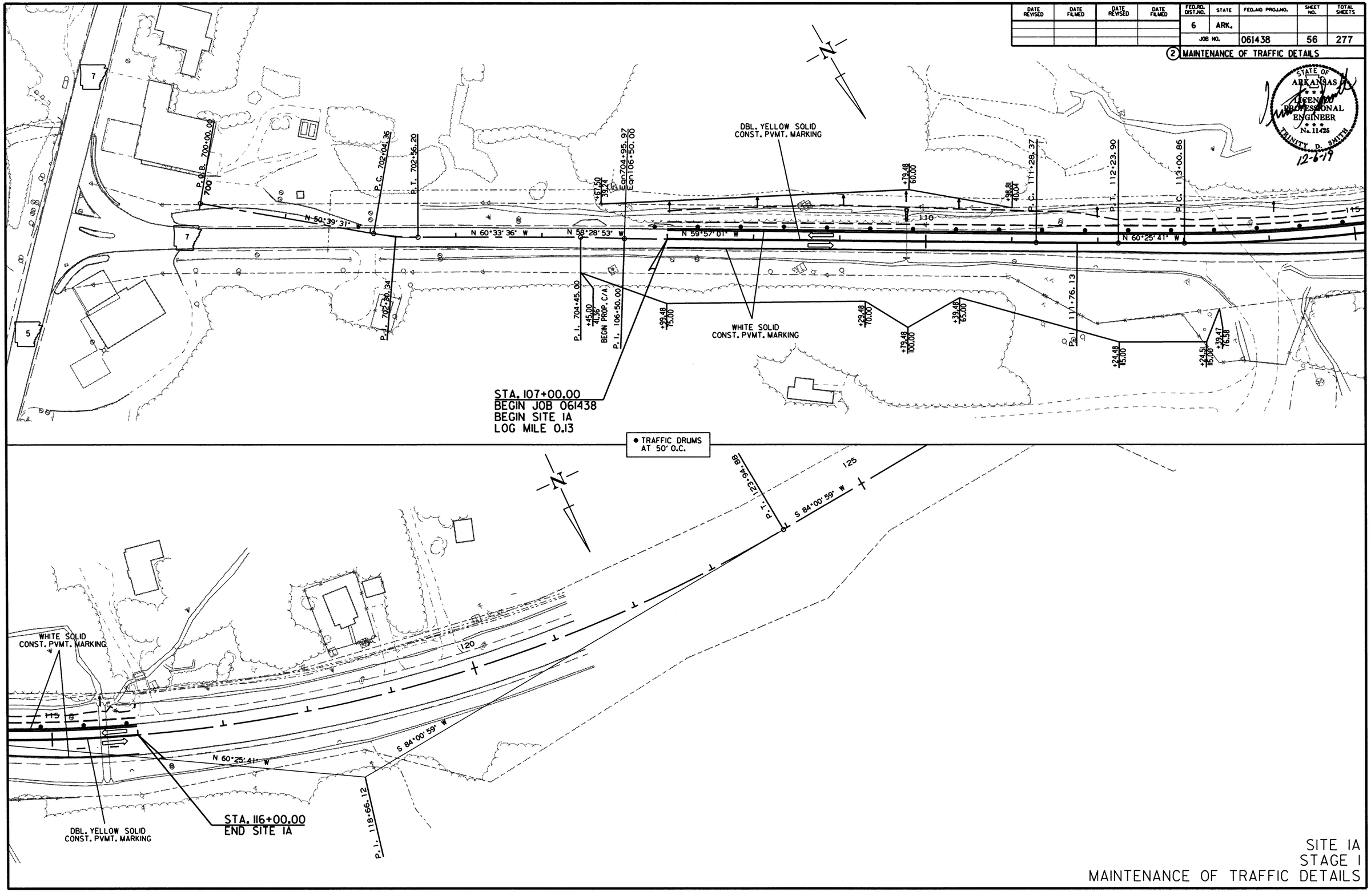
STAGE CONSTRUCTION

h139710 12/4/2019
R0614.38.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.		061438	56	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



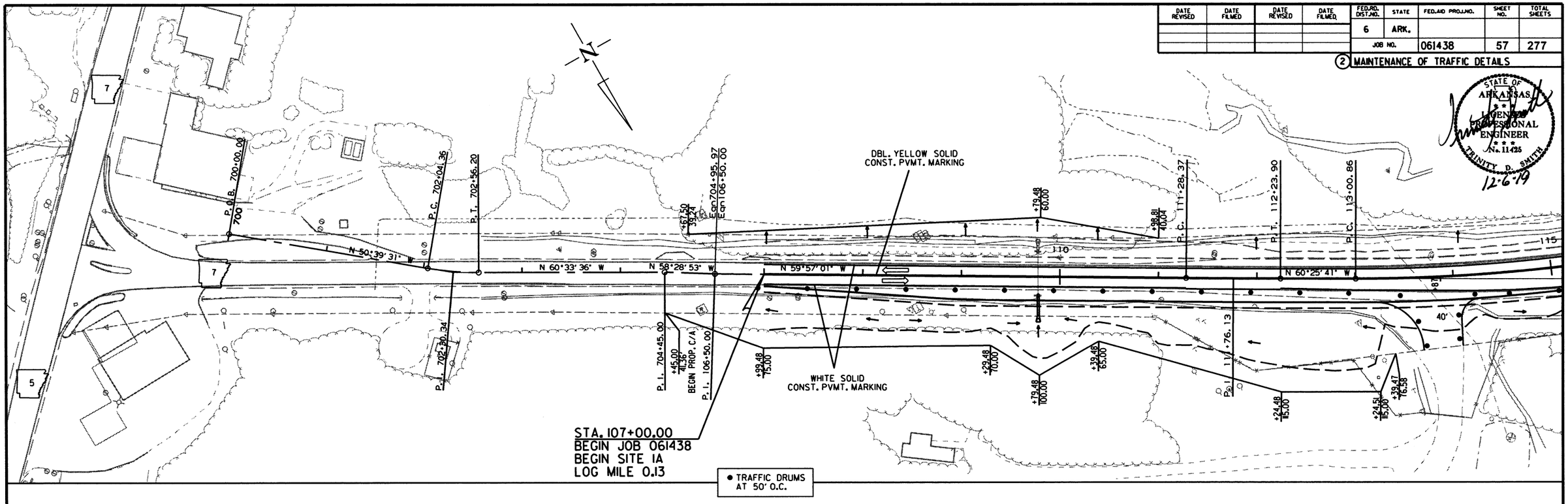
SITE IA
STAGE I
MAINTENANCE OF TRAFFIC DETAILS

h139710 12/4/2019
R061438.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.		061438	57	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



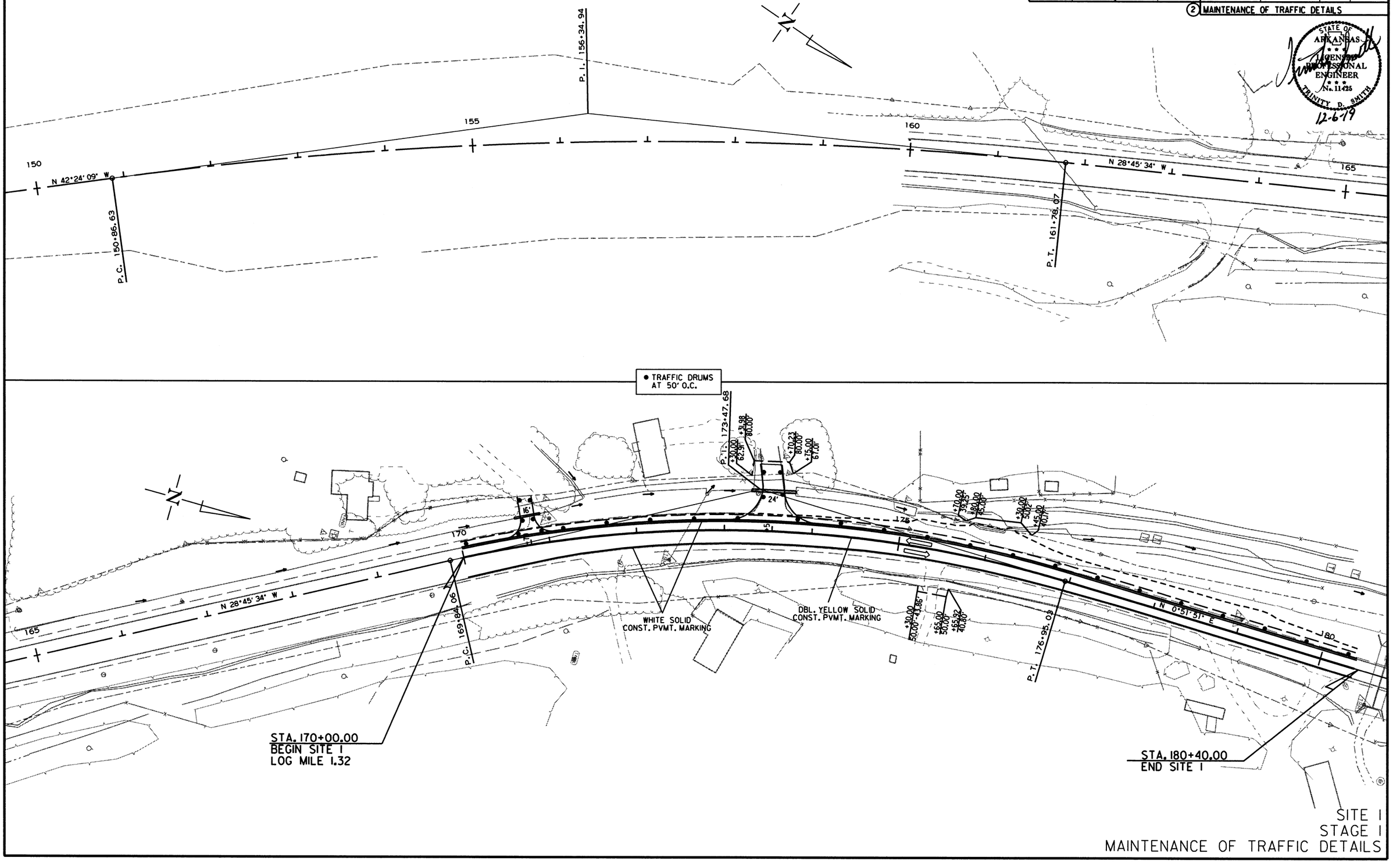
SITE 1A
STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

h139710 11/27/2019
R061438.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.		061438	58	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



SITE 1
STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

h139710 12/4/2019
R061438.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.		061438	59	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

P.I. 156+34.94
155
150
N 42°24'09" W
P.C. 150+86.63
160
N 28°45'34" W
165
P.T. 161+78.07

● TRAFFIC DRUMS AT 50' O.C.

P.T. 173+47.68
RANDALL WOOD DR
24'R
175
170
N 28°45'34" W
165
P.C. 169+84.06
N 0°51'51" E
180

DBL. YELLOW SOLID CONST. PVMT. MARKING

WHITE SOLID CONST. PVMT. MARKING

P.T. 176+95.03

STA. 170+00.00
BEGIN SITE 1
LOG MILE 1.32

STA. 180+40.00
END SITE 1

SITE 1
STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

h139710 11/27/2019
R061438.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.		061438	60	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

FURNISHING AND INSTALLING
PRECAST CONCRETE BARRIER - 60 LIN. FT.
INSTALL TIAB EACH END

WHITE SOLID
CONST. PVMT. MARKING

DBL. YELLOW SOLID
CONST. PVMT. MARKING

STA. 204+50.00
BEGIN SITE 2
LOG MILE 1.98

● TRAFFIC DRUMS
AT 50' O.C.

WHITE SOLID
CONST. PVMT. MARKING

DBL. YELLOW SOLID
CONST. PVMT. MARKING

STA. 213+00.00
END SITE 2

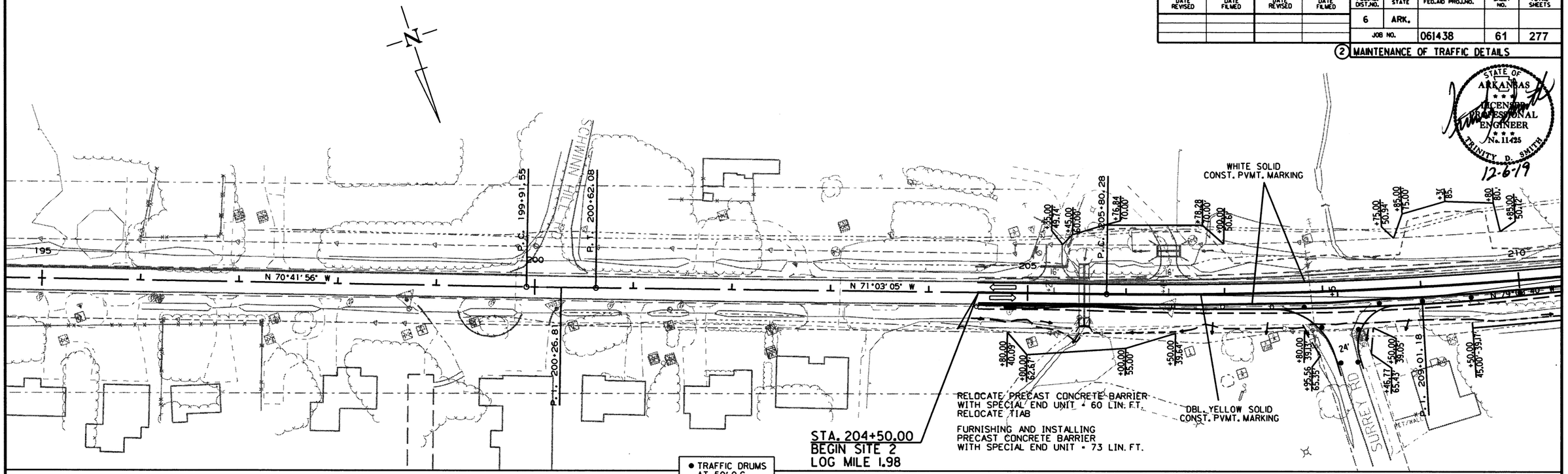
SITE 2
STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

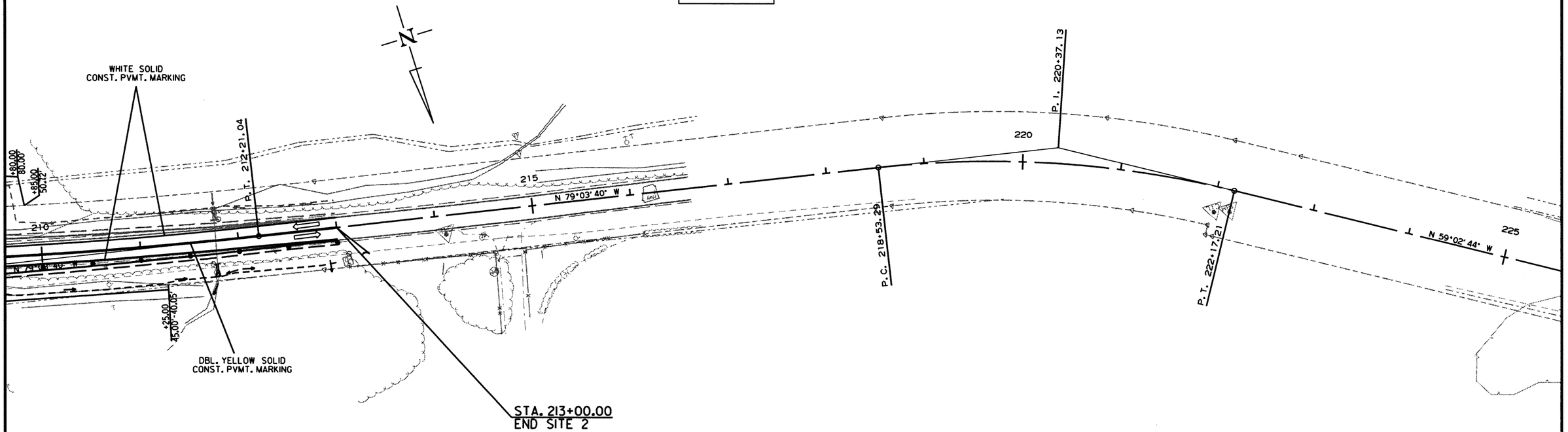
h139710 12/4/2019
R061438.DGN

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.		061438	61	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19





h139710 11/27/2019
R0614.38.DGN

SITE 2
STAGE 2
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.		061438	62	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 240+00.00
BEGIN SITE 3
LOG MILE 2.65

DBL. YELLOW SOLID CONST. PVMT. MARKING

WHITE SOLID CONST. PVMT. MARKING

DBL. YELLOW SOLID CONST. PVMT. MARKING

● TRAFFIC DRUMS AT 50' O.C.

WHITE SOLID CONST. PVMT. MARKING

DBL. YELLOW SOLID CONST. PVMT. MARKING

STA. 270+00.00
END SITE 3

SITE 3
STAGE I
MAINTENANCE OF TRAFFIC DETAILS

h139710 12/4/2019
R061438.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.		061438	63	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 240+00.00
BEGIN SITE 3
LOG MILE 2.65

DBL. YELLOW SOLID CONST. PVMT. MARKING

WHITE SOLID CONST. PVMT. MARKING

● TRAFFIC DRUMS AT 50' O.C.

DBL. YELLOW SOLID CONST. PVMT. MARKING

WHITE SOLID CONST. PVMT. MARKING

STA. 270+00.00
END SITE 3

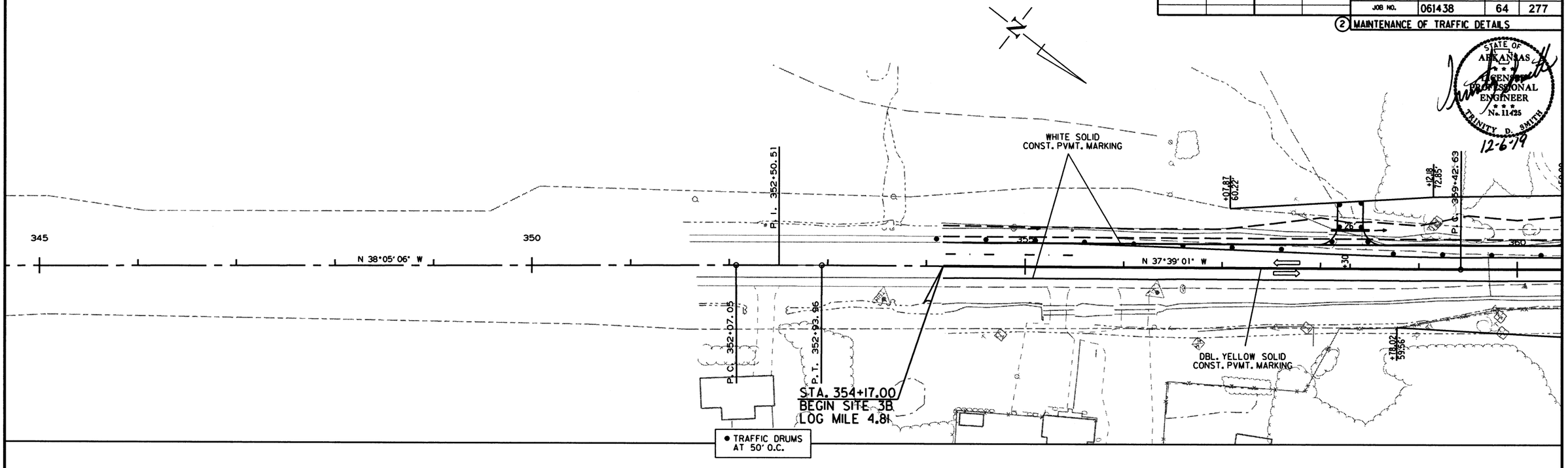
SITE 3
STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

h139710 11/27/2019
R061438.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.		061438	64	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
TRINITY D. SMITH
REGISTERED PROFESSIONAL ENGINEER
No. 11425
12-6-19



SITE 3B
STAGE I
MAINTENANCE OF TRAFFIC DETAILS

h139710 12/4/2019
R061438.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.		061438	65	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
TRINITY D. SMITH
GENERAL PROFESSIONAL ENGINEER
No. 11425
12-6-19

WHITE SOLID CONST. PVMT. MARKING

DBL. YELLOW SOLID CONST. PVMT. MARKING

● TRAFFIC DRUMS AT 50' O.C.

STA. 354+17.00
BEGIN SITE 3B
LOG MILE 4.81

STA. 366+26.00
END SITE 3B

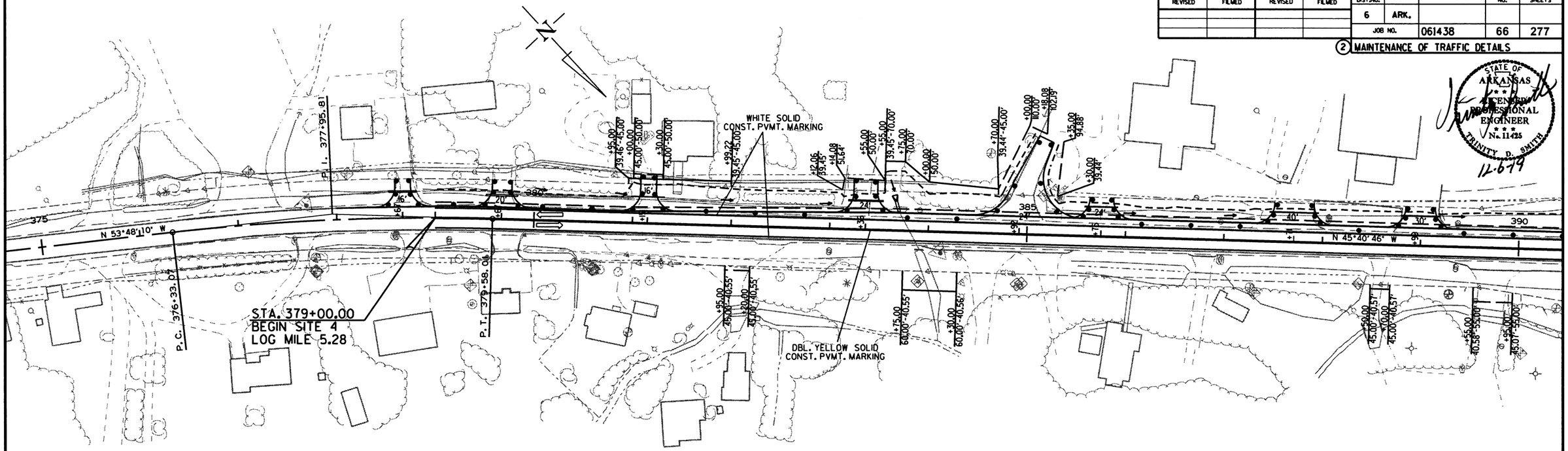
SITE 3B
STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

hl39710 11/27/2019
R0614.38.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.		061438	66	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
TRINITY D. SMITH
REGISTERED PROFESSIONAL ENGINEER
No. 11425
12-6-19



● TRAFFIC DRUMS AT 50' O.C.

SITE 4
STAGE I
MAINTENANCE OF TRAFFIC DETAILS

h139710 12/4/2019
R061438.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.		061438	67	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

ROAD WORK AHEAD

(1) W20-1 (48" X 48")

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER WITH SPECIAL END UNIT - 133 LIN. FT.
INSTALL TIAB

N 46°49'55" W

P.C. 412+21.68

WHITE SOLID CONST. PVMT. MARKING

DBL. YELLOW SOLID CONST. PVMT. MARKING

STA. 419+65.00
END SITE 4

● TRAFFIC DRUMS AT 50' O.C.

N 46°49'55" W

P.I. 422+96.69

P.T. 431+76.30

N 11°48'24" E

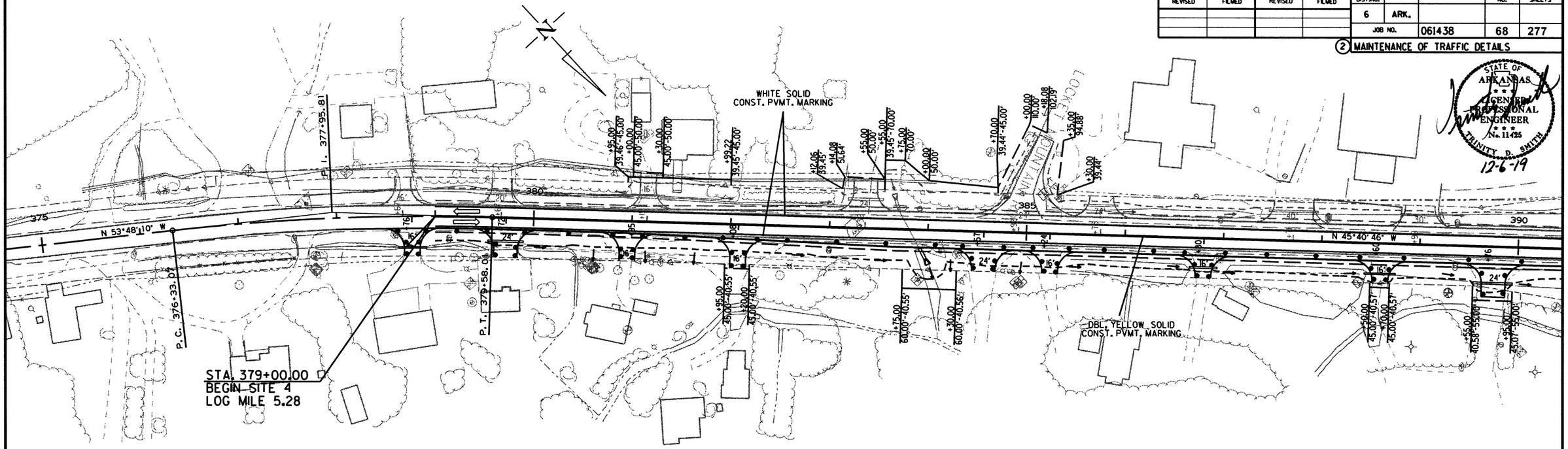
SITE 4
STAGE I
MAINTENANCE OF TRAFFIC DETAILS

h139710 12/4/2019
R0614 38.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.		061438	68	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
GENERAL PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



SITE 4
STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

h139710 11/27/2019
R061438.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.		061438	69	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

WHITE SOLID CONST. PVMT. MARKING

DBL. YELLOW SOLID CONST. PVMT. MARKING

RELOCATE PRECAST CONCRETE BARRIER WITH SPECIAL END UNIT - 133 LIN. FT.
RELOCATE TIAB

STA. 419+65.00
END SITE 4

• TRAFFIC DRUMS AT 50' O.C.

P.C. 412+21.68

P.I. 422+94.29

P.T. 431+76.30

N 46°49'55" W

N 11°48'24" E

WALMART DR

RURLS RD

TAYPEAU RD

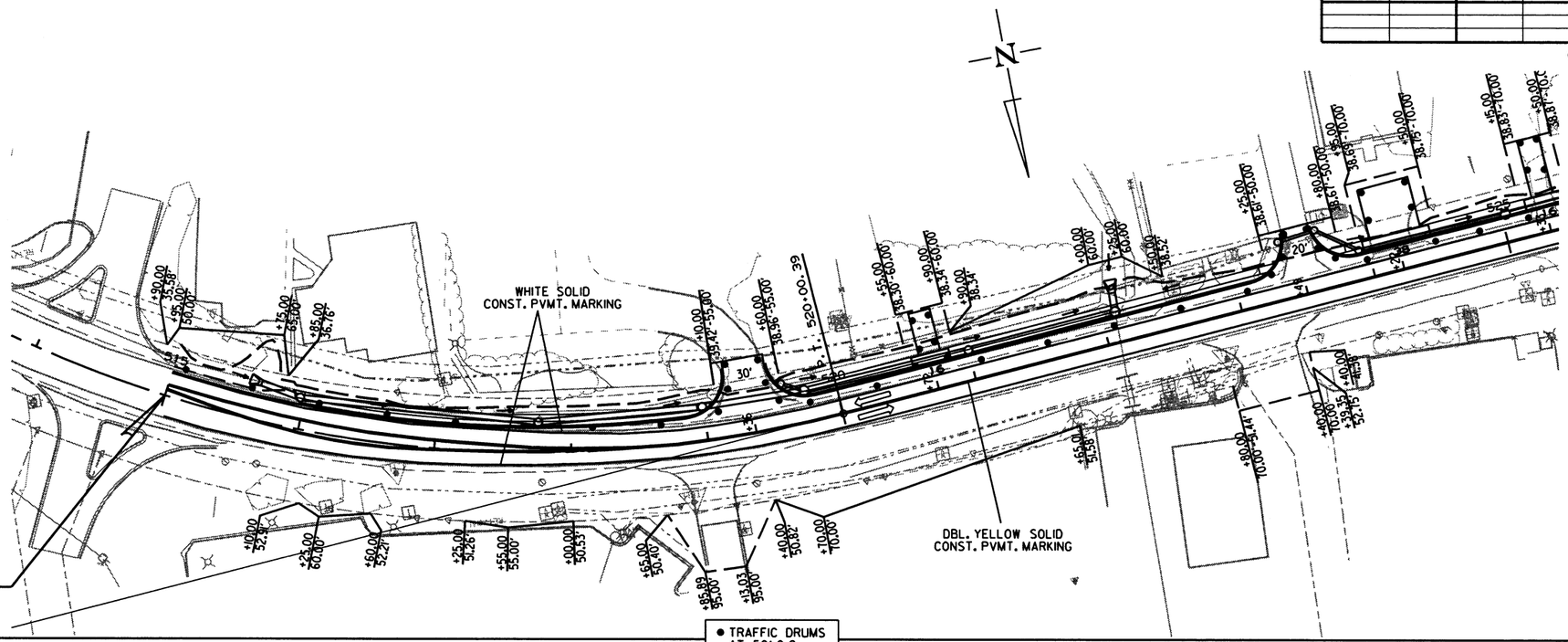
SITE 4
STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

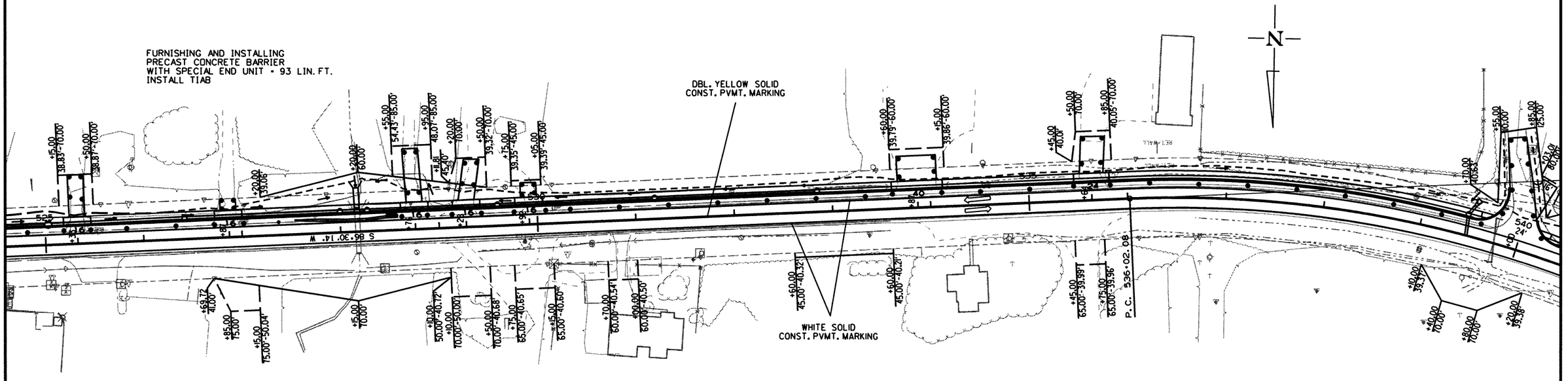
h139710 R0614.38.DGN
R0614.38 - HANNAH 11-13-19.DGN

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.		061438	70	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19





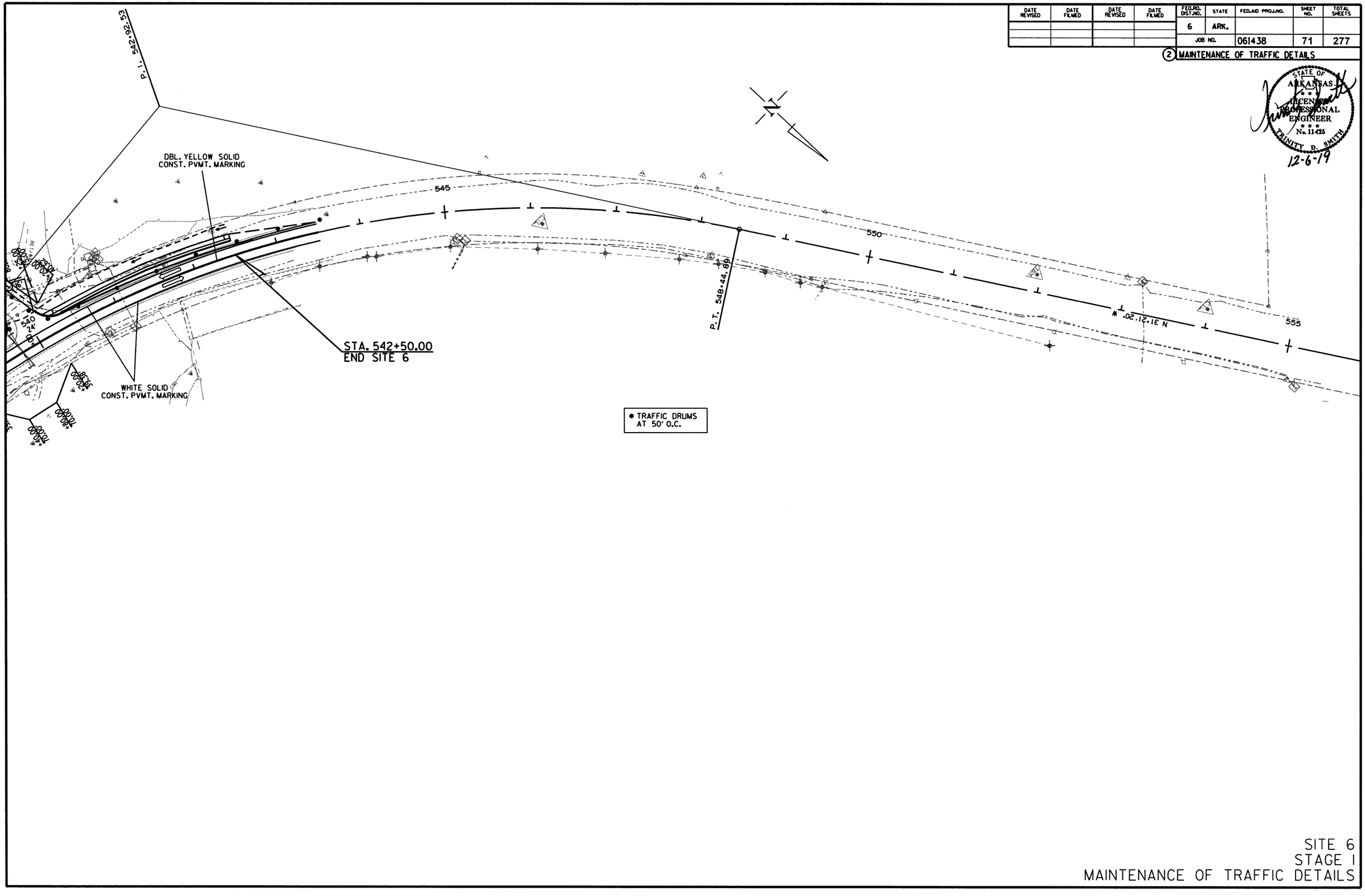
SITE 6
STAGE I
MAINTENANCE OF TRAFFIC DETAILS

h139710 12/4/2019
R061438.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.		061438	71	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



h139710 12/4/2019
R061438.DGN

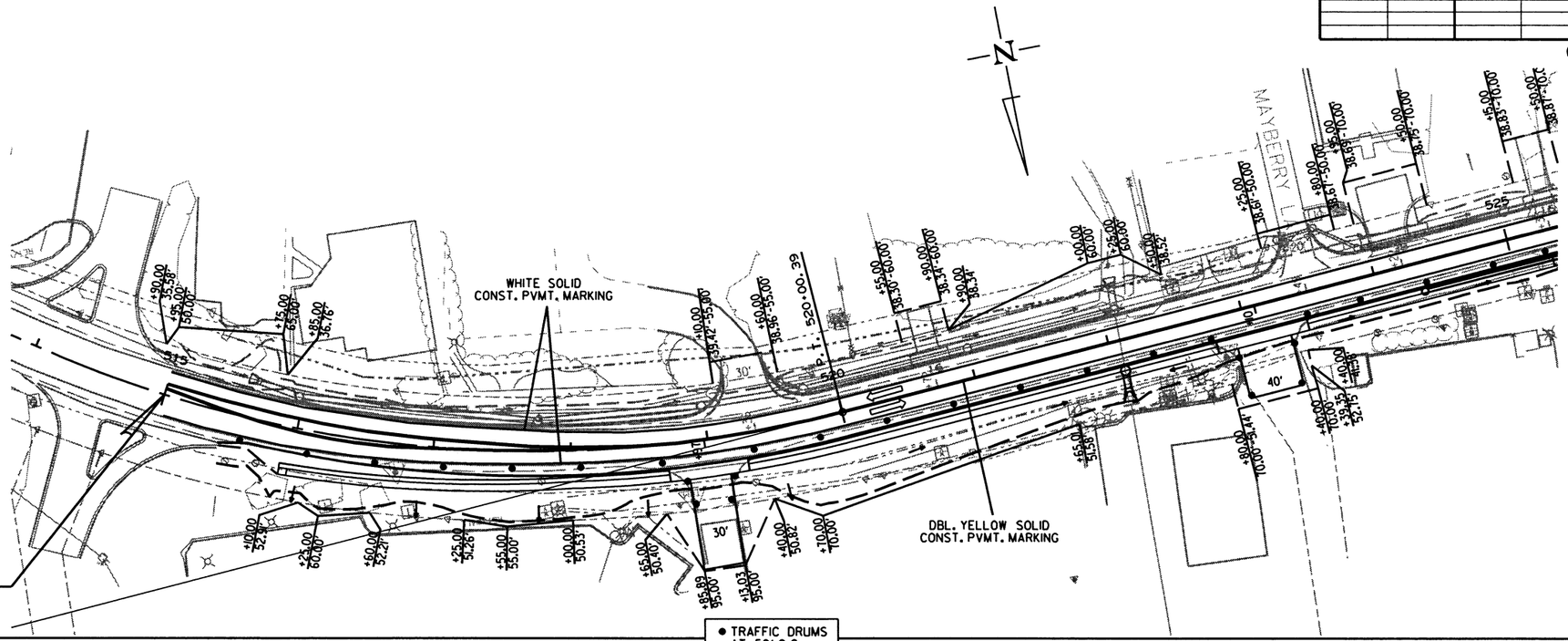
SITE 6
STAGE I
MAINTENANCE OF TRAFFIC DETAILS

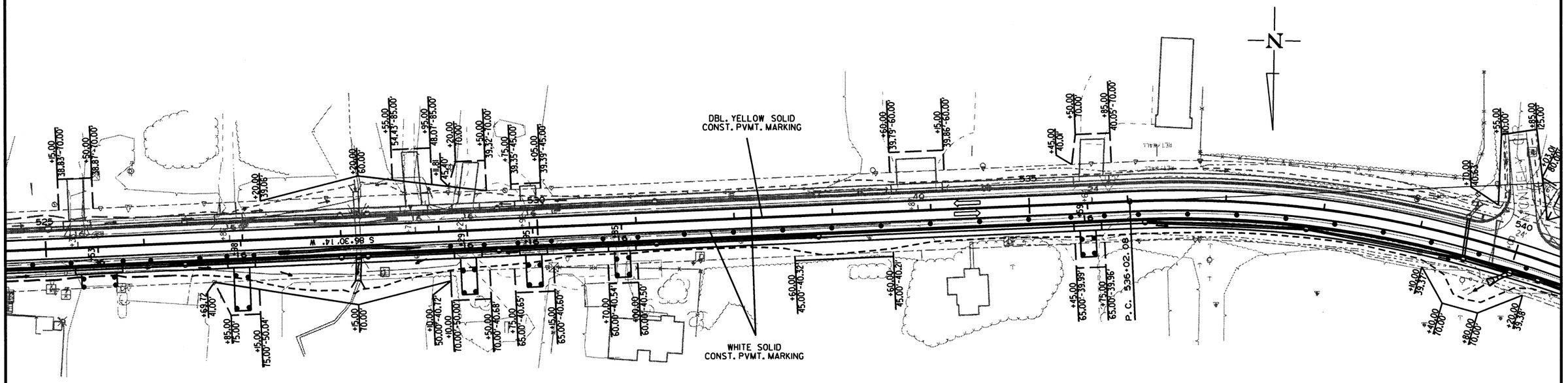
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061438	72	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19





RELOCATE PRECAST CONCRETE BARRIER WITH SPECIAL END UNIT • 93 LIN. FT.
RELOCATE TIAB

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER WITH SPECIAL END UNIT • 40 LIN. FT.

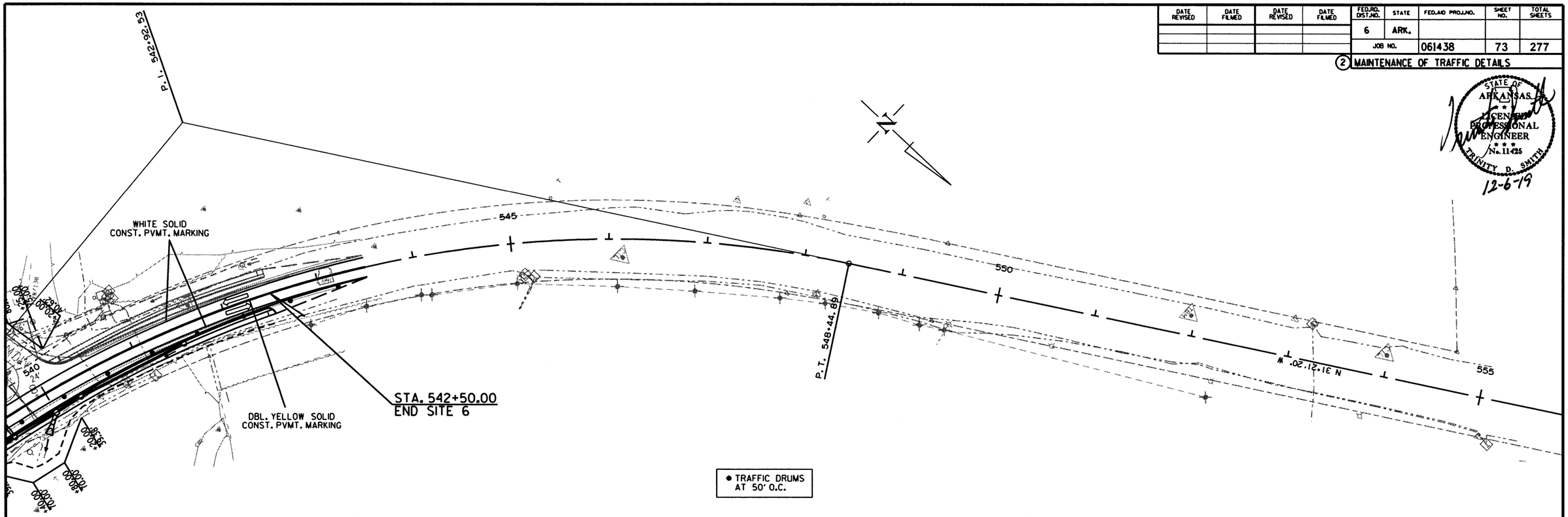
h139710 11/27/2019
R061438.DGN

SITE 6
STAGE 2
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.		061438	73	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



● TRAFFIC DRUMS AT 50' O.C.

h139710 11/27/2019
R061438.DGN

SITE 6
STAGE 2
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.		061438	74	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

FURNISHING AND INSTALLING
PRECAST CONCRETE BARRIER
WITH SPECIAL END UNIT - 133 LIN. FT.
INSTALL TIAB

STA. 616+00.00
BEGIN SITE 7
LOG MILE 9.77

WHITE SOLID
CONST. PVMT. MARKING

DBL. YELLOW SOLID
CONST. PVMT. MARKING

● TRAFFIC DRUMS
AT 50' O.C.

STA. 632+40.00
END SITE 7

SITE 7
STAGE I
MAINTENANCE OF TRAFFIC DETAILS

h139710 12/4/2019
R061438.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.		061438	75	277

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

WHITE SOLID CONST. PVMT. MARKING

STA. 616+00.00
BEGIN SITE 7
LOG MILE 9.77

RELOCATE PRECAST CONCRETE BARRIER WITH SPECIAL END UNIT - 100 LIN. FT.
RELOCATE TIAB
INSTALL ADDITIONAL TIAB

DBL. YELLOW SOLID CONST. PVMT. MARKING

● TRAFFIC DRUMS AT 50' O.C.

WHITE SOLID CONST. PVMT. MARKING

DBL. YELLOW SOLID CONST. PVMT. MARKING

STA. 632+40.00
END SITE 7

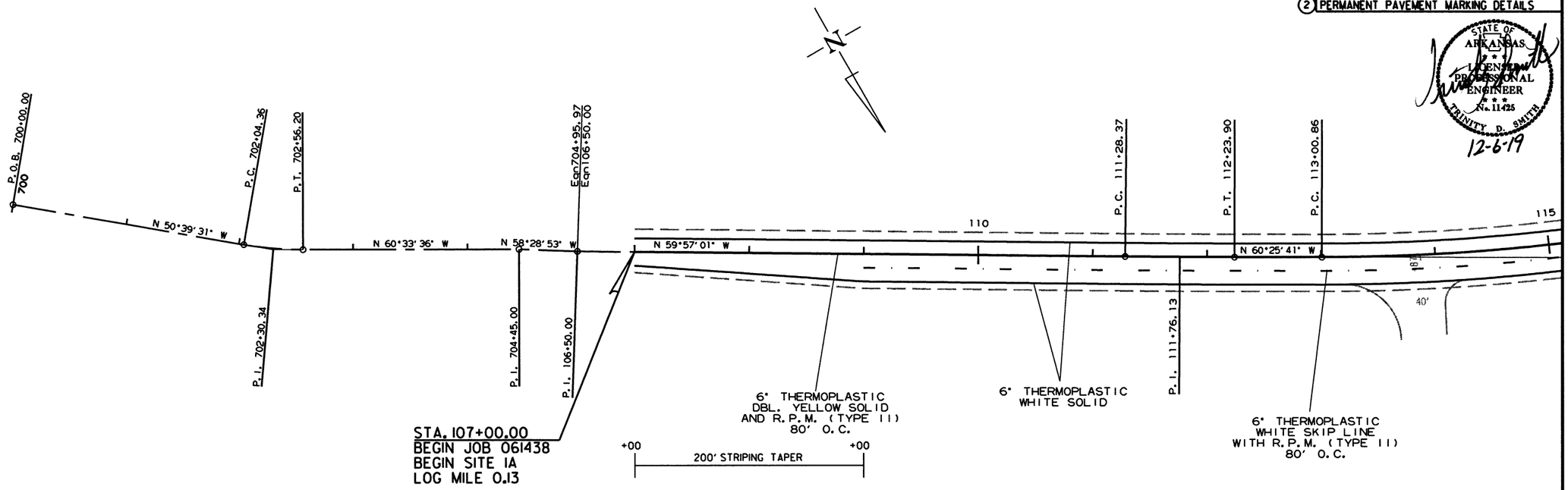
SITE 7
STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

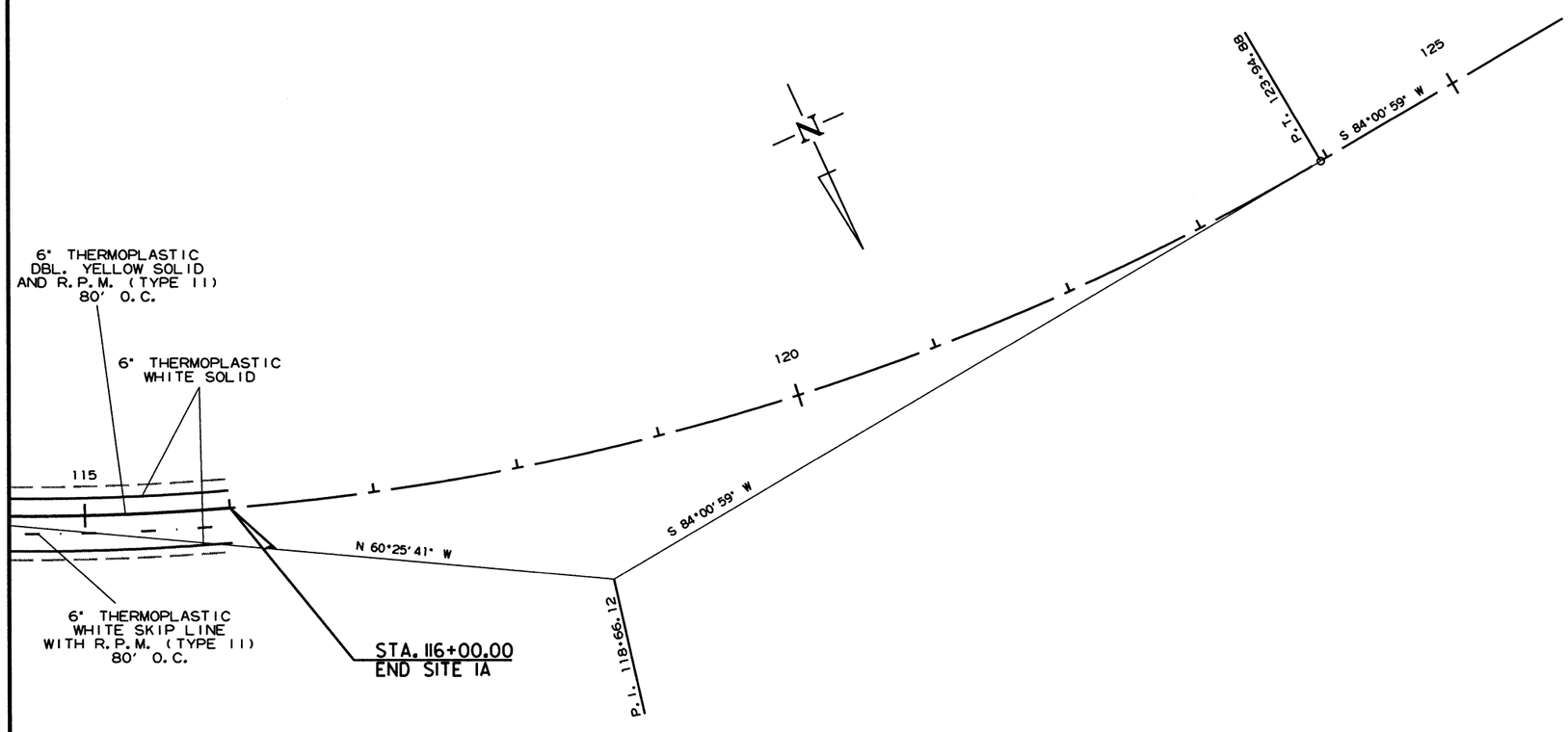
h139710 11/27/2019
R061438.DGN

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.		061438	76	277

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED
PROFESSIONAL
ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19





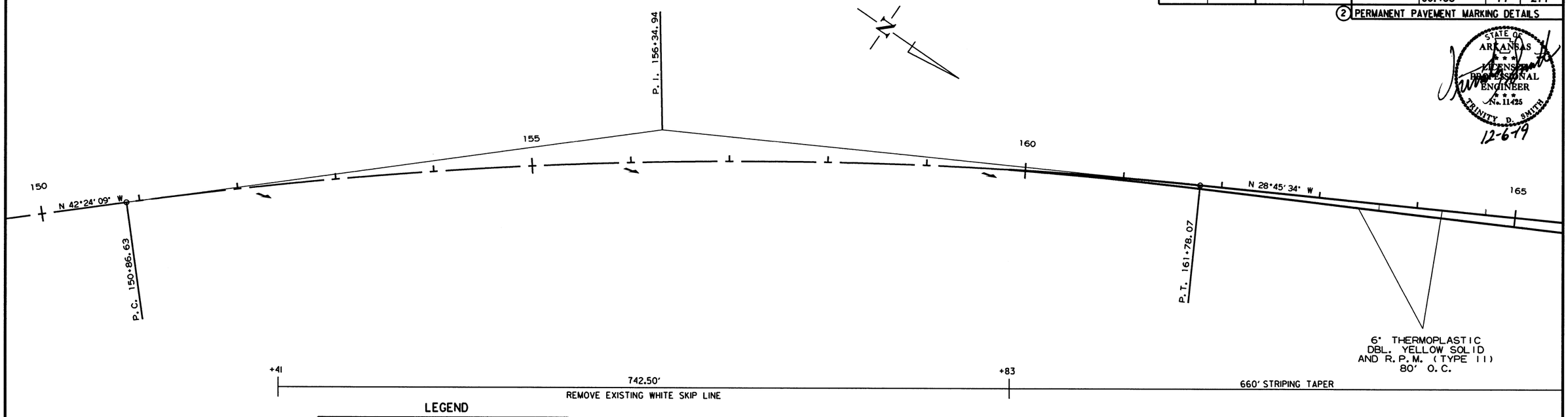
SITE IA
PERMANENT PAVEMENT MARKING DETAILS

ht39710 12/4/2019
R061438.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.		061438	77	277

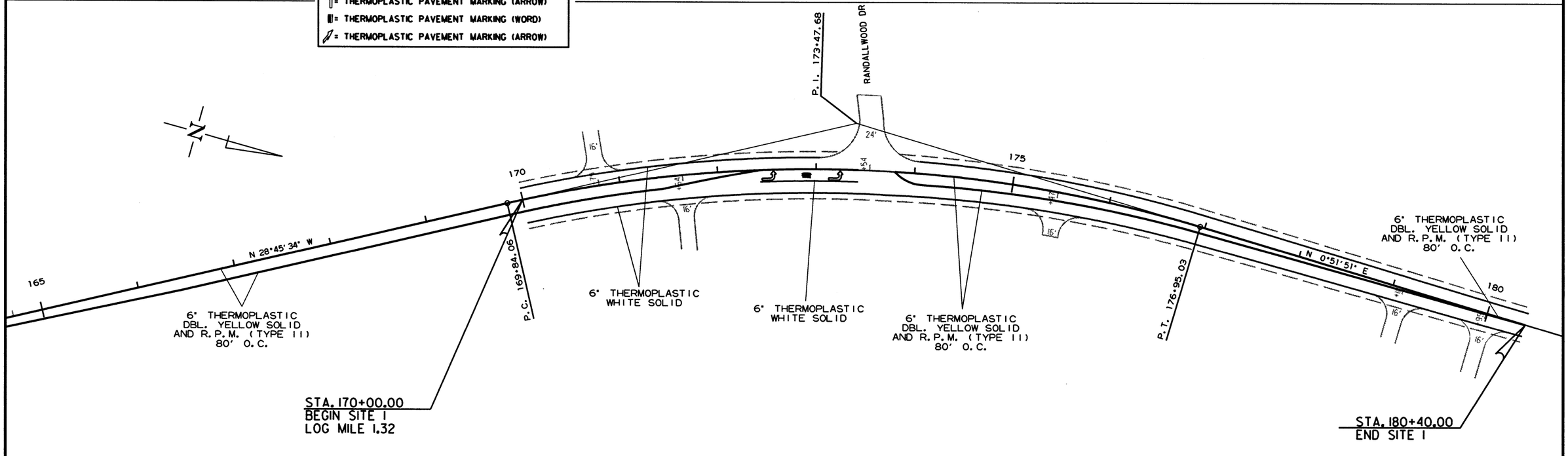
(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



LEGEND

= THERMOPLASTIC PAVEMENT MARKING (ARROW)
= THERMOPLASTIC PAVEMENT MARKING (WORD)
= THERMOPLASTIC PAVEMENT MARKING (ARROW)



SITE 1
PERMANENT PAVEMENT MARKING DETAILS

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R061438.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.		061438	78	277

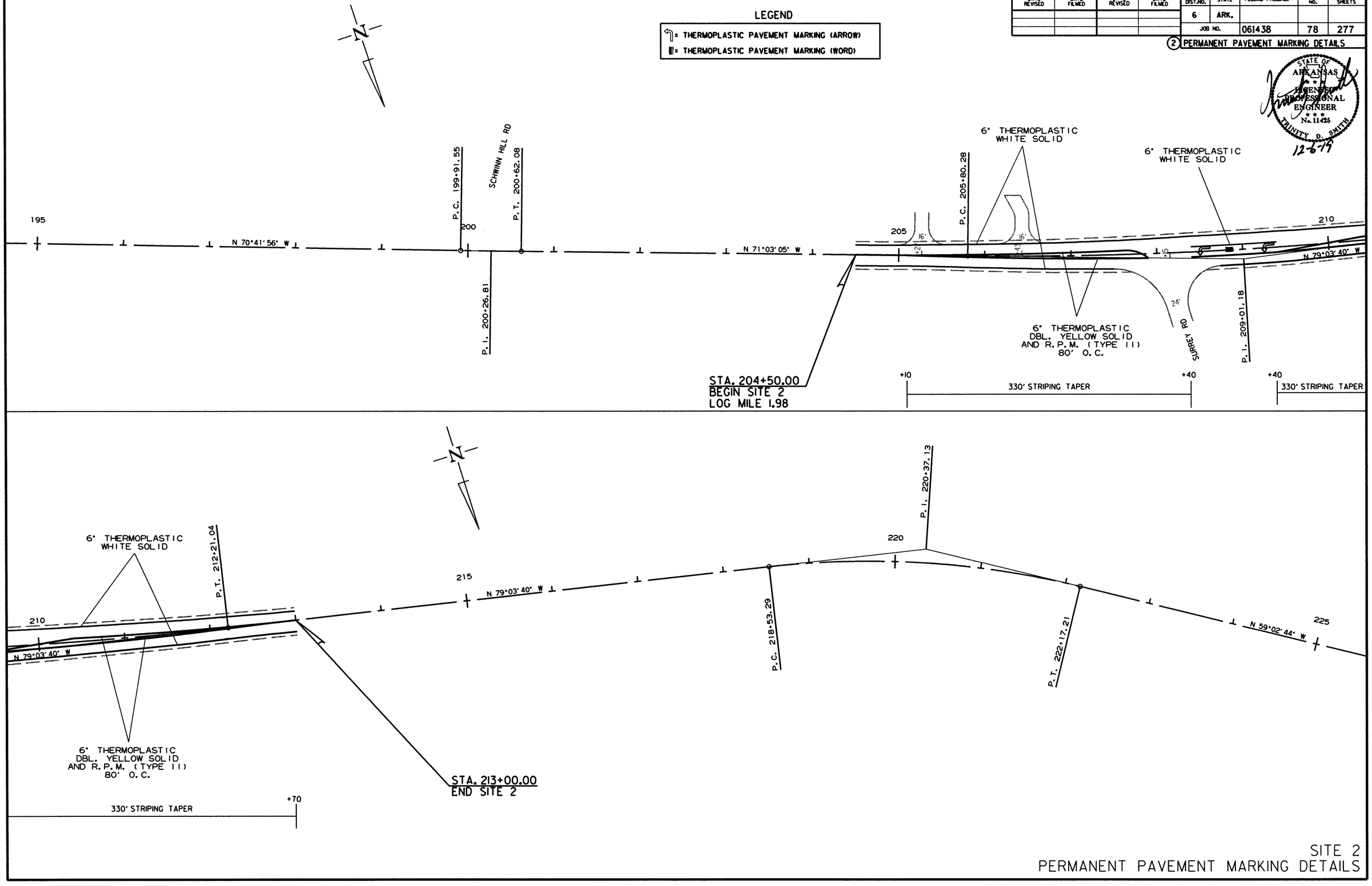
(2) PERMANENT PAVEMENT MARKING DETAILS

LEGEND

= THERMOPLASTIC PAVEMENT MARKING (ARROW)

= THERMOPLASTIC PAVEMENT MARKING (WORD)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



SITE 2
PERMANENT PAVEMENT MARKING DETAILS

12/4/2019
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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.		061438	79	277

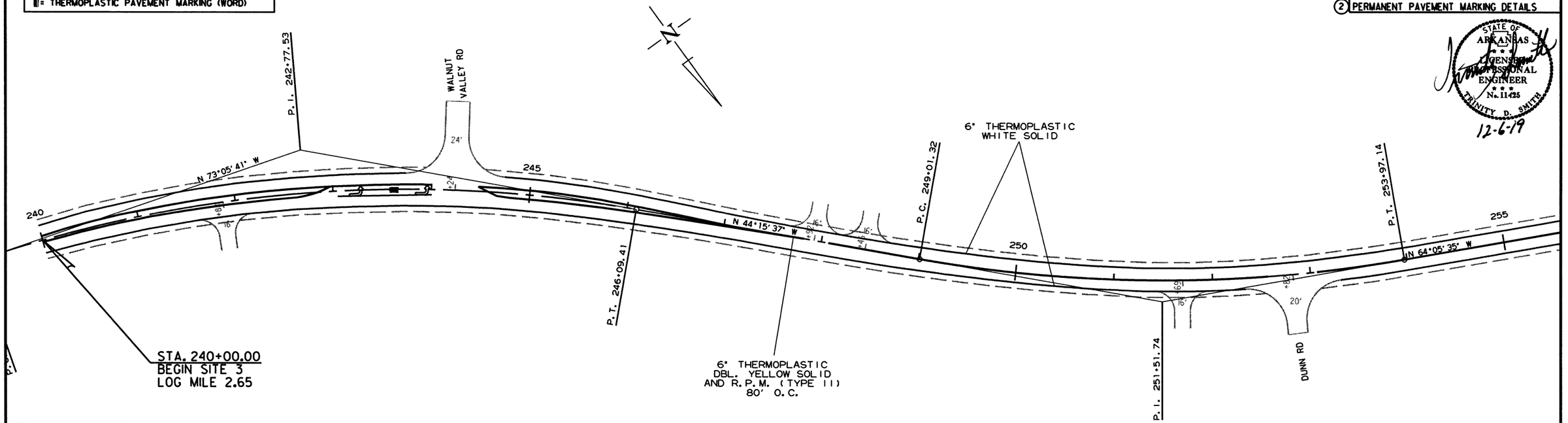
(2) PERMANENT PAVEMENT MARKING DETAILS

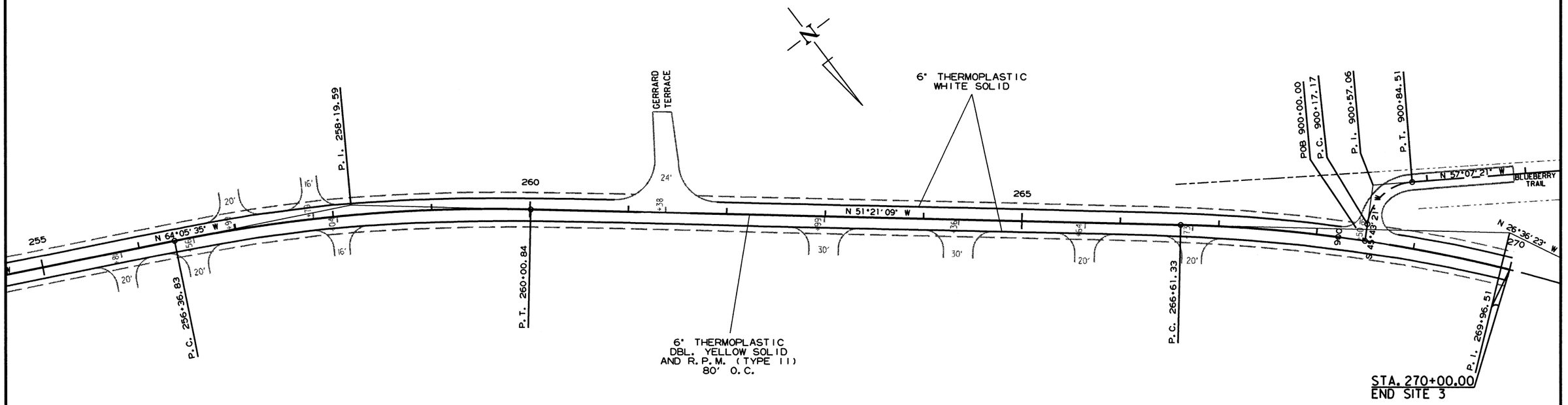
LEGEND

= THERMOPLASTIC PAVEMENT MARKING (ARROW)

= THERMOPLASTIC PAVEMENT MARKING (WORD)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19





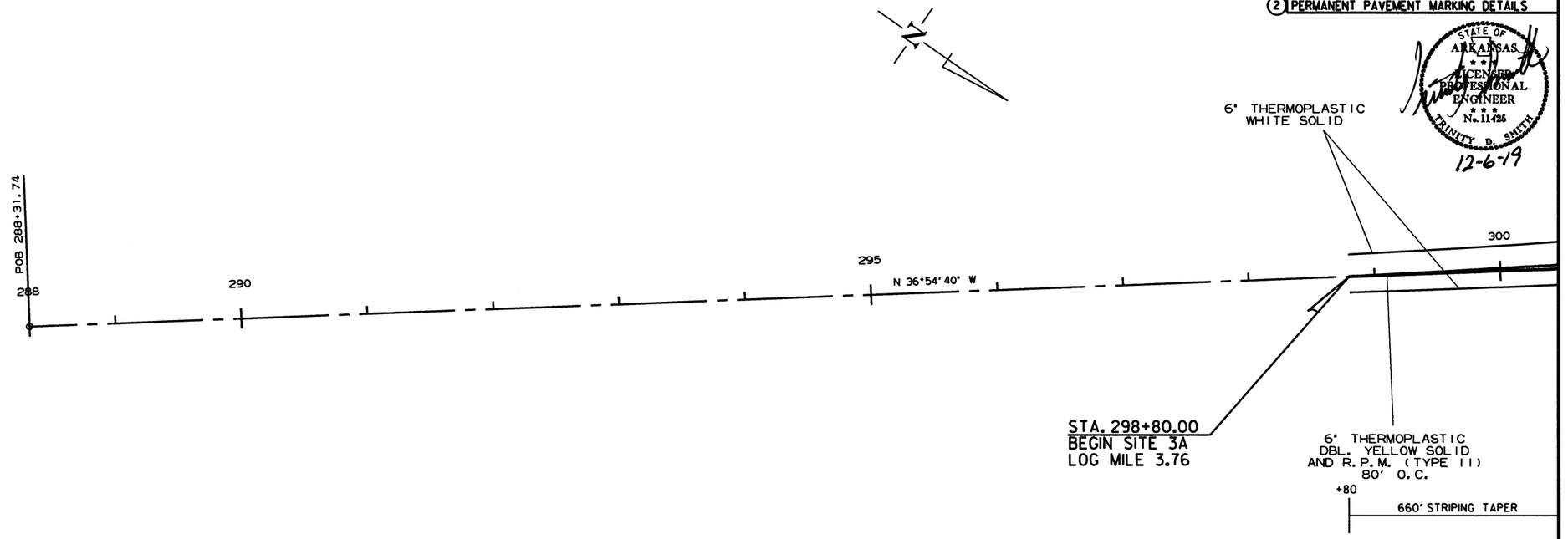
SITE 3
PERMANENT PAVEMENT MARKING DETAILS

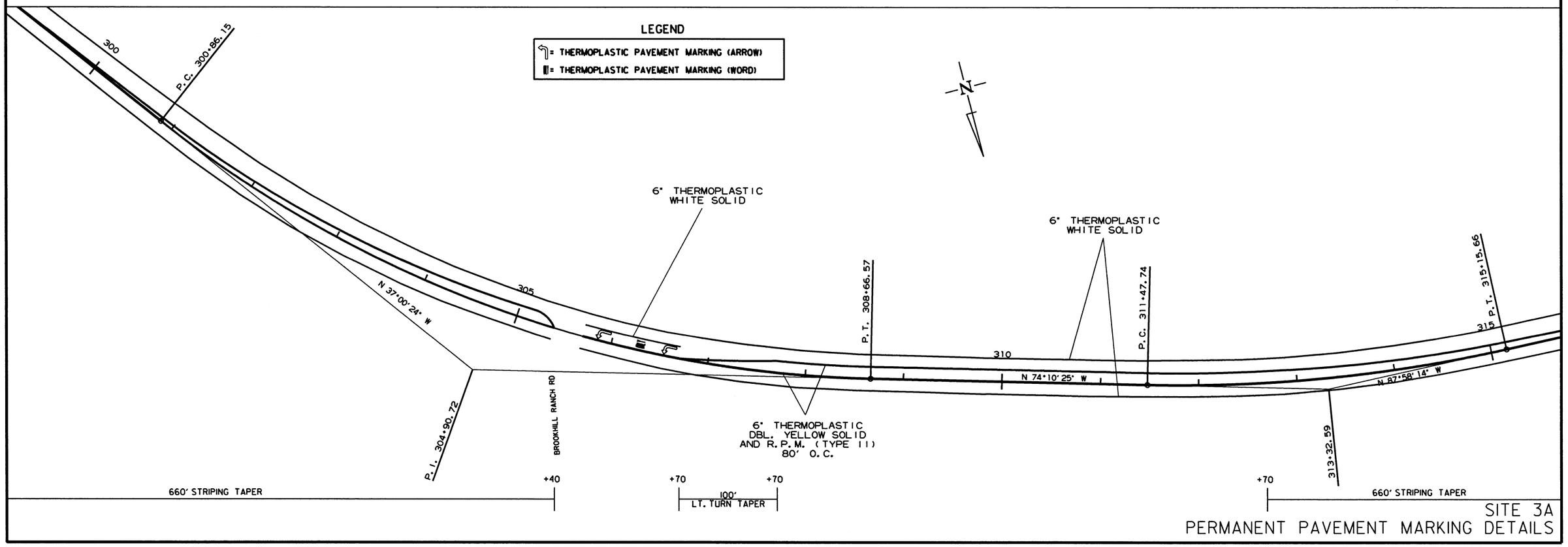
h139710 12/4/2019
R061438.DGN

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.		061438	80	277

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19





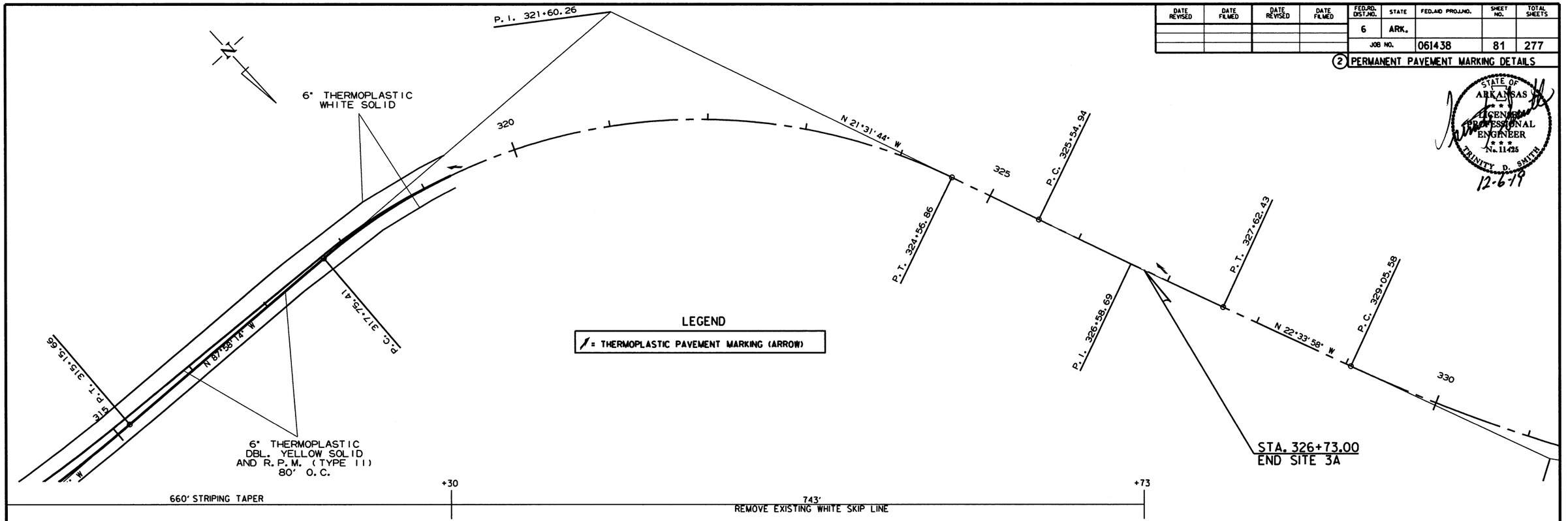
h139710 12/4/2019
R061438.DGN

SITE 3A
PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	81	277

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



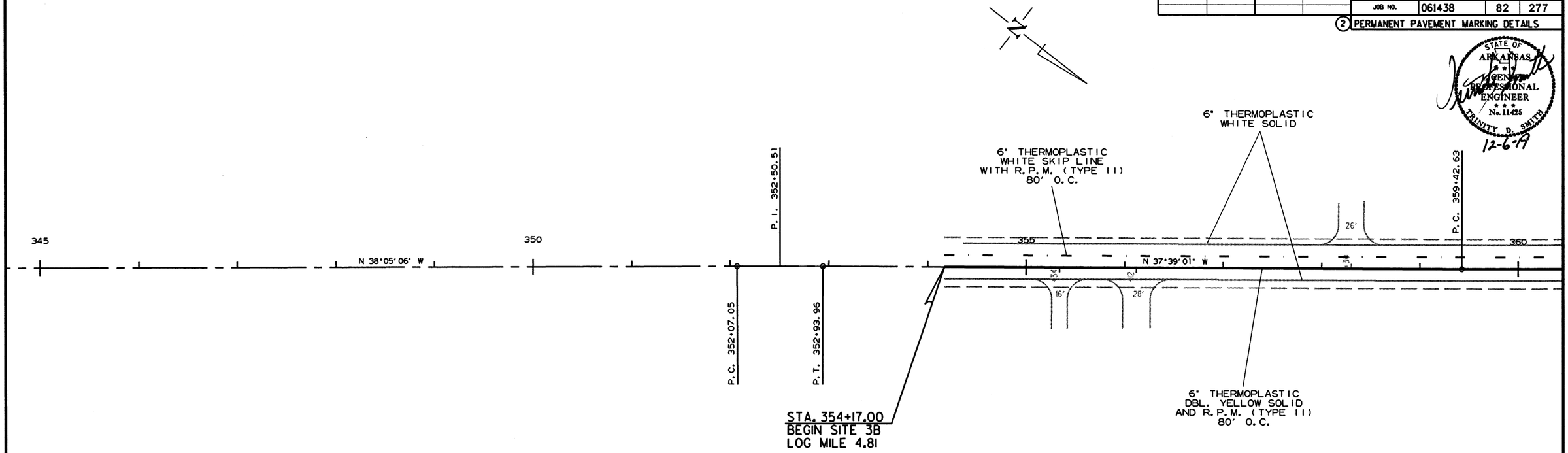
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R061438.DGN

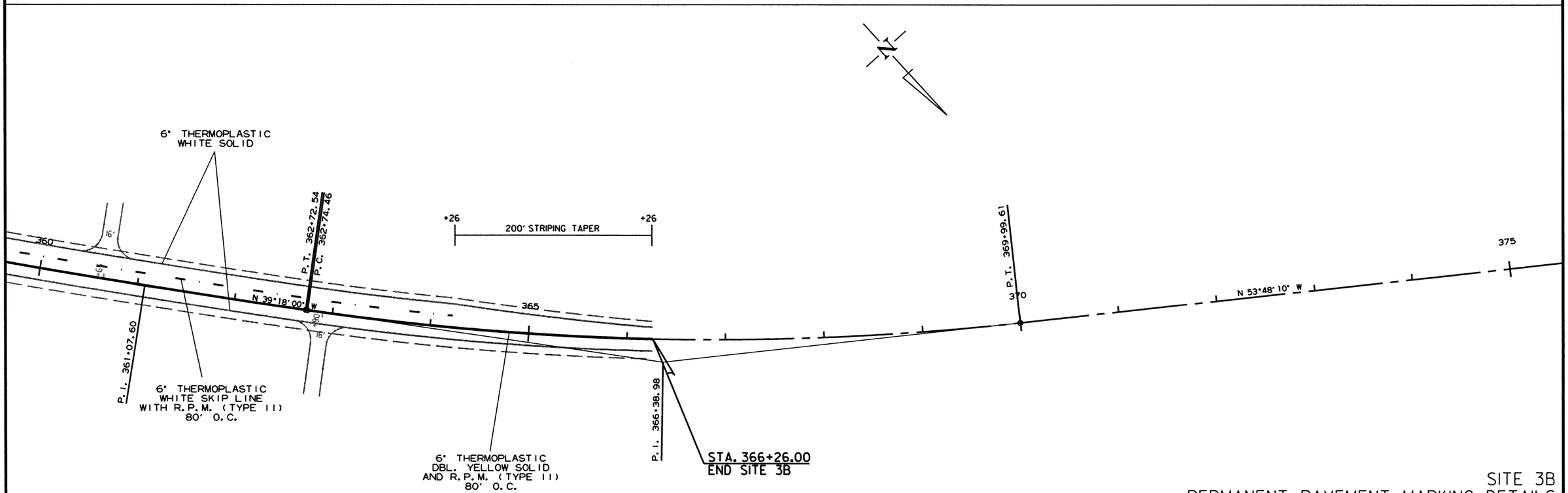
SITE 3A
PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	82	277

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19





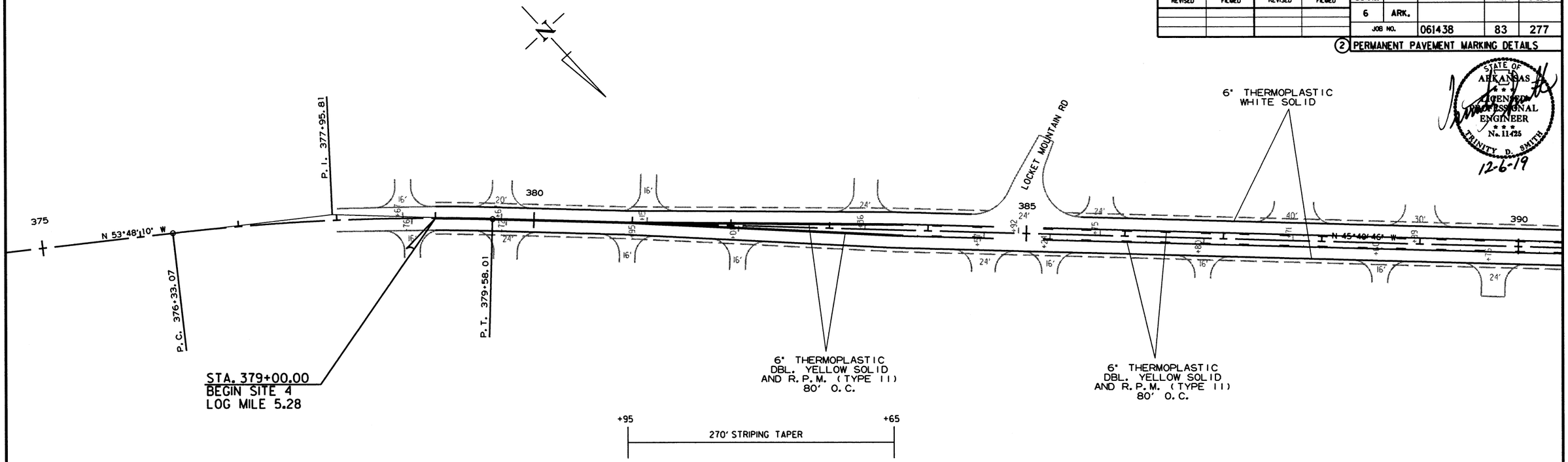
h139710 12/4/2019
R061438.DGN

SITE 3B
PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	83	277

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



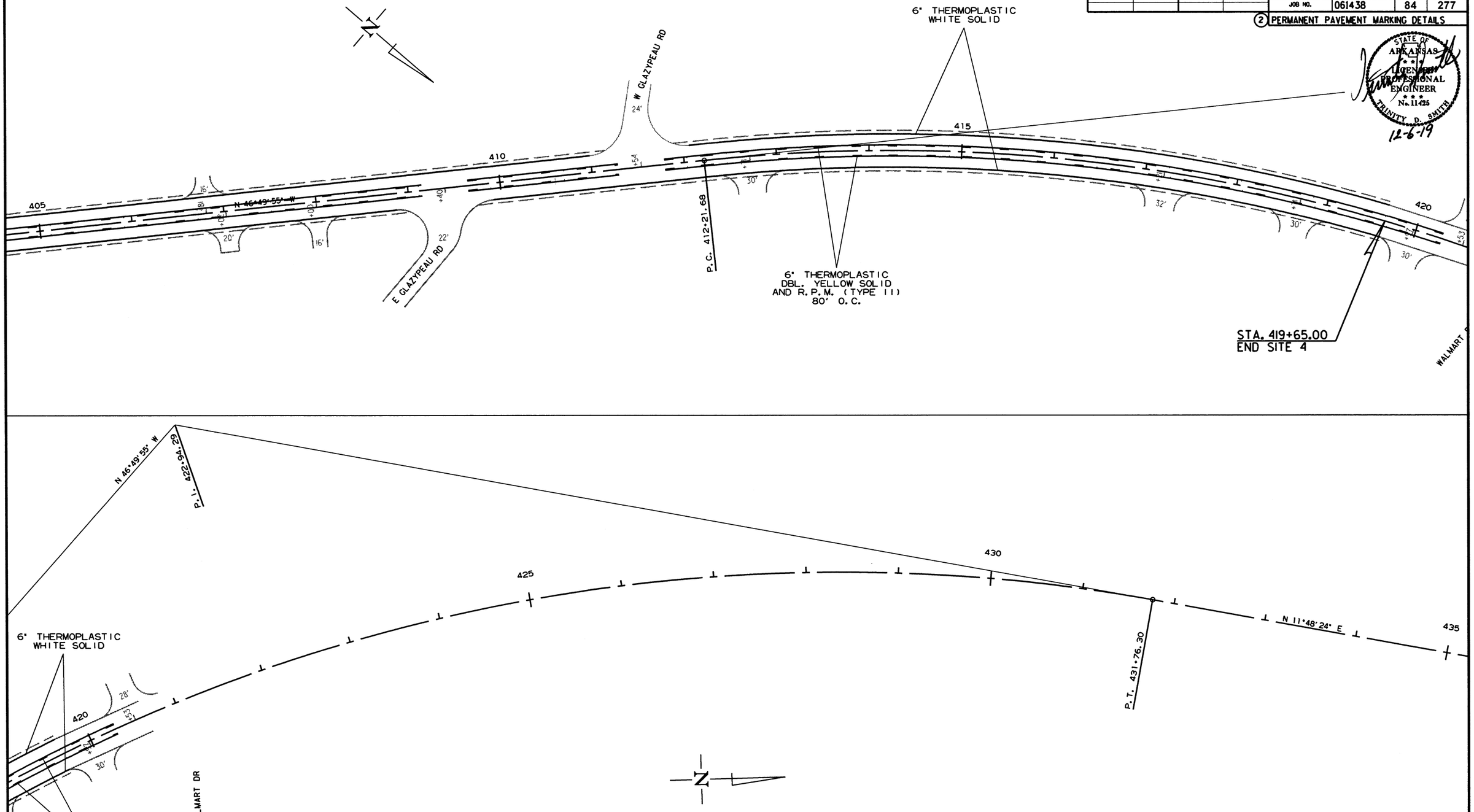
SITE 4
PERMANENT PAVEMENT MARKING DETAILS

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R061438.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.		061438	84	277

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



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R06138.DGN

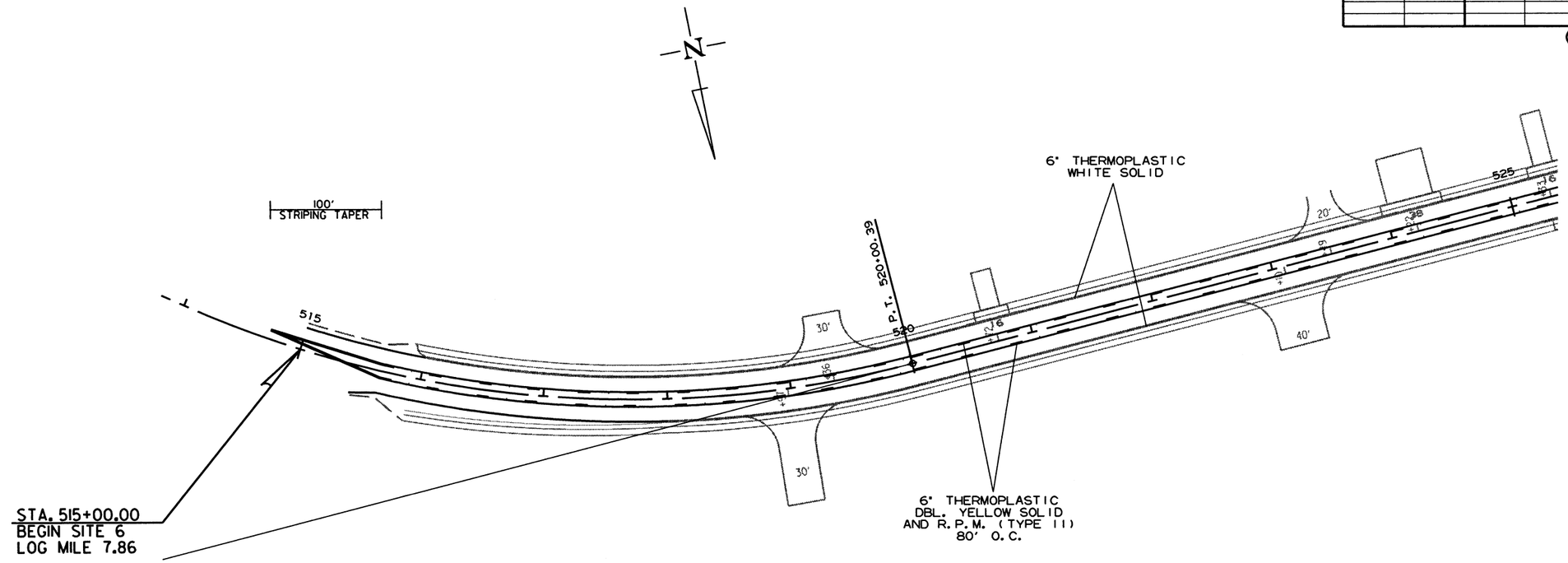
SITE 4
PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061438	85	277

(2) PERMANENT PAVEMENT MARKING DETAILS

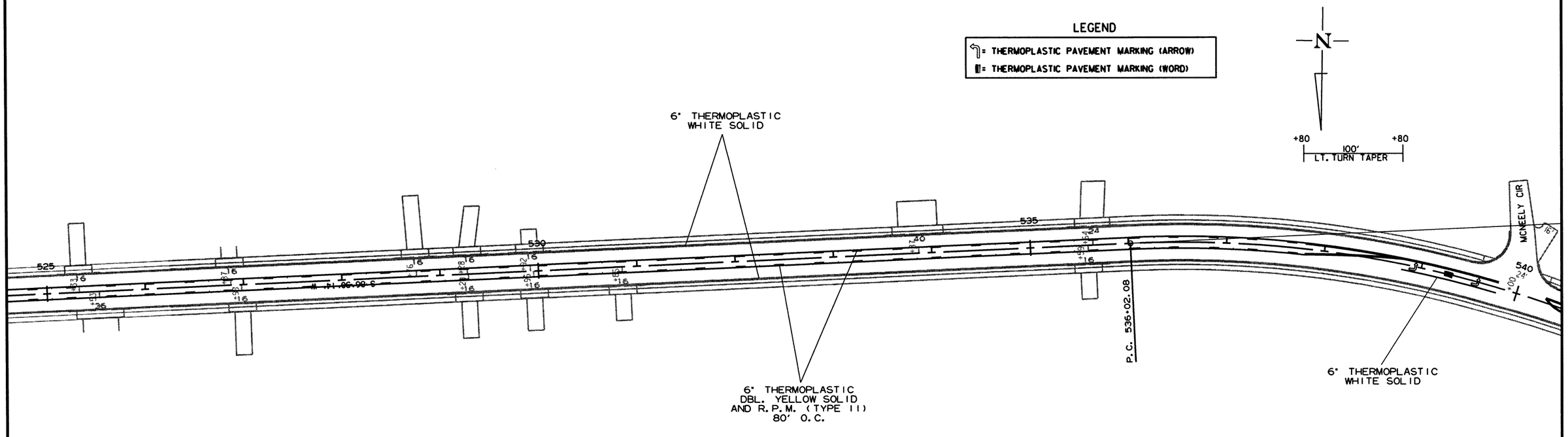
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



LEGEND

= THERMOPLASTIC PAVEMENT MARKING (ARROW)

= THERMOPLASTIC PAVEMENT MARKING (WORD)



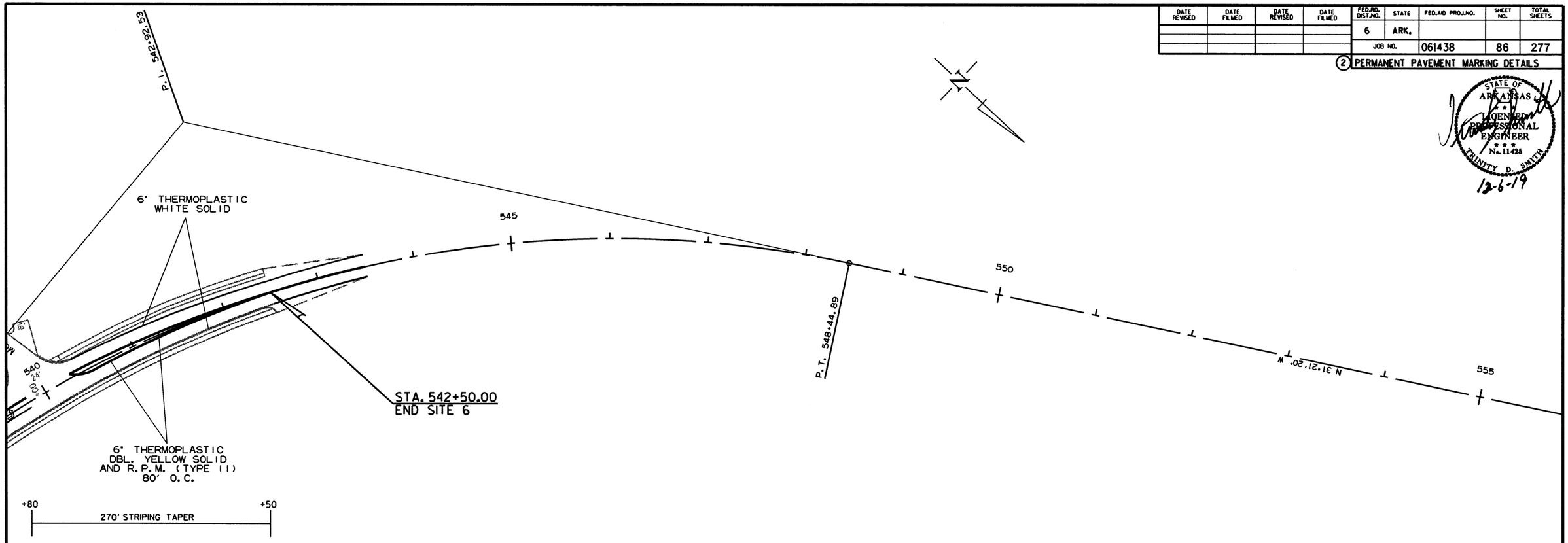
SITE 6
PERMANENT PAVEMENT MARKING DETAILS

h139710 12/4/2019
R061438.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.		061438	86	277

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



SITE 6
PERMANENT PAVEMENT MARKING DETAILS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	87	277

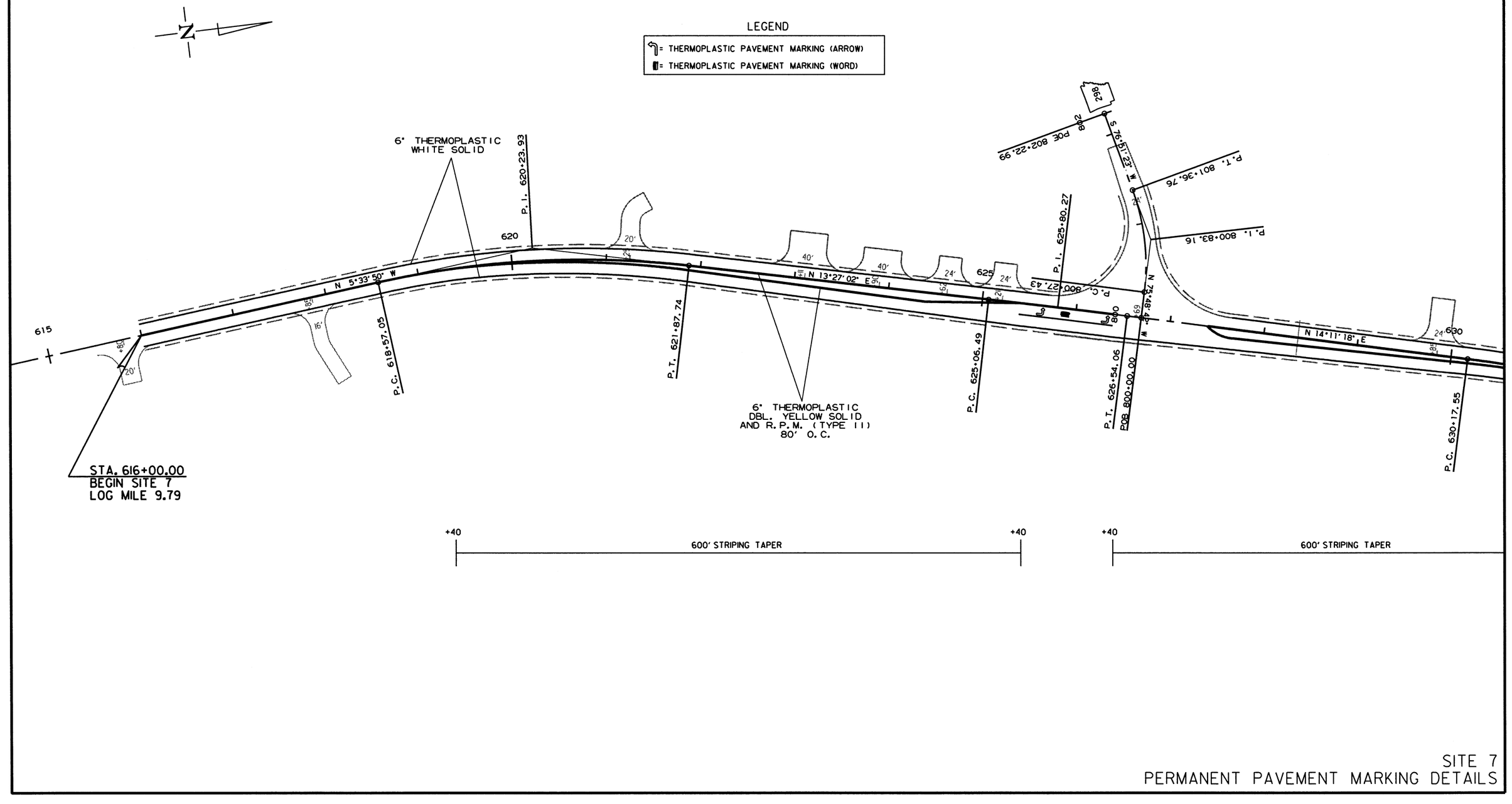
(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

LEGEND

= THERMOPLASTIC PAVEMENT MARKING (ARROW)

= THERMOPLASTIC PAVEMENT MARKING (WORD)



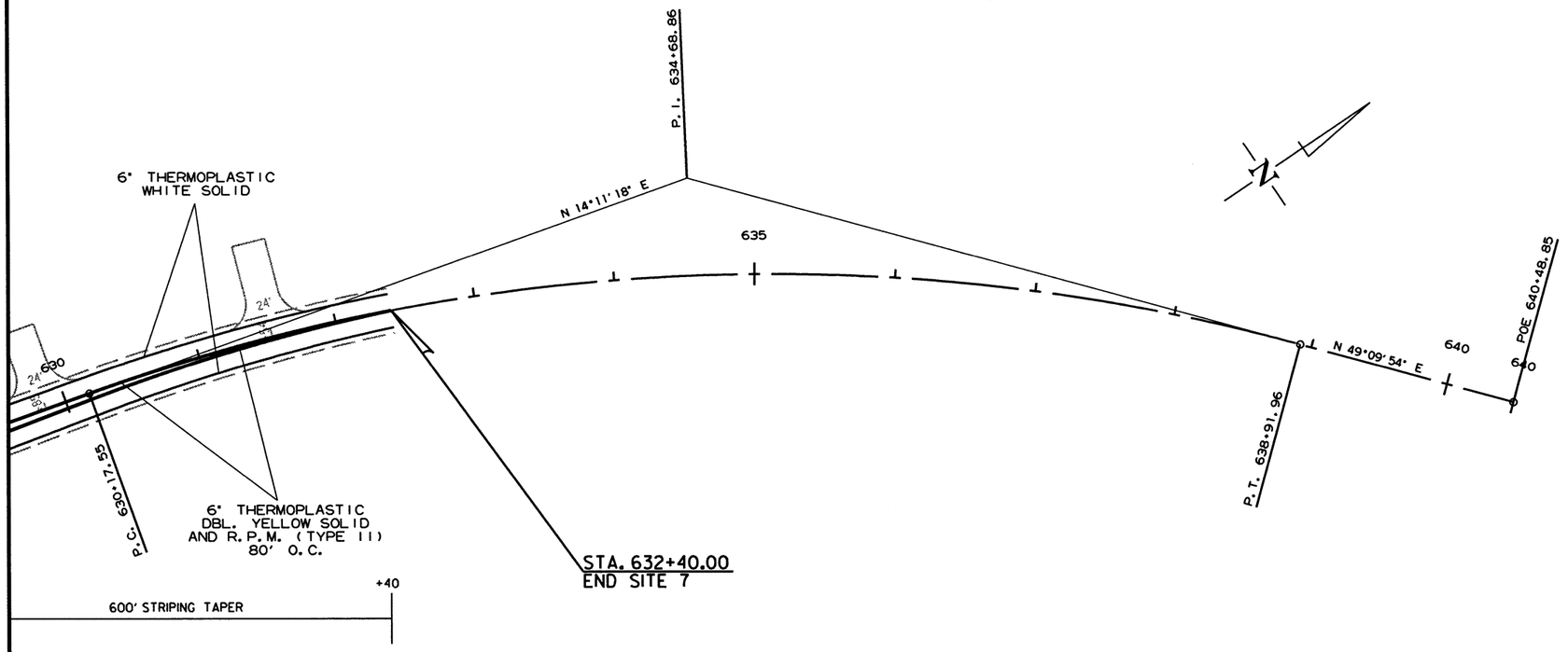
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R061438.DGN

SITE 7
PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	88	277

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



SITE 7
PERMANENT PAVEMENT MARKING DETAILS

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R061438.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.		061438	89	277

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	TEMP. IMPACT ATTEN.BARR. (RELOCATION)
			EACH			NO.	SQ. FT.	EACH	EACH	LIN. FT.		EACH		
W20-1	ROAD WORK 1500 FT.	48"x48"	1	1	1	1	16.0							
W20-1	ROAD WORK 1000 FT.	48"x48"	1	1	1	1	16.0							
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	32.0							
W20-1	ROAD WORK AHEAD	48"x48"	16	16	16	16	256.0							
G20-2	END ROAD WORK	48"x24"	18	18	18	18	144.0							
G20-1	ROAD WORK NEXT xx MILES	60"x24"	2	2	2	2	20.0							
OM-3L	OBJECT MARKER	12"x36"	12	12	12	12	36.0							
OM-3R	OBJECT MARKER	12"x36"	16	16	16	16	48.0							
R4-1	DO NOT PASS	24"x30"	24	24	24	24	120.0							
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	16	16	16	16	144.0							
W8-1	BUMP	30"x30"	16	16	16	16	100.0							
W8-17	SHOULDER DROP OFF (SYMBOL)	48"x48"	16	16	16	16	256.0							
SPECIAL	WORK WITH US SIGN (USE CAUTION, SLOW DOWN)	96"x48"	2	2	2	2	64.0							
	VERTICAL PANELS		212	212	212			212						
	TRAFFIC DRUMS		580	528	580				580					
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		419	113	532					532				
	RELOCATING PRECAST CONCRETE BARRIER			386	386						386			
	TEMPORARY IMPACT ATTENUATION BARRIER		5		5							5		
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		5	5	10								10	
	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)			5	5									5
TOTALS:							**1252.0**	**212**	**580**	**532**	**386**	**5**	**10**	**5**

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1								STAGE 2								END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING			
																				TYPE II	TYPE II	6"		WORDS	ARROWS
	SITE 1A	SITE 1	SITE 2	SITE 3	SITE 3B	SITE 4	SITE 6	SITE 7	SITE 1A	SITE 1	SITE 2	SITE 3	SITE 3B	SITE 4	SITE 6	SITE 7				(WHITE/RED)	(YELLOW/YELLOW)	WHITE	YELLOW		
	LIN. FT. - EACH																	LIN. FT.		EACH		LIN. FT.		EACH	
REMOVAL OF PERMANENT PAVEMENT MARKINGS																	372	372							
CONSTRUCTION PAVEMENT MARKINGS	3600	4160	3400	12000	4836	16260	11000	6560	3600	4160	3400	12000	4836	16260	11000	6560			123632						
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)																	22			22					
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)																	394				394				
THERMOPLASTIC PAVEMENT MARKING WHITE (6")																	26745					26745			
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")																	45540						45540		
THERMOPLASTIC PAVEMENT MARKING (WORDS)																	6							6	
THERMOPLASTIC PAVEMENT MARKING (ARROWS)																	18								18
TOTALS:																		**372**	**123632**	**22**	**394**	**26745**	**45540**	**6**	**18**

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

NOTE: THE 6" 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.

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R061438.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.		061438	90	277
				(2) QUANTITIES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

REMOVAL AND DISPOSAL OF PIPE CULVERTS

STATION	DESCRIPTION	EACH
170+79	24" X 32' C.M. PIPE CULVERT ON LT.	1
171+64	DBL. 18" X 44' C.M. PIPE CULVERT ON RT.	2
173+54	36" X 47' C.M. PIPE CULVERT ON LT.	1
175+47	24" X 30' C.M. PIPE CULVERT ON RT.	1
179+11	30" X 45' C.M. PIPE CULVERT ON RT.	1
179+99	30" X 24' C.M. PIPE CULVERT ON RT.	1
206+43	24" X 37' C.M. PIPE CULVERT ON LT.	1
241+88	24" X 27' C.M. PIPE CULVERT ON RT.	1
247+92	20" X 14" X 30' ARCH C.M. PIPE CULVERT ON LT.	1
248+45	18" X 26' R.C. PIPE CULVERT ON LT.	1
251+69	24" X 24' R.C. PIPE CULVERT ON RT.	1
252+82	60" X 38' C.M. PIPE CULVERT ON RT.	1
255+81	18" X 22' C.M. PIPE CULVERT ON RT.	1
256+56	18" X 20' R.C. PIPE CULVERT ON RT.	1
256+99	18" X 25' R.C. PIPE CULVERT ON LT.	1
257+79	18" X 25' R.C. PIPE CULVERT ON LT.	1
258+04	18" X 33' R.C. PIPE CULVERT ON RT.	1
264+36	18" X 37' R.C. PIPE CULVERT ON RT.	1
265+64	18" X 26' C.M. PIPE CULVERT ON RT.	1
266+73	18" X 39' STEEL PIPE CULVERT ON RT.	1
358+30	18" X 39' C.M. PIPE CULVERT ON RT.	1
360+65	24" X 24' C.M. PIPE CULVERT ON LT.	1
362+90	TRI. 42" X 36' C.M. PIPE CULVERT ON RT.	3
378+67	18" X 25' R.C. PIPE CULVERT ON LT.	1
378+76	18" X 24' C.M. PIPE CULVERT ON RT.	1
379+67	15" X 31' C.P. PIPE CULVERT ON LT.	1
379+72	18" X 32' C.M. PIPE CULVERT ON RT.	1
381+15	18" X 81' R.C. PIPE CULVERT ON LT.	1
383+38	24" X 49' C.M. PIPE CULVERT ON LT.	1
385+75	18" X 44' R.C. PIPE CULVERT ON LT.	1
386+80	18" X 36' R.C. PIPE CULVERT ON RT.	1
387+71	16" X 190' C.M. PIPE CULVERT ON LT.	1
388+60	18" X 21' R.C. PIPE CULVERT ON RT.	1
389+76	24" X 44' R.C. PIPE CULVERT ON RT.	1
394+17	24" X 54' C.M. PIPE CULVERT ON LT.	1
395+15	24" X 63' C.P. PIPE CULVERT ON LT.	1
395+76	24" X 26' C.M. PIPE CULVERT ON LT.	1
397+08	18" X 20' C.M. PIPE CULVERT ON LT.	1
398+29	24" X 42' C.P. PIPE CULVERT ON LT.	1
398+91	24" X 41' C.P. PIPE CULVERT ON LT.	1
400+13	24" X 50' C.M. PIPE CULVERT ON LT.	1
400+20	18" X 32' R.C. PIPE CULVERT ON RT.	1
400+73	24" X 29' R.C. PIPE CULVERT ON LT.	1
412+71	18" X 42' R.C. PIPE CULVERT ON RT.	1
417+21	18" X 50' R.C. PIPE CULVERT ON RT.	1
418+71	18" X 50' C.M. PIPE CULVERT ON RT.	1
420+53	18" X 41' R.C. PIPE CULVERT ON LT.	1
519+36	36" X 91' R.C. PIPE CULVERT ON LT.	1
525+33	15" X 22' R.C. PIPE CULVERT ON LT.	1
525+53	18" X 56' R.C. PIPE CULVERT ON RT.	1
526+87	15" X 24' C.M. PIPE CULVERT ON LT.	1
529+28	18" X 23' R.C. PIPE CULVERT ON LT.	1
529+92	10" X 19' C.M. PIPE CULVERT ON RT.	1
529+95	12" X 24' C.M. PIPE CULVERT ON RT.	1
530+85	12" X 24' R.C. PIPE CULVERT ON RT.	1
TOTAL:		58

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB	RETAINING WALLS	CONCRETE PAD	SIGN FOUNDATIONS	SIGNS	SPRINKLER SYSTEM	BILLBOARDS
			LIN. FT.	LIN. FT.	SQ. YD.	EACH	EACH	EACH	EACH
379+57	379+87	SITE 4: HWY. 7 ON RT.	34						
381+40	381+50	SITE 4: HWY. 7 ON LT.			11				
383+25		SITE 4: HWY. 7 ON LT.							1
388+68		SITE 4: HWY. 7 ON RT.					1		
389+90		SITE 4: HWY. 7 ON RT.				1	1		
410+00	410+15	SITE 4: HWY. 7 ON RT.				3	2		
416+38		SITE 4: HWY. 7 ON RT.					1		
509+65	509+75	SITE 6: HWY. 7 ON LT.				2	4		
515+85	518+00	SITE 6: HWY. 7 ON RT.						1	
518+72	519+25	SITE 6: HWY. 7 ON RT.	160						
519+60		SITE 6: HWY. 7 ON LT.				2	1		
519+02	519+69	SITE 6: HWY. 7 ON LT.	92						
522+47	523+32	SITE 6: HWY. 7 ON LT.		155					
523+95	524+50	SITE 6: HWY. 7 ON LT.	73						
526+75		SITE 6: HWY. 7 ON RT.					1		
TOTALS:			359	155	11	8	11	1	1

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
107+00	111+00	SITE 1A: HWY. 7	4	4
171+86	178+30	SITE 1: HWY. 7	8	8
204+50	213+00	SITE 2: HWY. 7	9	9
243+20	257+20	SITE 3: HWY. 7	15	15
258+80	266+20	SITE 3: HWY. 7	9	9
268+20	270+00	SITE 3: HWY. 7	2	2
359+00	366+26	SITE 3B: HWY. 7	8	8
379+00	385+10	SITE 4: HWY. 7	7	7
399+50	405+40	SITE 4: HWY. 7	7	7
407+65	410+30	SITE 4: HWY. 7	4	4
411+88	417+20	SITE 4: HWY. 7	7	7
515+00	517+70	SITE 6: HWY. 7	3	3
518+90	523+40	SITE 6: HWY. 7	6	6
525+37	529+22	SITE 6: HWY. 7	5	5
530+20	533+60	SITE 6: HWY. 7	4	4
536+73	540+45	SITE 6: HWY. 7	5	5
541+25	541+90	SITE 6: HWY. 7	1	1
616+85	617+50	SITE 7: HWY. 7	2	2
617+98	626+90	SITE 7: HWY. 7	10	10
628+65	632+40	SITE 7: HWY. 7	5	5
TOTALS:			121	121

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
111+00	113+25	SITE 1A: HWY. 7 ON RT.	255
174+62	175+65	SITE 1: HWY. 7 ON RT.	95
358+78	366+75	SITE 3B: HWY. 7 ON RT.	872
362+56	366+73	SITE 3B: HWY. 7 ON LT.	436
401+30	402+50	SITE 4: HWY. 7 ON LT.	127
404+49	405+31	SITE 4: HWY. 7 ON LT.	82
408+75	409+85	SITE 4: HWY. 7 ON LT.	110
411+92	416+60	SITE 4: HWY. 7 ON LT.	495
520+55	522+43	SITE 6: HWY. 7 ON LT.	220
620+48	620+61	SITE 7: HWY. 7 ON RT.	22
625+89	626+63	SITE 7: HWY. 7 ON RT.	90
TOTAL:			2804

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				6	ARK.			
				JOB NO.		061438	91	277

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DROP INLET FILTER SOCK (12") (E-13)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING - SITE 1A						1.48	1.48	30.2		9		905			34
ENTIRE	PROJECT	CLEARING AND GRUBBING - SITE 1						1.87	1.87	38.1		17		275			10
ENTIRE	PROJECT	CLEARING AND GRUBBING - SITE 2						1.17	1.17	23.9		9		320			12
ENTIRE	PROJECT	CLEARING AND GRUBBING - SITE 3						4.23	4.23	86.3		57		1030			38
ENTIRE	PROJECT	CLEARING AND GRUBBING - SITE 3B						1.83	1.83	37.3		15					
ENTIRE	PROJECT	CLEARING AND GRUBBING - SITE 4						5.92	5.92	120.8		35		915			34
ENTIRE	PROJECT	CLEARING AND GRUBBING - SITE 6						3.47	3.47	70.8		47		530			20
ENTIRE	PROJECT	CLEARING AND GRUBBING - SITE 7						1.98	1.98	40.4		11		920			34
ENTIRE	PROJECT	STAGE 1 - SITE 1A	0.70	1.40	0.70	71.4	0.70	0.78	0.78	15.9		9					
ENTIRE	PROJECT	STAGE 1 - SITE 1	0.97	1.94	0.97	98.9	0.97	1.06	1.06	21.6		21					
ENTIRE	PROJECT	STAGE 1 - SITE 2	0.79	1.58	0.79	80.6	0.79	0.88	0.88	18.0		24					
ENTIRE	PROJECT	STAGE 1 - SITE 3	2.40	4.80	2.40	244.8	2.40	2.56	2.56	52.2		48					
ENTIRE	PROJECT	STAGE 1 - SITE 3B	0.89	1.78	0.89	90.8	0.89	2.16	2.16	44.1		12					
ENTIRE	PROJECT	STAGE 1 - SITE 4	3.10	6.20	3.10	316.2	3.10	3.78	3.78	77.1		75					
ENTIRE	PROJECT	STAGE 1 - SITE 6	1.75	3.50	1.75	178.5	1.75	2.21	2.21	45.1		27	493				18
ENTIRE	PROJECT	STAGE 1 - SITE 7	1.00	2.00	1.00	102.0	1.00	1.53	1.53	31.2		33					170
ENTIRE	PROJECT	STAGE 2 - SITE 1A	1.40	2.80	1.40	142.8	1.40	1.53	1.53	31.2		15					
ENTIRE	PROJECT	STAGE 2 - SITE 1	0.91	1.82	0.91	92.8	0.91	1.02	1.02	20.8		18					
ENTIRE	PROJECT	STAGE 2 - SITE 2	0.59	1.18	0.59	60.2	0.59	0.71	0.71	14.5		12					
ENTIRE	PROJECT	STAGE 2 - SITE 3	2.10	4.20	2.10	214.2	2.10	2.57	2.57	52.4		57					
ENTIRE	PROJECT	STAGE 2 - SITE 3B	0.94	1.88	0.94	95.9	0.94	1.60	1.60	32.6		15					
ENTIRE	PROJECT	STAGE 2 - SITE 4	3.00	6.00	3.00	306.0	3.00	3.54	3.54	72.2		69					
ENTIRE	PROJECT	STAGE 2 - SITE 6	1.90	3.80	1.90	193.8	1.90	2.38	2.38	48.6		15	363				16
ENTIRE	PROJECT	STAGE 2 - SITE 7	2.21	4.42	2.21	225.4	2.21	2.18	2.18	44.5		30					7
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			6.16	12.33	6.16	628.6	6.16	13.11	13.11	267.5	100	170	214	1224	5100	5100	5100
TOTALS:			**30.81**	**61.63**	**30.81**	**3142.9**	**30.81**	**65.55**	**65.55**	**1337.3**	**100**	**850**	**1070**	**6119**	**5100**	**5100**	**5493**

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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

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				6	ARK.			
				JOB NO.		061438	92	277

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
515+00	518+87	SITE 6: HWY. 7 ON LT.	435
515+92	518+56	SITE 6: HWY. 7 ON RT.	308
519+41	522+61	SITE 6: HWY. 7 ON RT.	411
519+82	523+12	SITE 6: HWY. 7 ON LT.	423
523+60	542+50	SITE 6: HWY. 7 ON RT.	1940
523+91	539+51	SITE 6: HWY. 7 ON LT.	1662
540+37	542+50	SITE 6: HWY. 7 ON LT.	246
TOTAL:			5425

CONCRETE CURB

STATION	STATION	LOCATION	TYPE B
			LIN. FT.
625+80	626+90	SITE 7: HWY. 7 ON RT.	110
TOTAL:			110

CONCRETE WALKS

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS	SOLID SODDING	WATER
			LIN. FT.	SQ.YD.	SQ.YD.	M. GAL.
515+98	518+64	SITE 6: HWY. 7 ON RT.	266	148	89	1.1
515+99	518+95	SITE 6: HWY. 7 ON LT.	296	164	99	1.2
519+34	522+69	SITE 6: HWY. 7 ON RT.	335	186	112	1.4
519+73	520+50	SITE 6: HWY. 7 ON LT.	77	43	26	0.3
520+94	523+20	SITE 6: HWY. 7 ON LT.	226	126	75	0.9
523+52	525+22	SITE 6: HWY. 7 ON RT.	170	94	57	0.7
524+54	525+11	SITE 6: HWY. 7 ON LT.	57	32	19	0.2
525+54	526+65	SITE 6: HWY. 7 ON LT.	111	62	37	0.5
525+85	526+76	SITE 6: HWY. 7 ON RT.	91	51	30	0.4
527+08	528+54	SITE 6: HWY. 7 ON LT.	146	81	49	0.6
527+20	529+07	SITE 6: HWY. 7 ON RT.	187	104	62	0.8
528+97	529+07	SITE 6: HWY. 7 ON LT.	10	6	3	
529+50	529+70	SITE 6: HWY. 7 ON LT.	20	11	7	0.1
529+50	529+73	SITE 6: HWY. 7 ON RT.	23	13	8	0.1
530+13	533+53	SITE 6: HWY. 7 ON LT.	340	189	113	1.4
530+17	530+63	SITE 6: HWY. 7 ON RT.	46	26	15	0.2
531+06	535+37	SITE 6: HWY. 7 ON RT.	431	239	144	1.8
534+20	535+38	SITE 6: HWY. 7 ON LT.	118	66	39	0.5
535+80	542+50	SITE 6: HWY. 7 ON RT.	670	372	223	2.8
535+90	539+58	SITE 6: HWY. 7 ON LT.	368	204	123	1.5
540+29	542+50	SITE 6: HWY. 7 ON LT.	221	123	74	0.9
TOTALS:				2340	1404	17.4

WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING

FLOWABLE SELECT MATERIAL

STATION	LOCATION	CU. YD.
539+45	SITE 6: HWY. 7	10
617+35	SITE 7: HWY. 7	28
628+36	SITE 7: HWY. 7	14
TOTAL:		52

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

STATION	LOCATION	WIDTH	LENGTH	TON
		FEET		
539+45	SITE 6: HWY. 7	8.50	20	1
617+35	SITE 7: HWY. 7	10.83	20	1
628+36	SITE 7: HWY. 7	8.50	20	1
TOTAL:				3

AVG. DEPTH = 0.75"

WHEELCHAIR RAMPS (TYPE 3)

STATION	LOCATION	SQ.YD.
515+92	SITE 6: HWY. 7 ON LT.	3.9
515+92	SITE 6: HWY. 7 ON RT.	3.3
518+95	SITE 6: HWY. 7 ON LT.	5.4
519+68	SITE 6: HWY. 7 ON LT.	5.4
523+20	SITE 6: HWY. 7 ON LT.	5.4
523+78	SITE 6: HWY. 7 ON LT.	5.4
539+58	SITE 6: HWY. 7 ON LT.	5.4
540+24	SITE 6: HWY. 7 ON LT.	5.3
542+42	SITE 6: HWY. 7 ON RT.	3.9
542+44	SITE 6: HWY. 7 ON LT.	3.3
TOTAL:		46.7

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				6	ARK.			
				JOB NO.		061438	93	277

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
STAGE 1 - MAIN LANES					
107+00	116+00	SITE 1A: HWY. 7	356	378	
170+00	180+40	SITE 1: HWY. 7	320	243	
204+50	213+00	SITE 2: HWY. 7	953	319	
240+00	270+00	SITE 3: HWY. 7	1838	386	
354+17	366+26	SITE 3B: HWY. 7	5967	967	
379+00	419+65	SITE 4: HWY. 7	2361	1831	
515+00	542+50	SITE 6: HWY. 7	682	3103	
616+00	632+40	SITE 7: HWY. 7	445	408	
STAGE 2 - MAIN LANES					
107+00	116+00	SITE 1A: HWY. 7	2177	344	
170+00	180+40	SITE 1: HWY. 7	1213	271	
204+50	213+00	SITE 2: HWY. 7	187	699	
240+00	270+00	SITE 3: HWY. 7	3441	381	
354+17	366+26	SITE 3B: HWY. 7	1981	819	
379+00	419+65	SITE 4: HWY. 7	3124	481	
515+00	542+50	SITE 6: HWY. 7	624	4469	
616+00	632+40	SITE 7: HWY. 7	11892	448	
ENTIRE	PROJECT	CHANNEL EXCAVATION	1600		
ENTIRE	PROJECT	APPROACHES	125	3845	
900+11	901+88	SITE 3: BLUEBERRY TRAIL	49	512	
800+12	801+87	SITE 7: HWY. 298	100		
* ENTIRE	PROJECT	TO BE USED IF AND WHERE			100
		DIRECTED BY THE ENGINEER			
TOTALS:			**39435**	**19904**	**100**

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

NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
106+00.00	107+00.00	SITE 1A: HWY. 7 - MAIN LANES	20.00	222.22
116+00.00	117+00.00	SITE 1A: HWY. 7 - MAIN LANES	36.00	400.00
169+00.00	170+00.00	SITE 1: HWY. 7 - MAIN LANES	36.00	400.00
180+40.00	181+40.00	SITE 1: HWY. 7 - MAIN LANES	20.00	222.22
203+50.00	204+50.00	SITE 2: HWY. 7 - MAIN LANES	20.00	222.22
213+00.00	214+00.00	SITE 2: HWY. 7 - MAIN LANES	20.00	222.22
353+17.00	354+17.00	SITE 3B: HWY. 7 - MAIN LANES	36.00	400.00
366+26.00	367+26.00	SITE 3B: HWY. 7 - MAIN LANES	20.00	222.22
378+00.00	379+00.00	SITE 4: HWY. 7 - MAIN LANES	20.00	222.22
419+65.00	420+65.00	SITE 4: HWY. 7 - MAIN LANES	36.00	400.00
514+00.00	515+00.00	SITE 6: HWY. 7 - MAIN LANES	36.00	400.00
542+50.00	543+50.00	SITE 6: HWY. 7 - MAIN LANES	20.00	222.22
615+00.00	616+00.00	SITE 7: HWY. 7 - MAIN LANES	20.00	222.22
632+40.00	633+40.00	SITE 7: HWY. 7 - MAIN LANES	20.00	222.22
TOTAL:				**3999.98**

NOTE: AVERAGE MILLING DEPTH 1".

MUMBLE STRIPES IN ASPHALT SHOULDERS

BEGIN LOG MILE	END LOG MILE	LOCATION	* MUMBLE STRIPES IN ASPHALT SHOULDERS
			LIN.FT.
0.13	5.28	HWY. 7 ON LT.	27192
0.13	5.28	HWY. 7 ON RT.	27192
9.77	10.08	HWY. 7 ON LT.	1637
9.77	10.08	HWY. 7 ON RT.	1637
TOTAL:			**57658**

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

CENTERLINE MUMBLE STRIPES

BEGIN LOG MILE	END LOG MILE	LOCATION	* CENTERLINE MUMBLE STRIPES IN ASPHALT ROADWAYS
			LIN.FT.
0.13	5.28	HWY. 7 CENTERLINE	47510
9.77	10.08	HWY. 7 CENTERLINE	5290
TOTAL:			**52800**

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	75	150
DIRECTED BY THE ENGINEER		
TOTALS:	**75**	**150**

BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE
NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.

ACHM PATCHING OF EXISTING ROADWAY

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

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

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				6	ARK.			
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(2) QUANTITIES

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LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	470
ENGINEER	
TOTAL:	**470**

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

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
205+58	SITE 2: HWY. 7 ON LT. R.C. BOX CULVERT HEADWALL	1
206+43	SITE 2: HWY. 7 ON LT. R.C. BOX CULVERT HEADWALL	1
416+31	SITE 4: HWY. 7 ON RT. R.C. BOX CULVERT HEADWALL	1
528+13	SITE 6: HWY. 7 ON LT. R.C. BOX CULVERT HEADWALL	1
617+35	SITE 7: HWY. 7 ON LT. R.C. BOX CULVERT HEADWALL	1
TOTAL:		**5**

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

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS	
		(SINGLE)	(DOUBLE)
	EACH		
ENTIRE PROJECT	50	28	11
TOTALS:	**50**	**28**	**11**

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE C)	WIRE FENCE (TYPE D)	* 5' CHAIN LINK FENCE	* 16'-0" GATES
			LIN. FT.			EACH
111+00	113+25	SITE 1A: HWY. 7 ON RT.	230			
174+62	175+30	SITE 1: HWY. 7 ON RT.	66			
358+78	366+75	SITE 3B: HWY. 7 ON RT.		784		1
362+56	366+73	SITE 3B: HWY. 7 ON LT.	480			
401+30	402+50	SITE 4: HWY. 7 ON LT.	127			
404+49	405+31	SITE 4: HWY. 7 ON LT.	82			
408+75	409+85	SITE 4: HWY. 7 ON LT.		110		
411+92	416+60	SITE 4: HWY. 7 ON LT.		484		
520+90	522+43	SITE 6: HWY. 7 ON LT.	160			
625+89	626+63	SITE 7: HWY. 7 ON RT.			71	
TOTALS:			**1145**	**1378**	**71**	**1**

* DENOTES ALTERNATE BID ITEM.

CONCRETE BASE

STATION	STATION	LOCATION	LENGTH	PORTLAND CEMENT CONCRETE BASE			
				AVG. WID.	7" U.T.	AVG. WID.	6.5" U.T.
			FEET	FEET	SQ. YD.	FEET	SQ. YD.
541+16.00	542+50.00	SITE 6: HWY. 7 ON RT.	134.00	5.25	78.17	2.75	40.94
TOTALS:					**78.17**		**40.94**

4" PIPE UNDERDRAIN

	STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
				LIN. FT.	EACH
*	107+00	116+00	SITE 1A: HWY. 7	250	1
*	170+00	180+40	SITE 1: HWY. 7	250	1
*	204+50	213+00	SITE 2: HWY. 7	250	1
*	240+00	270+00	SITE 3: HWY. 7	750	3
*	354+17	366+26	SITE 3B: HWY. 7	300	1
*	379+00	419+65	SITE 4: HWY. 7	1000	4
*	515+00	542+50	SITE 6: HWY. 7	750	3
*	616+00	632+40	SITE 7: HWY. 7	500	2
	TOTALS:			**4050**	**16**

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

UNDERDRAINS SHALL BE STUBBED INTO THE PROPOSED
DROP INLET IF AND WHERE DIRECTED BY THE ENGINEER. PAYMENT
FOR THIS TO BE INCLUDED IN THE UNIT PRICE BID FOR 4" PIPE UNDERDRAIN.

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(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-20-19

DRIVEWAYS & TURNOUTS (BOX 1 OF 2)

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS							STANDARD DRAWINGS
										18"	24"	30"	36"	60"	21"X15"	28"X20"	
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.							
113+87	RT.	SITE 1A: HWY. 7	40				354.09	38.95	144.59								
170+79	LT.	SITE 1: HWY. 7	16				80.57	8.86	32.90		30						PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
171+64	RT.	SITE 1: HWY. 7	16				95.68	10.52	39.07	56							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
173+54	LT.	SITE 1: RANDALL WOOD DR.	24				123.23	13.56	50.32				58				PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
175+47	RT.	SITE 1: HWY. 7	16				42.34	4.66	17.29		30						PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
179+11	RT.	SITE 1: HWY. 7	16				72.57	7.98	29.63			30					PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
179+99	RT.	SITE 1: HWY. 7	16				93.90	10.33	38.34			32					PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
205+27	LT.	SITE 2: HWY. 7	16				68.12	7.49	27.82	28							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
206+43	LT.	SITE 2: HWY. 7	16				95.05	10.46	38.81								
208+15	RT.	SITE 2: SURREY RD.	24				195.19	21.47	79.70								
241+88	RT.	SITE 3: HWY. 7	16				61.54	6.77	25.13		38						PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
244+24	LT.	SITE 3: WALNUT VALLEY RD.	24				240.52	26.46	98.21								
247+92	LT.	SITE 3: HWY. 7	16				52.30	5.75	21.36	30							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
248+45	LT.	SITE 3: HWY. 7	16				52.16	5.74	21.30	30							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
251+69	RT.	SITE 3: HWY. 7	16				69.92	7.69	28.55			76					PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
252+82	RT.	SITE 3: DUNN RD.	20				163.63	18.00	66.82					52			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
255+81	RT.	SITE 3: HWY. 7	20				59.68	6.56	24.37	34							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
256+56	RT.	SITE 3: HWY. 7	20				61.90	6.81	25.28	32							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
256+99	LT.	SITE 3: HWY. 7	20				64.12	7.05	26.18	36							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
257+79	LT.	SITE 3: HWY. 7	16				58.34	6.42	23.82	30							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
258+04	RT.	SITE 3: HWY. 7	16				51.23	5.64	20.92	30							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
261+38	LT.	SITE 3: GERRARD TERRACE	24				147.19	16.19	60.10								
262+99	RT.	SITE 3: HWY. 7	30				88.57	9.74	36.17								
264+36	RT.	SITE 3: HWY. 7	30				88.57	9.74	36.17	42							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
265+64	RT.	SITE 3: HWY. 7	20				61.90	6.81	25.28	36							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
266+73	RT.	SITE 3: HWY. 7	20				59.68	6.56	24.37	34							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
355+34	RT.	SITE 3B: HWY. 7	16				79.04	8.69	32.27								
356+12	RT.	SITE 3B: HWY. 7	28				133.69	14.71	54.59								
358+30	RT.	SITE 3B: HWY. 7	26				106.54	11.72	43.50	38							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
360+55	LT.	SITE 3B: HWY. 7	16				90.59	9.96	36.99							28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
362+90	RT.	SITE 3B: HWY. 7	16				119.38	13.13	48.75				150				PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
378+67	LT.	SITE 4: HWY. 7	16				52.12	5.73	21.28	28							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
378+76	RT.	SITE 4: HWY. 7	16				50.88	5.60	20.78	28							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
379+67	LT.	SITE 4: HWY. 7	20				61.01	6.71	24.91	32							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
379+72	RT.	SITE 4: HWY. 7	24				74.03	8.14	30.23						36		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
380+95	RT.	SITE 4: HWY. 7	16				52.12	5.73	21.28								
381+15	LT.	SITE 4: HWY. 7	16				69.01	7.59	28.18	34							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
382+08	RT.	SITE 4: HWY. 7	16				56.74	6.24	23.17								
383+38	LT.	SITE 4: HWY. 7	16				60.48	6.65	24.70							36	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
384+57	RT.	SITE 4: HWY. 7	24				58.16	6.40	23.75								
384+92	LT.	SITE 4: LOCKET MOUNTAIN RD.	22				205.35	22.59	83.85								
385+24	RT.	SITE 4: HWY. 7	16				41.63	4.58	17.00								
385+75	LT.	SITE 4: HWY. 7	24				55.23	6.08	22.55						34		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
386+80	RT.	SITE 4: HWY. 7	16				41.63	4.58	17.00						28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
387+71	LT.	SITE 4: HWY. 7	40				85.90	9.45	35.08						50		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
388+60	RT.	SITE 4: HWY. 7	16				41.63	4.58	17.00	32							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
388+99	LT.	SITE 4: HWY. 7	30				66.57	7.32	27.18						40		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
389+76	RT.	SITE 4: HWY. 7	24				96.56	10.62	39.43		40						PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
394+17	LT.	SITE 4: HWY. 7	40				130.35	14.34	53.23		50						PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
395+15	LT.	SITE 4: HWY. 7	40				85.90	9.45	35.08							52	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
395+76	LT.	SITE 4: HWY. 7	16				39.50	4.35	16.13							28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
SUBTOTALS (BOX 1 OF 2):							**4556.03**	**501.15**	**1860.41**	**610**	**188**	**138**	**208**	**52**	**188**	**144**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....95.1% MIN. AGGR.....4.9% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

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

kge653 12/4/2019
R061438.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
12-20-19				6	ARK.			
				JOB NO.		061438	96	277

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-2019

DRIVEWAYS & TURNOUTS (BOX 2 OF 2)

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS							STANDARD DRAWINGS
										18"	24"	30"	36"	60"	21"X15"	28"X20"	
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.							
397+08	LT.	SITE 4: HWY. 7	16				39.50	4.35	16.13							28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
398+29	LT.	SITE 4: HWY. 7	24				54.96	6.05	22.44							36	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
398+91	LT.	SITE 4: HWY. 7	24				83.23	9.16	33.99							36	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
400+13	LT.	SITE 4: HWY. 7	24				54.96	6.05	22.44							34	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
400+20	RT.	SITE 4: HWY. 7	16				154.34	16.98	63.02						28		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
400+73	LT.	SITE 4: HWY. 7	16				39.32	4.33	16.06							28	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
406+81	LT.	SITE 4: HWY. 7	16				40.57	4.46	16.57								
407+02	RT.	SITE 4: HWY. 7	20				70.79	7.79	28.91						34		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
408+00	RT.	SITE 4: HWY. 7	16				58.34	6.42	23.82								
409+40	RT.	SITE 4: E. GLAZYPEAU RD.	22				317.17	34.89	129.51						70		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
411+54	LT.	SITE 4: W. GLAZYPEAU RD.	24				240.52	26.46	98.21								
412+71	RT.	SITE 4: HWY. 7	30				68.90	7.58	28.13						40		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
417+21	RT.	SITE 4: HWY. 7	32				73.27	8.06	29.92						44		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
418+71	RT.	SITE 4: HWY. 7	30				69.90	7.69	28.54	44							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
419+97	RT.	SITE 4: HWY. 7	30				70.57	7.76	28.82								
420+53	LT.	SITE 4: HWY. 7	28				96.61	10.63	39.45	34							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
518+97	RT.	SITE 6: HWY. 7	30			204.89											
519+36	LT.	SITE 6: HWY. 7	30				51.56	5.67	21.05								
520+72	LT.	SITE 6: HWY. 7	16	520+50	520+94		84.98	9.35	34.70								
523+10	RT.	SITE 6: HWY. 7	40				135.11	14.86	55.17								
523+49	LT.	SITE 6: MAYBERRY LANE	20				42.67	4.69	17.42								
524+22	LT.	SITE 6: HWY. 7	38	523+89	524+55		215.74	23.73	88.09								
525+33	LT.	SITE 6: HWY. 7	16	525+11	525+55		115.06	12.66	46.98								
525+53	RT.	SITE 6: HWY. 7	36	525+21	525+85	113.45											
526+87	LT.	SITE 6: HWY. 7	16	526+65	527+09		60.46	6.65	24.69								
526+98	RT.	SITE 6: HWY. 7	16	526+76	527+20		117.33	12.91	47.91								
528+76	LT.	SITE 6: HWY. 7	16	528+54	528+98		135.73	14.93	55.42								
529+28	LT.	SITE 6: HWY. 7	16	529+06	529+50		113.42	12.48	46.31								
529+29	RT.	SITE 6: HWY. 7	16	529+07	529+51		105.07	11.56	42.90								
529+92	LT.	SITE 6: HWY. 7	16	529+70	530+14		65.78	7.24	26.86								
529+95	RT.	SITE 6: HWY. 7	16	529+73	530+17		97.81	10.76	39.94								
530+85	RT.	SITE 6: HWY. 7	16	530+63	531+07	86.29											
533+87	LT.	SITE 6: HWY. 7	40	533+53	534+21	173.06											
535+59	RT.	SITE 6: HWY. 7	16	535+37	535+81		86.29	9.49	35.24								
535+64	LT.	SITE 6: HWY. 7	24	535+38	535+90	146.22											
540+00	LT.	SITE 6: MCNEELY CIR.	24	539+74	540+26		179.55	19.75	73.32								
615+80	RT.	SITE 7: HWY. 7	20				79.12	8.70	32.31	34							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
617+85	RT.	SITE 7: HWY. 7	16				150.79	16.59	61.57								
621+25	LT.	SITE 7: HWY. 7	20				135.23	14.88	55.22								
623+11	LT.	SITE 7: HWY. 7	40				155.24	17.08	63.39	52							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
623+90	LT.	SITE 7: HWY. 7	40				116.17	12.78	47.44	50							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
624+62	LT.	SITE 7: HWY. 7	24				73.12	8.04	29.86	34							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
625+21	LT.	SITE 7: HWY. 7	24				72.30	7.95	29.52	34							PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
629+85	LT.	SITE 7: HWY. 7	24				126.16	13.88	51.52								
631+54	LT.	SITE 7: HWY. 7	24				152.56	16.78	62.30								
* ENTIRE PROJECT TEMPORARY DRIVES									1500.00								
SUBTOTALS (BOX 1 OF 2):							**4556.03**	**501.15**	**1860.41**	**610**	**188**	**138**	**208**	**52**	**188**	**144**	
SUBTOTALS (BOX 2 OF 2):						**723.91**	**4200.20**	**462.07**	**3215.09**	**282**					**216**	**162**	
TOTALS:						**723.91**	**8756.23**	**963.22**	**5075.50**	**892**	**188**	**138**	**208**	**52**	**404**	**306**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....95.1% MIN. AGGR.....4.9% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

** FOR INFORMATION ONLY

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

akge653 12/4/2019
R061438.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
12-20-19				6	ARK.			
				JOB NO.		061438	97	277

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-20-19

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 24"	30"	36"	48"	51"X31"	SIDE DRAIN 12"	18"	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 18"	24"	51"X31"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	30"	36"	48"	51"X31"	DROP INLETS TYPE C	MO	ST	EXT. 4'	8'	YARD DRAINS	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.										EACH						TYPE			EXT.		EACH	LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL.	
109+78	SITE 1A: EXTEND R.C. PIPE CULVERT WITH FES LT. & RT.	34											2																			FES-1, FES-2, PCC-1
172+58	SITE 1: EXTEND R.C. PIPE CULVERT WITH FES RT. ON 30° LT. FWD. SKEW			14											1																	FES-1, FES-2, PCC-1
205+58	SITE 2: EXTEND DBL. R.C. BOX CULVERT WITH 3:1 WINGS LT. & RT.																							5	3	26	28.10	4125	28	15	0.19	PBC-1, RCB-1, RCB-2, RCB-3, W-X003-1, R-200X-0
206+43	SITE 2: CONST. DBL. R.C. BOX CULVERT WITH 3:1 WINGS LT. & RT.																							5	3	24	29.38	3290	26	20	0.25	PBC-1, RCB-1, RCB-2, SPECIAL DETAILS
211+77	SITE 2: EXTEND R.C. PIPE CULVERT WITH FES LT. & RT.	20											2																			FES-1, FES-2, PCC-1
245+60	SITE 3: EXTEND DBL. R.C. PIPE CULVERT WITH FES LT. & RT. ON 28° RT. FWD. SKEW			56											4																	FES-1, FES-2, PCC-1
253+66	SITE 3: EXTEND DBL. R.C. PIPE CULVERT WITH FES LT. & RT.		36											4																		FES-1, FES-2, PCC-1
266+13	SITE 3: EXTEND R.C. PIPE CULVERT WITH FES LT. & RT.	20											2																			FES-1, FES-2, PCC-1
268+50	SITE 3: SIDE DRAIN FOR BLUEBERRY TRAIL						52																									PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
383+81	SITE 4: EXTEND R.C. PIPE CULVERT WITH FES LT. & RT. ON 30° RT. FWD. SKEW		32											2																		FES-1, FES-2, PCC-1
402+22	SITE 4: EXTEND R.C. PIPE CULVERT WITH FES LT. & RT. ON 30° RT. FWD. SKEW	38											2																			FES-1, FES-2, PCC-1
410+59	SITE 4: EXTEND R.C. PIPE CULVERT WITH FES RT.	18											1																			FES-1, FES-2, PCC-1
416+31	SITE 4: EXTEND R.C. BOX CULVERT WITH 3:1 WINGS LT. & RT.																							6	3	32	22.96	2703	18	13	0.17	PBC-1, RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-0
515+95	SITE 6: CONST. DI W/ EXT. AND R.C. ARCH PIPE CULVERT W/ FES ON LT.					28					170						1		1			1										FES-1, FES-2, FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
517+76	SITE 6: CONST. DI W/ EXT. AND ARCH PIPE CULVERT ON LT.										116								1			1										FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
518+99	SITE 6: CONST. DI W/ EXT. AND ARCH PIPE CULVERT ON LT.										70								1			1										FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
519+60	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.							14											1			1										FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
519+76	SITE 6: CONST. DI W/ EXT. AND ARCH PIPE CULVERT ON LT.										118								1			1										FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
521+00	SITE 6: CONST. DI W/ EXT. AND ARCH PIPE CULVERT ON LT.										106								1			1										FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
522+07	SITE 6: CONST. DI W/ EXT. AND R.C. PIPE CULVERT W/ FES ON RT.				18											1			1		1										FES-1, FES-2, FPC-9, FPC-9E, FPC-9M, PCC-1
522+10	SITE 6: CONST. DI W/ EXT. AND R.C. PIPE CULVERT W/ FES ON LT.				16											1			1			1										FES-1, FES-2, FPC-9, FPC-9E, FPC-9M, PCC-1
523+38	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.							24											1			1										FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
523+65	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.							32											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
523+92	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.							106											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
524+33	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.								204										1			1										FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
525+02	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.								134										1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
526+41	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.								146										1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
526+42	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.								146										1			1										FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
527+90	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.								24										1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
527+90	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.								24										1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
528+13	SITE 6: CONST. DI W/ EXT. ON TOP OF R.C. BOX CULVERT ON LT.																	1			1											FPC-9, FPC-9E
528+17	SITE 6: CONST. DI W/ EXT. ON TOP OF R.C. BOX CULVERT ON RT.																	1			1											FPC-9, FPC-9E
528+18	SITE 6: EXTEND R.C. BOX CULVERT WITH 3:1 WINGS LT. & RT.																							4	4	54	36.78	3288	30	16	0.18	FPC-9, PBC-1, RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-0
528+27	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.							6											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
528+28	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.							6											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
529+60	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.							130											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
529+60	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.							130											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
531+20	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.							156											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
531+20	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.							156											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
532+85	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON LT.							162											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
532+85	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.							162											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
536+17	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.							160											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
537+84	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.							160											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
539+45	SITE 6: CONST. DI W/ R.C. PIPE CULVERT AND FES ON LT.								50				1						1													FES-1, FES-2, FPC-9, FPC-9E, FPC-9M, PCC-1
539+50	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.								46										1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
540+00	SITE 6: CONST. DI AND R.C. PIPE CULVERT W/ FES ON RT.			10											1				1													FES-1, FES-2, FPC-9, FPC-9E, FPC-9M, PCC-1
540+30	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.							26											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
541+50	SITE 6: CONST. DI W/ EXT. AND PIPE CULVERT ON RT.							116											1		1											FPC-9, FPC-9E, FPC-9M, PCC-1, PCM-1
SITE 6: TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.						200																20										PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
617+35	SITE 7: CONST. R.C. PIPE CULVERT WITH FES LT. & RT.				56											2																FES-1, FES-2, PCC-1
617+35	SITE 7: EXTEND R.C. BOX CULVERT WITH 3:1 WINGS LT. & RT.																							6	4	25	21.91	2253	18	16	0.19	PBC-1, RCB-1, RCB-2, RCB-3, W-X003-1, R-100X-0
624+91	SITE 7: EXTEND R.C. PIPE CULVERT WITH FES RT.		22												1																	FES-1, FES-2, PCC-1
625+82	SITE 7: CONST. DI AND R.C. PIPE CULVERT W/ FES ON RT.	126											1							1												FES-1, FES-2, FPC-9S, PCC-1, FPC-9, PCM-1
626+69	SITE 7: CONST. R.C. PIPE CULVERT WITH FES LT. & RT.	134										2																				FES-1, FES-2, PCC-1
626+78	SITE 7: CONST. DI AND R.C. PIPE CULVERT W/ FES ON RT.	16											1							1												FES-1, FES-2, FPC-9S, PCC-1, FPC-9, PCM-1
628+36	SITE 7: EXTEND AND CONST. R.C. PIPE CULVERT WITH FES LT. & RT.	90											4																				FES-1, FES-2, PCC-1
TOTALS:		**496**	**90**	**80**	**90**	**28**	**200**	**52**	**1546**	**774**	**580**	**2**	**16**	**7**	**6**	**4**	**1**	**2**	**32**	**2**	**22**	**10**	**20**				**139.13**	**15659**	**120**	**80**	**0.98**	

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

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

bkge653 12/4/2019
R0614.38.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.		061438	98	277

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
170+00	34	35	15.70	93	0	0.90	18' RT.	0-5	20	5	A-4(0)	BROWN
170+00	34	35	15.80	93	0	0.90	25' RT.	0-5	18	6	A-4(0)	BROWN
170+00	34	35	15.80	93	0	0.90	31' RT.	0-5	19	5	A-2-4(0)	BROWN
178+00	34	35	23.70	93	0	3.40	6' LT.	0-4Z	25	12	A-6(4)	BROWN
178+00	34	35	23.70	93	0	3.50	14' LT.	0-5	23	5	A-4(0)	BROWN
178+00	34	35	23.70	93	0	3.60	18' LT.	0-5	26	7	A-4(0)	BROWN
186+00	34	35	31.50	93	0	4.40	6' RT.	0-5	22	6	A-4(0)	BROWN
186+00	34	35	31.50	93	0	4.40	14' RT.	0-5	21	4	A-4(0)	BROWN
186+00	34	35	31.60	93	0	4.40	18' RT.	0-5	21	5	A-4(0)	BROWN
194+00	34	35	36.10	93	0	11.90	6' LT.	0-5	28	9	A-4(3)	BROWN
194+00	34	35	36.10	93	0	12.00	14' LT.	0-5	26	9	A-4(3)	BROWN
194+00	34	35	36.00	93	0	12.00	18' LT.	0-5	26	9	A-4(1)	BROWN
202+00	34	35	38.70	93	0	20.80	6' RT.	0-5	27	10	A-4(4)	BROWN
202+00	34	35	38.80	93	0	20.80	18' RT.	0-5	26	8	A-4(1)	BROWN
210+00	34	35	40.90	93	0	30.00	6' LT.	0-5	24	7	A-4(2)	BROWN
219+00	34	35	42.70	93	0	40.70	6' RT.	0-3.5Z	18	4	A-4(0)	BROWN
219+00	34	35	42.80	93	0	40.70	15' RT.	0-5	22	6	A-4(0)	BROWN
226+00	34	35	45.50	93	0	48.20	21' RT.	0-5	23	6	A-4(0)	BROWN
234+00	34	35	49.70	93	0	56.30	15' RT.	0-5	21	7	A-4(1)	BROWN
242+00	34	35	52.10	93	1	5.50	9' LT.	0-5	27	9	A-4(4)	BROWN
242+00	34	35	52.10	93	1	5.60	21' LT.	0-5	28	10	A-4(6)	BROWN
249+85	34	35	57.50	93	1	12.70	6' RT.	0-5	27	9	A-4(2)	BROWN
249+85	34	35	57.50	93	1	12.60	18' RT.	0-5	27	10	A-4(3)	BROWN
258+00	34	36	1.30	93	1	20.80	6' LT.	0-5	33	11	A-6(3)	BROWN
258+00	34	36	1.10	93	1	21.00	18' LT.	0-5	31	11	A-6(3)	BROWN
266+00	34	36	6.20	93	1	28.60	6' RT.	0-5	25	8	A-4(2)	BROWN
384+00	34	37	27.80	93	3	2.20	6' RT.	0-5	19	4	A-4(0)	BROWN
384+00	34	37	27.90	93	3	2.00	21' RT.	0-5	ND	NP	A-4(0)	BROWN
391+00	34	37	32.60	93	3	8.40	6' LT.	0-5	ND	NP	A-4(0)	BROWN
391+00	34	37	32.50	93	3	8.40	15' LT.	0-5	19	5	A-4(0)	BROWN
400+00	34	37	38.80	93	3	16.00	6' RT.	0-5	31	12	A-6(6)	BROWN
400+00	34	37	38.90	93	3	15.90	18' RT.	0-5	29	10	A-4(4)	BROWN
408+00	34	37	44.10	93	3	23.20	6' LT.	0-5	19	6	A-4(0)	BROWN
408+00	34	37	44.00	93	3	23.20	18' LT.	0-5	21	7	A-4(1)	BROWN
408+50	34	37	44.40	93	3	23.70	18' LT.	0-5	ND	NP	A-4(0)	RD/BR
416+00	34	37	49.60	93	3	29.50	6' RT.	0-5	23	7	A-4(2)	BROWN
416+00	34	37	49.70	93	3	29.40	18' RT.	0-5	25	9	A-4(4)	BROWN
475+00	34	38	46.30	93	3	30.10	12' RT.	0-5	35	15	A-4(0)	GRAY
475+00	34	38	46.20	93	3	30.10	21' RT.	0-5	35	15	A-4(0)	GRAY
475+00	34	38	46.20	93	3	30.00	33' RT.	0-5	20	3	A-4(0)	GRAY
483+00	34	38	53.70	93	3	26.60	12' LT.	0-5	24	6	A-4(1)	BROWN
483+00	34	38	53.60	93	3	26.60	20' LT.	0-5	22	6	A-4(0)	BROWN
491+00	34	39	1.30	93	3	25.10	12' RT.	0-5	26	9	A-4(1)	GRAY
491+00	34	39	1.30	93	3	24.90	24' RT.	0-5	24	8	A-4(1)	GRAY
499+00	34	39	9.30	93	3	23.70	12' LT.	0-5	31	12	A-6(5)	GRAY
499+00	34	39	9.20	93	3	23.90	24' LT.	0-3Z	22	7	A-4(3)	GRAY
507+00	34	39	16.80	93	3	22.40	12' RT.	0-5	42	22	A-7-6(11)	BROWN
516+00	34	39	23.20	93	3	29.10	12' LT.	0-5	26	8	A-4(4)	BROWN
524+00	34	39	23.90	93	3	38.40	6' RT.	0-5	27	11	A-6(3)	RED
524+00	34	39	23.90	93	3	38.40	18' RT.	0-3Z	46	21	A-7-6(11)	RD/BR
531+00	34	39	23.10	93	3	47.00	6' LT.	0-5	42	18	A-7-6(15)	BROWN
531+00	34	39	23.10	93	3	47.00	14' LT.	0-5	40	18	A-6(14)	BROWN
539+00	34	39	23.10	93	3	56.40	6' RT.	0-5	35	11	A-6(8)	BROWN
539+00	34	39	23.10	93	3	56.40	14' RT.	0-5	ND	NP	A-4(0)	BROWN
539+00	34	39	23.10	93	3	56.40	18' RT.	0-5	42	20	A-7-6(16)	BROWN
603+00	34	40	18.30	93	4	20.00	6' RT.	0-3Z	20	5	A-4(1)	BROWN
603+00	34	40	18.40	93	4	19.90	14' RT.	0-5	ND	NP	A-4(0)	BROWN
603+00	34	40	18.40	93	4	19.90	18' RT.	0-5	26	9	A-2-4(0)	BROWN
611+00	34	40	26.40	93	4	21.20	6' LT.	0-5	26	10	A-4(2)	BROWN
611+00	34	40	26.40	93	4	21.40	14' LT.	0-5	25	11	A-6(3)	BROWN
619+00	34	40	34.20	93	4	22.20	6' RT.	0-5	18	5	A-4(0)	BROWN
619+00	34	40	34.20	93	4	22.00	18' RT.	0-5	18	4	A-4(0)	BROWN
629+00	34	40	44.00	93	4	20.00	6' LT.	0-5	19	5	A-4(0)	BROWN
629+00	34	40	44.00	93	4	20.10	18' LT.	0-5	20	5	A-4(0)	BROWN
635+00	34	40	49.40	93	4	17.10	6' RT.	0-5	22	8	A-4(1)	BROWN
635+00	34	40	49.40	93	4	17.00	18' RT.	0-5	29	13	A-6(4)	BROWN

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

ikge653 12/4/2019
R0614.38.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	99	277

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

BASE AND SURFACING (BOX 1 OF 2)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")							
						(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)															
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLON	TOTAL WID.	SQ.YD.	GALLON	TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	TOTAL PG 64-22
			FEET			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																								
704+45.97	107+00.00	SITE 1A: HWY. 7 - TRANSITION	100.97	VAR.	107.88	28.39	318.50	15.93				15.93	4.26	47.79	495.00	11.83	4.13	46.33	220.00	5.10	33.00	370.22	220.00	40.72	45.82
107+00.00	109+00.00	SITE 1A: HWY. 7 - TAPER	200.00	VAR.	389.25	56.77	1261.56	63.08				63.08	14.52	322.67	495.00	79.86	14.25	316.67	220.00	34.83	41.50	922.22	220.00	101.44	136.27
109+00.00	111+76.00	SITE 1A: HWY. 7 - 36' LN	276.00	221.75	612.03	60.77	1863.61	93.18				93.18	20.52	629.28	495.00	155.75	20.25	621.00	220.00	68.31	50.00	1533.33	220.00	168.67	236.98
111+76.00	116+00.00	SITE 1A: HWY. 7 - 36' LN	424.00	221.75	940.22	52.77	2486.05	124.30				124.30	12.52	589.83	495.00	145.98	12.25	577.11	220.00	63.48	50.00	2355.56	220.00	259.11	322.59
116+00.00	117+00.00	SITE 1A: HWY. 7 - TRANSITION	100.00	VAR.	98.63	44.77	497.44	24.87				24.87	4.52	50.22	495.00	12.43	4.25	47.22	220.00	5.19	50.00	555.56	220.00	61.11	66.30
169+00.00	170+00.00	SITE 1: HWY. 7 - TRANSITION	100.00	VAR.	88.13	40.39	448.78	22.44				22.44	2.26	25.11	495.00	6.21	2.13	23.67	220.00	2.60	48.00	533.33	220.00	58.67	61.27
170+00.00	173+80.00	SITE 1: HWY. 7 - 36' LN	380.00	VAR.	624.63	52.77	2228.07	111.40				111.40	12.52	528.62	495.00	130.83	12.25	517.22	220.00	56.89	48.00	2026.67	220.00	222.93	279.82
173+80.00	180+40.00	SITE 1: HWY. 7 - TAPER	660.00	VAR.	1145.93	48.77	3576.47	178.82				178.82	14.52	1064.80	495.00	263.54	14.25	1045.00	220.00	114.95	42.00	3080.00	220.00	338.80	453.75
180+40.00	181+40.00	SITE 1: HWY. 7 - TRANSITION	100.00	VAR.	97.38	28.39	315.44	15.77				15.77	4.26	47.33	495.00	11.71	4.13	45.89	220.00	5.05	38.00	422.22	220.00	46.44	51.49
203+50.00	204+50.00	SITE 2: HWY. 7 - TRANSITION	100.00	VAR.	86.38	28.39	315.44	15.77				15.77	4.26	47.33	495.00	11.71	4.13	45.89	220.00	5.05	30.00	333.33	220.00	36.67	41.72
204+50.00	205+10.00	SITE 2: HWY. 7 - 24' LN	60.00	124.50	74.70	36.77	245.13	12.26				12.26	8.52	56.80	495.00	14.06	8.25	55.00	220.00	6.05	32.00	213.33	220.00	23.47	29.52
205+10.00	208+40.00	SITE 2: HWY. 7 - TAPER	330.00	VAR.	499.95	48.77	1788.23	89.41				89.41	14.52	532.40	495.00	131.77	14.25	522.50	220.00	57.48	38.00	1393.33	220.00	153.27	210.75
208+40.00	209+40.00	SITE 2: HWY. 7 - LT. TURN LN.	100.00	178.50	178.50	60.77	675.22	33.76				33.76	20.52	228.00	495.00	56.43	20.25	225.00	220.00	24.75	44.00	488.89	220.00	53.78	78.53
209+40.00	212+70.00	SITE 2: HWY. 7 - TAPER	330.00	VAR.	499.95	48.77	1788.23	89.41				89.41	14.52	532.40	495.00	131.77	14.25	522.50	220.00	57.48	38.00	1393.33	220.00	153.27	210.75
212+70.00	213+00.00	SITE 2: HWY. 7 - 24' LN	30.00	124.50	37.35	36.77	122.57	6.13				6.13	8.52	28.40	495.00	7.03	8.25	27.50	220.00	3.03	32.00	106.67	220.00	11.73	14.76
213+00.00	214+00.00	SITE 2: HWY. 7 - TRANSITION	100.00	VAR.	86.38	28.39	315.44	15.77				15.77	4.26	47.33	495.00	11.71	4.13	45.89	220.00	5.05	30.00	333.33	220.00	36.67	41.72
239+00.00	240+00.00	SITE 3: HWY. 7 - TRANSITION	100.00	90.88	90.88																6.00	66.67	220.00	7.33	7.33
240+00.00	270+00.00	SITE 3: HWY. 7	3000.00	133.50	4005.00																12.00	4000.00	220.00	440.00	440.00
270+00.00	271+00.00	SITE 3: HWY. 7 - TRANSITION	100.00	90.88	90.88																6.00	66.67	220.00	7.33	7.33
353+17.00	354+17.00	SITE 3B: HWY. 7 - TRANSITION	100.00	VAR.	98.63	44.77	497.44	24.87				24.87	4.52	50.22	495.00	12.43	4.25	47.22	220.00	5.19	50.00	555.56	220.00	61.11	66.30
354+17.00	359+42.00	SITE 3B: HWY. 7 - 36' LN	525.00	VAR.	973.22	56.77	3311.58	165.58				165.58	14.52	847.00	495.00	209.63	14.25	831.25	220.00	91.44	50.00	2916.67	220.00	320.83	412.27
359+42.00	364+26.00	SITE 3B: HWY. 7 - 36' LN	484.00	221.75	1073.27	60.77	3268.08	163.40				163.40	20.52	1103.52	495.00	273.12	20.25	1089.00	220.00	119.79	50.00	2688.89	220.00	295.78	415.57
364+26.00	366+26.00	SITE 3B: HWY. 7 - TAPER	200.00	194.63	389.26	48.77	1083.78	54.19				54.19	14.52	322.67	495.00	79.86	14.25	316.67	220.00	34.83	44.00	977.78	220.00	107.56	142.39
366+26.00	367+26.00	SITE 3B: HWY. 7 - TRANSITION	100.00	VAR.	107.88	28.39	315.44	15.77				15.77	4.26	47.33	495.00	11.71	4.13	45.89	220.00	5.05	32.00	355.56	220.00	39.11	44.16
378+00.00	379+00.00	SITE 4: HWY. 7 - TRANSITION	100.00	VAR.	86.38	28.39	315.44	15.77				15.77	4.26	47.33	495.00	11.71	4.13	45.89	220.00	5.05	29.90	332.22	220.00	36.54	41.59
379+00.00	380+95.00	SITE 4: HWY. 7 - 24' LN	195.00	124.50	242.78	36.77	796.68	39.83				39.83	8.52	184.60	495.00	45.69	8.25	178.75	220.00	19.66	32.00	693.33	220.00	76.27	95.93
380+95.00	383+65.00	SITE 4: HWY. 7 - TAPER	270.00	VAR.	409.05	48.77	1463.10	73.16				73.16	14.52	435.60	495.00	107.81	14.25	427.50	220.00	47.03	38.00	1140.00	220.00	125.40	172.43
383+65.00	416+45.00	SITE 4: HWY. 7 - 36' LN	3280.00	178.50	5854.80	60.77	22147.29	1107.36				1107.36	20.52	7478.40	495.00	1850.90	20.25	7380.00	220.00	811.80	44.00	16035.56	220.00	1763.91	2575.71
416+45.00	419+65.00	SITE 4: HWY. 7 - 36' LN	320.00	VAR.	455.20	52.77	1876.27	93.81				93.81	12.52	445.16	495.00	110.18	12.25	435.56	220.00	47.91	44.00	1564.44	220.00	172.09	220.00
419+65.00	420+65.00	SITE 4: HWY. 7 - TRANSITION	100.00	VAR.	86.38	40.39	448.78	22.44				22.44	2.26	25.11	495.00	6.21	2.13	23.67	220.00	2.60	45.70	507.78	220.00	55.86	58.46
515+00.00	515+67.00	SITE 6: HWY. 7 - TRANSITION	67.00	106.00	71.02	44.77	333.29	16.66				16.66	4.52	33.65	495.00	8.33	4.25	31.64	220.00	3.48	44.00	327.56	220.00	36.03	39.51
515+67.00	515+92.00	SITE 6: HWY. 7 - TRANSITION	25.00	106.00	26.50	44.50	123.61	6.18				6.18	4.25	11.81	495.00	2.92	4.25	11.81	220.00	1.30	53.25	147.92	220.00	16.27	17.57
515+92.00	518+00.00	SITE 6: HWY. 7 - TRANSITION	208.00	VAR.	174.72	111.50	2576.89	128.84				128.84	40.50	936.00	495.00	231.66	40.50	936.00	220.00	102.96	40.50	936.00	220.00	102.96	205.92
518+00.00	519+38.00	SITE 6: HWY. 7 - 36' LN	138.00	VAR.	115.92	76.50	1173.00	58.65				58.65	27.00	414.00	495.00	102.47	27.00	414.00	220.00	45.54	36.00	552.00	220.00	60.72	106.26
519+38.00	539+80.00	SITE 6: HWY. 7 - 36' LN	2042.00	95.50	1950.11	52.00	11798.22	589.91				589.91	16.00	3630.22	495.00	898.48	16.00	3630.22	220.00	399.32	36.00	8168.00	220.00	898.48	1297.80
539+80.00	541+16.00	SITE 6: HWY. 7 - TAPER	136.00	88.13	119.86	48.82	737.72	36.89				36.89	14.41	217.75	495.00	53.89	14.41	217.75	220.00	23.95	34.41	519.97	220.00	57.20	81.15
541+16.00	542+50.00	SITE 6: HWY. 7 ON LT.	134.00	42.63	57.12	26.36	392.47	19.62				19.62	3.18	47.35	495.00	11.72	3.18	47.35	220.00	5.21	32.82	488.65	220.00	53.75	58.96
542+50.00	543+50.00	SITE 6: HWY. 7 - TRANSITION	100.00	VAR.	86.38	28.77	319.67	15.98				15.98	4.52	50.22	495.00	12.43	4.25	47.22	220.00	5.19	34.50	383.33	220.00	42.17	47.36
615+00.00	616+00.00	SITE 7: HWY. 7 - TRANSITION	100.00	VAR.	86.38	28.39	315.44	15.77				15.77	4.26	47.33	495.00	11.71	4.13	45.89	220.00	5.05	29.83	331.44	220.00	36.46	41.51
616+00.00	619+40.00	SITE 7: HWY. 7 - 24' LN	340.00	124.50	423.30	36.77	1389.09	69.45				69.45	8.52	321.87	495.00	79.66	8.25	311.67	220.00	34.28	32.00	1208.89	220.00	132.98	167.26
619+40.00	625+40.00	SITE 7: HWY. 7 - TAPER	600.00	VAR.	909.00	48.77	3251.33	162.57				162.57	14.52	968.00	495.00	239.58	14.25	950.00	220.00	104.50	38.00	2533.33	220.00	278.67	383.17
625+40.00	626+40.00	SITE 7: HWY. 7 - LT. TURN LN.	100.00	178.50	178.50	60.77	675.22	33.76				33.76	20.52	228.00	495.00	56.43	20.25	225.00	220.00	24.75	44.00	488.89	220.00	53.78	78.53
626+40.00	632+40.00	SITE 7: HWY. 7 - TAPER	600.00	VAR.	909.00	48.77	3251.33	162.57				162.57	14.52	968.00	495.00	239.58	14.25	950.00	220.00	104.50	38.00	2533.33	220.00	278.67	383.17
632+40.00	633+40.00	SITE 7: HWY. 7 - TRANSITION	100.00	VAR.	86.38	28.39	315.44	15.77				15.77	4.26	47.33	495.00	11.71	4.13	45.89	220.00	5.05	29.83	331.44	220.00	36.46	41.51
900+11.00	901+88.00	SITE 3: BLUEBERRY TRAIL																			VAR.	152.57	220.00	16.78	16.78
800+12.00	801+87.00	SITE 7: HWY. 298		VAR.	37.38	VAR.	1647.78	82.39					VAR.	823.89	495.00	203.91	VAR.	823.89	220.00	90.63	VAR.	976.33	220.00	107.40	198.03
SUBTOTALS (BOX 1 OF 2):					**24762.47**		**82070.56**	**4103.49**				**4021.10**		**24510.67**		**6066.35**		**24194.12**		**2661.35**		**68042.10**		**7484.65**	**10146.00**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....95.1% MIN. AGGR.....4.9% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

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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.		061438	100	277

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

BASE AND SURFACING (BOX 2 OF 2)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	TOTAL PG 64-22
			FEET			TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON		FEET			TON	FEET			TON	FEET			TON	TON
ADDITIONAL FOR LEVELING																									
107+00.00	116+00.00	SITE 1A: HWY. 7	900.00						VAR.	VAR.	540.08	540.08					VAR.	VAR.	VAR.	143.20					143.20
170+00.00	180+40.00	SITE 1: HWY. 7	1040.00						VAR.	VAR.	556.09	556.09					VAR.	VAR.	VAR.	355.60					355.60
204+50.00	213+00.00	SITE 2: HWY. 7	850.00						VAR.	VAR.	396.68	396.68					VAR.	VAR.	VAR.	168.70					168.70
354+17.00	366+26.00	SITE 3B: HWY. 7	1209.00						VAR.	VAR.	641.85	641.85					VAR.	VAR.	VAR.	111.90					111.90
379+00.00	419+65.00	SITE 4: HWY. 7	4065.00						VAR.	VAR.	1704.91	1704.91					VAR.	VAR.	VAR.	416.00					416.00
515+00.00	542+50.00	SITE 6: HWY. 7	2750.00						VAR.	VAR.	1152.24	1152.24					VAR.	VAR.	VAR.	1660.40					1660.40
616+00.00	632+40.00	SITE 7: HWY. 7	1640.00						VAR.	VAR.	695.13	695.13					VAR.	VAR.	VAR.	460.50					460.50
ADDITIONAL FOR SUPERELEVATION																									
111+00.00	114+60.00	SITE 1A: HWY. 7	360.00	4.38	15.77																				
114+60.00	116+00.00	SITE 1A: HWY. 7	140.00	8.75	12.25																				
175+00.00	178+97.53	SITE 1: HWY. 7	397.53	5.75	22.86																				
204+50.00	206+47.76	SITE 2: HWY. 7	197.76	7.00	13.84																				
206+47.76	211+53.54	SITE 2: HWY. 7	505.78	7.00	35.40																				
211+53.54	213+00.00	SITE 2: HWY. 7	146.46	7.00	10.25																				
360+90.00	364+50.00	SITE 3B: HWY. 7	360.00	0.63	2.27																				
364+50.00	366+17.00	SITE 3B: HWY. 7	167.00	1.25	2.09																				
379+00.00	381+60.00	SITE 4: HWY. 7	260.00	9.75	25.35																				
410+19.00	412+89.00	SITE 4: HWY. 7	270.00	5.13	13.85																				
412+89.00	419+65.00	SITE 4: HWY. 7	676.00	10.25	69.29																				
616+00.00	619+60.00	SITE 7: HWY. 7	360.00	8.25	29.70																				
619+60.00	621+00.00	SITE 7: HWY. 7	140.00	16.50	23.10																				
621+00.00	624+60.00	SITE 7: HWY. 7	360.00	8.25	29.70																				
628+00.00	631+00.00	SITE 7: HWY. 7	300.00	8.25	24.75																				
631+00.00	632+40.00	SITE 7: HWY. 7	140.00	16.50	23.10																				
SUBTOTALS (BOX 1 OF 2):					**24762.47**		**82070.56**	**4103.49**				**4021.10**		**24510.67**	**6066.35**			**24194.12**		**2661.35**		**68042.10**		**7484.65**	**10146.00**
SUBTOTALS (BOX 2 OF 2):					**353.57**						**5686.98**	**5686.98**								**3316.30**					**3316.30**
TOTALS:					**25116.04**		**82070.56**	**4103.49**			**5686.98**	**9708.08**		**24510.67**	**6066.35**			**24194.12**		**5977.65**		**68042.10**		**7484.65**	**13462.30**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....95.1% MIN. AGGR.....4.9% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

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SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM		QUANTITY	UNIT
SP & 201	CLEARING		121	STATION
SP & 201	GRUBBING		121	STATION
202	REMOVAL AND DISPOSAL OF CURB		359	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE		2804	LIN. FT.
202	REMOVAL AND DISPOSAL OF RETAINING WALLS		155	LIN. FT.
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		8	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		58	EACH
202	REMOVAL AND DISPOSAL OF BILLBOARDS		1	EACH
202	REMOVAL AND DISPOSAL OF SIGNS		11	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE PAD		11	SQ. YD.
202	REMOVAL AND DISPOSAL OF SPRINKLER SYSTEM		1	EACH
206	FLOWABLE SELECT MATERIAL		52	CU. YD.
210	UNCLASSIFIED EXCAVATION		39435	CU. YD.
210	COMPACTED EMBANKMENT		19904	CU. YD.
SP & 210	SOIL STABILIZATION		100	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)		30192	TON
309	PORTLAND CEMENT CONCRETE BASE (7" UNIFORM THICKNESS)		78	SQ. YD.
309	PORTLAND CEMENT CONCRETE BASE (6 1/2" UNIFORM THICKNESS)		41	SQ. YD.
SS & 401	TACK COAT		9858	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		5811	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")		255	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		13719	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		707	TON
412	COLD MILLING ASPHALT PAVEMENT		4000	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		75	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY		100	TON
SS & 505	PORTLAND CEMENT CONCRETE DRIVEWAY		723.91	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SP, SS, & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
SP, SS, & 604	SIGNS		1252	SQ. FT.
SP, SS, & 604	TRAFFIC DRUMS		580	EACH
SP & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		532	LIN. FT.
SP & 604	RELOCATING PRECAST CONCRETE BARRIER		386	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS		123632	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		372	LIN. FT.
SP, SS, & 604	VERTICAL PANELS		212	EACH
* 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	1546	LIN. FT.
* 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	1546	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		496	LIN. FT.
* 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	774	LIN. FT.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	774	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		90	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		80	LIN. FT.
606	48" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		90	LIN. FT.
606	51" X 31" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)		28	LIN. FT.
* 606	51" X 31" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	580	LIN. FT.
* 606	51" X 31" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL ARCH PIPE	(ALTERNATE NO. 2)	580	LIN. FT.
SS & 606	12" SIDE DRAIN		200	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN		944	LIN. FT.
SP, SS, & 606	24" SIDE DRAIN		188	LIN. FT.
SP, SS, & 606	30" SIDE DRAIN		138	LIN. FT.
SP, SS, & 606	36" SIDE DRAIN		208	LIN. FT.
SS & 606	60" SIDE DRAIN		52	LIN. FT.
SS & 606	21" X 15" SIDE DRAIN		404	LIN. FT.
SS & 606	28" X 20" SIDE DRAIN		306	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		16	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		7	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		6	EACH
606	48" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		4	EACH
606	51" X 31" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS		1	EACH
608	SELECTED PIPE BEDDING		470	CU. YD.
SS & 609	DROP INLETS (TYPE C)		2	EACH
SS & 609	DROP INLETS (TYPE MO)		32	EACH
SS & 609	DROP INLETS (TYPE ST)		2	EACH
SS & 609	DROP INLET EXTENSIONS (4')		22	EACH
SS & 609	DROP INLET EXTENSIONS (8')		10	EACH
SS & 609	YARD DRAINS		20	EACH
SS & 611	4" PIPE UNDERDRAINS		4050	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS		16	EACH
615	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)		3	TON
619	WIRE FENCE (TYPE C)		1145	LIN. FT.
619	WIRE FENCE (TYPE D)		1378	LIN. FT.
* 619	5' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	71	LIN. FT.
* 619	5' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	71	LIN. FT.
* 619	16' STEEL GATES	(ALTERNATE NO. 1)	1	EACH
* 619	16' ALUMINUM GATES	(ALTERNATE NO. 2)	1	EACH
620	LIME		62	TON
620	SEEDING		30.81	ACRE
SS & 620	MULCH COVER		96.36	ACRE
620	WATER		4498.6	M. GAL.
621	TEMPORARY SEEDING		65.55	ACRE
621	SILT FENCE		6119	LIN. FT.
621	SAND BAG DITCH CHECKS		100	BAG
621	SEDIMENT BASIN		5100	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		5100	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		5493	CU. YD.
621	ROCK DITCH CHECKS		850	CU. YD.
SS & 621	FILTER SOCK (12")		1070	LIN. FT.
623	SECOND SEEDING APPLICATION		30.81	ACRE
624	SOLID SODDING		1484	SQ. YD.
SS & 633	CONCRETE WALKS		2340	SQ. YD.
SS & 634	CONCRETE CURB (TYPE B)		110	LIN. FT.
SS & 634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")		5425	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
637	MAILBOXES		50	EACH
637	MAILBOX SUPPORTS (SINGLE)		28	EACH
637	MAILBOX SUPPORTS (DOUBLE)		11	EACH
641	WHEELCHAIR RAMPS (TYPE 3)		47	SQ. YD.
SP & 642	MUMBLE STRIPES IN ASPHALT SHOULDERS		57658	LIN. FT.
SP & 642	CENTERLINE MUMBLE STRIPES IN ASPHALT ROADWAYS		52800	LIN. FT.
SP & 701	ACTUATED CONTROLLER TS2-TYPE 2 (8 PHASES)		1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)		8	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)		4	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)		338	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)		243	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)		32	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)		515	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)		505	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)		110	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)		34	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES		338	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")		20	LIN. FT.
710	NON-METALLIC CONDUIT (2")		20	LIN. FT.
710	NON-METALLIC CONDUIT (3")		347	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2 HD)		7	EACH
SP	LED LUMINAIRE ASSEMBLY		2	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)		1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT		1.00	LUMP SUM
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")		26745	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")		45540	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)		6	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)		18	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)		416	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER		5	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		10	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)		5	EACH
SP & 733	VIDEO DETECTOR (CLR)		7	EACH
733	VIDEO CABLE		1223	LIN. FT.
733	VIDEO MONITOR (CLR)		1	EACH
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)		4	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)		1	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY		120	CU. YD.
SS & 802	CLASS S CONCRETE-ROADWAY		139.13	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)		15659	POUND

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
12-20-19	REVISED ROADWAY STANDARD DRAWINGS. ADDED "PCP-3" ROADWAY STANDARD DRAWING. REVISED "PLASTIC PIPE" SPECIAL PROVISION. ADDED "TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)" SPECIAL PROVISION.	2, 3, 95, 96, 97, 101
1-3-20	REMOVED "PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS (IRI)" SPECIAL PROVISION. REVISED CROSS SECTION SHEETS TO CORRECT EARTHWORK LABELS.	3, 101, 196, 210, 261

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
12-20-19			
01-03-20			

(2) SUMMARY OF QUANTITIES AND REVISIONS

FED.RD. DIST.NO.	STATE	SHEET NO.	TOTAL SHEETS
6	ARK.	101	277

JOB NO.	FED.AID PROJ.NO.
061438	

STATE OF ARKANSAS
TIMOTHY D. HAINES
LICENSED
PROFESSIONAL
ENGINEER
No. 11495

1-3-20

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	102	277

(2) SURVEY CONTROL DETAILS

SURVEY CONTROL COORDINATES
Project Name: s061438
Date: 10/16/2017
Coordinate System: Arkansas State Plane Coordinates
Horizontal Control Based on GPS Points: 260002A - 260003A, 260023 - 260028A, 260035 Vertical Control Based on NGS Points: K 103 - L 103
Projected to Ground Coordinates
Units: U.S. Survey Foot

COORDINATES LISTED BELOW ARE GROUND (Localized) COORDINATES !!!!

Point No.	Northing	SY	Easting	SX	Elevation	SZ	Feature Code	Point Description
1	2013044.083	0.0210	1011214.261	0.0220	634.230	0.0065	CTL	PD:STD.AHTD MON. STAMPED PN:1
2	2013836.711	0.0330	1011109.251	0.0360	604.053	0.0050	CTL	PD:STD.AHTD MON. STAMPED PN:2
3	2014446.929	0.0280	1011091.966	0.0280	602.033	0.0049	CTL	PD:STD.AHTD MON. STAMPED PN:3
4	2014892.495	0.0320	1010736.399	0.0290	605.743	0.0049	CTL	PD:STD.AHTD MON. STAMPED PN:4
5	2015175.531	0.0290	1009996.000	0.0240	612.995	0.0043	CTL	PD:STD.AHTD MON. STAMPED PN:5
6	2015426.671	0.0250	1009264.168	0.0320	613.380	0.0024	CTL	PD:STD.AHTD MON. STAMPED PN:6
7	2015612.422	0.0340	1008519.143	0.0410	610.681	0.0033	CTL	PD:STD.AHTD MON. STAMPED PN:7
8	2015821.457	0.0260	1007768.448	0.0300	608.814	0.0046	CTL	PD:STD.AHTD MON. STAMPED PN:8
9	2016210.541	0.0230	1007102.365	0.0250	611.535	0.0050	CTL	PD:STD.AHTD MON. STAMPED PN:9
10	2016537.152	0.0270	1006393.884	0.0280	615.617	0.0050	CTL	PD:STD.AHTD MON. STAMPED PN:10
11	2016814.089	0.0250	1005735.879	0.0260	629.312	0.0062	CTL	PD:STD.AHTD MON. STAMPED PN:11
12	2017308.149	0.0350	1005262.798	0.0290	645.871	0.0073	CTL	PD:STD.AHTD MON. STAMPED PN:12
13	2017651.009	0.0360	1004586.067	0.0350	671.596	0.0073	CTL	PD:STD.AHTD MON. STAMPED PN:13
14	2017925.781	0.0330	1004285.413	0.0290	684.304	0.0069	CTL	PD:STD.AHTD MON. STAMPED PN:14
15	2018359.451	0.0300	1003793.614	0.0270	697.603	0.0075	CTL	PD:STD.AHTD MON. STAMPED PN:15
16	2018684.375	0.0220	1003541.190	0.0210	715.225	0.0078	CTL	PD:STD.AHTD MON. STAMPED PN:16
17	2019051.001	0.0270	1003403.708	0.0240	705.758	0.0078	CTL	PD:STD.AHTD MON. STAMPED PN:17
18	2019980.573	0.0330	1002931.701	0.0260	693.063	0.0068	CTL	PD:STD.AHTD MON. STAMPED PN:18
19	2020581.512	0.0300	1002494.851	0.0240	710.113	0.0055	CTL	PD:STD.AHTD MON. STAMPED PN:19
20	2024554.168	0.0320	998325.9442	0.0280	713.650	0.0086	CTL	PD:STD.AHTD MON. STAMPED PN:20
21	2025163.311	0.0390	997825.6899	0.0320	710.161	0.0091	CTL	PD:STD.AHTD MON. STAMPED PN:21
22	2025619.776	0.0370	997304.5498	0.0340	692.208	0.0097	CTL	PD:STD.AHTD MON. STAMPED PN:22
23	2025987.58	0.0400	996755.0379	0.0370	679.661	0.0100	CTL	PD:STD.AHTD MON. STAMPED PN:23
24	2026458.499	0.0280	996315.0621	0.0320	670.640	0.0105	CTL	PD:STD.AHTD MON. STAMPED PN:24
25	2027030.689	0.0300	995750.4044	0.0330	662.703	0.0106	CTL	PD:STD.AHTD MON. STAMPED PN:25
26	2027524.750	0.0290	995216.9292	0.0330	669.545	0.0113	CTL	PD:STD.AHTD MON. STAMPED PN:26
27	2027991.454	0.0240	994732.3279	0.0280	681.017	0.0116	CTL	PD:STD.AHTD MON. STAMPED PN:27
28	2028532.609	0.0260	994167.6859	0.0290	680.750	0.0119	CTL	PD:STD.AHTD MON. STAMPED PN:28
29	2029129.421	0.0280	993759.1461	0.0300	691.084	0.0123	CTL	PD:STD.AHTD MON. STAMPED PN:29
30	2034266.999	0.0220	994029.6823	0.0260	767.453	0.0148	CTL	PD:STD.AHTD MON. STAMPED PN:30
31	2034966.584	0.0210	994302.4222	0.0190	805.685	0.0150	CTL	PD:STD.AHTD MON. STAMPED PN:31
32	2035316.468	0.0250	994420.7388	0.0220	832.388	0.0156	CTL	PD:STD.AHTD MON. STAMPED PN:32
33	2035656.531	0.0300	994412.5733	0.0230	856.506	0.0159	CTL	PD:STD.AHTD MON. STAMPED PN:33
34	2036406.195	0.0240	994591.1826	0.0200	909.498	0.0166	CTL	PD:STD.AHTD MON. STAMPED PN:34
35	2036946.768	0.0260	994644.8507	0.0210	945.179	0.0169	CTL	PD:STD.AHTD MON. STAMPED PN:35
36	2037459.842	0.0300	994741.4680	0.0260	942.442	0.0171	CTL	PD:STD.AHTD MON. STAMPED PN:36
37	2037883.287	0.0250	994553.1283	0.0210	928.409	0.0175	CTL	PD:STD.AHTD MON. STAMPED PN:37
38	2038193.922	0.0300	994095.1316	0.0250	901.656	0.0177	CTL	PD:STD.AHTD MON. STAMPED PN:38
39	2038227.013	0.0240	993485.1531	0.0210	867.226	0.0181	CTL	PD:STD.AHTD MON. STAMPED PN:39
40	2038170.079	0.0250	992781.7625	0.0230	862.603	0.0185	CTL	PD:STD.AHTD MON. STAMPED PN:40
41	2038096.945	0.0240	992190.1809	0.0220	872.168	0.0188	CTL	PD:STD.AHTD MON. STAMPED PN:41
42	2038203.555	0.0270	991610.7086	0.0240	864.242	0.0189	CTL	PD:STD.AHTD MON. STAMPED PN:42
43	2038491.694	0.0240	991272.6494	0.0230	883.257	0.0189	CTL	PD:STD.AHTD MON. STAMPED PN:43
44	2039124.272	0.0220	990812.8403	0.0240	883.653	0.0194	CTL	PD:STD.AHTD MON. STAMPED PN:44
45	2039636.186	0.0220	990553.8948	0.0250	871.107	0.0197	CTL	PD:STD.AHTD MON. STAMPED PN:45
46	2040357.291	0.0260	990261.7170	0.0270	835.315	0.0199	CTL	PD:STD.AHTD MON. STAMPED PN:46
47	2041025.449	0.0260	989871.2563	0.0260	823.166	0.0202	CTL	PD:STD.AHTD MON. STAMPED PN:47
48	2041664.129	0.0280	989795.4804	0.0270	809.909	0.0204	CTL	PD:STD.AHTD MON. STAMPED PN:48
49	2042411.077	0.0270	989774.8247	0.0250	800.075	0.0205	CTL	PD:STD.AHTD MON. STAMPED PN:49
50	2042964.777	0.0300	989779.4659	0.0260	791.759	0.0206	CTL	PD:STD.AHTD MON. STAMPED PN:50
51	2043601.945	0.0330	990003.4026	0.0270	786.597	0.0206	CTL	PD:STD.AHTD MON. STAMPED PN:51
52	2044368.832	0.0220	989894.5860	0.0180	781.757	0.0210	CTL	PD:STD.AHTD MON. STAMPED PN:52
53	2044967.769	0.0220	989868.7379	0.0180	761.283	0.0213	CTL	PD:STD.AHTD MON. STAMPED PN:53
54	2046157.390	0.0220	989984.3194	0.0170	744.798	0.0216	CTL	PD:STD.AHTD MON. STAMPED PN:54
55	2047099.848	0.0180	990438.6537	0.0160	743.301	0.0218	CTL	PD:STD.AHTD MON. STAMPED PN:55
58	2020929.185	0.0000	1002240.968	0.0000	724.631	0.0000	CTL	PD:STD.AHTD MON. STAMPED PN:58
59	2021347.685	0.0000	1001817.144	0.0000	747.041	0.0000	CTL	PD:STD.AHTD MON. STAMPED PN:59
60	2021493.441	0.0000	1001416.809	0.0000	759.711	0.0000	CTL	PD:STD.AHTD MON. STAMPED PN:60
61	2021612.226	0.0000	1001027.057	0.0000	772.829	0.0000	CTL	PD:STD.AHTD MON. STAMPED PN:61
62	2021541.716	0.0000	1000489.386	0.0000	803.631	0.0000	CTL	PD:STD.AHTD MON. STAMPED PN:62
63	2021913.165	0.0000	1000083.988	0.0000	791.283	0.0000	CTL	PD:STD.AHTD MON. STAMPED PN:63
64	2022386.122	0.0000	999957.8852	0.0000	772.342	0.0000	CTL	PD:STD.AHTD MON. STAMPED PN:64
65	2022774.963	0.0000	999761.1098	0.0000	763.562	0.0000	CTL	PD:STD.AHTD MON. STAMPED PN:65
100	2014575.584	0.0000	1022683.035	0.0000	521.895	0.0000	GPS	PD:AHTD GPS MON. 260023
101	2010235.353	0.0000	1013952.842	0.0000	619.906	0.0000	GPS	PD:AHTD GPS MON. 260028
102	2011107.258	0.0000	1012459.189	0.0000	671.945	0.0000	GPS	PD:AHTD GPS MON. 260028A
103	2019255.119	0.0000	1003249.831	0.0000	689.090	0.0074	GPS	PD:AHTD GPS MON. 260002A
104	2034943.108	0.0000	994371.965	0.0000	804.495	0.0152	GPS	PD:AHTD GPS MON. 260003
105	2036819.501	0.0000	994603.5723	0.0000	941.883	0.0167	GPS	PD:AHTD GPS MON. 260003A
106	2046686.186	0.0000	990067.3846	0.0000	742.780	0.0217	GPS	PD:AHTD GPS MON. 260035
107	2045528.257	0.0000	989785.4400	0.0000	752.546	0.0213	GPS	PD:AHTD GPS MON. 260035A
907	2019528.682	0.0690	1003176.519	0.0620	685.641	0.0072	TBM	PD:CH SQ CENTER E. HDAWLL PD:HWY 7
908	2020664.537	0.0380	1002362.888	0.0310	713.914	0.0050	TBM	PD:3" ALUM DISC-AHTD
909	2022020.227	0.0390	1000119.731	0.0430	783.005	0.0053	TBM	PD:CH SQ CENTER OF CONC FES PD:E.OF HWY 7-NORTHERNMOST PD:PIPE
910	2024339.719	0.0500	998501.8993	0.0560	715.443	0.0082	TBM	PD:CH SQ E.END OF S.PIPE PD:E. OF HWY 7
911	2025776.718	0.0560	997094.2828	0.0610	684.832	0.0098	TBM	PD:CH SQ CENTER E. HDWLL
912	2027055.269	0.0520	995726.6563	0.0600	663.203	0.0107	TBM	PD:3" STD DISC-AHTD
913	2028285.064	0.0450	994414.3864	0.0480	680.039	0.0116	TBM	PD:CH SQ CENTER E. HDWALL
914	2029358.246	0.0510	993787.7478	0.0480	693.309	0.0125	TBM	PD:CH SQ
915	2031374.998	0.0470	993914.7950	0.0420	718.903	0.0130	TBM	PD:CH SQ NE. WING WALL
916	2032615.628	0.0270	994163.6229	0.0240	735.520	0.0136	TBM	PD:CHIS. SQR. CNTR. HW W. OF HWY. 7
917	2033793.554	0.0470	994058.7009	0.0400	751.103	0.0145	TBM	PD:3" ALUM DISC AHTD
918	2035634.732	0.0620	994403.5340	0.0480	854.661	0.0157	TBM	PD:CH SQ
919	2037504.927	0.0320	994739.0125	0.0260	940.806	0.0173	TBM	PD:2" ALUM CAP-B&F ENG.
920	2038255.673	0.0340	993886.0385	0.0270	885.850	0.0177	TBM	PD:CH SQ
921	2038143.685	0.0440	992952.7942	0.0360	858.329	0.0180	TBM	PD:CH SQ CENTER HDWALL
922	2038951.777	0.0280	990920.0375	0.0290	881.499	0.0192	TBM	PD:CH SQ CENTER W. HDWALL
923	2040668.936	0.0380	990126.4321	0.0410	829.150	0.0199	TBM	PD:CH SQ CENTER E. HDWALL
924	2042027.213	0.0980	989807.8101	0.0780	803.190	0.0205	TBM	PD:CH SQ CENTER HDWALL
925	2044143.807	0.0450	989913.3298	0.0400	783.992	0.0209	TBM	PD:CH SQ CENTER HDWALL
926	2044896.548	0.0510	989825.6422	0.0450	763.656	0.0213	TBM	PD:CH SQ 1'N OF CB N.ENT.
927	2046269.724	0.0380	989977.8090	0.0360	743.217	0.0217	TBM	PD:CH SQ
928	2047157.09	0.0650	990501.4844	0.0560	742.580	0.0218	TBM	PD:CH SQ
990	2015516.865	0.0440	1009088.022	0.0390	610.340	0.0000	BM	PD:NGS BM K 103
991	2021451.701	0.0550	1001270.672	0.0420	762.120	0.0000	BM	PD:NGS BM L 103

*Standard Primary Control Monument - Rebar and Cap - Standard - 5/8"x 24" Rebar with 2"Aluminum Cap stamped: "(include all common information here)" plus other markings indicated in the point description of the individual point. AHTD monuments will be stamped "Arkansas Hwy & Trans Dept" with "PN: ###" & "Job ######". Monuments that are set by Consultants will be stamped "Arkansas Hwy & Trans Dept" with "PN:###", "Job#######", & "PS####". The consultant Professional Surveyor in charge will stamp his/her PS license number on the cap.
**Standard GPS Control Point Monument - 5/8" x 48" Rebar with 2.5"Aluminum Cap stamped: "(include all common information here)" plus other markings indicated in the point description of the individual point. These monuments will be stamped "Ark. State Hwy Trans. Dept.", "GPS Survey", & "Point No. ######".
SX, SY, SZ – Represents the standard error estimate of the coordinate values of each point at the 67% confidence level (one sigma) based on the least squares analysis of the control network. See the AASHTO SDMS Technical Data Guide data tag definition for SX:, SY:, and SZ: for additional information. These values shall be used when control points are added and the entire network is reprocessed using least square analysis. A value of 0.001 is defined as fixed (no adjustment) in the least square analysis process. A value of 30 is defined as location by handheld GPS device or scaled from USGS Quadmap.
Reference Control points (1500 series) shall be used to re-establish horizontal datum if the primary control has been destroyed. These reference control points shall not be used for vertical control unless the elevation has been established from the project datum with 3-wire level techiniques.
All additional project control shall be occupied, measured, and adjusted with direct survey ties to at least two of the control points listed in the table above. New survey control shall not be independent of the survey control listed above. This includes horizontal coordinates and elevations.

Positional Accuracy:	Horizontal - GPS (1.0 cm± 1PPM)	PN:100-107
	Horizontal - Primary (2.0cm± 20PPM):	PN: 1-55
	Horizontal - Secondary (3 cm ± 50PPM):	PN: N/A
	Vertical - NGS 1st Order (±4mm x Vdist in km)	PN: N/A
	Vertical - NGS 2nd Order (±6mm x Vdist in km)	PN: 990-991
	Vertical - NGS 3rd Order (±8mm x Vdist in km)	PN: N/A

Horizontal Datum: NAD 1983 (1997) State Plane Zone: 0302-South Zone
The adjustment year is based on metadata in the SDMS Control file
A project CAF of: 0.999957203 has been used to compute the above coordinates.
The project CAF shall have a minimum precision of 9 digits right of the decimal.
This CAF is intended for use within the project limits only.
Grid Distance = Ground Distance X CAF
If Coordinates are listed as Ground:
To compute Grid Coordinates, multiply the Ground Coordinates by CAF about the origin of X=0 & Y=0
If Coordinates are listed as Grid:
To compute Ground Coordinates, divide the Grid Coordinates by CAF about the origin of X=0 & Y=0

Vertical Datum: NAVD 1988 based NGS BM:
A project Elevation Factor of: 0.999971004 has been computed and incorporated in the above CAF.
This is based on the average elevation of the project: 606.206 Feet
3-Wire Leveling techniques have been used to establish elevations on
Points: 907-928
From NGS BM: K 103, L 103

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

h139710 12/4/2019
R061438.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	103	277

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12679

HWY. 7 - SITE 1A

POINT NO.	TYPE	STATION	NORTHING	EASTING
8004	PI	704+45.00	2009710.4146	1016310.0729
8005	PI	704+95.97	2009737.0604	1016266.6225
8006	PC	a 111+28.37	2009976.6041	1015852.5504
8008	PT	a 112+23.90	2010024.0941	1015769.6647
8009	PC	a 113+00.86	2010062.0760	1015702.7285
8011	PT	a 123+94.88	2010282.1202	1014648.9075

HWY. 7 - SITE 1

POINT NO.	TYPE	STATION	NORTHING	EASTING
8024	PC	a 169+84.06	2012948.2601	1011291.4831
8026	PT	a 176+95.03	2013630.6050	1011122.0180
8027	PC	a 181+88.13	2014123.6545	1011129.4552
8029	PT	a 192+89.10	2014968.8789	1010539.4385

HWY. 7 - SITE 2

POINT NO.	TYPE	STATION	NORTHING	EASTING
8033	PC	a 205+80.28	2015392.4372	1009319.7190
8035	PT	a 212+21.04	2015557.5372	1008701.1286

HWY. 7 - SITE 3

POINT NO.	TYPE	STATION	NORTHING	EASTING
8051	PC	a 239+30.96	2016574.7125	1006219.2041
8053	PT	a 246+09.41	2016923.7020	1005645.7244
8054	PC	a 249+01.32	2017132.7594	1005441.9967
8056	PT	a 253+97.14	2017421.5090	1005041.9799
8057	PC	a 256+36.83	2017526.2315	1004826.3799
8059	PT	a 260+00.84	2017720.2209	1004519.2496
8060	PC	a 266+61.33	2018132.7175	1004003.4023
8062	PT	a 273+21.23	2018641.7220	1003591.5206

HWY. 7 - SITE 3A

POINT NO.	TYPE	STATION	NORTHING	EASTING
8166	POB	288+31.74	2019993.4168	1002914.4514
8167	PC	300+86.15	2020996.3981	1002161.0852
8169	PT	308+66.57	2021430.2169	1001528.8737
8170	PC	311+47.74	2021506.8993	1001258.3604
8172	PT	315+15.66	2021563.8599	1000895.7728
8173	PC	317+75.41	2021573.0579	1000636.1883
8175	PT	324+56.86	2021944.6897	1000110.3470
8176	PC	325+54.94	2022035.9260	1000074.3551
8178	PT	327+62.43	2022228.2374	999996.4708
8179	PC	329+05.58	2022360.4324	999941.5348

HWY. 7 - SITE 3B

POINT NO.	TYPE	STATION	NORTHING	EASTING
8191	PC	359+42.63	2024782.7170	998117.6513
8193	PT	362+72.54	2025040.9797	997912.4028
8194	PC	362+74.46	2025042.4688	997911.1840
8196	PT	369+99.61	2025539.8272	997386.1354

HWY. 7 - SITE 4

POINT NO.	TYPE	STATION	NORTHING	EASTING
8098	PT	a 379+58.01	2026125.1449	996625.2550
8099	PC	a 400+16.57	2027563.4032	995152.4735
8101	PT	a 402+47.05	2027722.7680	994985.9658
8102	PC	a 412+21.68	2028389.5532	994275.1192
8104	PT	a 431+76.30	2030173.2837	993712.2791

HWY. 7 - SITE 6

POINT NO.	TYPE	STATION	NORTHING	EASTING
8126	PC	a 503+73.16	2037155.3215	994704.6891
8128	PT	a 520+00.39	2038212.8934	993767.0468
8129	PC	a 536+02.08	2038115.2202	992168.3418
8131	PT	a 548+44.89	2038662.7295	991119.9018

HWY. 7 - SITE 7

POINT NO.	TYPE	STATION	NORTHING	EASTING
8156	PC	a 618+57.05	2045307.2067	989818.3214
8158	PT	a 621+87.74	2045635.5955	989840.9583
8159	PC	a 625+06.49	2045945.6065	989915.1022
8161	PT	a 626+54.06	2046088.9002	989950.3500
8162	PC	a 630+17.55	2046441.3055	990039.4459
8164	PT	a 638+91.96	2047173.9528	990491.5249
8165	POE	a 640+48.85	2047276.5419	990610.2284

BLUEBERRY TRAIL - SITE 3

POINT NO.	TYPE	STATION	NORTHING	EASTING
8204	POB	900+00.00	2018259.3310	1003863.6937
8205	PC	900+17.17	2018247.3406	1003851.3970
8207	PT	900+84.51	2018241.1472	1003789.3481
8208	POE	902+78.62	2018346.5192	1003626.3269

HWY. 298 - SITE 7

POINT NO.	TYPE	STATION	NORTHING	EASTING
8209	POB	800+00.00	2046103.3883	989954.0129
8210	PC	800+27.43	2046110.1127	989927.4158
8212	PT	801+36.76	2046111.1001	989819.1267
8213	POE	802+22.99	2046091.4918	989735.1537

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SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		061438	104	277

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

PI = 111+76.13
Δ = 0°28'40"LT.
D = 0°30'00"
T = 47.76'
L = 95.53'
PC = 111+28.37
PT = 112+23.90
NO SUPERELEVATION

PI = 118+66.12
Δ = 35°33'20"LT.
D = 3°15'00"
T = 565.26'
L = 1094.02'
PC = 113+00.86
PT = 123+94.88
e = 0.072'/'
Ls = 360'

110 115 120

P.I. 704+95.97
Δ = 01°28'08"

N 58°28'53" W
50.97'

8004 8005

P.I. 704+45.00
Δ = 02°04'43"

Eq 704+95.97
Eq 706+50.00

HWY. 7 CONST.

N 59°57'01" W
478.37'

P.C. 111+28.37

8006

P.T. 112+23.90

8008

P.C. 113+00.86

N 59°57'01" W
47.76'

N 60°25'41" W
47.76'

N 60°25'41" W 76.96'

8009

STA. 107+00.00
BEGIN JOB 061438
BEGIN SITE IA
LOG MILE 0.13

STA. 116+00.00
END SITE IA

N 60°25'41" W
565.27'

S 84°00'59" W
565.27'

P.I. 111+76.13

P.I. 118+66.12

SITE IA
SURVEY CONTROL DETAILS

170 175 180

STA. 170+00.00
BEGIN SITE I
LOG MILE 1.32

N 28°45'34" W
805.99'

8024

P.C. 169+84.06

1ST PDST DRIVEN MON. STAMPED PM1

N 28°45'34" W
363.62'

P.I. 173+47.68

N 0°51'51" E
363.62'

SURVEY BASELINE

SURVEY BASELINE N01°32'48"W
799.55'

8026

HWY. 7 CONST.

P.I. 176+95.03

2ND PDST DRIVEN MON. STAMPED PM2

N 0°51'51" E
493.11'

SURVEY BASELINE N01°37'21"W
610.46'

P.C. 181+88.13

8027 N 0°51'51" E
635.31'

STA. 180+40.00
END SITE I

PI = 173+47.68
Δ = 29°37'25"RT.
D = 4°10'00"
T = 363.62'
L = 710.97'
PC = 169+84.06
PT = 176+95.03
e = 0.064'/'
Ls = 270'

PI = 188+23.44
Δ = 71°33'47"LT.
D = 6°30'00"
T = 635.31'
L = 1100.97'
PC = 181+88.13
PT = 192+89.10

SITE I
SURVEY CONTROL DETAILS

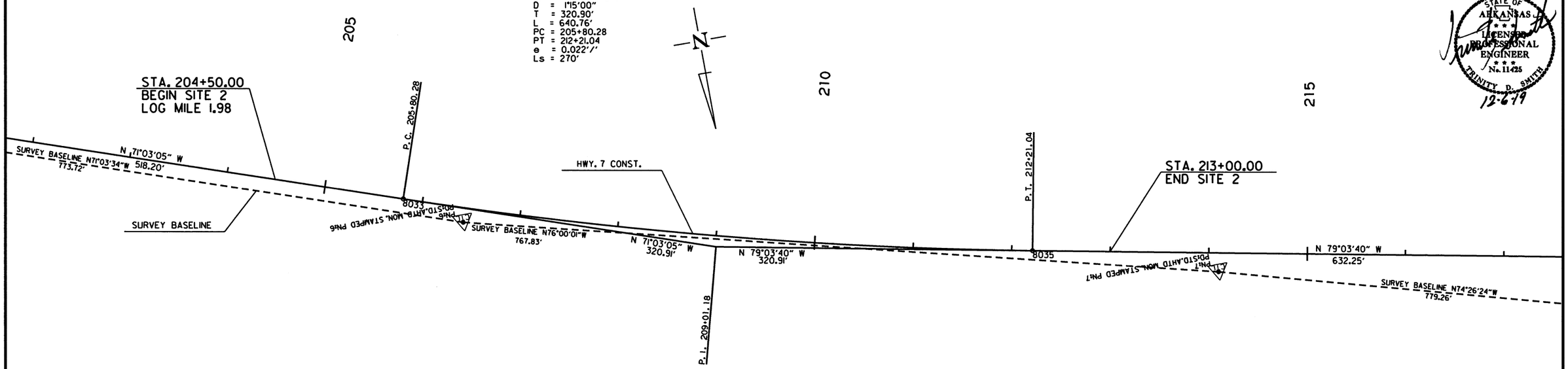
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	105	277

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

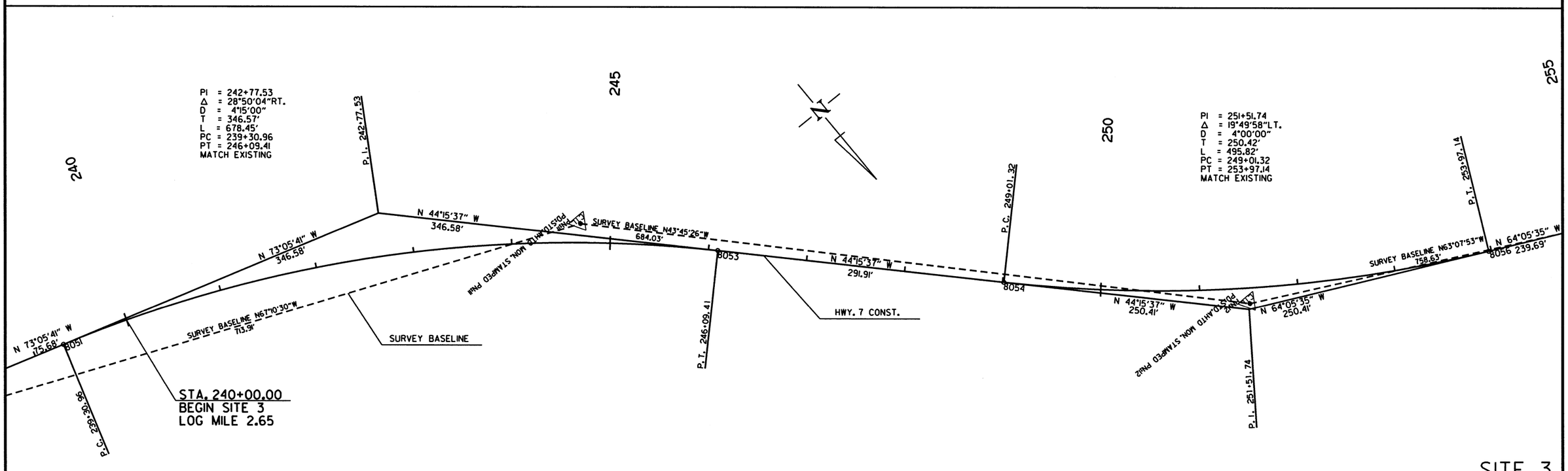
PI = 209+01.18
Δ = 8°00'35"LT.
D = 1°15'00"
T = 320.90'
L = 640.76'
PC = 205+80.28
PT = 212+21.04
e = 0.022'/'
Ls = 270'



SITE 2
SURVEY CONTROL DETAILS

PI = 242+77.53
Δ = 28°50'04"RT.
D = 4°15'00"
T = 346.57'
L = 678.45'
PC = 239+30.96
PT = 246+09.41
MATCH EXISTING

PI = 251+51.74
Δ = 19°49'58"LT.
D = 4°00'00"
T = 250.42'
L = 495.82'
PC = 249+01.32
PT = 253+97.14
MATCH EXISTING



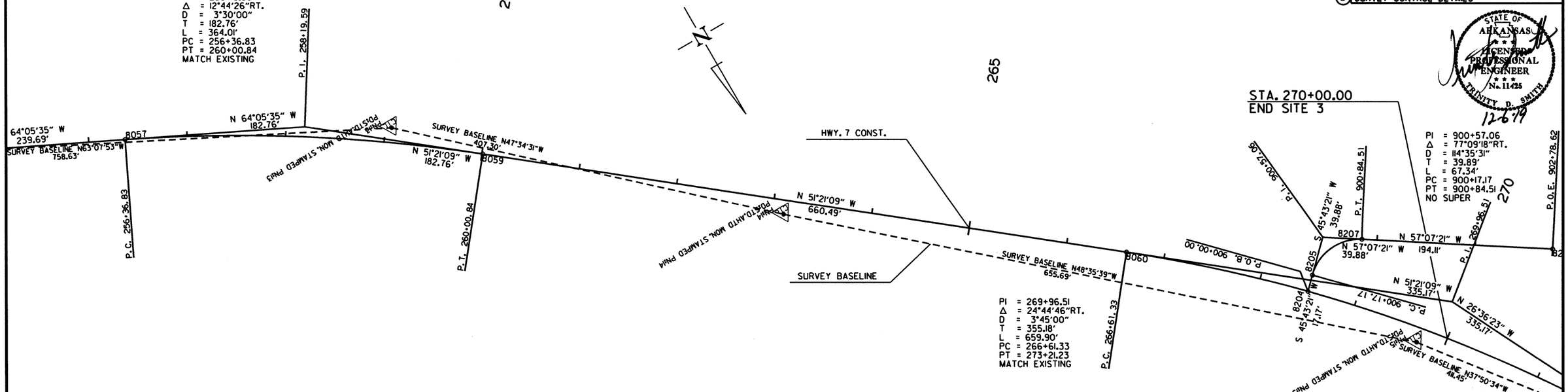
SITE 3
SURVEY CONTROL DETAILS

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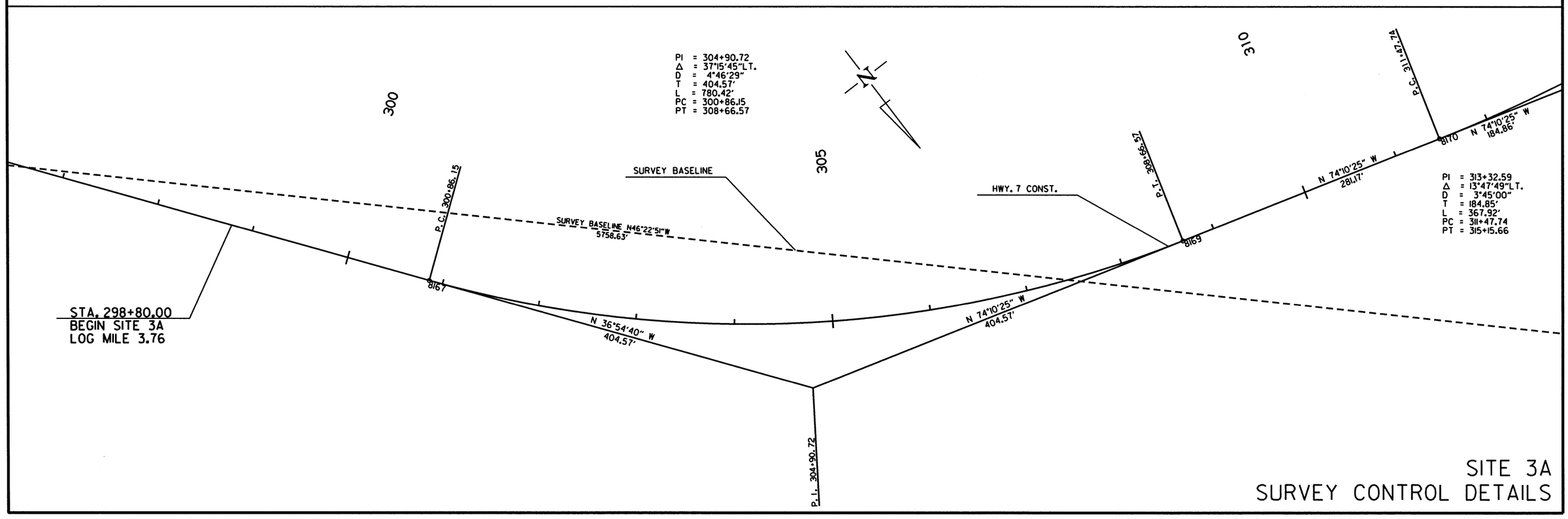
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	106	277

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12679



SITE 3
SURVEY CONTROL DETAILS



SITE 3A
SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		061438	107	277

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

310

315

320

325

N

PI = 313+32.59
Δ = 13°47'49"LT.
D = 3°45'00"
T = 184.85'
L = 367.92'
PC = 311+47.74
PT = 315+15.66

P.C. 311+47.74

N 74°10'25" W
281.17'

8170

N 74°10'25" W
184.86'

N 87°58'14" W
184.86'

P.I. 313+32.59

P.T. 315+15.66

8172

N 87°58'14" W
259.75'

8173

P.C. 317+75.41

N 87°58'14" W
384.85'

P.I. 321+60.26

HWY. 7 CONST.

N 21°31'44" W
384.85'

PI = 321+60.26
Δ = 66°26'30"RT.
D = 9°45'00"
T = 384.85'
L = 681.45'
PC = 317+75.41
PT = 324+56.86

SURVEY BASELINE

SURVEY BASELINE N 45°32'22" W
5758.63'

P.T. 324+56.86

8175

N 21°31'44" W
98.08'

P.C. 325+54.94

8176

N 21°31'44" W
103.75'

PI = 326+58.69
Δ = 1°02'14"LT.
D = 0°30'00"
T = 103.75'
L = 207.49'
PC = 325+54.94
PT = 327+62.43

P.I. 326+58.69

N 22°33'58" W
103.75'

P.T. 327+62.43

8178

STA. 326+73.00
END SITE 3A

SITE 3A
SURVEY CONTROL DETAILS

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(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

355 360 365

PI = 361+07.60
Δ = 1°38'59"LT.
D = 0°30'00"
T = 164.97'
L = 329.91'
PC = 359+42.63
PT = 362+72.54
NO SUPERELEVATION

PI = 366+38.98
Δ = 14°30'10"LT.
D = 2°00'00"
T = 364.52'
L = 725.15'
PC = 362+74.46
PT = 369+99.61
e = 0.048'/'
Ls = 360'

STA. 354+17.00
BEGIN SITE 3B
LOG MILE 4.81

P.C. 359+42.63

P.T. 362+72.54
P.C. 362+74.46

HWY. 7 CONST.

N 37°39'01" W
648.67'

SURVEY BASELINE N46°22'51"W
5758.63'

PK20
PK5/D.AH.D MON. STAMPED PK20

SURVEY BASELINE N39°23'39"W
788.23'

8191

N 37°39'01" W
164.96'

N 39°18'00" W
164.96'

8193 8194 1.92'

PK21
PK5/D.AH.D MON. STAMPED PK21

N 39°18'00" W
364.52'

SURVEY BASELINE N48°47'06"W
632.78'

N 53°48'10" W
364.52'

SURVEY BASELINE

P.I. 361+07.60

P.I. 366+38.98

STA. 366+26.00
END SITE 3B

SITE 3B
SURVEY CONTROL DETAILS

380 385 390

PI = 377+95.81
Δ = 8°07'24"RT.
D = 2°30'00"
T = 162.74'
L = 324.94'
PC = 376+33.07
PT = 379+58.01
e = 0.042'/'
Ls = 270'

HWY. 7 CONST.

N 45°40'46" W
162.74'

8098

P.T. 379+58.01

STA. 379+00.00
BEGIN SITE 4
LOG MILE 5.28

SURVEY BASELINE N43°03'16"W
644.47'

PK24
PK5/D.AH.D MON. STAMPED PK24

SURVEY BASELINE

N 45°40'46" W
2058.56'

SURVEY BASELINE N44°37'13"W
803.89'

PK25
PK5/D.AH.D MON. STAMPED PK25

SURVEY BASELINE N47°11'48"W
727.11'

SITE 4
SURVEY CONTROL DETAILS

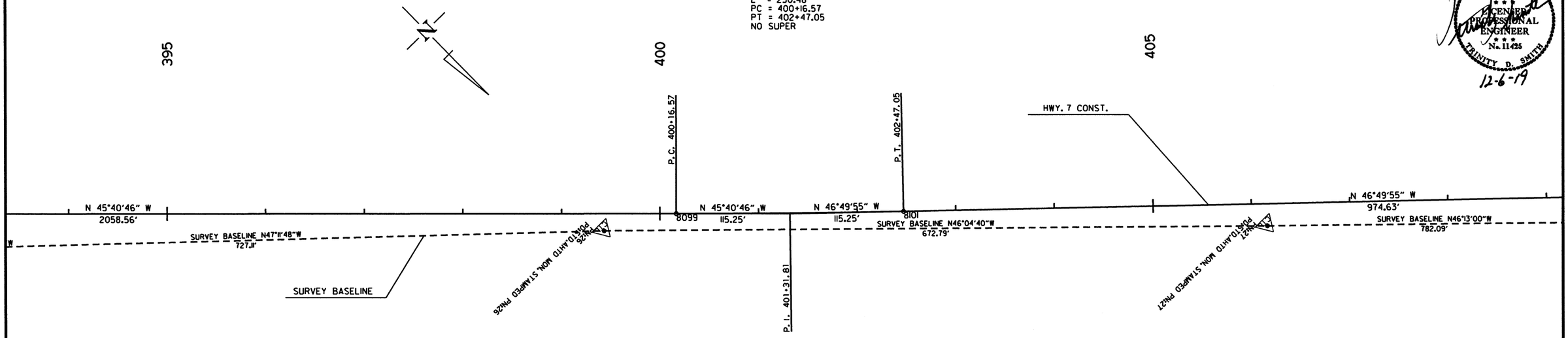
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	109	277

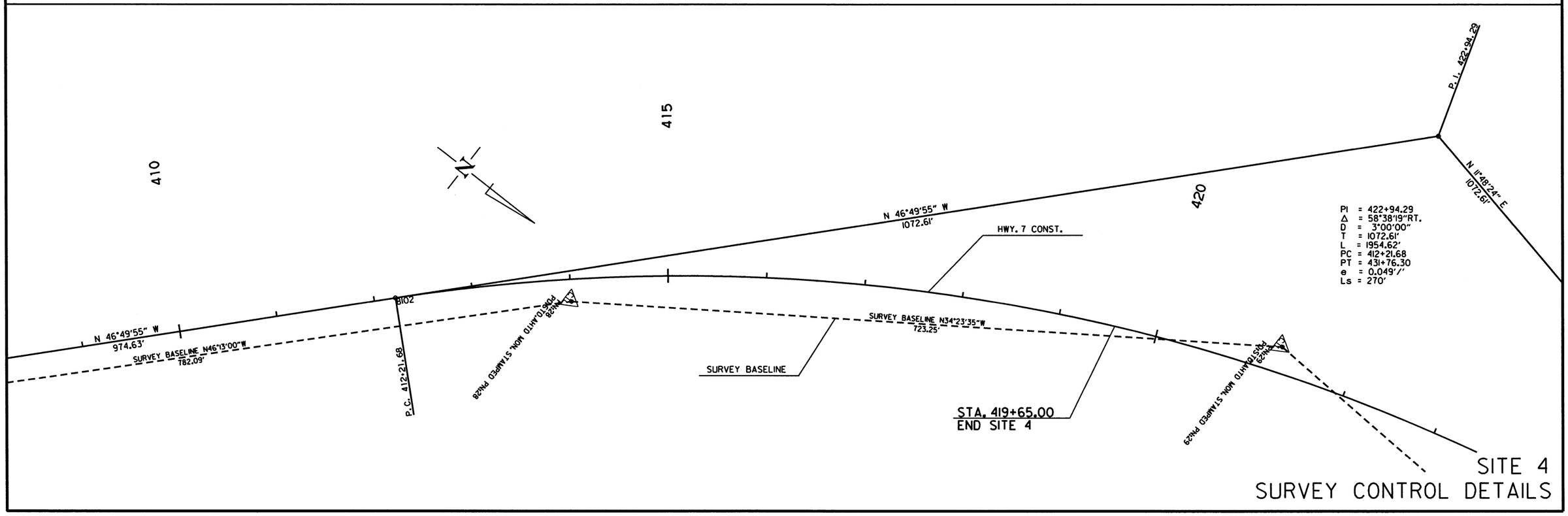
(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

PI = 401+31.81
Δ = 1°09'09"LT.
D = 0°30'00"
T = 115.24'
L = 230.48'
PC = 400+16.57
PT = 402+47.05
NO SUPER



SITE 4
SURVEY CONTROL DETAILS



SITE 4
SURVEY CONTROL DETAILS

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				JOB NO.		061438	110	277

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

515

SURVEY BASELINE N55°51'41"W
553.40'

STA. 515+00.00
BEGIN SITE 6
LOG MILE 7.86

520

525

530

N

P.T. 520+00.39

HWY. 7 CONST.

PI = 515+19.37
Δ = 103°52'19"LT.
D = 6°23'00"
T = 1146.21'
L = 1627.23'
PC = 503+73.16
PT = 520+00.39
e = 0.085'/'
Ls = 300'

PO.STD.AHTD MON. STAMPED PN38

PN38

SURVEY BASELINE N86°53'41"W
610.88'

S 86°30'14" W
1146.21'

B128

PO.STD.AHTD MON. STAMPED PN39

PN39

SURVEY BASELINE S85°22'21"W
705.69'

S 86°30'14" W
1601.69'

PO.STD.AHTD MON. STAMPED PN40

PN40

SURVEY BASELINE

SITE 6
SURVEY CONTROL DETAILS

530

535

540

545

SURVEY BASELINE

PO.STD.AHTD MON. STAMPED PN41

PN41

S 86°30'14" W
690.45'

B129

PI = 542+92.53
Δ = 62°08'26"RT.
D = 5°00'00"
T = 690.45'
L = 1242.81'
PC = 536+02.08
PT = 548+44.89
e = 0.072'/'
Ls = 300'

P.I. 542+92.53

S 86°30'14" W
1601.69'

SURVEY BASELINE S82°57'10"W
596.08'

HWY. 7 CONST.

P.C. 536+02.08

SURVEY BASELINE N79°34'32"W
589.20'

PO.STD.AHTD MON. STAMPED PN42

PN42

N

N 31°21'20" W
690.45'

STA. 542+50.00
END SITE 6

SURVEY BASELINE N49°33'29"W
444.19'

SITE 6
SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		061438	111	277

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

615 620 625 630

STA. 616+00.00
BEGIN SITE 7
LOG MILE 9.77

N 5°33'50" W
723.30'

PI. 1 PK53
POST.AHTD MON. STAMPED PK53

SURVEY BASELINE

P.I. 620+23.93

N 5°33'50" W
166.88'

N 13°27'02" E
166.88'

B156

P.C. 618+57.05

B158

P.T. 621+87.74

HWY. 7 CONST.

SURVEY BASELINE N05°32'58"E
1195.22'

PI = 620+23.93
Δ = 19°00'52"RT.
D = 5°45'00"
T = 166.88'
L = 330.69'
PC = 618+57.05
PT = 621+87.74
e = 0.090'/'
Ls = 360'

N 13°27'02" E
318.75'

B159 73.78'

P.C. 625+06.49

PI = 625+80.27
Δ = 0°44'16"RT.
D = 0°30'00"
T = 73.78'
L = 147.57'
PC = 625+06.49
PT = 626+54.06
e = 0.072'/'
Ls = 300'

B203

P.O.E. 802+22.99

N 76°51'23" W
89.23'

C.L. HWY. 298

PI = 800+83.16
Δ = 27°19'55"LT.
D = 25°00'00"
T = 55.72'
L = 109.33'
PC = 800+27.43
PT = 801+36.76

B202

P.I. 801+36.76

S 76°51'23" E
55.72'

P.I. 625+80.27

P.I. 800+83.16

N 75°48'42" W
55.72'

B210

P.C. 800+27.43

N 75°48'42" W
27.43'

B209

P.O.B. 800+00.00

N 14°11'18" E
73.78'

B161

STA. 626+69.00 HWY. 7=
STA. 800+00.00 HWY. 298
Δ = 90°00'00"

P.T. 626+54.06

PI. 2 PK54
POST.AHTD MON. STAMPED PK54

N 14°11'18" E
363.49'

SURVEY BASELINE N25°44'15"E
1046.25'

B162

SITE 7
SURVEY CONTROL DETAILS

635 640

PI = 634+68.86
Δ = 34°58'36"RT.
D = 4°00'00"
T = 451.31'
L = 874.41'
PC = 630+17.55
PT = 638+91.96
e = 0.072'/'
Ls = 300'

P.I. 634+68.86

N 14°11'18" E
451.31'

N 49°09'54" E
451.31'

B162

P.C. 630+17.55

N 14°11'18" E
363.49'

HWY. 7 CONST.

SURVEY BASELINE N25°44'15"E
1046.25'

SURVEY BASELINE

PI. 3 PK55
POST.AHTD MON. STAMPED PK55

P.T. 638+91.96

B164

N 49°09'54" E
156.89'

B165

P.O.E. 640+48.85

STA. 632+40.00
END SITE 7

SITE 7
SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		061438	112	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 109+78 IN PLACE
24" X 46' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE HDWLS LT. & RT. AND EXTEND R.C. PIPE
6' LT. AND 20' RT.
TO A COMPLETED LENGTH OF 72'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 12 CFS D.A. = 3 ACRES
24" R.C. PIPE = 34 LIN. FT.
24" FES = 2 EA.

+45.97
100.97' TRANSITION
+00

P.O.B. 700+00.00
P.C. 702+04.36
P.T. 702+56.20
P.I. 702+30.34

EXIST. ROW
N 50°39'31" W
N 60°33'36" W
N 58°28'53" W
N 59°57'01" W
N 60°25'41" W
C.L. HWY. 7
CONST. LIMITS
PROP. ROW
EXIST. ROW

P.I. 704+45.00
Δ = 02°04'43"
+45.00
41.36' RT.
END PROP. C/A
P.I. 106+50.00
Δ = 01°28'08" LT.
EON 704+95.97
EON 106+50.00
+67.50
39.24

+99.48
75.00
+79.48
60.00
+79.48
100.00
+29.48
70.00
+39.48
65.00
+98.81
40.00
+39.48
85.00
+24.48
15.00
+24.48
15.00
+39.47
76.58
+24.58
15.00

P.I. 111+76.13
Δ = 0°28'40"LT.
D = 0°30'00"
T = 47.76'
L = 95.53'
PC = 111+28.37
PT = 112+23.90

P.I. 114+76.13

PI = 702+30.34
Δ = 9°54'05"LT.
R = 300.00'
T = 25.98'
L = 51.84'
PC = 702+04.36
PT = 702+56.20
NO SUPER

PI = 118+66.12
Δ = 35°33'20"LT.
D = 3°15'00"
T = 565.26'
L = 1094.02'
PC = 113+00.86
PT = 123+94.88
e = 0.072'/'
Ls = 360'

STA. 107+00.00
BEGIN JOB 061438
BEGIN SITE IA
LOG MILE 0.13

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
110+00	113+25	RT.	C	255

WIRE FENCE (TYPE C)

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
110+00	113+25	RT.	C	230

+00
200' TAPER
+00

STA. 113+87 CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

SITE IA

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

STA. 111+00.00 BEGIN SUPERELEVATION
STA. 114+60.00 MAX. SUPERELEVATION (0.072 FT./FT.)
STA. 116+00.00 MATCH EXIST. SUPERELEVATION (0.072 FT./FT.)

+78
INLET F.L. RT.=587.21
EXIST. INLET F.L. RT.=586.93
EXIST. OUTLET F.L. LT.=586.48
OUTLET F.L. LT.=586.45

610 605 600 595 590 585 580 575 570 565

106+50 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00

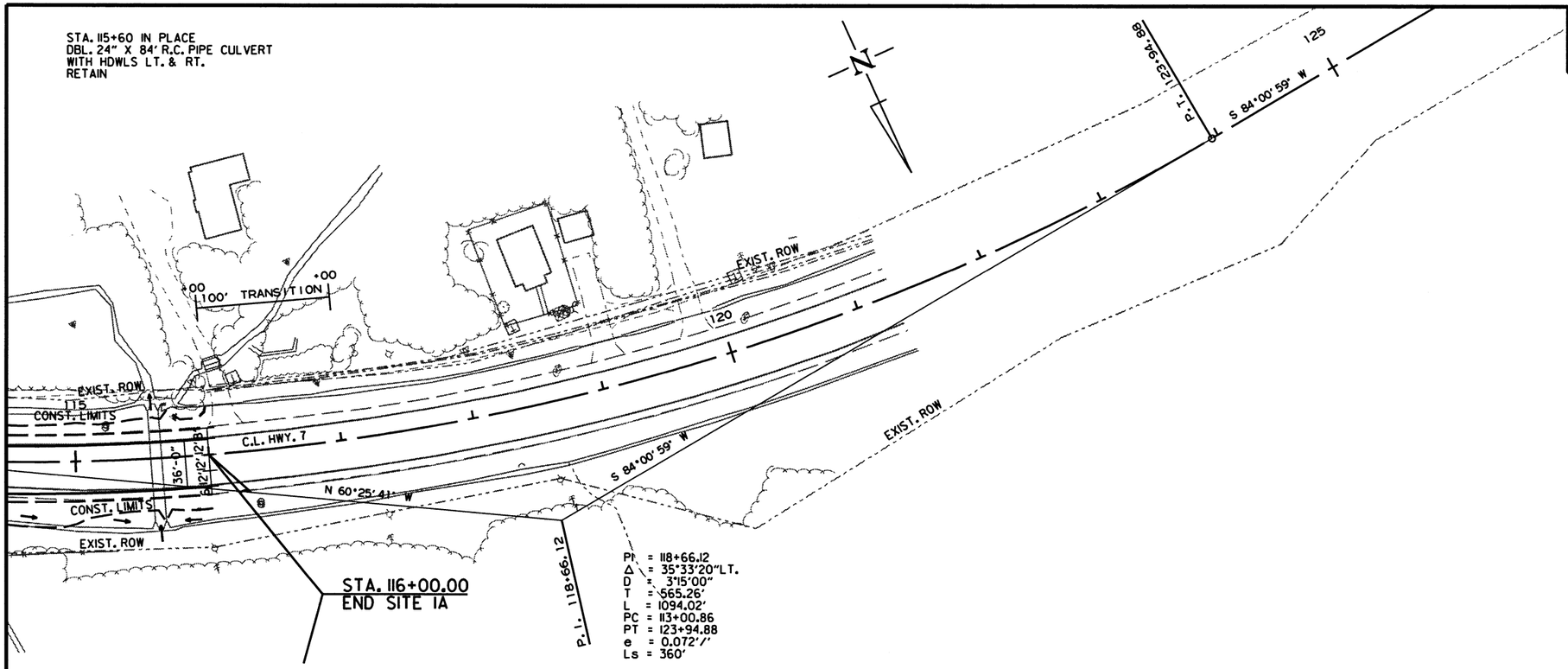
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	113	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
TRINITY D. SMITH
REGISTERED PROFESSIONAL ENGINEER
No. 11425
12-6-19

STA. 115+60 IN PLACE
DBL. 24" X 84' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
RETAIN



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

SITE IA

STA. 111+00.00 BEGIN SUPERELEVATION
STA. 114+60.00 MAX. SUPERELEVATION (0.072 FT./FT.)
STA. 116+00.00 MATCH EXIST. SUPERELEVATION (0.072 FT./FT.)

N
W
+60
EXIST. INLET F.L. RT.=591.51
EXIST. OUTLET F.L. LT.=589.03

620 615 610 605 600 595 590 585 580 575

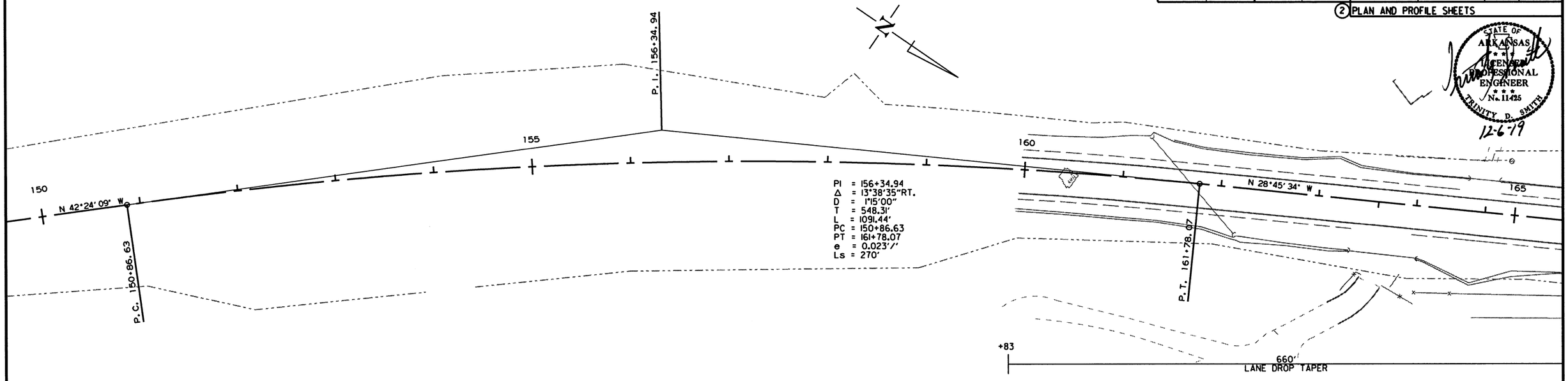
115+00 116+00 117+00 118+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00

12/4/2019
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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.		061438	114	277

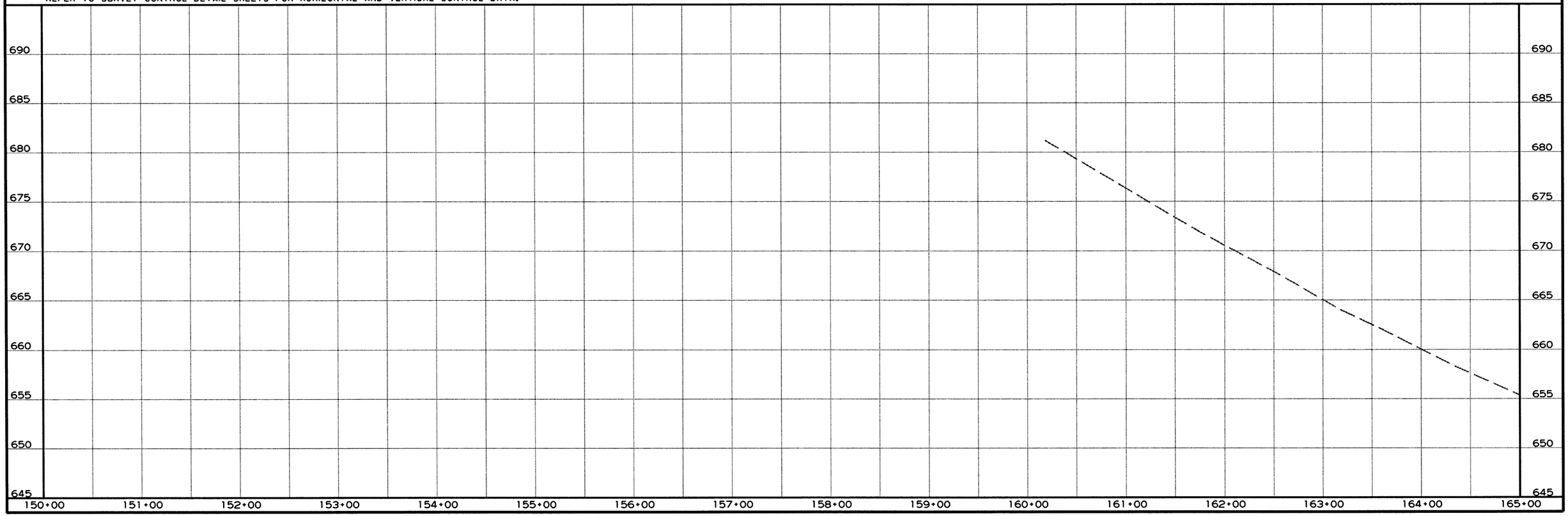
(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19



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

SITE 1



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				6	ARK.			
				JOB NO.		061438	115	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 170+79 IN PLACE
24" X 32' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 173+54 IN PLACE
36" X 47' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
36" X 58' PIPE CULVERT
LT. SIDE DRAIN
TURNOUT APPROACH = 260 CU. YDS.

STA. 171+64 IN PLACE
DBL. 18" X 44' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
DBL. 18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 172+58 IN PLACE
36" X 85' R.C. PIPE CULVERT
WITH FES LT. & RT.
ON A 30° LT. FWD. SKEW
REMOVE FES RT. AND EXTEND R.C. PIPE 5' RT.
TO A COMPLETED LENGTH OF 90'
(CLASS III (TYPE 3 BEDDING)
WITH FES RT.
Q50 = 40 CFS D.A. = 17 ACRES
36" R.C. PIPE = 14 LIN. FT.
36" FES = 1EA.

PI = 173+47.68
Δ = 29°37'25"RT.
D = 4°10'00"
T = 363.62'
L = 710.97'
PC = 169+84.06
PT = 176+95.03
e = 0.064'/'
Ls = 270'

STA. 175+47 IN PLACE
24" X 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 179+11 IN PLACE
30" X 45' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
30" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 179+99 IN PLACE
30" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
30" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
174+62	175+65	RT.	C	95

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
174+62	175+30	RT.	C	66

STA. 170+00.00
BEGIN SITE 1
LOG MILE 1.32

660' LANE DROP TAPER | 500' BUFFER | 100' LT. TURN TAPER | 100' LT. TURN LANE | 660' LANE DROP TAPER

SITE 1

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

STA. 170+00.00 MATCH EXISTING SUPERELEVATION
STA. 170+51.56 MAX. SUPERELEVATION (0.064 FT./FT.)
STA. 176+27.53 MAX. SUPERELEVATION (0.064 FT./FT.)
STA. 178+97.53 END SUPERELEVATION

INLET F.L. RT.=621.21
EXIST. INLET F.L. RT.=621.01
OUTLET (EXIST.) F.L. LT.=619.57

174+00.00 617.45
175+47.00 611.00
179+11.00 601.48
180+00.00 598.51

RT. DITCH GRADE -4.39%
RT. DITCH GRADE -3.34%

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FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061438	116	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12619

STA. 180+73 IN PLACE
DBL. 10' X 8' X 71' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN

PI = 188+23.76
Δ = 7°33'47"LT.
D = 6°30'00"
T = 635.31'
L = 1100.97'
PC = 181+88.45
PT = 192+89.42

CONST. LIMITS
180'
100'
TRANSITION
40'
16'
24'
22'
P. C. 181+88.13
N 0°51'51" E
EXIST. ROW
EXIST. ROW
185
190
195
P. T. 192+89.10
N 70°41'56" W
STA. 180+40.00
END SITE I
660'
+40
LANE DROP TAPER

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

SITE I

P. I. 188+23.44

180+73 (EXIST.)
INLET F.L. LT.=590.63
OUTLET F.L. RT.=589.62

625 620 615 610 605 600 595 590 585 580

180+00 181+00 182+00 183+00 184+00 185+00 186+00 187+00 188+00 189+00 190+00 191+00 192+00 193+00 194+00 195+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.	061438		117	277

(2) PLAN AND PROFILE SHEETS

PI = 200+26.81
Δ = 0°21'09"LT.
D = 0°30'00"
T = 35.26'
L = 70.53'
PC = 199+91.55
PT = 200+62.08

STA. 205+27 INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

PI = 209+01.18
Δ = 8°00'35"LT.
D = 1°15'00"
T = 320.90'
L = 640.76'
PC = 205+80.28
PT = 212+21.04
e = 0.022'/'
Ls = 270'

STA. 206+43 IN PLACE
24" X 37' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
DBL. 5' X 3' X 24' R.C. BOX CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.
050 = 256 CFS D.A. = 141 ACRES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

195 | 200 | 205 | 210

R.C. 199+91.55 | SCHWINN HILL RD | P.T. 200+62.08

+50 100' TRANSITION +50

N 70°41'56" W | N 71°03'05" W | N 79°03'40" W

P.T. 200+26.81

P.C. 205+80.28

PROP. ROW | EXIST. ROW | CONST. LIMITS | C.L. HWY. 7

STA. 205+58 IN PLACE
DBL. 5' X 3' X 42' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 16' LT. AND 10' RT.
WITH 3:1 WINGS LT. AND RT.
TO A COMPLETED LENGTH OF 68'
050 = 256 CFS D.A. = 141 ACRES

STA. 208+15 CONSTRUCT
TURNOUT ON RT. = 130 CU. YDS.

P.T. 209+01.18

SURREY RD

RET. WALL

+10 330' TAPER | +40 100' LT. TURN LANE +40 | 330' TAPER

STA. 204+50.00
BEGIN SITE 2
LOG MILE 1.98

SITE 2

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

STA. 204+50.00 MATCH EXIST. SUPERELEVATION (0.009'/')
STA. 206+47.76 MAX. SUPERELEVATION (0.022 FT./FT.)
STA. 211+53.54 MAX. SUPERELEVATION (0.022 FT./FT.)
STA. 213+00.00 MATCH EXIST. SUPERELEVATION (0.001'/')

205+58.00
607.06

206+43.00
607.75

LT. DITCH
GRADE 0.81%

205+58
INLET F.L. LT.=607.06
EXIST. INLET F.L. LT.=606.95
OUTLET F.L. RT.=606.55
EXIST. OUTLET F.L. RT.=606.61

625 | 620 | 615 | 610 | 605 | 600 | 595 | 590 | 585 | 580

195+00 | 196+00 | 197+00 | 198+00 | 199+00 | 200+00 | 201+00 | 202+00 | 203+00 | 204+00 | 205+00 | 206+00 | 207+00 | 208+00 | 209+00 | 210+00

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				6	ARK.			
				JOB NO.		061438	118	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

PI = 209+01.18
Δ = 8°00'35"LT.
D = 1°15'00"
T = 320.90'
L = 640.76'
PC = 205+80.28
PT = 212+21.04
e = 0.022'/'
Ls = 270'

+80.00 80.00'
+85.00 50.32'
EXIST. ROW
C.L. HWY. 7
N 79°03'40" W
PROP. ROW
+25.00 45.00'-40.05'
P.T. 212+21.04
+00
100' TRANSITION
+00
CONST. LIMITS
12'
20'
CONST. LIMITS
EXIST. ROW
215
N 79°03'40" W
210
220
P.I. 220+37.13
P.C. 218+53.29
P.T. 222+17.21
225
N 59°02'44" W

STA. 211+77 IN PLACE
24" X 46' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE HDWLS LT. & RT. AND EXTEND R.C. PIPE
6' LT. AND 6' RT.
TO A COMPLETED LENGTH OF 58'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 25 CFS D.A. = 10 ACRES
24" R.C. PIPE = 20 LIN. FT.
24" FES = 2 EA.

STA. 213+00.00
END SITE 2

PI = 220+37.13
Δ = 20°00'56"RT.
D = 5°30'00"
T = 183.84'
L = 363.92'
PC = 218+53.29
PT = 222+17.21

+70
330' TAPER

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

SITE 2

+77
INLET F.L. LT.=605.38
EXIST. INLET F.L. LT.=605.32
OUTLET F.L. RT.=605.05
EXIST. OUTLET F.L. RT.=605.11

630 625 620 615 610 605 600 595 590 585

210+00 211+00 212+00 213+00 214+00 215+00 216+00 217+00 218+00 219+00 220+00 221+00 222+00 223+00 224+00 225+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.		061438	119	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

FLOODPLAIN LIMITS

P.I. 242+77.53
PI = 242+77.53
Δ = 28°50'04"RT.
D = 4°15'00"
T = 346.57'
L = 678.45'
PC = 239+30.96
PT = 246+09.41
MATCH EXISTING

WALNUT VALLEY RD

PROP. ROW

CONST. LIMITS

EXIST. ROW

C.L. HWY. 7

N 73°05' 41" W

N 44°15' 37" W

N 64°05' 35" W

P.I. 249+01.32

P.I. 251+51.74

P.I. 253+97.14

DUNN RD

PROP. ROW

STA. 240+00.00
BEGIN SITE 3
LOG MILE 2.65

100' TRANSITION

STA. 241+88 IN PLACE
24" X 27' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 65 CU. YDS.

STA. 244+24 CONSTRUCT
TURNOUT ON LT. = 90 CU. YDS.

STA. 245+60 IN PLACE
DBL. 36" X 51' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
ON A 28° RT. FWD. SKEW
REMOVE HDWLS LT. & RT. AND EXTEND R.C. PIPE
11' LT. AND 7' RT.
TO A COMPLETED LENGTH OF 69'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 414 CFS D.A. = 96 ACRES
36" R.C. PIPE = 56 LIN. FT.
36" FES = 4 EA.

STA. 247+92 IN PLACE
20" X 14" X 30' ARCH C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 248+45 IN PLACE
18" X 26' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 251+69 IN PLACE
24" X 24' R.C. PIPE CULVERT
RT. SIDE DRAIN
30" X 24' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
DBL. 30" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 95 CU. YDS.

STA. 253+66 IN PLACE
DBL. 30" X 46' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE HDWLS LT. & RT. AND EXTEND R.C. PIPE
3' LT. AND 5' RT.
TO A COMPLETED LENGTH OF 54'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 164 CFS D.A. = 32 ACRES
30" R.C. PIPE = 36 LIN. FT.
30" FES = 4 EA.

PI = 251+51.74
Δ = 19°49'58"LT.
D = 4°00'00"
T = 250.42'
L = 495.82'
PC = 249+01.32
PT = 253+97.14
MATCH EXISTING

STA. 252+82 IN PLACE
60" X 38' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
60" X 52' PIPE CULVERT
RT. SIDE DRAIN
TURNOUT APPROACH = 190 CU. YDS.

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

SITE 3

MATCH EXISTING SUPERELEVATION

FLOODPLAIN LIMITS

MATCH EXISTING SUPERELEVATION

251+00.00
640.61

253+66.00
645.12

RT. DITCH GRADE 1.70%

INLET F.L. RT.=625.08
EXIST. INLET F.L. RT.=624.98
OUTLET F.L.LT.=624.70
EXIST. OUTLET F.L. LT.=624.77

INLET F.L. LT.=645.33
EXIST. INLET F.L. LT.=645.32
OUTLET F.L. RT.=645.13
EXIST. OUTLET F.L. RT.=645.15

660 655 650 645 640 635 630 625 620 615

240+00 241+00 242+00 243+00 244+00 245+00 246+00 247+00 248+00 249+00 250+00 251+00 252+00 253+00 254+00 255+00

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061438	120	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 256+99 IN PLACE
18" X 25' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 257+79 IN PLACE
18" X 25' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

PI = 258+19.59
Δ = 12°44'26"RT.
D = 3°30'00"
T = 182.76'
L = 364.01'
PC = 256+36.83
PT = 260+00.84
MATCH EXISTING

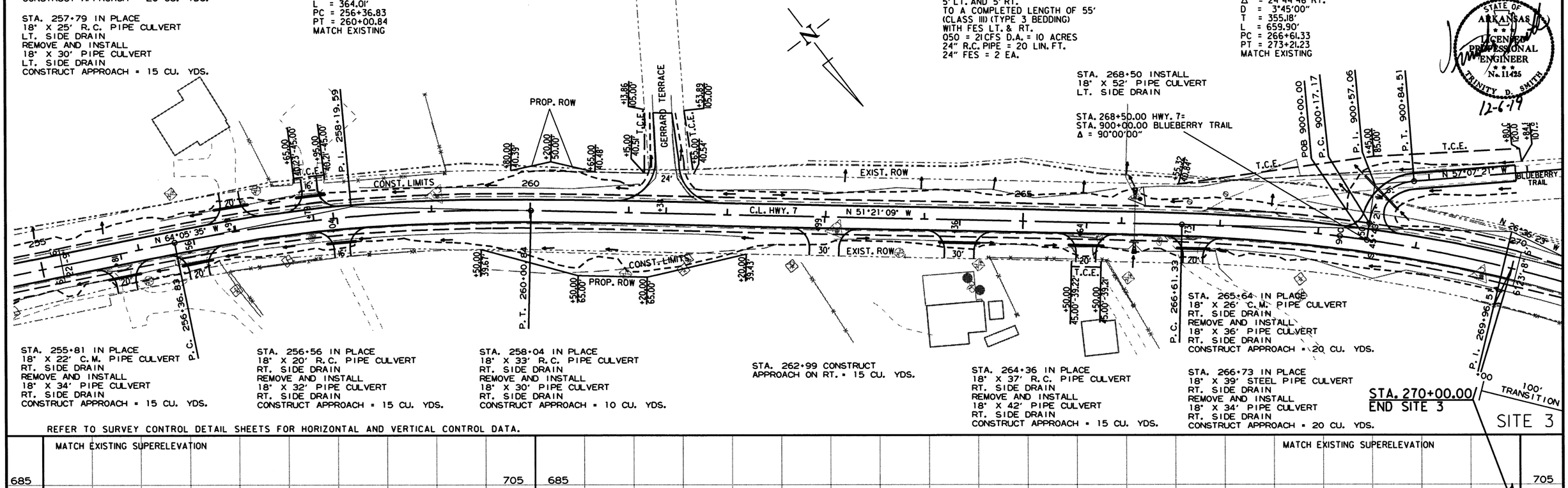
STA. 261+38 CONSTRUCT
TURNOUT ON LT. = 10 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 266+13 IN PLACE
24" X 45' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE HDWLS LT. & RT. AND EXTEND R.C. PIPE
5' LT. AND 5' RT.
TO A COMPLETED LENGTH OF 55'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 21CFS D.A. = 10 ACRES
24" R.C. PIPE = 20 LIN. FT.
24" FES = 2 EA.

PI = 269+96.51
Δ = 24°44'46"RT.
D = 3°45'00"
T = 355.18'
L = 659.90'
PC = 266+61.33
PT = 273+21.23
MATCH EXISTING

STA. 268+50 INSTALL
18" X 52' PIPE CULVERT
LT. SIDE DRAIN

STA. 268+50.00 HWY. 7=
STA. 900+00.00 BLUEBERRY TRAIL
Δ = 90°00'00"



STA. 255+81 IN PLACE
18" X 22' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 256+56 IN PLACE
18" X 20' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 258+04 IN PLACE
18" X 33' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 262+99 CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

STA. 264+36 IN PLACE
18" X 37' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 265+64 IN PLACE
18" X 26' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

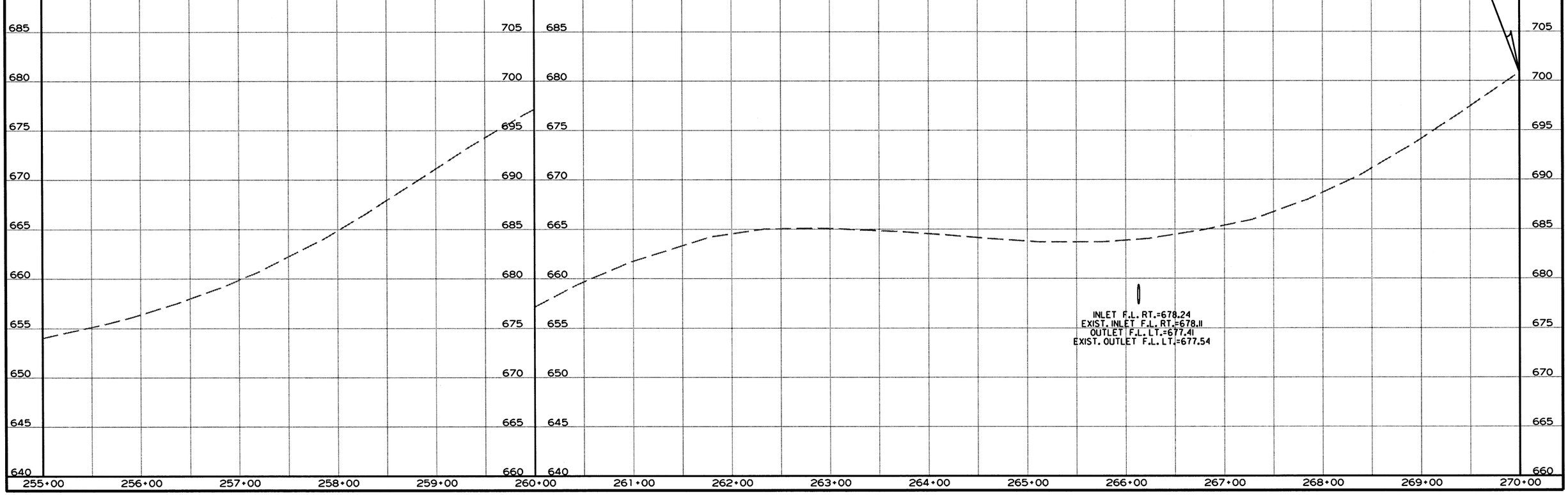
STA. 266+73 IN PLACE
18" X 39' STEEL PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 270+00.00
END SITE 3

100' TRANSITION

SITE 3

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



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R0614.38.DGN

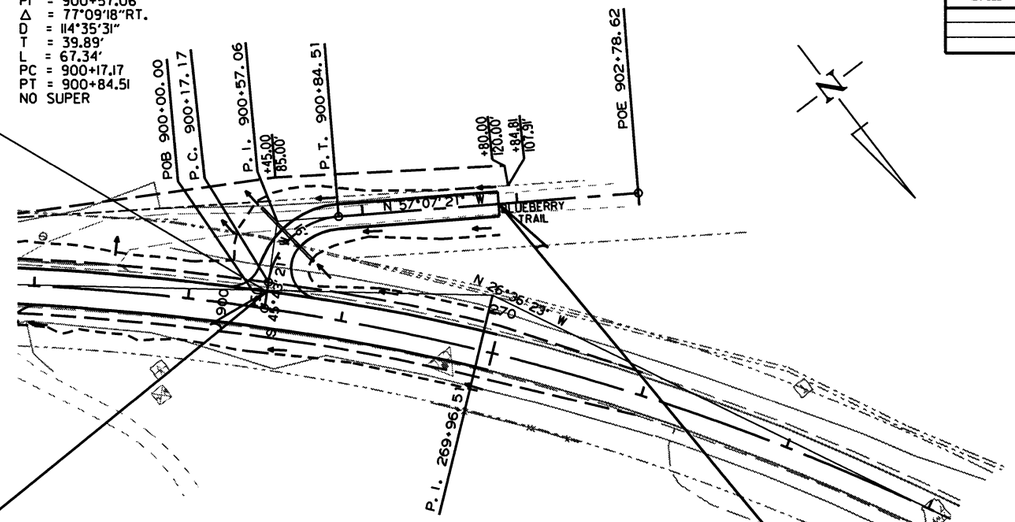
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	121	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

PI = 900+57.06
Δ = 77°09'18"RT.
D = 114°35'31"
T = 39.89'
L = 67.34'
PC = 900+17.17
PT = 900+84.51
NO SUPER

STA. 268+50.00 HWY. 7=
STA. 900+00.00 BLUEBERRY TRAIL
Δ = 90°00'00"

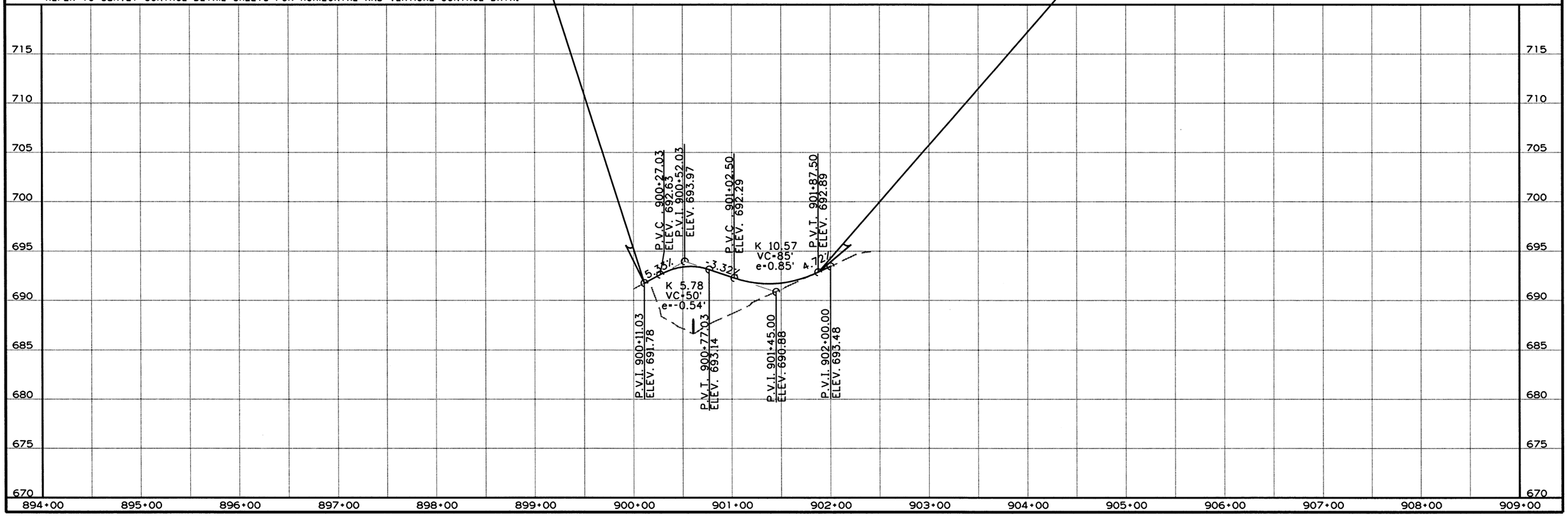


STA. 900+11.00
BEGIN DRIVEWAY AT
STA. 268+50 LT.

STA. 901+88.00
END DRIVEWAY AT
STA. 268+50 LT.

SITE 3
DRIVEWAY AT
STA. 268+50 LT.

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



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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.		061438	122	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

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

POB 288+31.74

288

290

295

N 36°54' 40" W

EXIST. ROW

EXIST. ROW

STA. 299+00 IN PLACE
DBL. 36" X 36' C.M. PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 298+80.00
BEGIN SITE 3A
LOG MILE 3.76

STA. 299+00 IN PLACE
24" X 50' C.M. PIPE CULVERT
RT. SIDE DRAIN
RETAIN

300

+80

660'
LANE DROP TAPER

SITE 3A

730 725 720 715 710 705 700 695 690 685

285+00 286+00 287+00 288+00 289+00 290+00 291+00 292+00 293+00 294+00 295+00 296+00 297+00 298+00 299+00 300+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.		061438	123	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
AGENCY PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 305+86 IN PLACE
DBL. 36" X 77' R.C. PIPE CULVERT
WITH FES LT.
DBL. 36" X 15' R.C. PIPE CULVERT
WITH FES RT.
CONNECTED TO JUNCTION BOX
AT STA. 305+86 RT.
RETAIN

STA. 306+74 IN PLACE
24" X 45' C.M. PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 312+06 IN PLACE
30" X 94' R.C. PIPE CULVERT
RETAIN

PI = 313+32.59
Δ = 13°47'49"LT.
D = 3°45'00"
T = 184.85'
L = 367.92'
PC = 311+47.74
PT = 315+15.66

PI = 304+90.72
Δ = 37°15'45"LT.
D = 4°46'29"
T = 404.57'
L = 780.42'
PC = 300+86.15
PT = 308+66.57

R.C. 300+86.15
P.I. 304+90.72
P.T. 308+66.57
P.C. 311+47.74
P.T. 315+15.66
313+32.59

N 37°00'24" W
N 74°10'25" W
N 87°58'14" W

EXIST. ROW
EXIST. ROW
BROOKHILL RANCH RD
LT. TURN LANE
LT. TURN TAPER
500' BUFFER
660' LANE DROP TAPER
660' LANE DROP TAPER

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

SITE 3A

770 765 760 755 750 745 740 735 730 725

300+00 301+00 302+00 303+00 304+00 305+00 306+00 307+00 308+00 309+00 310+00 311+00 312+00 313+00 314+00 315+00

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R061438.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.		061438	124	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 325+20 IN PLACE
DBL. 36" X 94' R.C. PIPE CULVERT
WITH FES LT. & RT.
RETAIN

P. I. 321+60.26

EXIST. ROW

320

N 21°31'44" W

325

EXIST. ROW

326

P. C. 325+54.94

P. T. 324+56.86

P. T. 327+62.43

P. I. 326+58.69

N 22°33'58" W

P. C. 329+05.58

330

PI = 313+32.59
Δ = 13°47'49"LT.
D = 3°45'00"
T = 184.85'
L = 367.92'
PC = 311+47.74
PT = 315+15.66

PI = 321+60.26
Δ = 66°26'30"RT.
D = 9°45'00"
T = 384.85'
L = 681.45'
PC = 317+75.41
PT = 324+56.86

PI = 326+58.69
Δ = 1°02'14"LT.
D = 0°30'00"
T = 103.75'
L = 207.49'
PC = 325+54.94
PT = 327+62.43

PI = 331+29.21
Δ = 15°33'27"LT.
D = 3°30'00"
T = 223.63'
L = 444.50'
PC = 329+05.58
PT = 333+50.09

P. C. 317+75.41

N 87°58'14" W

P. I. 313+15.66

315

660'
LANE DROP TAPER

+30

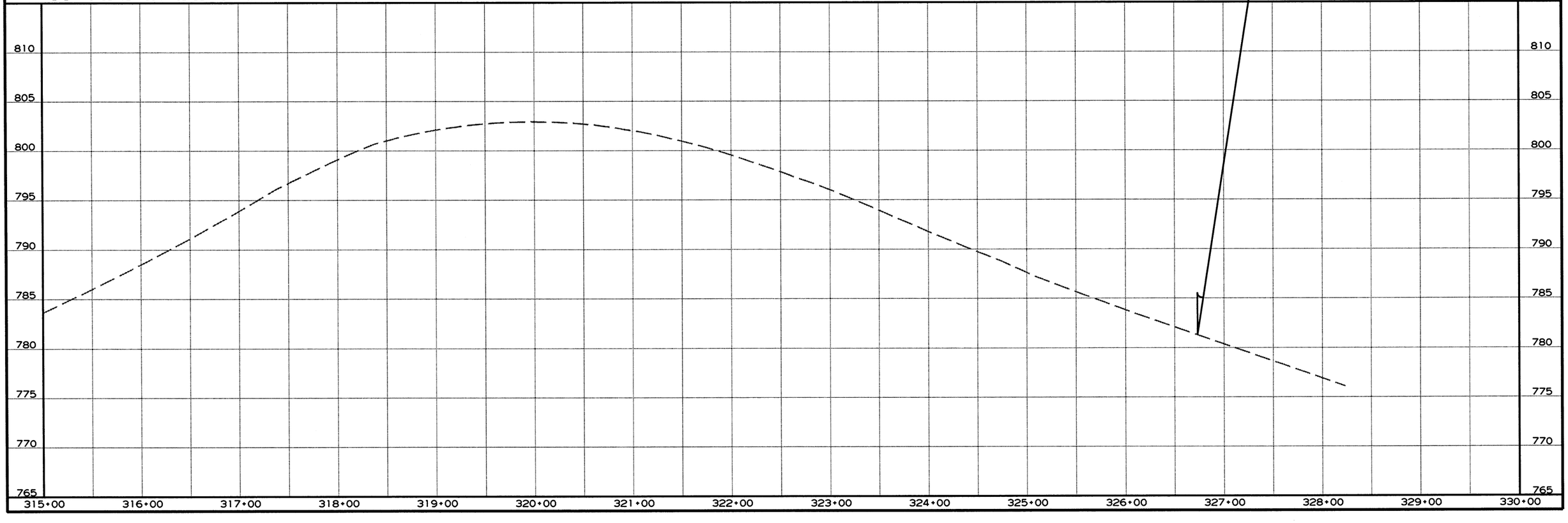
742.50'

+63

STA. 326+73.00
END SITE 3A

SITE 3A

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



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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.		061438	125	277

(2) PLAN AND PROFILE SHEETS

PI = 352+50.51
Δ = 0°26'05"RT.
D = 0°30'00"
T = 43.46'
L = 86.91'
PC = 352+07.05
PT = 352+93.96
NO SUPERELEVATION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 358+30 IN PLACE
18" X 39' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

+17 100' TRANSITION +17

EXIST. ROW

P.I. 352+50.51

+07.87 60.22

+12.18 72.35

PROP. ROW

P.C. 359+42.63

CONST. LIMITS

25'

345 350 355 360

N 38°05'06" W

N 37°39'01" W C.L. HWY. 7

8' 36'-0" 6

8' 12'12'6 36'-0" 12'12'6

34' 12' +30

16' 28'

CONST. LIMITS

EXIST. ROW

P.C. 352+07.05

P.T. 352+93.96

+78.02 55.56

PROP. ROW

PI = 361+07.60
Δ = 1°38'59"LT.
D = 0°30'00"
T = 164.97'
L = 329.91'
PC = 359+42.63
PT = 362+72.54

STA. 354+17.00
BEGIN SITE 3B
LOG MILE 4.81

STA. 355+34 IN PLACE
TRI. 36" X 32' C.M. PIPE CULVERT
RT. SIDE DRAIN
RETAIN
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 356+12 IN PLACE
TRI. 36" X 42' C.M. PIPE CULVERT
RT. SIDE DRAIN
RETAIN
CONSTRUCT APPROACH = 10 CU. YDS.

SITE 3B

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

735 730 725 720 715 710 705 700 695 690

359+50.00
709.60
RT. DITCH GRADE -1.72%

345+00 346+00 347+00 348+00 349+00 350+00 351+00 352+00 353+00 354+00 355+00 356+00 357+00 358+00 359+00 360+00

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				6	ARK.			
				JOB NO.		061438	126	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 360+65 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
358+78	366+75	RT.	D	872
362+56	366+73	LT.	C	436

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.	16'-0" GATE
358+78	366+75	RT.	D	784	
362+56	366+73	LT.	C	480	1

STA. 370+28 IN PLACE
24" X 23' C.P. PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 370+57 IN PLACE
24" X 48' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
RETAIN

PI = 366+38.98
Δ = 14°30'10"LT.
D = 2°00'00"
T = 364.52'
L = 725.15'
PC = 362+74.46
PT = 369+99.61
e = 0.048'/'
Ls = 360'

STA. 367+34 IN PLACE
24" X 44' C.M. PIPE CULVERT
WITH HDWLS LT. & RT.
RETAIN

STA. 373+75 IN PLACE
18" X 40' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
RETAIN

WIRE FENCE (TYPE C)

PROP. ROW

CONST. LIMITS

C.L. HWY. 7

EXIST. ROW

N 39°18'00" W

N 53°48'10" W

P.C. 362+74.46

P.T. 362+72.54

P.T. 369+99.61

+26 100' TRANSITION +26

WIRE FENCE (TYPE D)

PI = 361+07.60
Δ = 1°38'59"LT.
D = 0°30'00"
T = 164.97'
L = 329.91'
PC = 359+42.63
PT = 362+72.54

STA. 362+90 IN PLACE
TRI. 42" X 36' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
TRI. 42" X 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 300 CU. YDS.

+26 200' TAPER +26

STA. 366+26.00
END SITE 3B

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

SITE 3B

STA. 360+90.00 BEGIN SUPERELEVATION
STA. 364+50.00 MAX. SUPERELEVATION (0.048 FT./FT.)
STA. 366+17.00 MAX. SUPERELEVATION (0.048 FT./FT.)

361+00.00 710.00

RT. DITCH GRADE -1.72%

LT. DITCH GRADE -3.36%

364+00.00 699.91

365+00.00 700.14

366+26.00 699.70

366+26.00 698.98

RT. DITCH GRADE -0.35%

LT. DITCH GRADE -0.41%

INLET EXIST. F.L. LT.=696.56
OUTLET EXIST. F.L. RT.=696.31

INLET EXIST. F.L. LT.=692.39
OUTLET EXIST. F.L. RT.=689.00

OUTLET EXIST. F.L. LT.=681.64
INLET EXIST. F.L. RT.=682.07

720 715 710 705 700 695 690 685 680 675

360+00 361+00 362+00 363+00 364+00 365+00 366+00 367+00 368+00 369+00 370+00 371+00 372+00 373+00 374+00 375+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.		061438	127	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
TRINITY D. SMITH
No. 11425
12-6-19

STA. 378+67 IN PLACE
18" X 25' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 379+67 IN PLACE
15" X 31' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

PI = 377+95.81
Δ = 8°07'24"RT.
D = 2°30'00"
T = 162.74'
L = 324.94'
PC = 376+33.07
PT = 379+58.01
e = 0.042'/'
Ls = 270'

STA. 381+15 IN PLACE
18" X 89' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 383+18 IN PLACE
SIGN ON LT.
RETAIN

STA. 383+36 IN PLACE
24" X 49' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 36' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 384+92 CONSTRUCT
TURNOUT ON LT. = 10 CU. YDS. COMP. EMB.
5 CU. YDS. UNCL. EXC.

STA. 385+75 IN PLACE
18" X 44' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 34' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 387+71 IN PLACE
16" X 190' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 50' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 388+99 INSTALL
21" X 15" X 40' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 379+00.00
BEGIN SITE 4
LOG MILE 5.28

STA. 378+76 IN PLACE
18" X 24' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 5 CU. YDS.

STA. 379+72 IN PLACE
18" X 32' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 36' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 380+95 CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

STA. 382+08 CONSTRUCT
APPROACH ON RT. = 15 CU. YDS.

STA. 383+81 IN PLACE
30" X 44' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
ON A 30° RT. FWD. SKEW
REMOVE HDWLS AND EXTEND R.C. PIPE
11' LT. AND 12' RT.
TO A COMPLETED LENGTH OF 67'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 70 CFS D.A. = 31 ACRES
30" R.C. PIPE = 32 LIN. FT.
30" FES = 2 EA.

STA. 384+57 CONSTRUCT
APPROACH ON RT. = 10 CU. YDS.

STA. 385+24 CONSTRUCT
APPROACH ON RT. = 10 CU. YDS.

STA. 386+80 IN PLACE
18" X 30' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 388+60 IN PLACE
18" X 21' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 389+76 IN PLACE
24" X 44' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 40' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 50 CU. YDS.

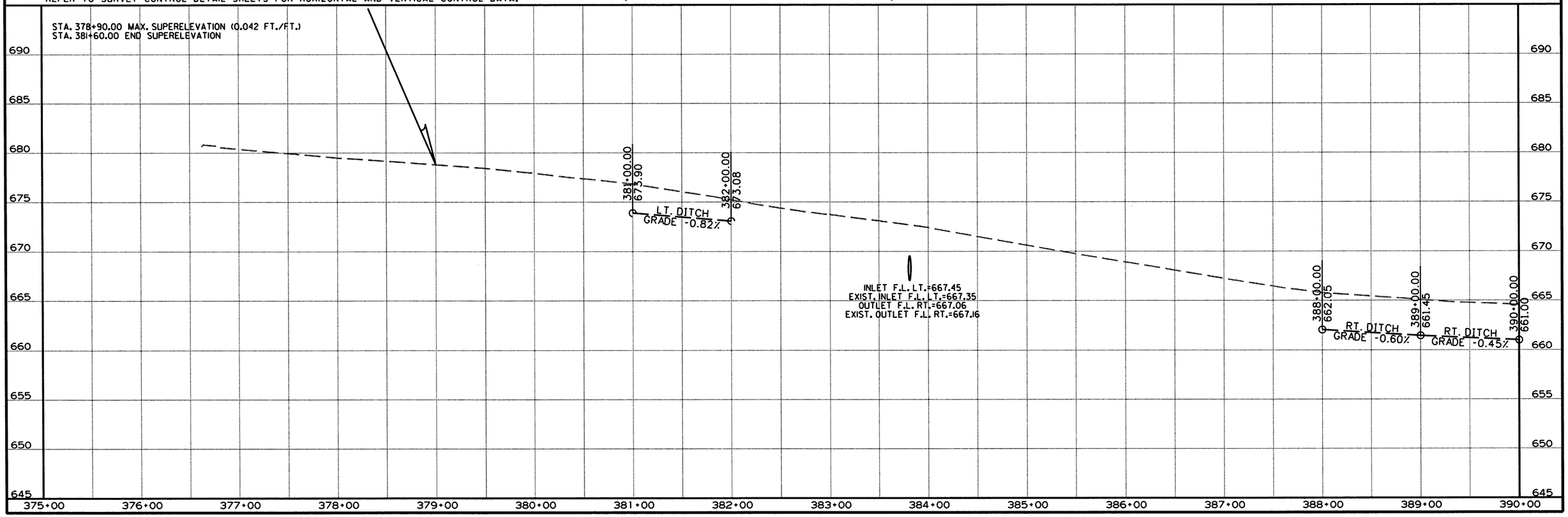
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

SITE 4

STA. 378+90.00 MAX. SUPERELEVATION (0.042 FT./FT.)
STA. 381+60.00 END SUPERELEVATION

270' TAPER

INLET F.L. LT.=667.45
EXIST. INLET F.L. LT.=667.35
OUTLET F.L. RT.=667.06
EXIST. OUTLET F.L. RT.=667.16



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				6	ARK.			
				JOB NO.		061438	128	277

(2) PLAN AND PROFILE SHEETS

FLOODPLAIN LIMITS

STA. 394+17 IN PLACE
24" X 54' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 395+15 IN PLACE
24" X 63' CP PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 52' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 395+76 IN PLACE
24" X 26' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 397+08 IN PLACE
18" X 20' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 398+29 IN PLACE
24" X 42' CP PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 36' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 398+91 IN PLACE
24" X 41' CP PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 36' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 400+13 IN PLACE
24" X 50' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 34' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 400+73 IN PLACE
24" X 29' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
401+30	402+50	LT.	C	127
404+49	405+31	LT.	C	82

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
401+30	402+50	LT.	C	127
404+49	405+31	LT.	C	82

STATE OF ARKANSAS
TRINITY D. SMITH
No. 11425
REGISTERED PROFESSIONAL ENGINEER
12-6-19

EXIST. ROW
CONST. LIMITS
CONST. LIMITS
EXIST. ROW
WIRE FENCE (TYPE C)
PROP. ROW
WIRE FENCE (TYPE C)
PROP. ROW
T.C.E.
T.C.E.
P.I. 401+31.81
N 45°40'46" W
N 46°49'55" W

STA. 392+69 IN PLACE
TRIP. 12' X 9' X 76' R.C. BOX CULVERT
WITH 3sl WINGS LT. & RT.
RETAIN
Q50 = 4230 CFS D.A. = 2470 ACRES

STA. 400+20 IN PLACE
18" X 32' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 28' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 120 CU. YDS.

PI = 401+31.81
Δ = 1°09'09"LT.
D = 0°30'00"
T = 115.24'
L = 230.48'
PC = 400+16.57
PT = 402+47.05
NO SUPER

STA. 402+22 IN PLACE
24" X 44' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
ON A 30° RT. FWD. SKEW
REMOVE HDWLS LT. & RT. AND EXTEND R.C. PIPE
17' LT. AND 12' RT.
TO A COMPLETED LENGTH OF 73'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 12 CFS D.A. = 7 ACRES
24" R.C. PIPE = 38 LIN. FT.
24" FES = 2 EA.

SITE 4

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

FLOODPLAIN LIMITS

392+69 (EXIST.)
INLET F.L. RT=653.50
OUTLET F.L. LT.=653.15

394+00.00
661.00
LT. DITCH GRADE 0.08%
396+00.00
661.16

400+13.00
669.29
LT. DITCH GRADE 1.41%
401+00.00
670.52
LT. DITCH GRADE 0.34%
402+22.00
670.94

INLET F.L. RT=672.03
EXIST. INLET F.L. RT=671.82
OUTLET F.L. LT.=670.94
EXIST. OUTLET F.L. LT.=671.25

690 685 680 675 670 665 660 655 650 645

390+00 391+00 392+00 393+00 394+00 395+00 396+00 397+00 398+00 399+00 400+00 401+00 402+00 403+00 404+00 405+00

12/4/2019
ikge653
R061438.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.		061438	129	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
408+75	409+85	LT.	D	110
411+92	416+60	LT.	D	495

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
408+75	409+85	LT.	D	110
411+92	416+60	LT.	D	484

STA. 406+81 CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 407+02 CONSTRUCT
21" X 15" X 34' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 15 CU. YDS.

STA. 408+00 INSTALL
CONSTRUCT APPROACH = 10 CU. YDS.

STA. 409+40 INSTALL
21" X 15" X 70' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT TURNOUT = 30 CU. YDS.

STA. 410+59 IN PLACE
24" X 74' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
ON A 30° LT. FWD. SKEW
REMOVE HDWLS RT. AND EXTEND R.C. PIPE 13' RT.
TO A COMPLETED LENGTH OF 87'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 26 CFS D.A. = 14 ACRES
24" R.C. PIPE = 18 LIN. FT.
24" FES = 1EA.

STA. 411+54 IN PLACE
36" X 75' CM PIPE CULVERT
LT. SIDE DRAIN
RETAIN AND CONSTRUCT
TURNOUT ON LT. = 155 CU. YDS.

STA. 412+71 IN PLACE
18" X 42' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 40' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 416+31 IN PLACE
6' X 3' X 38' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 18' LT. AND 14' RT.
WITH 3:1 WINGS LT. & RT.
TO A COMPLETED LENGTH OF 70'
Q50 = 119 CFS D.A. = 97 ACRES

PI = 422+94.29
Δ = 58°38'19"RT.
D = 3°00'00"
T = 1072.61'
L = 1954.62'
PC = 412+21.68
PT = 431+76.30
e = 0.049'/'
Ls = 270'

STA. 417+21 IN PLACE
18" X 50' RC PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 44' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

STA. 418+71 IN PLACE
18" X 50' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 30 CU. YDS.

STA. 419+65.00
END SITE 4

STA. 419+97 CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

SITE 4

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

STA. 410+19.00 BEGIN SUPERELEVATION
STA. 412+89.00 MAX. SUPERELEVATION (0.049 FT./FT.)
STA. 419+65.00 MAX. SUPERELEVATION (0.049 FT./FT.)

412+00.00 679.54
414+00.00 679.93
418+00.00 682.86
419+00.00 684.23
412+00.00 676.00
416+31.00 677.88

RT. DITCH GRADE 0.19%
LT. DITCH GRADE 0.44%
RT. DITCH GRADE 1.37%

INLET F.L. RT.=676.75
INLET EXIST. F.L.=676.71
OUTLET EXIST. F.L. LT.=676.56

416+31
INLET F.L. RT.=678.19
INLET EXIST. F.L.=678.09
OUTLET F.L. LT.=677.88
OUTLET EXIST. F.L.=677.93

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JOB NO.		061438	130	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

PI = 422+94.29
Δ = 58°38'19"RT.
D = 3°00'00"
T = 1072.61'
L = 1954.62'
PC = 412+21.68
PT = 431+76.30
e = 0.049'/'
Ls = 270'

N 46°49'55" W
422+94.29 P.I.

STA. 420+53 IN PLACE
18" X 41' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

.65 100' TRANSITION .65

28'
30'
WALMART DR
50'.00 RT.
50'.00 RT.

BURLS RD

N 11°48'24" E

431+76.30 P.T.

420 425 430 435

SITE 4

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

720 715 710 705 700 695 690 685 680 675

420+00 421+00 422+00 423+00 424+00 425+00 426+00 427+00 428+00 429+00 430+00 431+00 432+00 433+00 434+00 435+00

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 515+95 CONSTRUCT
DROP INLET ON LT. W/8' EXTENSION
AND 51" X 31" X 27' R.C. ARCH PIPE INLET W/FES
AND 51" X 31" X 169' ARCH PIPE OUTLET
CONNECT TO DROP INLET @ STA. 517+76 LT.
DROP INLET H = 5'-5"
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 6' X 4'
51" X 31" R.C. ARCH PIPE (CLASS III) (TYPE 3 BEDDING) = 28 LIN. FT.
51" X 31" FES = 1 EACH
51" X 31" R.C. ARCH PIPE (CLASS III) (TYPE 3 BEDDING) = 170 LIN. FT.
51" X 31" SLPPMCCS ARCH PIPE (TYPE 2 BEDDING) = 170 LIN. FT.

STA. 517+76 CONSTRUCT
DROP INLET ON LT. W/8' EXTENSION
AND 51" X 31" X 115' ARCH PIPE OUTLET
CONNECT TO DROP INLET @ STA. 518+99 LT.
DROP INLET H = 5'-6"
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 6' X 4'
51" X 31" R.C. ARCH PIPE (CLASS III) (TYPE 3 BEDDING) = 116 LIN. FT.
51" X 31" SLPPMCCS ARCH PIPE (TYPE 2 BEDDING) = 116 LIN. FT.

STA. 518+99 CONSTRUCT
DROP INLET ON LT. W/8' EXTENSION
AND 51" X 31" X 70' R.C. ARCH PIPE OUTLET
CONNECT TO DROP INLET @ STA. 519+76 LT.
DROP INLET H = 5'-6"
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 6' X 4'
51" X 31" R.C. ARCH PIPE (CLASS III) (TYPE 3 BEDDING) = 70 LIN. FT.

STA. 519+60 CONSTRUCT
DROP INLET ON LT. W/8' EXTENSION
AND 18" X 14' ARCH PIPE OUTLET
CONNECT TO DROP INLET @ STA. 519+76 LT.
DROP INLET H = 3'-6"
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 4'
18" R.C. ARCH PIPE (CLASS III) (TYPE 3 BEDDING) = 14 LIN. FT.
18" SLPPMCCS ARCH PIPE (TYPE 2 BEDDING) = 14 LIN. FT.

STA. 519+76 CONSTRUCT
DROP INLET ON LT. W/8' EXTENSION
AND 51" X 31" X 118' ARCH PIPE OUTLET
CONNECT TO DROP INLET @ STA. 521+00 LT.
DROP INLET H = 4'-9"
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 6' X 4'
51" X 31" R.C. ARCH PIPE (CLASS III) (TYPE 3 BEDDING) = 118 LIN. FT.
51" X 31" SLPPMCCS ARCH PIPE (TYPE 2 BEDDING) = 118 LIN. FT.

STA. 521+00 CONSTRUCT
DROP INLET ON LT. W/8' EXTENSION
AND 51" X 31" X 105' ARCH PIPE OUTLET
CONNECT TO DROP INLET @ STA. 522+10 LT.
DROP INLET H = 5'-6"
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 6' X 4'
51" X 31" R.C. ARCH PIPE (CLASS III) (TYPE 3 BEDDING) = 106 LIN. FT.
51" X 31" SLPPMCCS ARCH PIPE (TYPE 2 BEDDING) = 106 LIN. FT.

STA. 522+10 CONSTRUCT
DROP INLET ON LT. W/8' EXTENSION
AND 48" X 15' R.C. PIPE INLET W/FES
CONNECT TO EXISTING 48" R.C. PIPE
DROP INLET H = 7'-9"
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 6' X 6'
Q50 = 175 CFS D.A. = 26 ACRES
48" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 16 LIN. FT.
48" FES = 1 EACH

STA. 519+36 IN PLACE
36" X 91' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 523+38 CONSTRUCT
DROP INLET ON LT. W/8' EXTENSION
AND 18" X 24' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 523+65 LT.
DROP INLET H = 4'-7"
TYPE MO DROP INLET=4' DIA.
TYPE C INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 24 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)= 24 LIN. FT.

STA. 523+65 CONSTRUCT
DROP INLET ON LT. W/4' EXTENSION
AND 18" X 32' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 523+92 LT.
DROP INLET H = 5'-7"
TYPE MO DROP INLET = 4' DIA.
TYPE C INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 32 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 32 LIN. FT.

STA. 523+92 CONSTRUCT
DROP INLET ON LT. W/4' EXTENSION
AND 18" X 106' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 525+02 LT.
DROP INLET H = 4'-8"
TYPE MO DROP INLET=4' DIA.
TYPE C INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 106 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 106 LIN. FT.

STA. 523+49 CONSTRUCT
TURNOUT ON LT. = 5 CU. YDS.

STA. 524+22 CONSTRUCT
APPROACH ON LT. = 25 CU. YDS.

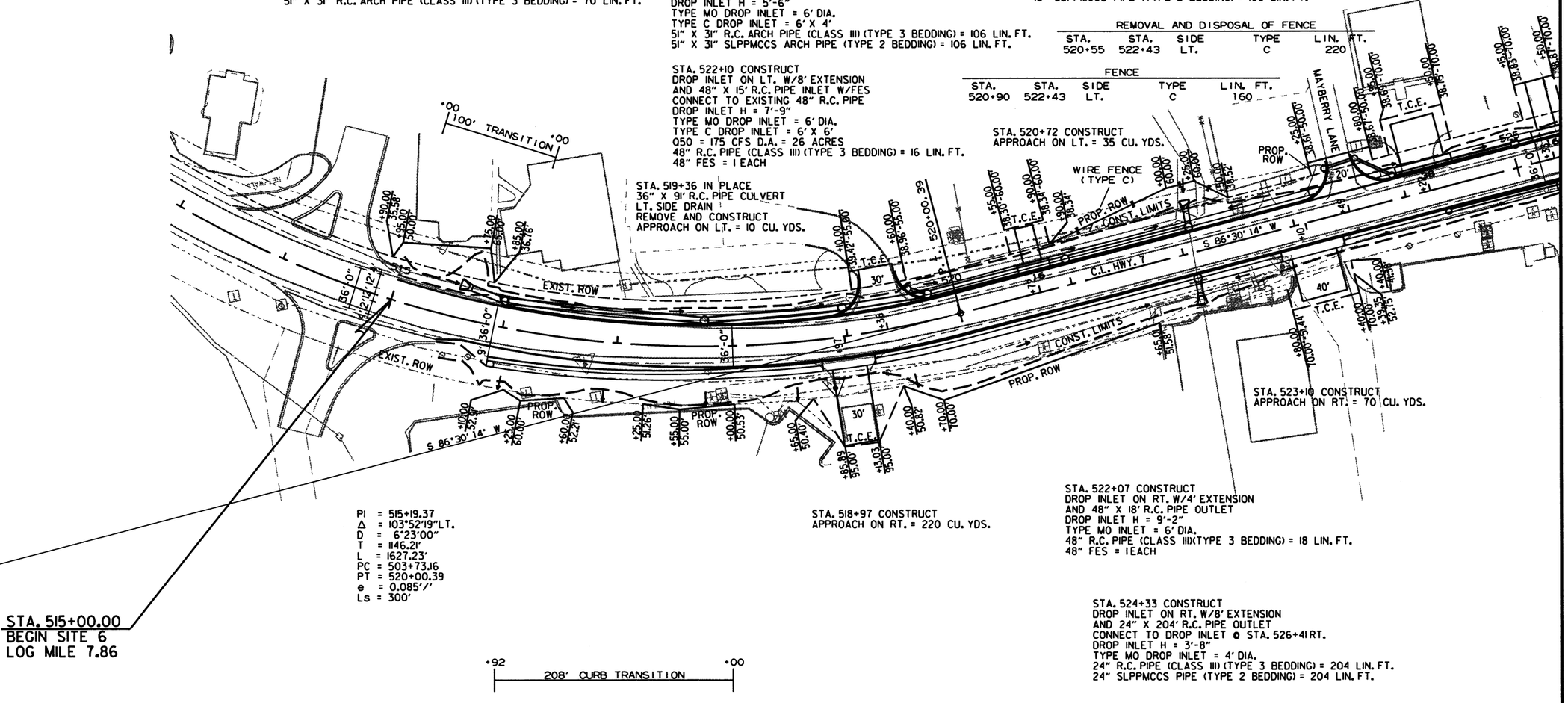
REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
520+55	522+43	LT.	C	220

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
520+90	522+43	LT.	C	160

STA. 520+72 CONSTRUCT
APPROACH ON LT. = 35 CU. YDS.



PI = 515+19.37
Δ = 103°52'19"LT.
D = 6°23'00"
T = 1146.21'
L = 1627.23'
PC = 503+73.16
PT = 520+00.39
e = 0.085'/'
Ls = 300'

STA. 515+00.00
BEGIN SITE 6
LOG MILE 7.86

STA. 518+97 CONSTRUCT
APPROACH ON RT. = 220 CU. YDS.

STA. 522+07 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 48" X 18' R.C. PIPE OUTLET
DROP INLET H = 9'-2"
TYPE MO INLET = 6' DIA.
48" R.C. PIPE (CLASS IIIX(TYPE 3 BEDDING) = 18 LIN. FT.
48" FES = 1EACH

STA. 523+10 CONSTRUCT
APPROACH ON RT. = 70 CU. YDS.

STA. 524+33 CONSTRUCT
DROP INLET ON RT. W/8' EXTENSION
AND 24" X 204' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 526+41RT.
DROP INLET H = 3'-8"
TYPE MO DROP INLET = 4' DIA.
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 204 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 204 LIN. FT.

SITE 6

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(2) PLAN AND PROFILE SHEETS

STA. 515+00.00 MAX. SUPERELEVATION (0.085 FT./FT.)
STA. 519+25.39 MAX. SUPERELEVATION (0.085 FT./FT.)
STA. 522+25.39 END SUPERELEVATION

LEFT SIDE OF HWY. 7

SITE 6

STA. 515+00.00
BEGIN SITE 6
LOG MILE 7.86

P.V.I. 515+00.00
ELEV. 910.61

P.V.C. 515+78.17
ELEV. 906.06

P.V.I. 516+53.17
ELEV. 901.70

-5.82%

5"x3"x28' @ 8.96%

INVERT INLET=902.20

INVERT INLET=902.20

K 140.19
VC-150'
e=-0.20'

STA. 515+95
TOP ELEV.=905.20
F.L. ELEV.=899.78

P.V.I. 517+28.17
ELEV. 896.53

STA. 517+76
TOP ELEV.=893.36
F.L. ELEV.=887.90

6.89%

5"x3"x 170' @ 7.09%

K 140.04
VC-150'
e=-0.20'

P.V.C. 518+89.15
ELEV. 885.45

STA. 518+99
TOP ELEV.=884.90
F.L. ELEV.=879.43

STA. 519+60
TOP ELEV.=880.45
F.L. ELEV.=876.95

5"x3"x 116' @ 7.44%

STA. 519+76
TOP ELEV.=880.15
F.L. ELEV.=875.39

5"x3"x 70' @ 5.86%

18"x 14' @ 1.14%

K 66.92
VC-350'
e=2.29'

STA. 521+00
TOP ELEV.=874.36
F.L. ELEV.=868.90

5"x3"x 118' @ 5.53%

P.V.I. 520+64.15
ELEV. 873.39

5"x3"x 106' @ 3.72%

P.V.T. 522+39.15
ELEV. 870.49

STA. 522+10
TOP ELEV.=871.16
F.L. INLET=863.96
F.L. ELEV.=863.44

STA. 522+10
EXIST. F.L. INLET=863.41

STA. 523+38
TOP ELEV.=869.10
F.L. ELEV.=864.53

-1.66%

K 277.78
VC-75'
e=-0.03'

P.V.C. 523+94.18
ELEV. 867.91

P.V.I. 524+31.68
ELEV. 867.29

P.V.T. 524+69.18
ELEV. 866.57

STA. 523+65
TOP ELEV.=869.60
F.L. ELEV.=863.80

STA. 523+92
TOP ELEV.=868.07
F.L. ELEV.=863.42

-1.93%

18"x 24' @ 2.00%

18"x 32' @ 0.44%

18"x 106' @ 1.50%

STATE OF ARKANSAS
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RIGHT SIDE OF HWY. 7

SITE 6

STA. 515+00.00
BEGIN SITE 6
LOG MILE 7.86

P.V.I. 515+00.00
ELEV. 910.61

P.V.C. 515+78.17
ELEV. 906.06

P.V.I. 516+53.17
ELEV. 901.70

-5.82%

K 140.04
VC-150'
e=-0.20'

K 140.04
VC-150'
e=-0.20'

P.V.T. 517+28.17
ELEV. 896.53

6.89%

P.V.C. 518+89.15
ELEV. 885.45

K 66.95
VC-350'
e=2.29'

P.V.I. 520+64.15
ELEV. 873.39

STA. 522+10
EXIST. F.L. OUTLET=862.20

STA. 522+07
TOP ELEV.=871.41
F.L. ELEV.=862.20
F.L. OUTLET=861.85

P.V.T. 522+39.15
ELEV. 870.49

-1.66%

P.V.C. 523+94.18
ELEV. 867.91

P.V.I. 524+31.68
ELEV. 867.29

P.V.T. 524+69.18
ELEV. 866.57

STA. 524+33
TOP ELEV.=867.36
F.L. ELEV.=863.69

-1.93%

24"x 204' @ 2.00%

K 273.23
VC-75'
e=-0.03'

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 525+02 CONSTRUCT
DROP INLET ON LT. W/4' EXTENSION
WITH OPENING IN THE BACK
AND 24" X 134' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 526+42 LT.
DROP INLET H = 4'-4"
TYPE MO DROP INLET=6' DIA.
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=134 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING)=134 LIN. FT.

STA. 526+42 CONSTRUCT
DROP INLET ON LT. W/8' EXTENSION
AND 24" X 146' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 527+90 LT.
DROP INLET H = 4'-0"
TYPE MO DROP INLET=4' DIA.
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=146 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING)=146 LIN. FT.

STA. 527+90 CONSTRUCT
DROP INLET ON LT. W/4' EXTENSION
AND 24" X 24' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 528+13 LT.
DROP INLET H = 4'-0"
TYPE MO DROP INLET=4' DIA.
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=24 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING)=24 LIN. FT.

STA. 525+33 IN PLACE
15" X 22' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH ON LT. = 30 CU. YDS.

STA. 526+87 IN PLACE
15" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH ON LT. = 5 CU. YDS.

STA. 528+13 CONSTRUCT
DROP INLET ON LT. H=10'0"
WITH 4' EXTENSION
ON TOP OF 4' X 4' R.C. BOX CULVERT
TYPE C DROP INLET=4'X4'

STA. 528+18 IN PLACE
4' X 4' X 42' R.C. BOX CULVERT
WITH 30° WINGS LT. & RT.
RETAIN AND EXTEND 26' LT. AND 28' RT.
TO A COMPLETED LENGTH OF 96'
WITH FES LT. & RT.
050 = 190 CFS D.A. = 23 ACRES

STA. 528+28 CONSTRUCT
DROP INLET ON LT. W/4' EXTENSION
AND 18" X 6' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 528+13
DROP INLET H = 4'-0"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=6 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=6 LIN. FT.

STA. 528+76 CONSTRUCT
APPROACH ON LT. = 110 CU. YDS.

STA. 529+28 IN PLACE
18" X 23' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH ON LT. = 50 CU. YDS.

STA. 529+92 IN PLACE
10" X 19' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH ON LT. = 5 CU. YDS.

STA. 529+60 CONSTRUCT
DROP INLET ON LT. W/4' EXTENSION
AND 18" X 130' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 528+28 LT.
DROP INLET H = 4'-1"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=130 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=130 LIN. FT.

STA. 531+20 CONSTRUCT
DROP INLET ON LT. W/4' EXTENSION
AND 18" X 156' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 529+60 LT.
DROP INLET H = 4'-2"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=156 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=156 LIN. FT.

STA. 532+85 CONSTRUCT
DROP INLET ON LT. W/4' EXTENSION
AND 18" X 162' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 531+20 LT.
DROP INLET H = 3'-8"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=162 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=162 LIN. FT.

PI = 542+92.53
Δ = 62°08'26"RT.
D = 5°00'00"
T = 690.45'
L = 1242.81'
PC = 536+02.08
PT = 548+44.89
e = 0.072'/'
Ls = 300'

STA. 535+64 CONSTRUCT
APPROACH ON LT. = 15 CU. YDS.

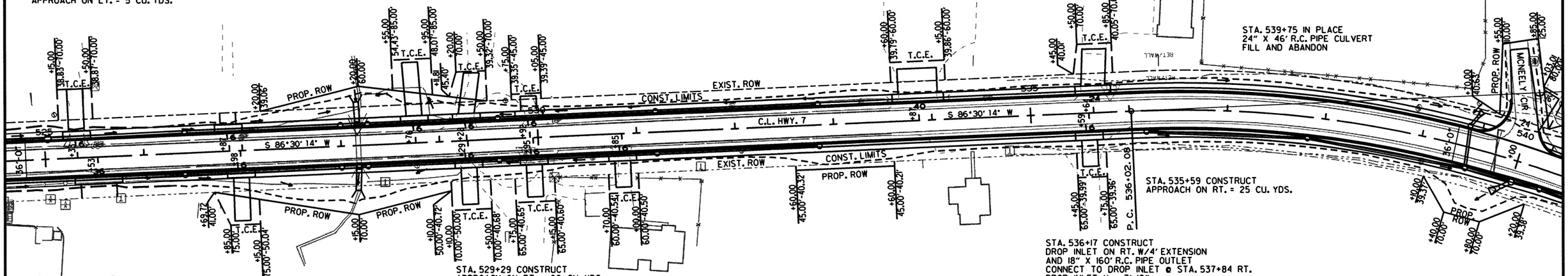
STA. 533+87 IN PLACE
C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH ON LT. = 10 CU. YDS.

STA. 539+45 CONSTRUCT
DROP INLET ON LT.
AND 24" X 10' R.C. PIPE INLET W/FES
AND 24" X 40' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 539+50 RT.
DROP INLET H = 4'-10"
TYPE MO INLET = 4' DIA.
050 = 27 CFS D.A. = 7.63 ACRES
24" R.C. PIPE (CLASS III)(TYPE 3 BEDDING) = 50 LIN. FT.
24" FES = 1EACH

STA. 539+75 IN PLACE
24" X 46' R.C. PIPE CULVERT
FILL AND ABANDON

STA. 540+00 CONSTRUCT
TURNOUT ON LT. = 70 CU. YDS.

STA. 540+05 CONSTRUCT
APPROACH ON LT. = 20 CU. YDS.



STA. 525+53 IN PLACE
18" X 56' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.

STA. 526+98 CONSTRUCT
APPROACH ON RT. = 80 CU. YDS.

STA. 526+41 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 24" X 146' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 527+90 RT.
DROP INLET H = 4'-0"
TYPE MO DROP INLET=4' DIA.
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=146 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING)=146 LIN. FT.

STA. 527+90 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 24" X 24' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 528+17 RT.
DROP INLET H = 4'-0"
TYPE MO DROP INLET=4' DIA.
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=24 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING)=24 LIN. FT.

STA. 528+17 CONSTRUCT
DROP INLET ON RT. H=10'-1"
WITH 4' EXTENSION
ON TOP OF 4' X 4' R.C. BOX CULVERT
TYPE C DROP INLET=4'X4'

STA. 529+29 CONSTRUCT
APPROACH ON RT. = 60 CU. YDS.

STA. 529+95 IN PLACE
12" X 21' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH ON RT. = 30 CU. YDS.

STA. 528+27 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 18" X 6' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 528+17 RT.
DROP INLET H = 3'-11"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=6 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=6 LIN. FT.

STA. 529+60 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 18" X 130' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 528+27 RT.
DROP INLET H = 4'-1"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=130 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=130 LIN. FT.

STA. 531+20 CONSTRUCT
DROP INLET ON LT. W/4' EXTENSION
AND 18" X 156' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 529+60 RT.
DROP INLET H = 4'-2"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=156 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=156 LIN. FT.

STA. 530+85 IN PLACE
12" X 24' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND CONSTRUCT
APPROACH ON RT. = 10 CU. YDS.

STA. 532+85 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 18" X 162' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 531+20 RT.
DROP INLET H = 3'-8"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=162 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=162 LIN. FT.

STA. 535+59 CONSTRUCT
APPROACH ON RT. = 25 CU. YDS.

STA. 536+17 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 18" X 160' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 537+84 RT.
DROP INLET H = 3'-10"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=160 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=160 LIN. FT.

STA. 537+84 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 18" X 160' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 539+50 RT.
DROP INLET H = 4'-1"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=160 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=160 LIN. FT.

STA. 539+50 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 24" X 46' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 540+00 RT.
DROP INLET H = 4'-7"
TYPE MO DROP INLET=4' DIA.
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=46 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING)=46 LIN. FT.

STA. 540+00 CONSTRUCT
DROP INLET ON RT.
AND 36" X 10' R.C. PIPE OUTLET W/FES
DROP INLET H = 4'-7"
TYPE MO DROP INLET=5' DIA.
36" R.C. PIPE (CLASS III)(TYPE 3 BEDDING)=10 LIN. FT.
36" FES= 1EACH

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SITE 6

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				6	ARK.			
				JOB NO.		061438	134	277

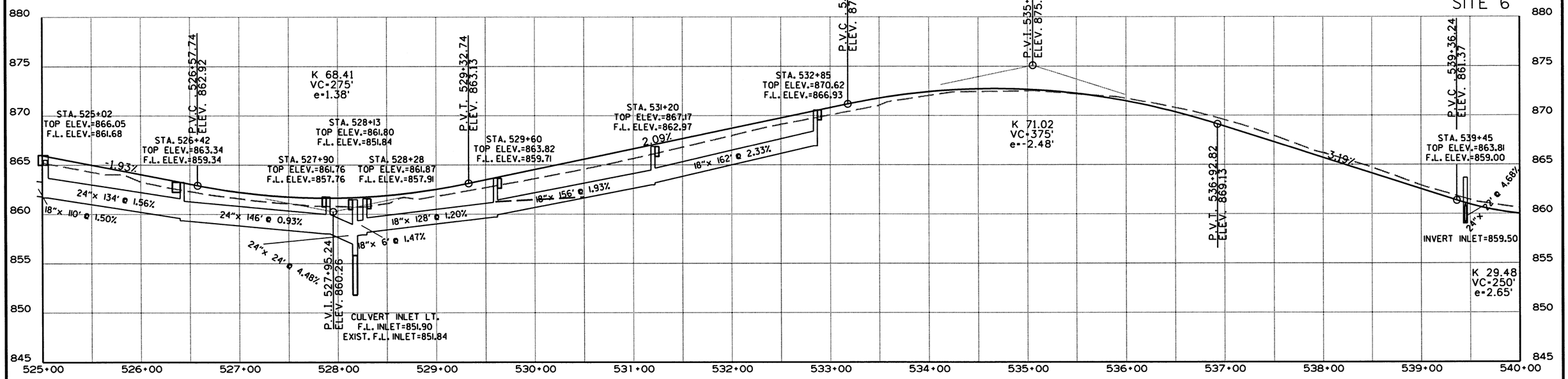
(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 533+77.00 BEGIN SUPERELEVATION
STA. 536+77.00 MAX. SUPERELEVATION (0.072 FT./FT.)
STA. 542+50.00 MAX. SUPERELEVATION (0.072 FT./FT.)

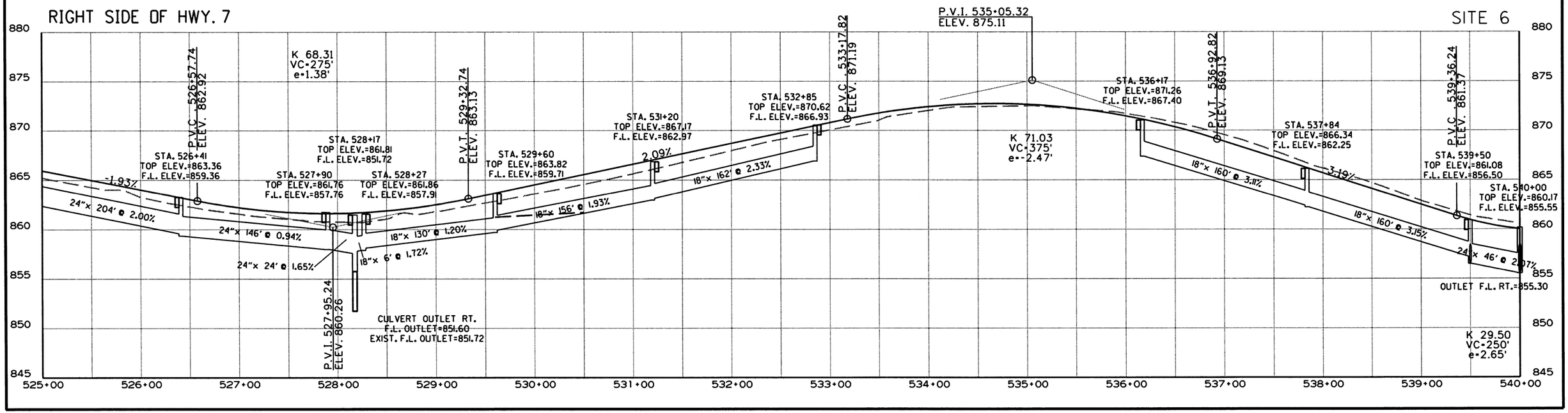
LEFT SIDE OF HWY. 7

SITE 6



RIGHT SIDE OF HWY. 7

SITE 6



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				6	ARK.			
				JOB NO.		061438	135	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

PI = 542+92.53
Δ = 62°08'26"RT.
D = 5°00'00"
T = 690.45'
L = 1242.81'
PC = 536+02.08
PT = 548+44.89
e = 0.072'/'
Ls = 300'

P.I. 542+92.53

N 31°21'20" W

100' TRANSITION

EXIST. ROW

CONST. LIMITS

S 86°30'14" W

STA. 541+50 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 18" X 116' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 540+30 RT.
DROP INLET H = 3'-8"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=116 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=116 LIN. FT.

P.T. 548+44.89

N 31°21'20" W

STA. 540+30 CONSTRUCT
DROP INLET ON RT. W/4' EXTENSION
AND 18" X 26' R.C. PIPE OUTLET
CONNECT TO DROP INLET @ STA. 540+00 RT.
DROP INLET H = 4'-5"
TYPE MO DROP INLET=4' DIA.
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)=26 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING)=26 LIN. FT.

STA. 542+50.00
END SITE 6

270' TAPER

100' SHOULDER TAPER

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

SITE 6

RIGHT SIDE OF HWY. 7

STA. 533+77.00 BEGIN SUPERELEVATION
STA. 536+77.00 MAX. SUPERELEVATION (0.072 FT./FT.)
STA. 542+50.00 MATCH EXIST. SUPERELEVATION (0.072 FT./FT.)

K 29.50
VC=250'
e=2.65'

P.V.I. 542+50.00
ELEV. 867.36

P.V.I. 541+86.24
ELEV. 863.99

STA. 541+50
TOP ELEV.=862.69
F.L. ELEV.=859.01

5.29%

STA. 540+30
TOP ELEV.=860.07
F.L. ELEV.=855.66

18"x 116' @ 2.89%

18"x 26' @ 0.30%

P.V.I. 540+61.24
ELEV. 857.38

885 880 875 870 865 860 855 850 845 840

540+00 541+00 542+00 543+00 544+00 545+00 546+00 547+00 548+00 549+00 550+00 551+00 552+00 553+00 554+00 555+00

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				JOB NO.		061438	136	277

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

PI = 620+23.93
Δ = 19°00'52"RT.
D = 5°45'00"
T = 166.88'
L = 330.69'
PC = 618+57.05
PT = 621+87.74
e = 0.090'/'
Ls = 360'

STA. 617+35 IN PLACE
6' X 4' X 36' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 11' LT. AND 14' RT.
TO A COMPLETED LENGTH OF 61'
ADD 48" X 56' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
050 = 276 CFS D.A. = 43 ACRES
48" R.C. PIPE = 56 LIN. FT.
48" FES = 2 EA.

STA. 621+25 CONSTRUCT
APPROACH ON LT. = 135 CU. YDS.

STA. 623+11 INSTALL
18" X 52' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 623+90 INSTALL
18" X 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

PI = 625+80.27
Δ = 0°44'16"RT.
D = 0°30'00"
T = 73.78'
L = 147.57'
PC = 625+06.49
PT = 626+54.06
NO SUPER

PI = 800+83.16
Δ = 27°19'55"LT.
D = 25°00'00"
T = 55.72'
L = 109.33'
PC = 800+27.43
PT = 801+36.76
NO SUPER

STA. 624+62 INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.

STA. 625+21 INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

STA. 626+69 INSTALL
24" X 134' R.C. PIPE CULVERT
(CLASS III) (TYPE 2 BEDDING)
WITH FES ON LT. & RT.
CONSTRUCT TURNOUT = 100 CU. YDS.
050 = 2 CFS D.A. = 0.3 ACRES

STA. 629+85 CONSTRUCT
APPROACH ON LT. = 70 CU. YDS.

STA. 615+80 INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STA. 616+00.00
BEGIN SITE 7
LOG MILE 9.77

STA. 617+85 CONSTRUCT
APPROACH ON RT. = 125 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
620+48	620+61	RT.	CHAIN LINK FENCE	22

STA. 624+91 IN PLACE
30" X 90' R.C. PIPE CULVERT
WITH HDWLS RT.
REMOVE HDWLS RT.
AND EXTEND R.C. PIPE 18' RT.
TO A COMPLETED LENGTH OF 108'
(CLASS III) (TYPE 3 BEDDING)
WITH FES RT.
30" R.C. PIPE = 22 LIN. FT.
30" FES = 1EA.

STA. 625+82 CONSTRUCT
DROP INLET ON RT. H=4'4"
WITH 24" X 34' RC PIPE CULVERT
WITH FES RT.
24" X 92' RC PIPE CULVERT
CONNECT TO DIAT STA. 626+78 RT.
TYPE ST DROP INLET=4'X4'

CONCRETE CURB

STA.	STA.	SIDE	TYPE	LIN. FT.
625+80	626+90	RT.	B	110

STA. 626+78 CONSTRUCT
DROP INLET ON RT. H=3'8"
WITH 24" X 16' RC PIPE CULVERT
WITH FES RT.
TYPE ST DROP INLET=4'X4'

CHAIN LINK FENCE

CONCRETE CURB (TYPE B)

STA. 626+69.00 HWY. 7=
STA. 800+00.00 HWY. 298
Δ = 90°00'00"

REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
625+89	626+63	RT.	CHAIN LINK FENCE	90

FENCE

STA.	STA.	SIDE	TYPE	LIN. FT.
625+89	626+63	RT.	CHAIN LINK FENCE	71

600' TAPER

100' LEFT TURN LANE

600' TAPER

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

SITE 7

STA. 616+00.00 BEGIN SUPERELEVATION
STA. 619+60.00 MAX. SUPERELEVATION (0.100 FT./FT.)
STA. 621+00.00 MAX. SUPERELEVATION (0.100 FT./FT.)
STA. 624+60.00 END SUPERELEVATION

STA. 628+36 IN PLACE
24" X 37' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
REMOVE HDWLS LT. & RT. AND EXTEND R.C. PIPE
11' LT. AND 11' RT.
TO A COMPLETED LENGTH OF 59'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT. AND
ADD 24" X 58' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
050 = 28 CFS D.A. = 17 ACRES
24" R.C. PIPE = 90 LIN. FT.
24" FES = 4 EA.

STA. 628+00.00 BEGIN SUPERELEVATION
STA. 631+00.00 MAX. SUPERELEVATION (0.072 FT./FT.)
STA. 632+40.00 MATCH EXIST. SUPERELEVATION (0.072 FT./FT.)

617+35
INLET F.L. RT=750.50
INLET EXIST. F.L. RT.=750.49
OUTLET F.L. LT.=749.96
OUTLET EXIST. F.L. LT.=750.48

STA. 625+82
TOP ELEV.=745.96
F.L. ELEV.=741.63

STA. 626+78
TOP ELEV.=745.03
F.L. ELEV.=741.40

624+93.00
741.84

625+44.00
741.72

627+00.00
741.35

628+36.00
740.63

629+00.00
742.10

RT. DITCH GRADE -0.24%

24" X 92' @ 0.25%

RT. DITCH GRADE -0.53%

RT. DITCH GRADE 0.05%

INVERT INLET=741.72

INVERT OUTLET=741.35

24" X 16' @ 0.31%

24" X 34' @ 0.26%

+93
INLET EXIST. F.L. LT.=742.83
OUTLET EXIST. F.L. RT.=742.07
OUTLET F.L. RT.=741.84

+36
INLET F.L. RT.=740.63
INLET EXIST. F.L. RT.=740.16
OUTLET F.L. LT.=738.99
OUTLET EXIST. F.L. LT.=739.39

770 765 760 755 750 745 740 735 730 725

615+00 616+00 617+00 618+00 619+00 620+00 621+00 622+00 623+00 624+00 625+00 626+00 627+00 628+00 629+00 630+00

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

STA. 631+54 CONSTRUCT
APPROACH ON LT. = 115 CU. YDS.

PI = 634+68.86
Δ = 34°58'36"RT.
D = 4°00'00"
T = 451.31'
L = 874.41'
PC = 630+17.55
PT = 638+91.96
e = 0.072'/'
Ls = 300'

P.I. 634+68.86

+40 100' TRANSITION +40

N 14°11'18" E

EXIST. ROW

635

T.C.E.

CONST. LIMITS 74'

20' 12' 12' 20'

EXIST. ROW

C.L. HWY. 7

CONST. LIMITS

N 49°09'54" E

640

POE 640+48.85

P.T. 638+91.96

PROP. ROW

P.C. 630+17.55

STA. 632+40.00
END SITE 7 &
JOB 061438

600' TAPER +40

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

SITE 7

STA. 628+00.00 BEGIN SUPERELEVATION
STA. 631+00.00 MAX. SUPERELEVATION (0.072 FT./FT.)
STA. 632+40.00 MATCH EXIST. SUPERELEVATION (0.072 FT./FT.)

632+00.00
742.24

RT. DITCH GRADE 0.05%

765 760 755 750 745 740 735 730 725 720

630+00 631+00 632+00 633+00 634+00 635+00 636+00 637+00 638+00 639+00 640+00 641+00 642+00 643+00 644+00 645+00

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(2) TRAFFIC SIGNAL NOTES

TRAFFIC SIGNAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2017) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.

2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.

3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 A.W.G. USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S/ COUNTY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.

4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.

5. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.

6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.

7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.

8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE STANDARD DRAWINGS MAY BE USED.

9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.

10. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.

11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

12. ALL CONCRETE PULL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.

13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.

14. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.

15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.

16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY/COUNTY.

17. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, THIRTY-EIGHT (38') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF TWENTY-ONE (21') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6') FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS SIX (6') FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.

19. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.

20. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.

22. ONE VIDEO PROGRAMMNG MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.

23. TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.

24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4th EDITION (2001) WITH 2003 AND 2006 INTERIMS.

25. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODFICATION.

26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.

27. IN PULL BOXES, POLE BASES, JUNCTION BOXES AND CONTROLLER CABINETS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED BY ATTACHING A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO THE CONDUIT. TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. IN INSTANCES WHERE THE CONDUIT OR CONDUIT ENTRANCES ARE NOT VISIBLE OR ACCESSIBLE, A DIRECTION TAG SHALL BE ATTACHED TO EACH CABLE.

28. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE TRAFFIC SIGNAL IS OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC WHILE THE TRAFFIC SIGNAL IS OUT OF OPERATION.

29. ALL NON-METALLIC CONDUIT RUNS SHALL HAVE BELL RING FITTINGS INSTALLED ON THE TERMINATING ENDS OF THE CONDUIT. THIS INCLUDES PULL BOXES, POLE BASES, AND TRAFFIC SIGNAL CABINETS.

T061438.DGN 12/4/2019

DATE: 12-4-19 FILE NAME: t061438.dgn

LOCATION:	HIGHWAY 7 & DESOTO BOULEVARD			
CITY:	HOT SPRINGS VILLAGE			
COUNTY:	GARLAND			
DISTRICT:	6	SCALE: N/A	DRAWN BY:	BRB

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	139	277

(2) TRAFFIC SIGNAL QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

TRAFFIC SIGNAL QUANTITIES

	ITEM NUMBER	ITEM	QUANTITY	UNIT
	SP & 701	ACTUATED CONTROLLER TS2-TYPE 2 (8 PHASES)	1	EACH
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	8	EACH
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	4	EACH
	708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	338	LIN. FT.
	708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	243	LIN. FT.
	708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	32	LIN. FT.
	708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	515	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	505	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	110	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	34	LIN. FT.
	SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	338	LIN. FT.
	709	GALVANIZED STEEL CONDUIT (2")	20	LIN. FT.
	710	NON-METALLIC CONDUIT (2")	20	LIN. FT.
	710	NON-METALLIC CONDUIT (3")	347	LIN. FT.
	711	CONCRETE PULL BOX (TYPE 2 HD)	7	EACH
	SP	LED LUMINAIRE ASSEMBLY	2	EACH
	SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
	SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	1.00	LUMP SUM
*	SP & 733	VIDEO DETECTOR (CLR)	7	EACH
	733	VIDEO CABLE	1223	LIN. FT.
	733	VIDEO MONITOR (CLR)	1	EACH
*	SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
	SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH

* ONE SPARE VIDEO DETECTOR AND ONE SPARE VIDEO PROCESSOR SHALL BE SUPPLIED.

T061438.DGN 12/4/2019

DATE: 12-4-19 FILE NAME: t061438.dgn

LOCATION: HIGHWAY 7 & DESOTO BOULEVARD
CITY: HOT SPRINGS VILLAGE
COUNTY: GARLAND
DISTRICT: 6 SCALE: N/A DRAWN BY: BRB

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	140	277

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

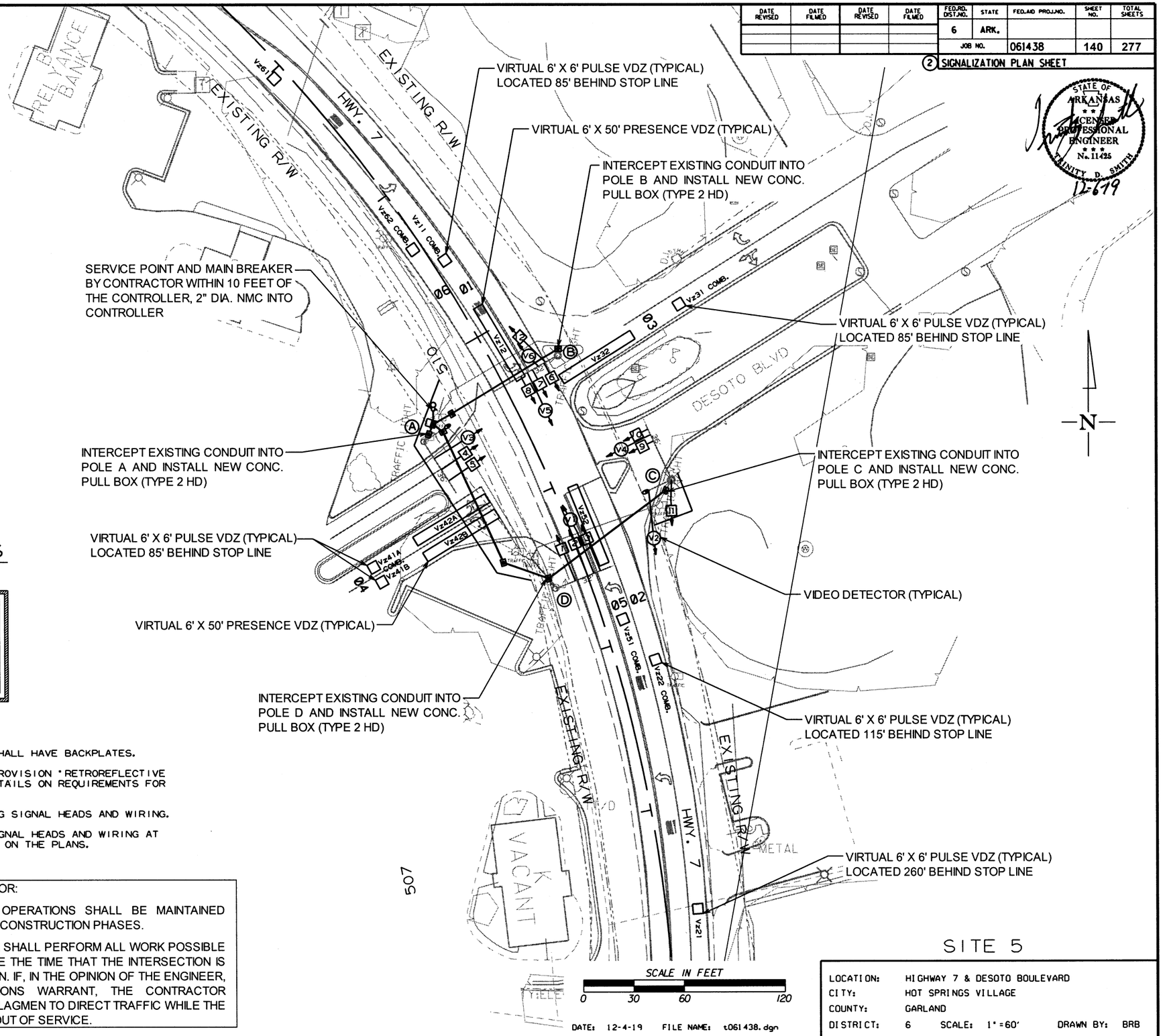
DETECTOR SPACING CHART

ARDOT HIGHWAY 7 MAIN LANE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	260'	115'
DESOTO BOULEVARD/PRIVATE DRIVE MAIN LANE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
35 MPH	85'	N/A

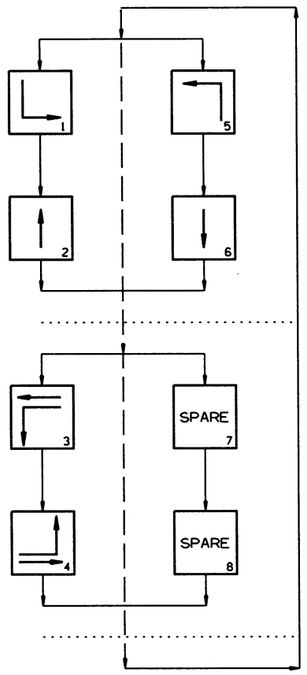
HIGHWAY 7/DESOTO BOULEVARD POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A	36'	270°	35'	15'	180°
B	32'	180°	21'	N/A	N/A
C	36'	270°	35'	15'	180°
D	36'	180°	21	N/A	N/A

* ANGLE MEASURED CLOCKWISE FROM HAND HOLE.
POLES A - D ARE EXISTING.

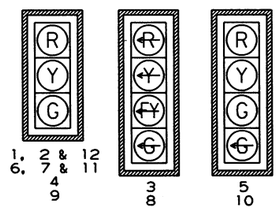


PHASING DIAGRAM



SIGNAL FACES

12" LENSES



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REMOVE ALL EXISTING SIGNAL HEADS AND WIRING.
4. INSTALL ALL NEW SIGNAL HEADS AND WIRING AT LOCATIONS AS SHOWN ON THE PLANS.

NOTES TO CONTRACTOR:

1. TRAFFIC SIGNAL OPERATIONS SHALL BE MAINTAINED THROUGHOUT ALL CONSTRUCTION PHASES.
2. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE INTERSECTION IS OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT, THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC WHILE THE INTERSECTION IS OUT OF SERVICE.

SITE 5

LOCATION: HIGHWAY 7 & DESOTO BOULEVARD
CITY: HOT SPRINGS VILLAGE
COUNTY: GARLAND
DISTRICT: 6 SCALE: 1"=60' DRAWN BY: BRB

DATE: 12-4-19 FILE NAME: t061438.dgn

T061438.DGN 12/4/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	141	277

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

HIGHWAY 7/DESOTO BOULEVARD
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 7 - STA. 509+59.37	58.09' LT.	994569.48, 2037698.68
B	HWY. 7 - STA. 509+68.28	36.75' RT.	994649.69, 2037750.04
C	HWY. 7 - STA. 508+78.14	67.21' RT.	994717.21, 2037676.19
D	HWY. 7 - STA. 508+43.25	20.67' LT.	994647.72, 2037611.60

POLES A - D ARE EXISTING.

DESIGN PARAMETERS

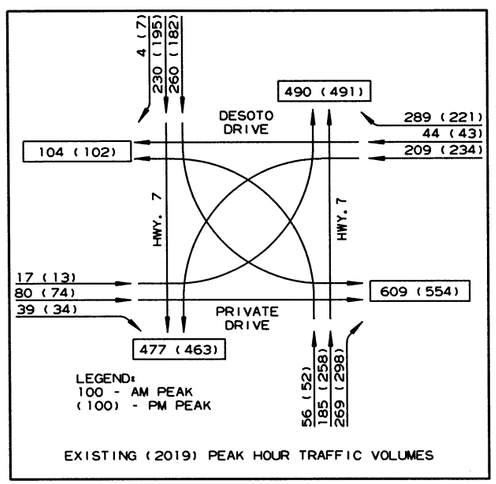
POSTED SPEED LIMIT:
35 MPH EAST AND WEST APPROACH
45 MPH NORTH AND SOUTH APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

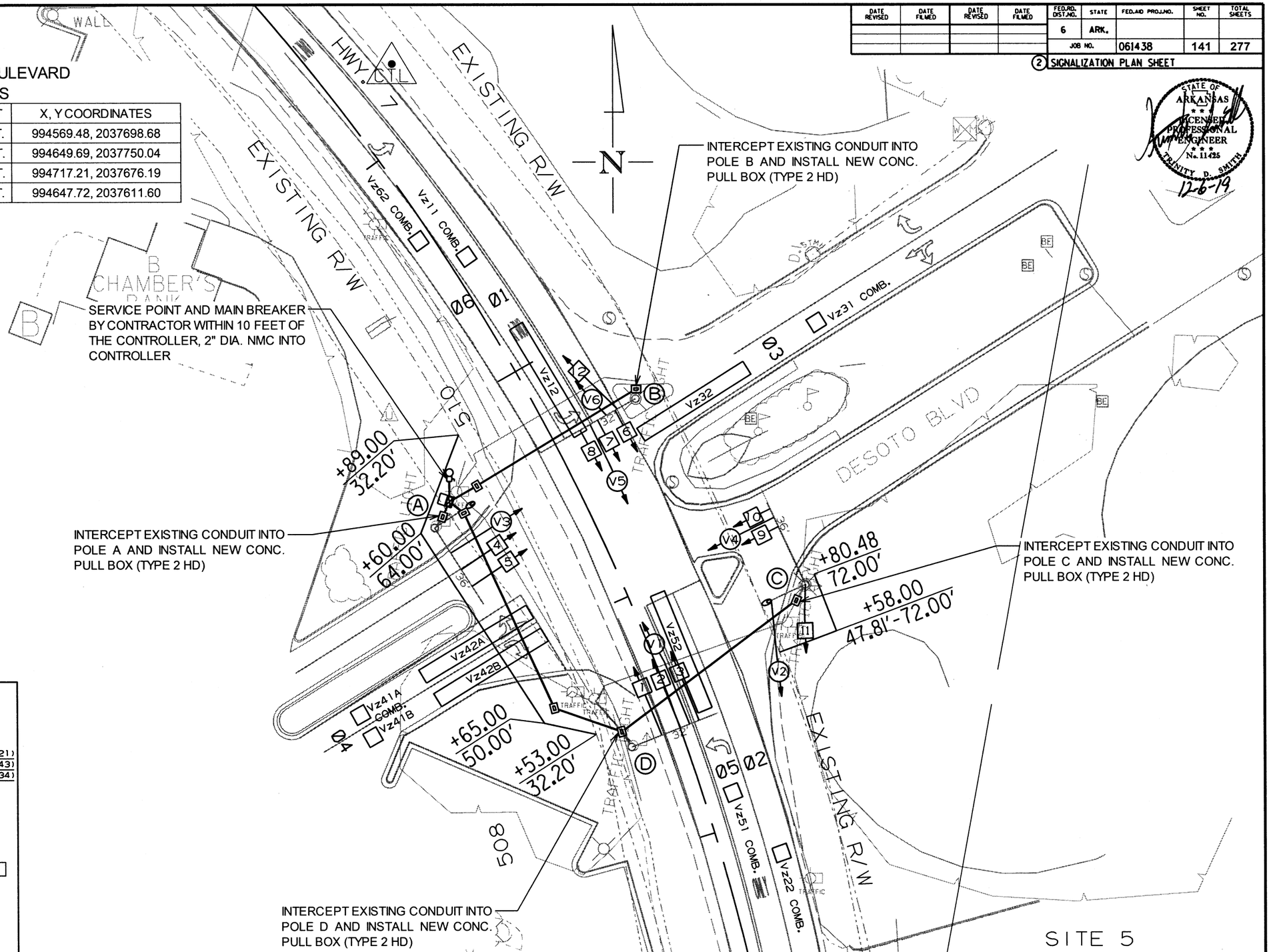
LOCATION OF EXISTING STOP LINES AS SHOWN ON SIGNALIZATION PLAN SHEETS.

MINIMUM CLEAR ZONE DISTANCE
4 FEET BEHIND CURB
10 FEET (HWY. 7)

TRAFFIC FLOW DIAGRAM



EXISTING (2019) PEAK HOUR TRAFFIC VOLUMES



DATE: 12-4-19 FILE NAME: t061438.dgn

SITE 5

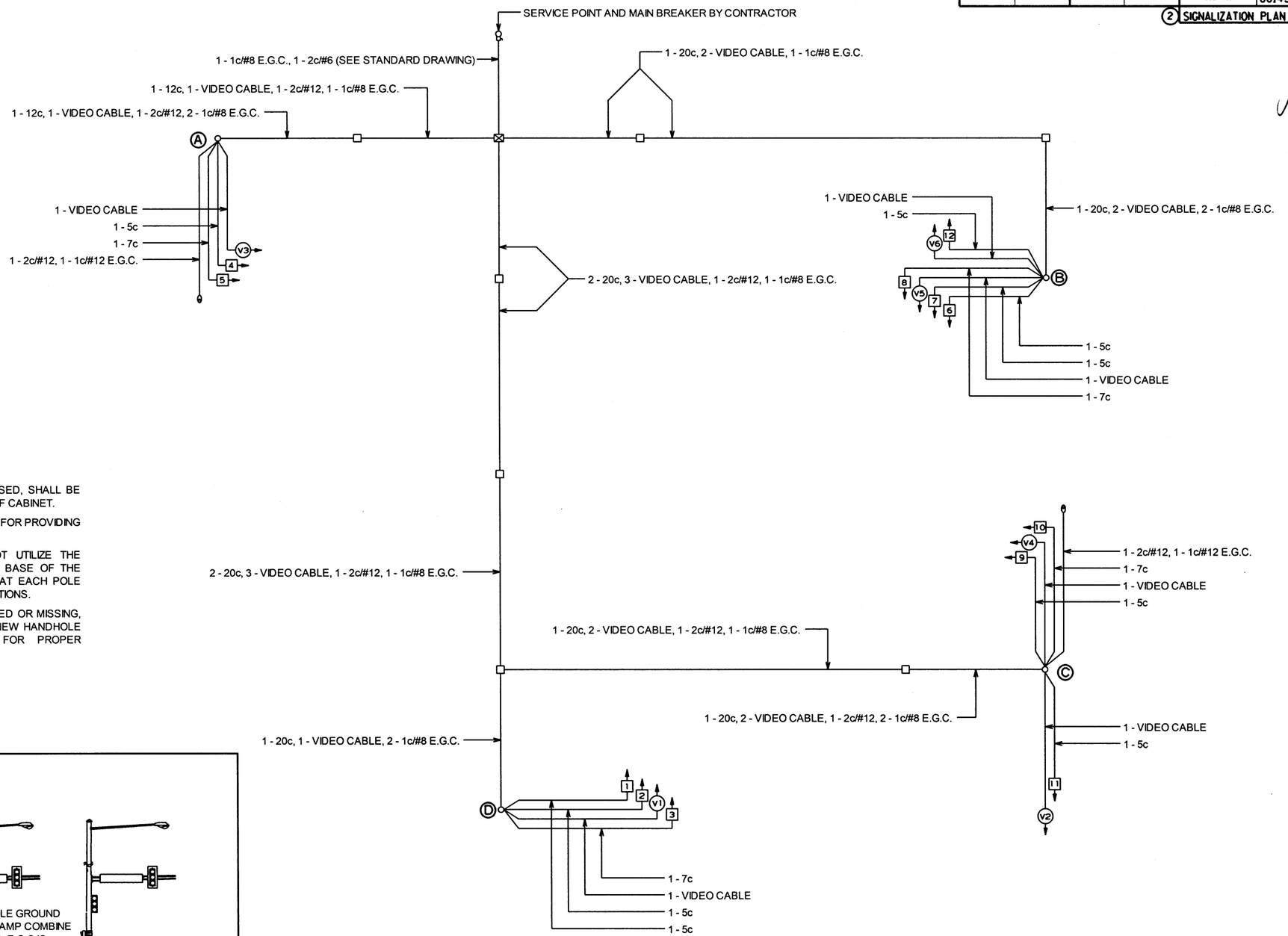
LOCATION: HIGHWAY 7 & DESOTO BOULEVARD
CITY: HOT SPRINGS VILLAGE
COUNTY: GARLAND
DISTRICT: 6 SCALE: 1" = 40' DRAWN BY: BRB

T061438.DGN 12/4/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	142	277

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

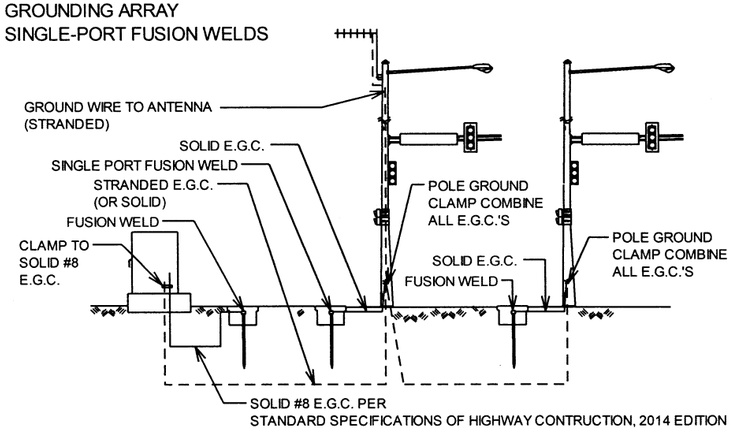


WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
3. THE EXISTING TRAFFIC SIGNAL POLES DO NOT UTILIZE THE CURRENT STANDARD TERMINAL BLOCKS AT THE BASE OF THE POLE FOR SPLICES. THEREFORE, CONNECTIONS AT EACH POLE BASE SHALL BE MADE BY WIRE NUT PER SPECIFICATIONS.
4. IF THE EXISTING HANDHOLE COVERS ARE DAMAGED OR MISSING, THE CONTRACTOR SHALL REPLACE THEM WITH NEW HANDHOLE COVERS AND THE REQUIRED HARDWARE FOR PROPER INSTALLATION.

GROUNDING ARRAY
SINGLE-PORT FUSION WELDS



T061438.DGN 12/2/2019

LOCATION: HIGHWAY 7 & DESOTO BOULEVARD
CITY: HOT SPRINGS VILLAGE
COUNTY: GARLAND
DISTRICT: 6 SCALE: N/A DRAWN BY: BRB

DATE: 12-4-19 FILE NAME: t061439.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.		061438	143	277

(2) SIGNALIZATION PLAN SHEET

DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION: JOB 061438											
HIGHWAY 7 AND DESOTO BOULEVARD DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
							LOCAL		MASTER SYSTEM DETECTOR NUMBERS		
DET. ID #	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #			
Vz11	SB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1	46"
Vz12	SB LEFT TURN	LOCAL			2	V1	1			CAMERA V1	46"
Vz21	NB ADVANCE	LOCAL			5	V2	2			CAMERA V2	23"
Vz22	NB NEAR	COMB.			6	V10	2	2		CAMERA V5	37"
Vz31	WB ADVANCE	COMB.			9	V11	3	3		CAMERA V3	37"
Vz32	WB NEAR	LOCAL			10	V3	3			CAMERA V3	37"
Vz41 A&B	EB ADVANCE	COMB.			13	V12	4	4		CAMERA V4	37"
Vz42 A&B	EB NEAR	LOCAL			14	V4	4			CAMERA V4	37"
Vz51	NB LEFT TURN FAR	COMB.			7	V13	5	5		CAMERA V5	37"
Vz52	NB LEFT TURN	LOCAL			8	V5	5			CAMERA V5	37"
Vz61	SB ADVANCE	LOCAL			3	V6	6			CAMERA V6	58"
Vz62	SB NEAR	COMB.			4	V14	6	6		CAMERA V1	46"
					SPARE: 13, 14, 15 & 16						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

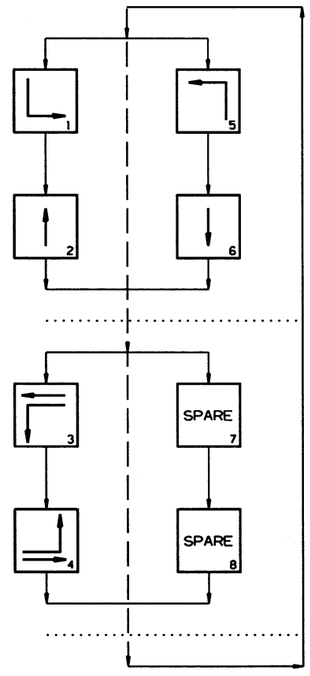
INTERVAL CHART

SIGNAL FACES	HIGHWAY 7 AND DESOTO BOULEVARD												FLASH SEQUENCE
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	3	CLR.	4	CLR.	
1, 2 & 12	R	R	G	**	R	R	G	**	R	R	R	R	R
3	~~←G~~	*	~~←G~~	*	~~←FY~~	***	~~←FY~~	***	~~←R~~	~~←R~~	~~←R~~	~~←R~~	~~←R~~
4	R	R	R	R	R	R	R	R	G	**	R	R	R
5	R	R	R	R	R	R	R	R	G / ~~←G~~	* / **	R	R	R
6, 7 & 11	R	R	R	R	G	**	G	**	R	R	R	R	R
8	~~←G~~	*	~~←FY~~	***	~~←G~~	*	~~←FY~~	***	~~←R~~	~~←R~~	~~←R~~	~~←R~~	~~←R~~
9	R	R	R	R	R	R	R	R	R	R	G	**	R
10	R	R	R	R	R	R	R	R	R	R	G / ~~←G~~	* / **	R

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

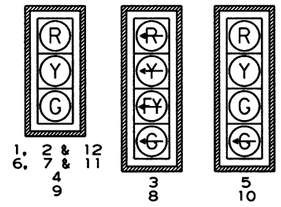
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
12-6-19

PHASING DIAGRAM



SIGNAL FACES

12" LENSES



NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REMOVE ALL EXISTING SIGNAL HEADS AND WIRING.
4. INSTALL ALL NEW SIGNAL HEADS AND WIRING AT LOCATIONS AS SHOWN ON THE PLANS.

T061438.DGN 12/4/2019

DATE: 12-4-19 FILE NAME: t061438.dgn

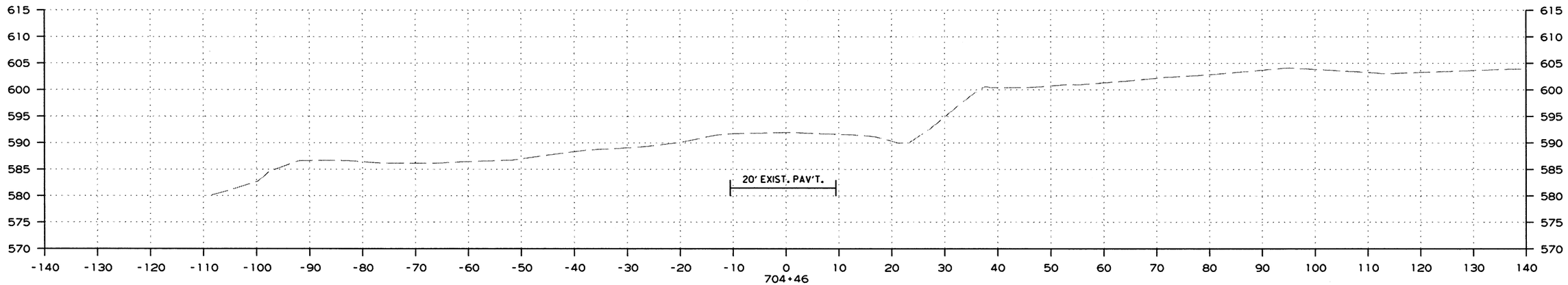
LOCATION:	HIGHWAY 7 & DESOTO BOULEVARD
CITY:	HOT SPRINGS VILLAGE
COUNTY:	GARLAND
DISTRICT:	6 SCALE: N/A DRAWN BY: BRB

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	144	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

SITE 1A

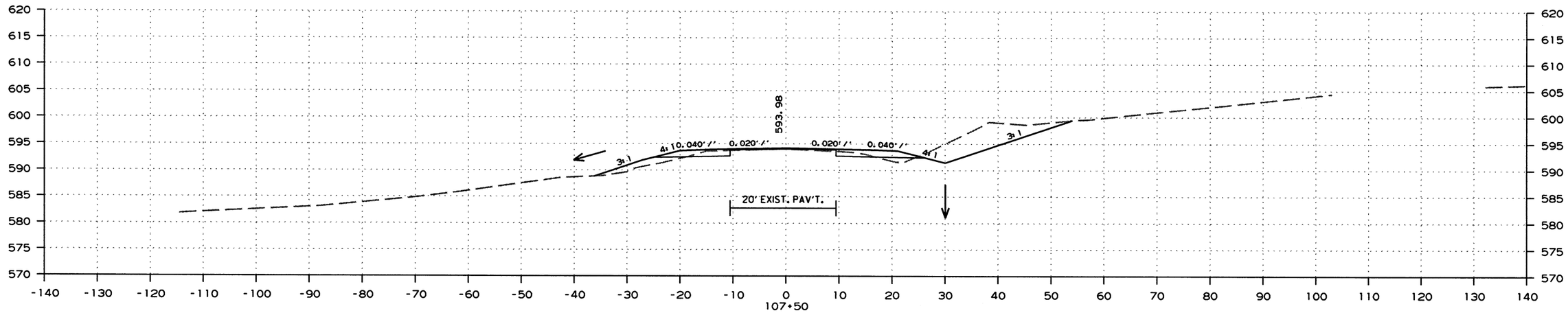
CROSS SECTION STA. 704+46 TO STA. 704+46

ikge653 12/4/2019
R061438.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.		061438	145	277

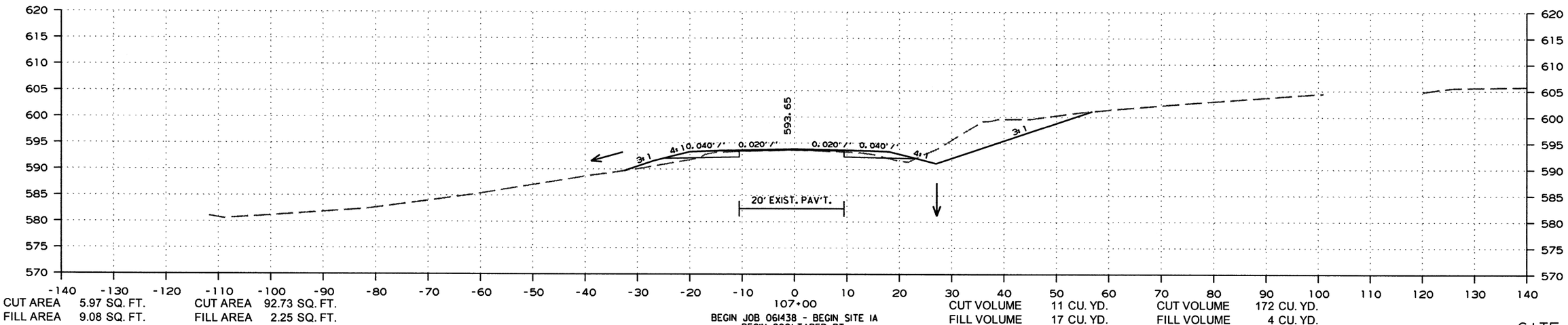
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 6.2 SQ. FT. CUT AREA 81.32 SQ. FT.
FILL AREA 14.43 SQ. FT. FILL AREA 4.11 SQ. FT.

CUT VOLUME 11 CU. YD. CUT VOLUME 161 CU. YD.
FILL VOLUME 22 CU. YD. FILL VOLUME 6 CU. YD.



CUT AREA 5.97 SQ. FT. CUT AREA 92.73 SQ. FT.
FILL AREA 9.08 SQ. FT. FILL AREA 2.25 SQ. FT.

BEGIN JOB 061438 - BEGIN SITE 1A
BEGIN 200' TAPER RT.
END TRANSITION

CUT VOLUME 11 CU. YD. CUT VOLUME 172 CU. YD.
FILL VOLUME 17 CU. YD. FILL VOLUME 4 CU. YD.

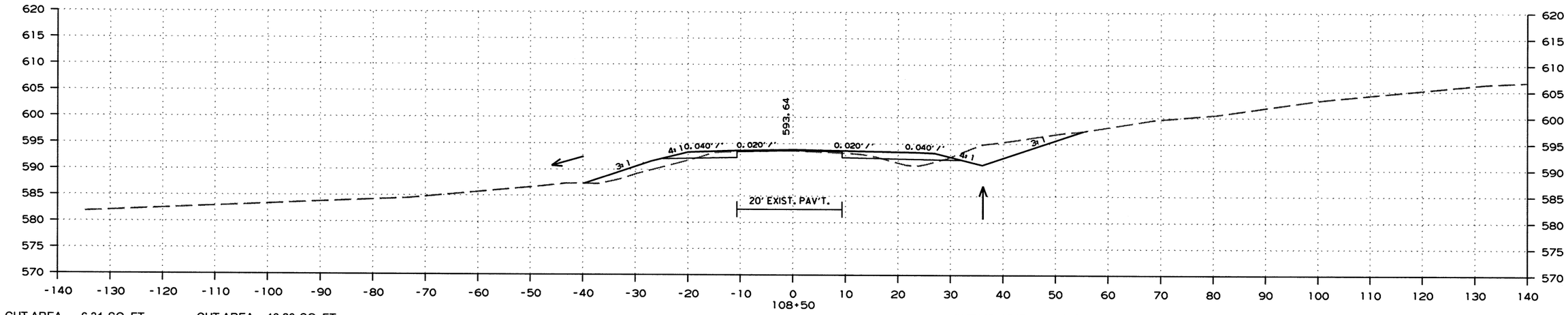
SITE 1A
CROSS SECTION STA. 107+00 TO STA. 107+50

ikge653 12/4/2019
R061438.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.		061438	146	277

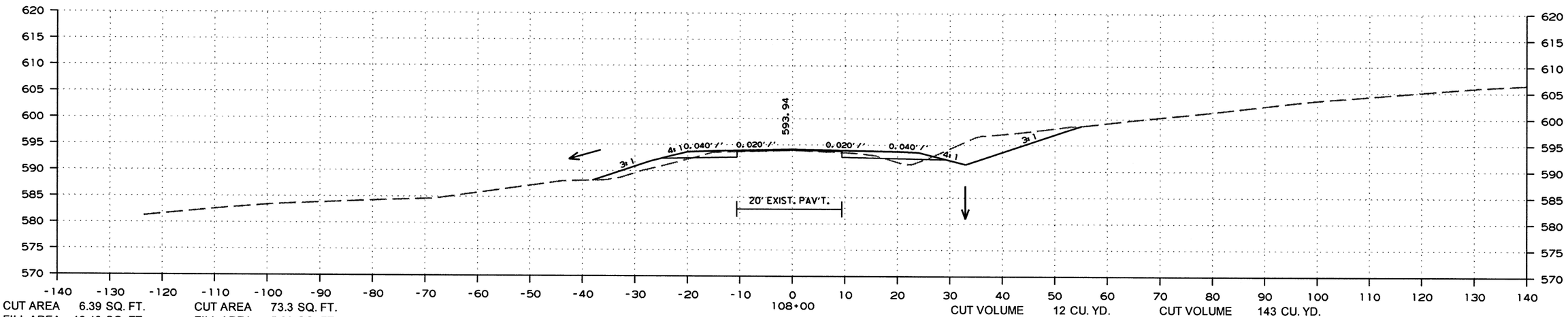
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 6.31 SQ. FT. CUT AREA 48.23 SQ. FT.
FILL AREA 25.31 SQ. FT. FILL AREA 7.79 SQ. FT.

CUT VOLUME 12 CU. YD. CUT VOLUME 113 CU. YD.
FILL VOLUME 41 CU. YD. FILL VOLUME 12 CU. YD.



CUT AREA 6.39 SQ. FT. CUT AREA 73.3 SQ. FT.
FILL AREA 18.43 SQ. FT. FILL AREA 5.09 SQ. FT.

CUT VOLUME 12 CU. YD. CUT VOLUME 143 CU. YD.
FILL VOLUME 30 CU. YD. FILL VOLUME 9 CU. YD.

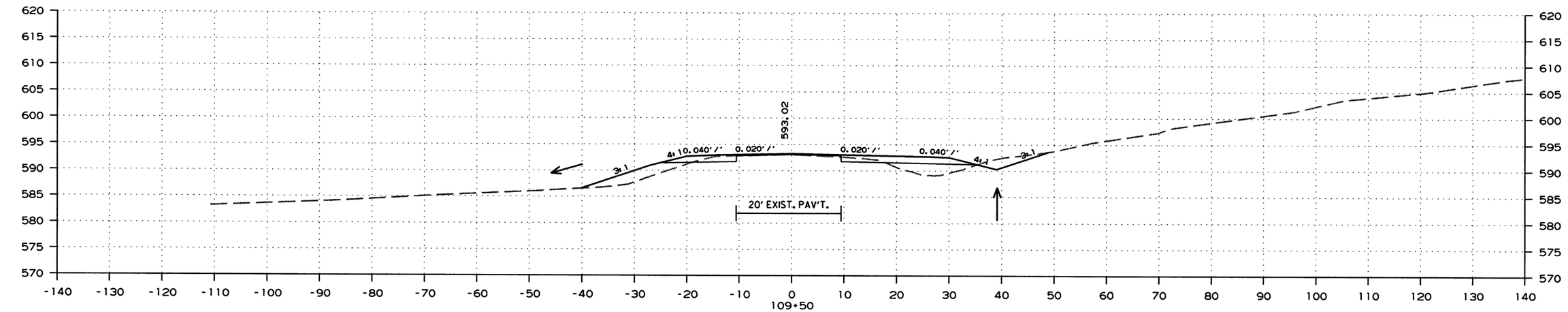
SITE 1A
CROSS SECTION STA. 108+00 TO STA. 108+50

ikge653 12/4/2019
R0614.38.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.		061438	147	277

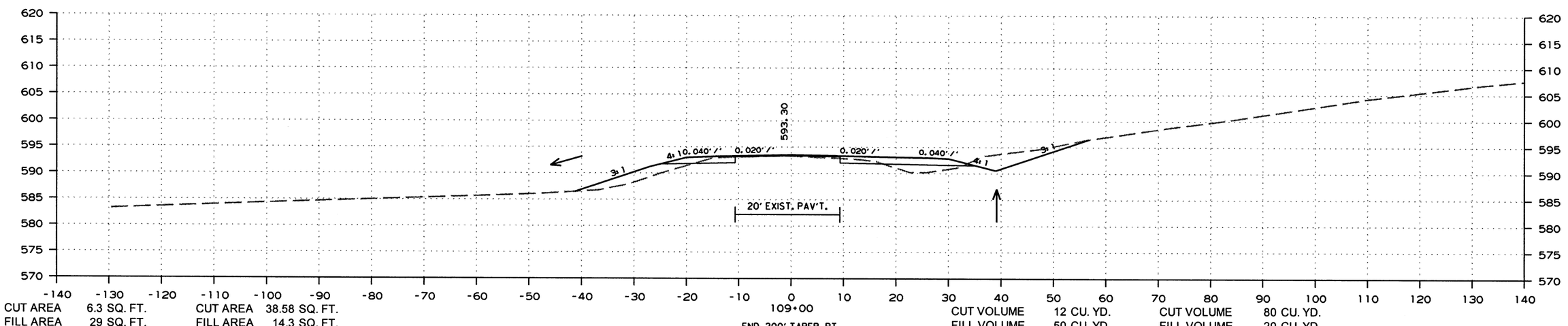
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 6.56 SQ. FT. CUT AREA 18.5 SQ. FT.
FILL AREA 29.63 SQ. FT. FILL AREA 24.51 SQ. FT.

CUT VOLUME 12 CU. YD. CUT VOLUME 53 CU. YD.
FILL VOLUME 54 CU. YD. FILL VOLUME 36 CU. YD.



CUT AREA 6.3 SQ. FT. CUT AREA 38.58 SQ. FT.
FILL AREA 29 SQ. FT. FILL AREA 14.3 SQ. FT.

CUT VOLUME 12 CU. YD. CUT VOLUME 80 CU. YD.
FILL VOLUME 50 CU. YD. FILL VOLUME 20 CU. YD.

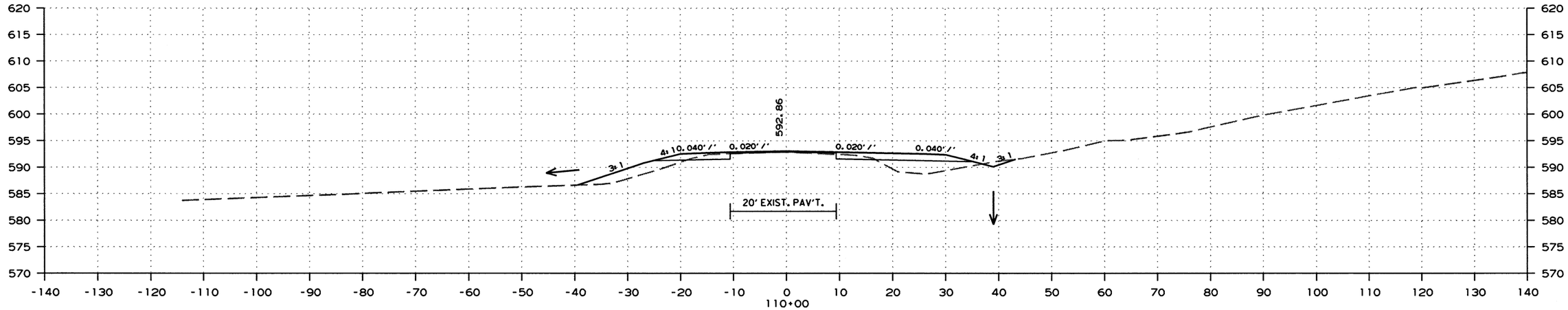
SITE 1A
CROSS SECTION STA. 109+00 TO STA. 109+50

ikge653 12/4/2019
R061438.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.		061438	148	277

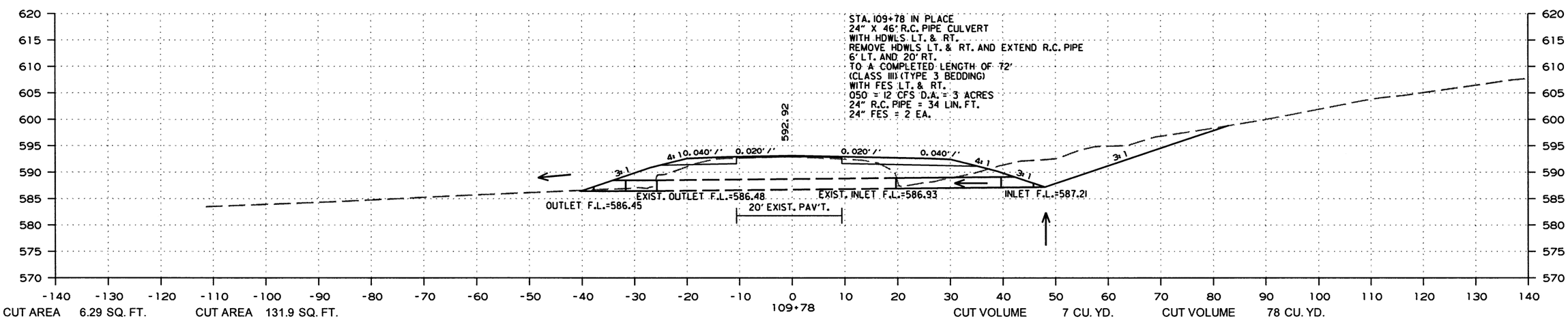
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



110+00

CUT AREA	6.36 SQ. FT.	CUT AREA	7.76 SQ. FT.	CUT VOLUME	5 CU. YD.	CUT VOLUME	57 CU. YD.
FILL AREA	27.89 SQ. FT.	FILL AREA	32.71 SQ. FT.	FILL VOLUME	21 CU. YD.	FILL VOLUME	32 CU. YD.



109+78

CUT AREA	6.29 SQ. FT.	CUT AREA	131.9 SQ. FT.	CUT VOLUME	7 CU. YD.	CUT VOLUME	78 CU. YD.
FILL AREA	22.6 SQ. FT.	FILL AREA	46.53 SQ. FT.	FILL VOLUME	27 CU. YD.	FILL VOLUME	37 CU. YD.

SITE 1A

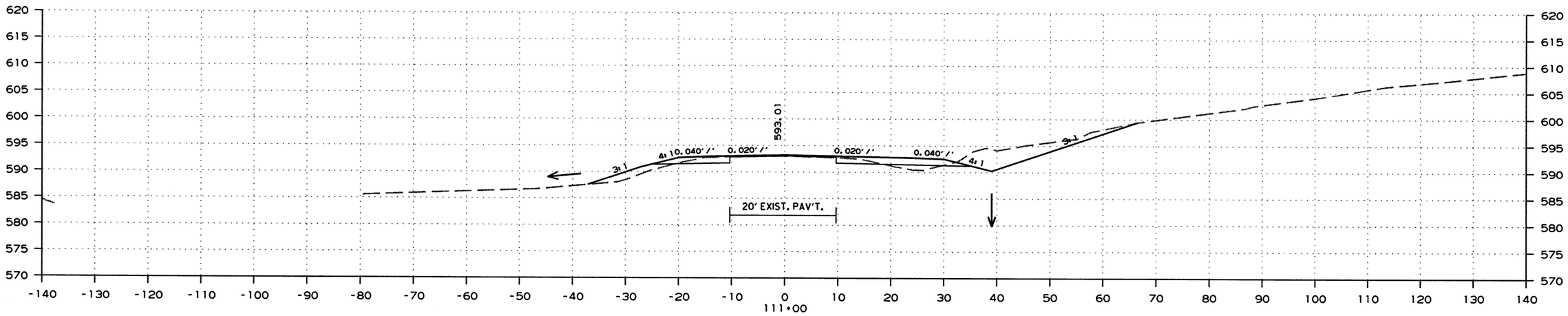
CROSS SECTION STA. 109+78 TO STA. 110+00

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R061438.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.		061438	149	277

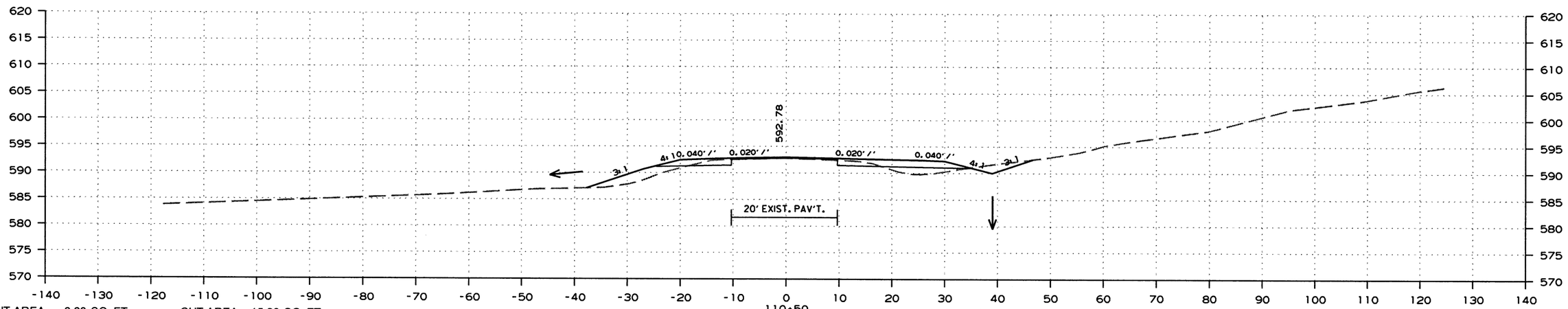
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 8.3 SQ. FT. CUT AREA 67.19 SQ. FT.
FILL AREA 14.52 SQ. FT. FILL AREA 6.52 SQ. FT.

CUT VOLUME 14 CU. YD. CUT VOLUME 76 CU. YD.
FILL VOLUME 35 CU. YD. FILL VOLUME 19 CU. YD.



CUT AREA 6.63 SQ. FT. CUT AREA 15.29 SQ. FT.
FILL AREA 23.27 SQ. FT. FILL AREA 13.56 SQ. FT.

CUT VOLUME 12 CU. YD. CUT VOLUME 21 CU. YD.
FILL VOLUME 47 CU. YD. FILL VOLUME 43 CU. YD.

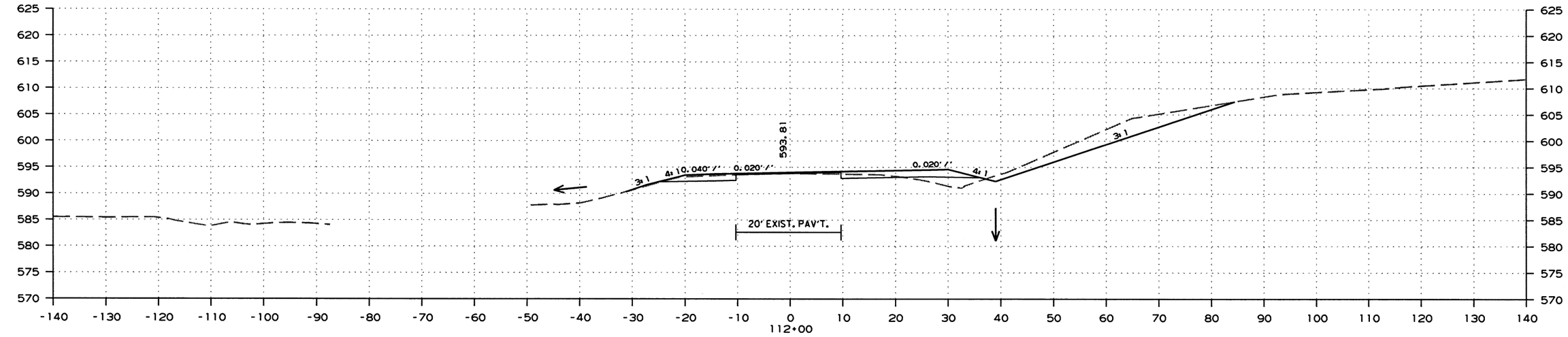
SITE 1A
CROSS SECTION STA. 110+50 TO STA. 111+00

ikge653 12/4/2019
R0614.38.DGN

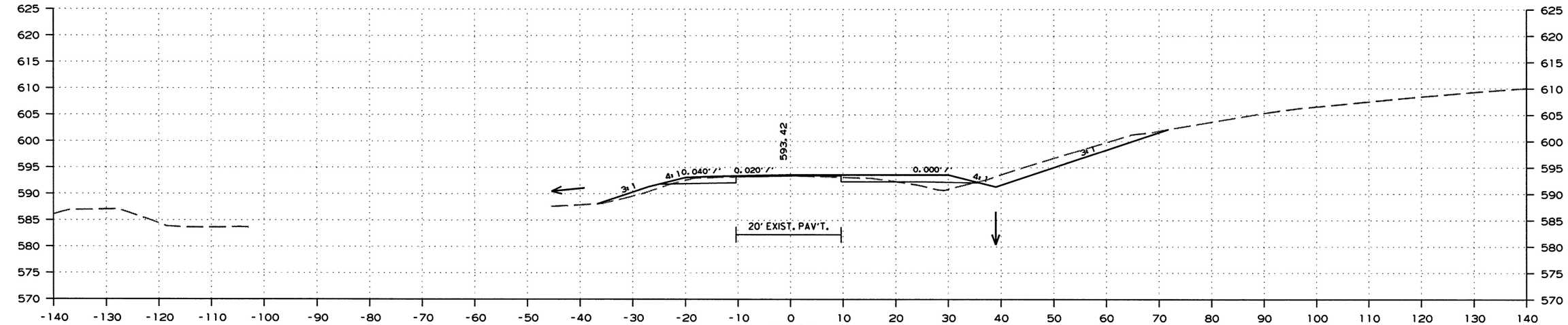
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	150	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	10.49 SQ. FT.	CUT AREA	93.49 SQ. FT.
FILL AREA	1.15 SQ. FT.	FILL AREA	16.34 SQ. FT.
CUT VOLUME	20 CU. YD.	CUT VOLUME	200 CU. YD.
FILL VOLUME	9 CU. YD.	FILL VOLUME	26 CU. YD.



CUT AREA	10.75 SQ. FT.	CUT AREA	123 SQ. FT.
FILL AREA	8.76 SQ. FT.	FILL AREA	11.31 SQ. FT.
CUT VOLUME	18 CU. YD.	CUT VOLUME	176 CU. YD.
FILL VOLUME	22 CU. YD.	FILL VOLUME	17 CU. YD.

SITE 1A

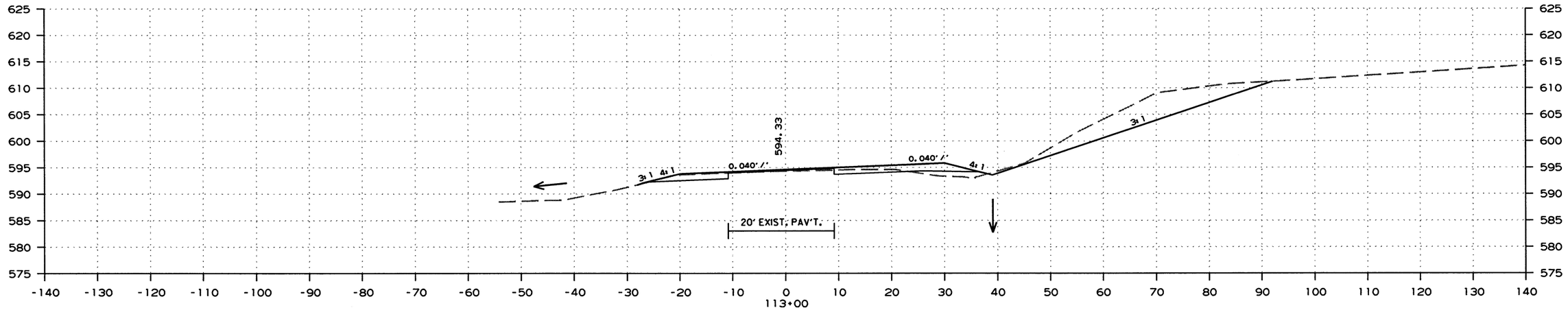
CROSS SECTION STA. 111+50 TO STA. 112+00

ikge653 12/4/2019
R061438.DGN

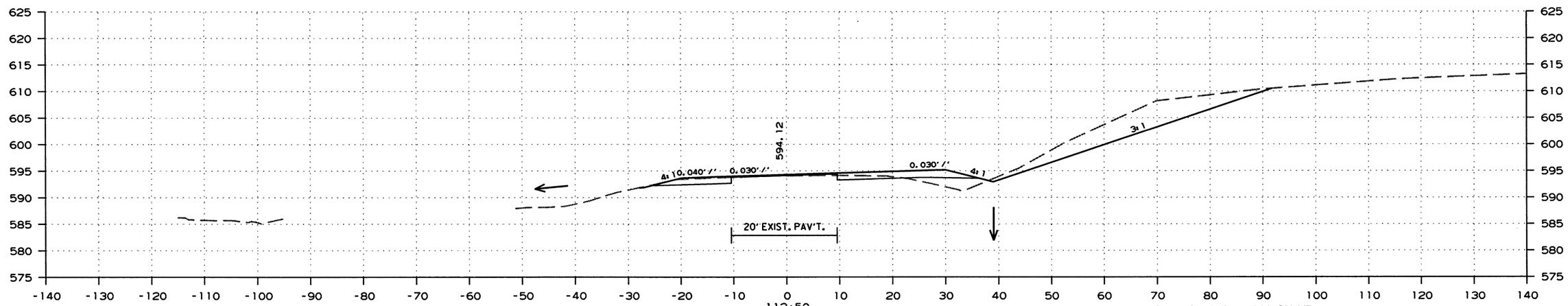
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	151	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	13.52 SQ. FT.	CUT AREA	144.5 SQ. FT.
FILL AREA	0.2 SQ. FT.	FILL AREA	11.53 SQ. FT.
CUT VOLUME	26 CU. YD.	CUT VOLUME	273 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	29 CU. YD.



CUT AREA	14.26 SQ. FT.	CUT AREA	150.4 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	20.21 SQ. FT.
CUT VOLUME	23 CU. YD.	CUT VOLUME	226 CU. YD.
FILL VOLUME	1 CU. YD.	FILL VOLUME	34 CU. YD.

SITE 1A

CROSS SECTION STA. 112+50 TO STA. 113+00

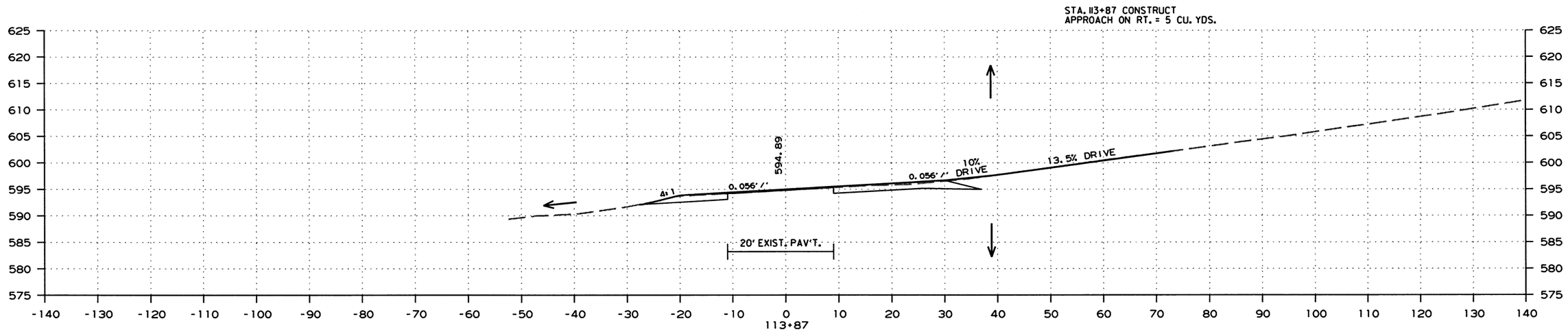
12/4/2019

tkge653 R0614.38.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.		061438	152	277

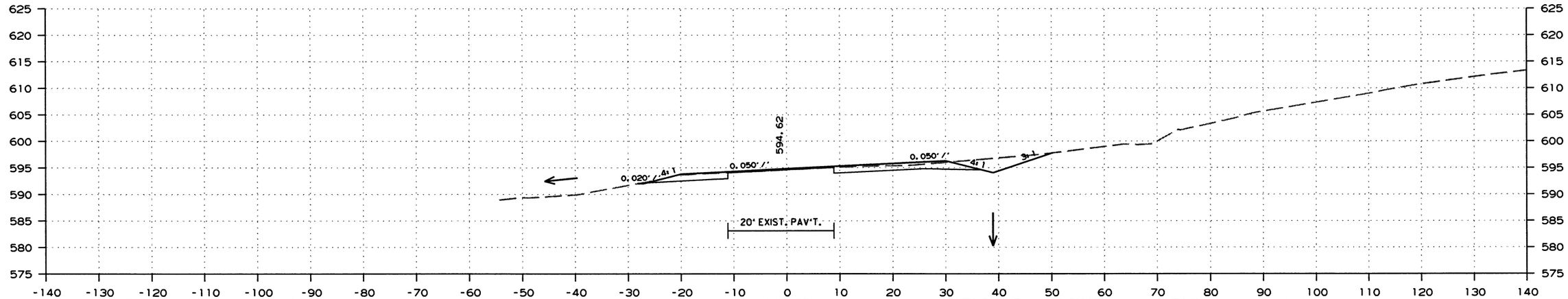
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	14.58 SQ. FT.	CUT AREA	27.54 SQ. FT.	CUT VOLUME	20 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.

CUT VOLUME	54 CU. YD.
FILL VOLUME	0 CU. YD.



CUT AREA	14.52 SQ. FT.	CUT AREA	51.22 SQ. FT.	CUT VOLUME	26 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.

CUT VOLUME	181 CU. YD.
FILL VOLUME	11 CU. YD.

SITE 1A

CROSS SECTION STA. 113+50 TO STA. 113+80

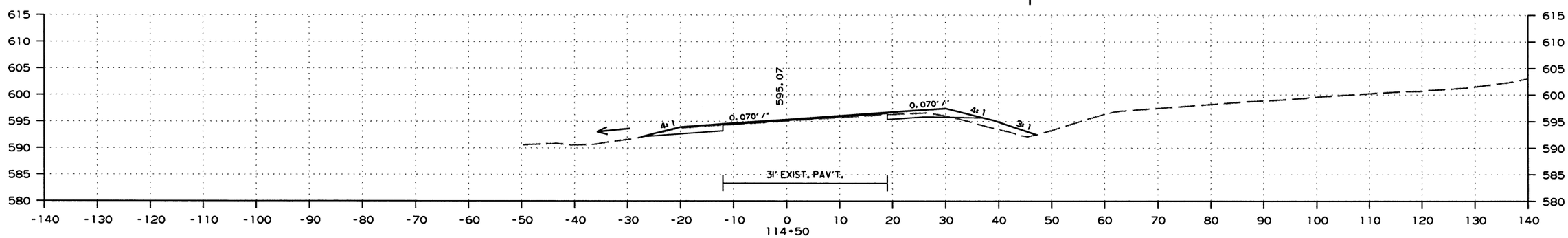
ikge653 12/4/2019
R061438.DGN

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.		061438	153	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

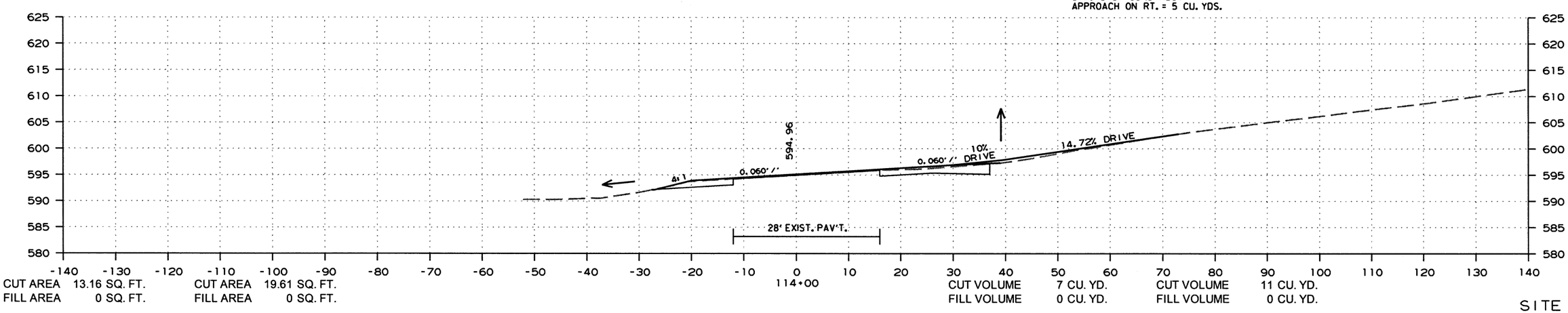
STAGE 1 STAGE 2



CUT AREA 12.85 SQ. FT. CUT AREA 7.86 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 24 CU. YD. CUT VOLUME 25 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.

STA. 113+87 CONSTRUCT
APPROACH ON RT. = 5 CU. YDS.



CUT AREA 13.16 SQ. FT. CUT AREA 19.61 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 7 CU. YD. CUT VOLUME 11 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.

SITE 1A
CROSS SECTION STA. 114+00 TO STA. 114+50

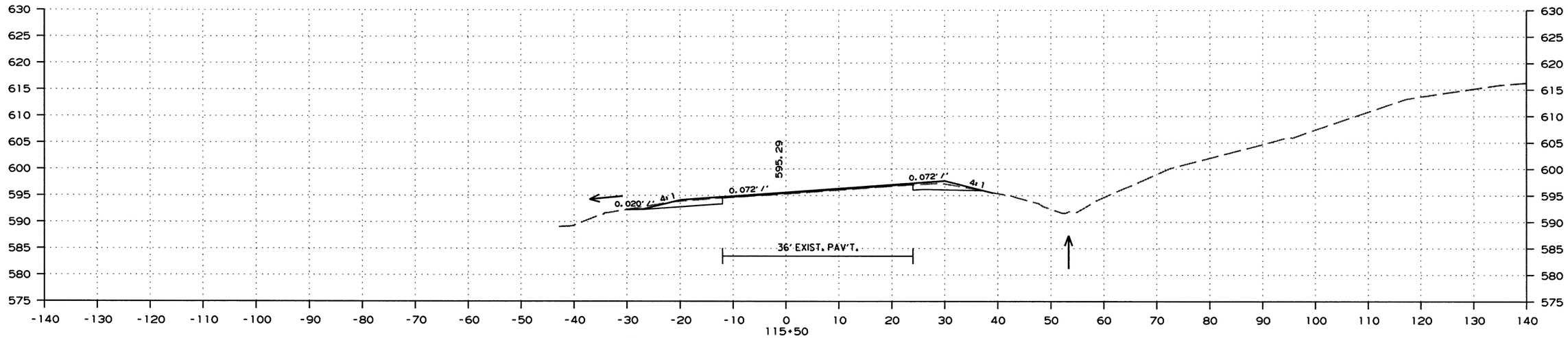
ikge653 12/4/2019
R061438.DGN

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.		061438	154	277

(2) CROSS SECTIONS

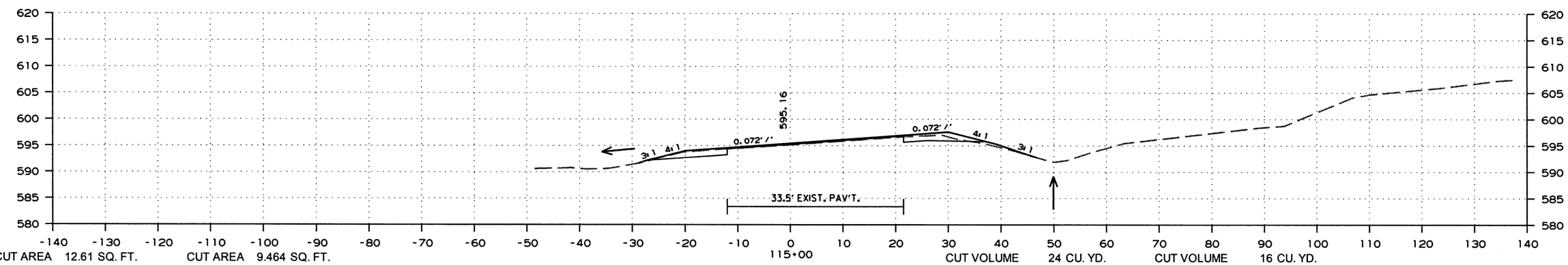
STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 15.36 SQ. FT. CUT AREA 11.08 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 26 CU. YD. CUT VOLUME 19 CU. YD.
FILL VOLUME 1 CU. YD. FILL VOLUME 4 CU. YD.



CUT AREA 12.61 SQ. FT. CUT AREA 9.464 SQ. FT.
FILL AREA 0.55 SQ. FT. FILL AREA 3.97 SQ. FT.

CUT VOLUME 24 CU. YD. CUT VOLUME 16 CU. YD.
FILL VOLUME 1 CU. YD. FILL VOLUME 4 CU. YD.

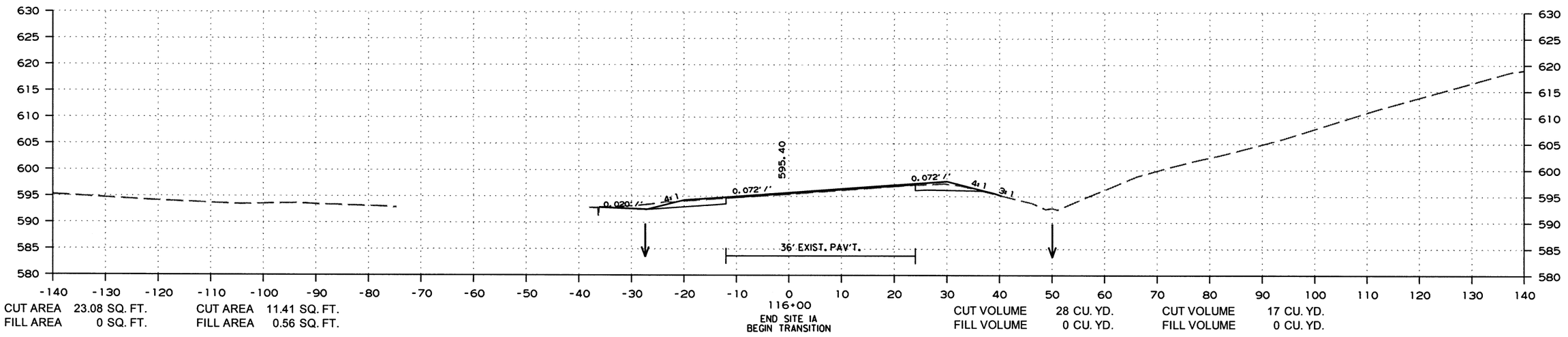
SITE 1A
CROSS SECTION STA. 115+00 TO STA. 115+50

ikge653 12/4/2019
R061438.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	155	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	23.08 SQ. FT.	CUT AREA	11.41 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0.56 SQ. FT.

116+00
END SITE 1A
BEGIN TRANSITION

CUT VOLUME	28 CU. YD.	CUT VOLUME	17 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

CUT AREA	15.03 SQ. FT.	CUT AREA	11.29 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.

115+60

CUT VOLUME	6 CU. YD.	CUT VOLUME	4 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

SITE 1A
CROSS SECTION STA. 115+60 TO STA. 116+00

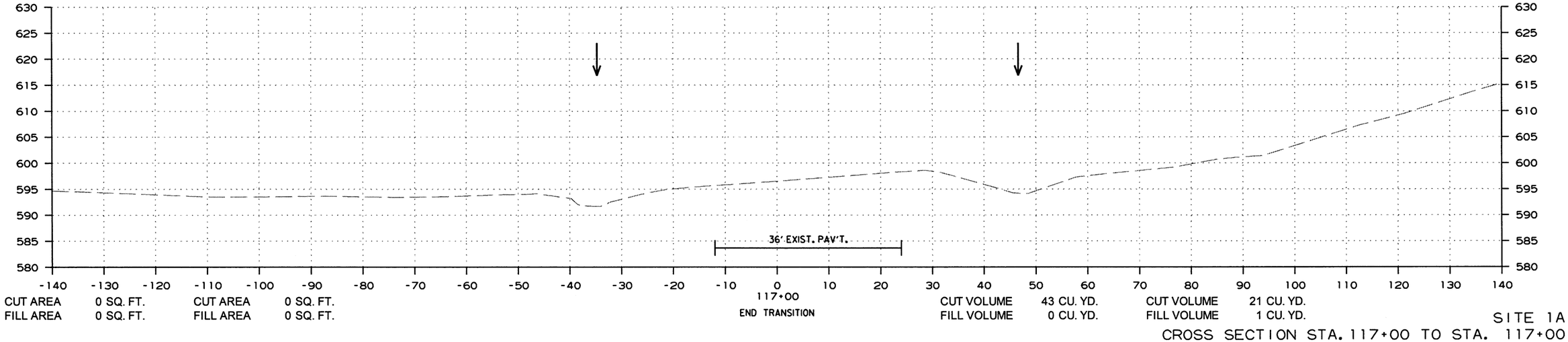
ikge653 12/4/2019
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	156	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 0 SQ. FT. CUT AREA 0 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 43 CU. YD. CUT VOLUME 21 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 1 CU. YD.

SITE 1A
CROSS SECTION STA. 117+00 TO STA. 117+00

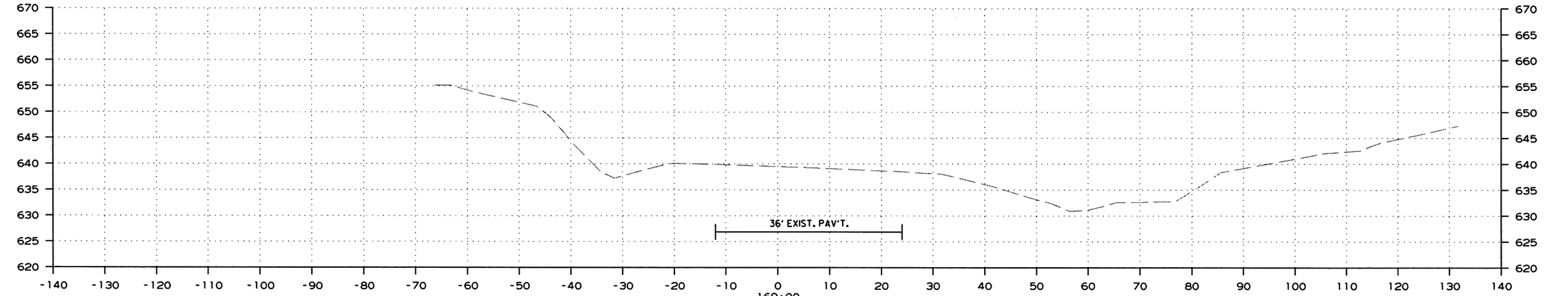
tkge653 12/4/2019
R061438.DGN

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.		061438	157	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

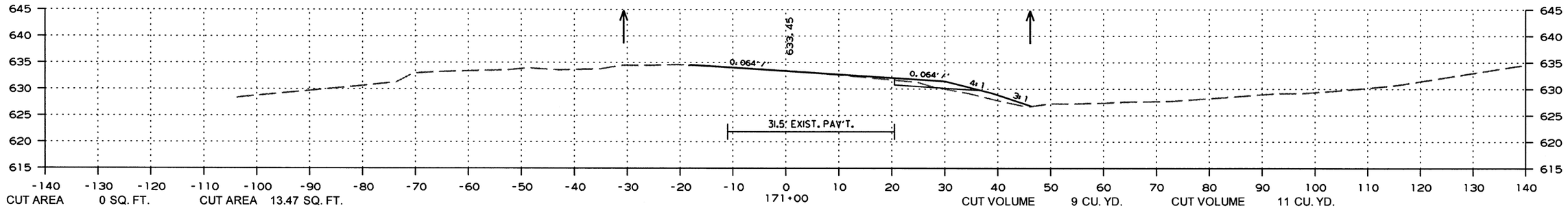
SITE 1
CROSS SECTION STA. 169+00 TO STA. 169+00

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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.		061438	158	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2

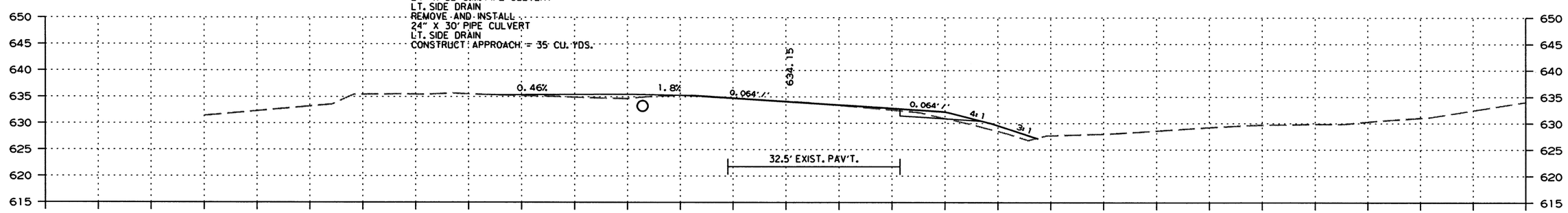


171+00

CUT AREA 0 SQ. FT. CUT AREA 13.47 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 12.18 SQ. FT.

CUT VOLUME 9 CU. YD. CUT VOLUME 11 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 10 CU. YD.

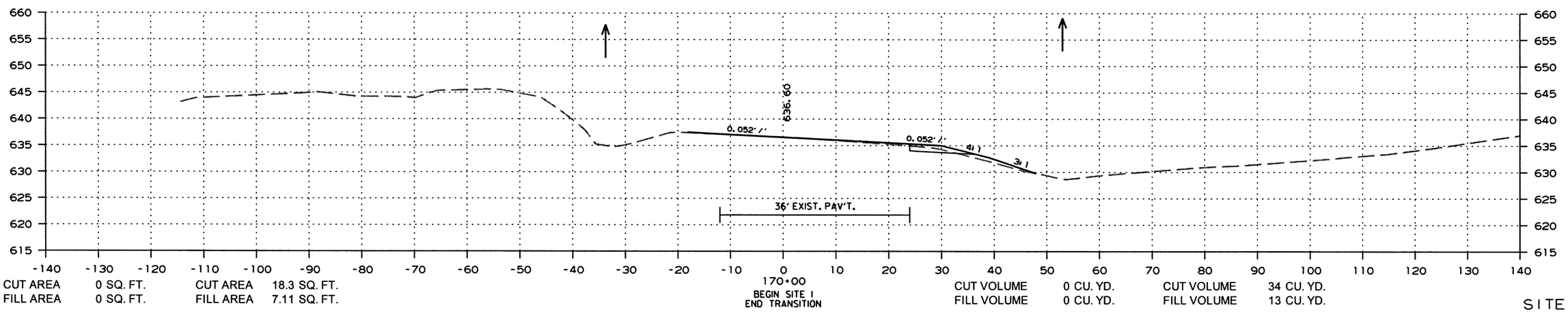
STA. 170+79 IN PLACE
24" X 32' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.



170+79

CUT AREA 22.61 SQ. FT. CUT AREA 15.32 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 13.4 SQ. FT.

CUT VOLUME 33 CU. YD. CUT VOLUME 49 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 30 CU. YD.



170+00
BEGIN SITE 1
END TRANSITION

CUT AREA 0 SQ. FT. CUT AREA 18.3 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 7.11 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 34 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 13 CU. YD.

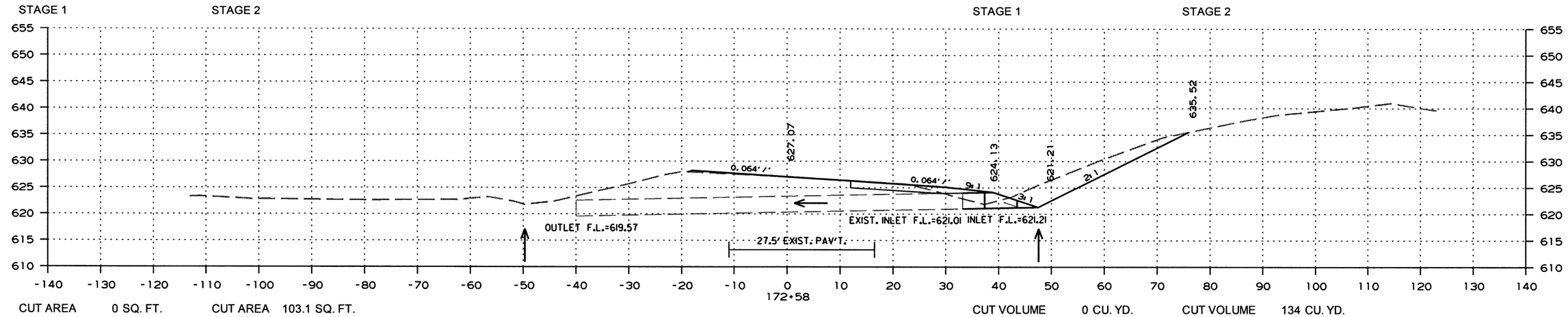
SITE 1
CROSS SECTION STA. 170+00 TO STA. 171+00

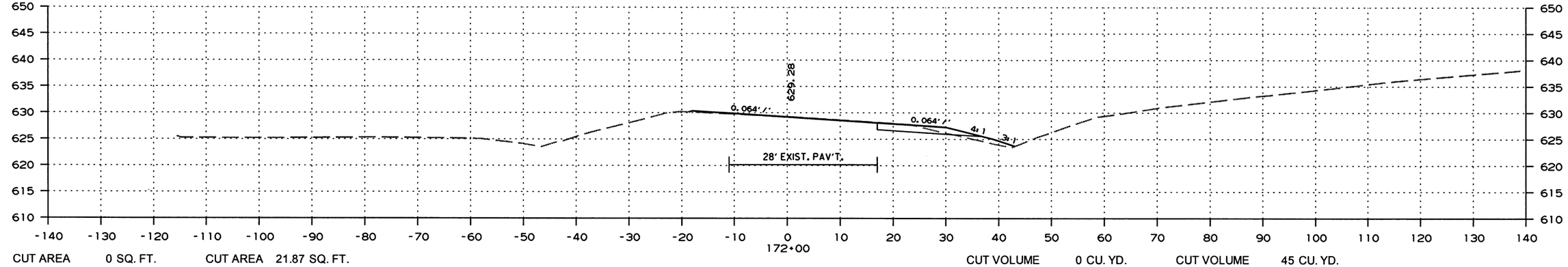
12/4/2019
R061438.DGN
ltge653

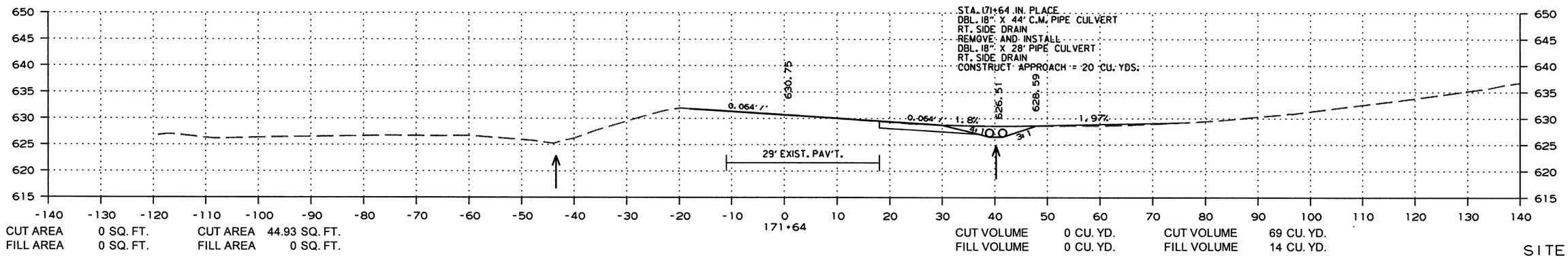
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	159	277

(2) CROSS SECTIONS

STA. 172+58 IN PLACE
36" X 85' R.C. PIPE CULVERT
WITH FES LT. & RT.
ON A 30° LT. FWD. SKEW
REMOVE FES RT. AND EXTEND R.C. PIPE 5' RT.
TO A COMPLETED LENGTH OF 90'
(CLASS III) (TYPE 3 BEDDING)
WITH FES RT.
050 = 40 CFS D.A. = 17 ACRES
36" R.C. PIPE = 14 LIN. FT.
36" FES = 1EA.







SITE 1
CROSS SECTION STA. 171+64 TO STA. 172+58

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R061438.DGN

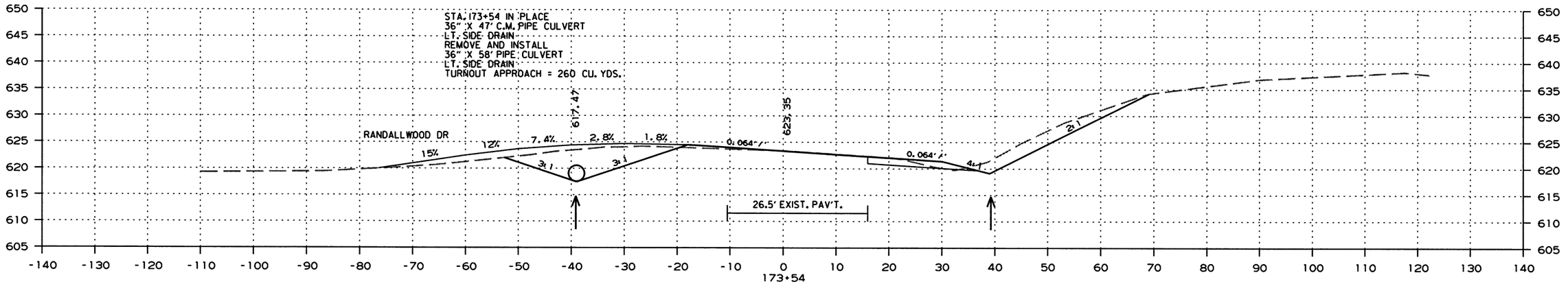
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	160	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

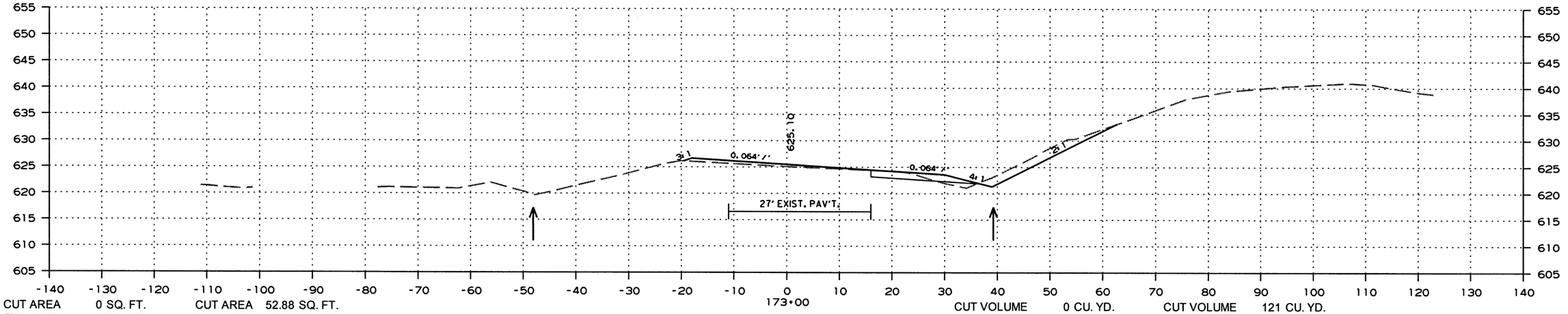
STAGE 1 STAGE 2

173+80 - BEGIN 660' TAPER



CUT AREA 105.6 SQ. FT. CUT AREA 80.73 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0.39 SQ. FT.

CUT VOLUME 106 CU. YD. CUT VOLUME 134 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 4 CU. YD.



CUT AREA 0 SQ. FT. CUT AREA 52.88 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 3.99 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 121 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 7 CU. YD.

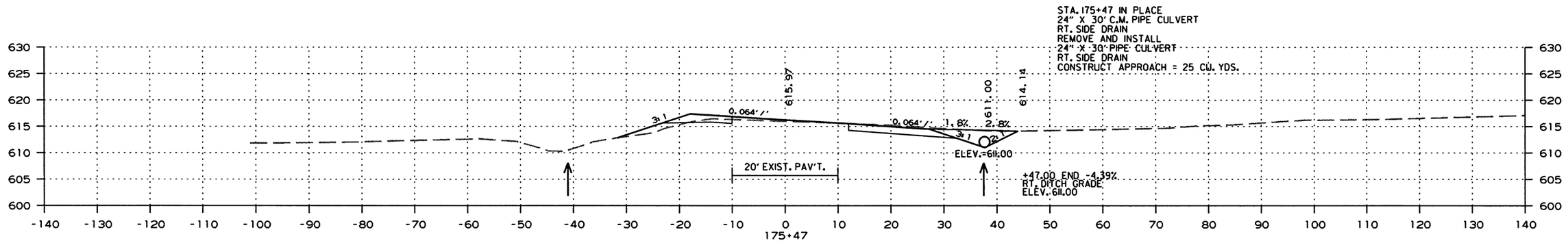
SITE 1
CROSS SECTION STA. 173+00 TO STA. 173+54

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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.		061438	161	277

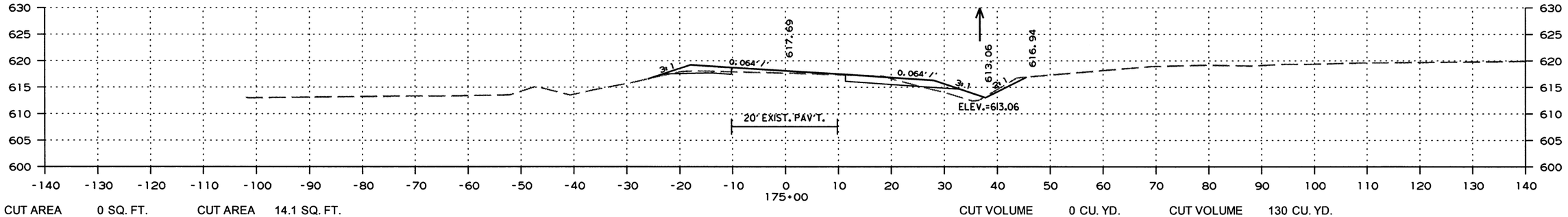
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



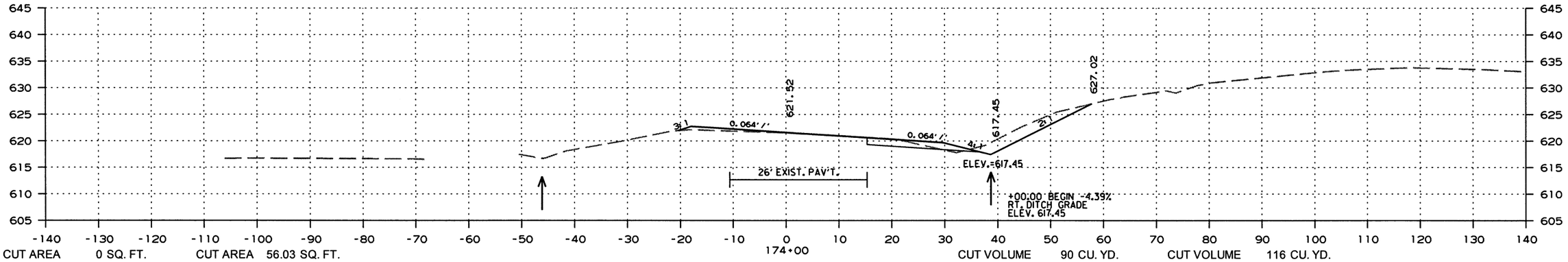
CUT AREA 4.11 SQ. FT. CUT AREA 43.63 SQ. FT.
FILL AREA 9.44 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 4 CU. YD. CUT VOLUME 50 CU. YD.
FILL VOLUME 8 CU. YD. FILL VOLUME 11 CU. YD.



CUT AREA 0 SQ. FT. CUT AREA 14.1 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 13.16 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 130 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 26 CU. YD.



CUT AREA 0 SQ. FT. CUT AREA 56.03 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0.95 SQ. FT.

CUT VOLUME 90 CU. YD. CUT VOLUME 116 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 1 CU. YD.

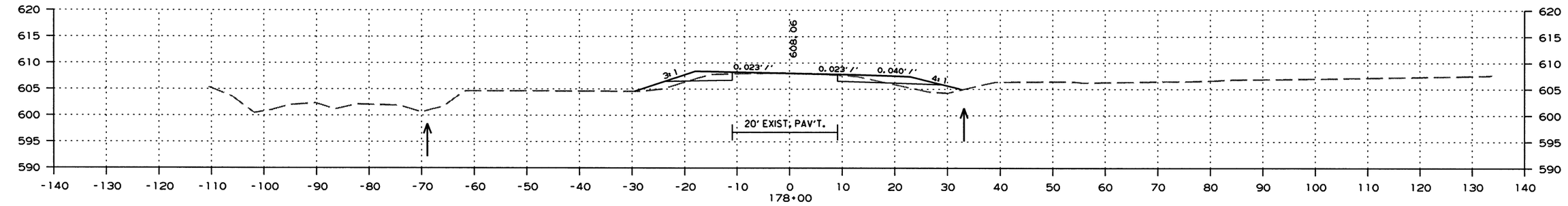
SITE 1
CROSS SECTION STA. 174+00 TO STA. 175+47

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R061438.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.		061438	162	277

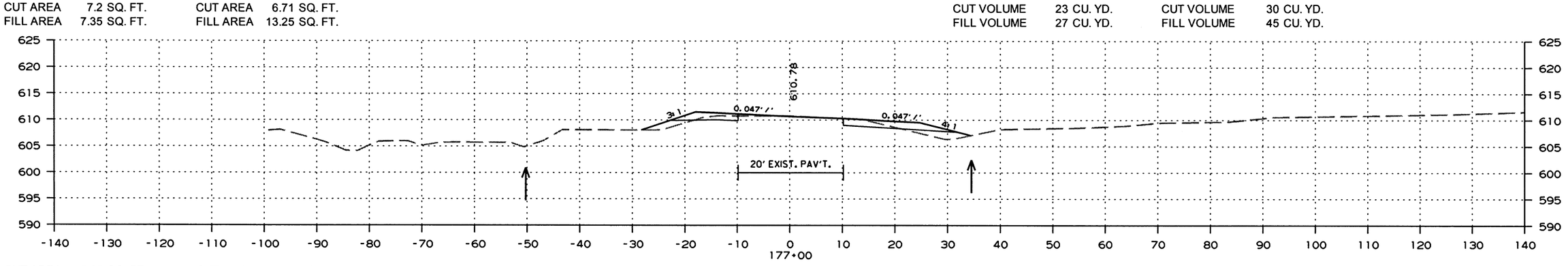
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



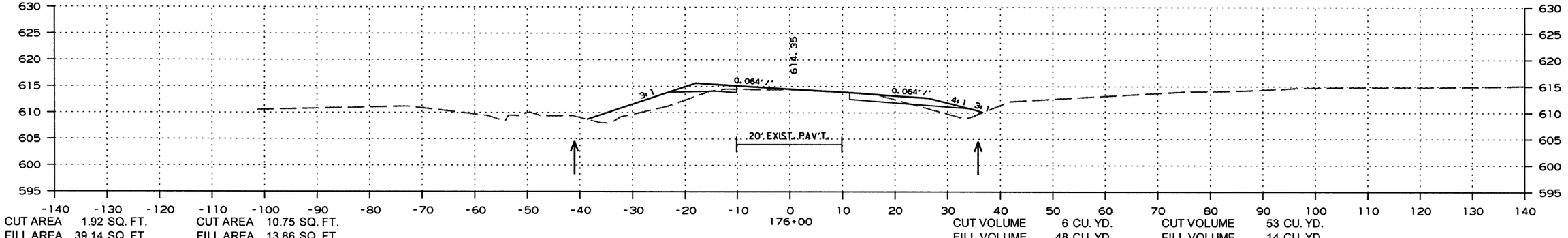
CUT AREA 7.2 SQ. FT. CUT AREA 6.71 SQ. FT.
FILL AREA 7.35 SQ. FT. FILL AREA 13.25 SQ. FT.

CUT VOLUME 23 CU. YD. CUT VOLUME 30 CU. YD.
FILL VOLUME 27 CU. YD. FILL VOLUME 45 CU. YD.



CUT AREA 5.35 SQ. FT. CUT AREA 9.68 SQ. FT.
FILL AREA 7.21 SQ. FT. FILL AREA 10.83 SQ. FT.

CUT VOLUME 13 CU. YD. CUT VOLUME 38 CU. YD.
FILL VOLUME 86 CU. YD. FILL VOLUME 46 CU. YD.



CUT AREA 1.92 SQ. FT. CUT AREA 10.75 SQ. FT.
FILL AREA 39.14 SQ. FT. FILL AREA 13.86 SQ. FT.

CUT VOLUME 6 CU. YD. CUT VOLUME 53 CU. YD.
FILL VOLUME 48 CU. YD. FILL VOLUME 14 CU. YD.

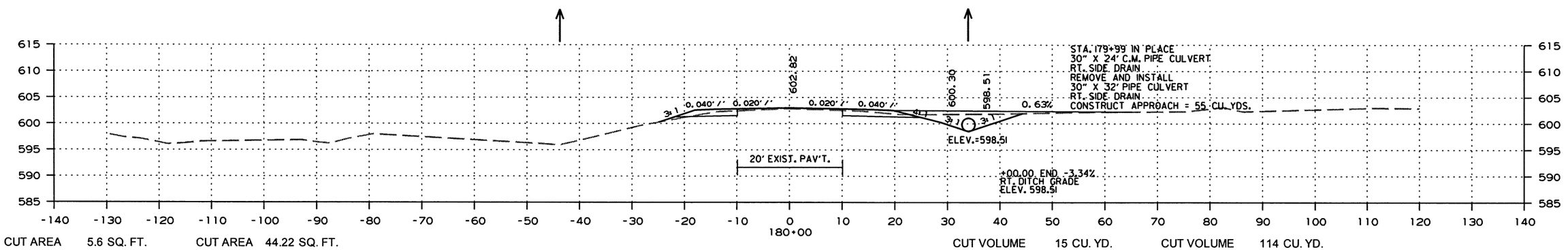
SITE 1
CROSS SECTION STA. 176+00 TO STA. 178+00

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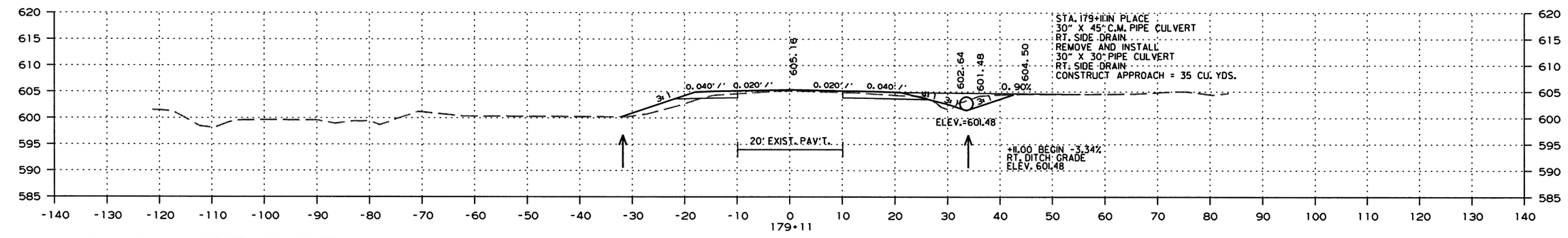
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	163	277

(2) CROSS SECTIONS

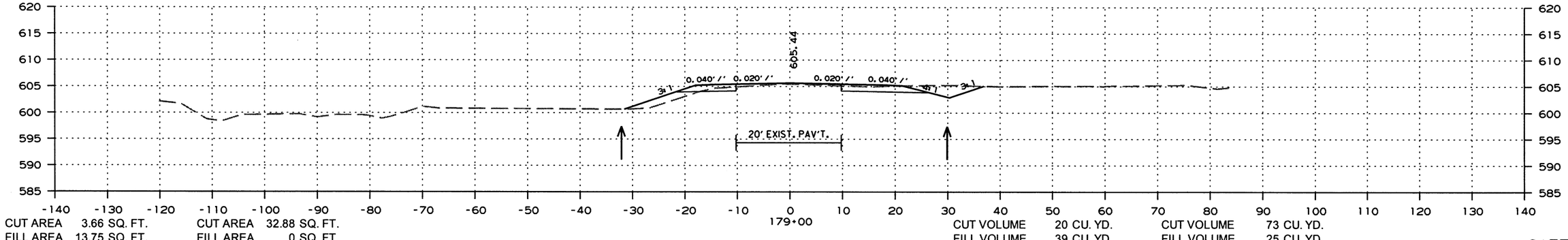
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	5.6 SQ. FT.	CUT AREA	44.22 SQ. FT.
FILL AREA	1.29 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	15 CU. YD.	CUT VOLUME	114 CU. YD.
FILL VOLUME	29 CU. YD.	FILL VOLUME	4 CU. YD.



CUT AREA	3.56 SQ. FT.	CUT AREA	25.14 SQ. FT.
FILL AREA	16.47 SQ. FT.	FILL AREA	2.73 SQ. FT.
CUT VOLUME	1 CU. YD.	CUT VOLUME	12 CU. YD.
FILL VOLUME	6 CU. YD.	FILL VOLUME	1 CU. YD.



CUT AREA	3.66 SQ. FT.	CUT AREA	32.88 SQ. FT.
FILL AREA	13.75 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	20 CU. YD.	CUT VOLUME	73 CU. YD.
FILL VOLUME	39 CU. YD.	FILL VOLUME	25 CU. YD.

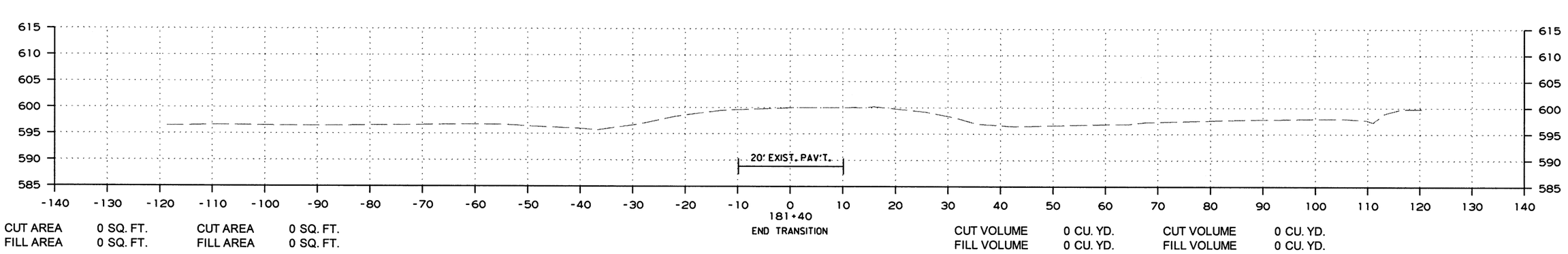
SITE 1
CROSS SECTION STA. 179+00 TO STA. 180+00

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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.		061438	164	277

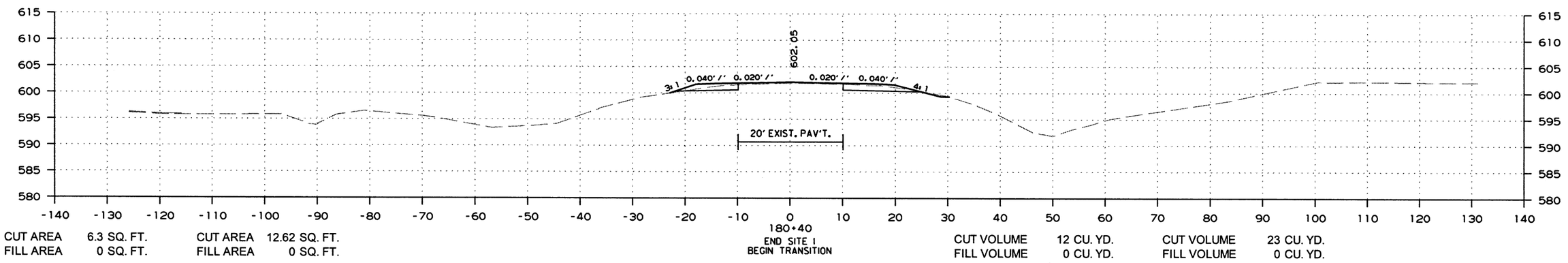
(2) CROSS SECTIONS

STAGE 1 STAGE 2



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.

CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.



CUT AREA	6.3 SQ. FT.	CUT AREA	12.62 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.

CUT VOLUME	12 CU. YD.	CUT VOLUME	23 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

SITE 1
CROSS SECTION STA. 180+40 TO STA. 181+40

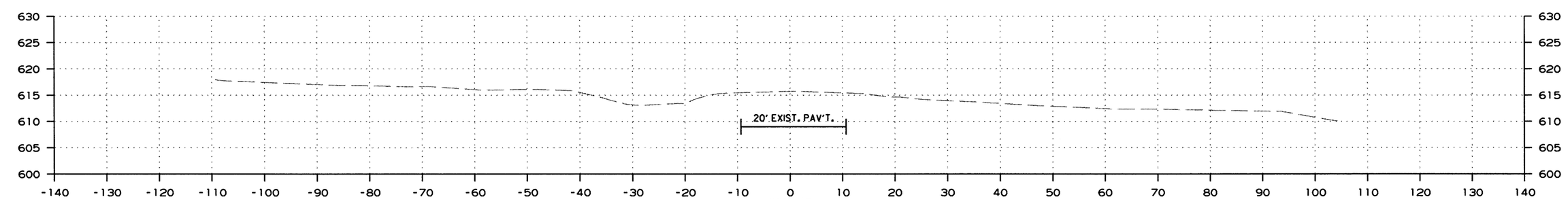
ikge653 12/4/2019
R061438.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	165	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

SITE 2
CROSS SECTION STA. 203+50 TO STA. 203+50

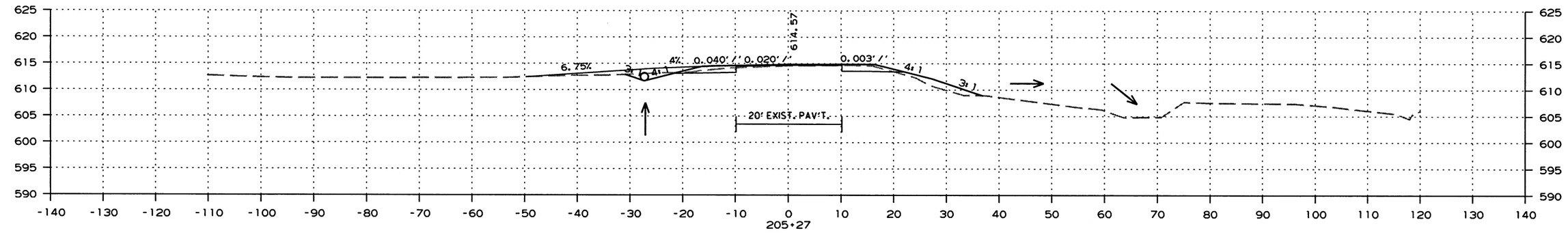
ikge653 12/4/2019
R061438.DGN

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.		061438	166	277

(2) CROSS SECTIONS

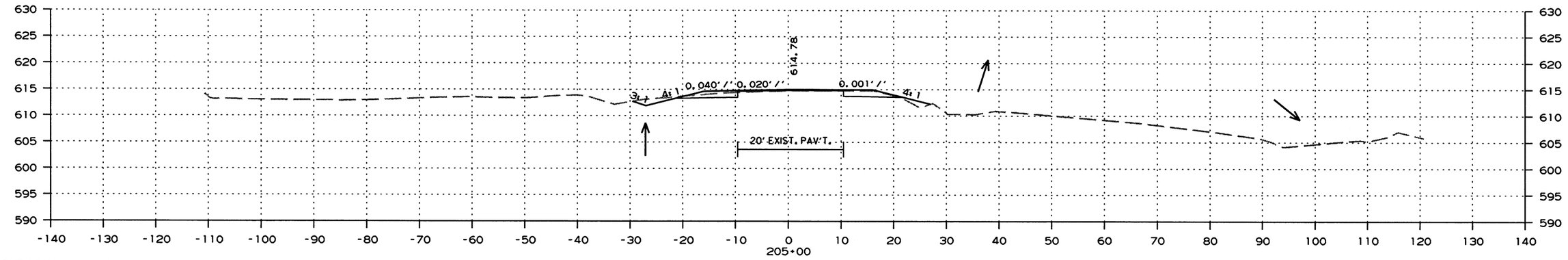
STAGE 1 STAGE 2

STA. 205+27 INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.



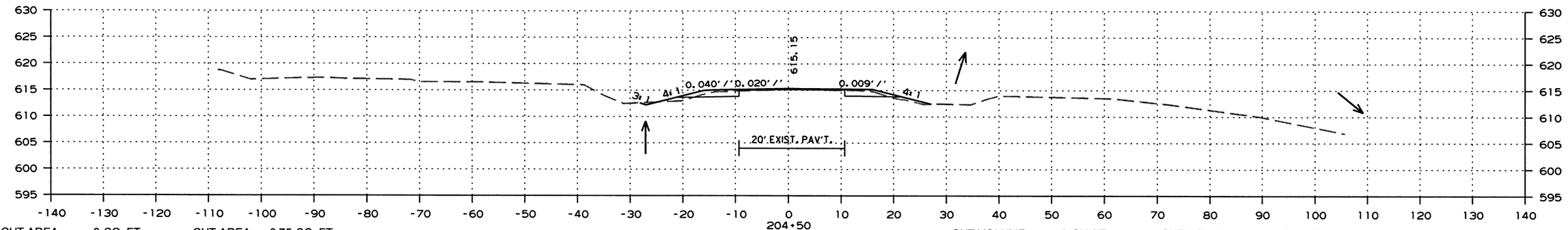
CUT AREA	7.23 SQ. FT.	CUT AREA	8.32 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	14.69 SQ. FT.

CUT VOLUME	15 CU. YD.	CUT VOLUME	21 CU. YD.
FILL VOLUME	5 CU. YD.	FILL VOLUME	25 CU. YD.



CUT AREA	9.3 SQ. FT.	CUT AREA	9.07 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	3.44 SQ. FT.

CUT VOLUME	11 CU. YD.	CUT VOLUME	0 CU. YD.
FILL VOLUME	4 CU. YD.	FILL VOLUME	0 CU. YD.



CUT AREA	3 SQ. FT.	CUT AREA	6.75 SQ. FT.
FILL AREA	3.78 SQ. FT.	FILL AREA	2.84 SQ. FT.

CUT VOLUME	6 CU. YD.	CUT VOLUME	13 CU. YD.
FILL VOLUME	7 CU. YD.	FILL VOLUME	5 CU. YD.

SITE 2
CROSS SECTION STA. 204+50 TO STA. 205+27

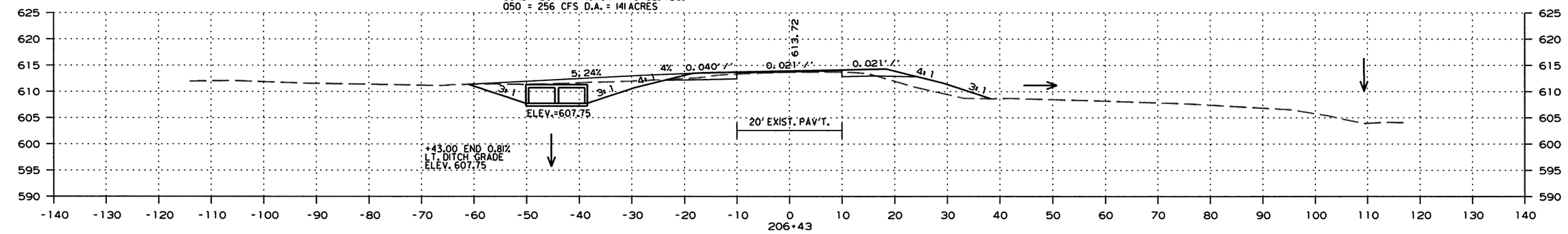
ikge653 12/4/2019
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	167	277

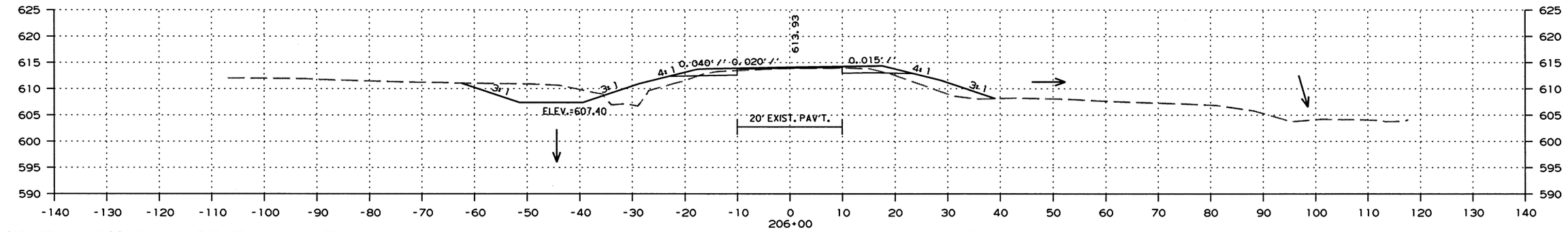
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2

STA. 206+43 IN PLACE
24" X 37' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND CONSTRUCT
DBL. 5' X 3' X 24' R.C. BOX CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 70 CU. YDS.
050 = 256 CFS D.A. = 141 ACRES

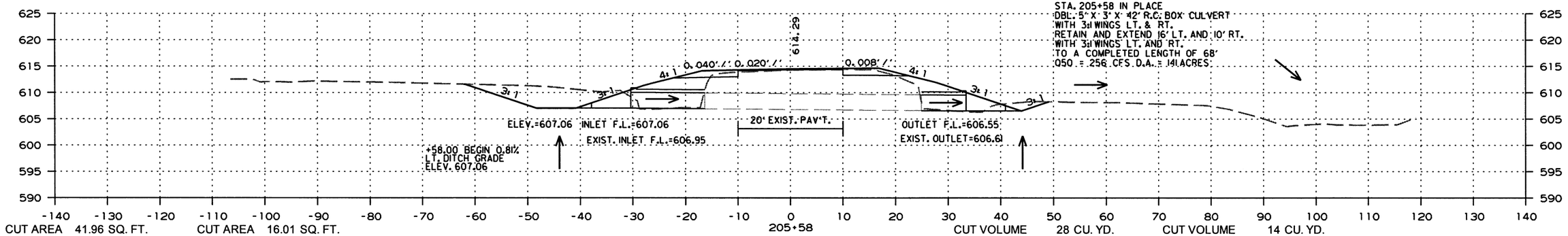


CUT AREA 94.19 SQ. FT. CUT AREA 3.76 SQ. FT. CUT VOLUME 92 CU. YD. CUT VOLUME 8 CU. YD.
FILL AREA 0 SQ. FT. FILL AREA 29.73 SQ. FT. FILL VOLUME 29 CU. YD. FILL VOLUME 46 CU. YD.



CUT AREA 21.47 SQ. FT. CUT AREA 5.87 SQ. FT. CUT VOLUME 49 CU. YD. CUT VOLUME 17 CU. YD.
FILL AREA 36.5 SQ. FT. FILL AREA 28.58 SQ. FT. FILL VOLUME 48 CU. YD. FILL VOLUME 68 CU. YD.

STA. 205+58 IN PLACE
DBL. 5' X 3' X 42' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 16' LT. AND 10' RT.
WITH 3:1 WINGS LT. AND RT.
TO A COMPLETED LENGTH OF 68'
050 = 256 CFS D.A. = 141 ACRES



CUT AREA 41.96 SQ. FT. CUT AREA 16.01 SQ. FT. CUT VOLUME 28 CU. YD. CUT VOLUME 14 CU. YD.
FILL AREA 25.44 SQ. FT. FILL AREA 59.26 SQ. FT. FILL VOLUME 15 CU. YD. FILL VOLUME 42 CU. YD.

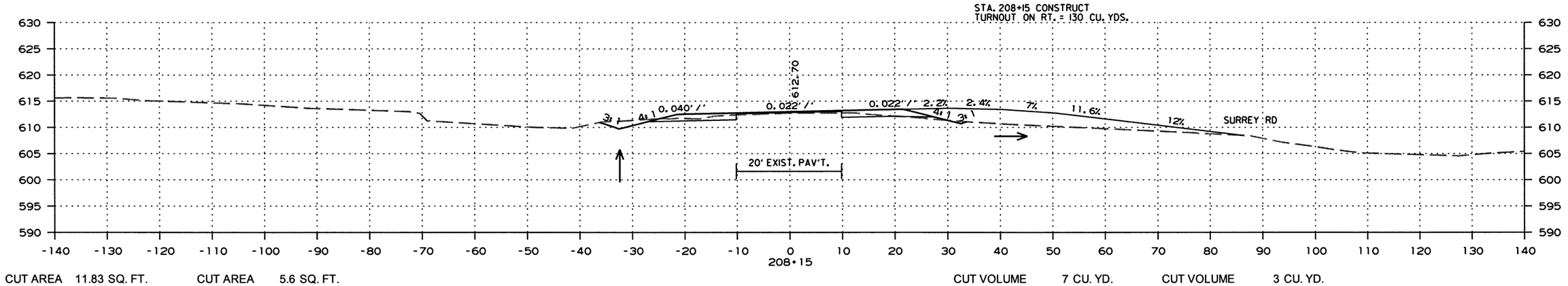
SITE 2
CROSS SECTION STA. 205+58 TO STA. 206+43

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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.		061438	168	277

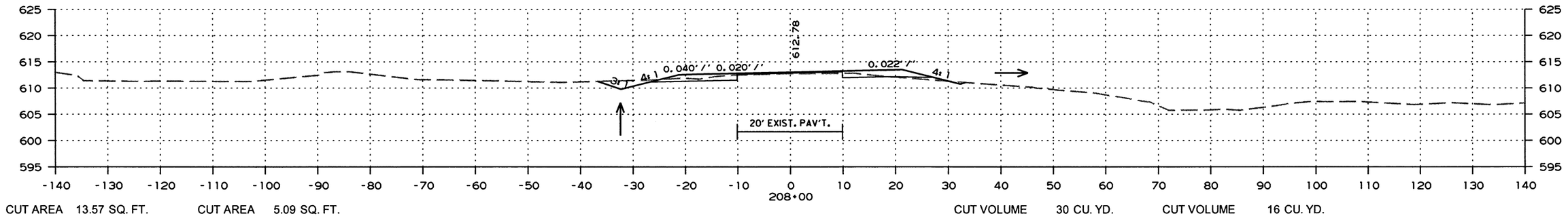
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



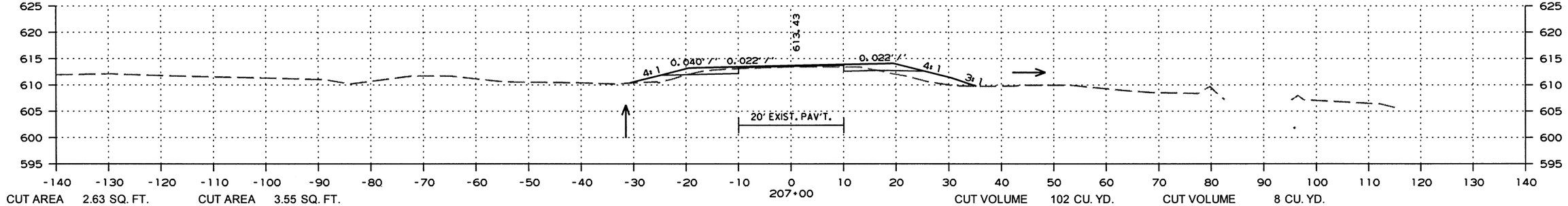
CUT AREA 11.83 SQ. FT. CUT AREA 5.6 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 1.82 SQ. FT.

CUT VOLUME 7 CU. YD. CUT VOLUME 3 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 1 CU. YD.



CUT AREA 13.57 SQ. FT. CUT AREA 5.09 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 2.93 SQ. FT.

CUT VOLUME 30 CU. YD. CUT VOLUME 16 CU. YD.
FILL VOLUME 16 CU. YD. FILL VOLUME 42 CU. YD.



CUT AREA 2.63 SQ. FT. CUT AREA 3.55 SQ. FT.
FILL AREA 8.53 SQ. FT. FILL AREA 19.56 SQ. FT.

CUT VOLUME 102 CU. YD. CUT VOLUME 8 CU. YD.
FILL VOLUME 9 CU. YD. FILL VOLUME 52 CU. YD.

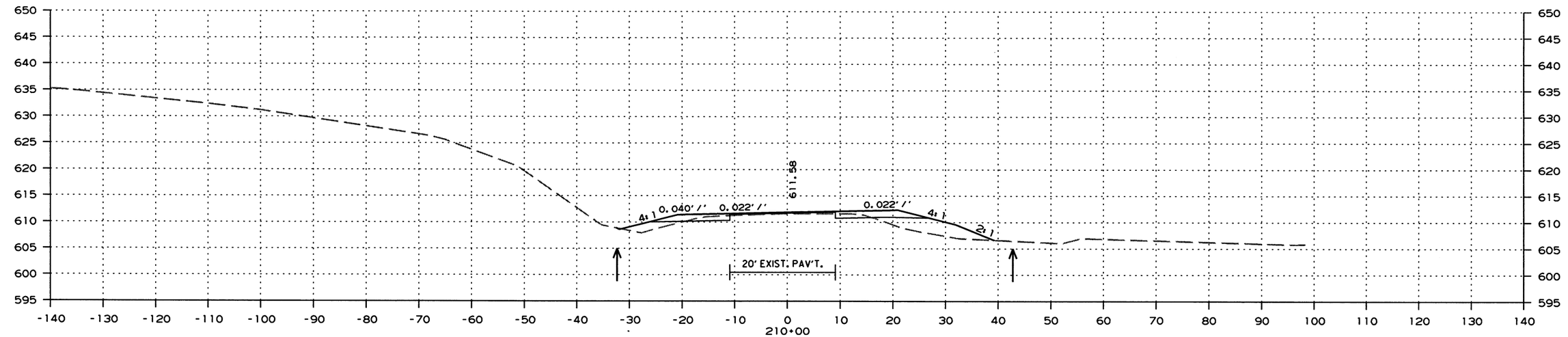
SITE 2
CROSS SECTION STA. 207+00 TO STA. 208+15

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R0614.38.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.		061438	169	277

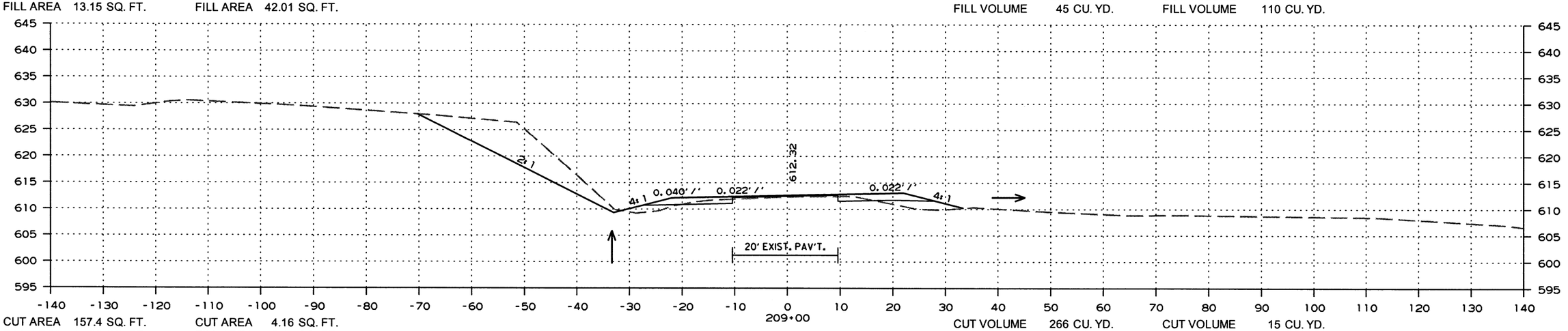
(2) CROSS SECTIONS

STAGE 1 STAGE 2



CUT AREA 2.23 SQ. FT. CUT AREA 4.17 SQ. FT.
FILL AREA 13.15 SQ. FT. FILL AREA 42.01 SQ. FT.

CUT VOLUME 296 CU. YD. CUT VOLUME 15 CU. YD.
FILL VOLUME 45 CU. YD. FILL VOLUME 110 CU. YD.



CUT AREA 157.4 SQ. FT. CUT AREA 4.16 SQ. FT.
FILL AREA 11.22 SQ. FT. FILL AREA 17.44 SQ. FT.

CUT VOLUME 266 CU. YD. CUT VOLUME 15 CU. YD.
FILL VOLUME 18 CU. YD. FILL VOLUME 30 CU. YD.

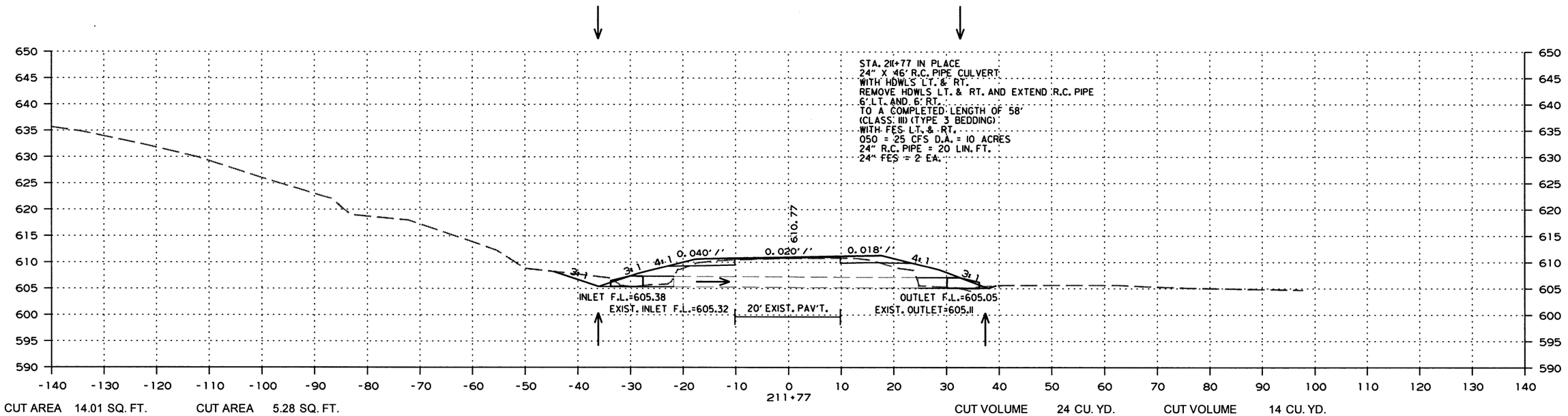
SITE 2
CROSS SECTION STA. 209+00 TO STA. 210+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	170	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	14.01 SQ. FT.	CUT AREA	5.28 SQ. FT.
FILL AREA	12.8 SQ. FT.	FILL AREA	17.99 SQ. FT.
CUT VOLUME	24 CU. YD.	CUT VOLUME	14 CU. YD.
FILL VOLUME	32 CU. YD.	FILL VOLUME	77 CU. YD.

CUT AREA	2.86 SQ. FT.	CUT AREA	4.25 SQ. FT.
FILL AREA	9.72 SQ. FT.	FILL AREA	36.27 SQ. FT.
CUT VOLUME	9 CU. YD.	CUT VOLUME	16 CU. YD.
FILL VOLUME	42 CU. YD.	FILL VOLUME	145 CU. YD.

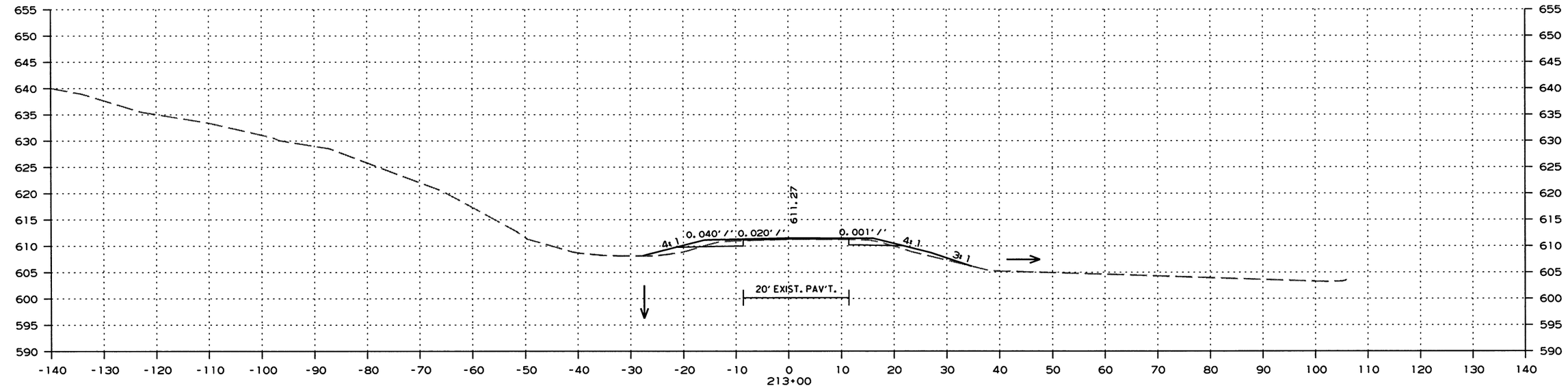
SITE 2
CROSS SECTION STA. 211+00 TO STA. 211+77

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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.		061438	171	277

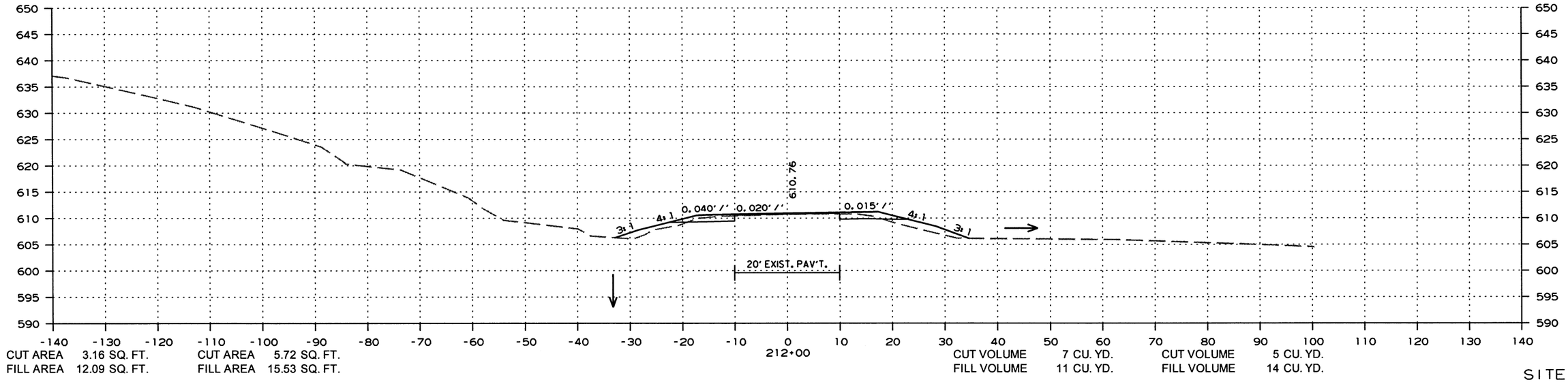
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 2.64 SQ. FT. CUT AREA -0.37 SQ. FT.
FILL AREA 8.68 SQ. FT. FILL AREA 7.05 SQ. FT.

CUT VOLUME 11 CU. YD. CUT VOLUME 10 CU. YD.
FILL VOLUME 38 CU. YD. FILL VOLUME 42 CU. YD.



CUT AREA 3.16 SQ. FT. CUT AREA 5.72 SQ. FT.
FILL AREA 12.09 SQ. FT. FILL AREA 15.53 SQ. FT.

CUT VOLUME 7 CU. YD. CUT VOLUME 5 CU. YD.
FILL VOLUME 11 CU. YD. FILL VOLUME 14 CU. YD.

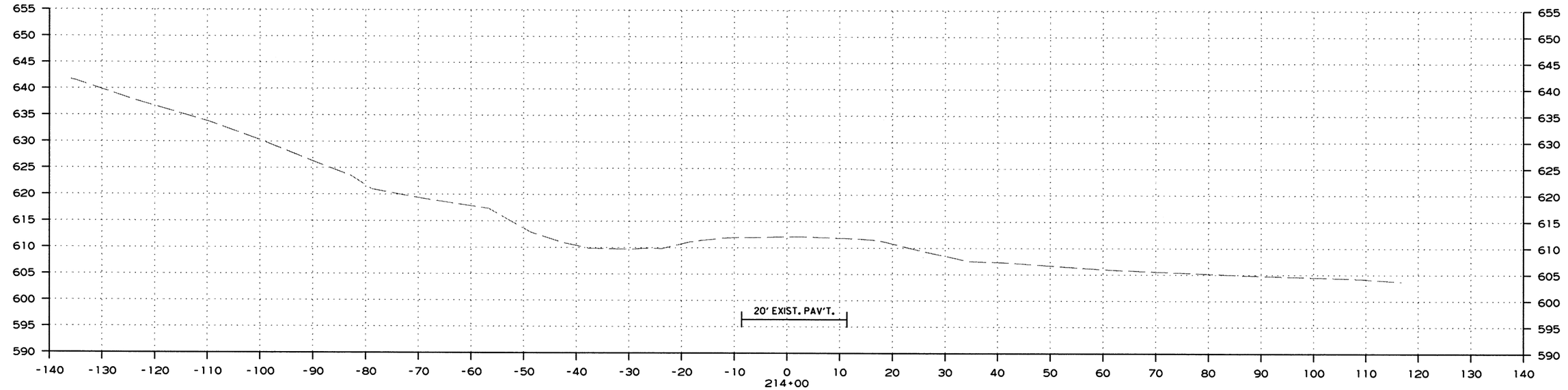
SITE 2
CROSS SECTION STA. 212+00 TO STA. 213+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	172	277
				(2) CROSS SECTIONS				

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	5 CU. YD.	CUT VOLUME	1 CU. YD.
FILL VOLUME	16 CU. YD.	FILL VOLUME	13 CU. YD.

SITE 2

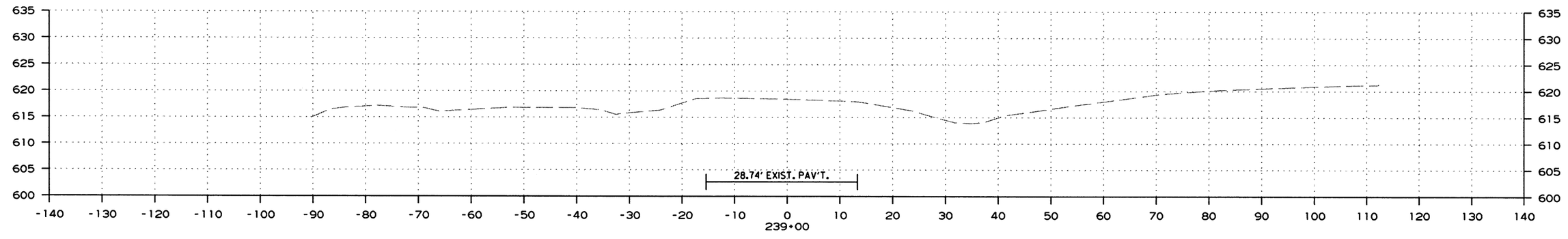
CROSS SECTION STA. 214+00 TO STA. 214+00

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R061438.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.		061438	173	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	BEGIN TRANSITION	CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.		FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

SITE 3
CROSS SECTION STA. 239+00 TO STA. 239+00

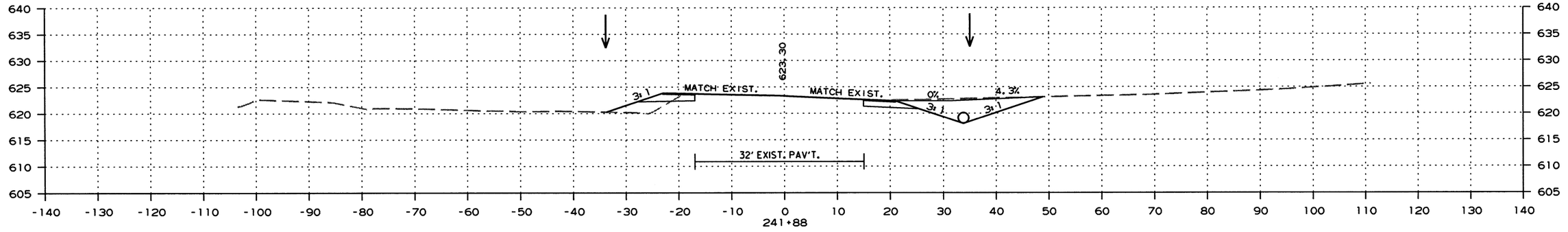
ikge653 12/4/2019
R061438.DGN

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.		061438	174	277

(2) CROSS SECTIONS

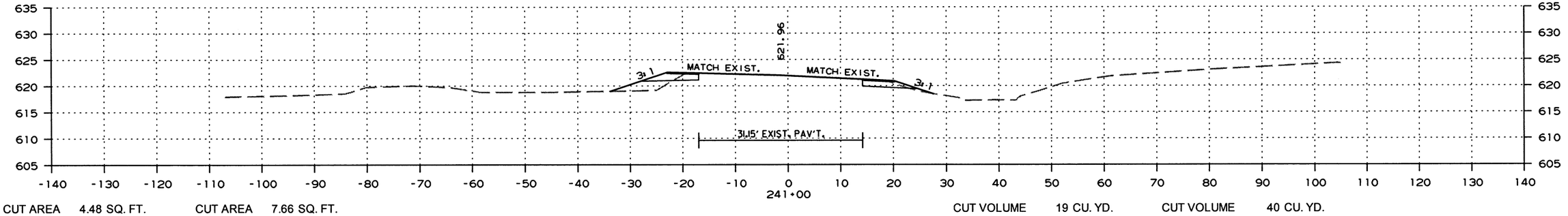
STAGE 1 STAGE 2 STAGE 1 STAGE 2

STA. 241+88 IN PLACE
24" X 27' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 65 CU. YDS.



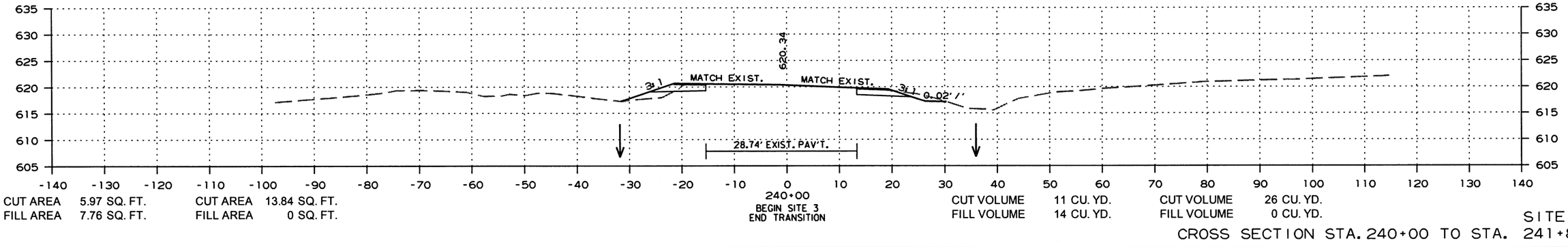
CUT AREA 3.96 SQ. FT. CUT AREA 31.3 SQ. FT.
FILL AREA 17.84 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 14 CU. YD. CUT VOLUME 63 CU. YD.
FILL VOLUME 54 CU. YD. FILL VOLUME 2 CU. YD.



CUT AREA 4.48 SQ. FT. CUT AREA 7.66 SQ. FT.
FILL AREA 15.36 SQ. FT. FILL AREA 1.26 SQ. FT.

CUT VOLUME 19 CU. YD. CUT VOLUME 40 CU. YD.
FILL VOLUME 43 CU. YD. FILL VOLUME 2 CU. YD.



CUT AREA 5.97 SQ. FT. CUT AREA 13.84 SQ. FT.
FILL AREA 7.76 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 11 CU. YD. CUT VOLUME 26 CU. YD.
FILL VOLUME 14 CU. YD. FILL VOLUME 0 CU. YD.

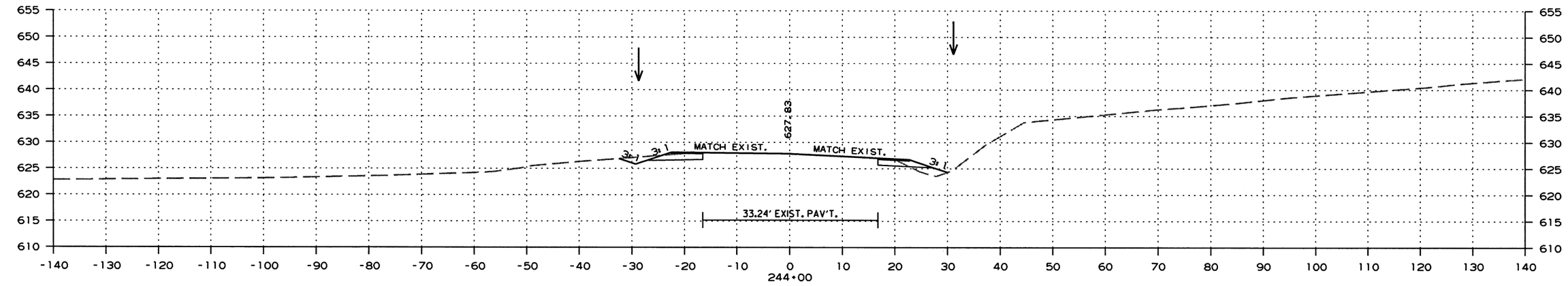
SITE 3
CROSS SECTION STA. 240+00 TO STA. 241+88

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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.		061438	175	277

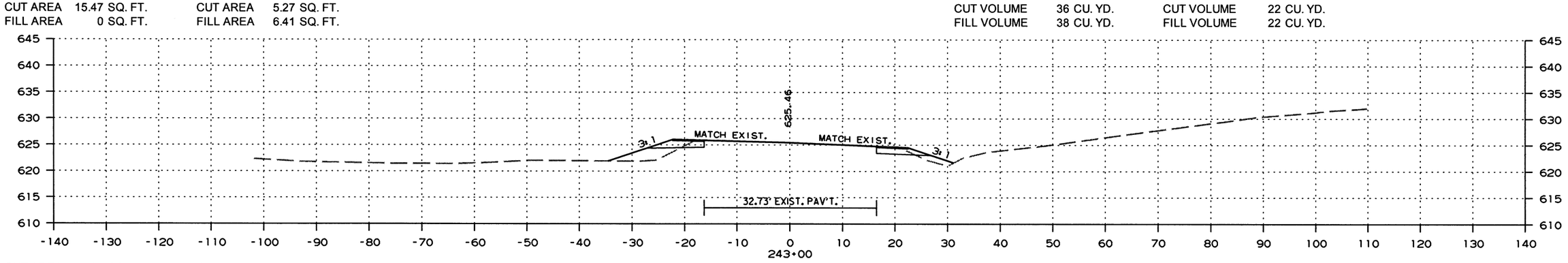
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



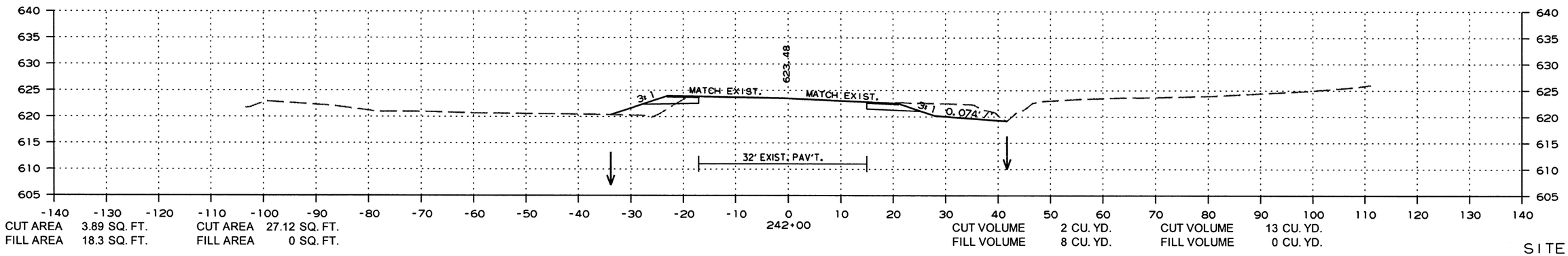
CUT AREA 15.47 SQ. FT. CUT AREA 5.27 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 6.41 SQ. FT.

CUT VOLUME 36 CU. YD. CUT VOLUME 22 CU. YD.
FILL VOLUME 38 CU. YD. FILL VOLUME 22 CU. YD.



CUT AREA 4.07 SQ. FT. CUT AREA 6.77 SQ. FT.
FILL AREA 20.6 SQ. FT. FILL AREA 5.71 SQ. FT.

CUT VOLUME 15 CU. YD. CUT VOLUME 71 CU. YD.
FILL VOLUME 71 CU. YD. FILL VOLUME 11 CU. YD.



CUT AREA 3.89 SQ. FT. CUT AREA 27.12 SQ. FT.
FILL AREA 18.3 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 2 CU. YD. CUT VOLUME 13 CU. YD.
FILL VOLUME 8 CU. YD. FILL VOLUME 0 CU. YD.

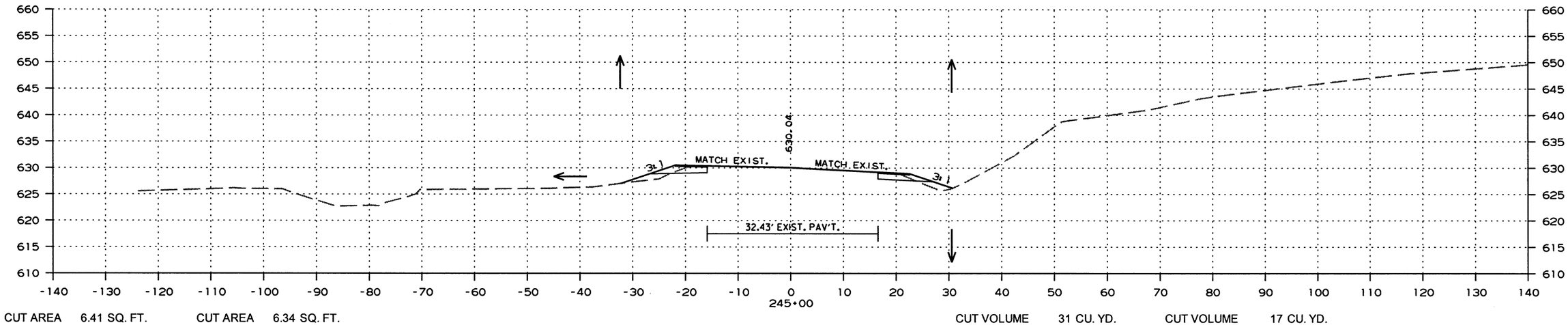
SITE 3
CROSS SECTION STA. 242+00 TO STA. 244+00

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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.		061438	176	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 6.41 SQ. FT. CUT AREA 6.34 SQ. FT.
FILL AREA 6.18 SQ. FT. FILL AREA 5.13 SQ. FT.

CUT VOLUME 31 CU. YD. CUT VOLUME 17 CU. YD.
FILL VOLUME 9 CU. YD. FILL VOLUME 15 CU. YD.

CUT AREA 15.65 SQ. FT. CUT AREA 5.66 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 5.28 SQ. FT.

CUT VOLUME 14 CU. YD. CUT VOLUME 6 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 5 CU. YD.

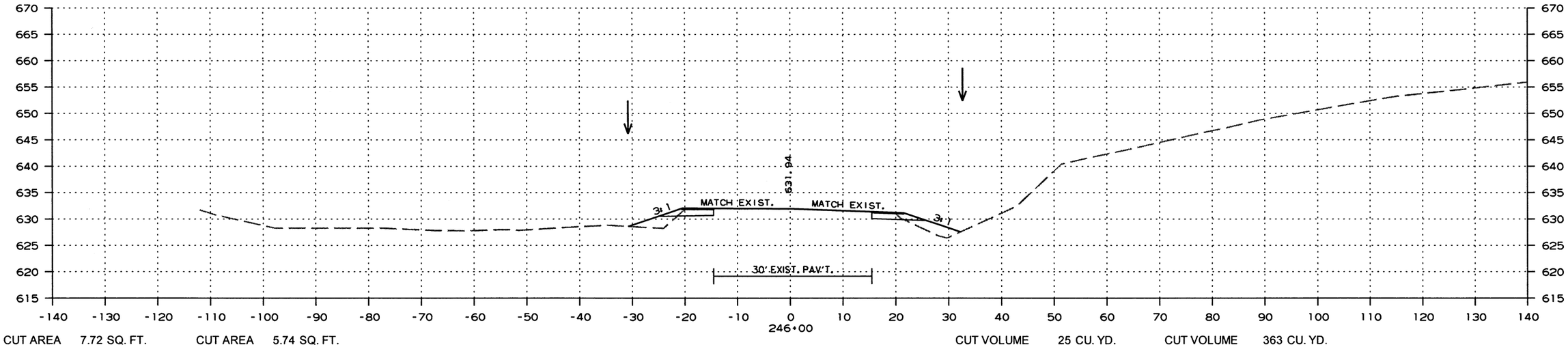
SITE 3
CROSS SECTION STA. 244+24 TO STA. 245+00

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R0614.38.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.		061438	177	277

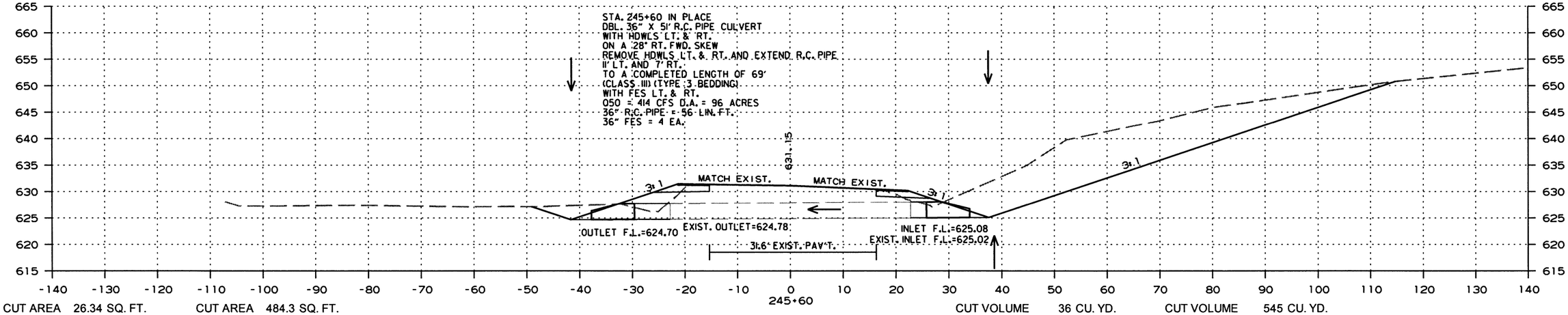
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 7.72 SQ. FT. CUT AREA 5.74 SQ. FT.
FILL AREA 11.56 SQ. FT. FILL AREA 15.07 SQ. FT.

CUT VOLUME 25 CU. YD. CUT VOLUME 363 CU. YD.
FILL VOLUME 26 CU. YD. FILL VOLUME 15 CU. YD.



CUT AREA 26.34 SQ. FT. CUT AREA 484.3 SQ. FT.
FILL AREA 23.78 SQ. FT. FILL AREA 4.93 SQ. FT.

CUT VOLUME 36 CU. YD. CUT VOLUME 545 CU. YD.
FILL VOLUME 33 CU. YD. FILL VOLUME 11 CU. YD.

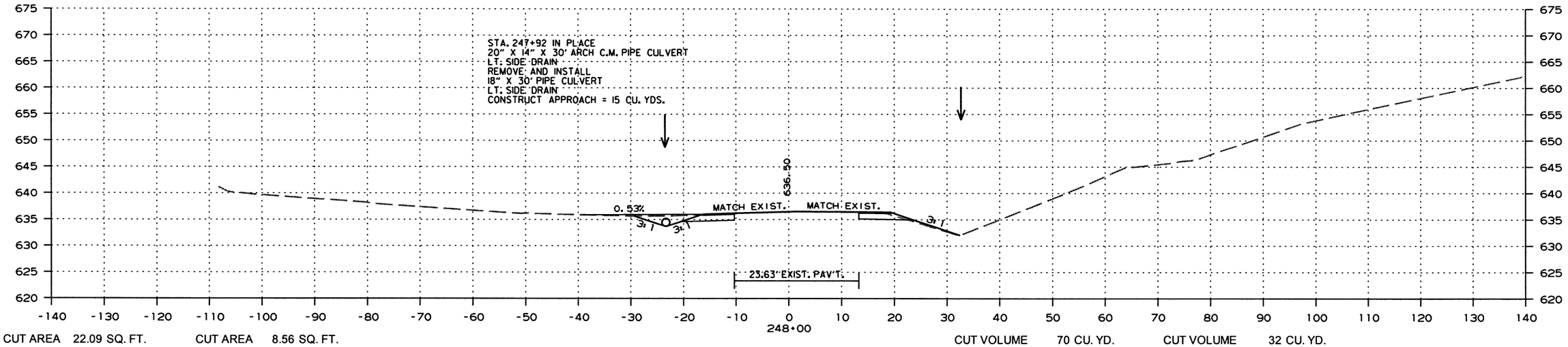
SITE 3
CROSS SECTION STA. 245+60 TO STA. 246+00

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R0614.38.DGN

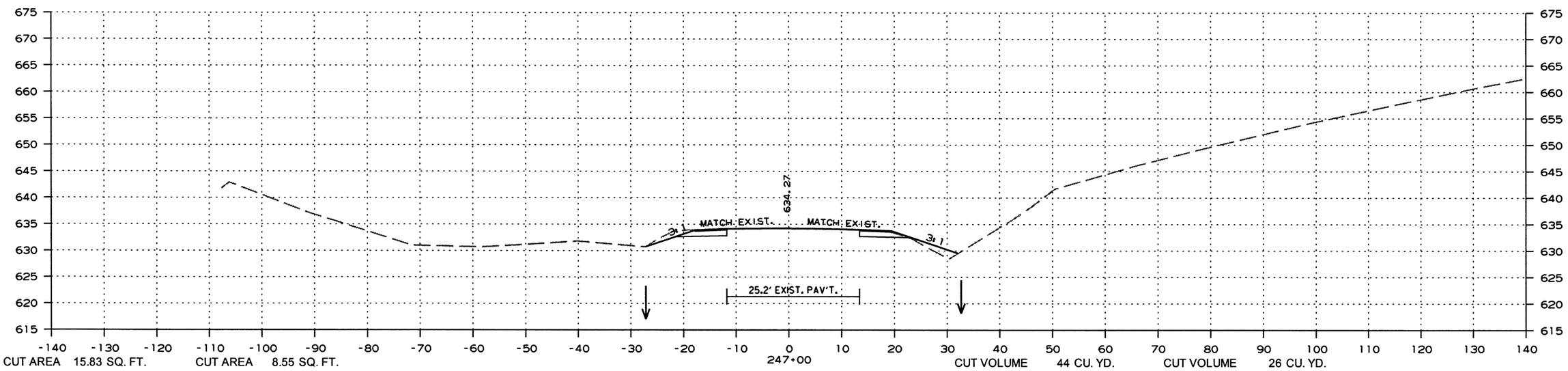
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	178	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	22.09 SQ. FT.	CUT AREA	8.56 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	2.42 SQ. FT.
CUT VOLUME	70 CU. YD.	CUT VOLUME	32 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	20 CU. YD.



CUT AREA	15.83 SQ. FT.	CUT AREA	8.55 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	8.32 SQ. FT.
CUT VOLUME	44 CU. YD.	CUT VOLUME	26 CU. YD.
FILL VOLUME	21 CU. YD.	FILL VOLUME	43 CU. YD.

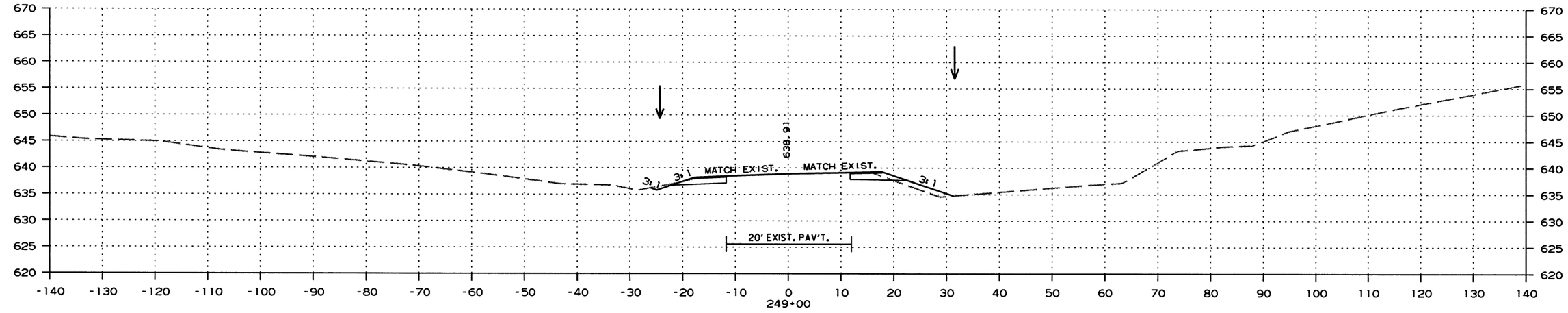
SITE 3
CROSS SECTION STA. 247+00 TO STA. 248+00

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R0614.38.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.		061438	179	277

(2) CROSS SECTIONS

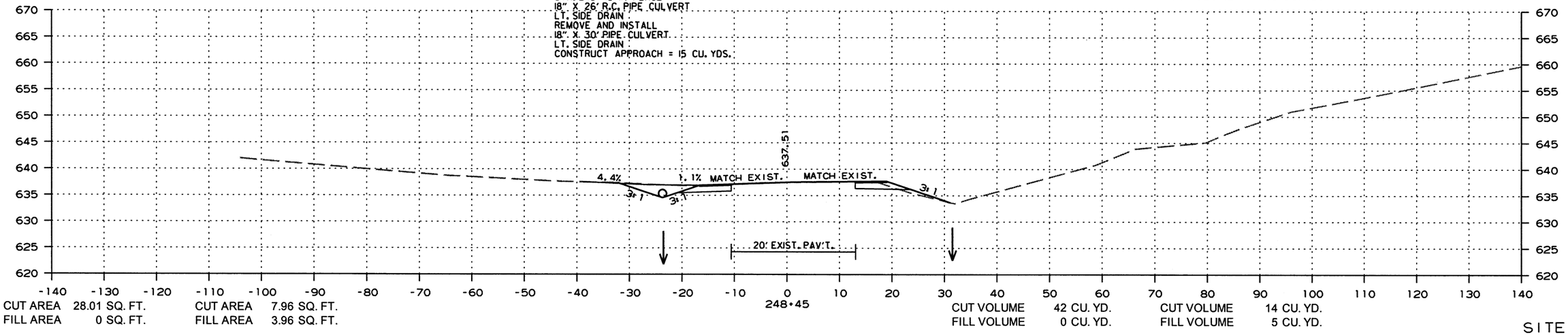
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 11.58 SQ. FT. CUT AREA 8.14 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 8.75 SQ. FT.

CUT VOLUME 40 CU. YD. CUT VOLUME 16 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 13 CU. YD.

STA. 248+45 IN PLACE
18" X 26' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18". X. 30' PIPE CULVERT.
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.



CUT AREA 28.01 SQ. FT. CUT AREA 7.96 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 3.96 SQ. FT.

CUT VOLUME 42 CU. YD. CUT VOLUME 14 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 5 CU. YD.

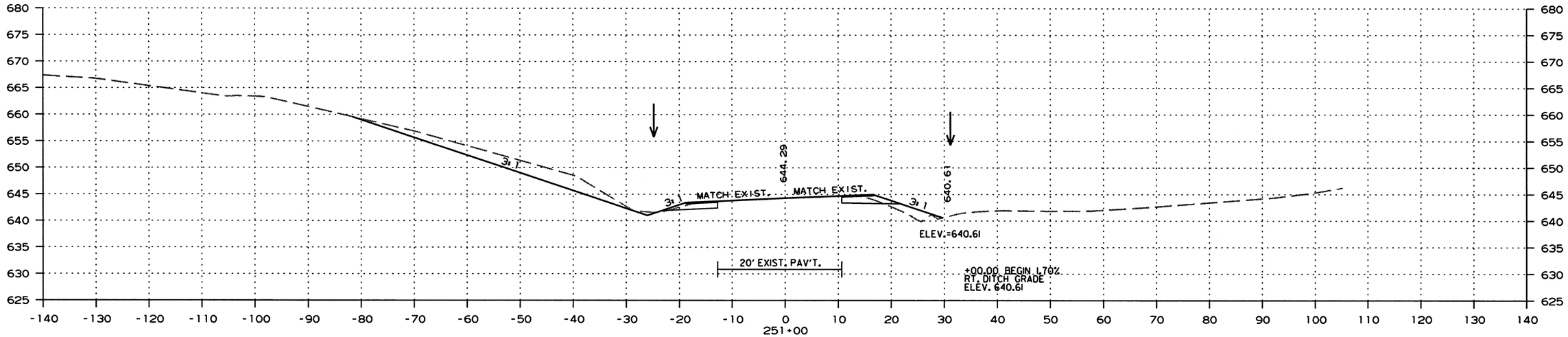
SITE 3
CROSS SECTION STA. 248+45 TO STA. 249+00

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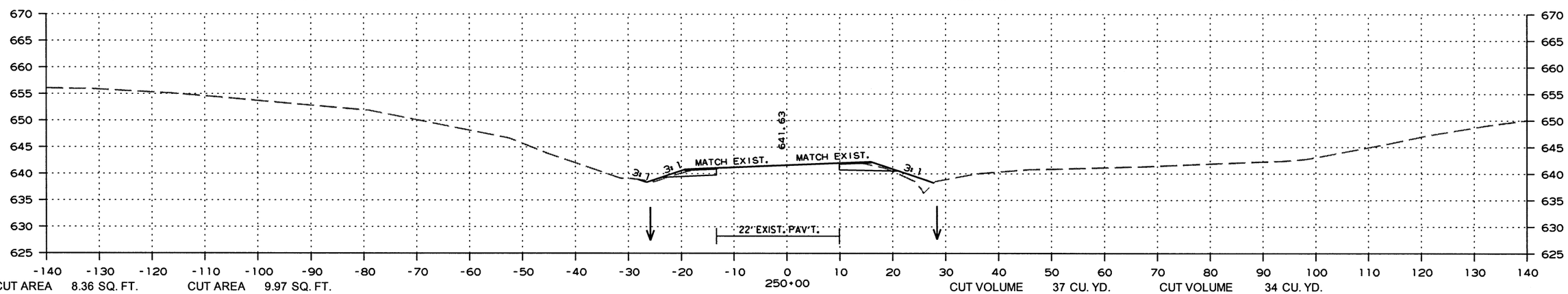
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	180	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	95.11 SQ. FT.	CUT AREA	7.85 SQ. FT.
FILL AREA	0.44 SQ. FT.	FILL AREA	11.22 SQ. FT.
CUT VOLUME	198 CU. YD.	CUT VOLUME	30 CU. YD.
FILL VOLUME	1 CU. YD.	FILL VOLUME	37 CU. YD.



CUT AREA	8.36 SQ. FT.	CUT AREA	9.97 SQ. FT.
FILL AREA	1.03 SQ. FT.	FILL AREA	8 SQ. FT.
CUT VOLUME	37 CU. YD.	CUT VOLUME	34 CU. YD.
FILL VOLUME	2 CU. YD.	FILL VOLUME	31 CU. YD.

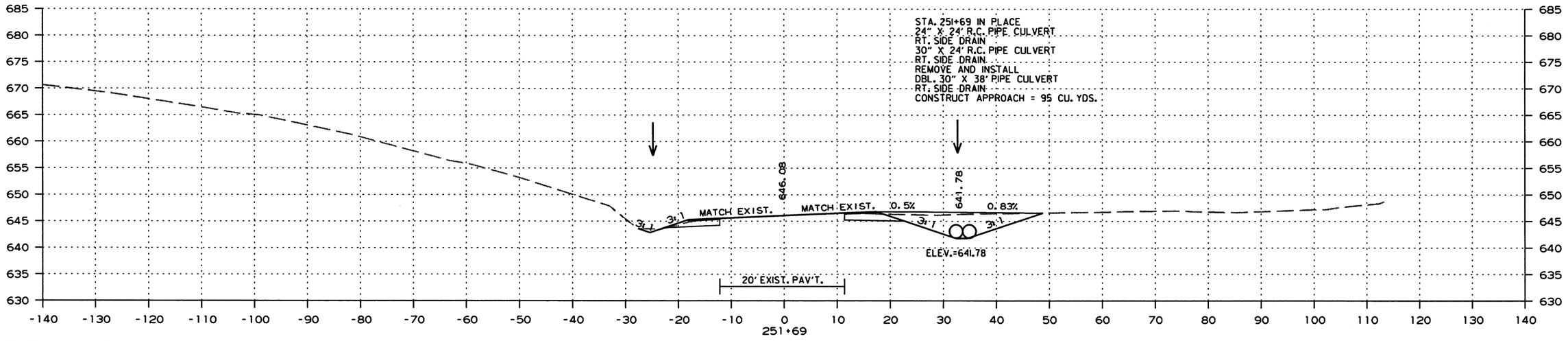
SITE 3
CROSS SECTION STA. 250+00 TO STA. 251+00

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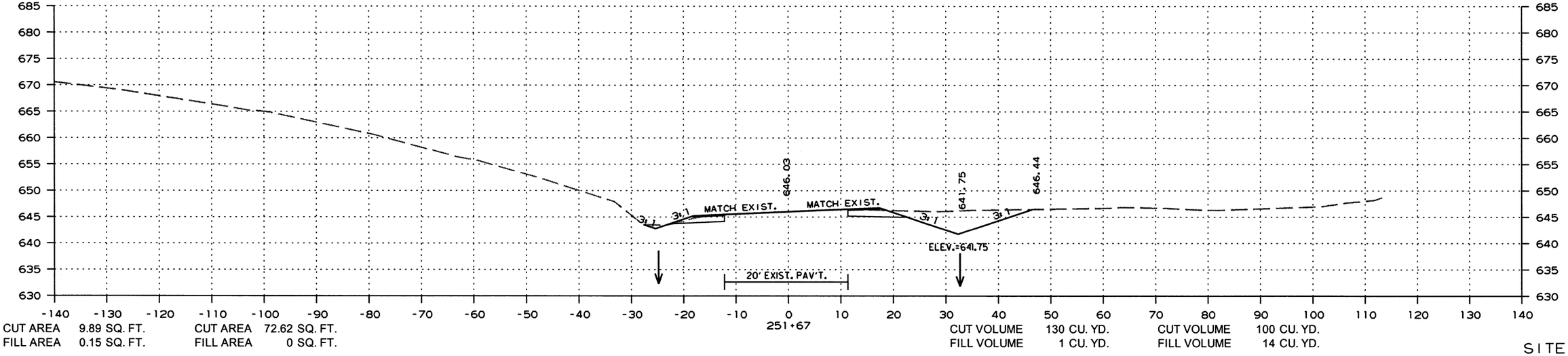
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	181	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	9.85 SQ. FT.	CUT AREA	77.18 SQ. FT.	CUT VOLUME	1 CU. YD.	CUT VOLUME	6 CU. YD.
FILL AREA	0.16 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.



CUT AREA	9.89 SQ. FT.	CUT AREA	72.62 SQ. FT.	CUT VOLUME	130 CU. YD.	CUT VOLUME	100 CU. YD.
FILL AREA	0.15 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	1 CU. YD.	FILL VOLUME	14 CU. YD.

SITE 3

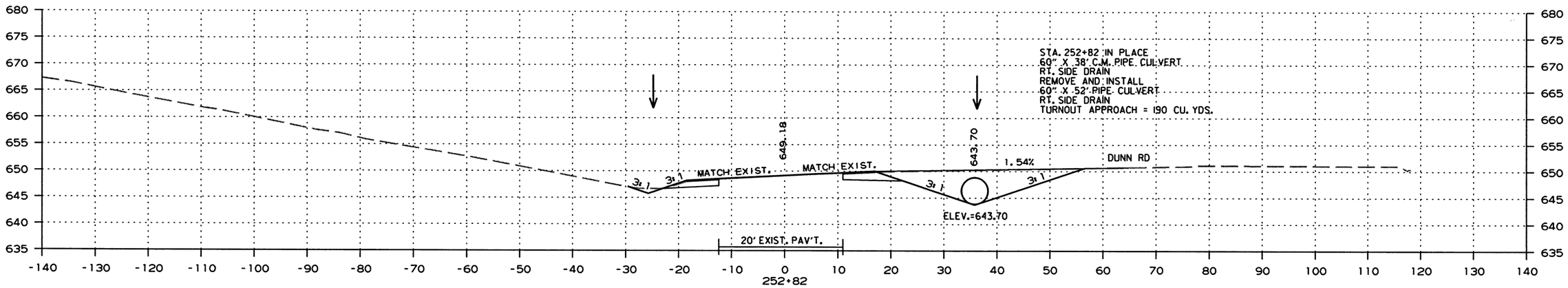
CROSS SECTION STA. 251+67 TO STA. 251+69

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R061438.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.		061438	182	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

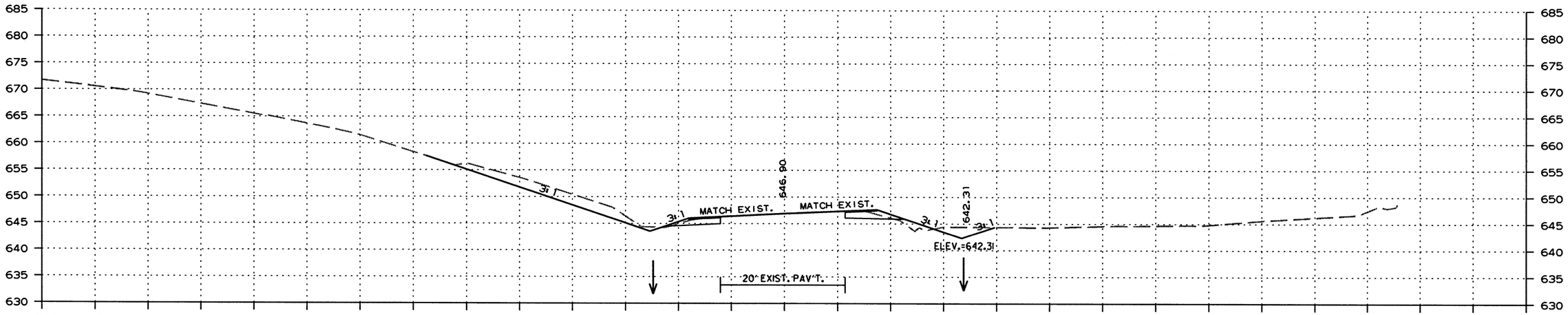


CUT AREA 12.1 SQ. FT. CUT AREA 141 SQ. FT.
FILL AREA 2.27 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 121 CU. YD. CUT VOLUME 247 CU. YD.
FILL VOLUME 4 CU. YD. FILL VOLUME 8 CU. YD.

STAGE 1 STAGE 2

STA. 252+82 IN PLACE
60" X 38' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
60" X 52' PIPE CULVERT
RT. SIDE DRAIN
TURNOUT APPROACH = 190 CU. YDS.



CUT AREA 67.53 SQ. FT. CUT AREA 21.39 SQ. FT.
FILL AREA 0.3 SQ. FT. FILL AREA 5.59 SQ. FT.

CUT VOLUME 44 CU. YD. CUT VOLUME 57 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 3 CU. YD.

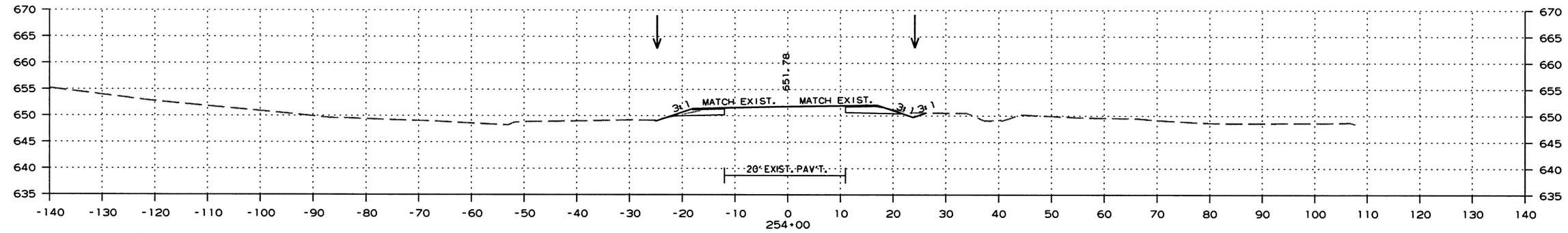
SITE 3
CROSS SECTION STA. 252+00 TO STA. 252+82

ikge653 12/4/2019
R061438.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.		061438	183	277

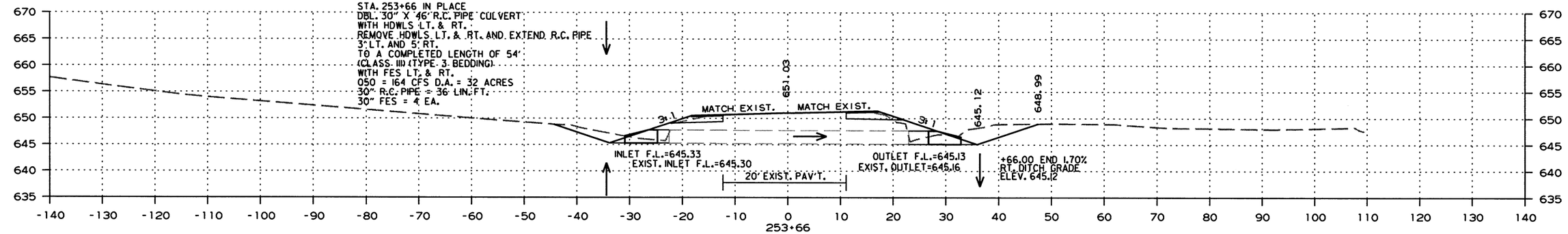
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



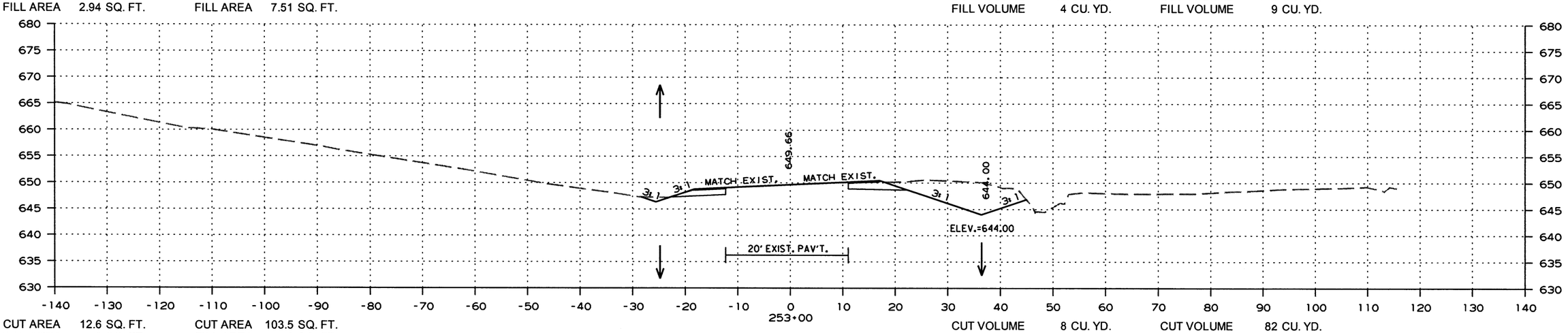
CUT AREA 8.81 SQ. FT. CUT AREA 14.55 SQ. FT.
FILL AREA 0.26 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 19 CU. YD. CUT VOLUME 33 CU. YD.
FILL VOLUME 2 CU. YD. FILL VOLUME 5 CU. YD.



CUT AREA 21.73 SQ. FT. CUT AREA 37.22 SQ. FT.
FILL AREA 2.94 SQ. FT. FILL AREA 7.51 SQ. FT.

CUT VOLUME 42 CU. YD. CUT VOLUME 172 CU. YD.
FILL VOLUME 4 CU. YD. FILL VOLUME 9 CU. YD.



CUT AREA 12.6 SQ. FT. CUT AREA 103.5 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 8 CU. YD. CUT VOLUME 82 CU. YD.
FILL VOLUME 1 CU. YD. FILL VOLUME 0 CU. YD.

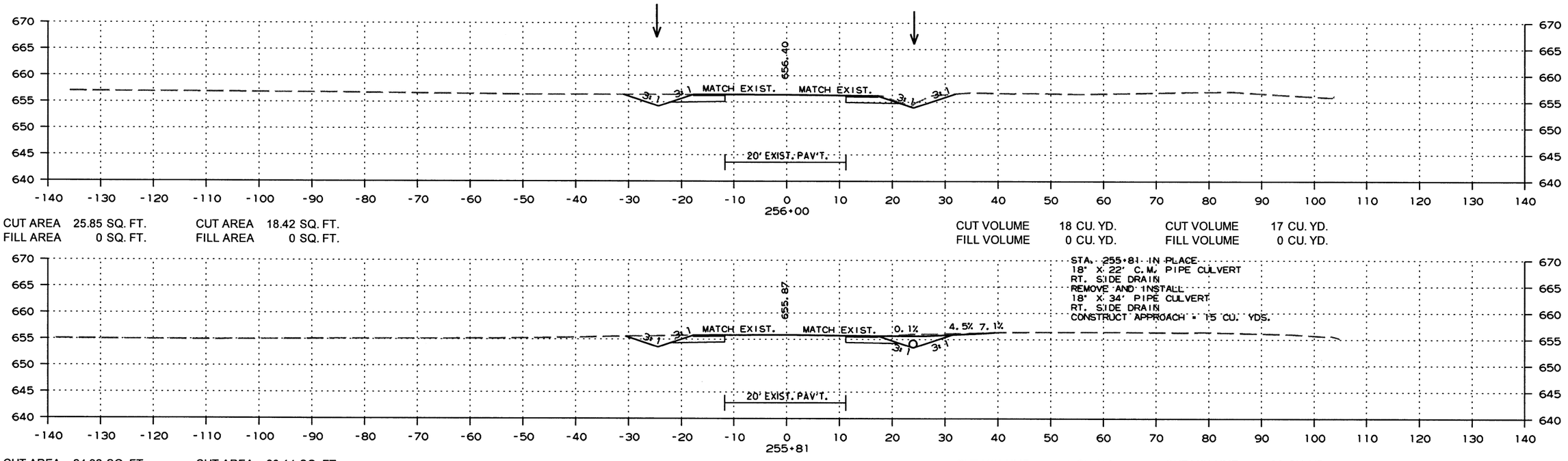
SITE 3
CROSS SECTION STA. 253+00 TO STA. 254+00

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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.		061438	184	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



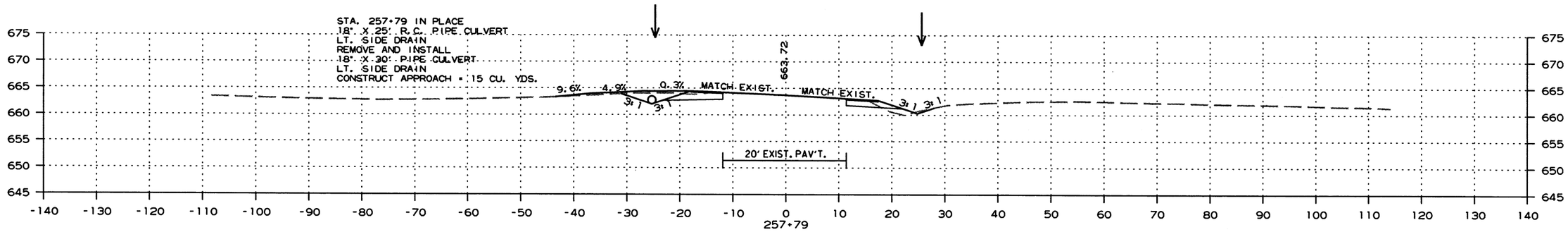
CUT AREA	25.85 SQ. FT.	CUT AREA	18.42 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	18 CU. YD.	CUT VOLUME	17 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.
CUT AREA	24.92 SQ. FT.	CUT AREA	29.14 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	71 CU. YD.	CUT VOLUME	60 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.
CUT AREA	22.38 SQ. FT.	CUT AREA	10.67 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	58 CU. YD.	CUT VOLUME	47 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

SITE 3
CROSS SECTION STA. 255+00 TO STA. 256+00

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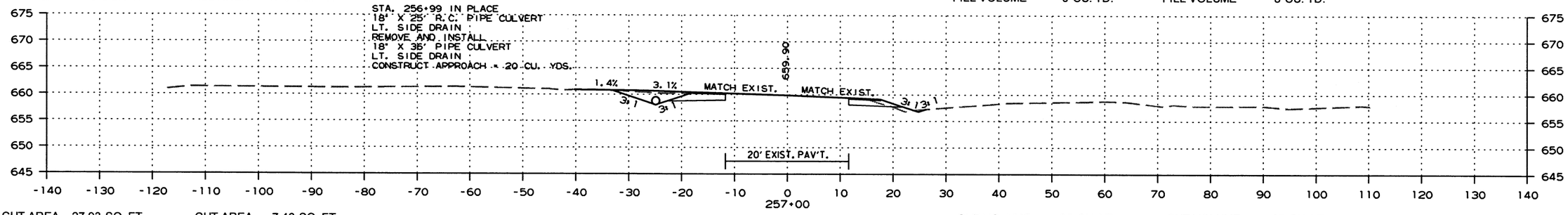
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	185	277
				(2) CROSS SECTIONS				

STAGE 1 STAGE 2 STAGE 1 STAGE 2



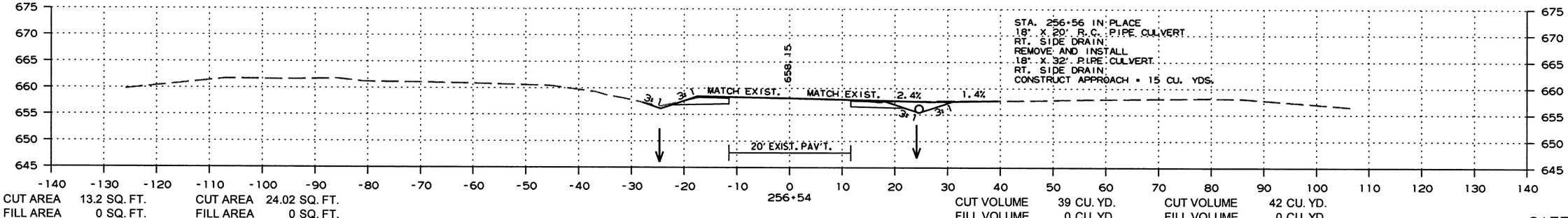
CUT AREA 21.84 SQ. FT. CUT AREA 7.31 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 4.13 SQ. FT.

CUT VOLUME 73 CU. YD. CUT VOLUME 22 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 8 CU. YD.



CUT AREA 27.93 SQ. FT. CUT AREA 7.46 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 1.67 SQ. FT.

CUT VOLUME 35 CU. YD. CUT VOLUME 27 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 1 CU. YD.



CUT AREA 13.2 SQ. FT. CUT AREA 24.02 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 39 CU. YD. CUT VOLUME 42 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.

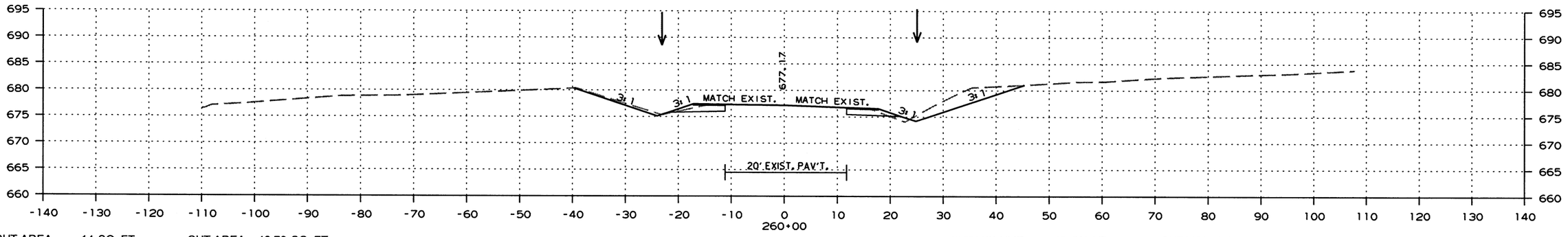
SITE 3
CROSS SECTION STA. 256+54 TO STA. 257+79

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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.		061438	186	277

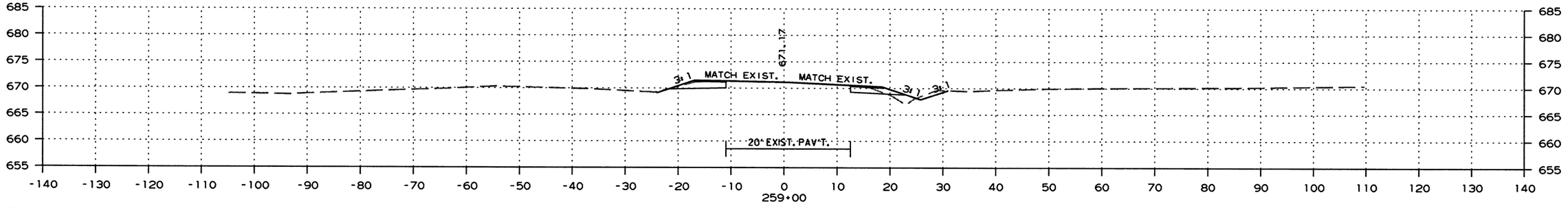
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



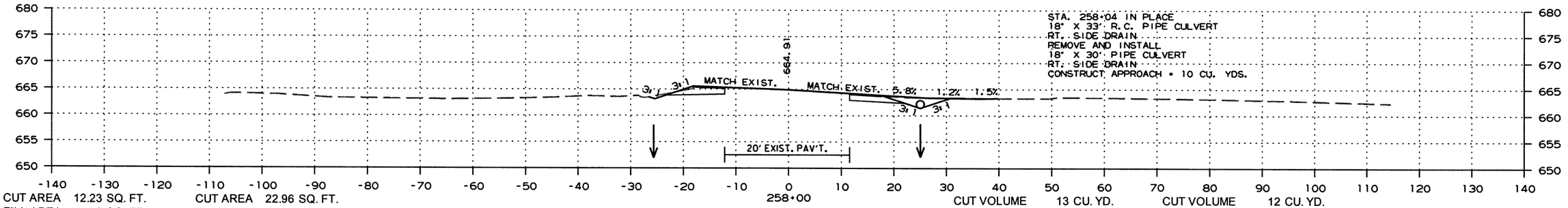
CUT AREA 14 SQ. FT. CUT AREA 43.79 SQ. FT.
FILL AREA 0.65 SQ. FT. FILL AREA 1.91 SQ. FT.

CUT VOLUME 45 CU. YD. CUT VOLUME 98 CU. YD.
FILL VOLUME 1 CU. YD. FILL VOLUME 13 CU. YD.



CUT AREA 10.06 SQ. FT. CUT AREA 9.05 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 4.93 SQ. FT.

CUT VOLUME 41 CU. YD. CUT VOLUME 59 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 9 CU. YD.



CUT AREA 12.23 SQ. FT. CUT AREA 22.96 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 13 CU. YD. CUT VOLUME 12 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 2 CU. YD.

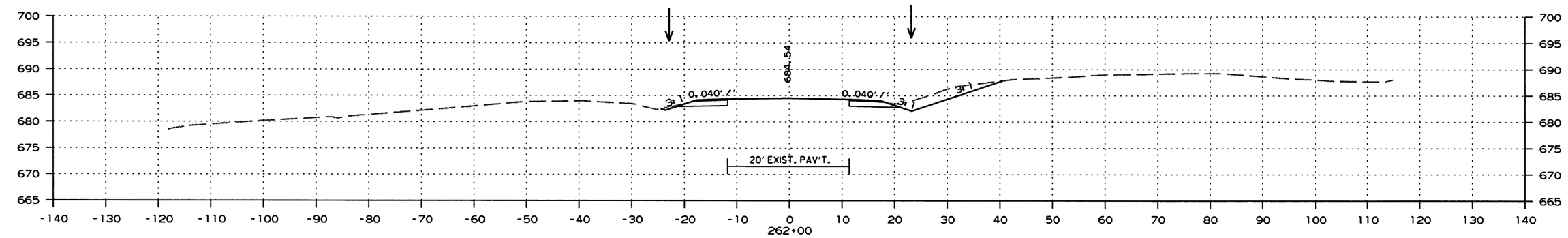
SITE 3
CROSS SECTION STA. 258+00 TO STA. 260+00

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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.		061438	187	277

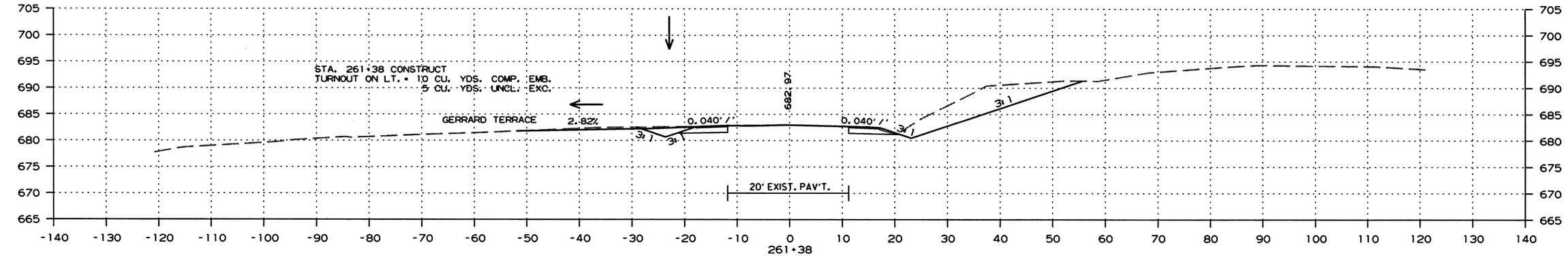
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



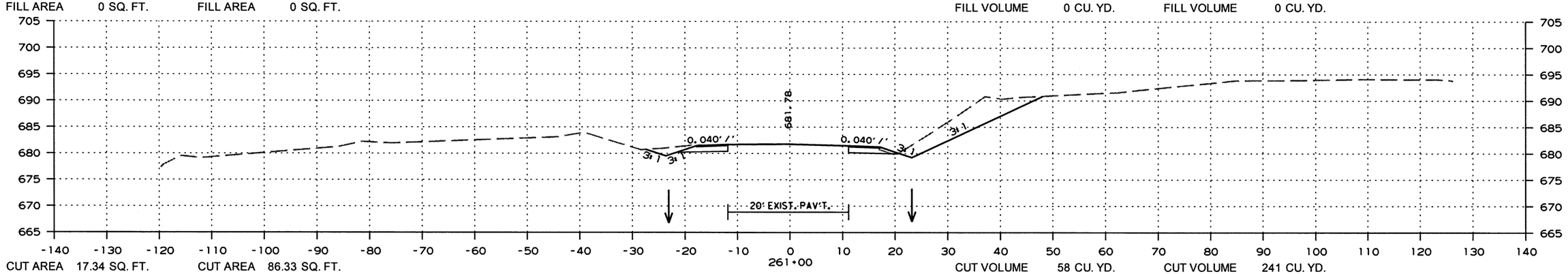
CUT AREA 10.55 SQ. FT. CUT AREA 37 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 36 CU. YD. CUT VOLUME 176 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 20.52 SQ. FT. CUT AREA 116.2 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 27 CU. YD. CUT VOLUME 142 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 17.34 SQ. FT. CUT AREA 86.33 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0.1 SQ. FT.

CUT VOLUME 58 CU. YD. CUT VOLUME 241 CU. YD.
FILL VOLUME 1 CU. YD. FILL VOLUME 4 CU. YD.

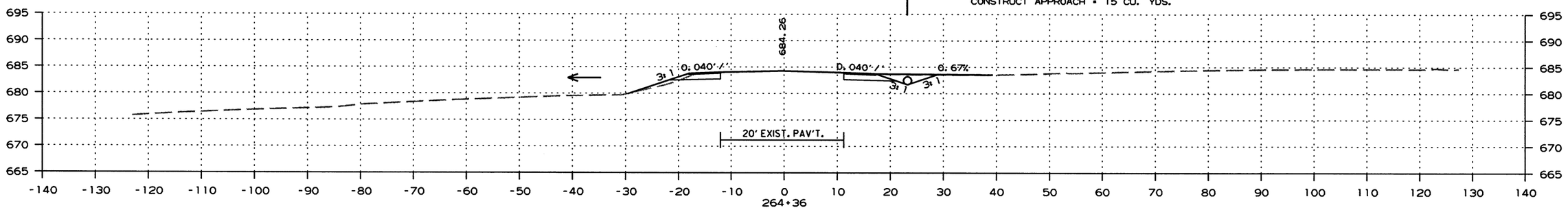
SITE 3
CROSS SECTION STA. 261+00 TO STA. 262+00

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R0614.38.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.		061438	188	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

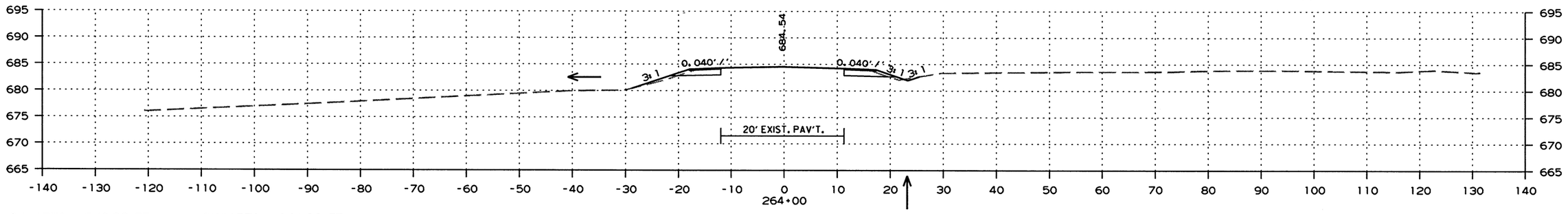


CUT AREA 7.14 SQ. FT. CUT AREA 19.16 SQ. FT.
FILL AREA 4.12 SQ. FT. FILL AREA 0 SQ. FT.

STAGE 1 STAGE 2

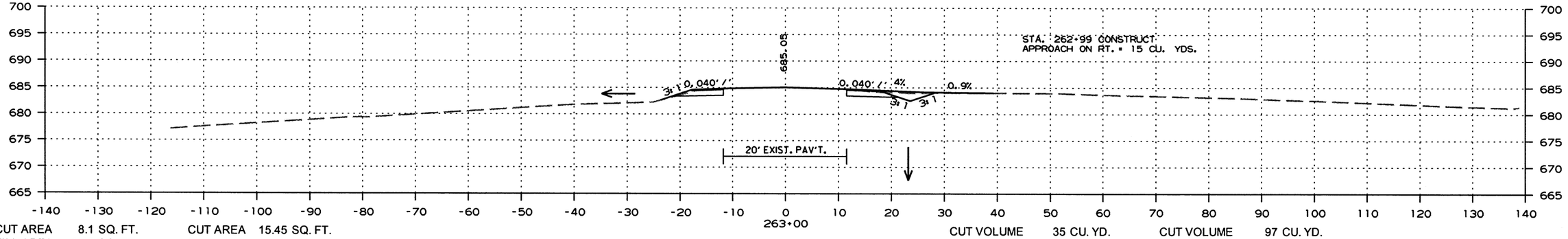
STA. 264+36 IN PLACE
18' X 37' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18' X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

CUT VOLUME 10 CU. YD. CUT VOLUME 18 CU. YD.
FILL VOLUME 5 CU. YD. FILL VOLUME 1 CU. YD.



CUT AREA 7.46 SQ. FT. CUT AREA 8.24 SQ. FT.
FILL AREA 2.94 SQ. FT. FILL AREA 1.3 SQ. FT.

CUT VOLUME 29 CU. YD. CUT VOLUME 44 CU. YD.
FILL VOLUME 6 CU. YD. FILL VOLUME 2 CU. YD.



CUT AREA 8.1 SQ. FT. CUT AREA 15.45 SQ. FT.
FILL AREA 0.42 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 35 CU. YD. CUT VOLUME 97 CU. YD.
FILL VOLUME 1 CU. YD. FILL VOLUME 0 CU. YD.

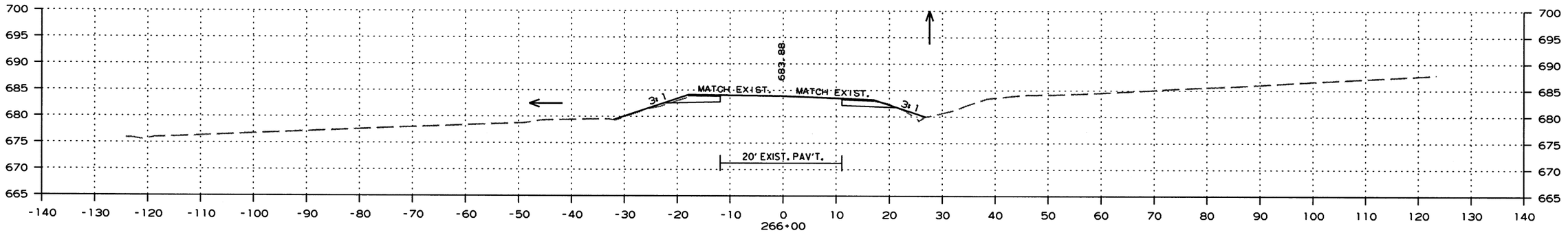
SITE 3
CROSS SECTION STA. 263+00 TO STA. 264+36

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R061438.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.		061438	189	277

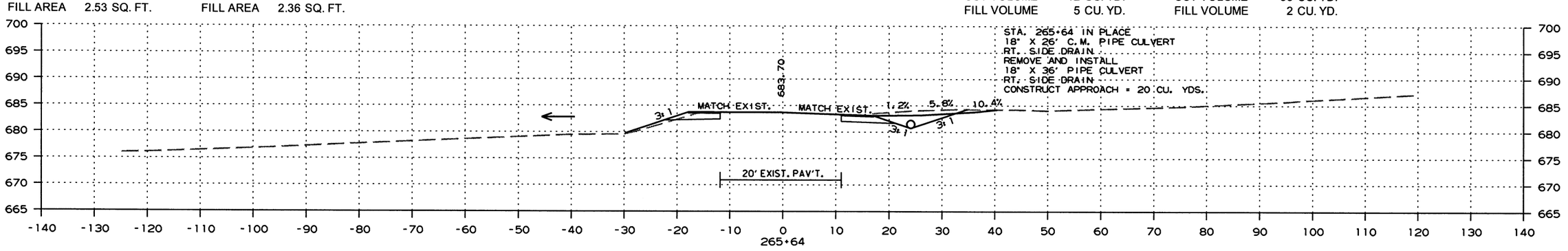
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 9.53 SQ. FT. CUT AREA 9.99 SQ. FT.
FILL AREA 2.53 SQ. FT. FILL AREA 2.36 SQ. FT.

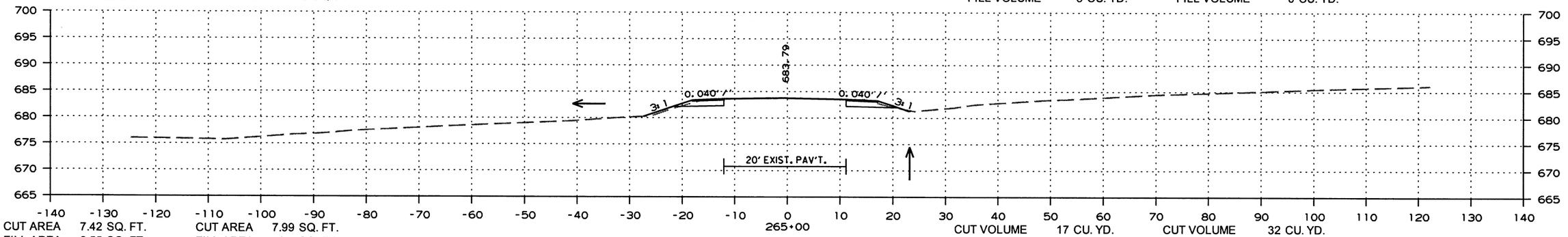
CUT VOLUME 12 CU. YD. CUT VOLUME 33 CU. YD.
FILL VOLUME 5 CU. YD. FILL VOLUME 2 CU. YD.



STA. 265+64 IN PLACE
18" X 26' C.M. PIPE CULVERT
RT. SIDE DRAIN.
REMOVE AND INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

CUT AREA 7.86 SQ. FT. CUT AREA 39.65 SQ. FT.
FILL AREA 4.25 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 18 CU. YD. CUT VOLUME 56 CU. YD.
FILL VOLUME 8 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 7.42 SQ. FT. CUT AREA 7.99 SQ. FT.
FILL AREA 2.55 SQ. FT. FILL AREA 0.4 SQ. FT.

CUT VOLUME 17 CU. YD. CUT VOLUME 32 CU. YD.
FILL VOLUME 8 CU. YD. FILL VOLUME 0 CU. YD.

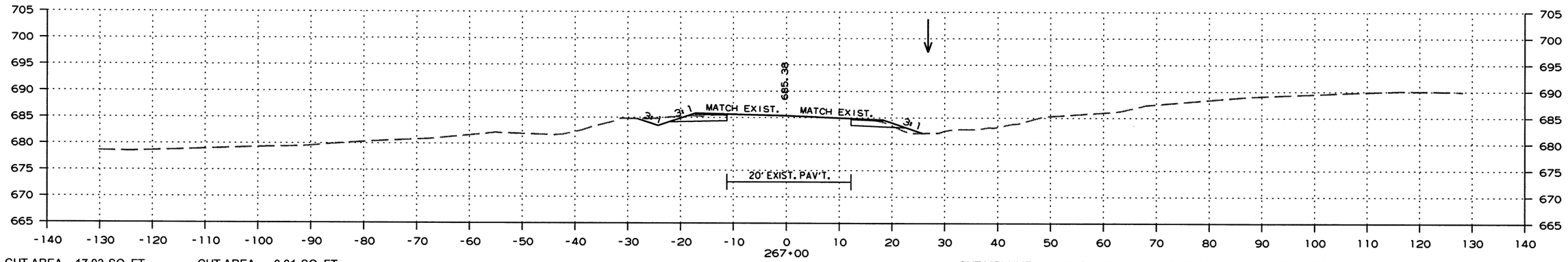
SITE 3
CROSS SECTION STA. 265+00 TO STA. 266+00

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				6	ARK.			
				JOB NO.		061438	190	277

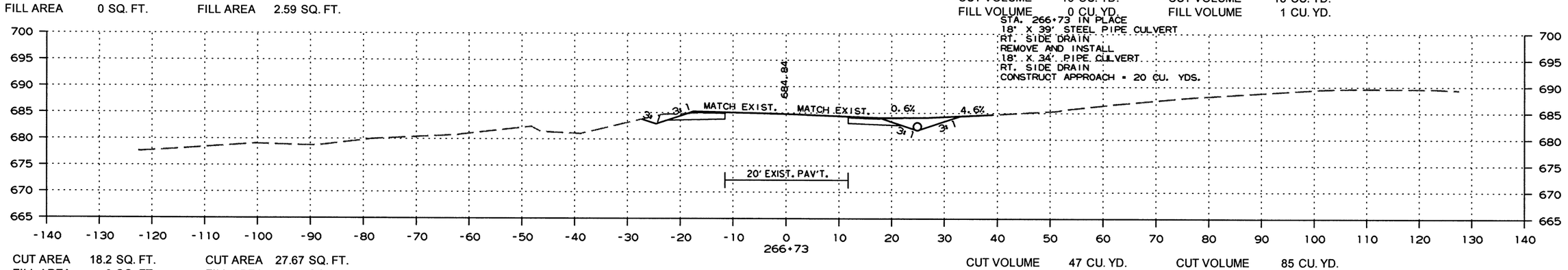
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 17.03 SQ. FT. CUT AREA 8.01 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 2.59 SQ. FT.

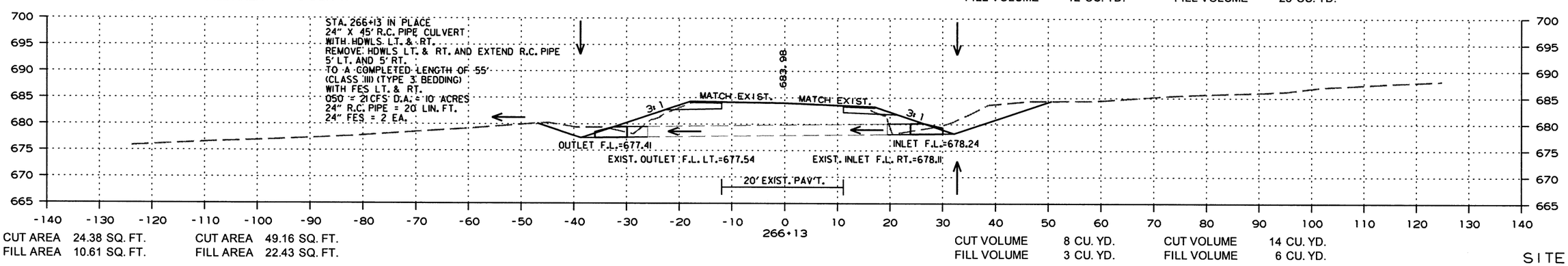
CUT VOLUME 18 CU. YD. CUT VOLUME 18 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 1 CU. YD.



STA. 266+73 IN PLACE
18" X 39' STEEL PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

CUT AREA 18.2 SQ. FT. CUT AREA 27.67 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 47 CU. YD. CUT VOLUME 85 CU. YD.
FILL VOLUME 12 CU. YD. FILL VOLUME 25 CU. YD.



STA. 266+13 IN PLACE
24" X 45' R.C. PIPE CULVERT
WITH HDWLS. LT. & RT.
REMOVE HDWLS LT. & RT. AND EXTEND R.C. PIPE
5' LT. AND 5' RT.
TO A COMPLETED LENGTH OF 55'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
Q50 = 21 CFS D.A. = 10 ACRES
24" R.C. PIPE = 20 LIN. FT.
24" FES = 2 EA.

CUT AREA 24.38 SQ. FT. CUT AREA 49.16 SQ. FT.
FILL AREA 10.61 SQ. FT. FILL AREA 22.43 SQ. FT.

CUT VOLUME 8 CU. YD. CUT VOLUME 14 CU. YD.
FILL VOLUME 3 CU. YD. FILL VOLUME 6 CU. YD.

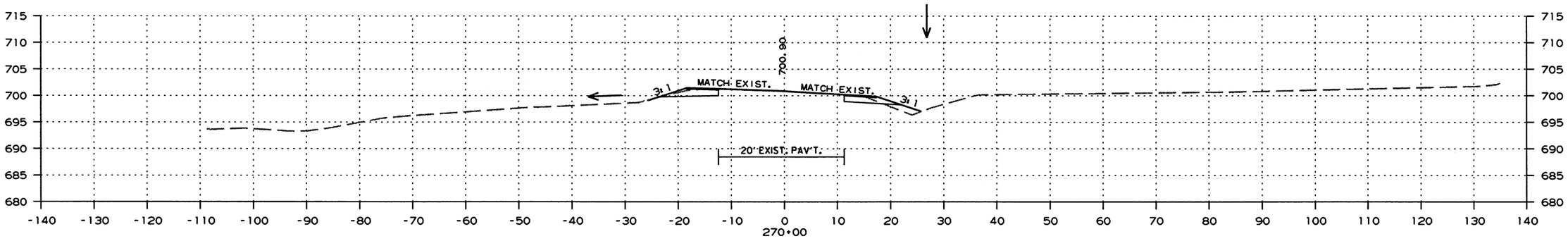
SITE 3
CROSS SECTION STA. 266+13 TO STA. 267+00

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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.		061438	191	277

(2) CROSS SECTIONS

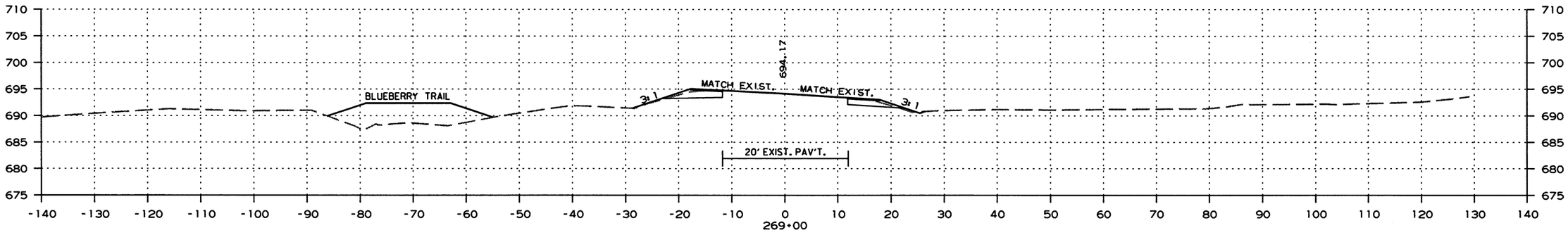
STAGE 1 STAGE 2 STAGE 1 STAGE 2



270+00
END SITE 3
BEGIN TRANSITION

CUT AREA 10.34 SQ. FT. CUT AREA 6.69 SQ. FT.
FILL AREA 0.11 SQ. FT. FILL AREA 5.78 SQ. FT.

CUT VOLUME 39 CU. YD. CUT VOLUME 28 CU. YD.
FILL VOLUME 2 CU. YD. FILL VOLUME 12 CU. YD.

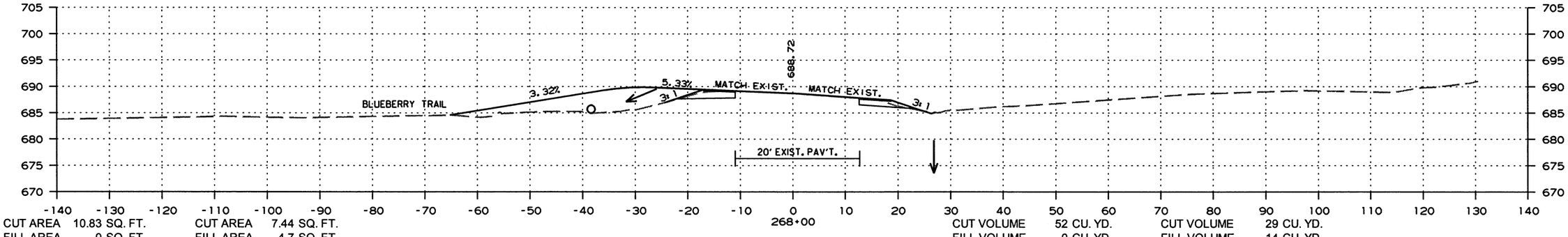


269+00

CUT AREA 10.65 SQ. FT. CUT AREA 8.18 SQ. FT.
FILL AREA 1.11 SQ. FT. FILL AREA 0.8 SQ. FT.

STA. 268+50 INSTALL
18" X 52' PIPE CULVERT
LT. SIDE DRAIN

CUT VOLUME 40 CU. YD. CUT VOLUME 29 CU. YD.
FILL VOLUME 2 CU. YD. FILL VOLUME 10 CU. YD.



268+00

CUT AREA 10.83 SQ. FT. CUT AREA 7.44 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 4.7 SQ. FT.

CUT VOLUME 52 CU. YD. CUT VOLUME 29 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 14 CU. YD.

SITE 3
CROSS SECTION STA. 268+00 TO STA. 270+00

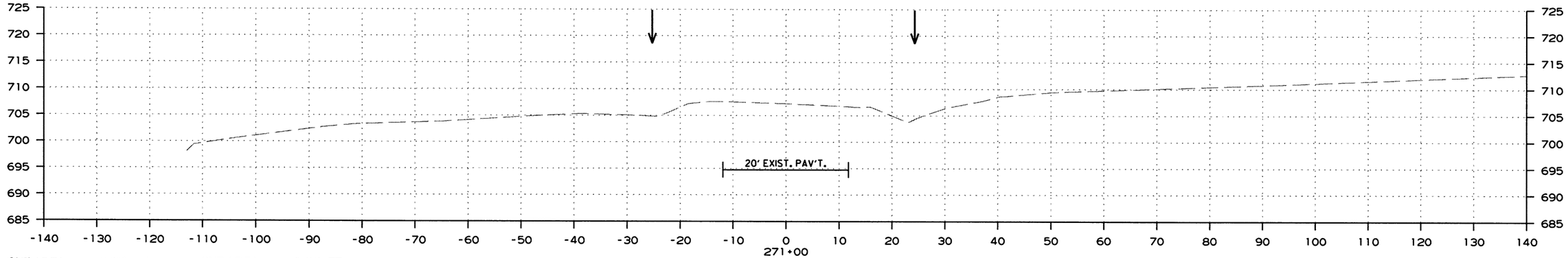
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	192	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	19 CU. YD.	CUT VOLUME	12 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	11 CU. YD.

SITE 3

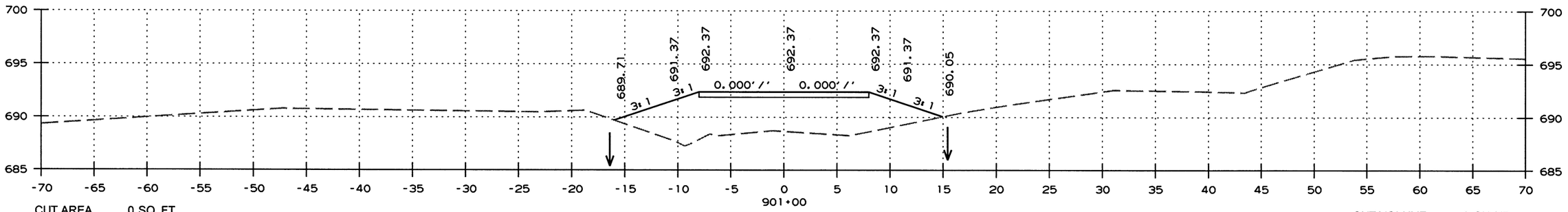
CROSS SECTION STA. 271+00 TO STA. 271+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	193	277

(2) CROSS SECTIONS

STAGE 1

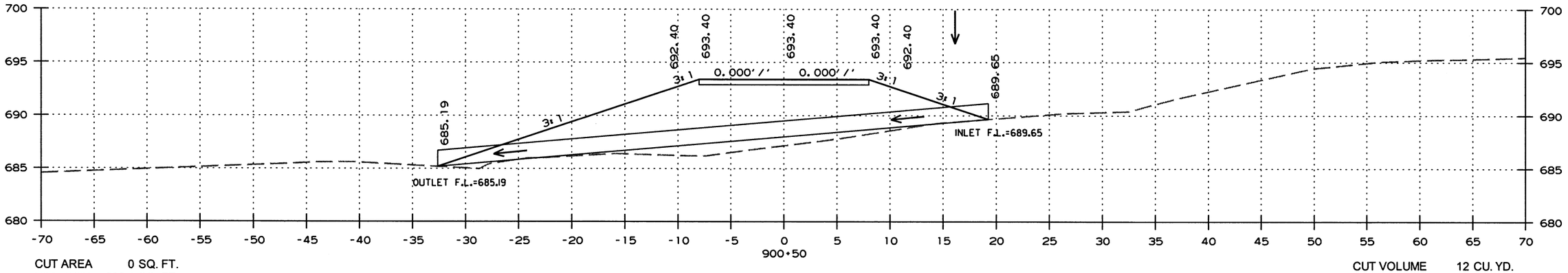


CUT AREA 0 SQ. FT.
FILL AREA 88.8 SQ. FT.

STA. 268+50 INSTALL
18" X 52' PIPE CULVERT
LT. SIDE DRAIN

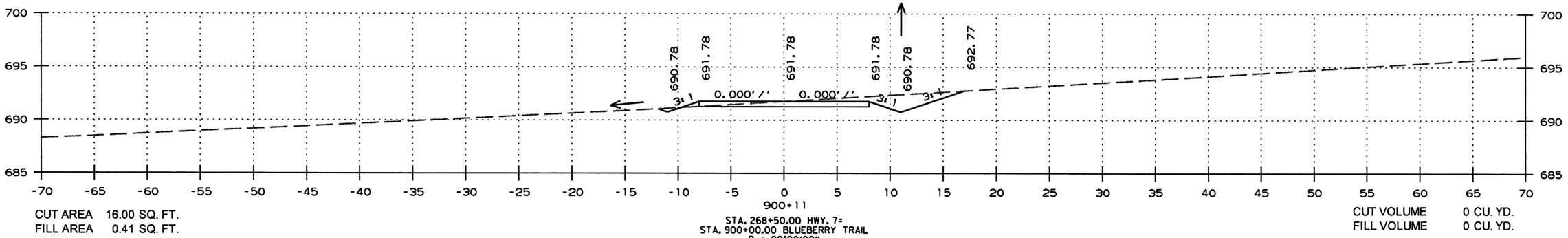
STAGE 1

CUT VOLUME 0 CU. YD.
FILL VOLUME 269 CU. YD.



CUT AREA 0 SQ. FT.
FILL AREA 202.1 SQ. FT.

CUT VOLUME 12 CU. YD.
FILL VOLUME 146 CU. YD.



CUT AREA 16.00 SQ. FT.
FILL AREA 0.41 SQ. FT.

STA. 268+50.00 HWY. 7=
STA. 900+00.00 BLUEBERRY TRAIL
D = 90°00'00"

BEGIN BLUEBERRY TRAIL
(SITE 3)

CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD.

BLUEBERRY TRAIL (SITE 3)
CROSS SECTION STA. 900+11 TO STA. 901+00

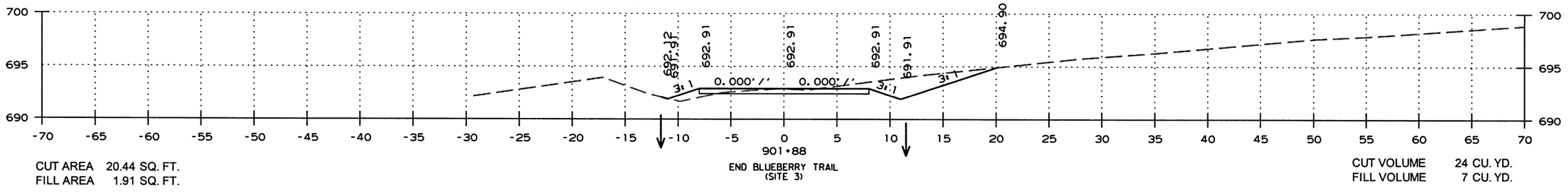
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	194	277

(2) CROSS SECTIONS

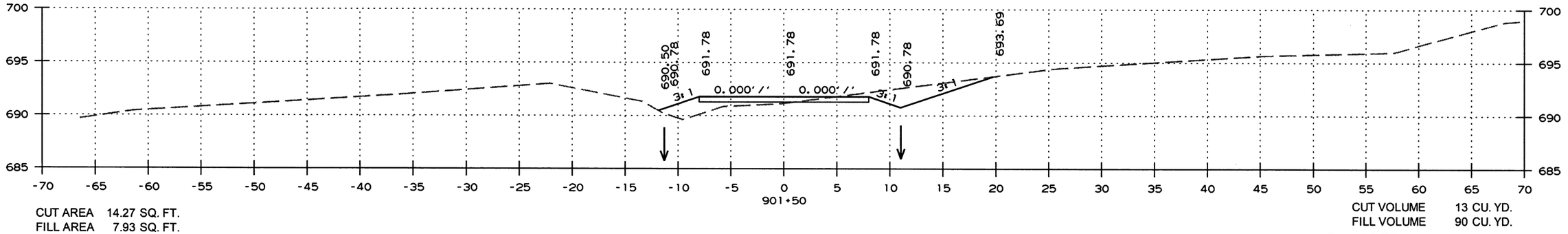
STAGE 1

STAGE 1



CUT AREA 20.44 SQ. FT.
FILL AREA 1.91 SQ. FT.

CUT VOLUME 24 CU. YD.
FILL VOLUME 7 CU. YD.



CUT AREA 14.27 SQ. FT.
FILL AREA 7.93 SQ. FT.

CUT VOLUME 13 CU. YD.
FILL VOLUME 90 CU. YD.

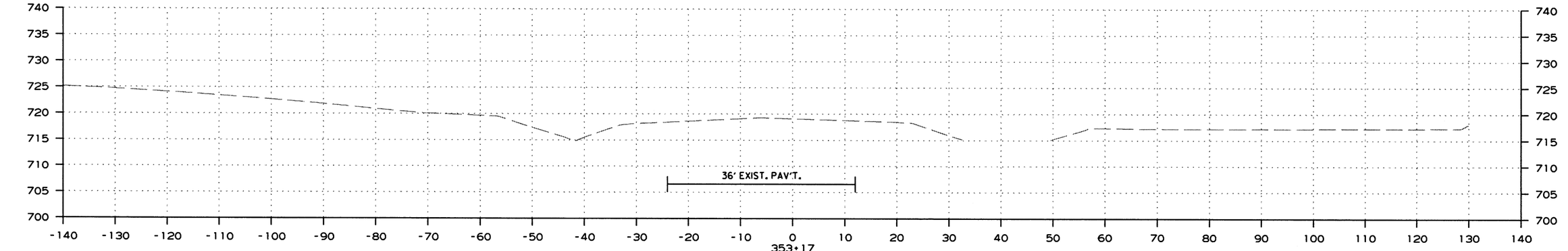
BLUEBERRY TRAIL (SITE 3)
CROSS SECTION STA. 901+50 TO STA. 901+88

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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.		061438	195	277
				(2) CROSS SECTIONS				

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 0 SQ. FT. CUT AREA 0 SQ. FT. CUT AREA 0 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

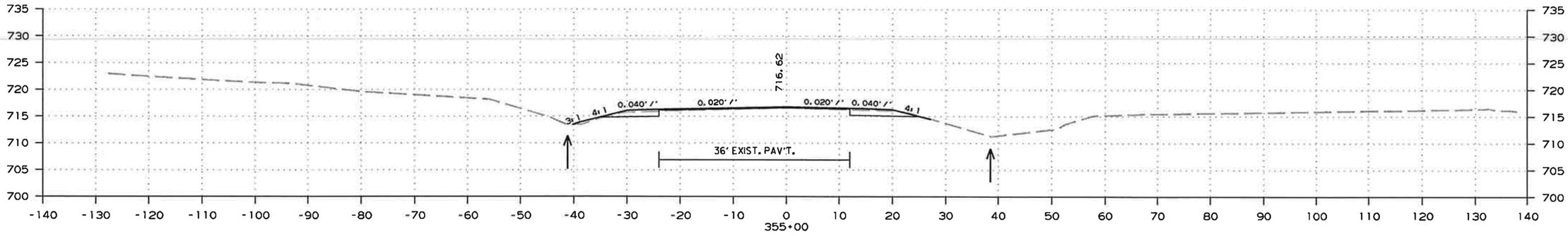
CUT VOLUME 0 CU. YD. CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.

SITE 3B
CROSS SECTION STA. 353+17 TO STA. 353+17

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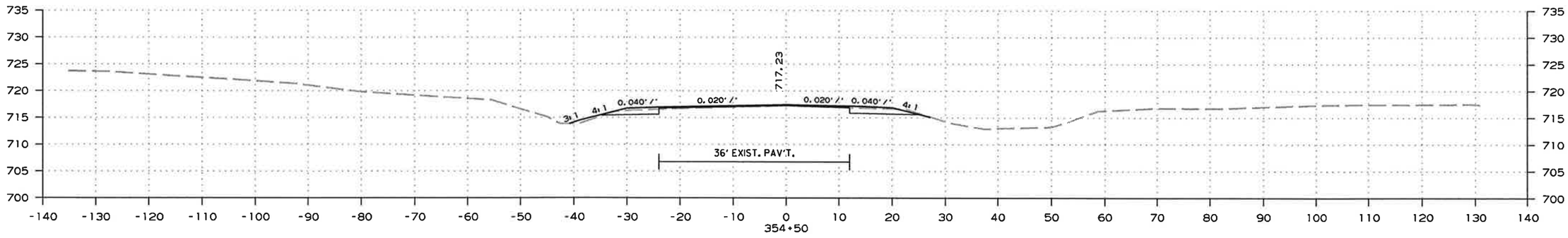
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
01-03-20				6	ARK.			
				JOB NO.		061438	196	277
				(2) CROSS SECTIONS				

STAGE 1 STAGE 2 STAGE 1 STAGE 2



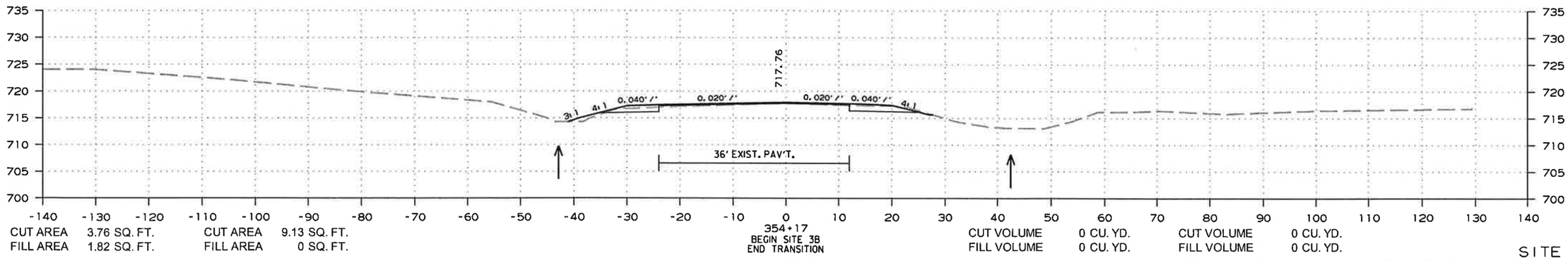
CUT AREA 4.89 SQ. FT. CUT AREA 3.55 SQ. FT.
FILL AREA 2.46 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 9 CU. YD. CUT VOLUME 11 CU. YD.
FILL VOLUME 6 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 4.81 SQ. FT. CUT AREA 8.23 SQ. FT.
FILL AREA 4.02 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 6 CU. YD. CUT VOLUME 12 CU. YD.
FILL VOLUME 4 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 3.76 SQ. FT. CUT AREA 9.13 SQ. FT.
FILL AREA 1.82 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.

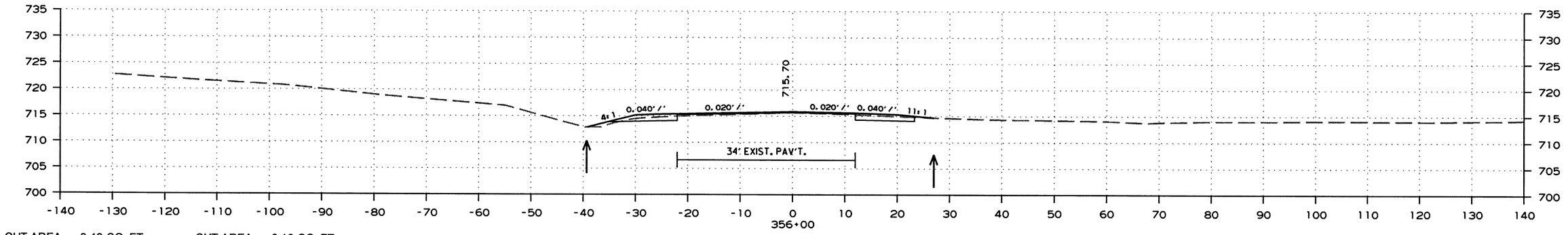
SITE 3B
CROSS SECTION STA. 354+17 TO STA. 355+00

bkge653 12/4/2019
R061438.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.		061438	197	277

(2) CROSS SECTIONS

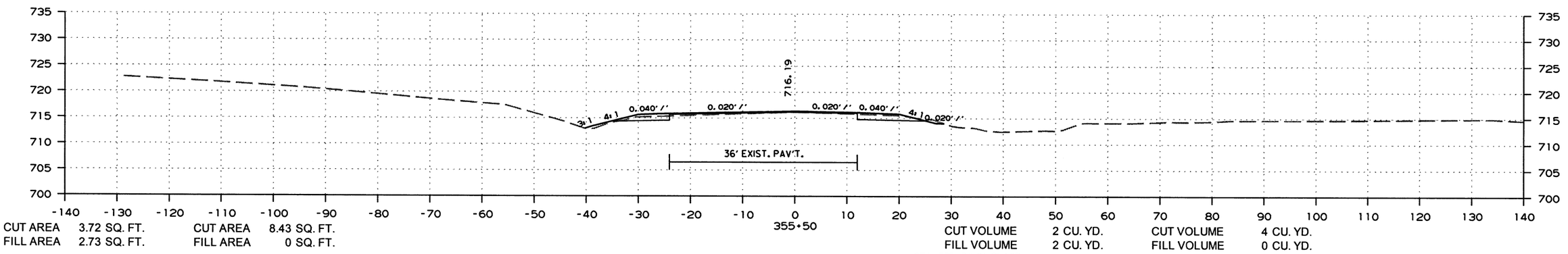
STAGE 1 STAGE 2



CUT AREA 3.46 SQ. FT. CUT AREA 6.16 SQ. FT.
FILL AREA 2.47 SQ. FT. FILL AREA 0.94 SQ. FT.

CUT VOLUME 7 CU. YD. CUT VOLUME 14 CU. YD.
FILL VOLUME 5 CU. YD. FILL VOLUME 1 CU. YD.

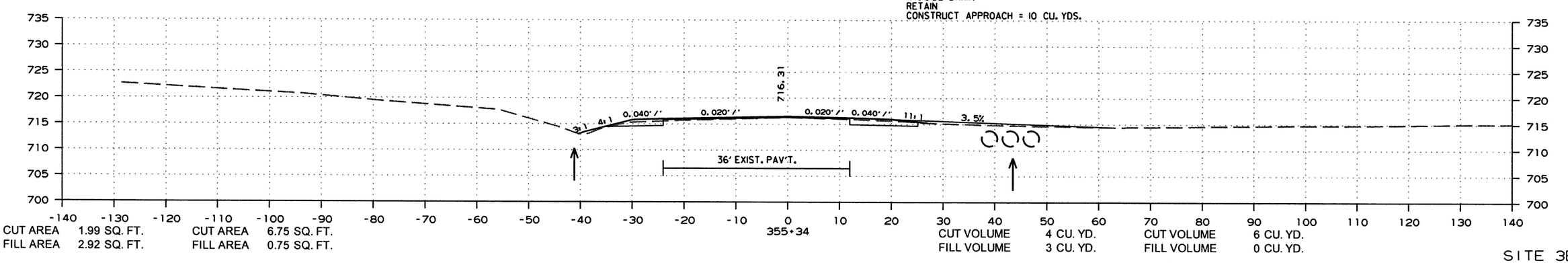
STAGE 1 STAGE 2



CUT AREA 3.72 SQ. FT. CUT AREA 8.43 SQ. FT.
FILL AREA 2.73 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 2 CU. YD. CUT VOLUME 4 CU. YD.
FILL VOLUME 2 CU. YD. FILL VOLUME 0 CU. YD.

STA. 355+34 IN PLACE
TRI. 36" X 32' C.M. PIPE CULVERT
RT. SIDE DRAIN
RETAIN
CONSTRUCT APPROACH = 10 CU. YDS.



CUT AREA 1.99 SQ. FT. CUT AREA 6.75 SQ. FT.
FILL AREA 2.92 SQ. FT. FILL AREA 0.75 SQ. FT.

CUT VOLUME 4 CU. YD. CUT VOLUME 6 CU. YD.
FILL VOLUME 3 CU. YD. FILL VOLUME 0 CU. YD.

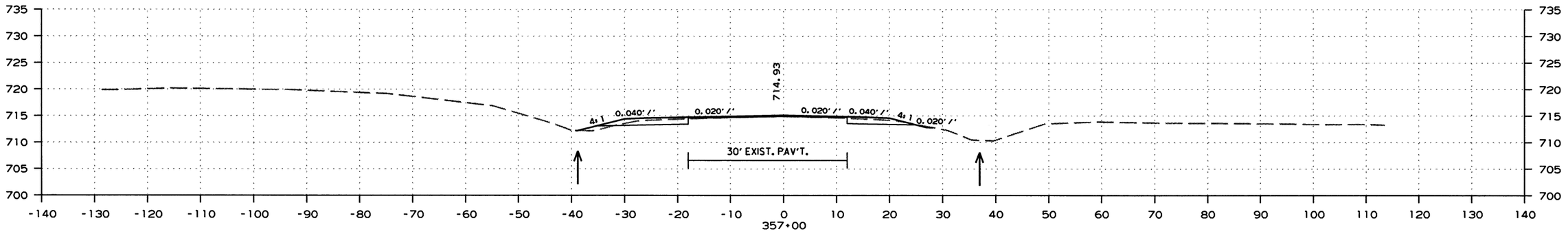
SITE 3B
CROSS SECTION STA. 355+35 TO STA. 356+00

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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.		061438	198	277

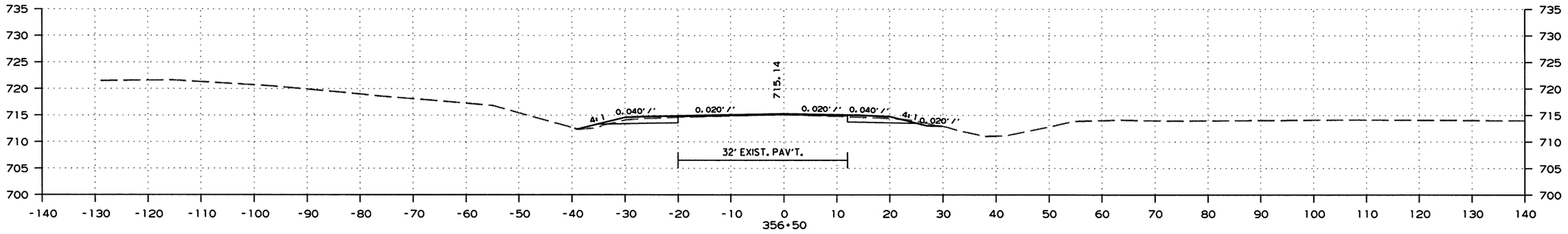
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



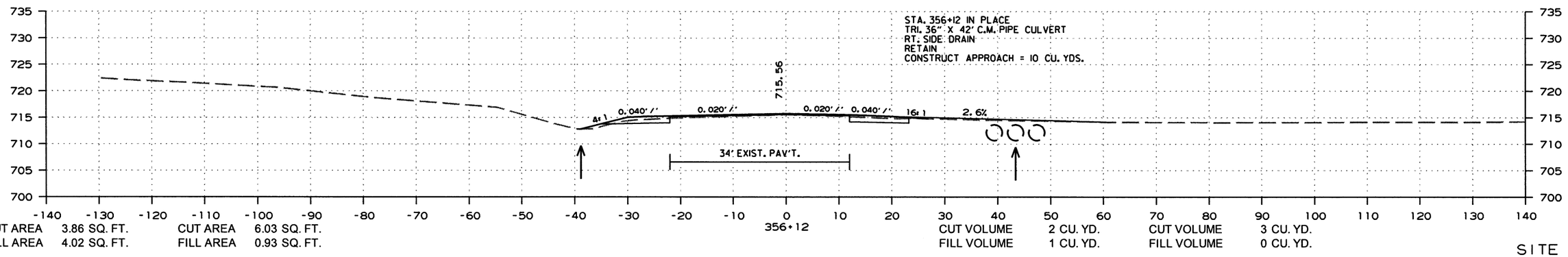
CUT AREA 6.2 SQ. FT. CUT AREA 6.59 SQ. FT.
FILL AREA 4.28 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 11 CU. YD. CUT VOLUME 14 CU. YD.
FILL VOLUME 10 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 6.19 SQ. FT. CUT AREA 8.39 SQ. FT.
FILL AREA 6.43 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 7 CU. YD. CUT VOLUME 10 CU. YD.
FILL VOLUME 7 CU. YD. FILL VOLUME 1 CU. YD.



CUT AREA 3.86 SQ. FT. CUT AREA 6.03 SQ. FT.
FILL AREA 4.02 SQ. FT. FILL AREA 0.93 SQ. FT.

CUT VOLUME 2 CU. YD. CUT VOLUME 3 CU. YD.
FILL VOLUME 1 CU. YD. FILL VOLUME 0 CU. YD.

SITE 3B
CROSS SECTION STA. 356+12 TO STA. 357+00

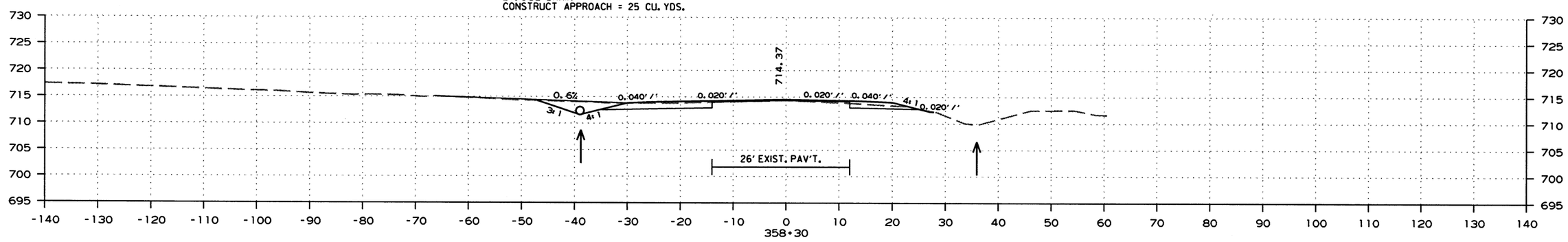
12/4/2019
ikge653
R061438.DGN

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.		061438	199	277

(2) CROSS SECTIONS

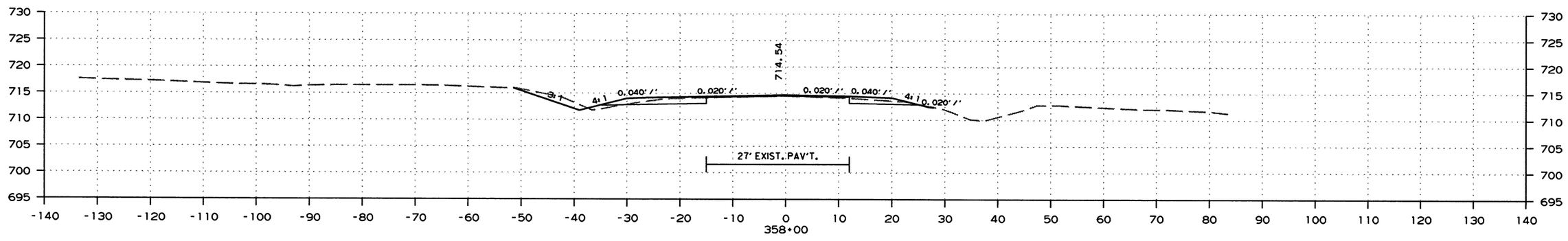
STAGE 1 STAGE 2 STAGE 1 STAGE 2

STA. 358+30 IN PLACE
18" X 39' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YDS.



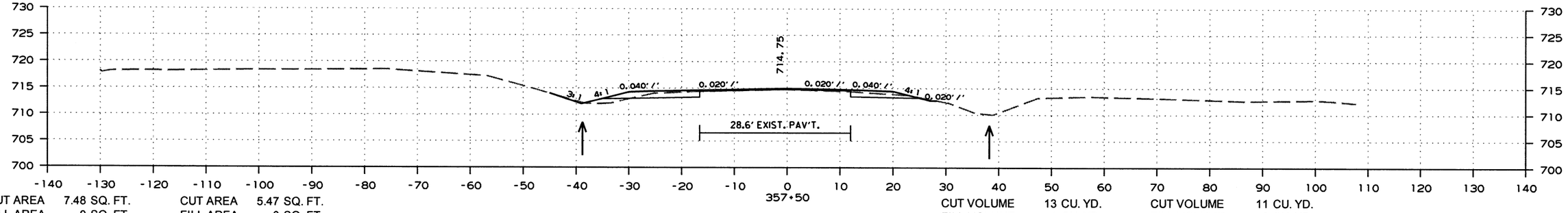
CUT AREA	32.52 SQ. FT.	CUT AREA	3.85 SQ. FT.
FILL AREA	10.61 SQ. FT.	FILL AREA	0 SQ. FT.

CUT VOLUME	29 CU. YD.	CUT VOLUME	5 CU. YD.
FILL VOLUME	10 CU. YD.	FILL VOLUME	0 CU. YD.



CUT AREA	19.34 SQ. FT.	CUT AREA	5.02 SQ. FT.
FILL AREA	8 SQ. FT.	FILL AREA	0 SQ. FT.

CUT VOLUME	25 CU. YD.	CUT VOLUME	10 CU. YD.
FILL VOLUME	7 CU. YD.	FILL VOLUME	0 CU. YD.



CUT AREA	7.48 SQ. FT.	CUT AREA	5.47 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.

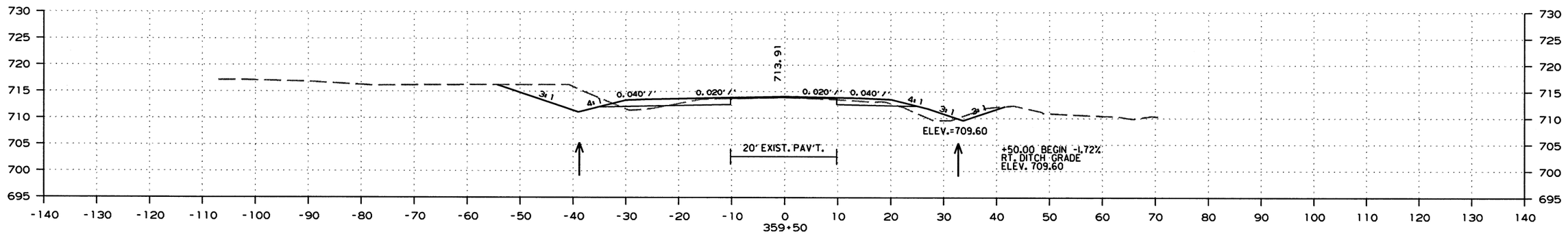
CUT VOLUME	13 CU. YD.	CUT VOLUME	11 CU. YD.
FILL VOLUME	4 CU. YD.	FILL VOLUME	0 CU. YD.

SITE 3B
CROSS SECTION STA. 357+50 TO STA. 358+28

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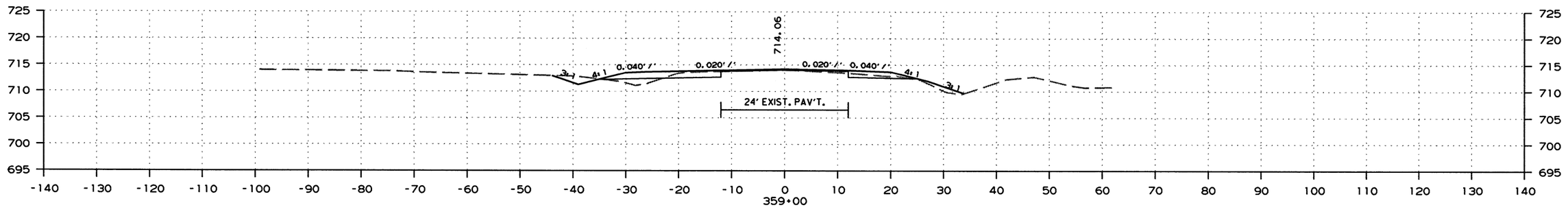
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	200	277
				(2) CROSS SECTIONS				

STAGE 1 STAGE 2 STAGE 1 STAGE 2



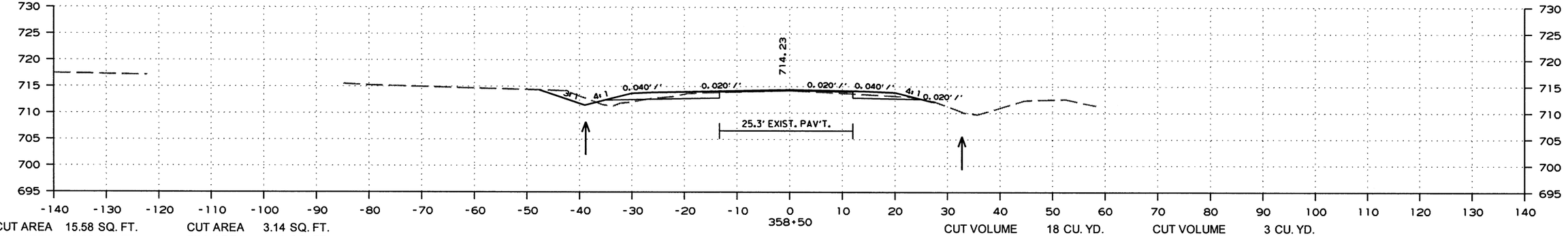
CUT AREA	57.67 SQ. FT.	CUT AREA	13.09 SQ. FT.
FILL AREA	3.45 SQ. FT.	FILL AREA	9.29 SQ. FT.

CUT VOLUME	66 CU. YD.	CUT VOLUME	14 CU. YD.
FILL VOLUME	9 CU. YD.	FILL VOLUME	11 CU. YD.



CUT AREA	13.3 SQ. FT.	CUT AREA	2.17 SQ. FT.
FILL AREA	6.45 SQ. FT.	FILL AREA	2.28 SQ. FT.

CUT VOLUME	27 CU. YD.	CUT VOLUME	5 CU. YD.
FILL VOLUME	12 CU. YD.	FILL VOLUME	2 CU. YD.



CUT AREA	15.58 SQ. FT.	CUT AREA	3.14 SQ. FT.
FILL AREA	6.98 SQ. FT.	FILL AREA	0 SQ. FT.

CUT VOLUME	18 CU. YD.	CUT VOLUME	3 CU. YD.
FILL VOLUME	7 CU. YD.	FILL VOLUME	0 CU. YD.

SITE 3B
CROSS SECTION STA. 358+50 TO STA. 359+50

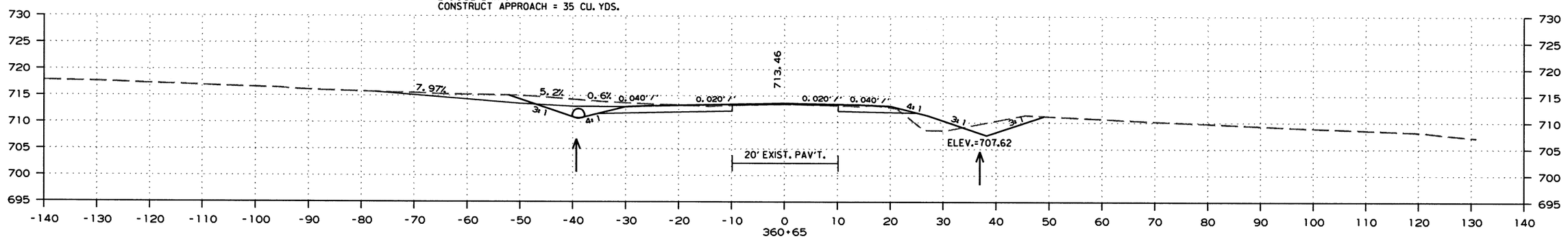
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	201	277

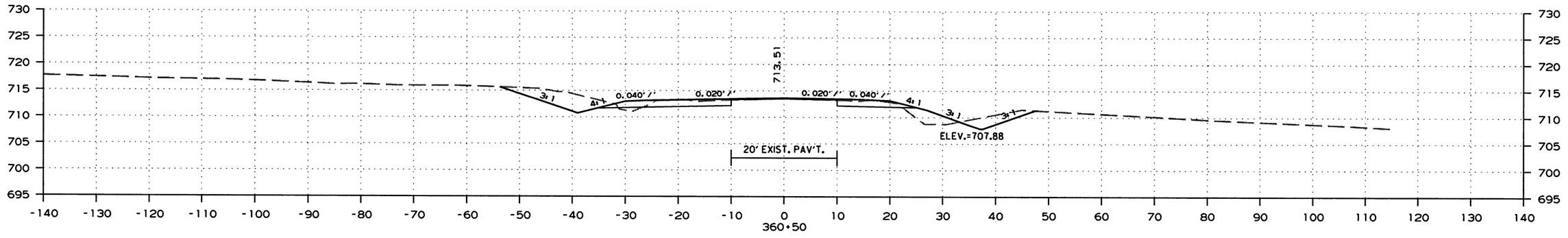
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2

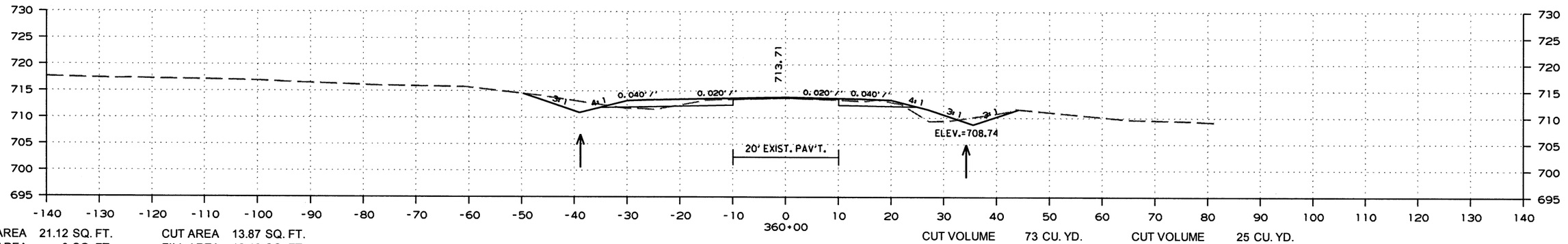
STA. 360+65 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.



CUT AREA	65.09 SQ. FT.	CUT AREA	29.16 SQ. FT.
FILL AREA	18.68 SQ. FT.	FILL AREA	19.72 SQ. FT.
CUT VOLUME	37 CU. YD.	CUT VOLUME	15 CU. YD.
FILL VOLUME	7 CU. YD.	FILL VOLUME	10 CU. YD.



CUT AREA	67.32 SQ. FT.	CUT AREA	25.86 SQ. FT.
FILL AREA	7.25 SQ. FT.	FILL AREA	17.21 SQ. FT.
CUT VOLUME	82 CU. YD.	CUT VOLUME	37 CU. YD.
FILL VOLUME	7 CU. YD.	FILL VOLUME	27 CU. YD.



CUT AREA	21.12 SQ. FT.	CUT AREA	13.87 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	12.46 SQ. FT.
CUT VOLUME	73 CU. YD.	CUT VOLUME	25 CU. YD.
FILL VOLUME	3 CU. YD.	FILL VOLUME	20 CU. YD.

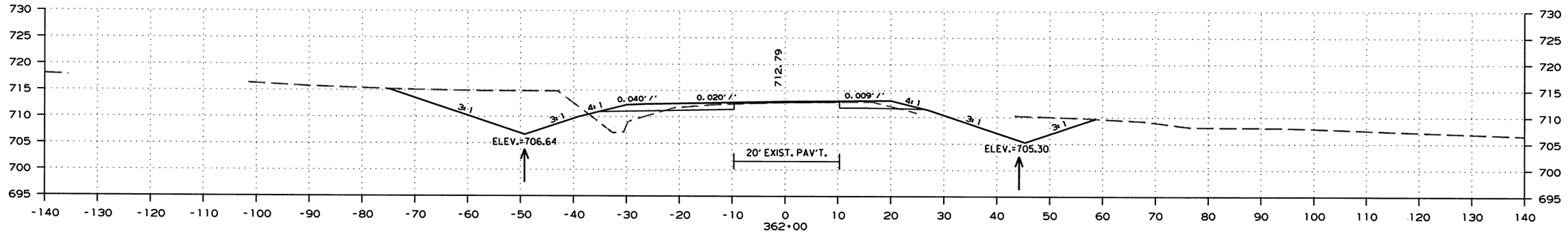
SITE 3B
CROSS SECTION STA. 360+00 TO STA. 360+65

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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.		061438	202	277

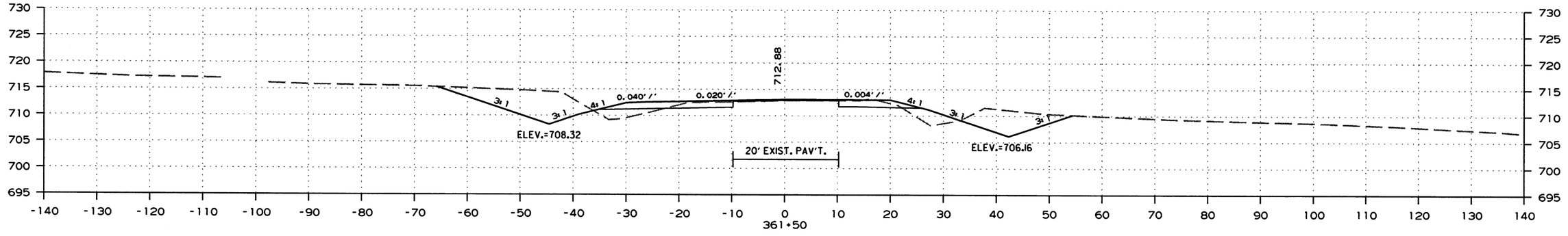
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



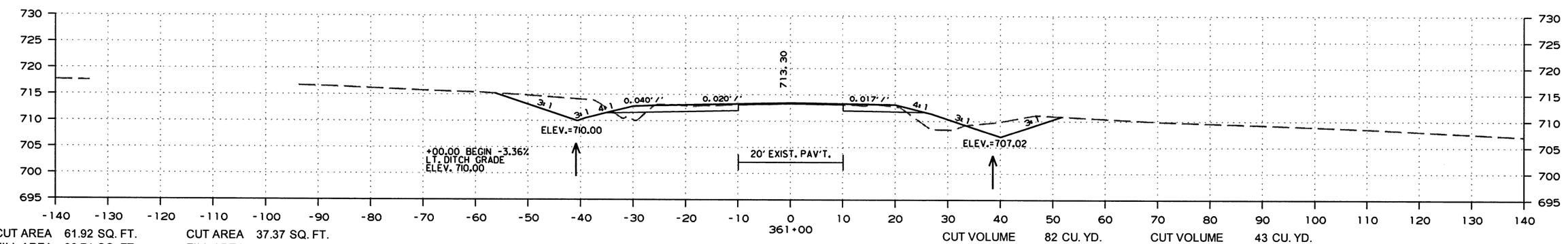
CUT AREA 171 SQ. FT. CUT AREA 78.69 SQ. FT.
FILL AREA 43.66 SQ. FT. FILL AREA 4.95 SQ. FT.

CUT VOLUME 253 CU. YD. CUT VOLUME 133 CU. YD.
FILL VOLUME 77 CU. YD. FILL VOLUME 21 CU. YD.



CUT AREA 101.8 SQ. FT. CUT AREA 65.16 SQ. FT.
FILL AREA 39.2 SQ. FT. FILL AREA 17.75 SQ. FT.

CUT VOLUME 152 CU. YD. CUT VOLUME 95 CU. YD.
FILL VOLUME 65 CU. YD. FILL VOLUME 35 CU. YD.



CUT AREA 61.92 SQ. FT. CUT AREA 37.37 SQ. FT.
FILL AREA 30.74 SQ. FT. FILL AREA 20.33 SQ. FT.

CUT VOLUME 82 CU. YD. CUT VOLUME 43 CU. YD.
FILL VOLUME 32 CU. YD. FILL VOLUME 26 CU. YD.

SITE 3B
CROSS SECTION STA. 361+00 TO STA. 362+00

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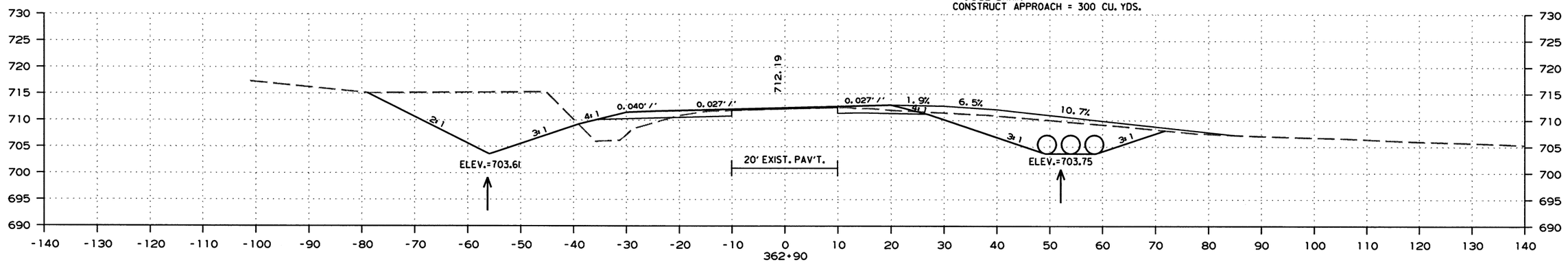
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	203	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

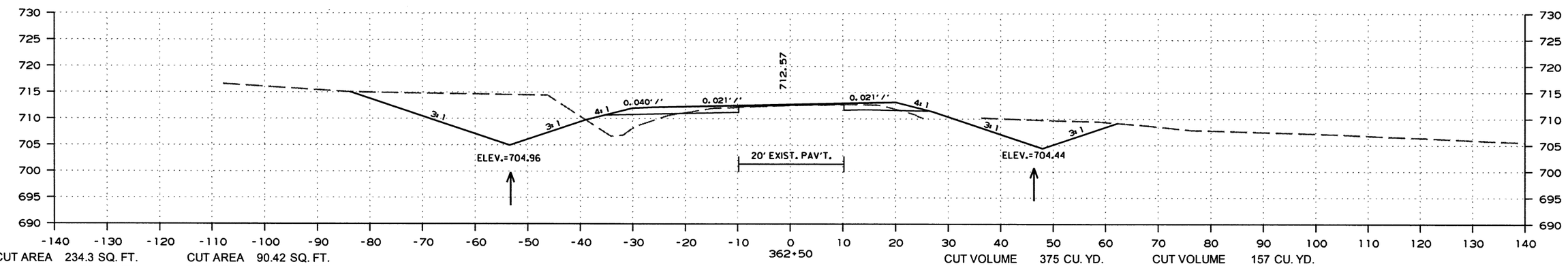
STAGE 1 STAGE 2

STA. 362+90 IN PLACE
TRI. 42" X 36' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
TRI. 42" X 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 300 CU. YDS.



CUT AREA 369 SQ. FT. CUT AREA 166.2 SQ. FT.
FILL AREA 63.98 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 447 CU. YD. CUT VOLUME 190 CU. YD.
FILL VOLUME 81 CU. YD. FILL VOLUME 8 CU. YD.



CUT AREA 234.3 SQ. FT. CUT AREA 90.42 SQ. FT.
FILL AREA 44.78 SQ. FT. FILL AREA 10.88 SQ. FT.

CUT VOLUME 375 CU. YD. CUT VOLUME 157 CU. YD.
FILL VOLUME 82 CU. YD. FILL VOLUME 15 CU. YD.

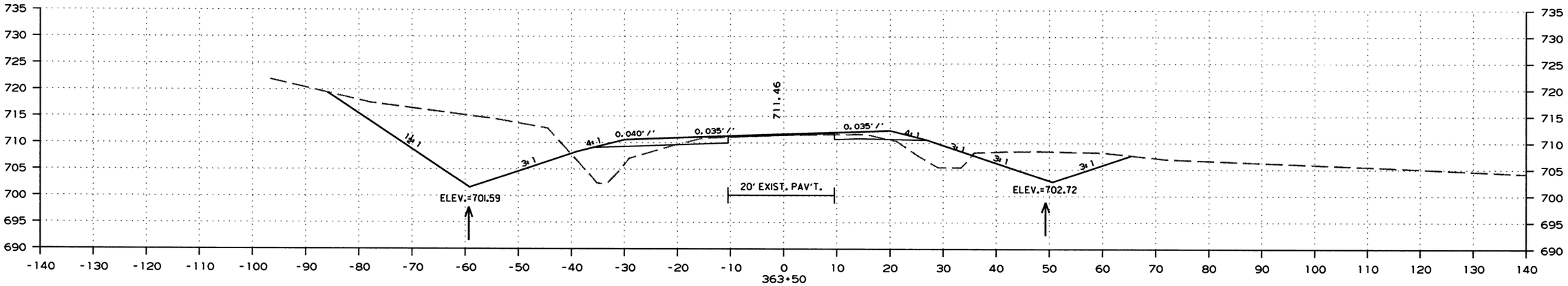
SITE 3B
CROSS SECTION STA. 362+50 TO STA. 362+90

ikge653 12/4/2019
R061438.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.		061438	204	277

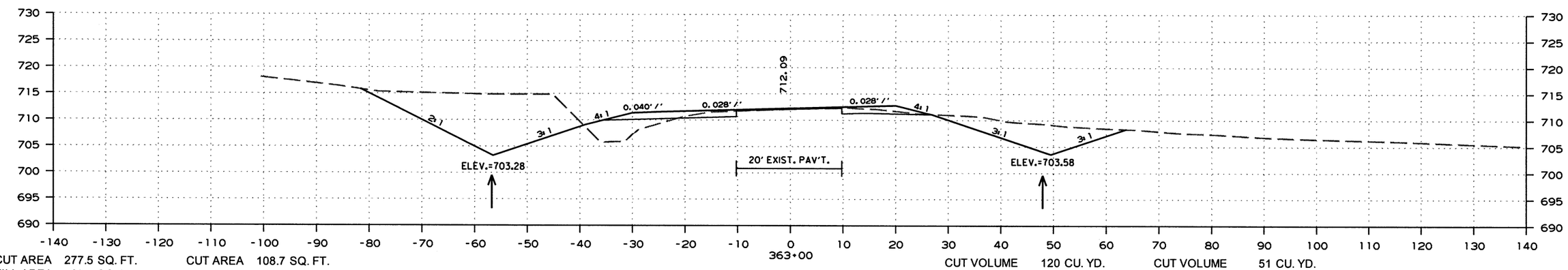
(2) CROSS SECTIONS

STAGE 1 STAGE 2



363+50

CUT AREA	335.4 SQ. FT.	CUT AREA	94.87 SQ. FT.
FILL AREA	60.53 SQ. FT.	FILL AREA	43.69 SQ. FT.
CUT VOLUME	568 CU. YD.	CUT VOLUME	188 CU. YD.
FILL VOLUME	118 CU. YD.	FILL VOLUME	41 CU. YD.



363+00

CUT AREA	277.5 SQ. FT.	CUT AREA	108.7 SQ. FT.
FILL AREA	67.4 SQ. FT.	FILL AREA	0.54 SQ. FT.
CUT VOLUME	120 CU. YD.	CUT VOLUME	51 CU. YD.
FILL VOLUME	24 CU. YD.	FILL VOLUME	0 CU. YD.

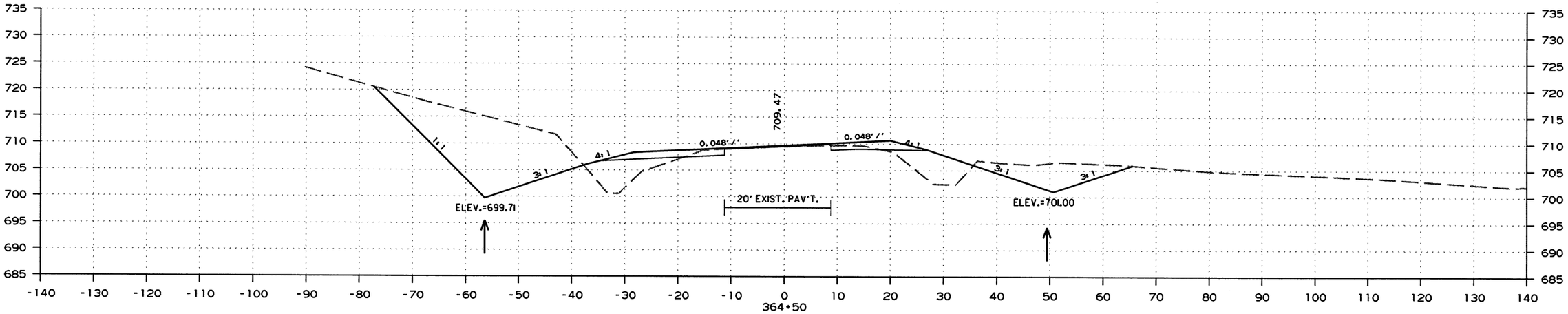
SITE 3B
CROSS SECTION STA. 363+00 TO STA. 363+50

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R0614.38.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.		061438	205	277

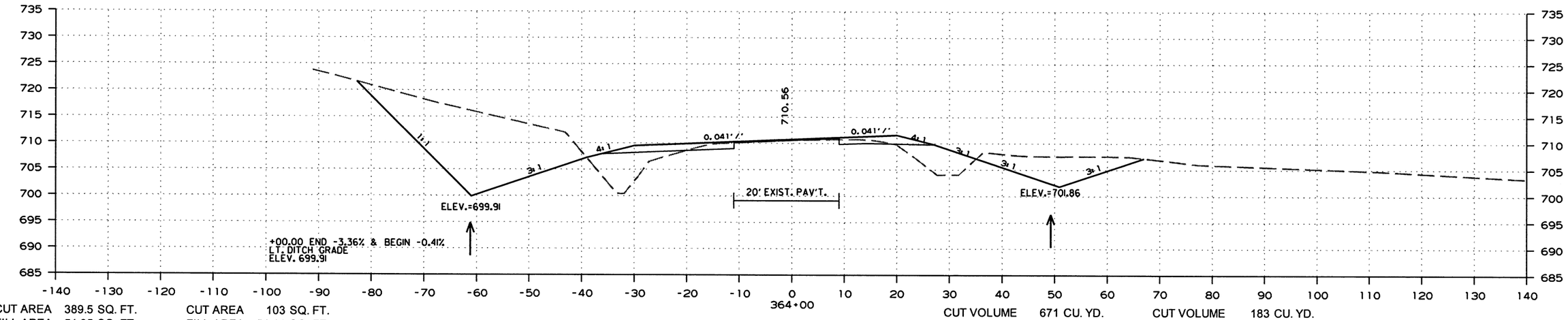
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 334.3 SQ. FT. CUT AREA 87.37 SQ. FT.
FILL AREA 42.21 SQ. FT. FILL AREA 59.62 SQ. FT.

CUT VOLUME 670 CU. YD. CUT VOLUME 176 CU. YD.
FILL VOLUME 87 CU. YD. FILL VOLUME 103 CU. YD.



CUT AREA 389.5 SQ. FT. CUT AREA 103 SQ. FT.
FILL AREA 51.95 SQ. FT. FILL AREA 51.11 SQ. FT.

CUT VOLUME 671 CU. YD. CUT VOLUME 183 CU. YD.
FILL VOLUME 104 CU. YD. FILL VOLUME 88 CU. YD.

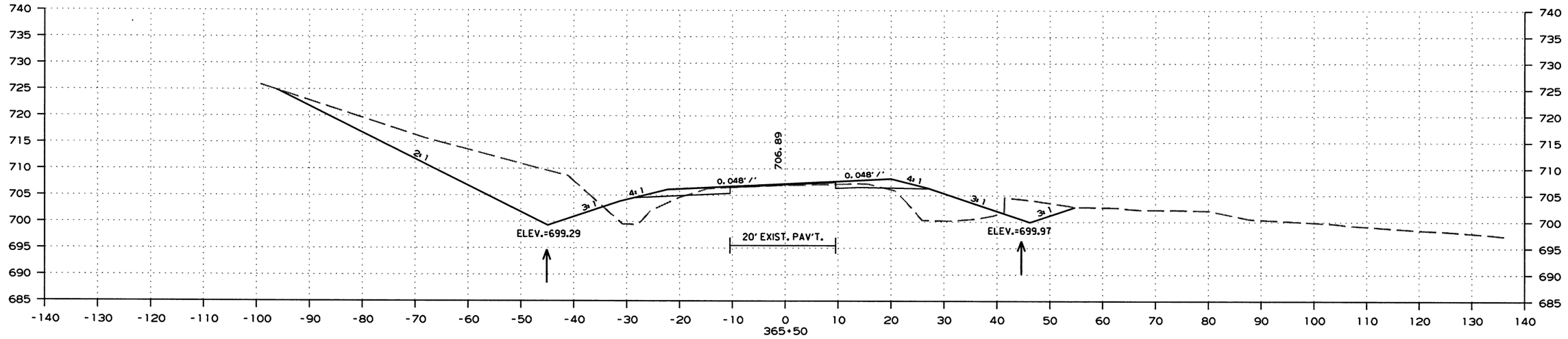
SITE 3B
CROSS SECTION STA. 364+00 TO STA. 364+50

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R061438.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.		061438	206	277

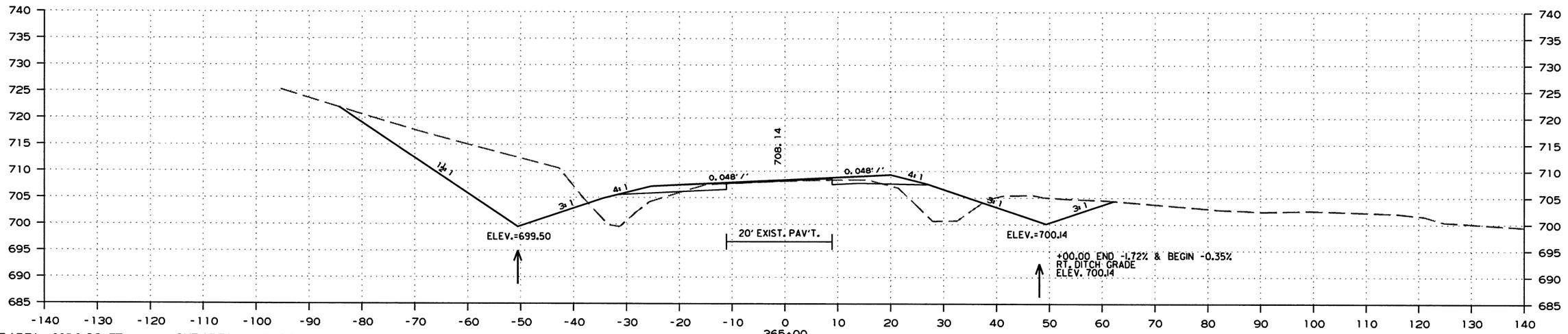
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 310.1 SQ. FT. CUT AREA 37.71 SQ. FT.
FILL AREA 31.08 SQ. FT. FILL AREA 74.26 SQ. FT.

CUT VOLUME 588 CU. YD. CUT VOLUME 101 CU. YD.
FILL VOLUME 60 CU. YD. FILL VOLUME 131 CU. YD.



CUT AREA 325.2 SQ. FT. CUT AREA 71.61 SQ. FT.
FILL AREA 33.83 SQ. FT. FILL AREA 67.61 SQ. FT.

CUT VOLUME 611 CU. YD. CUT VOLUME 147 CU. YD.
FILL VOLUME 70 CU. YD. FILL VOLUME 118 CU. YD.

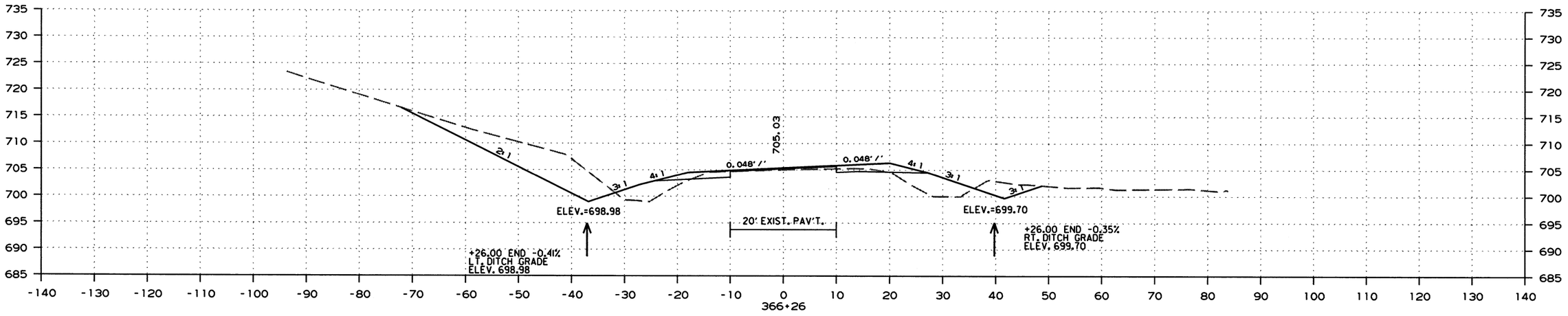
SITE 3B
CROSS SECTION STA. 365+00 TO STA. 365+50

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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.		061438	207	277

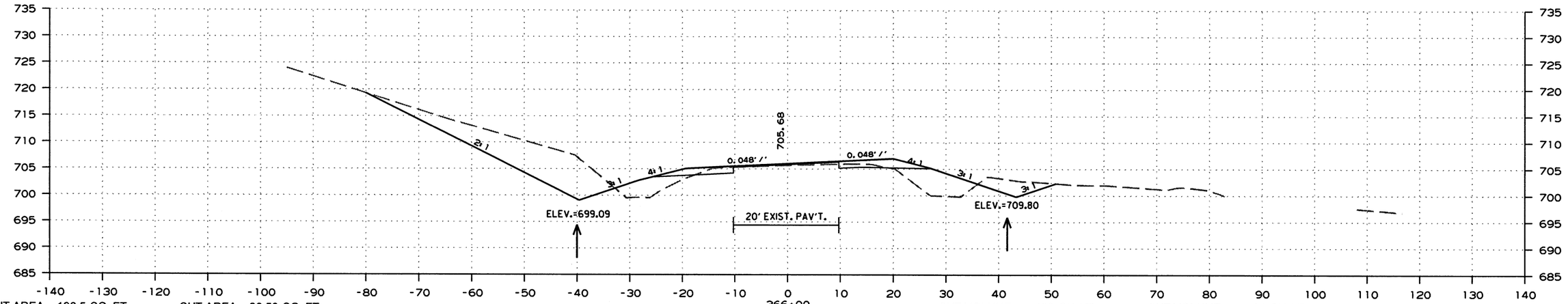
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 143.2 SQ. FT. CUT AREA 22.87 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 41.39 SQ. FT.

CUT VOLUME 161 CU. YD. CUT VOLUME 25 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 45 CU. YD.



CUT AREA 190.5 SQ. FT. CUT AREA 28.53 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 51.48 SQ. FT.

CUT VOLUME 463 CU. YD. CUT VOLUME 61 CU. YD.
FILL VOLUME 29 CU. YD. FILL VOLUME 116 CU. YD.

SITE 3B
CROSS SECTION STA. 366+00 TO STA. 366+26

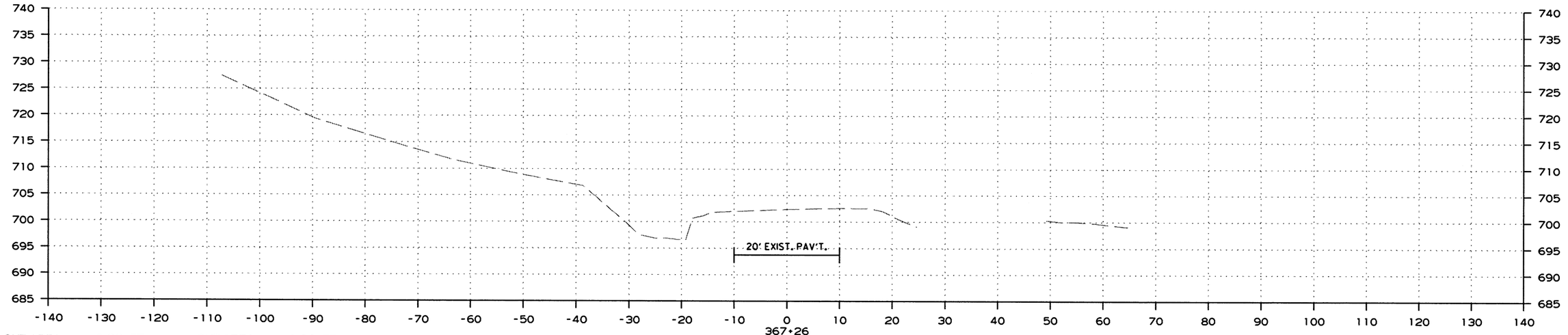
ikge653 12/4/2019
R061438.DGN

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.		061438	208	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 0 SQ. FT. CUT AREA 0 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 265 CU. YD. CUT VOLUME 42 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 77 CU. YD.

SITE 3B
CROSS SECTION STA. 367+26 TO STA. 367+26

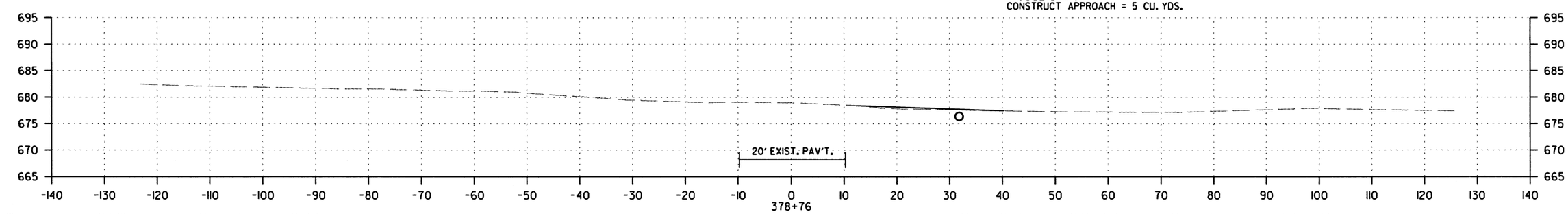
ikge653 12/4/2019
R061438.DGN

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.		061438	209	277

(2) CROSS SECTIONS

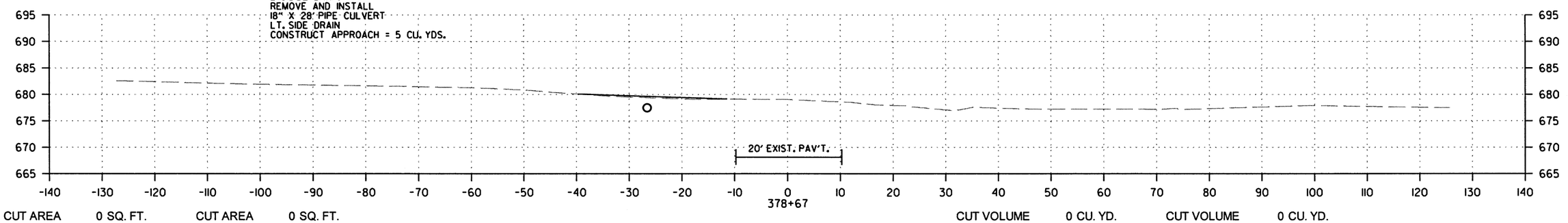
STAGE 1 STAGE 2 STAGE 1 STAGE 2

STA. 378+76 IN PLACE
18" X 24' CM PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 5 CU. YDS.

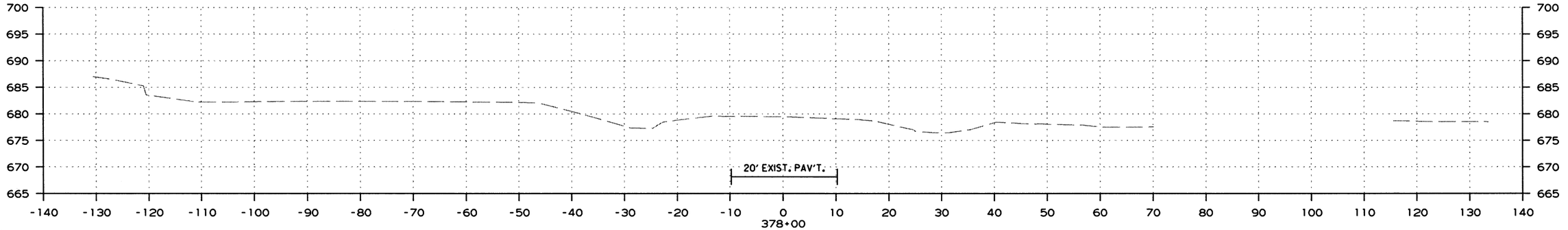


CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

STA. 378+67 IN PLACE
18" X 25' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 5 CU. YDS.



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

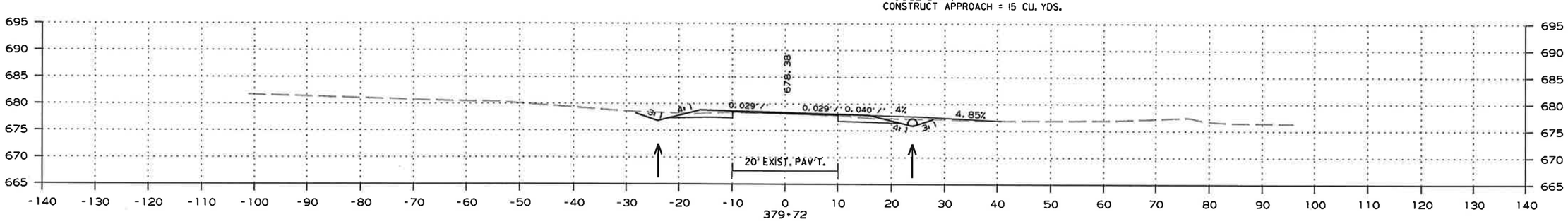
SITE 4
CROSS SECTION STA. 378+00 TO STA. 379+76

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R061438.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
01-03-20				6	ARK.			
				JOB NO.		061438	210	277
				(2) CROSS SECTIONS				

STAGE 1

STA. 379+72 IN PLACE
18" X 32' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 36' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.



CUT AREA 16.6 SQ. FT.
FILL AREA 0 SQ. FT.

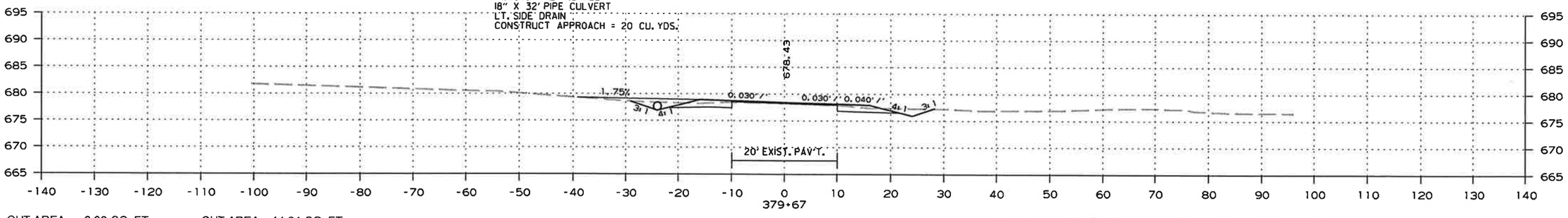
CUT VOLUME 2 CU. YD.
FILL VOLUME 0 CU. YD.

STAGE 2

CUT AREA 14.72 SQ. FT.
FILL AREA 0 SQ. FT.

CUT VOLUME 3 CU. YD.
FILL VOLUME 0 CU. YD.

STA. 379+67 IN PLACE
15" X 31' C.P. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.

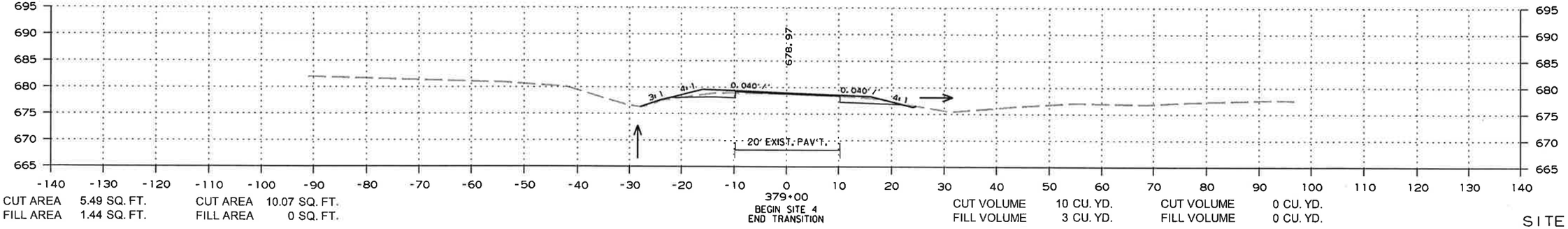


CUT AREA 9.89 SQ. FT.
FILL AREA 0 SQ. FT.

CUT VOLUME 19 CU. YD.
FILL VOLUME 2 CU. YD.

CUT AREA 14.84 SQ. FT.
FILL AREA 0 SQ. FT.

CUT VOLUME 31 CU. YD.
FILL VOLUME 0 CU. YD.



CUT AREA 5.49 SQ. FT.
FILL AREA 1.44 SQ. FT.

CUT VOLUME 10 CU. YD.
FILL VOLUME 3 CU. YD.

CUT AREA 10.07 SQ. FT.
FILL AREA 0 SQ. FT.

CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD.

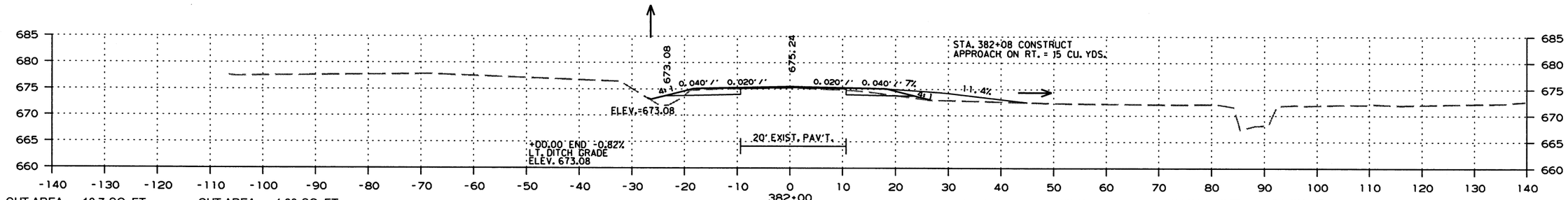
SITE 4
CROSS SECTION STA. 379+00 TO STA. 379+72

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R061438.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.		061438	211	277

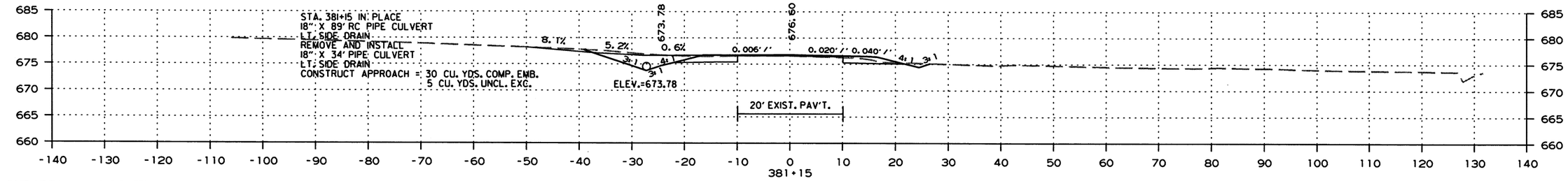
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



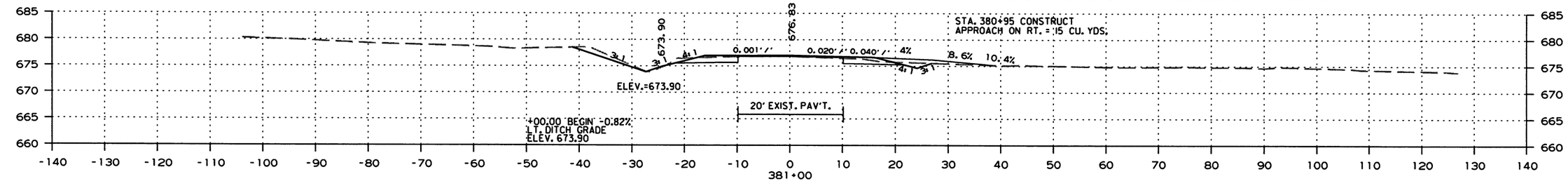
CUT AREA 10.7 SQ. FT. CUT AREA 4.68 SQ. FT.
FILL AREA 7.3 SQ. FT. FILL AREA 0.93 SQ. FT.

CUT VOLUME 83 CU. YD. CUT VOLUME 21 CU. YD.
FILL VOLUME 11 CU. YD. FILL VOLUME 3 CU. YD.



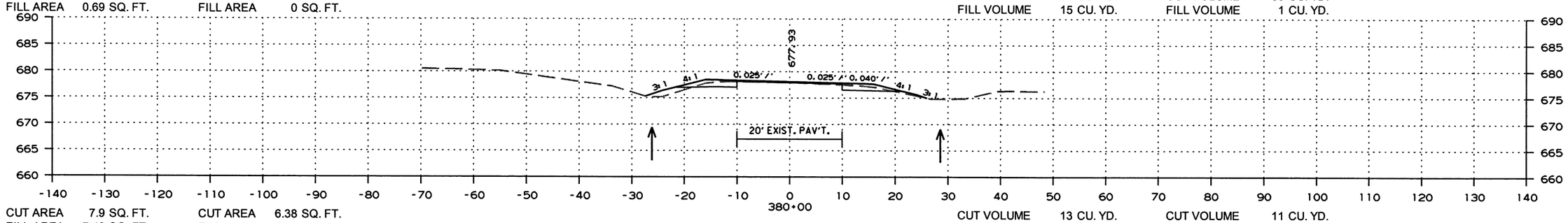
CUT AREA 42 SQ. FT. CUT AREA 8.71 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0.94 SQ. FT.

CUT VOLUME 17 CU. YD. CUT VOLUME 6 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 20.4 SQ. FT. CUT AREA 11.26 SQ. FT.
FILL AREA 0.69 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 52 CU. YD. CUT VOLUME 33 CU. YD.
FILL VOLUME 15 CU. YD. FILL VOLUME 1 CU. YD.



CUT AREA 7.9 SQ. FT. CUT AREA 6.38 SQ. FT.
FILL AREA 7.42 SQ. FT. FILL AREA 0.75 SQ. FT.

CUT VOLUME 13 CU. YD. CUT VOLUME 11 CU. YD.
FILL VOLUME 4 CU. YD. FILL VOLUME 0 CU. YD.

SITE 4
CROSS SECTION STA. 380+00 TO STA. 382+00

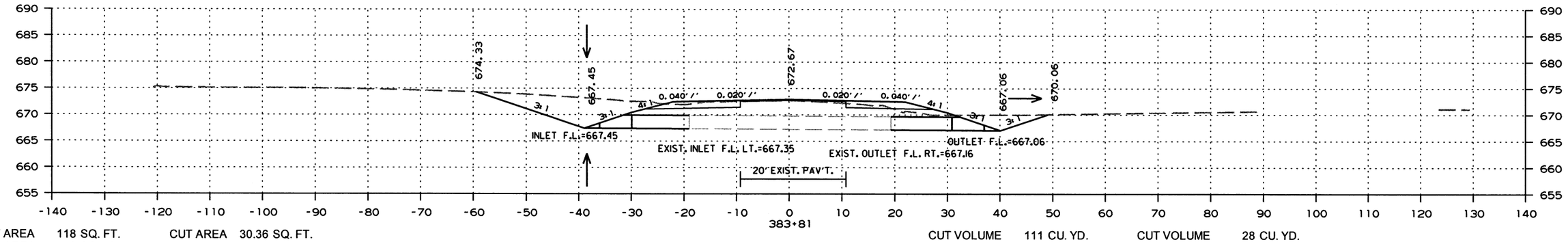
akge653 12/4/2019
R061438.DGN

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.		061438	212	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2

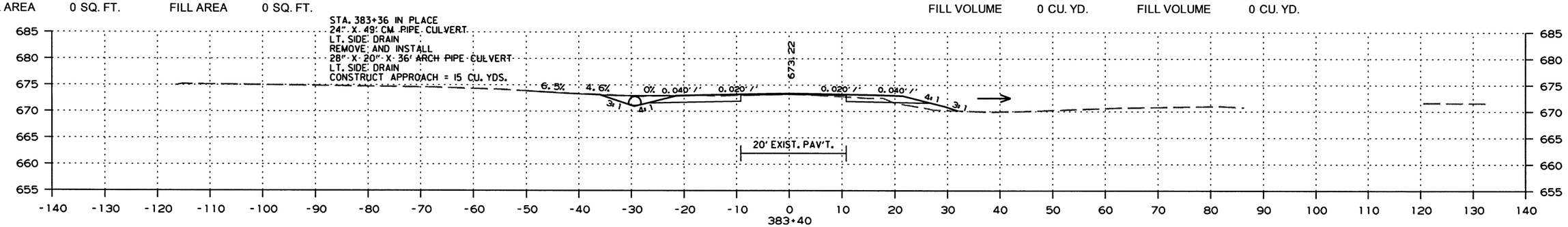
STA. 383+81 IN PLACE
30" X 44' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
ON A 30° RT. FWD. SKEW
REMOVE HDWLS AND EXTEND R.C. PIPE
11' LT. AND 12' RT.
TO A COMPLETED LENGTH OF 67'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. AND RT.
Q50 = 70 CFS D.A. = 31 ACRES
30" R.C. PIPE = 32 LIN. FT.
30" FES = 2 EA.



CUT AREA 118 SQ. FT. CUT AREA 30.36 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

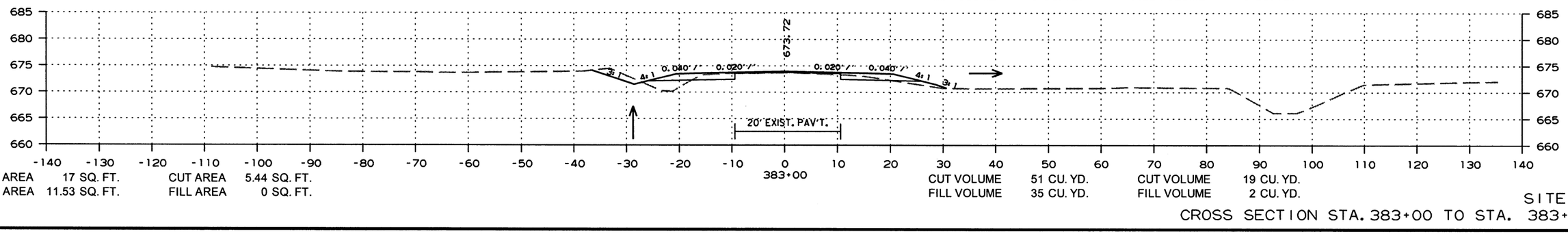
CUT VOLUME 111 CU. YD. CUT VOLUME 28 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.

STA. 383+36 IN PLACE
24" X 49' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 36' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.



CUT AREA 28.8 SQ. FT. CUT AREA 5.87 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 34 CU. YD. CUT VOLUME 8 CU. YD.
FILL VOLUME 9 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 17 SQ. FT. CUT AREA 5.44 SQ. FT.
FILL AREA 11.53 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 51 CU. YD. CUT VOLUME 19 CU. YD.
FILL VOLUME 35 CU. YD. FILL VOLUME 2 CU. YD.

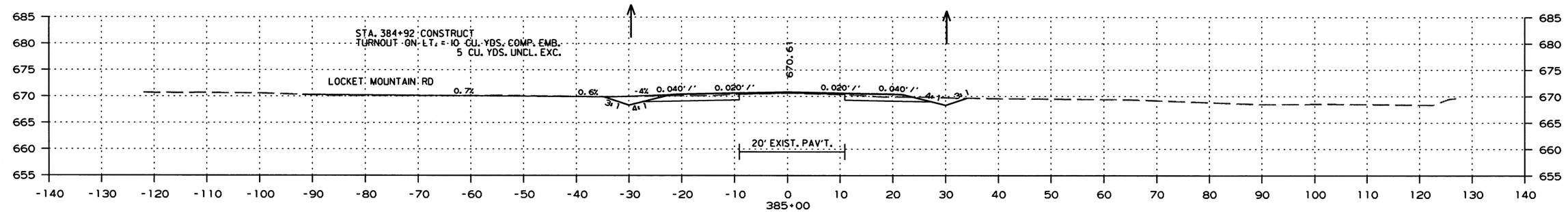
SITE 4
CROSS SECTION STA. 383+00 TO STA. 383+81

12/4/2019
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R0614.38.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.		061438	213	277

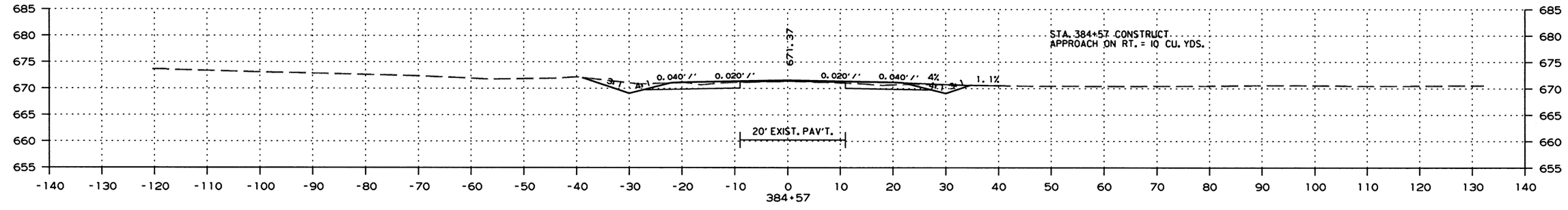
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



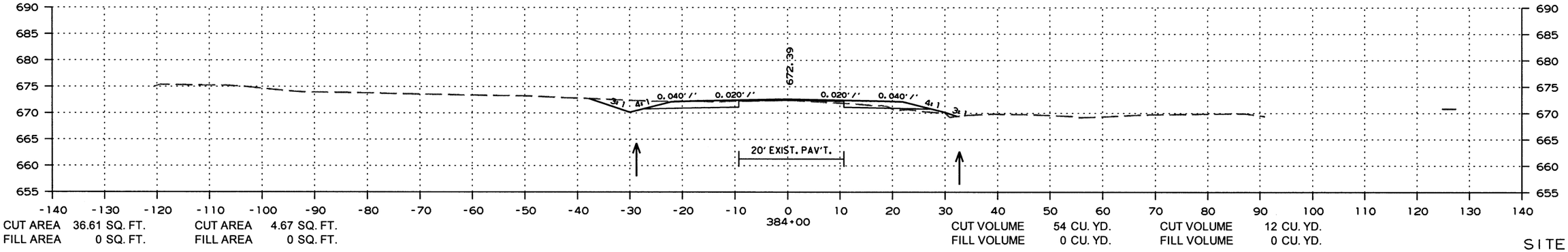
CUT AREA 25.45 SQ. FT. CUT AREA 19.96 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 46 CU. YD. CUT VOLUME 33 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 32.41 SQ. FT. CUT AREA 21.98 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 73 CU. YD. CUT VOLUME 28 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 36.61 SQ. FT. CUT AREA 4.67 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 54 CU. YD. CUT VOLUME 12 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.

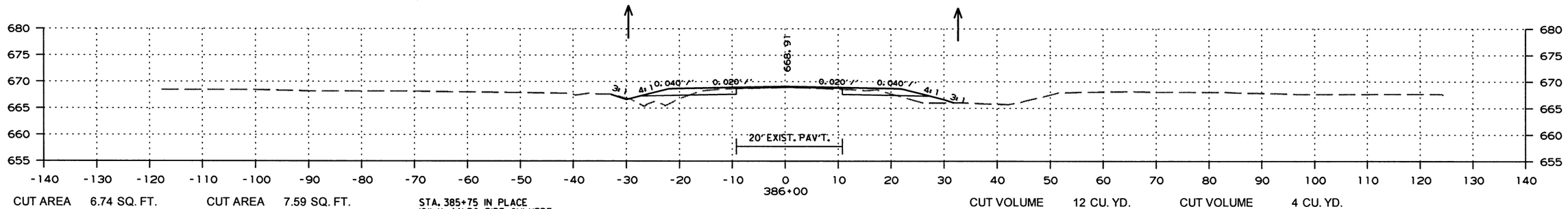
SITE 4
CROSS SECTION STA. 384+00 TO STA. 385+00

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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.		061438	214	277

(2) CROSS SECTIONS

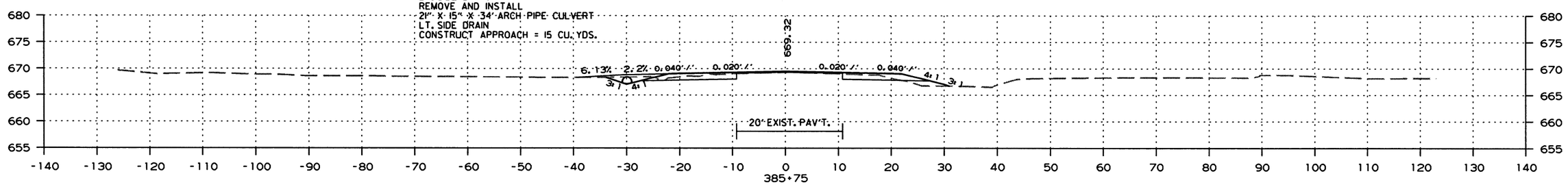
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 6.74 SQ. FT. CUT AREA 7.59 SQ. FT.
FILL AREA 20.27 SQ. FT. FILL AREA 9.96 SQ. FT.

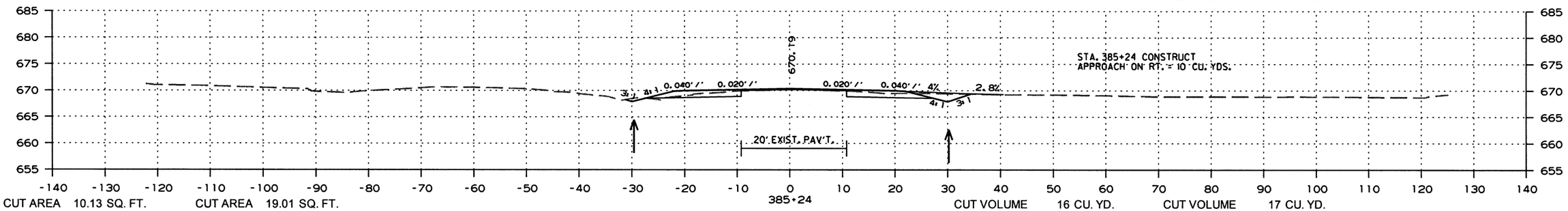
STA. 385+75 IN PLACE
18" X 44' RC PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
21" X 15" X 34" ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 15 CU. YDS.

CUT VOLUME 12 CU. YD. CUT VOLUME 4 CU. YD.
FILL VOLUME 18 CU. YD. FILL VOLUME 5 CU. YD.



CUT AREA 18.64 SQ. FT. CUT AREA 8.37 SQ. FT.
FILL AREA 0.3 SQ. FT. FILL AREA 6.61 SQ. FT.

CUT VOLUME 27 CU. YD. CUT VOLUME 26 CU. YD.
FILL VOLUME 2 CU. YD. FILL VOLUME 8 CU. YD.



CUT AREA 10.13 SQ. FT. CUT AREA 19.01 SQ. FT.
FILL AREA 2.15 SQ. FT. FILL AREA 2.28 SQ. FT.

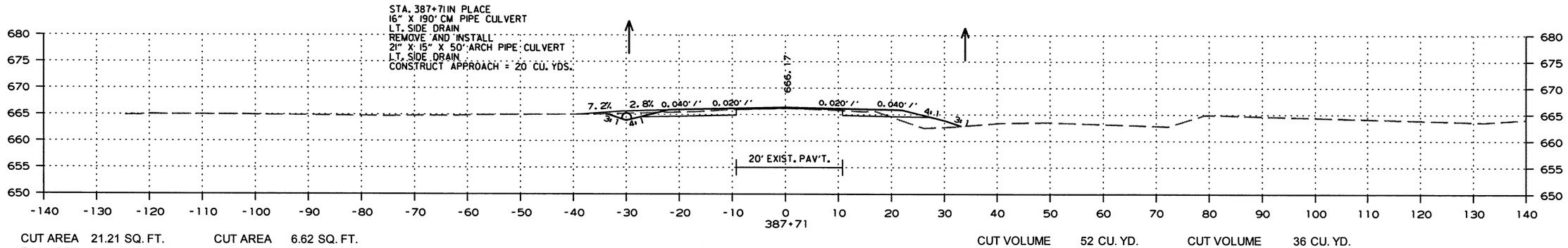
CUT VOLUME 16 CU. YD. CUT VOLUME 17 CU. YD.
FILL VOLUME 1 CU. YD. FILL VOLUME 1 CU. YD.

SITE 4
CROSS SECTION STA. 385+24 TO STA. 386+00

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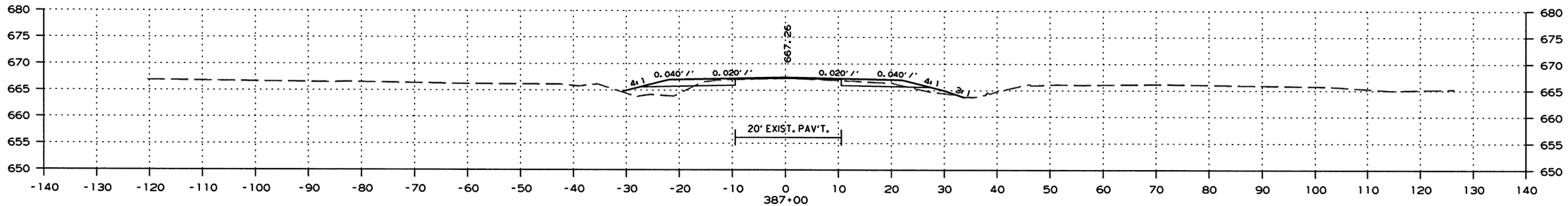
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	215	277
				(2) CROSS SECTIONS				

STAGE 1 STAGE 2 STAGE 1 STAGE 2



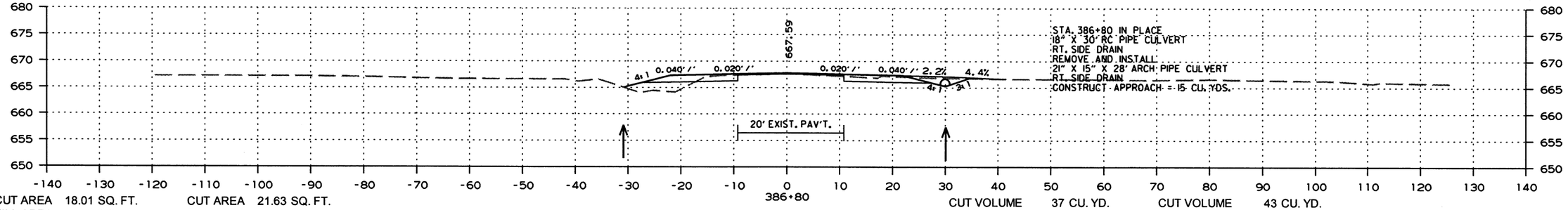
CUT AREA 21.21 SQ. FT. CUT AREA 6.62 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 18.02 SQ. FT.

CUT VOLUME 52 CU. YD. CUT VOLUME 36 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 31 CU. YD.



CUT AREA 18.52 SQ. FT. CUT AREA 20.58 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 5.85 SQ. FT.

CUT VOLUME 14 CU. YD. CUT VOLUME 16 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 2 CU. YD.



CUT AREA 18.01 SQ. FT. CUT AREA 21.63 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 37 CU. YD. CUT VOLUME 43 CU. YD.
FILL VOLUME 30 CU. YD. FILL VOLUME 15 CU. YD.

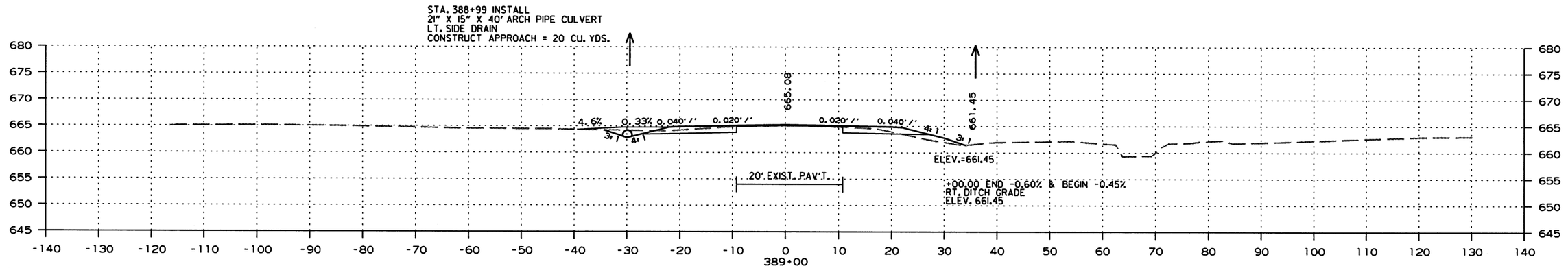
SITE 4
CROSS SECTION STA. 386+80 TO STA. 387+71

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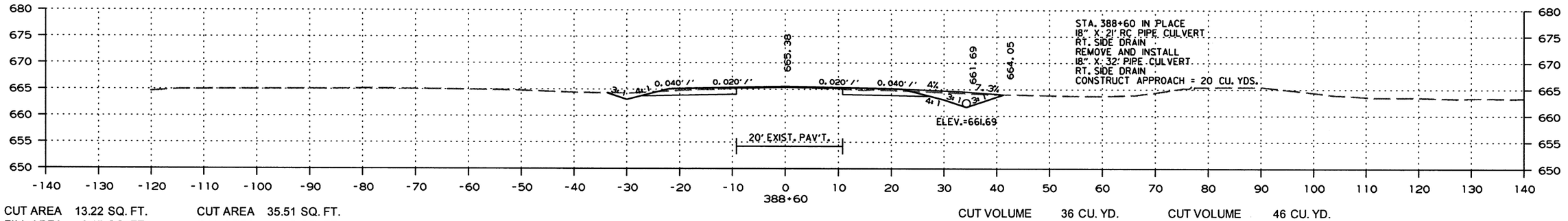
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	216	277

(2) CROSS SECTIONS

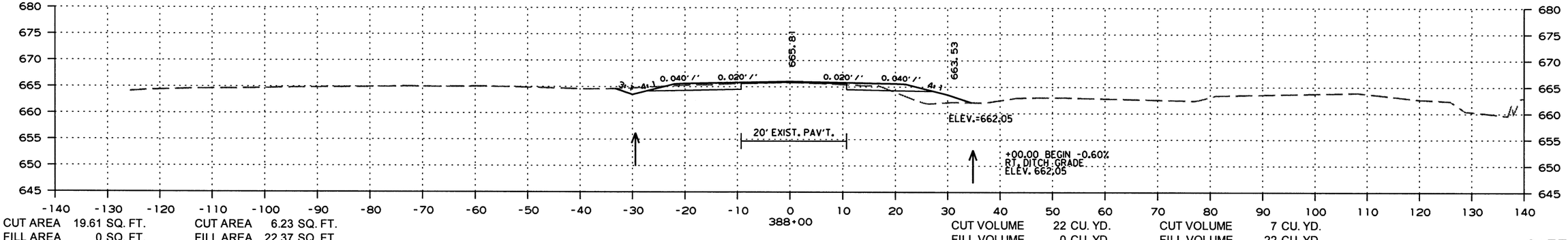
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	13.69 SQ. FT.	CUT AREA	8.31 SQ. FT.
FILL AREA	5.11 SQ. FT.	FILL AREA	8.91 SQ. FT.
CUT VOLUME	20 CU. YD.	CUT VOLUME	32 CU. YD.
FILL VOLUME	8 CU. YD.	FILL VOLUME	7 CU. YD.



CUT AREA	13.22 SQ. FT.	CUT AREA	35.51 SQ. FT.
FILL AREA	6.17 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	36 CU. YD.	CUT VOLUME	46 CU. YD.
FILL VOLUME	7 CU. YD.	FILL VOLUME	25 CU. YD.



CUT AREA	19.61 SQ. FT.	CUT AREA	6.23 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	22.37 SQ. FT.
CUT VOLUME	22 CU. YD.	CUT VOLUME	7 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	22 CU. YD.

SITE 4

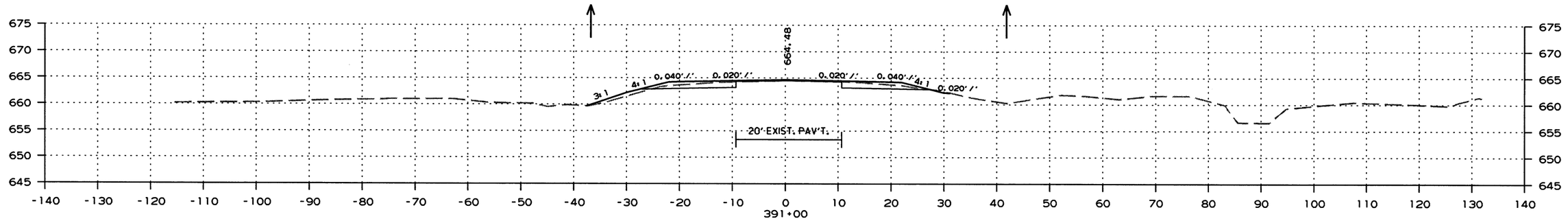
CROSS SECTION STA. 388+00 TO STA. 389+00

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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.		061438	217	277

(2) CROSS SECTIONS

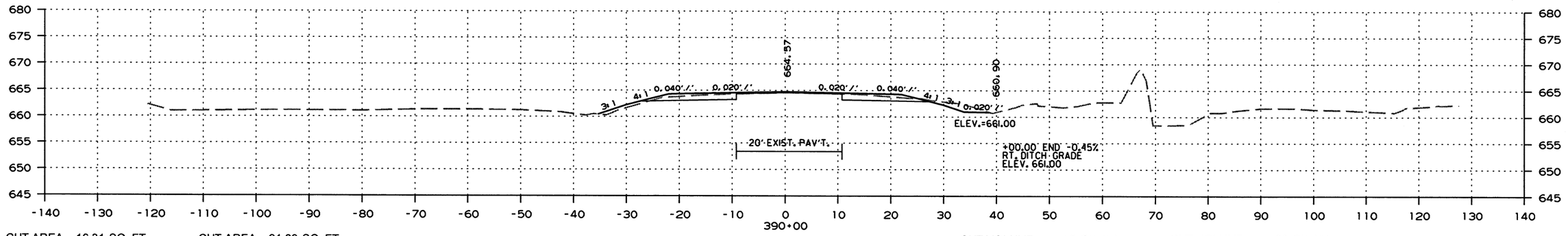
STAGE 1 STAGE 2 STAGE 1 STAGE 2



391+00

CUT AREA 13.35 SQ. FT. CUT AREA 12.05 SQ. FT.
FILL AREA 3.94 SQ. FT. FILL AREA 0.22 SQ. FT.

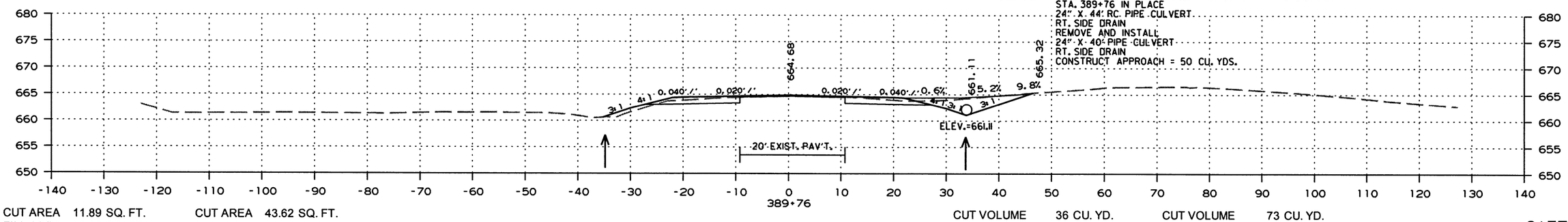
CUT VOLUME 55 CU. YD. CUT VOLUME 62 CU. YD.
FILL VOLUME 7 CU. YD. FILL VOLUME 0 CU. YD.



390+00

CUT AREA 16.31 SQ. FT. CUT AREA 21.69 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 13 CU. YD. CUT VOLUME 29 CU. YD.
FILL VOLUME 3 CU. YD. FILL VOLUME 0 CU. YD.



389+76

CUT AREA 11.89 SQ. FT. CUT AREA 43.62 SQ. FT.
FILL AREA 6.33 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 36 CU. YD. CUT VOLUME 73 CU. YD.
FILL VOLUME 16 CU. YD. FILL VOLUME 13 CU. YD.

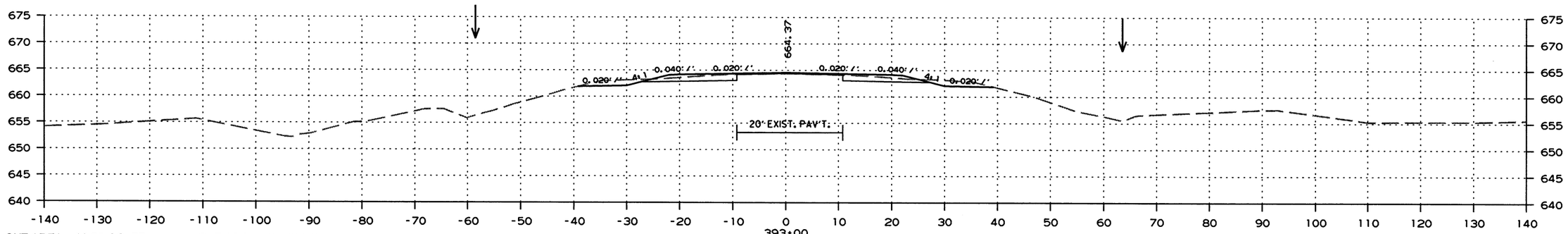
SITE 4
CROSS SECTION STA. 389+76 TO STA. 391+00

ikge653 12/4/2019
R061438.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.		061438	218	277

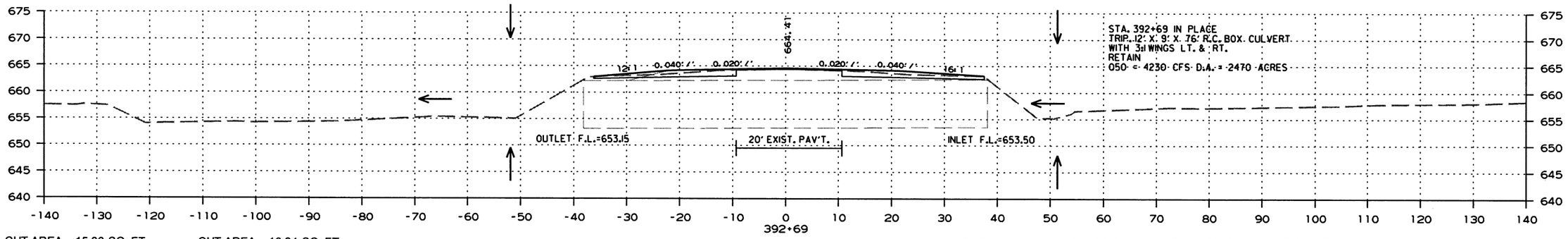
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



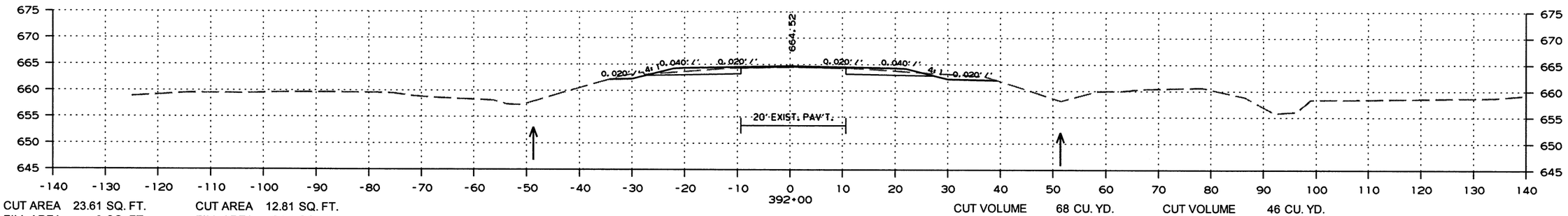
CUT AREA 22.75 SQ. FT. CUT AREA 21.99 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 22 CU. YD. CUT VOLUME 22 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 2 CU. YD.



CUT AREA 15.06 SQ. FT. CUT AREA 16.24 SQ. FT.
FILL AREA 0.12 SQ. FT. FILL AREA 4.31 SQ. FT.

CUT VOLUME 49 CU. YD. CUT VOLUME 37 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 17 CU. YD.



CUT AREA 23.61 SQ. FT. CUT AREA 12.81 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 8.74 SQ. FT.

CUT VOLUME 68 CU. YD. CUT VOLUME 46 CU. YD.
FILL VOLUME 7 CU. YD. FILL VOLUME 17 CU. YD.

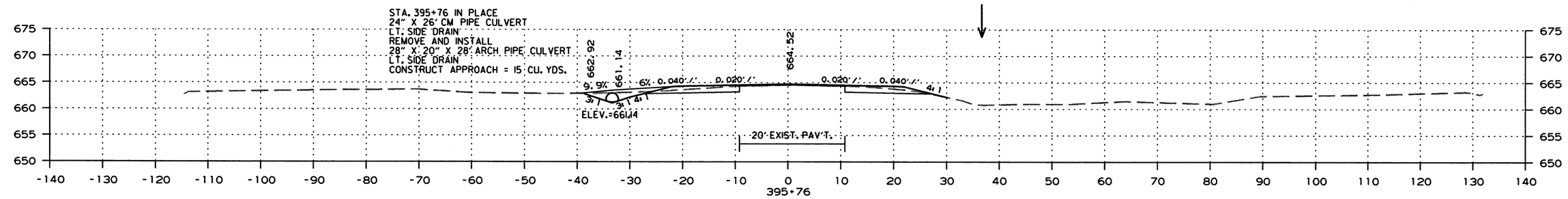
SITE 4
CROSS SECTION STA. 392+00 TO STA. 393+00

ikge653 12/4/2019
R061438.DGN

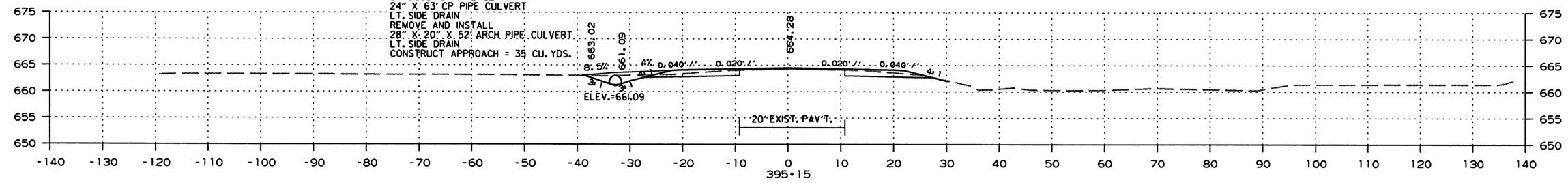
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	219	277

(2) CROSS SECTIONS

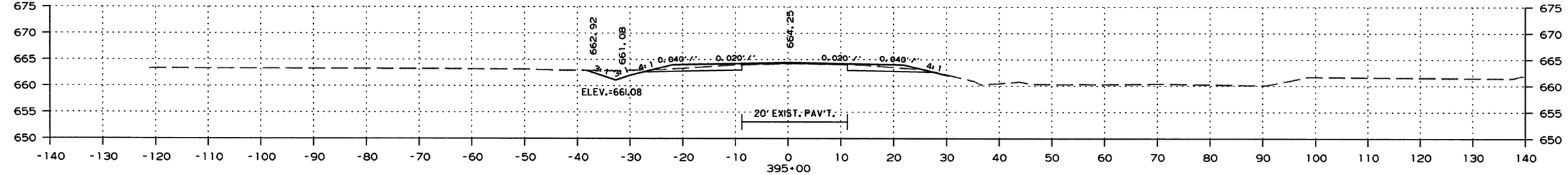
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 10.29 SQ. FT. CUT AREA 12.21 SQ. FT. CUT VOLUME 25 CU. YD. CUT VOLUME 28 CU. YD.
FILL AREA 10.42 SQ. FT. FILL AREA 0.51 SQ. FT. FILL VOLUME 12 CU. YD. FILL VOLUME 1 CU. YD.

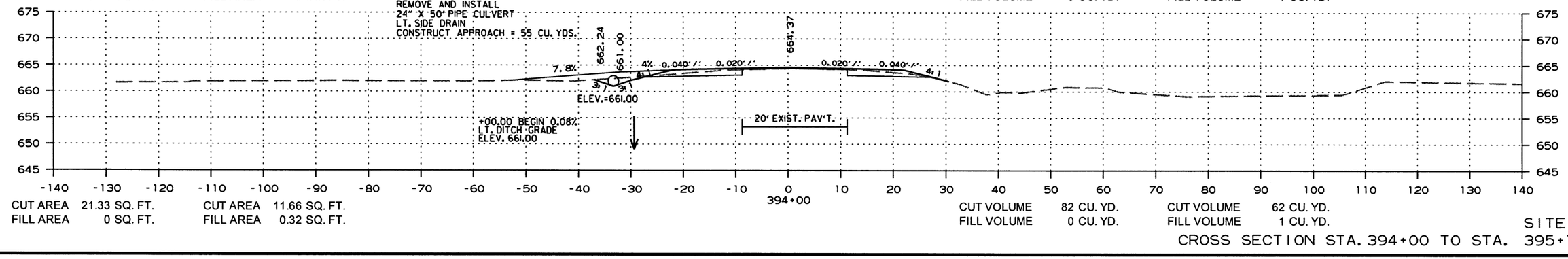


CUT AREA 11.86 SQ. FT. CUT AREA 12.98 SQ. FT. CUT VOLUME 7 CU. YD. CUT VOLUME 7 CU. YD.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT. FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 11.98 SQ. FT. CUT AREA 12.47 SQ. FT. CUT VOLUME 62 CU. YD. CUT VOLUME 45 CU. YD.
FILL AREA 0.14 SQ. FT. FILL AREA 0 SQ. FT. FILL VOLUME 0 CU. YD. FILL VOLUME 1 CU. YD.

STA. 394+17 IN PLACE
24" X 54' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 55 CU. YDS.



CUT AREA 21.33 SQ. FT. CUT AREA 11.66 SQ. FT. CUT VOLUME 82 CU. YD. CUT VOLUME 62 CU. YD.
FILL AREA 0 SQ. FT. FILL AREA 0.32 SQ. FT. FILL VOLUME 0 CU. YD. FILL VOLUME 1 CU. YD.

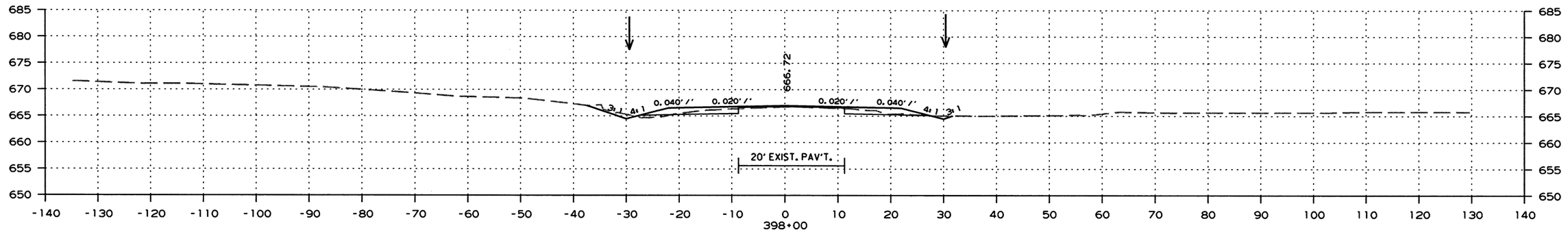
SITE 4
CROSS SECTION STA. 394+00 TO STA. 395+76

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	220	277

(2) CROSS SECTIONS

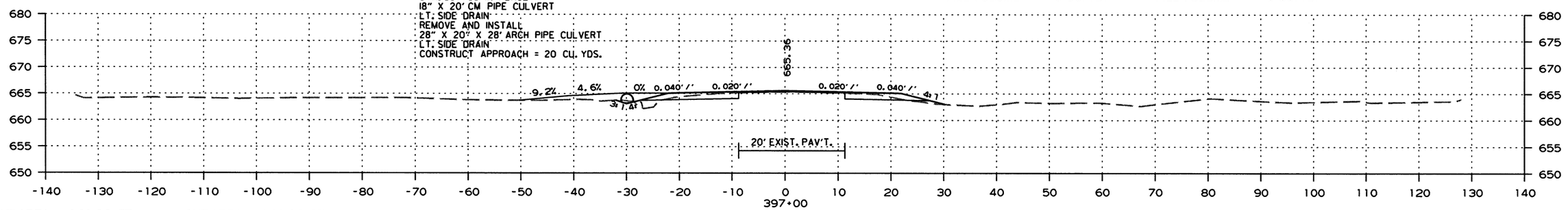
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 7.52 SQ. FT. CUT AREA 7.77 SQ. FT.
FILL AREA 17.72 SQ. FT. FILL AREA 0 SQ. FT.

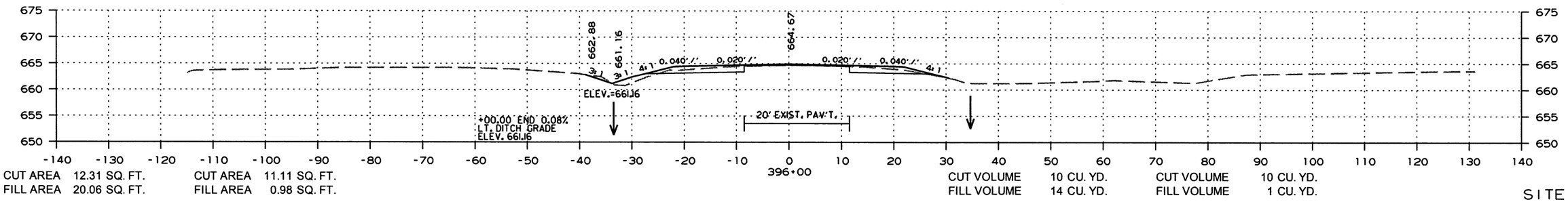
CUT VOLUME 29 CU. YD. CUT VOLUME 31 CU. YD.
FILL VOLUME 76 CU. YD. FILL VOLUME 6 CU. YD.

STA. 397+08 IN PLACE
18" X 20' CM PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
28" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH = 20 CU. YDS.



CUT AREA 8.22 SQ. FT. CUT AREA 8.98 SQ. FT.
FILL AREA 23.27 SQ. FT. FILL AREA 3.08 SQ. FT.

CUT VOLUME 38 CU. YD. CUT VOLUME 37 CU. YD.
FILL VOLUME 80 CU. YD. FILL VOLUME 8 CU. YD.



CUT AREA 12.31 SQ. FT. CUT AREA 11.11 SQ. FT.
FILL AREA 20.06 SQ. FT. FILL AREA 0.98 SQ. FT.

CUT VOLUME 10 CU. YD. CUT VOLUME 10 CU. YD.
FILL VOLUME 14 CU. YD. FILL VOLUME 1 CU. YD.

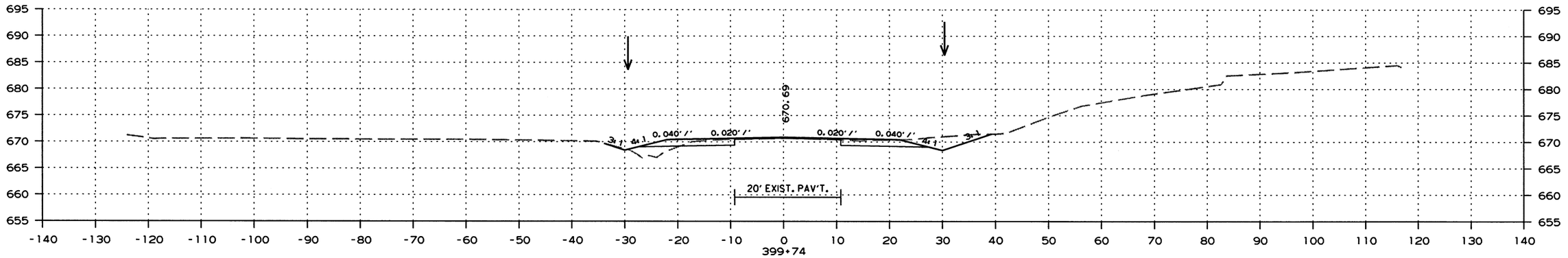
SITE 4
CROSS SECTION STA. 396+00 TO STA. 398+00

ltge653 12/4/2019
R061438.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.		061438	221	277

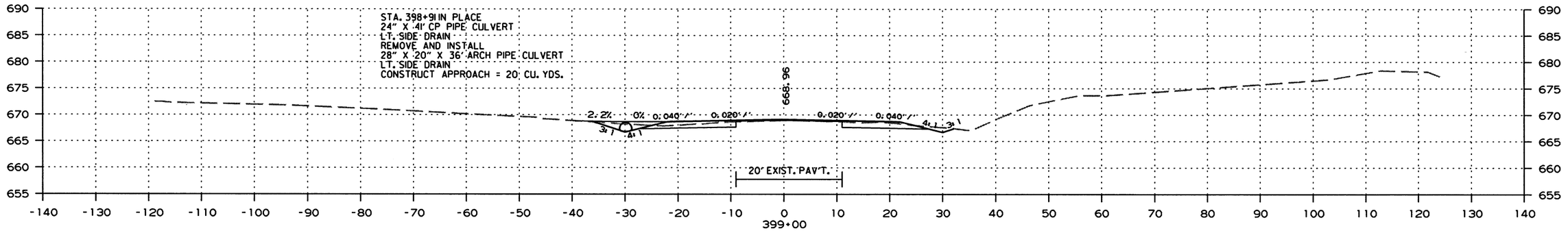
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



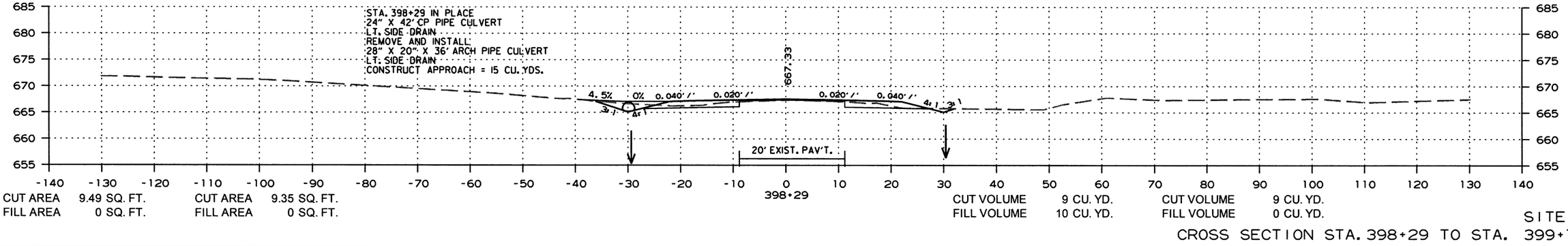
CUT AREA 17.79 SQ. FT. CUT AREA 37.96 SQ. FT.
FILL AREA 12.66 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 37 CU. YD. CUT VOLUME 76 CU. YD.
FILL VOLUME 17 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 9.27 SQ. FT. CUT AREA 17.37 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 25 CU. YD. CUT VOLUME 35 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 9.49 SQ. FT. CUT AREA 9.35 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

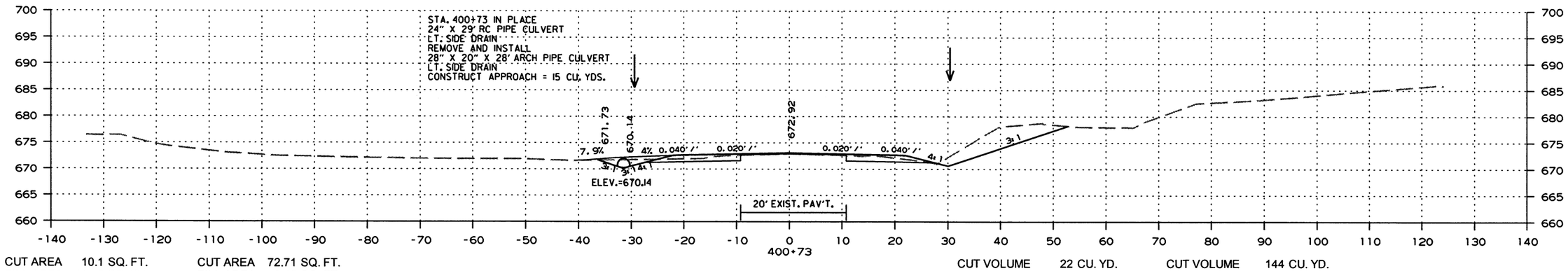
CUT VOLUME 9 CU. YD. CUT VOLUME 9 CU. YD.
FILL VOLUME 10 CU. YD. FILL VOLUME 0 CU. YD.

SITE 4
CROSS SECTION STA. 398+29 TO STA. 399+74

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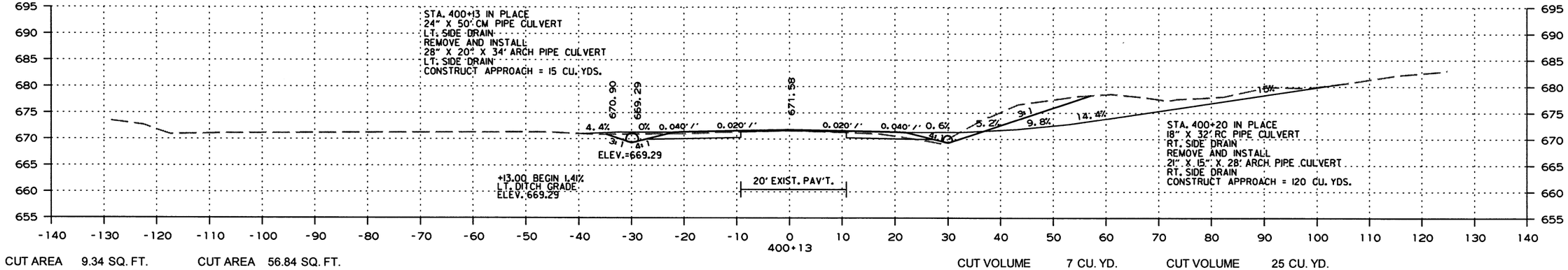
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	222	277
				(2) CROSS SECTIONS				

STAGE 1 STAGE 2 STAGE 1 STAGE 2



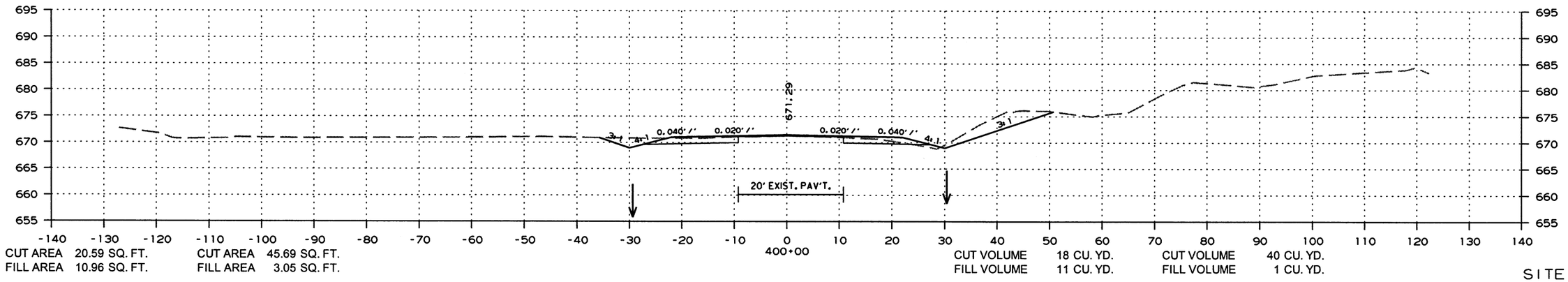
CUT AREA 10.1 SQ. FT. CUT AREA 72.71 SQ. FT.
FILL AREA 11.78 SQ. FT. FILL AREA 0.45 SQ. FT.

CUT VOLUME 22 CU. YD. CUT VOLUME 144 CU. YD.
FILL VOLUME 27 CU. YD. FILL VOLUME 4 CU. YD.



CUT AREA 9.34 SQ. FT. CUT AREA 56.84 SQ. FT.
FILL AREA 12.44 SQ. FT. FILL AREA 2.92 SQ. FT.

CUT VOLUME 7 CU. YD. CUT VOLUME 25 CU. YD.
FILL VOLUME 6 CU. YD. FILL VOLUME 1 CU. YD.



CUT AREA 20.59 SQ. FT. CUT AREA 45.69 SQ. FT.
FILL AREA 10.96 SQ. FT. FILL AREA 3.05 SQ. FT.

CUT VOLUME 18 CU. YD. CUT VOLUME 40 CU. YD.
FILL VOLUME 11 CU. YD. FILL VOLUME 1 CU. YD.

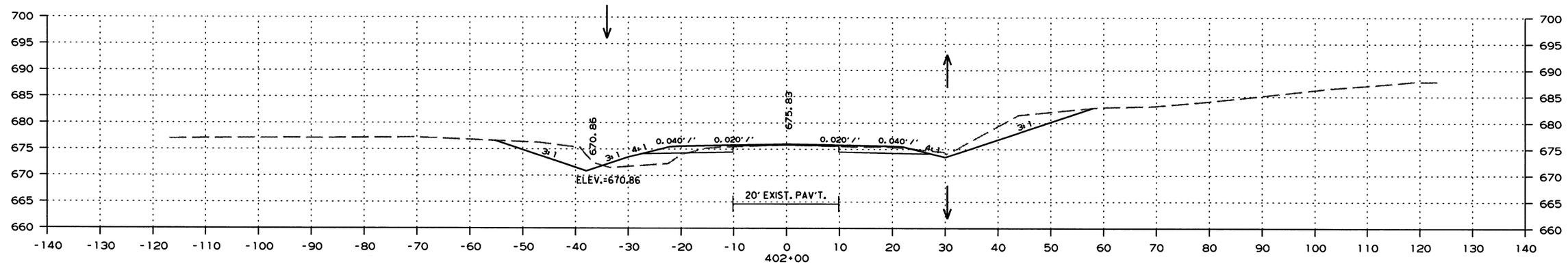
SITE 4
CROSS SECTION STA. 400+00 TO STA. 400+73

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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.		061438	223	277

(2) CROSS SECTIONS

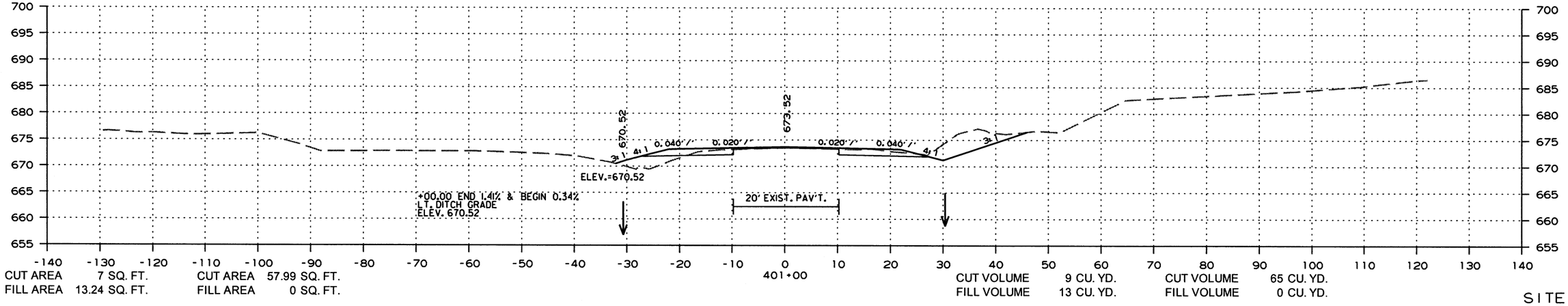
STAGE 1 STAGE 2



CUT AREA 7.31 SQ. FT. CUT AREA 68.58 SQ. FT.
FILL AREA 12.91 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 27 CU. YD. CUT VOLUME 234 CU. YD.
FILL VOLUME 48 CU. YD. FILL VOLUME 0 CU. YD.

STAGE 1 STAGE 2



CUT AREA 7 SQ. FT. CUT AREA 57.99 SQ. FT.
FILL AREA 13.24 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 9 CU. YD. CUT VOLUME 65 CU. YD.
FILL VOLUME 13 CU. YD. FILL VOLUME 0 CU. YD.

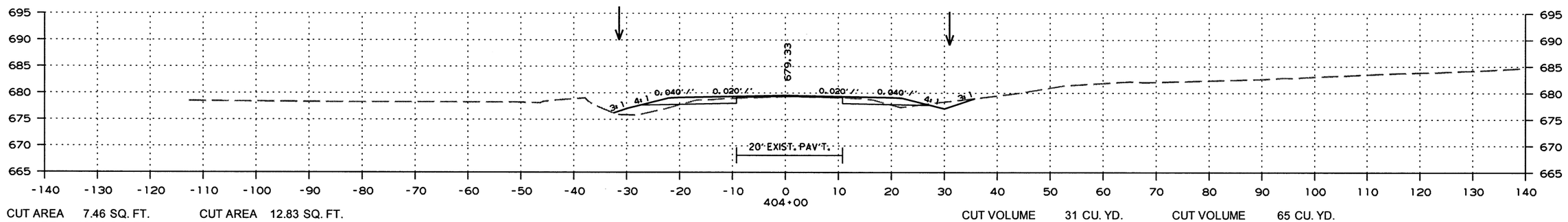
SITE 4
CROSS SECTION STA. 401+00 TO STA. 402+00

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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.		061438	224	277

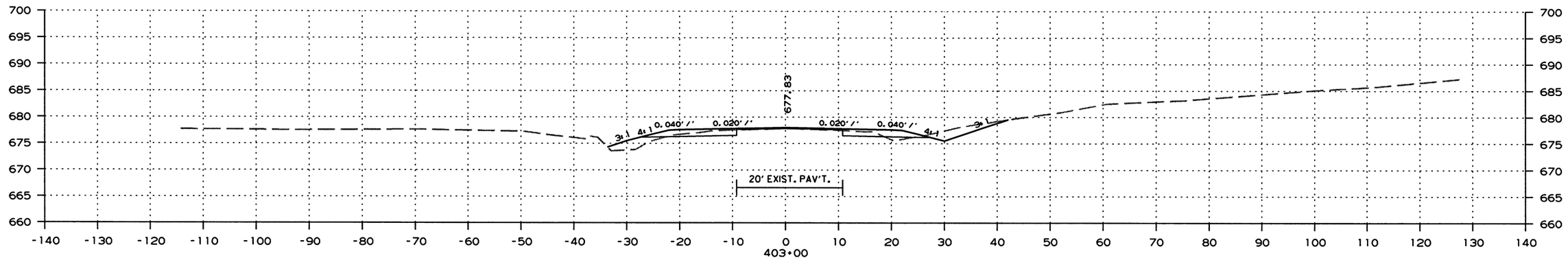
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



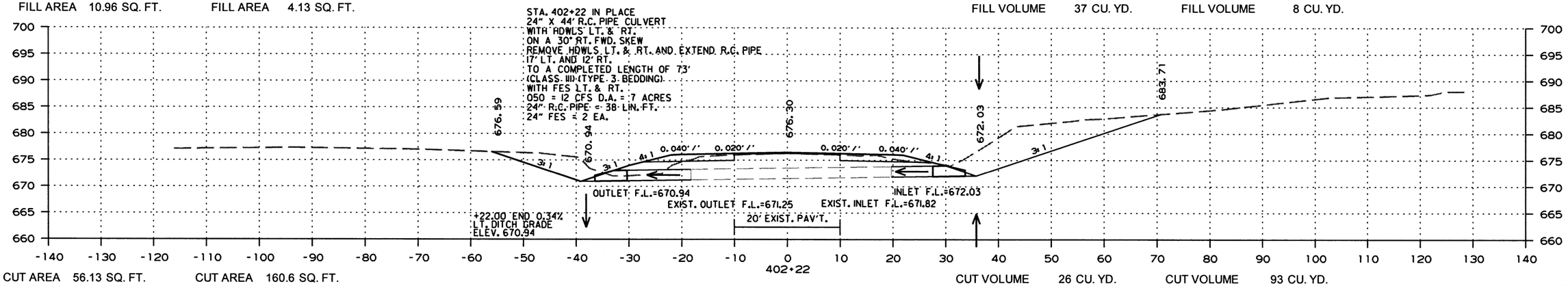
CUT AREA 7.46 SQ. FT. CUT AREA 12.83 SQ. FT.
FILL AREA 12.66 SQ. FT. FILL AREA 3.41 SQ. FT.

CUT VOLUME 31 CU. YD. CUT VOLUME 65 CU. YD.
FILL VOLUME 44 CU. YD. FILL VOLUME 14 CU. YD.



CUT AREA 9.14 SQ. FT. CUT AREA 22.24 SQ. FT.
FILL AREA 10.96 SQ. FT. FILL AREA 4.13 SQ. FT.

CUT VOLUME 94 CU. YD. CUT VOLUME 264 CU. YD.
FILL VOLUME 37 CU. YD. FILL VOLUME 8 CU. YD.



CUT AREA 56.13 SQ. FT. CUT AREA 160.6 SQ. FT.
FILL AREA 14.93 SQ. FT. FILL AREA 1.36 SQ. FT.

CUT VOLUME 26 CU. YD. CUT VOLUME 93 CU. YD.
FILL VOLUME 11 CU. YD. FILL VOLUME 1 CU. YD.

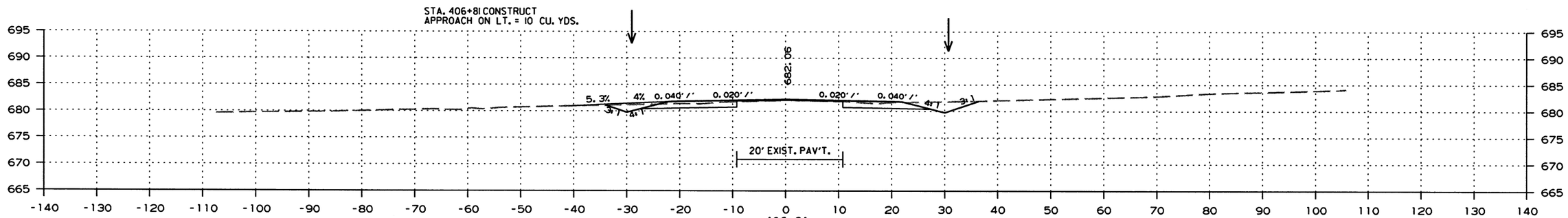
SITE 4
CROSS SECTION STA. 402+22 TO STA. 404+00

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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.		061438	225	277

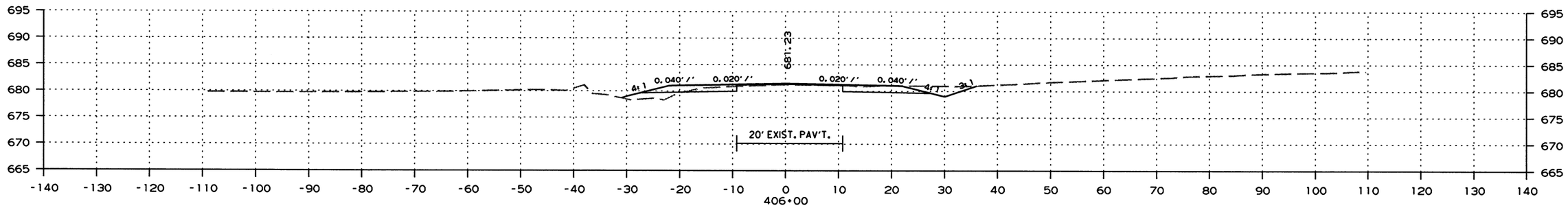
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



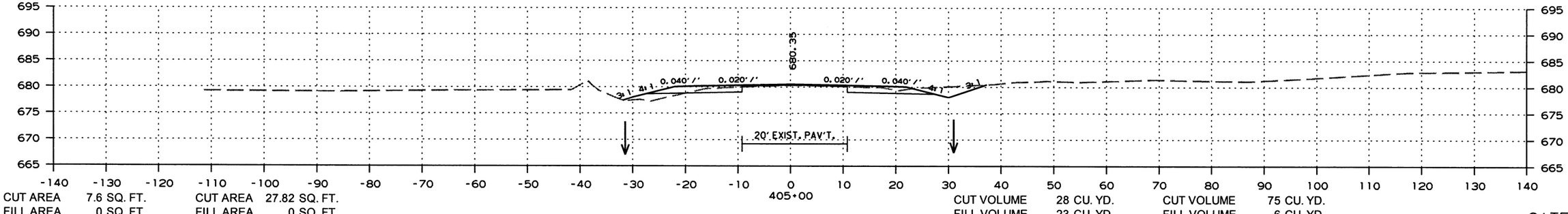
CUT AREA 20.5 SQ. FT. CUT AREA 28.61 SQ. FT.
FILL AREA 17.72 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 41 CU. YD. CUT VOLUME 88 CU. YD.
FILL VOLUME 27 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 6.56 SQ. FT. CUT AREA 30.19 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 26 CU. YD. CUT VOLUME 107 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 7.6 SQ. FT. CUT AREA 27.82 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 28 CU. YD. CUT VOLUME 75 CU. YD.
FILL VOLUME 23 CU. YD. FILL VOLUME 6 CU. YD.

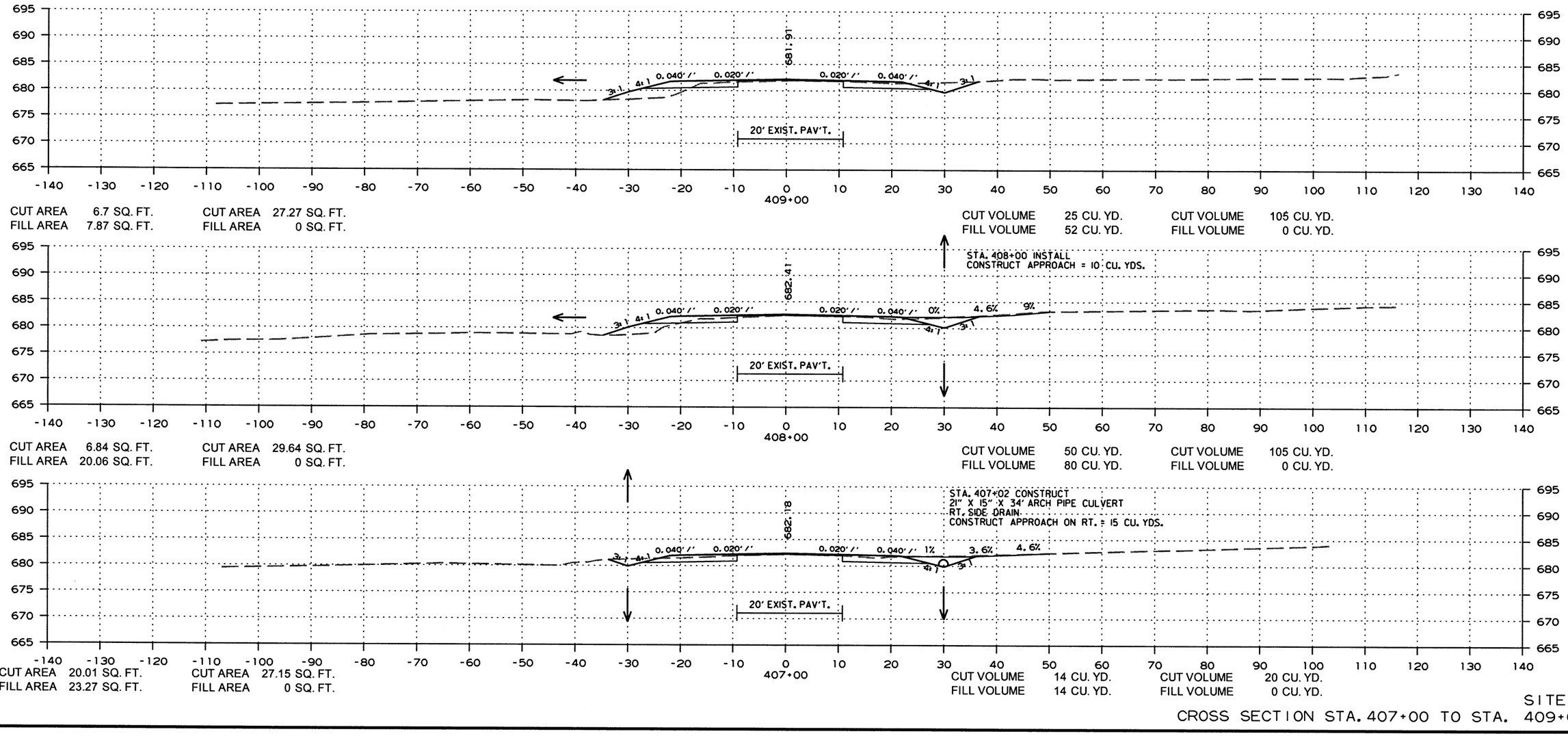
SITE 4
CROSS SECTION STA. 405+00 TO STA. 406+81

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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.		061438	226	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	6.7 SQ. FT.	CUT AREA	27.27 SQ. FT.
FILL AREA	7.87 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	25 CU. YD.	CUT VOLUME	105 CU. YD.
FILL VOLUME	52 CU. YD.	FILL VOLUME	0 CU. YD.
CUT AREA	6.84 SQ. FT.	CUT AREA	29.64 SQ. FT.
FILL AREA	20.06 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	50 CU. YD.	CUT VOLUME	105 CU. YD.
FILL VOLUME	80 CU. YD.	FILL VOLUME	0 CU. YD.
CUT AREA	20.01 SQ. FT.	CUT AREA	27.15 SQ. FT.
FILL AREA	23.27 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	14 CU. YD.	CUT VOLUME	20 CU. YD.
FILL VOLUME	14 CU. YD.	FILL VOLUME	0 CU. YD.

SITE 4

CROSS SECTION STA. 407+00 TO STA. 409+00

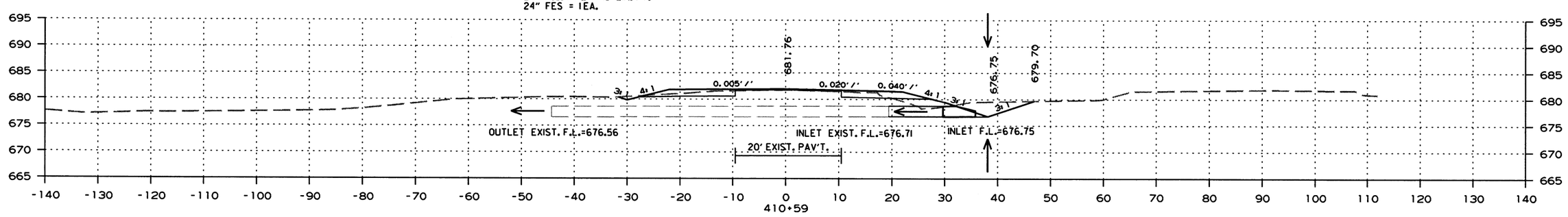
ikge653 12/4/2019
R061438.DGN

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.		061438	227	277

(2) CROSS SECTIONS

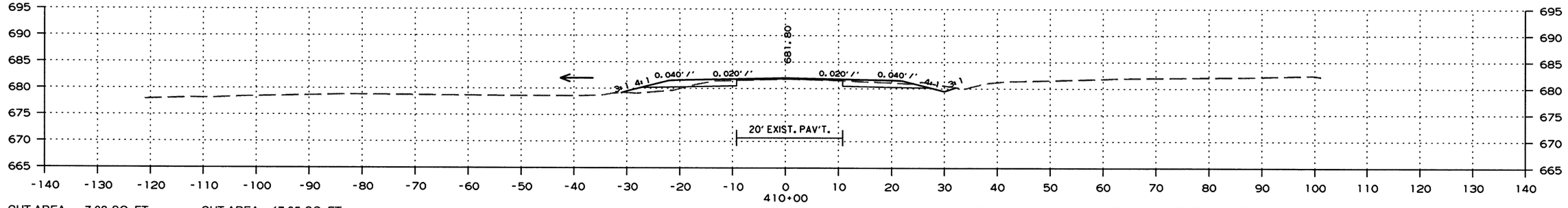
STAGE 1 STAGE 2 STAGE 1 STAGE 2

STA. 410+59 IN PLACE
24" X 74' R.C. PIPE CULVERT
WITH HDWLS LT. & RT.
ON A 30° LT. FWD. SKEW
REMOVE HDWLS RT. AND EXTEND R.C. PIPE 13' RT.
TO A COMPLETED LENGTH OF 87'
(CLASS III) (TYPE 3 BEDDING)
WITH FES LT. & RT.
050 = 26 CFS D.A. = 14 ACRES
24" R.C. PIPE = 18 LIN. FT.
24" FES = 1EA.



CUT AREA 12.83 SQ. FT. CUT AREA 28.67 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 14.2 SQ. FT.

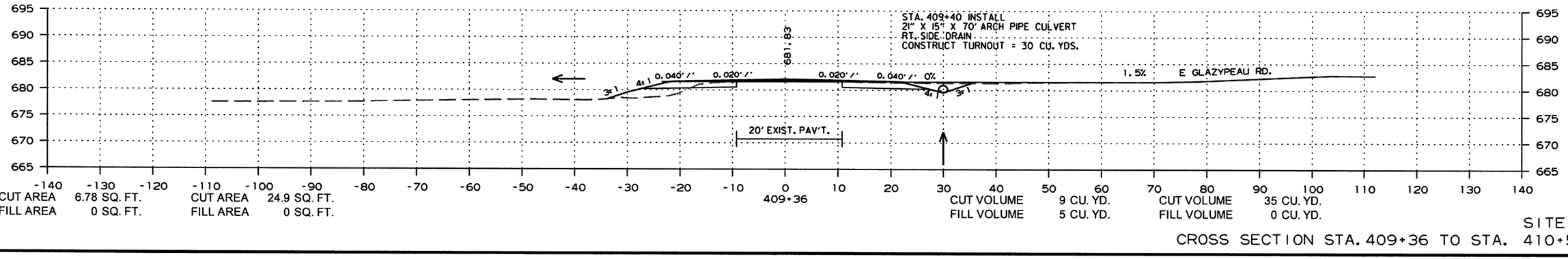
CUT VOLUME 22 CU. YD. CUT VOLUME 51 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 16 CU. YD.



CUT AREA 7.02 SQ. FT. CUT AREA 17.95 SQ. FT.
FILL AREA 0.14 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 16 CU. YD. CUT VOLUME 51 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.

STA. 409+40 INSTALL
21" X 15" X 70' ARCH PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT TURNOUT = 30 CU. YDS.



CUT AREA 6.78 SQ. FT. CUT AREA 24.9 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 9 CU. YD. CUT VOLUME 35 CU. YD.
FILL VOLUME 5 CU. YD. FILL VOLUME 0 CU. YD.

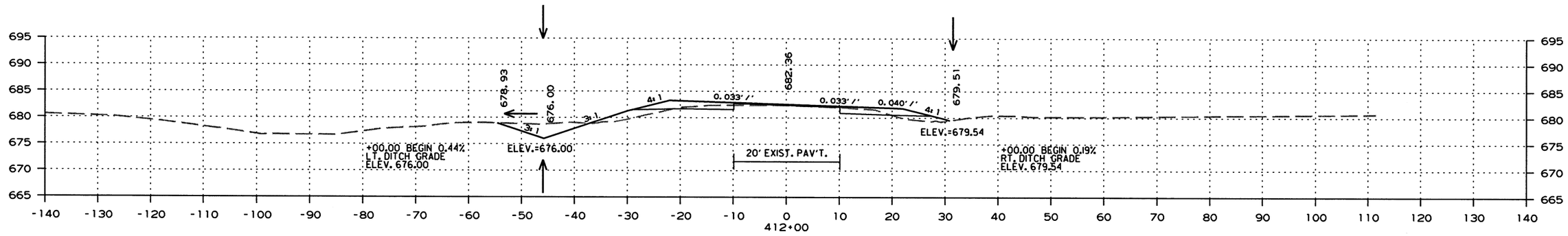
SITE 4
CROSS SECTION STA. 409+36 TO STA. 410+59

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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.		061438	228	277

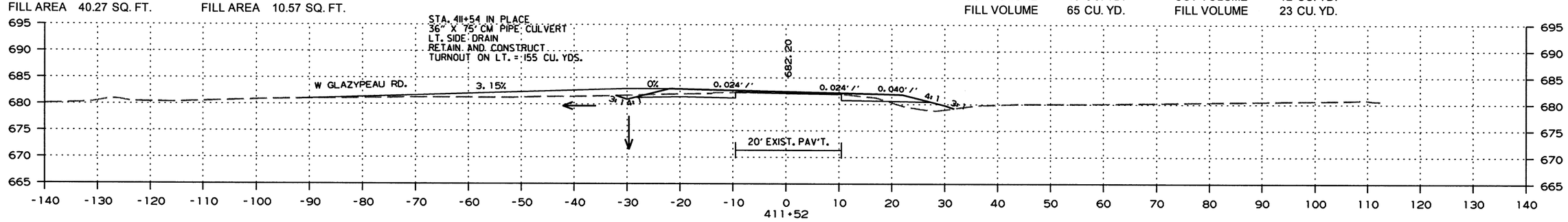
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



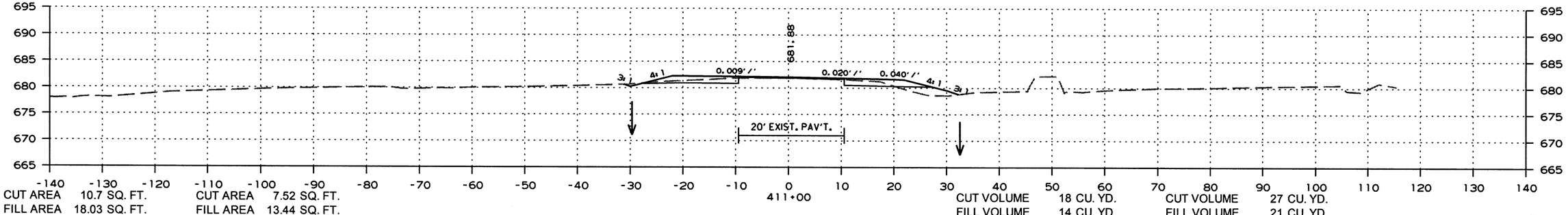
CUT AREA 30.82 SQ. FT. CUT AREA 7.59 SQ. FT.
FILL AREA 40.27 SQ. FT. FILL AREA 10.57 SQ. FT.

CUT VOLUME 40 CU. YD. CUT VOLUME 12 CU. YD.
FILL VOLUME 65 CU. YD. FILL VOLUME 23 CU. YD.



CUT AREA 14.02 SQ. FT. CUT AREA 6.28 SQ. FT.
FILL AREA 33.28 SQ. FT. FILL AREA 15.04 SQ. FT.

CUT VOLUME 24 CU. YD. CUT VOLUME 13 CU. YD.
FILL VOLUME 49 CU. YD. FILL VOLUME 27 CU. YD.



CUT AREA 10.7 SQ. FT. CUT AREA 7.52 SQ. FT.
FILL AREA 18.03 SQ. FT. FILL AREA 13.44 SQ. FT.

CUT VOLUME 18 CU. YD. CUT VOLUME 27 CU. YD.
FILL VOLUME 14 CU. YD. FILL VOLUME 21 CU. YD.

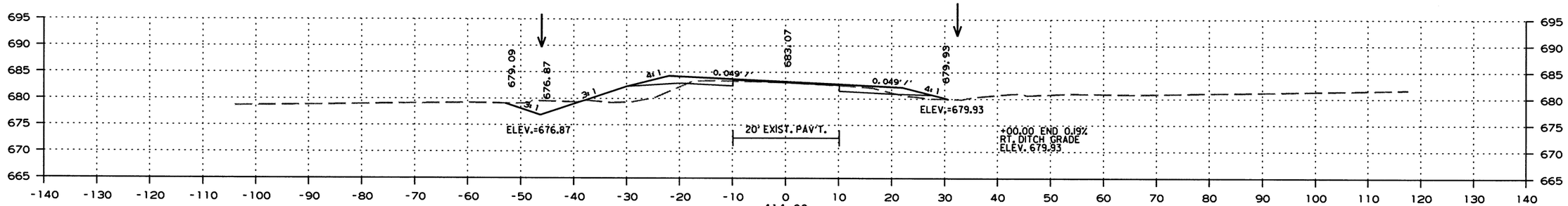
SITE 4
CROSS SECTION STA. 411+00 TO STA. 412+00

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R061438.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.		061438	229	277

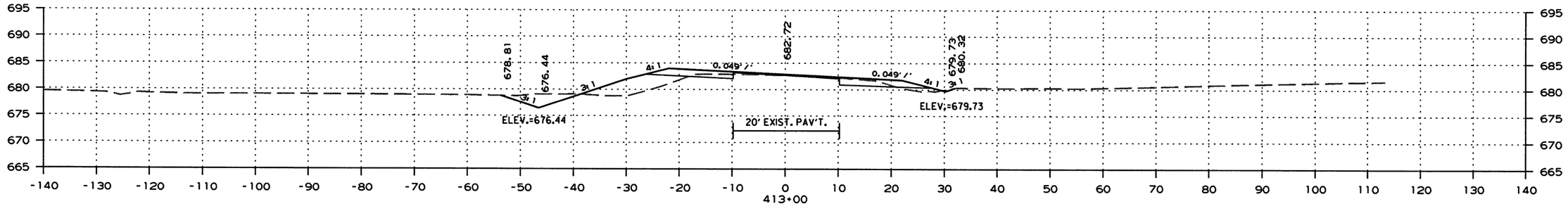
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



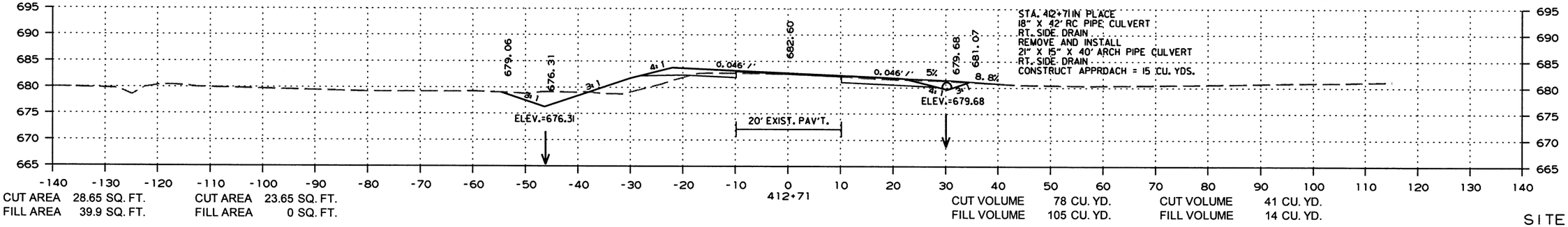
CUT AREA 0 SQ. FT. CUT AREA 0 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 0 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 22.87 SQ. FT. CUT AREA 10.6 SQ. FT.
FILL AREA 34.94 SQ. FT. FILL AREA 6.96 SQ. FT.

CUT VOLUME 28 CU. YD. CUT VOLUME 18 CU. YD.
FILL VOLUME 40 CU. YD. FILL VOLUME 4 CU. YD.



CUT AREA 28.65 SQ. FT. CUT AREA 23.65 SQ. FT.
FILL AREA 39.9 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 78 CU. YD. CUT VOLUME 41 CU. YD.
FILL VOLUME 105 CU. YD. FILL VOLUME 14 CU. YD.

SITE 4
CROSS SECTION STA. 412+71 TO STA. 414+00

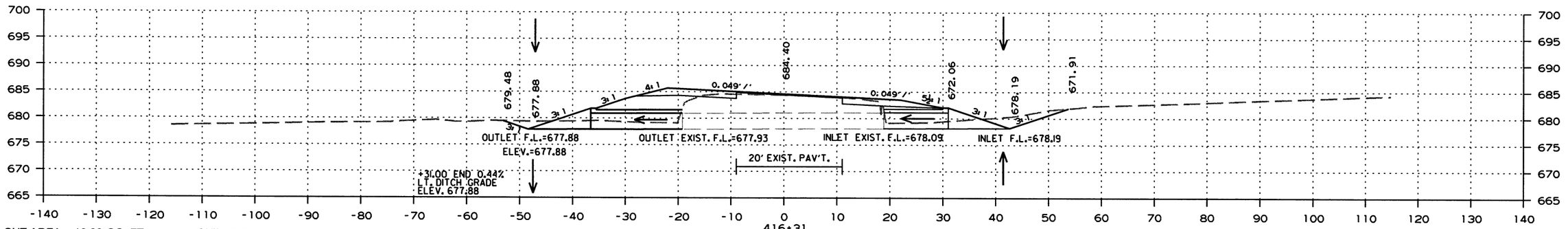
kge653 12/4/2019
R061438.DGN

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.		061438	230	277

(2) CROSS SECTIONS

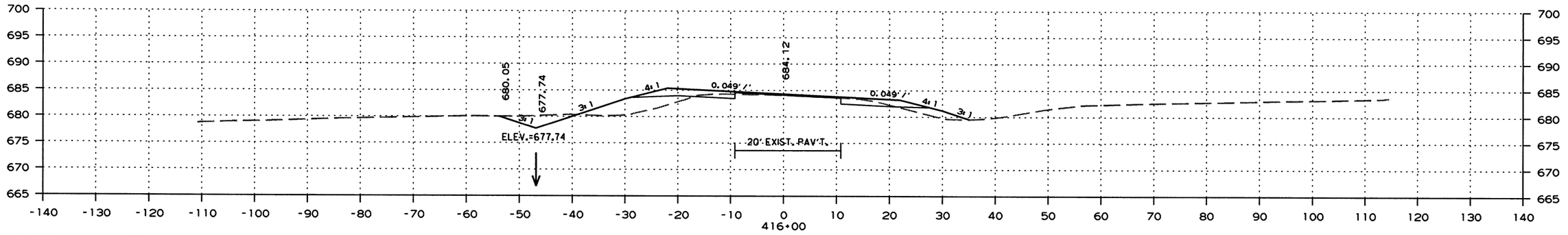
STAGE 1 STAGE 2 STAGE 1 STAGE 2

STA. 416+31 IN PLACE
6' X 3' X 38' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
RETAIN AND EXTEND 18' LT. AND 14' RT.
WITH 3:1 WINGS LT. & RT.
TO A COMPLETED LENGTH OF 70'
050 = 119 CFS D.A. = 97 ACRES



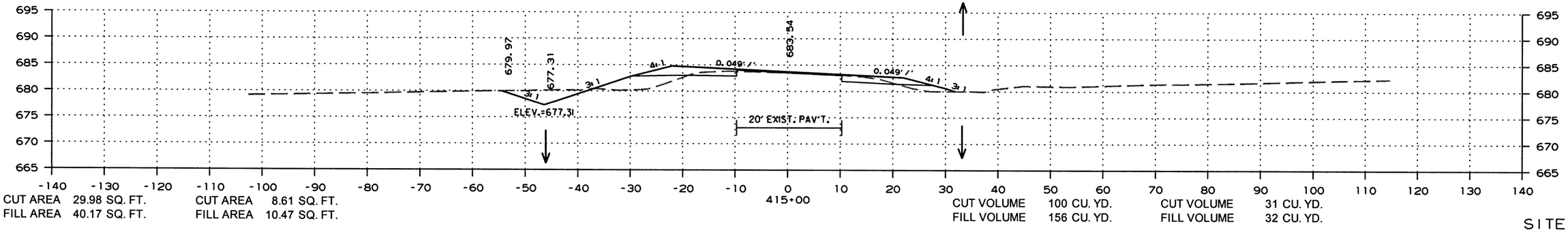
CUT AREA 10.83 SQ. FT. CUT AREA 36.82 SQ. FT.
FILL AREA 40.3 SQ. FT. FILL AREA 15.15 SQ. FT.

CUT VOLUME 19 CU. YD. CUT VOLUME 26 CU. YD.
FILL VOLUME 49 CU. YD. FILL VOLUME 17 CU. YD.



CUT AREA 22.29 SQ. FT. CUT AREA 8.09 SQ. FT.
FILL AREA 45 SQ. FT. FILL AREA 14.97 SQ. FT.

CUT VOLUME 97 CU. YD. CUT VOLUME 31 CU. YD.
FILL VOLUME 158 CU. YD. FILL VOLUME 47 CU. YD.



CUT AREA 29.98 SQ. FT. CUT AREA 8.61 SQ. FT.
FILL AREA 40.17 SQ. FT. FILL AREA 10.47 SQ. FT.

CUT VOLUME 100 CU. YD. CUT VOLUME 31 CU. YD.
FILL VOLUME 156 CU. YD. FILL VOLUME 32 CU. YD.

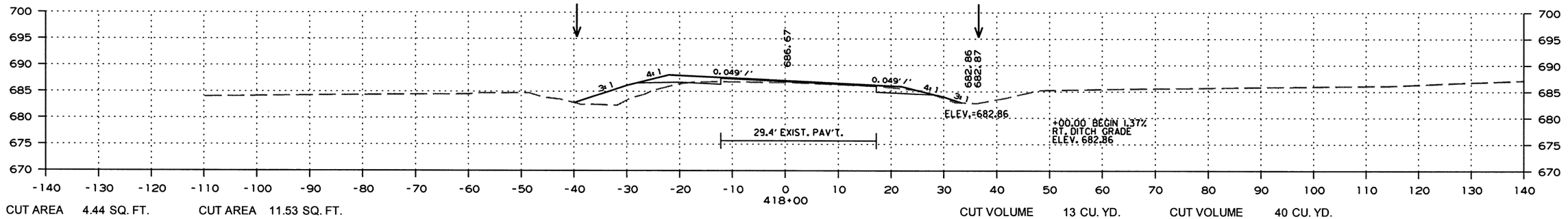
SITE 4
CROSS SECTION STA. 415+00 TO STA. 416+31

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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.		061438	231	277

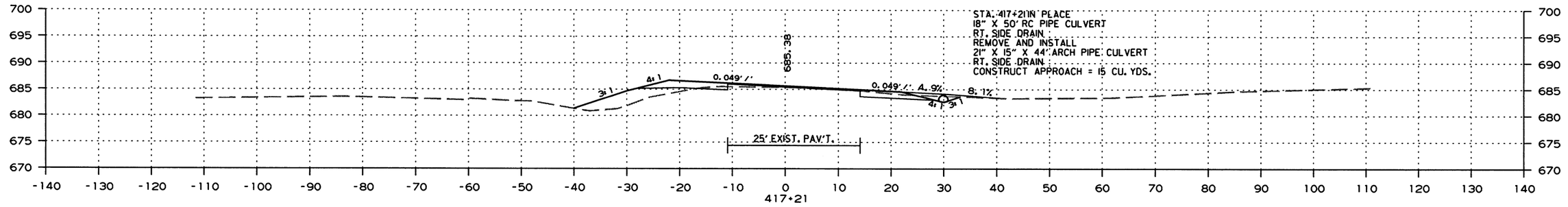
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



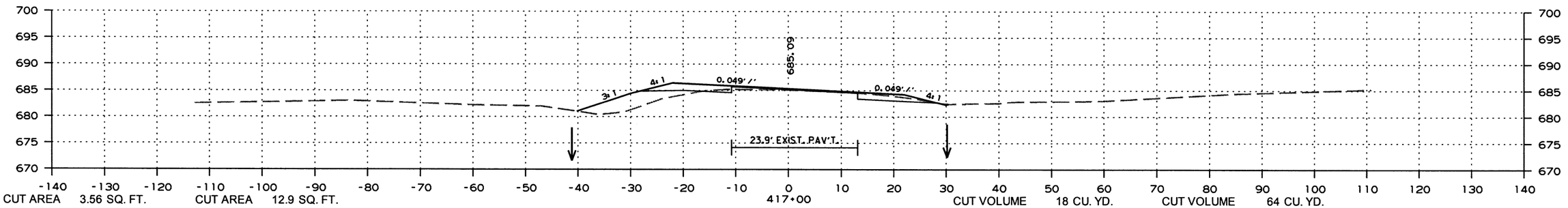
CUT AREA 4.44 SQ. FT. CUT AREA 11.53 SQ. FT.
FILL AREA 9 SQ. FT. FILL AREA 1.24 SQ. FT.

CUT VOLUME 13 CU. YD. CUT VOLUME 40 CU. YD.
FILL VOLUME 27 CU. YD. FILL VOLUME 2 CU. YD.



CUT AREA 4.24 SQ. FT. CUT AREA 15.89 SQ. FT.
FILL AREA 9.56 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 3 CU. YD. CUT VOLUME 11 CU. YD.
FILL VOLUME 19 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 3.56 SQ. FT. CUT AREA 12.9 SQ. FT.
FILL AREA 38.19 SQ. FT. FILL AREA 0.51 SQ. FT.

CUT VOLUME 18 CU. YD. CUT VOLUME 64 CU. YD.
FILL VOLUME 100 CU. YD. FILL VOLUME 20 CU. YD.

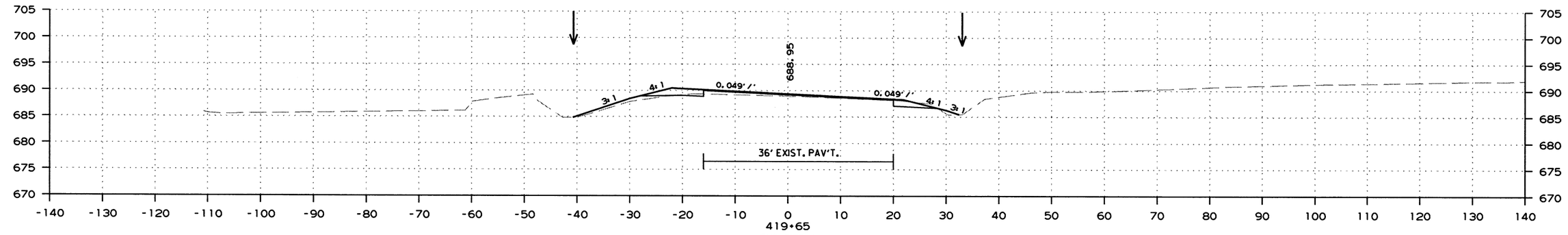
SITE 4
CROSS SECTION STA. 417+00 TO STA. 418+00

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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.		061438	232	277

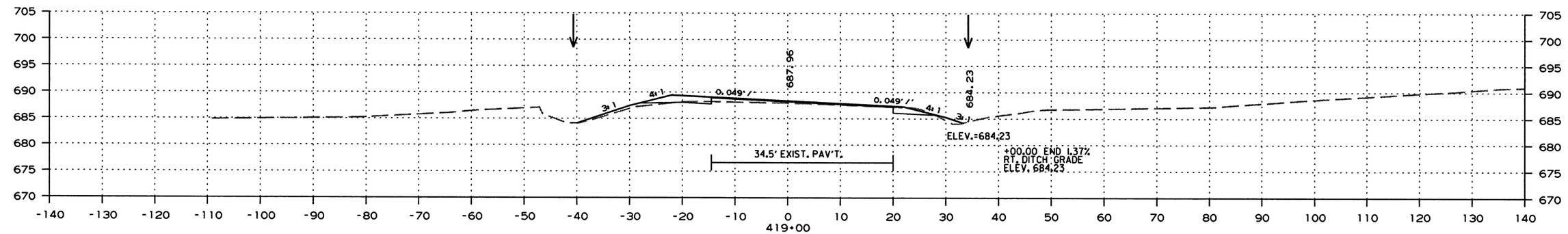
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



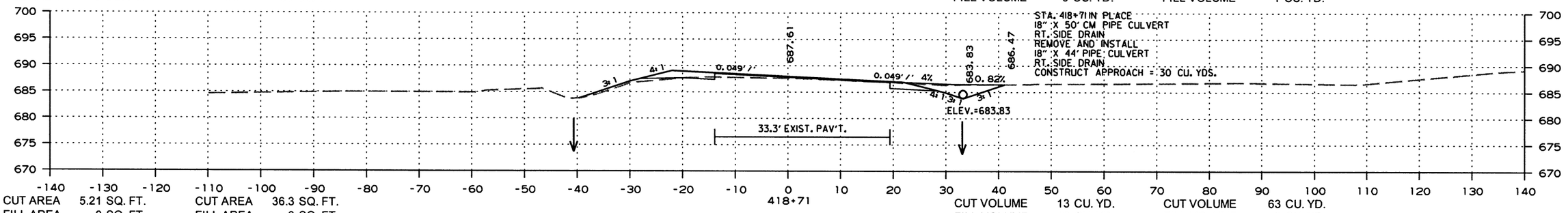
419+65
END SITE 4
BEGIN TRANSITION

CUT AREA	1.42 SQ. FT.	CUT AREA	7.14 SQ. FT.
FILL AREA	7.9 SQ. FT.	FILL AREA	1.63 SQ. FT.
CUT VOLUME	8 CU. YD.	CUT VOLUME	27 CU. YD.
FILL VOLUME	9 CU. YD.	FILL VOLUME	5 CU. YD.



419+00

CUT AREA	5.25 SQ. FT.	CUT AREA	15.58 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	2.59 SQ. FT.
CUT VOLUME	6 CU. YD.	CUT VOLUME	28 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	1 CU. YD.



418+71

CUT AREA	5.21 SQ. FT.	CUT AREA	36.3 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.
CUT VOLUME	13 CU. YD.	CUT VOLUME	63 CU. YD.
FILL VOLUME	12 CU. YD.	FILL VOLUME	2 CU. YD.

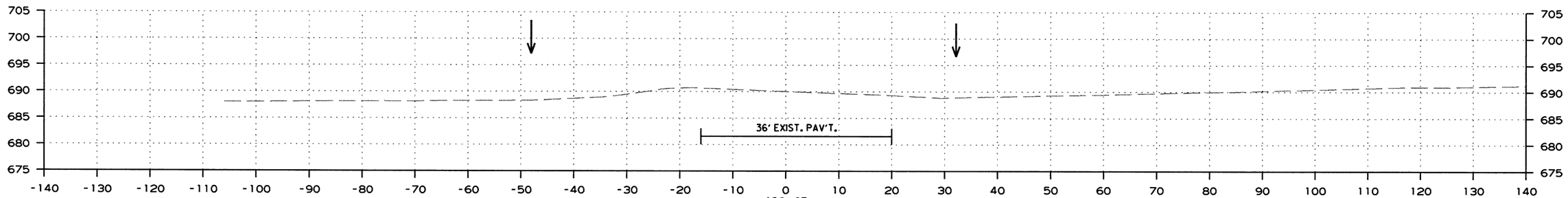
SITE 4
CROSS SECTION STA. 418+71 TO STA. 419+65

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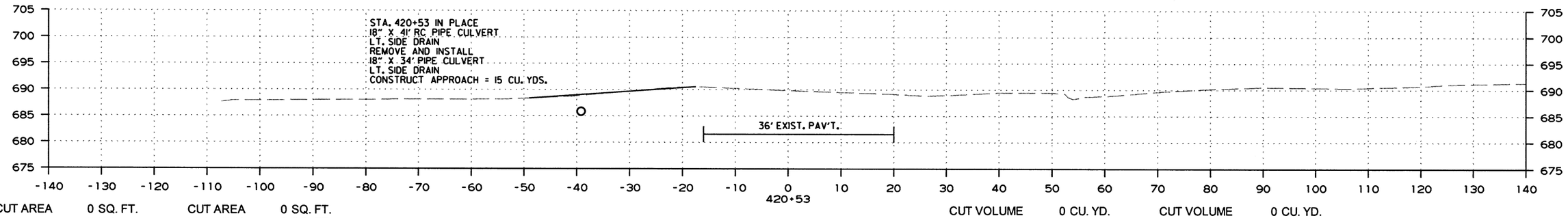
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	233	277

(2) CROSS SECTIONS

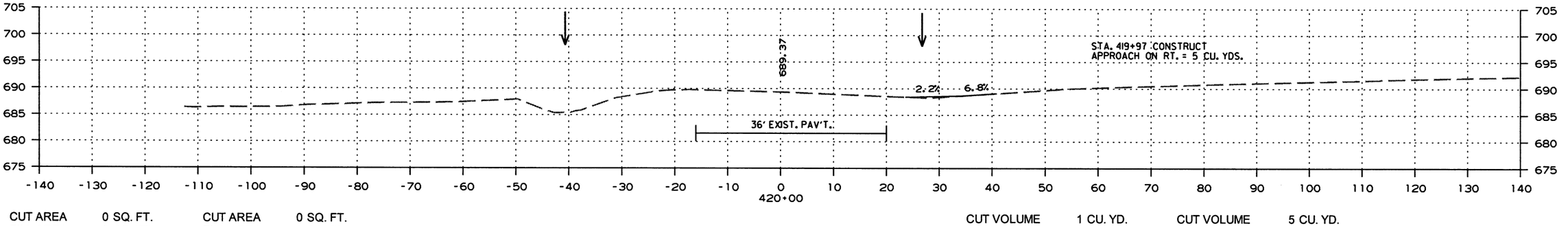
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	1 CU. YD.	CUT VOLUME	5 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	5 CU. YD.	FILL VOLUME	1 CU. YD.

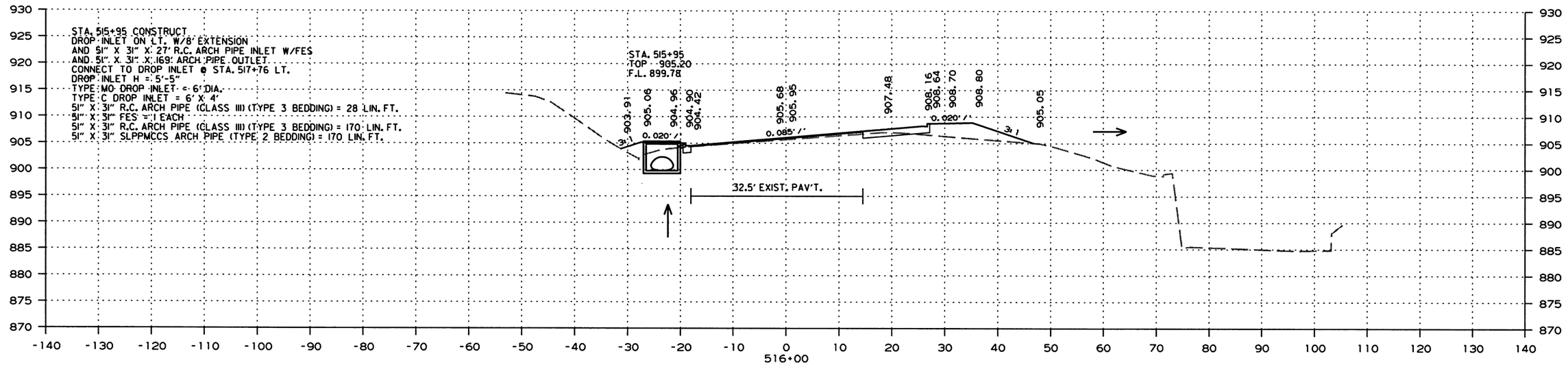
SITE 4
CROSS SECTION STA. 420+00 TO STA. 420+65

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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.		061438	234	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	0 SQ. FT.	CUT AREA	12.72 SQ. FT.
FILL AREA	13.45 SQ. FT.	FILL AREA	38.34 SQ. FT.
CUT VOLUME	12 CU. YD.	CUT VOLUME	43 CU. YD.
FILL VOLUME	32 CU. YD.	FILL VOLUME	83 CU. YD.
CUT AREA	6.68 SQ. FT.	CUT AREA	10.56 SQ. FT.
FILL AREA	16.11 SQ. FT.	FILL AREA	6.21 SQ. FT.
CUT VOLUME	12 CU. YD.	CUT VOLUME	20 CU. YD.
FILL VOLUME	2 CU. YD.	FILL VOLUME	12 CU. YD.

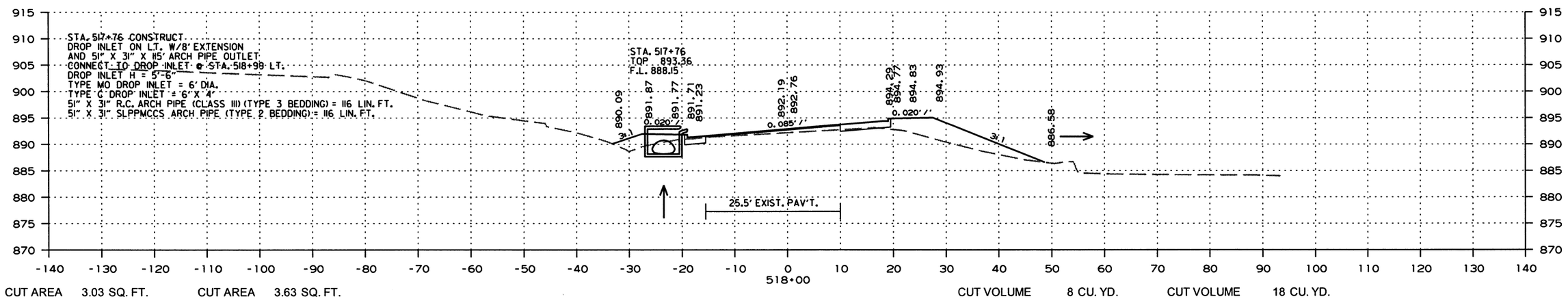
SITE 6
CROSS SECTION STA. 515+00 TO STA. 516+00

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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.		061438	235	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	3.03 SQ. FT.	CUT AREA	3.63 SQ. FT.
FILL AREA	10.46 SQ. FT.	FILL AREA	70.81 SQ. FT.
CUT VOLUME	8 CU. YD.	CUT VOLUME	18 CU. YD.
FILL VOLUME	55 CU. YD.	FILL VOLUME	192 CU. YD.
CUT AREA	1.11 SQ. FT.	CUT AREA	6 SQ. FT.
FILL AREA	42.44 SQ. FT.	FILL AREA	32.85 SQ. FT.
CUT VOLUME	2 CU. YD.	CUT VOLUME	35 CU. YD.
FILL VOLUME	59 CU. YD.	FILL VOLUME	132 CU. YD.

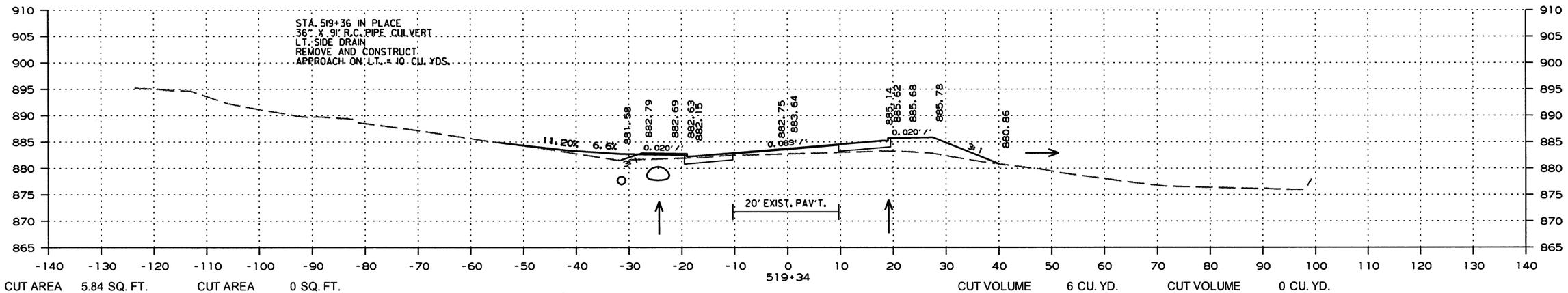
SITE 6
CROSS SECTION STA. 517+00 TO STA. 518+00

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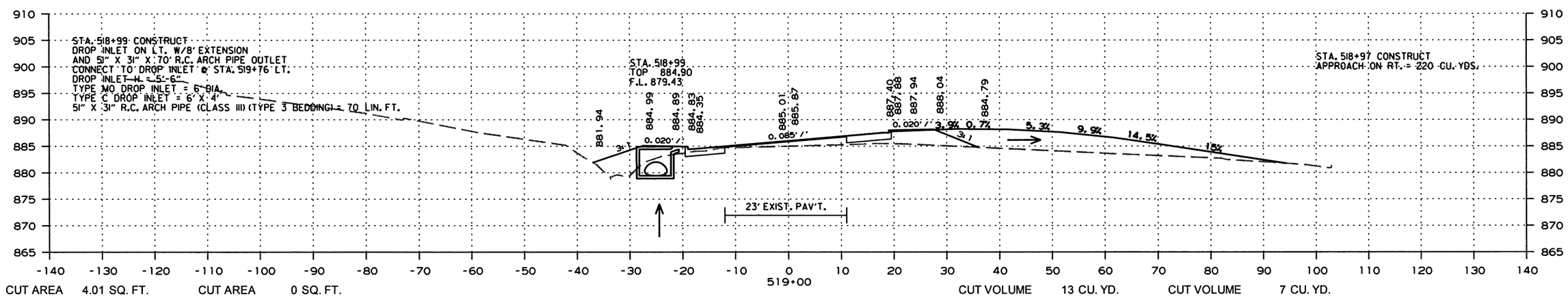
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	236	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	5.84 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	6 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	33.68 SQ. FT.	FILL AREA	63.93 SQ. FT.	FILL VOLUME	33 CU. YD.	FILL VOLUME	75 CU. YD.



CUT AREA	4.01 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	13 CU. YD.	CUT VOLUME	7 CU. YD.
FILL AREA	29.78 SQ. FT.	FILL AREA	55.96 SQ. FT.	FILL VOLUME	104 CU. YD.	FILL VOLUME	235 CU. YD.

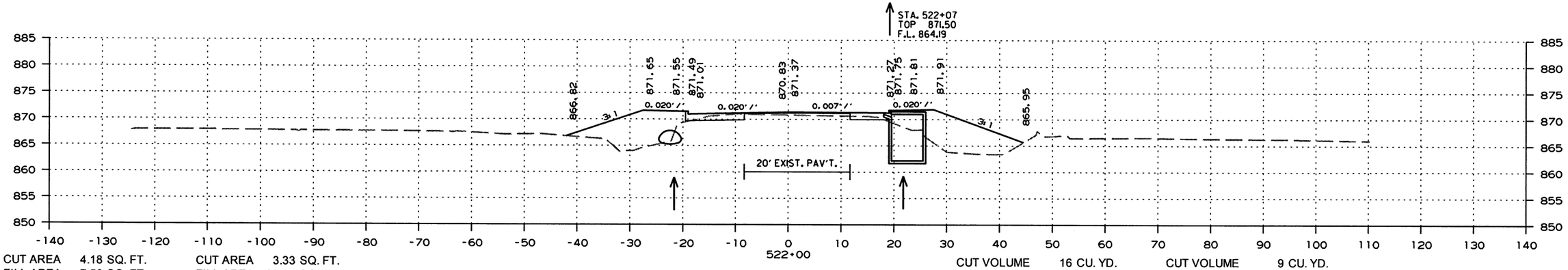
SITE 6
CROSS SECTION STA. 519+00 TO STA. 519+34

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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.		061438	237	277

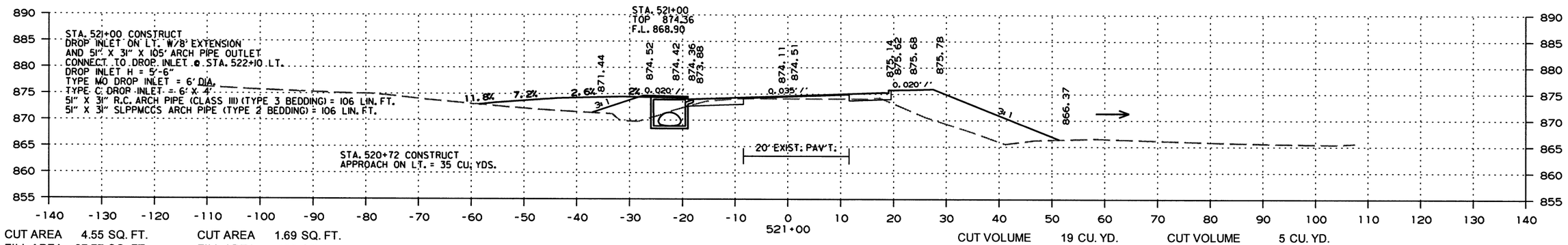
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



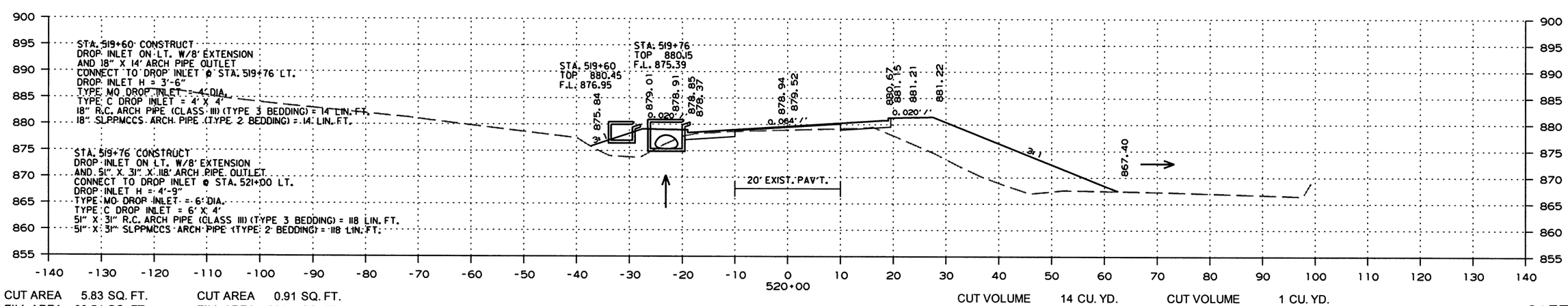
CUT AREA 4.18 SQ. FT. CUT AREA 3.33 SQ. FT.
FILL AREA 7.56 SQ. FT. FILL AREA 93.27 SQ. FT.

CUT VOLUME 16 CU. YD. CUT VOLUME 9 CU. YD.
FILL VOLUME 228 CU. YD. FILL VOLUME 413 CU. YD.



CUT AREA 4.55 SQ. FT. CUT AREA 1.69 SQ. FT.
FILL AREA 27.77 SQ. FT. FILL AREA 130 SQ. FT.

CUT VOLUME 19 CU. YD. CUT VOLUME 5 CU. YD.
FILL VOLUME 118 CU. YD. FILL VOLUME 669 CU. YD.



CUT AREA 5.83 SQ. FT. CUT AREA 0.91 SQ. FT.
FILL AREA 89.54 SQ. FT. FILL AREA 231.4 SQ. FT.

CUT VOLUME 14 CU. YD. CUT VOLUME 1 CU. YD.
FILL VOLUME 49 CU. YD. FILL VOLUME 361 CU. YD.

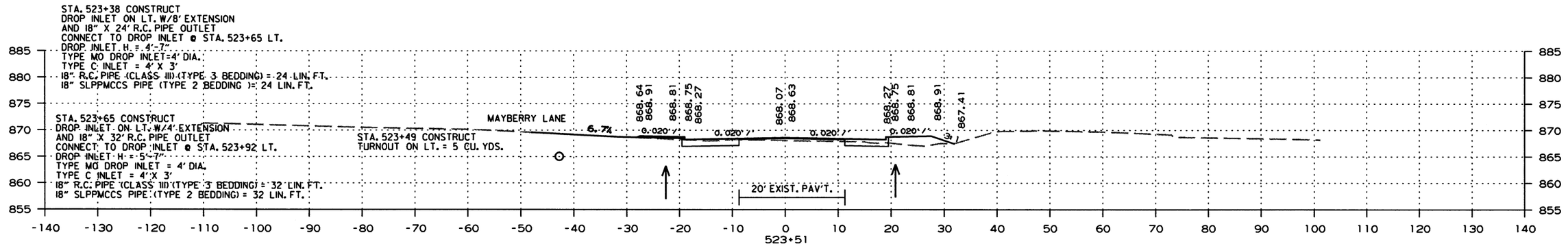
SITE 6
CROSS SECTION STA. 520+00 TO STA. 522+00

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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.		061438	238	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



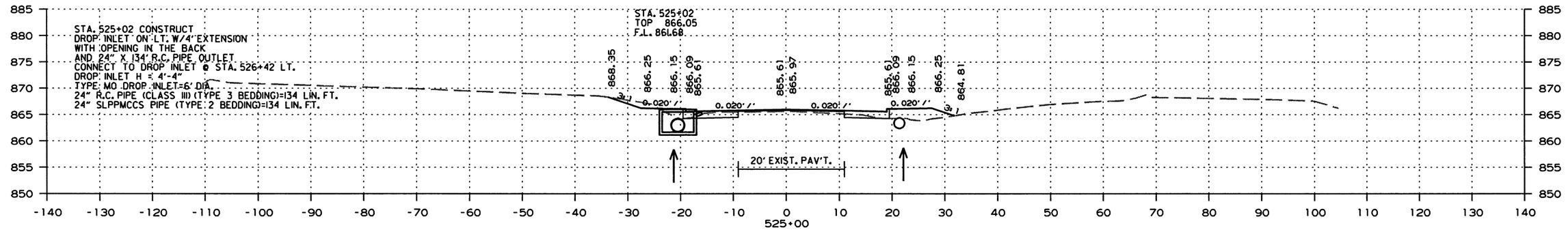
SITE 6
CROSS SECTION STA. 522+09 TO STA. 523+51

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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.		061438	239	277

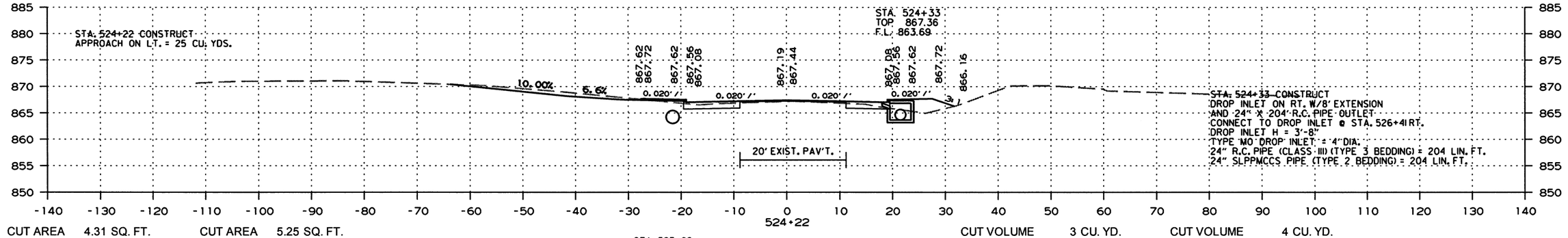
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



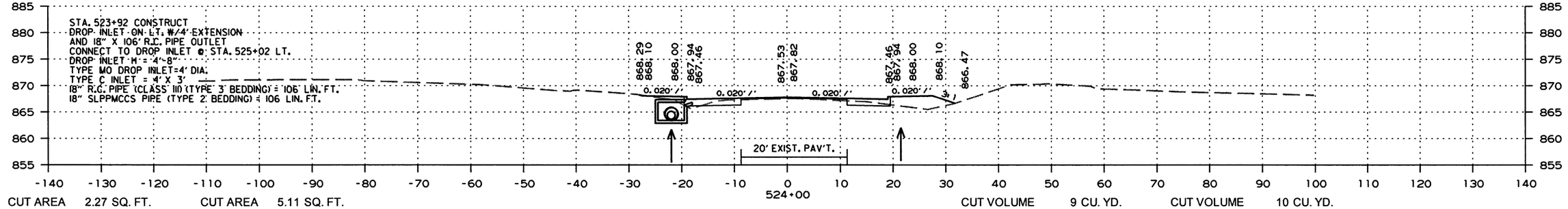
CUT AREA 2.93 SQ. FT. CUT AREA 3.08 SQ. FT.
FILL AREA 11.56 SQ. FT. FILL AREA 21.72 SQ. FT.

CUT VOLUME 10 CU. YD. CUT VOLUME 12 CU. YD.
FILL VOLUME 12 CU. YD. FILL VOLUME 53 CU. YD.



CUT AREA 4.31 SQ. FT. CUT AREA 5.25 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 15.18 SQ. FT.

CUT VOLUME 3 CU. YD. CUT VOLUME 4 CU. YD.
FILL VOLUME 3 CU. YD. FILL VOLUME 15 CU. YD.



CUT AREA 2.27 SQ. FT. CUT AREA 5.11 SQ. FT.
FILL AREA 4.87 SQ. FT. FILL AREA 22.03 SQ. FT.

CUT VOLUME 9 CU. YD. CUT VOLUME 10 CU. YD.
FILL VOLUME 6 CU. YD. FILL VOLUME 34 CU. YD.

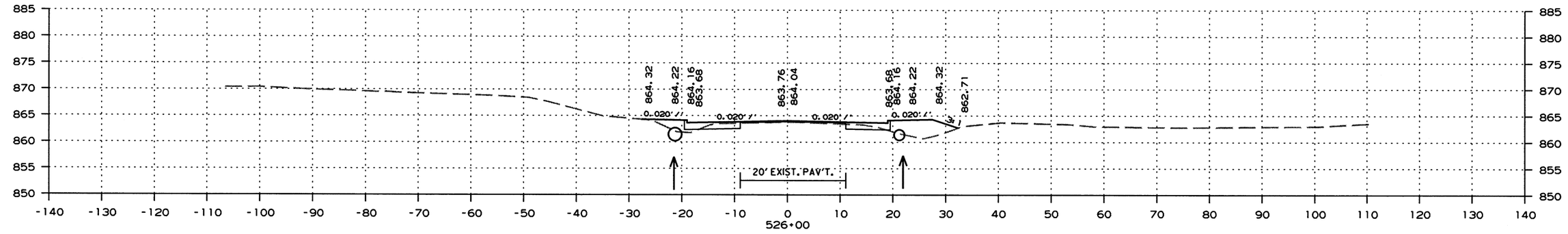
SITE 6
CROSS SECTION STA. 524+00 TO STA. 525+00

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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.		061438	240	277

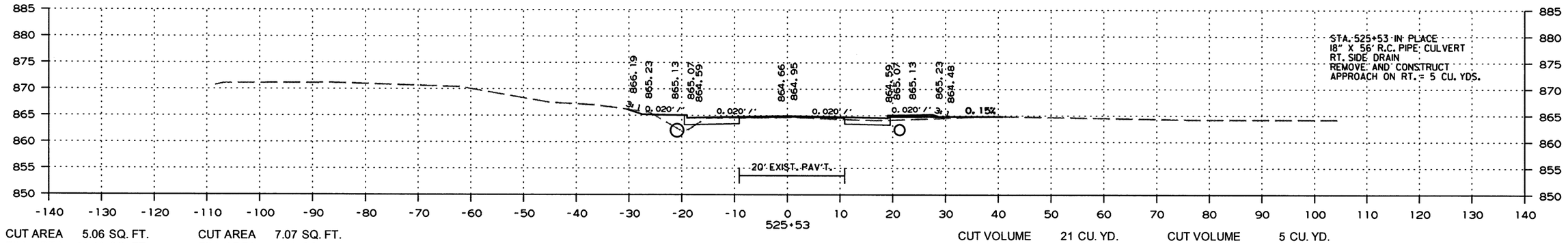
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



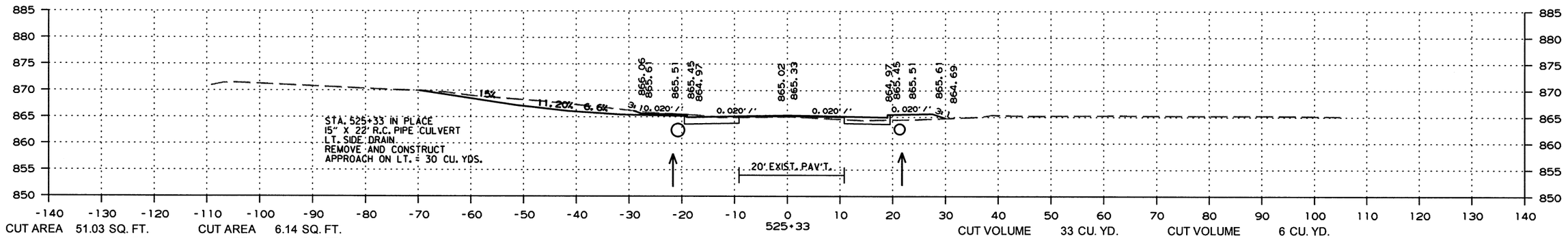
CUT AREA 2.06 SQ. FT. CUT AREA 4.94 SQ. FT.
FILL AREA 14.75 SQ. FT. FILL AREA 32.36 SQ. FT.

CUT VOLUME 6 CU. YD. CUT VOLUME 10 CU. YD.
FILL VOLUME 20 CU. YD. FILL VOLUME 35 CU. YD.



CUT AREA 5.06 SQ. FT. CUT AREA 7.07 SQ. FT.
FILL AREA 11.19 SQ. FT. FILL AREA 7.53 SQ. FT.

CUT VOLUME 21 CU. YD. CUT VOLUME 5 CU. YD.
FILL VOLUME 4 CU. YD. FILL VOLUME 6 CU. YD.



CUT AREA 51.03 SQ. FT. CUT AREA 6.14 SQ. FT.
FILL AREA 11.18 SQ. FT. FILL AREA 9.19 SQ. FT.

CUT VOLUME 33 CU. YD. CUT VOLUME 6 CU. YD.
FILL VOLUME 3 CU. YD. FILL VOLUME 19 CU. YD.

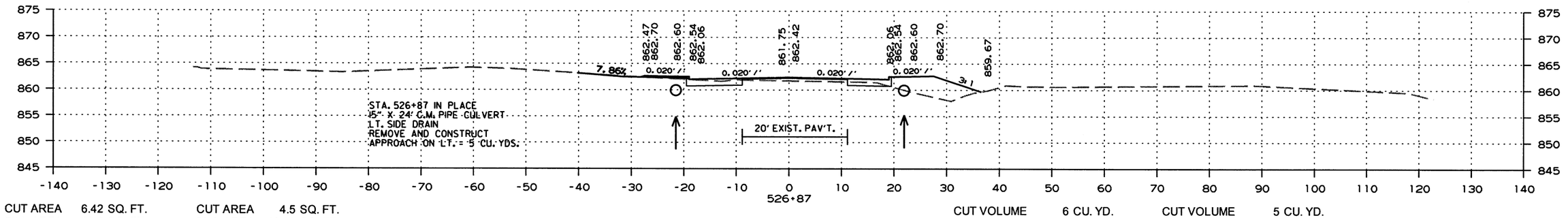
SITE 6
CROSS SECTION STA. 525+33 TO STA. 526+00

ikge653 12/4/2019
R061438.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.		061438	241	277

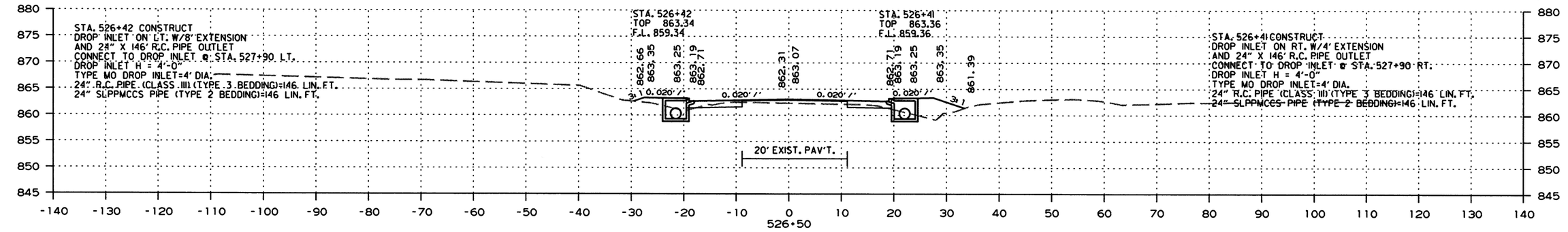
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



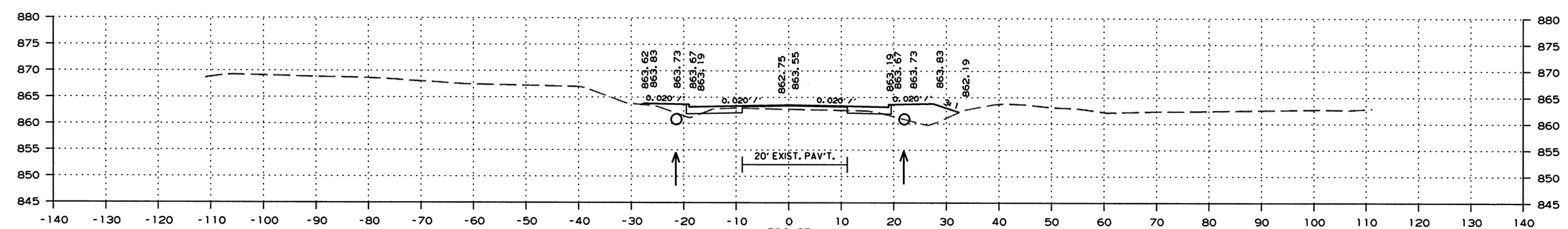
CUT AREA 6.42 SQ. FT. CUT AREA 4.5 SQ. FT.
FILL AREA 63.6 SQ. FT. FILL AREA 46.89 SQ. FT.

CUT VOLUME 6 CU. YD. CUT VOLUME 5 CU. YD.
FILL VOLUME 12 CU. YD. FILL VOLUME 56 CU. YD.



CUT AREA 2.78 SQ. FT. CUT AREA 3.37 SQ. FT.
FILL AREA 25.76 SQ. FT. FILL AREA 34.55 SQ. FT.

CUT VOLUME 3 CU. YD. CUT VOLUME 3 CU. YD.
FILL VOLUME 12 CU. YD. FILL VOLUME 33 CU. YD.



CUT AREA 2.7 SQ. FT. CUT AREA 2.62 SQ. FT.
FILL AREA 3.29 SQ. FT. FILL AREA 36.39 SQ. FT.

CUT VOLUME 2 CU. YD. CUT VOLUME 4 CU. YD.
FILL VOLUME 10 CU. YD. FILL VOLUME 32 CU. YD.

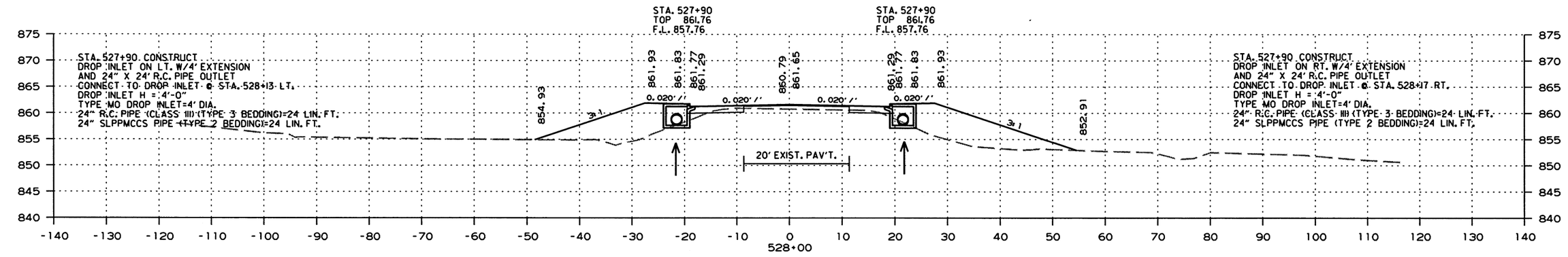
SITE 6
CROSS SECTION STA. 526+25 TO STA. 526+87

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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.		061438	242	277

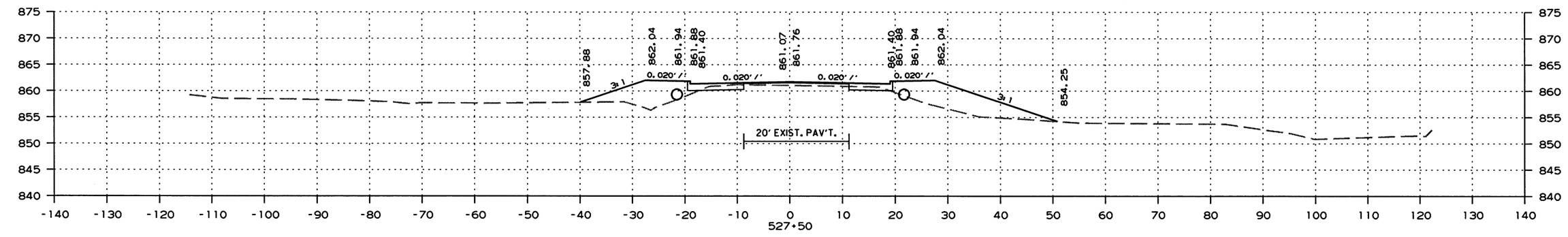
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



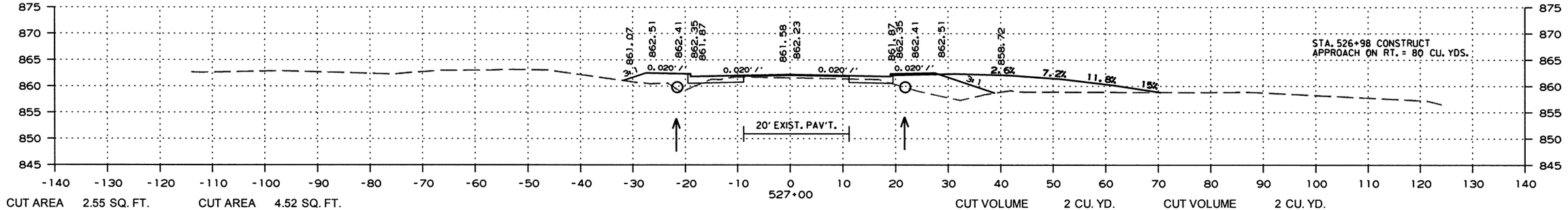
CUT AREA 1.42 SQ. FT. CUT AREA 2.39 SQ. FT.
FILL AREA 128.7 SQ. FT. FILL AREA 124 SQ. FT.

CUT VOLUME 4 CU. YD. CUT VOLUME 6 CU. YD.
FILL VOLUME 171 CU. YD. FILL VOLUME 203 CU. YD.



CUT AREA 2.94 SQ. FT. CUT AREA 4.35 SQ. FT.
FILL AREA 79.02 SQ. FT. FILL AREA 95.62 SQ. FT.

CUT VOLUME 5 CU. YD. CUT VOLUME 8 CU. YD.
FILL VOLUME 83 CU. YD. FILL VOLUME 138 CU. YD.



CUT AREA 2.55 SQ. FT. CUT AREA 4.52 SQ. FT.
FILL AREA 120.8 SQ. FT. FILL AREA 53.23 SQ. FT.

CUT VOLUME 2 CU. YD. CUT VOLUME 2 CU. YD.
FILL VOLUME 7 CU. YD. FILL VOLUME 24 CU. YD.

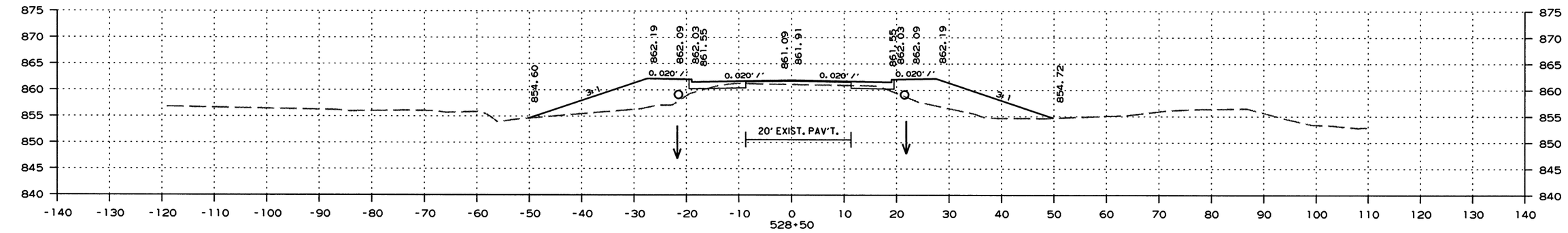
SITE 6
CROSS SECTION STA. 527+00 TO STA. 528+00

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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.		061438	243	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2

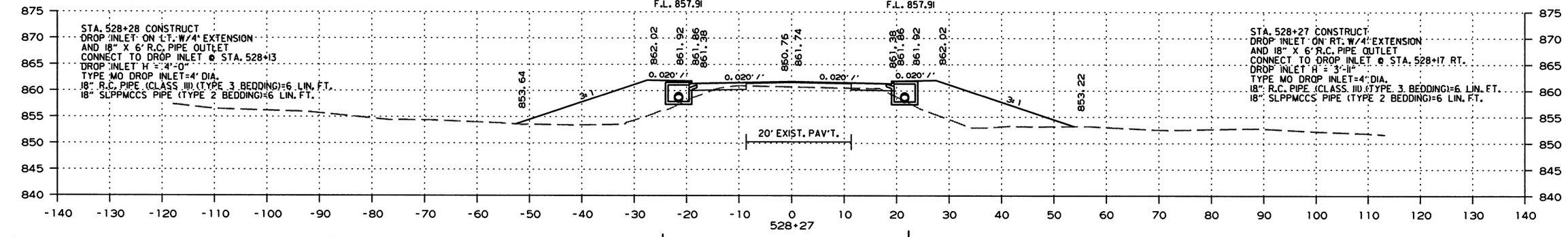


CUT AREA 1.57 SQ. FT. CUT AREA 2.97 SQ. FT.
FILL AREA 50.34 SQ. FT. FILL AREA 104.8 SQ. FT.

CUT VOLUME 1 CU. YD. CUT VOLUME 2 CU. YD.
FILL VOLUME 99 CU. YD. FILL VOLUME 101 CU. YD.

STA. 528+28
TOP 861.87
F.L. 857.91

STA. 528+27
TOP 861.86
F.L. 857.91

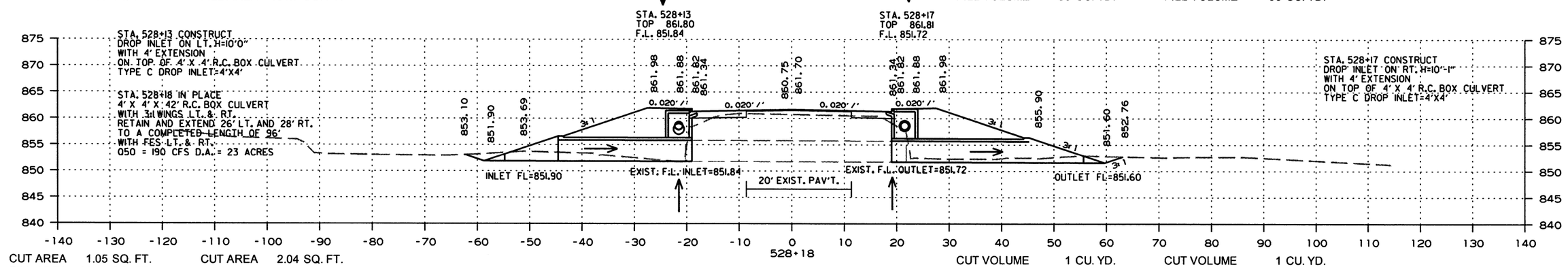


CUT AREA 0.94 SQ. FT. CUT AREA 1.82 SQ. FT.
FILL AREA 41.33 SQ. FT. FILL AREA 131.7 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 1 CU. YD.
FILL VOLUME 35 CU. YD. FILL VOLUME 36 CU. YD.

STA. 528+13
TOP 861.80
F.L. 851.84

STA. 528+17
TOP 861.81
F.L. 851.72



CUT AREA 1.05 SQ. FT. CUT AREA 2.04 SQ. FT.
FILL AREA 103.8 SQ. FT. FILL AREA 81.6 SQ. FT.

CUT VOLUME 1 CU. YD. CUT VOLUME 1 CU. YD.
FILL VOLUME 67 CU. YD. FILL VOLUME 69 CU. YD.

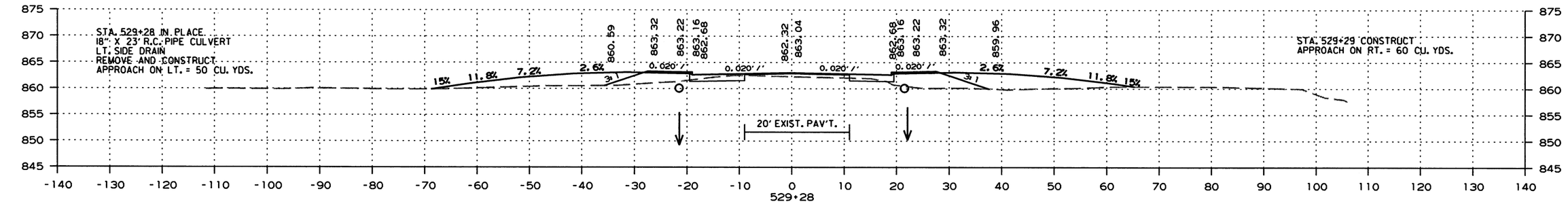
SITE 6
CROSS SECTION STA. 528+18 TO STA. 528+50

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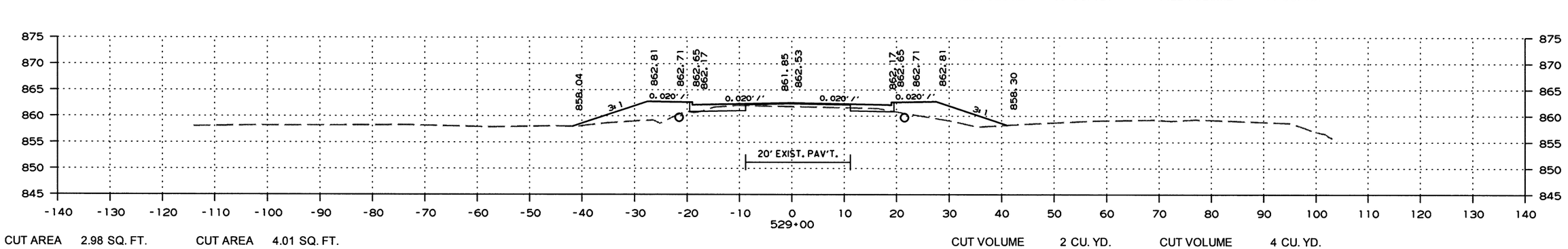
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	244	277

(2) CROSS SECTIONS

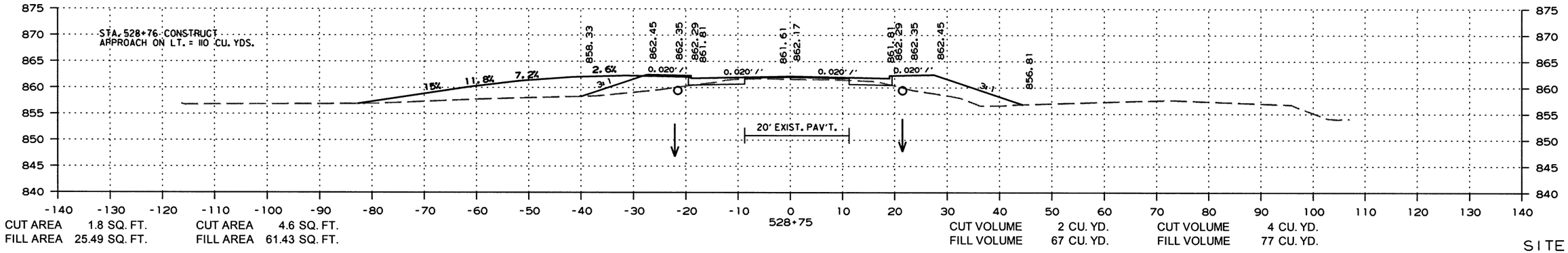
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	3.65 SQ. FT.	CUT AREA	3.06 SQ. FT.
FILL AREA	36.61 SQ. FT.	FILL AREA	37.61 SQ. FT.
CUT VOLUME	3 CU. YD.	CUT VOLUME	4 CU. YD.
FILL VOLUME	39 CU. YD.	FILL VOLUME	44 CU. YD.



CUT AREA	2.98 SQ. FT.	CUT AREA	4.01 SQ. FT.
FILL AREA	41.3 SQ. FT.	FILL AREA	47.75 SQ. FT.
CUT VOLUME	2 CU. YD.	CUT VOLUME	4 CU. YD.
FILL VOLUME	42 CU. YD.	FILL VOLUME	51 CU. YD.



CUT AREA	1.8 SQ. FT.	CUT AREA	4.6 SQ. FT.
FILL AREA	25.49 SQ. FT.	FILL AREA	61.43 SQ. FT.
CUT VOLUME	2 CU. YD.	CUT VOLUME	4 CU. YD.
FILL VOLUME	67 CU. YD.	FILL VOLUME	77 CU. YD.

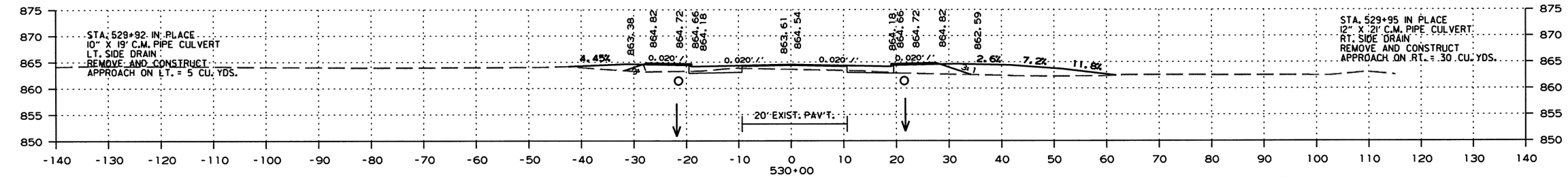
SITE 6
CROSS SECTION STA. 528+75 TO STA. 529+28

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R061438.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.		061438	245	277

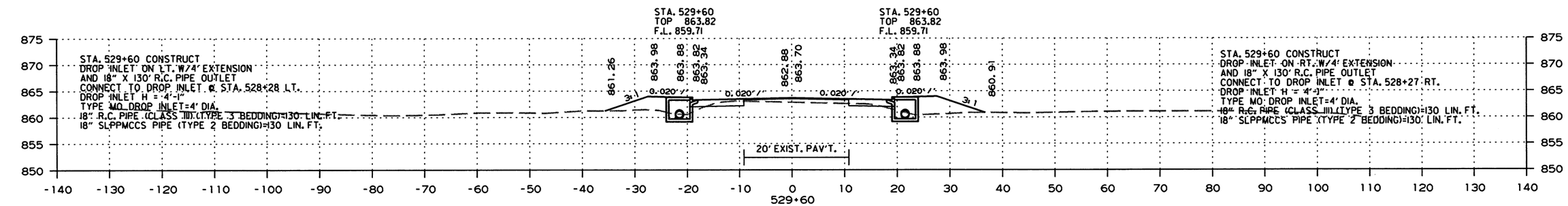
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



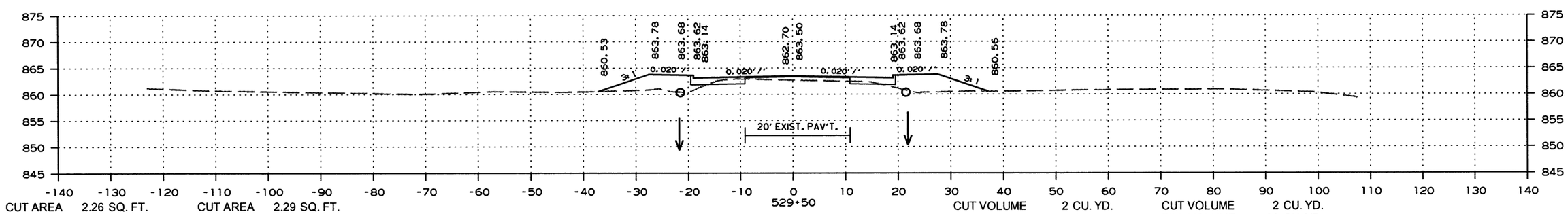
CUT AREA	2.25 SQ. FT.	CUT AREA	2.35 SQ. FT.
FILL AREA	28.32 SQ. FT.	FILL AREA	22.97 SQ. FT.

CUT VOLUME	3 CU. YD.	CUT VOLUME	3 CU. YD.
FILL VOLUME	39 CU. YD.	FILL VOLUME	47 CU. YD.



CUT AREA	2.18 SQ. FT.	CUT AREA	2.14 SQ. FT.
FILL AREA	23.18 SQ. FT.	FILL AREA	40.08 SQ. FT.

CUT VOLUME	1 CU. YD.	CUT VOLUME	1 CU. YD.
FILL VOLUME	14 CU. YD.	FILL VOLUME	15 CU. YD.



CUT AREA	2.26 SQ. FT.	CUT AREA	2.29 SQ. FT.
FILL AREA	15.98 SQ. FT.	FILL AREA	42.32 SQ. FT.

CUT VOLUME	2 CU. YD.	CUT VOLUME	2 CU. YD.
FILL VOLUME	27 CU. YD.	FILL VOLUME	33 CU. YD.

SITE 6

CROSS SECTION STA. 529+50 TO STA. 530+00

12/4/2019

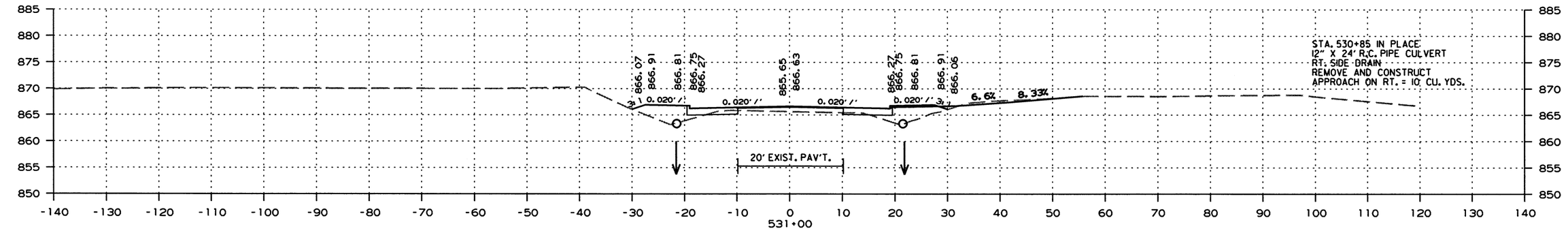
ikge653

R061438.DGN

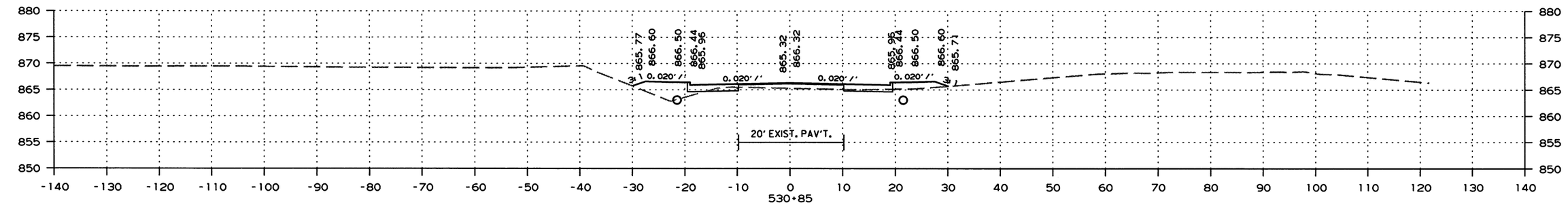
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	246	277

(2) CROSS SECTIONS

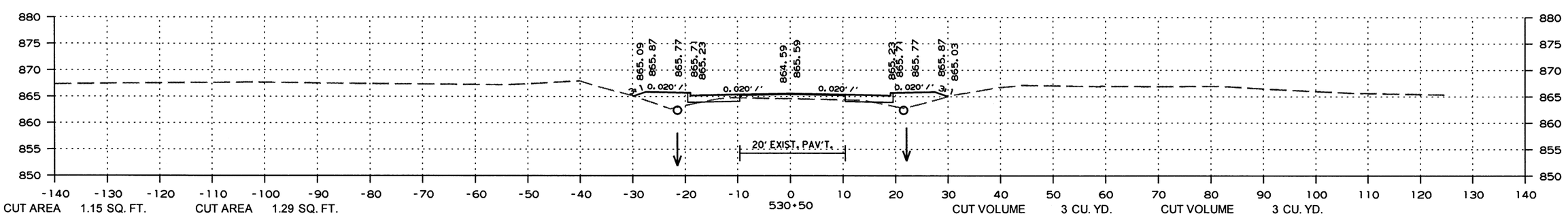
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	1.22 SQ. FT.	CUT AREA	1.31 SQ. FT.
FILL AREA	26.14 SQ. FT.	FILL AREA	28.2 SQ. FT.
CUT VOLUME	1 CU. YD.	CUT VOLUME	1 CU. YD.
FILL VOLUME	16 CU. YD.	FILL VOLUME	11 CU. YD.



CUT AREA	1.11 SQ. FT.	CUT AREA	3.38 SQ. FT.
FILL AREA	27.56 SQ. FT.	FILL AREA	11.5 SQ. FT.
CUT VOLUME	1 CU. YD.	CUT VOLUME	3 CU. YD.
FILL VOLUME	33 CU. YD.	FILL VOLUME	23 CU. YD.



CUT AREA	1.15 SQ. FT.	CUT AREA	1.29 SQ. FT.
FILL AREA	28.38 SQ. FT.	FILL AREA	23.75 SQ. FT.
CUT VOLUME	3 CU. YD.	CUT VOLUME	3 CU. YD.
FILL VOLUME	36 CU. YD.	FILL VOLUME	43 CU. YD.

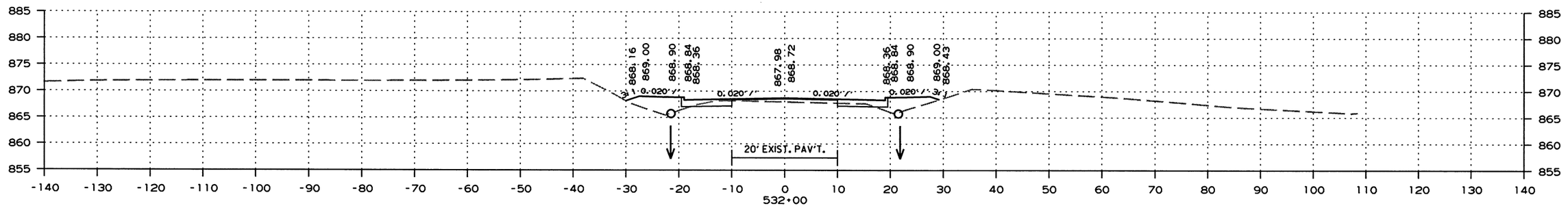
SITE 6
CROSS SECTION STA. 530+50 TO STA. 531+00

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R061438.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.		061438	247	277

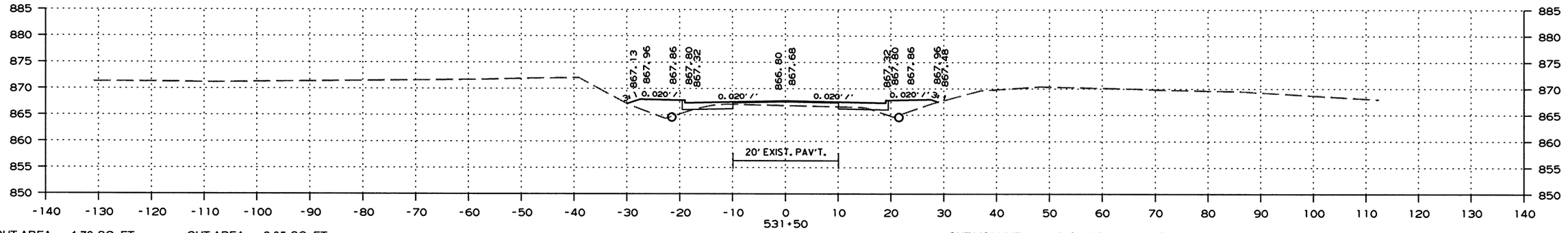
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



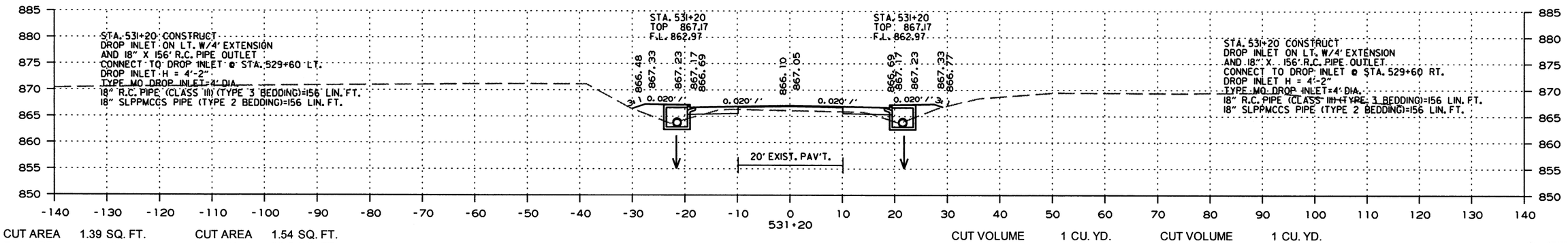
CUT AREA 2.43 SQ. FT. CUT AREA 3.23 SQ. FT.
FILL AREA 30.43 SQ. FT. FILL AREA 20.64 SQ. FT.

CUT VOLUME 4 CU. YD. CUT VOLUME 5 CU. YD.
FILL VOLUME 48 CU. YD. FILL VOLUME 38 CU. YD.



CUT AREA 1.79 SQ. FT. CUT AREA 2.05 SQ. FT.
FILL AREA 25.97 SQ. FT. FILL AREA 20.66 SQ. FT.

CUT VOLUME 2 CU. YD. CUT VOLUME 2 CU. YD.
FILL VOLUME 30 CU. YD. FILL VOLUME 25 CU. YD.



CUT AREA 1.39 SQ. FT. CUT AREA 1.54 SQ. FT.
FILL AREA 25.8 SQ. FT. FILL AREA 23.5 SQ. FT.

CUT VOLUME 1 CU. YD. CUT VOLUME 1 CU. YD.
FILL VOLUME 21 CU. YD. FILL VOLUME 19 CU. YD.

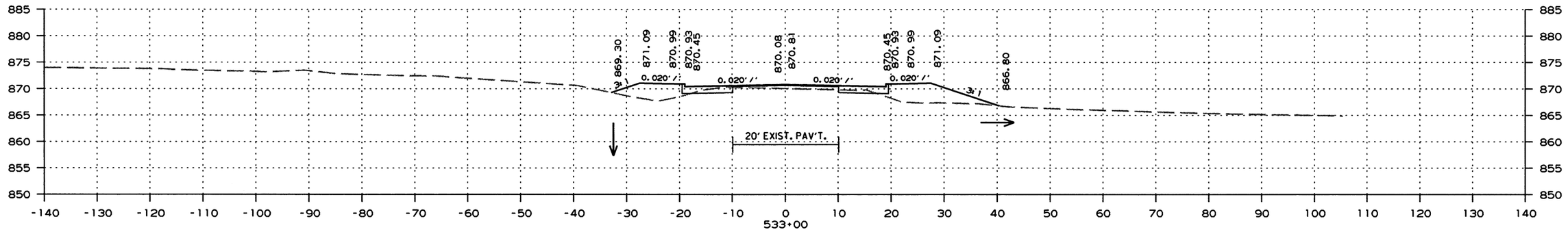
SITE 6
CROSS SECTION STA. 531+20 TO STA. 532+00

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	248	277

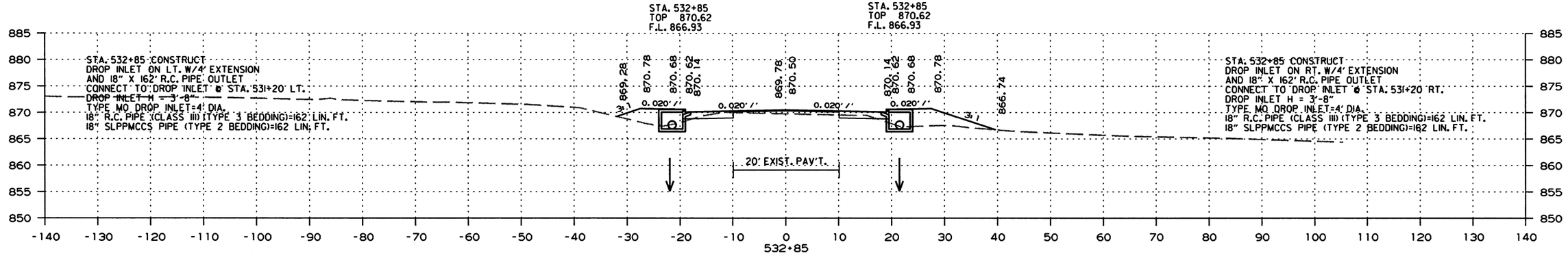
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



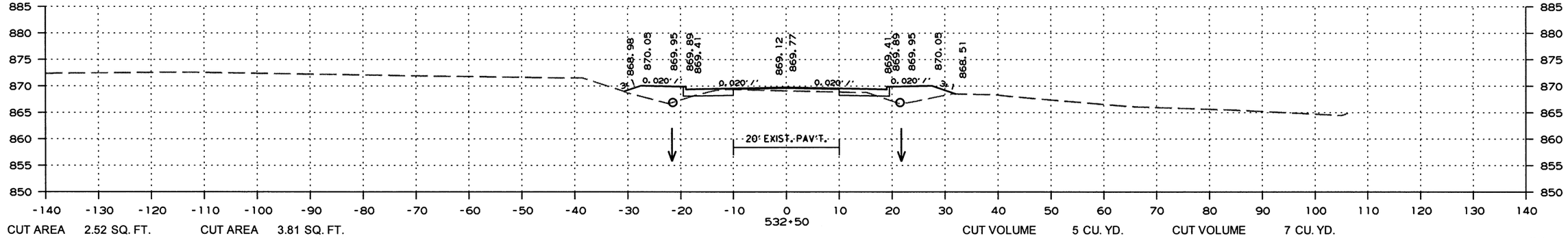
CUT AREA 2.34 SQ. FT. CUT AREA 3.27 SQ. FT.
FILL AREA 7.5 SQ. FT. FILL AREA 51.6 SQ. FT.

CUT VOLUME 1 CU. YD. CUT VOLUME 2 CU. YD.
FILL VOLUME 17 CU. YD. FILL VOLUME 27 CU. YD.



CUT AREA 2.34 SQ. FT. CUT AREA 3.45 SQ. FT.
FILL AREA 31.36 SQ. FT. FILL AREA 44.57 SQ. FT.

CUT VOLUME 3 CU. YD. CUT VOLUME 5 CU. YD.
FILL VOLUME 37 CU. YD. FILL VOLUME 48 CU. YD.



CUT AREA 2.52 SQ. FT. CUT AREA 3.81 SQ. FT.
FILL AREA 32.42 SQ. FT. FILL AREA 29.34 SQ. FT.

CUT VOLUME 5 CU. YD. CUT VOLUME 7 CU. YD.
FILL VOLUME 48 CU. YD. FILL VOLUME 46 CU. YD.

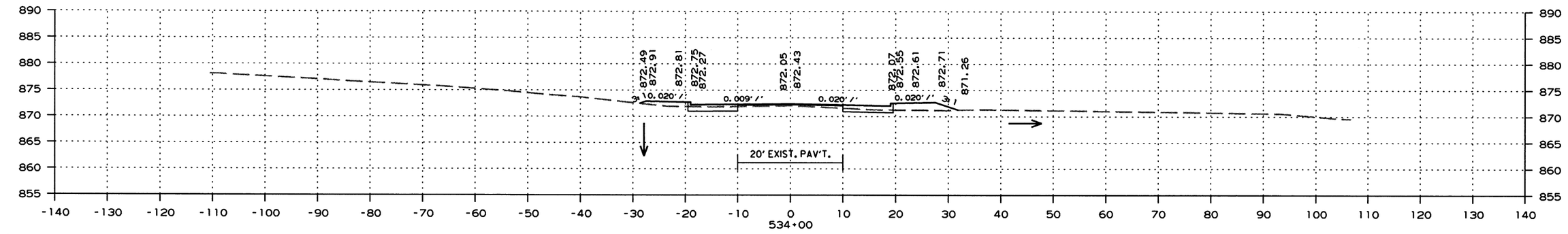
SITE 6
CROSS SECTION STA. 532+50 TO STA. 533+00

tkge653 12/4/2019
R061438.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.		061438	249	277

(2) CROSS SECTIONS

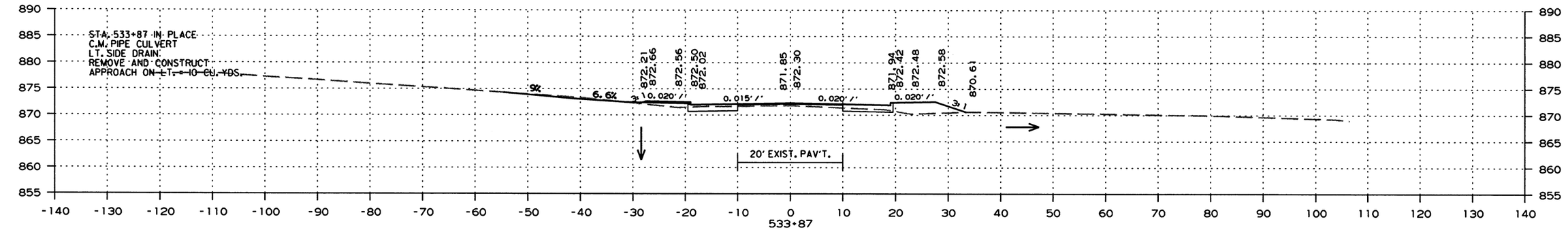
STAGE 1 STAGE 2 STAGE 1 STAGE 2



534+00

CUT AREA	4.28 SQ. FT.	CUT AREA	5.04 SQ. FT.
FILL AREA	21.63 SQ. FT.	FILL AREA	14.64 SQ. FT.

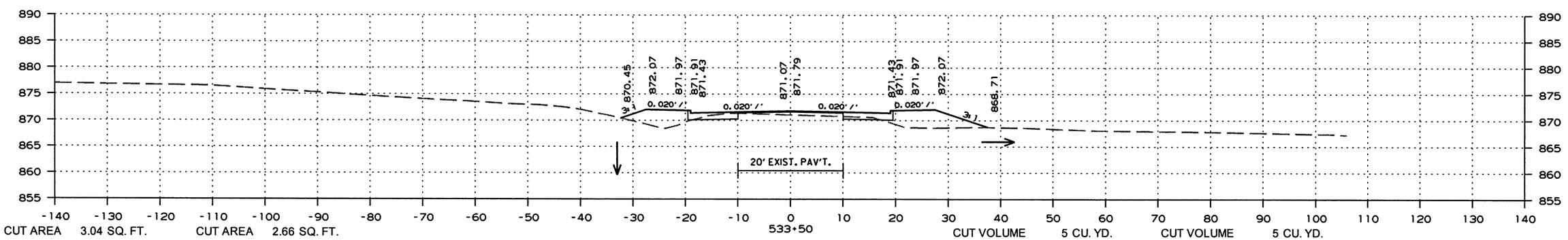
CUT VOLUME	2 CU. YD.	CUT VOLUME	2 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	9 CU. YD.



533+87

CUT AREA	4.27 SQ. FT.	CUT AREA	4.59 SQ. FT.
FILL AREA	15.16 SQ. FT.	FILL AREA	23.15 SQ. FT.

CUT VOLUME	5 CU. YD.	CUT VOLUME	5 CU. YD.
FILL VOLUME	27 CU. YD.	FILL VOLUME	47 CU. YD.



533+50

CUT AREA	3.04 SQ. FT.	CUT AREA	2.66 SQ. FT.
FILL AREA	6.72 SQ. FT.	FILL AREA	44.75 SQ. FT.

CUT VOLUME	5 CU. YD.	CUT VOLUME	5 CU. YD.
FILL VOLUME	59 CU. YD.	FILL VOLUME	89 CU. YD.

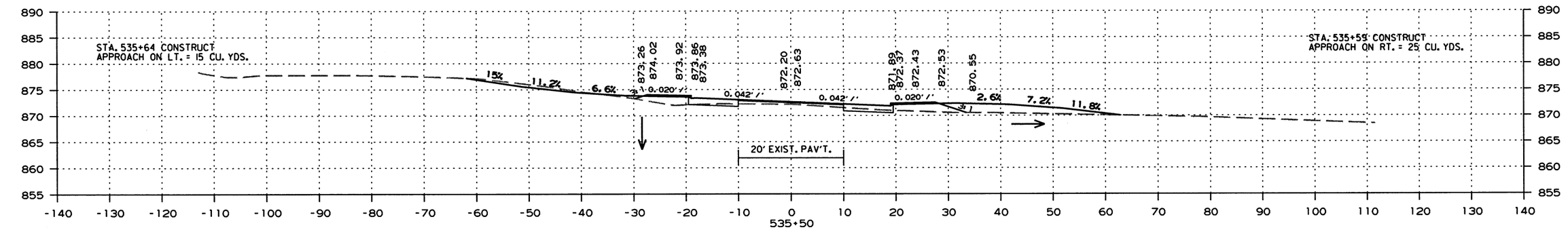
SITE 6
CROSS SECTION STA. 533+50 TO STA. 534+00

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R061438.DGN

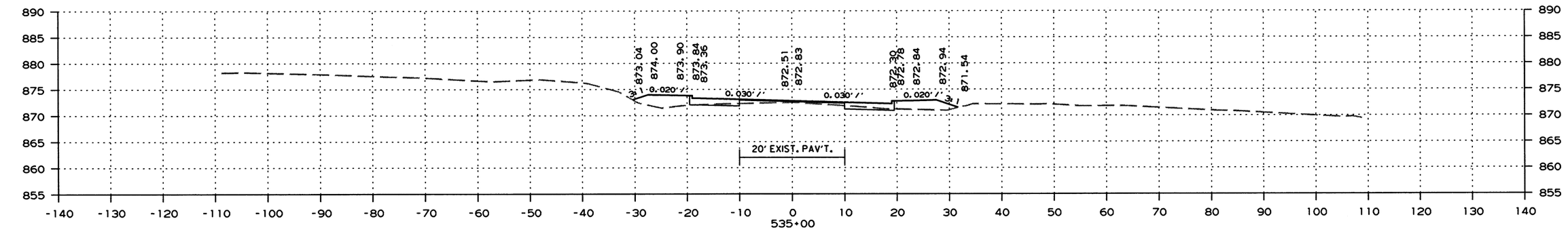
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	250	277

(2) CROSS SECTIONS

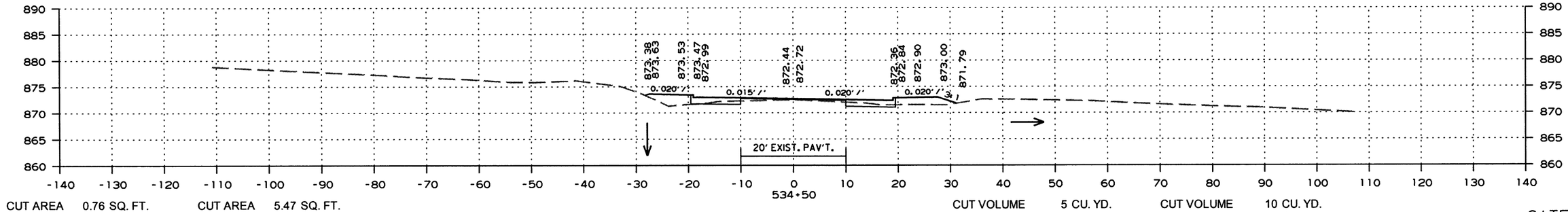
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	0.28 SQ. FT.	CUT AREA	4.89 SQ. FT.
FILL AREA	10.28 SQ. FT.	FILL AREA	18.35 SQ. FT.
CUT VOLUME	0 CU. YD.	CUT VOLUME	8 CU. YD.
FILL VOLUME	34 CU. YD.	FILL VOLUME	34 CU. YD.



CUT AREA	0.1 SQ. FT.	CUT AREA	4.08 SQ. FT.
FILL AREA	12.32 SQ. FT.	FILL AREA	18.31 SQ. FT.
CUT VOLUME	1 CU. YD.	CUT VOLUME	9 CU. YD.
FILL VOLUME	34 CU. YD.	FILL VOLUME	30 CU. YD.



CUT AREA	0.76 SQ. FT.	CUT AREA	5.47 SQ. FT.
FILL AREA	15.18 SQ. FT.	FILL AREA	14.16 SQ. FT.
CUT VOLUME	5 CU. YD.	CUT VOLUME	10 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	27 CU. YD.

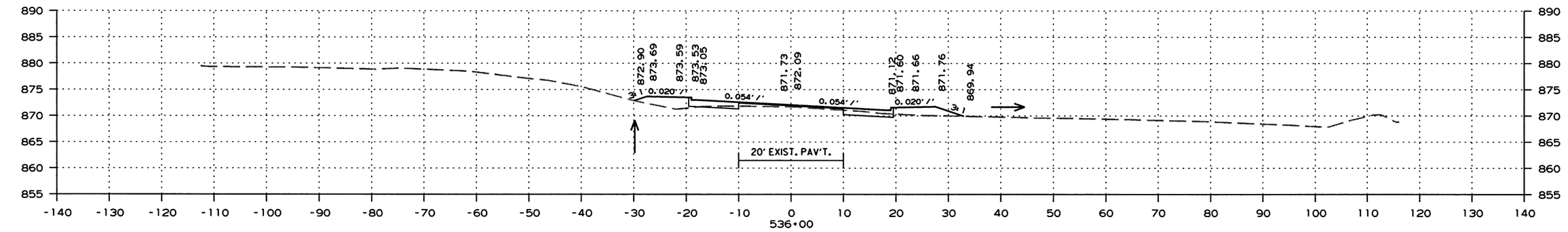
SITE 6
CROSS SECTION STA. 534+50 TO STA. 535+50

12/4/2019
lkge653
R0614.38.DGN

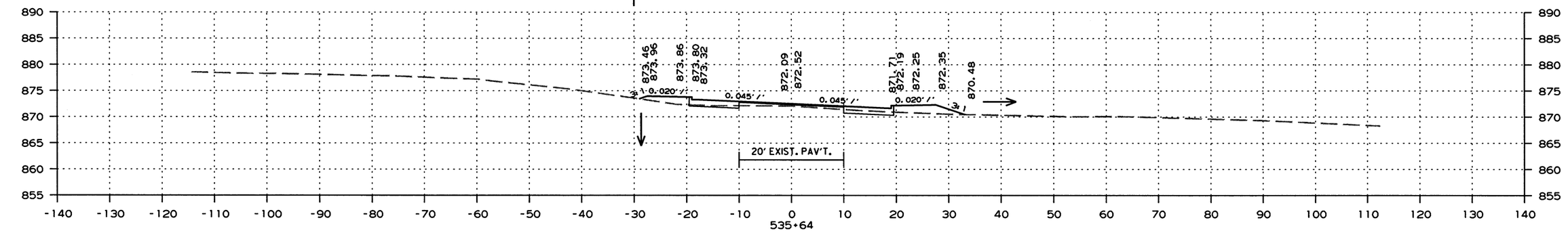
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	251	277

(2) CROSS SECTIONS

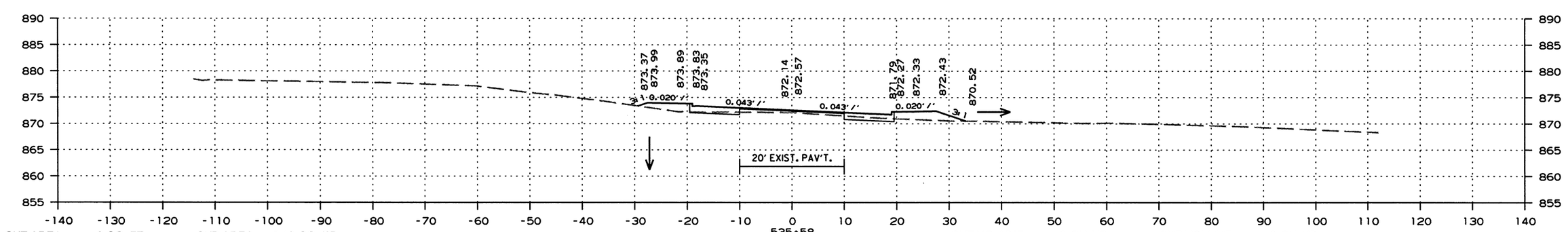
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	0.17 SQ. FT.	CUT AREA	6.89 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	8 CU. YD.
FILL AREA	31.32 SQ. FT.	FILL AREA	16.67 SQ. FT.	FILL VOLUME	19 CU. YD.	FILL VOLUME	22 CU. YD.



CUT AREA	0.15 SQ. FT.	CUT AREA	5.85 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	1 CU. YD.
FILL AREA	23.65 SQ. FT.	FILL AREA	16.62 SQ. FT.	FILL VOLUME	3 CU. YD.	FILL VOLUME	4 CU. YD.



CUT AREA	0 SQ. FT.	CUT AREA	5.43 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	2 CU. YD.
FILL AREA	18.08 SQ. FT.	FILL AREA	17.41 SQ. FT.	FILL VOLUME	4 CU. YD.	FILL VOLUME	5 CU. YD.

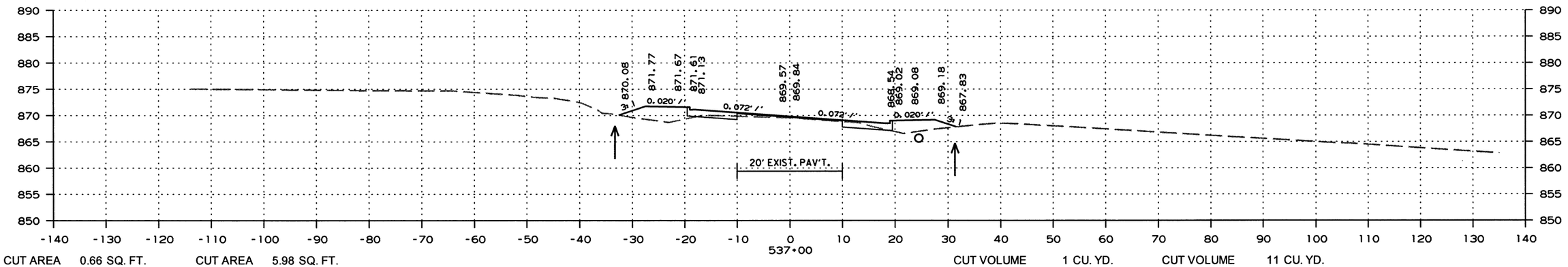
SITE 6
CROSS SECTION STA. 535+58 TO STA. 536+00

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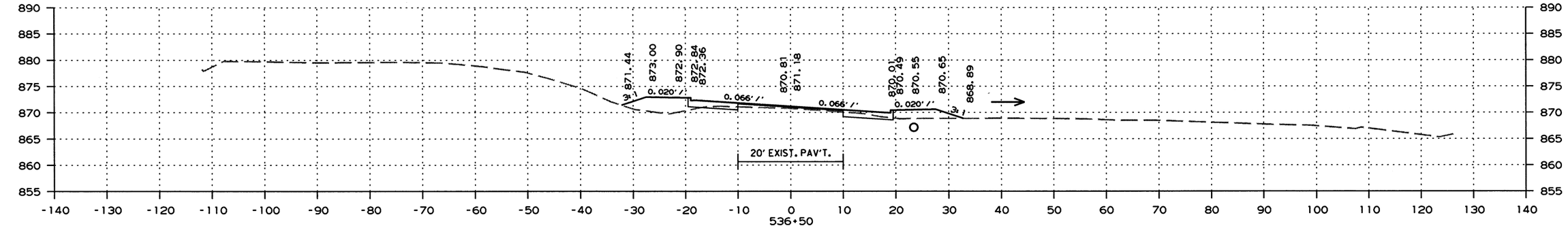
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	252	277

(2) CROSS SECTIONS

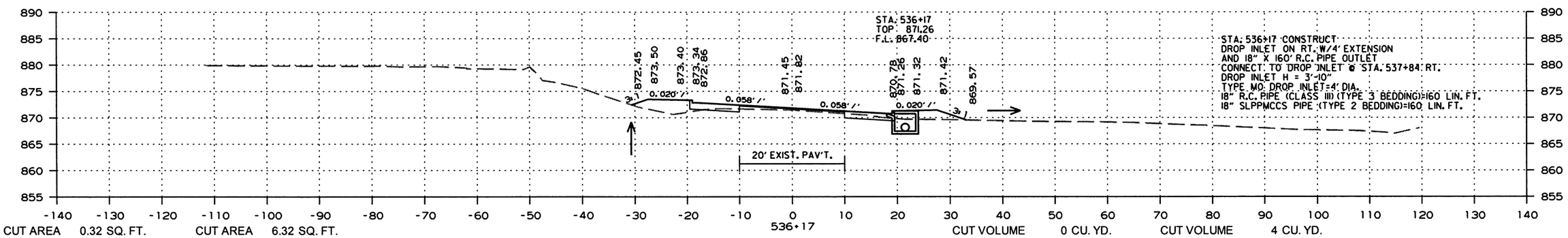
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 0.66 SQ. FT. CUT AREA 5.98 SQ. FT. CUT VOLUME 1 CU. YD. CUT VOLUME 11 CU. YD.
FILL AREA 21.08 SQ. FT. FILL AREA 21.32 SQ. FT. FILL VOLUME 56 CU. YD. FILL VOLUME 36 CU. YD.



CUT AREA 0.39 SQ. FT. CUT AREA 6.39 SQ. FT. CUT VOLUME 0 CU. YD. CUT VOLUME 8 CU. YD.
FILL AREA 26.91 SQ. FT. FILL AREA 18.03 SQ. FT. FILL VOLUME 34 CU. YD. FILL VOLUME 22 CU. YD.



CUT AREA 0.32 SQ. FT. CUT AREA 6.32 SQ. FT. CUT VOLUME 0 CU. YD. CUT VOLUME 4 CU. YD.
FILL AREA 28.67 SQ. FT. FILL AREA 17.9 SQ. FT. FILL VOLUME 13 CU. YD. FILL VOLUME 11 CU. YD.

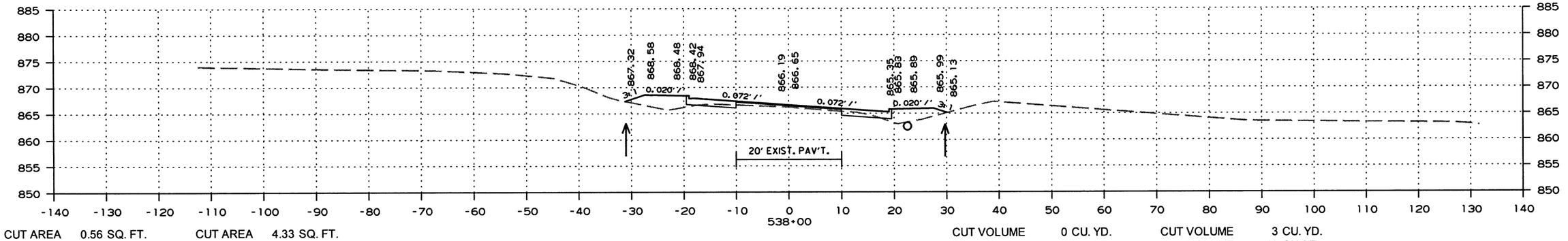
SITE 6
CROSS SECTION STA. 536+17 TO STA. 537+00

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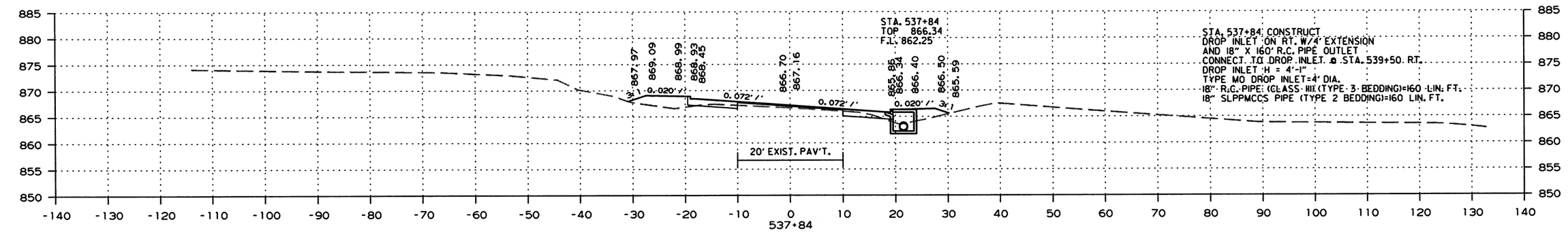
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	253	277

(2) CROSS SECTIONS

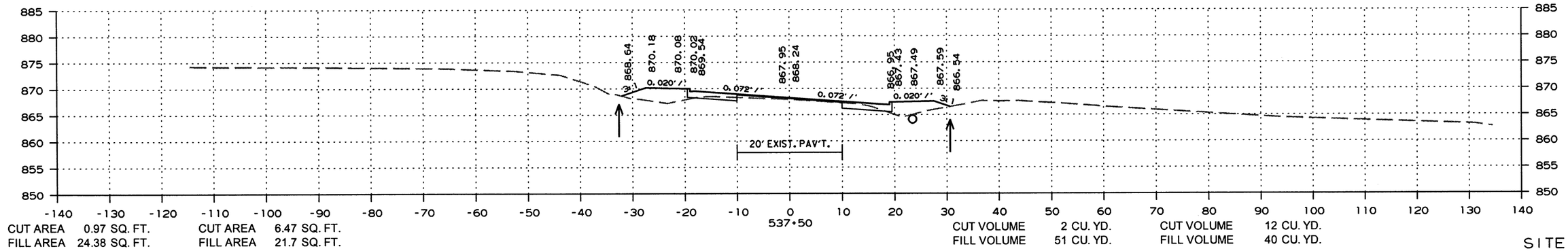
STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	0.56 SQ. FT.	CUT AREA	4.33 SQ. FT.
FILL AREA	51.05 SQ. FT.	FILL AREA	21.91 SQ. FT.
CUT VOLUME	0 CU. YD.	CUT VOLUME	3 CU. YD.
FILL VOLUME	13 CU. YD.	FILL VOLUME	13 CU. YD.



CUT AREA	0.71 SQ. FT.	CUT AREA	5.16 SQ. FT.
FILL AREA	27.73 SQ. FT.	FILL AREA	21.6 SQ. FT.
CUT VOLUME	1 CU. YD.	CUT VOLUME	7 CU. YD.
FILL VOLUME	30 CU. YD.	FILL VOLUME	27 CU. YD.



CUT AREA	0.97 SQ. FT.	CUT AREA	6.47 SQ. FT.
FILL AREA	24.38 SQ. FT.	FILL AREA	21.7 SQ. FT.
CUT VOLUME	2 CU. YD.	CUT VOLUME	12 CU. YD.
FILL VOLUME	51 CU. YD.	FILL VOLUME	40 CU. YD.

SITE 6

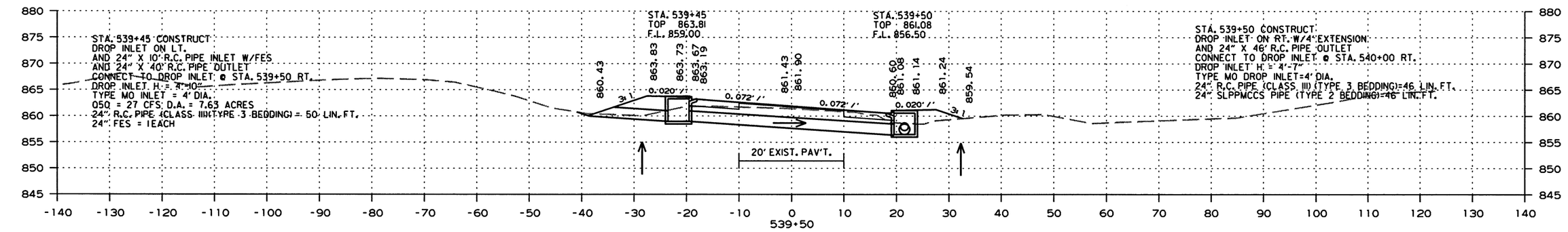
CROSS SECTION STA. 537+50 TO STA. 538+00

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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.		061438	254	277

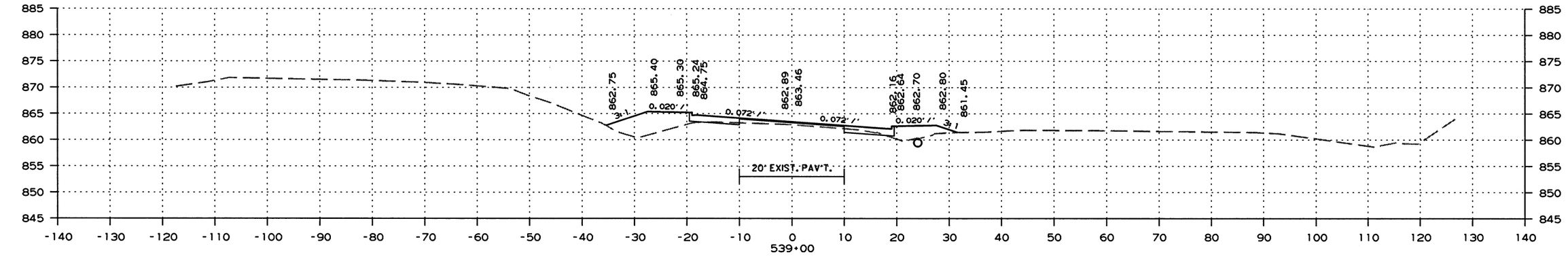
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



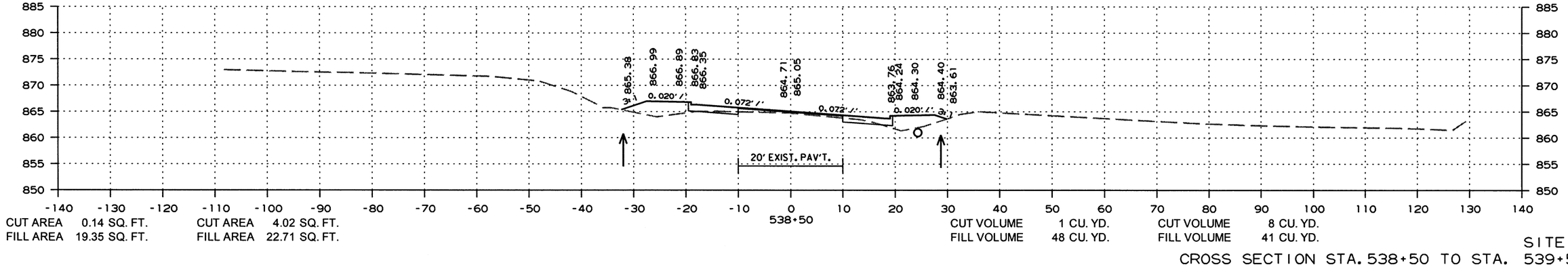
CUT AREA 0 SQ. FT. CUT AREA 6.08 SQ. FT.
FILL AREA 80.03 SQ. FT. FILL AREA 25.34 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 9 CU. YD.
FILL VOLUME 65 CU. YD. FILL VOLUME 45 CU. YD.



CUT AREA 0 SQ. FT. CUT AREA 4.14 SQ. FT.
FILL AREA 33.85 SQ. FT. FILL AREA 23.15 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 8 CU. YD.
FILL VOLUME 73 CU. YD. FILL VOLUME 42 CU. YD.



CUT AREA 0.14 SQ. FT. CUT AREA 4.02 SQ. FT.
FILL AREA 19.35 SQ. FT. FILL AREA 22.71 SQ. FT.

CUT VOLUME 1 CU. YD. CUT VOLUME 8 CU. YD.
FILL VOLUME 48 CU. YD. FILL VOLUME 41 CU. YD.

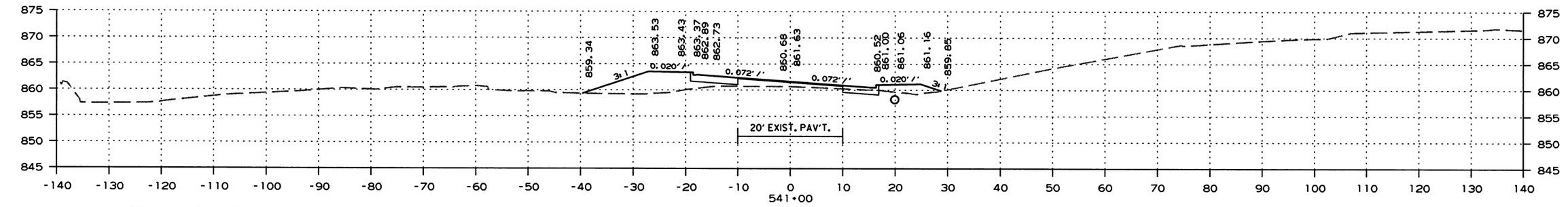
SITE 6
CROSS SECTION STA. 538+50 TO STA. 539+50

ikge653 12/4/2019
R061438.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.		061438	255	277

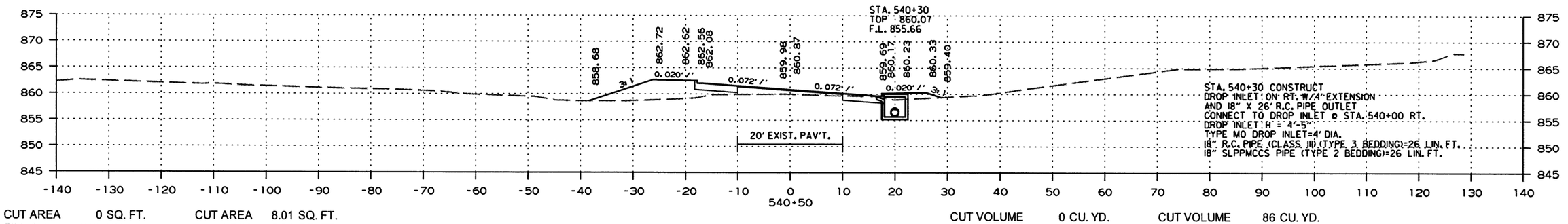
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



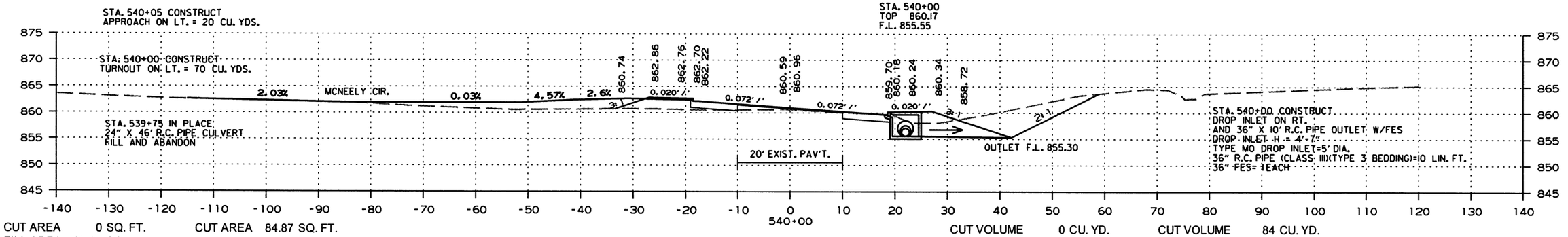
CUT AREA 0 SQ. FT. CUT AREA 5.2 SQ. FT.
FILL AREA 42.27 SQ. FT. FILL AREA 16.7 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 12 CU. YD.
FILL VOLUME 155 CU. YD. FILL VOLUME 21 CU. YD.



CUT AREA 0 SQ. FT. CUT AREA 8.01 SQ. FT.
FILL AREA 53.06 SQ. FT. FILL AREA 6.31 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 86 CU. YD.
FILL VOLUME 105 CU. YD. FILL VOLUME 21 CU. YD.



CUT AREA 0 SQ. FT. CUT AREA 84.87 SQ. FT.
FILL AREA 87.69 SQ. FT. FILL AREA 15.96 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 84 CU. YD.
FILL VOLUME 49 CU. YD. FILL VOLUME 38 CU. YD.

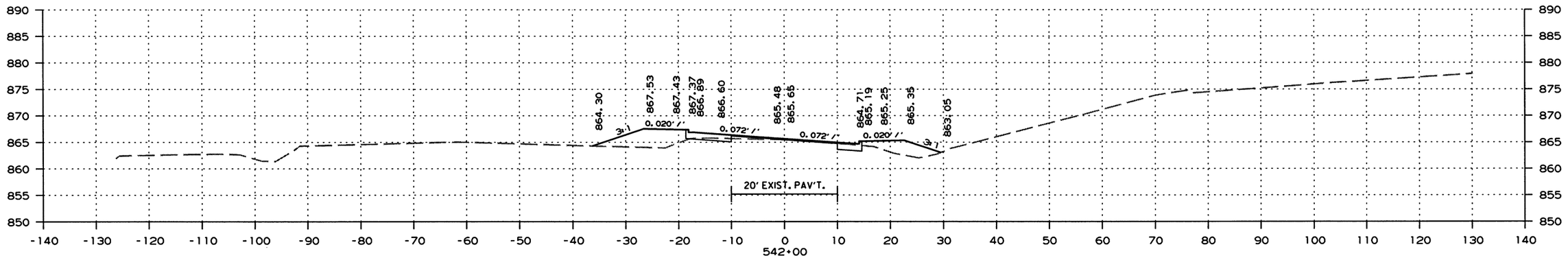
SITE 6
CROSS SECTION STA. 540+00 TO STA. 541+00

ikge653 12/4/2019
R061438.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.		061438	256	277

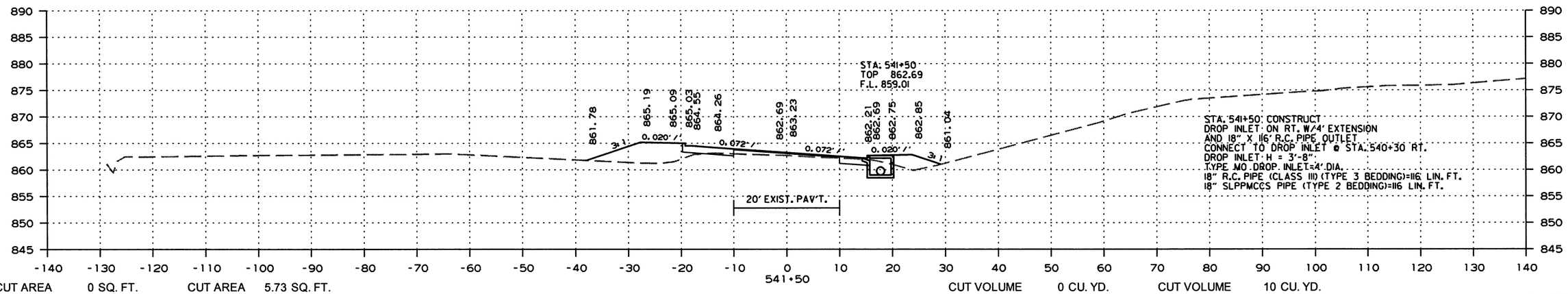
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 0 SQ. FT. CUT AREA 5.8 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 16.68 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 11 CU. YD.
FILL VOLUME 88 CU. YD. FILL VOLUME 31 CU. YD.



CUT AREA 0 SQ. FT. CUT AREA 5.73 SQ. FT.
FILL AREA 43.84 SQ. FT. FILL AREA 16.68 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 10 CU. YD.
FILL VOLUME 130 CU. YD. FILL VOLUME 31 CU. YD.

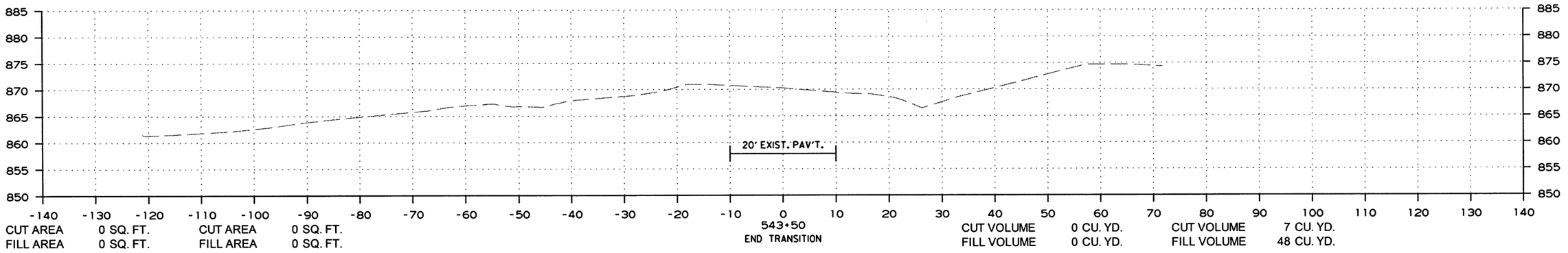
SITE 6
CROSS SECTION STA. 541+50 TO STA. 542+00

ikge653 12/4/2019
R0614.38.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.		061438	257	277

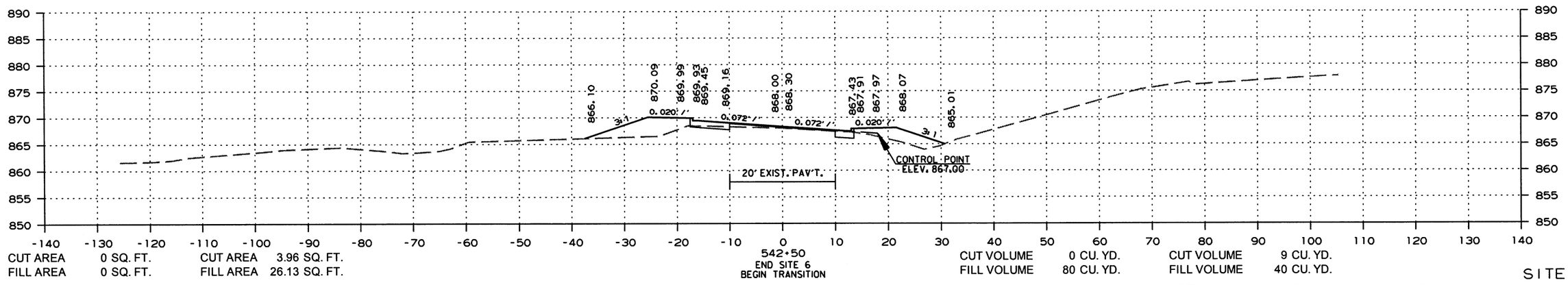
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 0 SQ. FT. CUT AREA 0 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 7 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 48 CU. YD.



CUT AREA 0 SQ. FT. CUT AREA 3.96 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 26.13 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 9 CU. YD.
FILL VOLUME 80 CU. YD. FILL VOLUME 40 CU. YD.

SITE 6
CROSS SECTION STA. 542+50 TO STA. 543+50

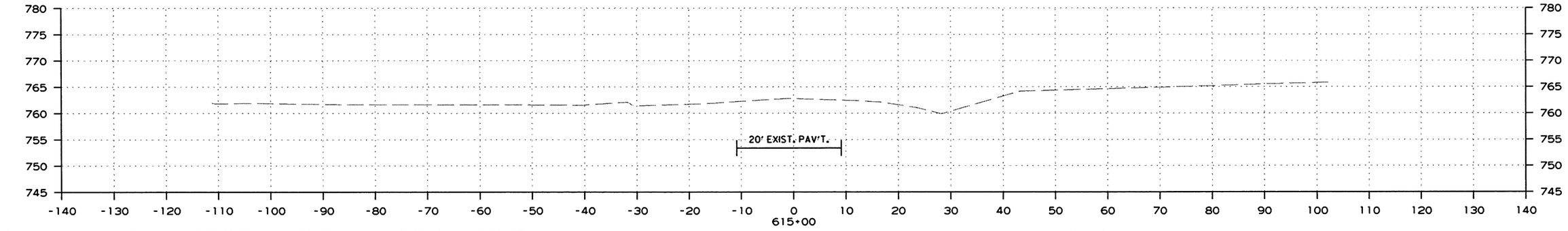
nkge653 12/4/2019
R0614.38.DGN

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.		061438	258	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT AREA	0 SQ. FT.	CUT VOLUME	0 CU. YD.	CUT VOLUME	0 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL AREA	0 SQ. FT.	FILL VOLUME	0 CU. YD.	FILL VOLUME	0 CU. YD.

SITE 7

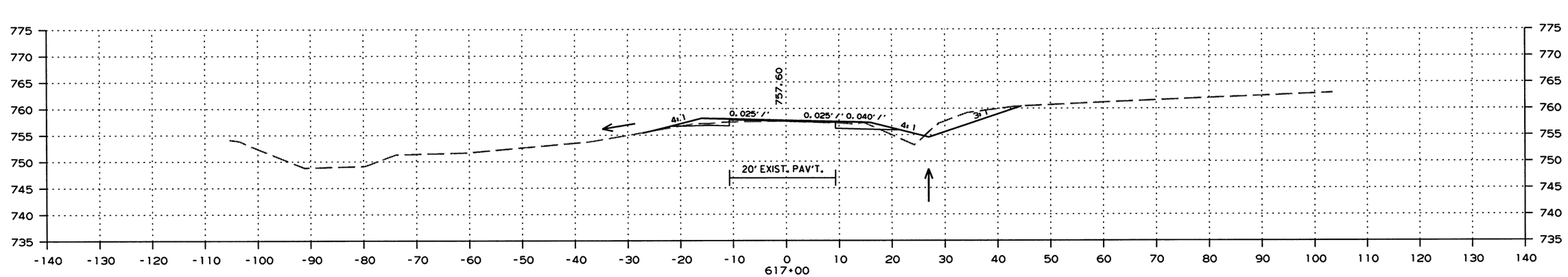
CROSS SECTION STA. 615+00 TO STA. 615+00

ikge653 12/4/2019
R061438.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.		061438	259	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

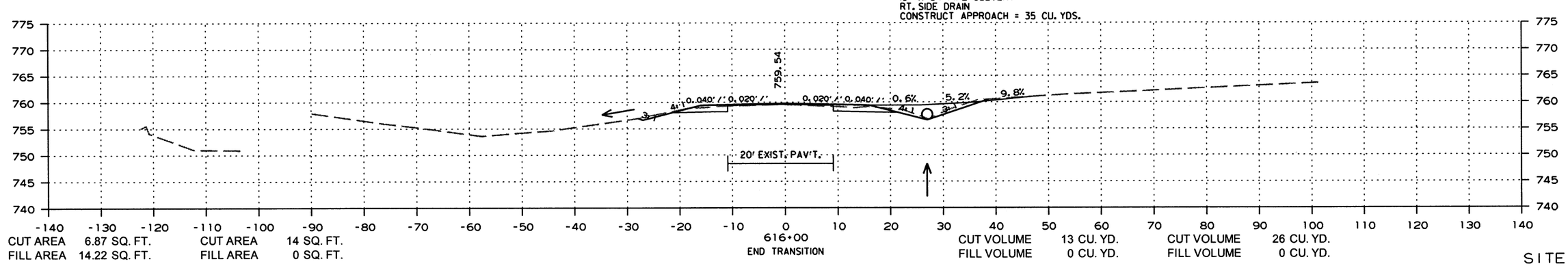


CUT AREA 0.87 SQ. FT. CUT AREA 29.61 SQ. FT.
FILL AREA 9.56 SQ. FT. FILL AREA 11.36 SQ. FT.

CUT VOLUME 14 CU. YD. CUT VOLUME 81 CU. YD.
FILL VOLUME 3 CU. YD. FILL VOLUME 21 CU. YD.

STA. 615+80 INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 35 CU. YDS.

STAGE 1 STAGE 2



CUT AREA 6.87 SQ. FT. CUT AREA 14 SQ. FT.
FILL AREA 14.22 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 13 CU. YD. CUT VOLUME 26 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 0 CU. YD.

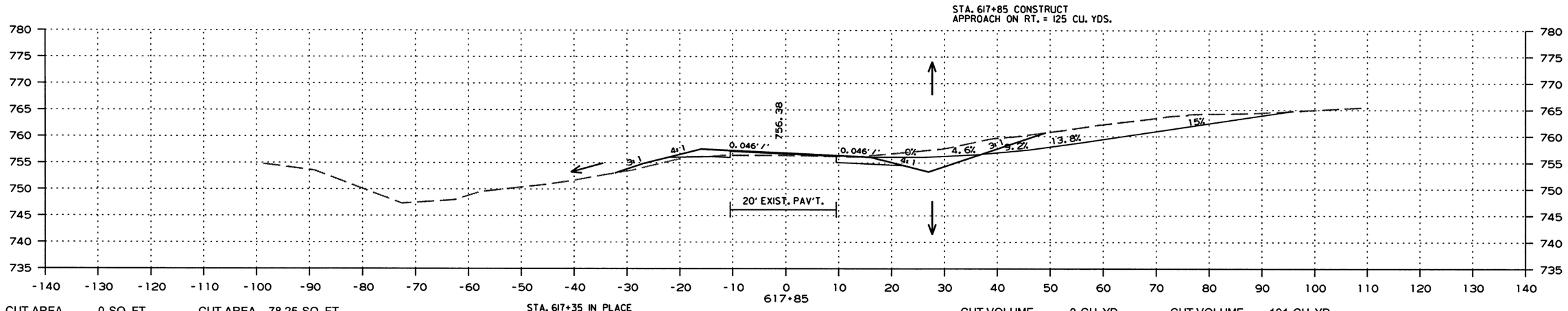
SITE 7
CROSS SECTION STA. 616+00 TO STA. 617+00

ikge653 12/4/2019
R061438.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.		061438	260	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



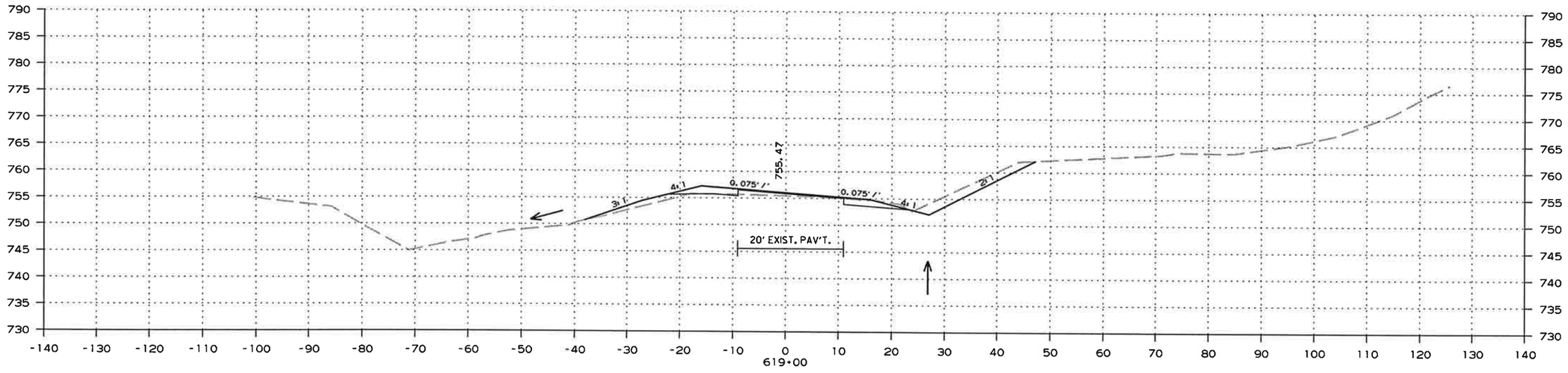
SITE 7
CROSS SECTION STA. 617+35 TO STA. 617+85

ikge653 12/4/2019
R0614.38.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
01-03-20				6	ARK.			
				JOB NO.		061438	261	277
				(2) CROSS SECTIONS				

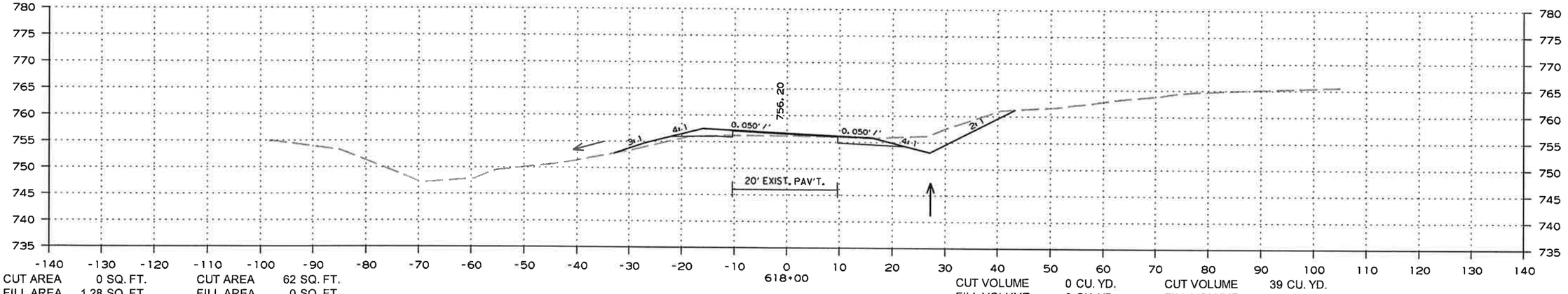
STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 0 SQ. FT. CUT AREA 42.7 SQ. FT.
FILL AREA 23.94 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 194 CU. YD.
FILL VOLUME 82 CU. YD. FILL VOLUME 0 CU. YD.



CUT AREA 0 SQ. FT. CUT AREA 62 SQ. FT.
FILL AREA 1.28 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 39 CU. YD.
FILL VOLUME 8 CU. YD. FILL VOLUME 0 CU. YD.

SITE 7
CROSS SECTION STA. 618+00 TO STA. 619+00

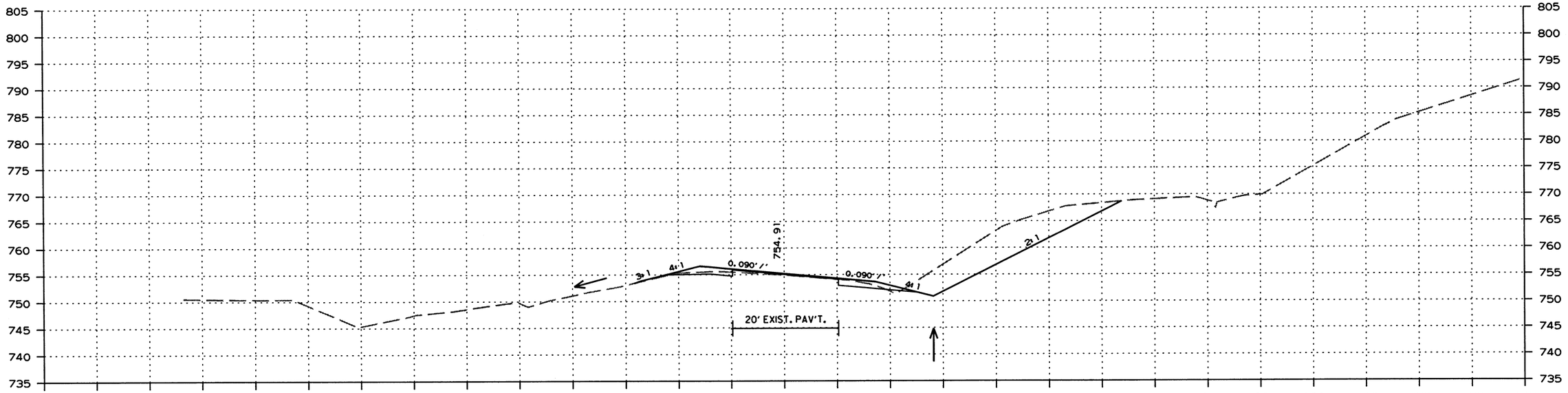
12/4/2019
ge653
R0614.38.DGN

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.		061438	262	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 1.22 SQ. FT. CUT AREA 181.3 SQ. FT.
FILL AREA 23.93 SQ. FT. FILL AREA 1.82 SQ. FT.

CUT VOLUME 2 CU. YD. CUT VOLUME 415 CU. YD.
FILL VOLUME 49 CU. YD. FILL VOLUME 3 CU. YD.

SITE 7
CROSS SECTION STA. 620+00 TO STA. 620+00

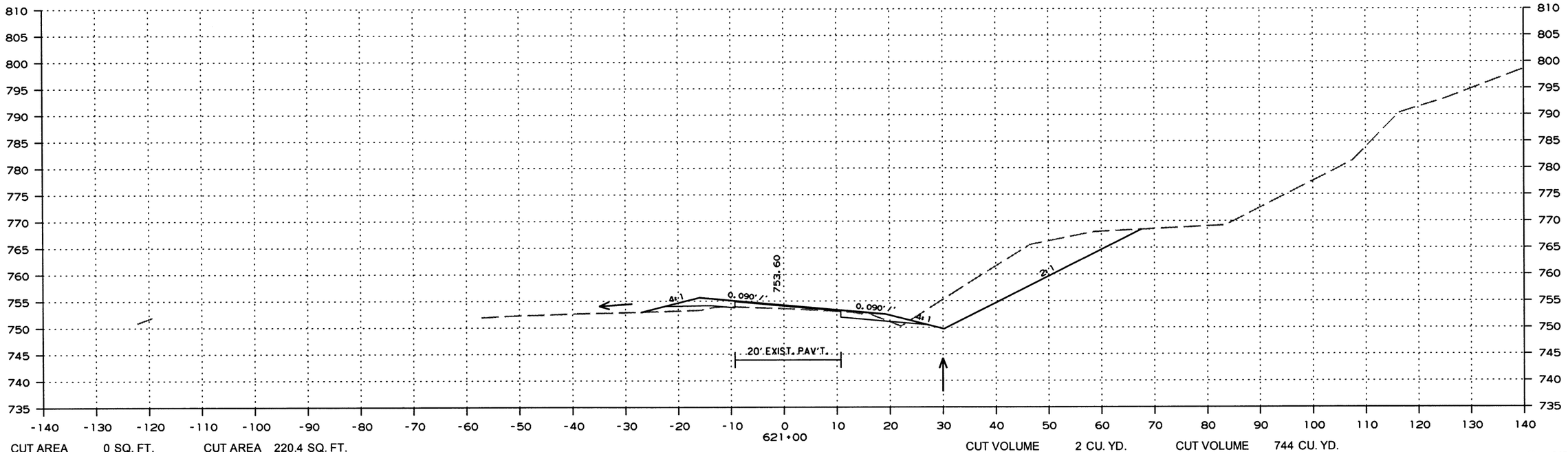
ikge653 12/4/2019
R061438.DGN

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.		061438	263	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 0 SQ. FT. CUT AREA 220.4 SQ. FT.
FILL AREA 23.98 SQ. FT. FILL AREA 2.32 SQ. FT.

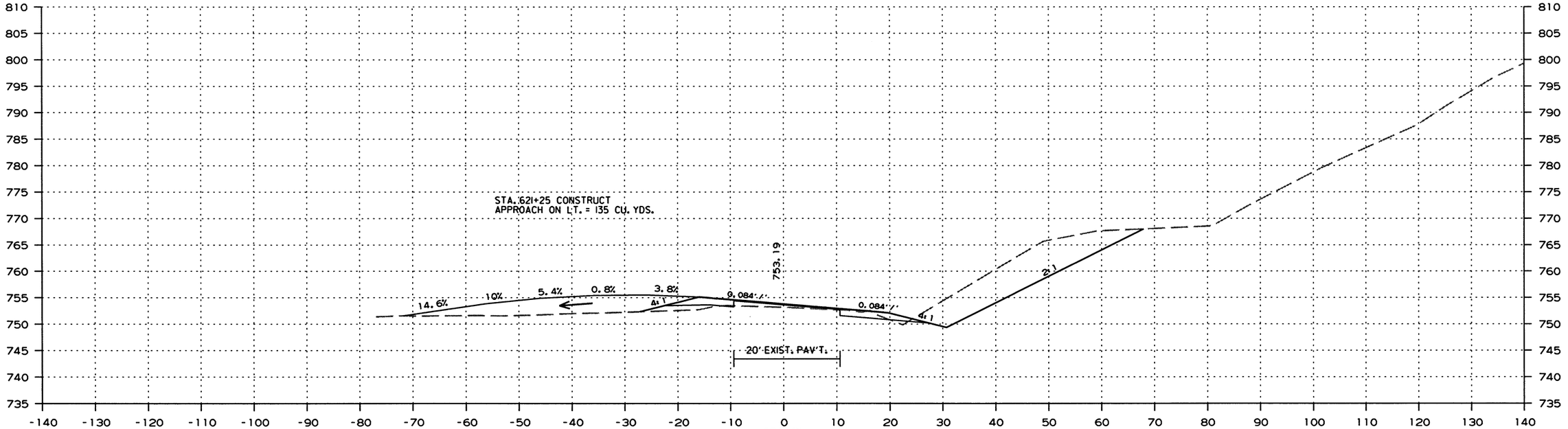
CUT VOLUME 2 CU. YD. CUT VOLUME 744 CU. YD.
FILL VOLUME 47 CU. YD. FILL VOLUME 8 CU. YD.

SITE 7
CROSS SECTION STA. 621+00 TO STA. 621+00

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R061438.DGN

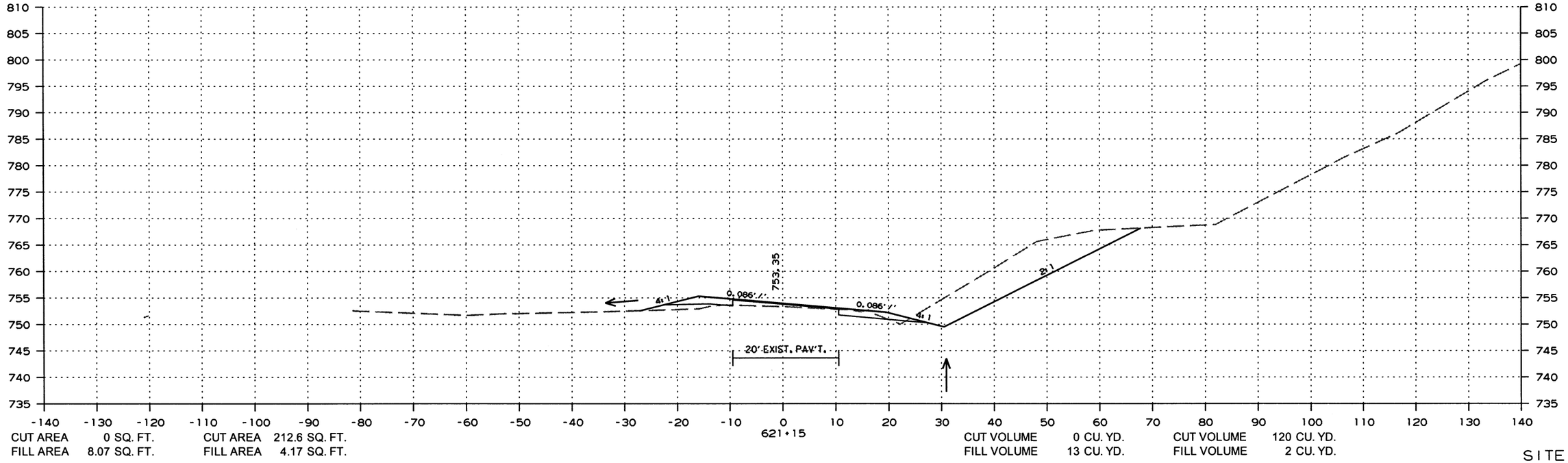
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	264	277

(2) CROSS SECTIONS



CUT AREA 0 SQ. FT. CUT AREA 211.8 SQ. FT.
FILL AREA 0.03 SQ. FT. FILL AREA 2.54 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 79 CU. YD.
FILL VOLUME 9 CU. YD. FILL VOLUME 1 CU. YD.



CUT AREA 0 SQ. FT. CUT AREA 212.6 SQ. FT.
FILL AREA 8.07 SQ. FT. FILL AREA 4.17 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 120 CU. YD.
FILL VOLUME 13 CU. YD. FILL VOLUME 2 CU. YD.

SITE 7
CROSS SECTION STA. 621+15 TO STA. 621+15

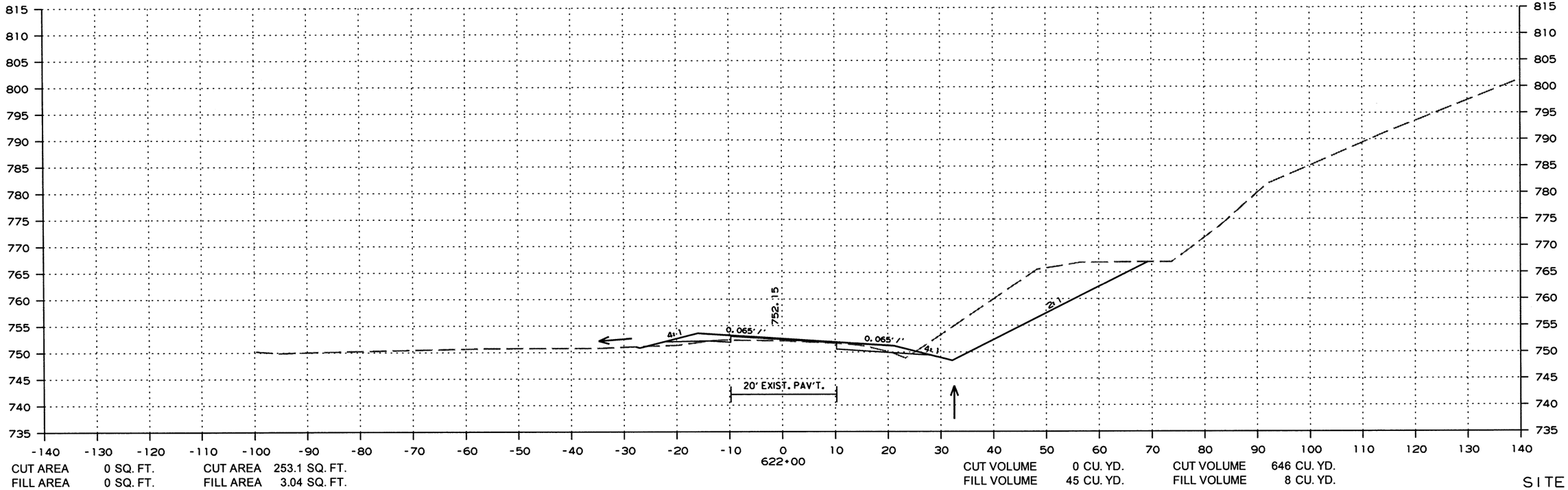
ikge653 12/4/2019
R0614.38.DGN

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.		061438	265	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 0 SQ. FT. CUT AREA 253.1 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 3.04 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 646 CU. YD.
FILL VOLUME 45 CU. YD. FILL VOLUME 8 CU. YD.

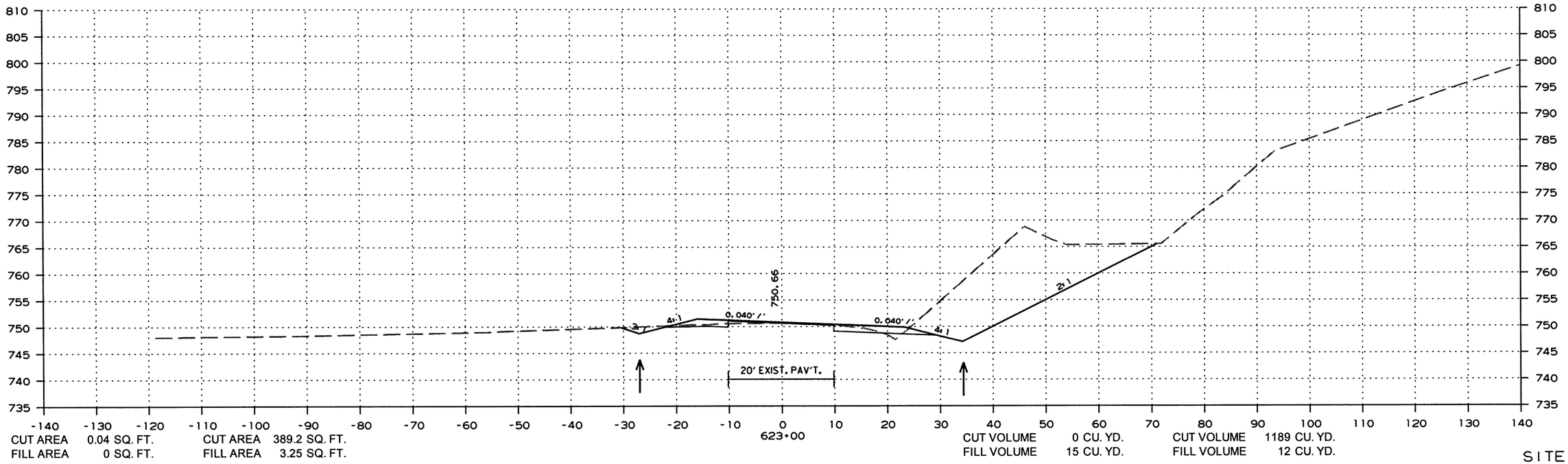
SITE 7
CROSS SECTION STA. 622+00 TO STA. 622+00

ikge653 12/4/2019
R0614.38.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.		061438	266	277
				(2) CROSS SECTIONS				

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 0.04 SQ. FT. CUT AREA 389.2 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 3.25 SQ. FT.

CUT VOLUME 0 CU. YD. CUT VOLUME 1189 CU. YD.
FILL VOLUME 15 CU. YD. FILL VOLUME 12 CU. YD.

SITE 7
CROSS SECTION STA. 623+00 TO STA. 623+00

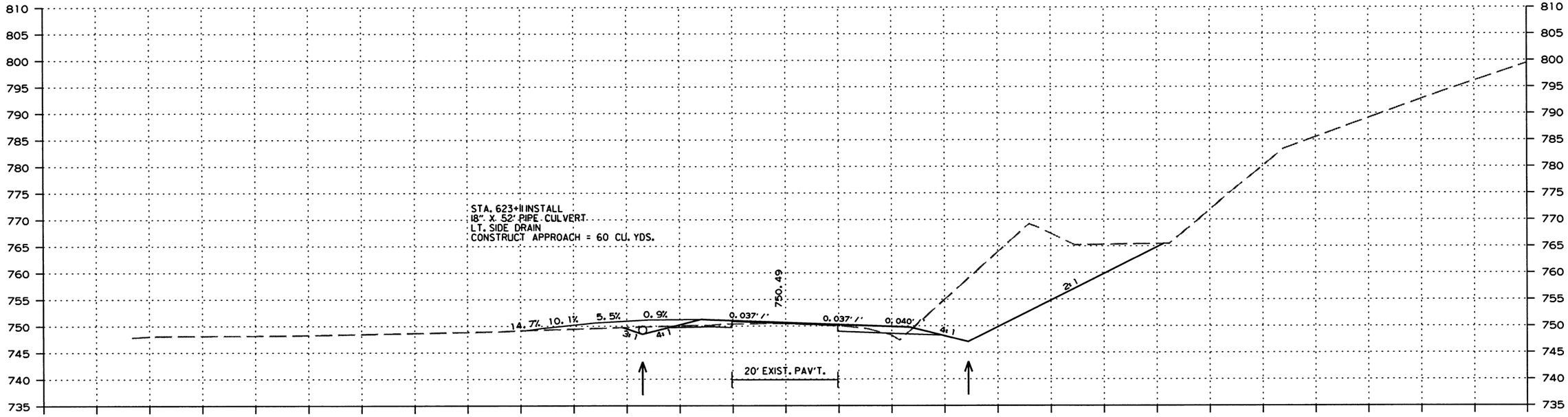
ikge653 12/4/2019
R061438.DGN

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.		061438	267	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 6.97 SQ. FT. CUT AREA 404.7 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 3.62 SQ. FT.

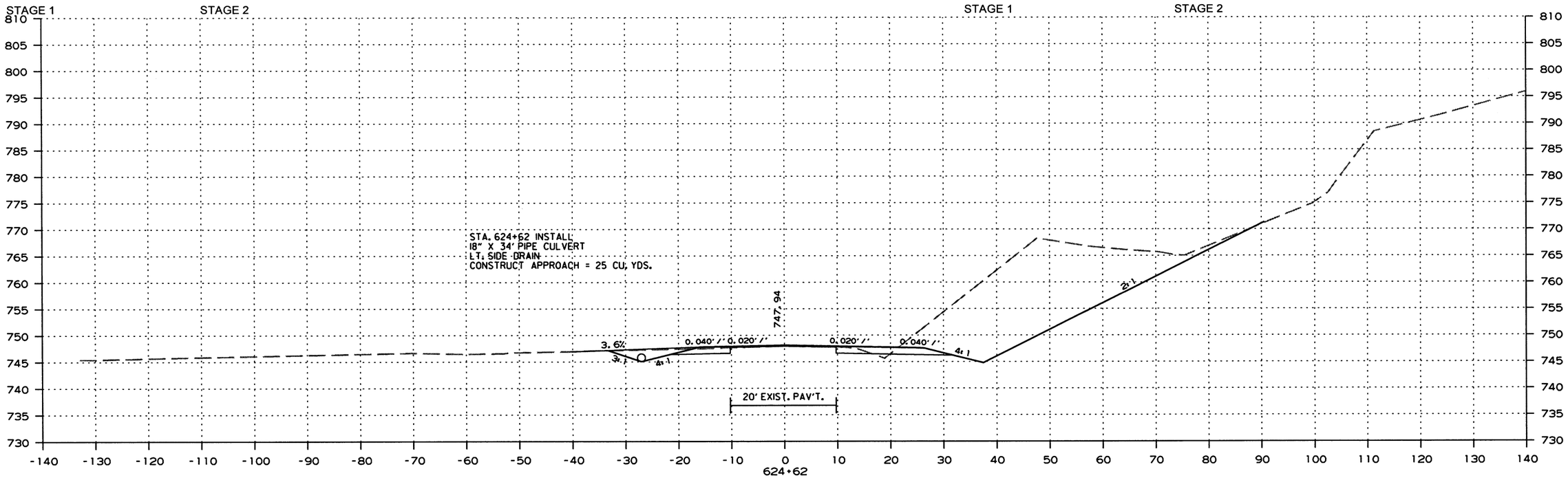
CUT VOLUME 1 CU. YD. CUT VOLUME 162 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 1 CU. YD.

SITE 7
CROSS SECTION STA. 623+11 TO STA. 623+11

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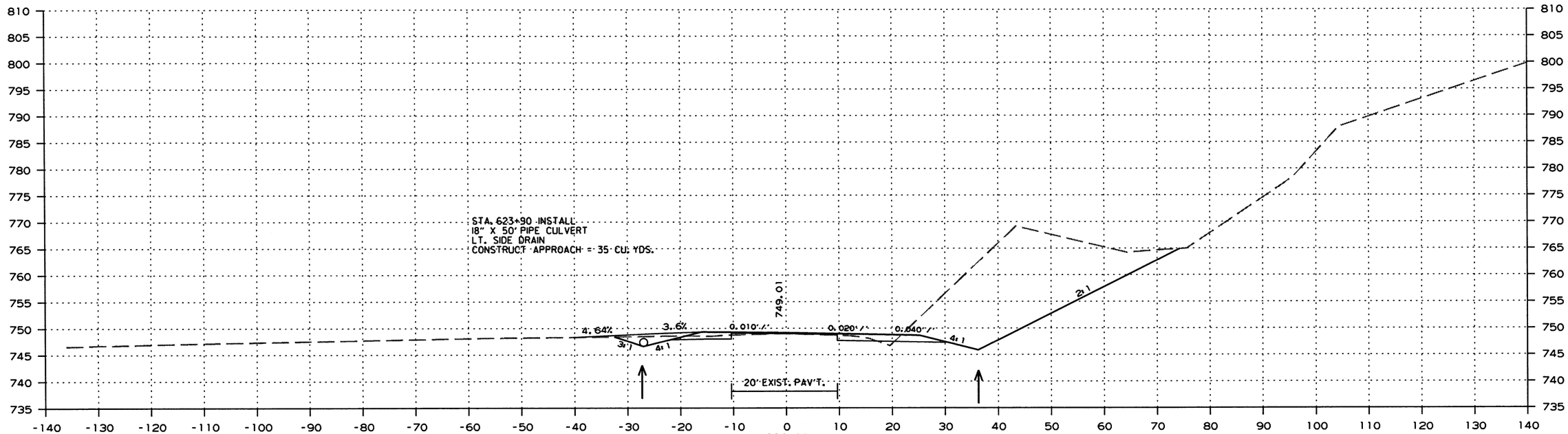
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	268	277

(2) CROSS SECTIONS



CUT AREA 20.84 SQ. FT. CUT AREA 575.8 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 2.51 SQ. FT.

CUT VOLUME 40 CU. YD. CUT VOLUME 1265 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 6 CU. YD.



CUT AREA 13.64 SQ. FT. CUT AREA 526 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 2.42 SQ. FT.

CUT VOLUME 34 CU. YD. CUT VOLUME 1534 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 10 CU. YD.

SITE 7
CROSS SECTION STA. 624+00 TO STA. 624+00

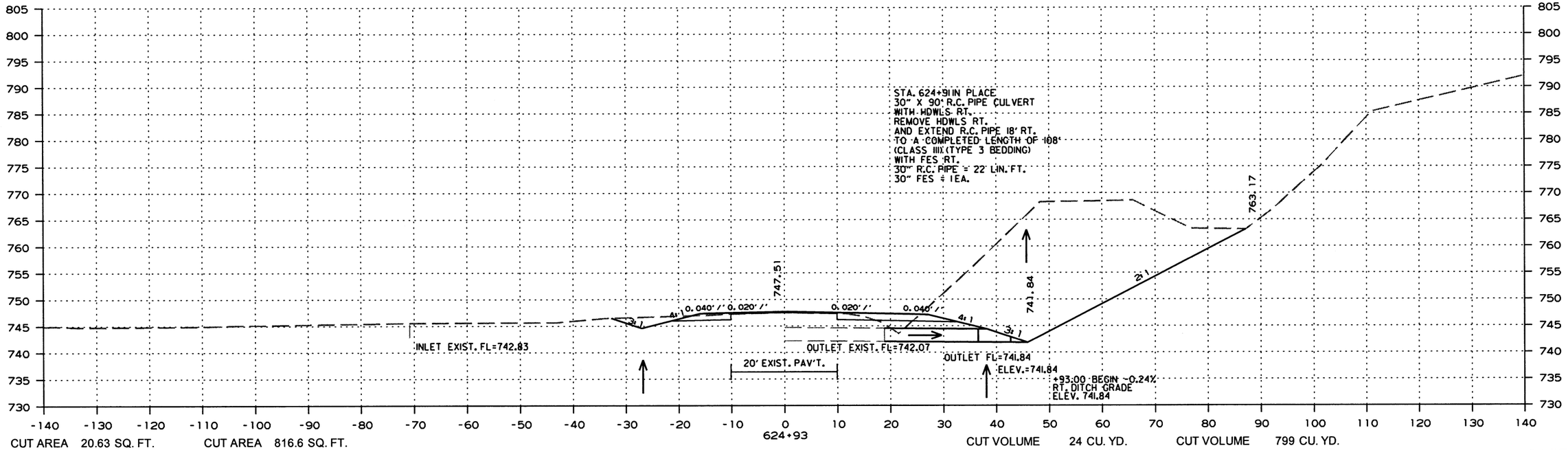
ikge653 12/4/2019
R061438.DGN

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.		061438	269	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 20.63 SQ. FT. CUT AREA 816.6 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 9.97 SQ. FT.

CUT VOLUME 24 CU. YD. CUT VOLUME 799 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 7 CU. YD.

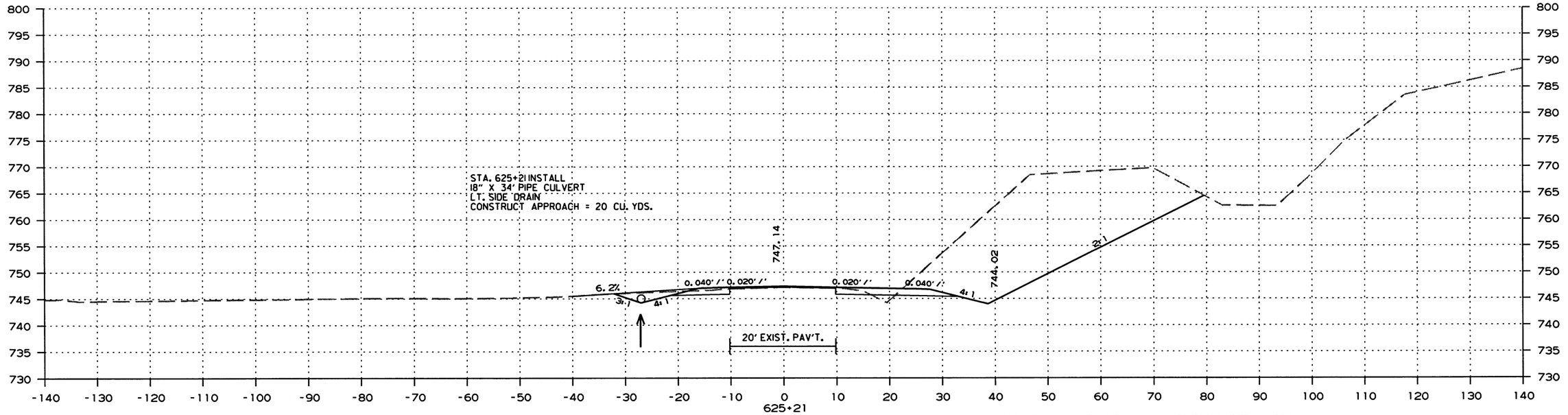
SITE 7
CROSS SECTION STA. 624+93 TO STA. 624+93

ikge653 12/4/2019
R0614.38.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.		061438	270	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

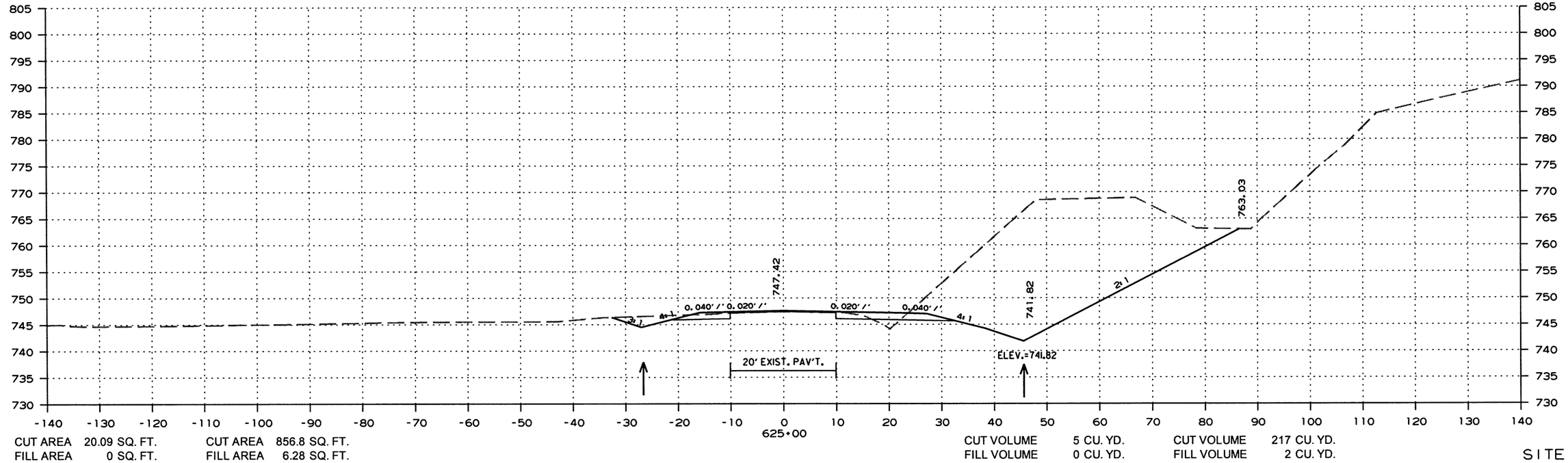


CUT AREA	17.23 SQ. FT.	CUT AREA	697 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	4.81 SQ. FT.

STAGE 1 STAGE 2

CUT VOLUME	15 CU. YD.	CUT VOLUME	604 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	4 CU. YD.

+44.00 END -0.24%
RT. DITCH GRADE
ELEV. 741.72



CUT AREA	20.09 SQ. FT.	CUT AREA	856.8 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	6.28 SQ. FT.

CUT VOLUME	5 CU. YD.	CUT VOLUME	217 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	2 CU. YD.

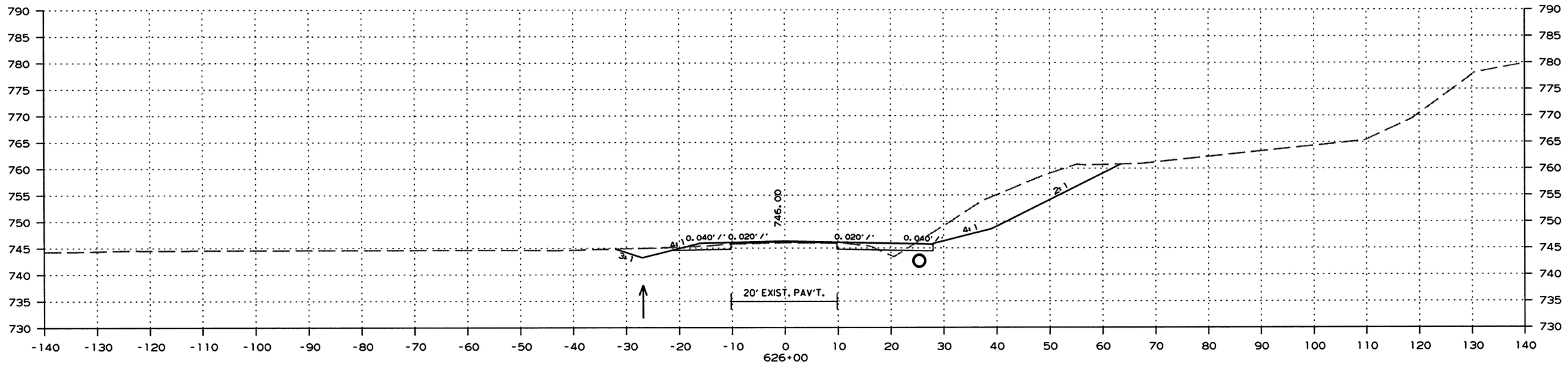
SITE 7
CROSS SECTION STA. 625+00 TO STA. 625+00

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R0614.38.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	271	277

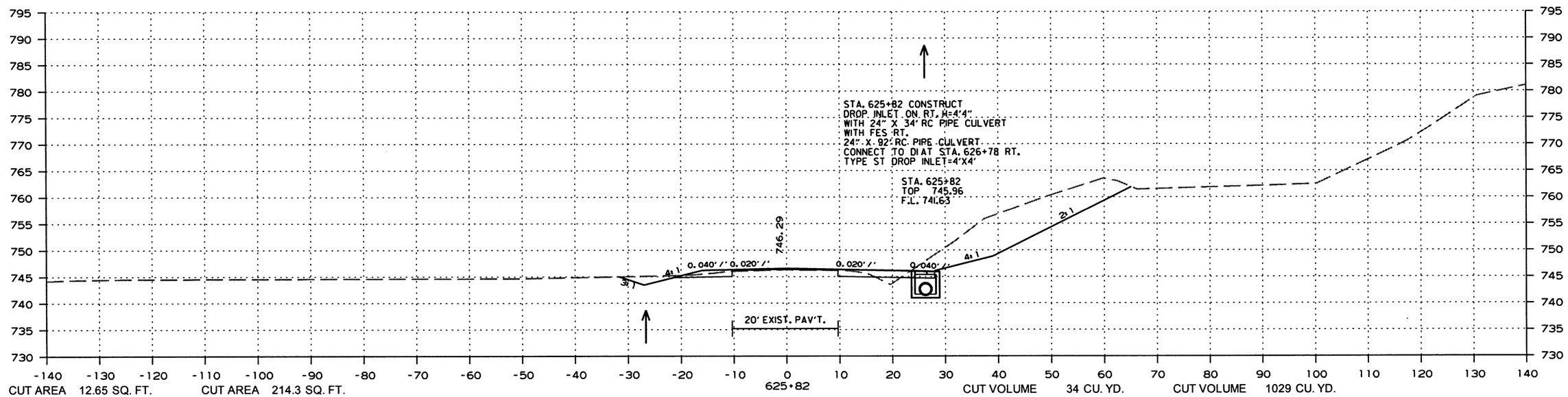
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 15.13 SQ. FT. CUT AREA 159.3 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 4.65 SQ. FT.

CUT VOLUME 11 CU. YD. CUT VOLUME 1253 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 14 CU. YD.



CUT AREA 12.65 SQ. FT. CUT AREA 214.3 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 4.83 SQ. FT.

CUT VOLUME 34 CU. YD. CUT VOLUME 1029 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 11 CU. YD.

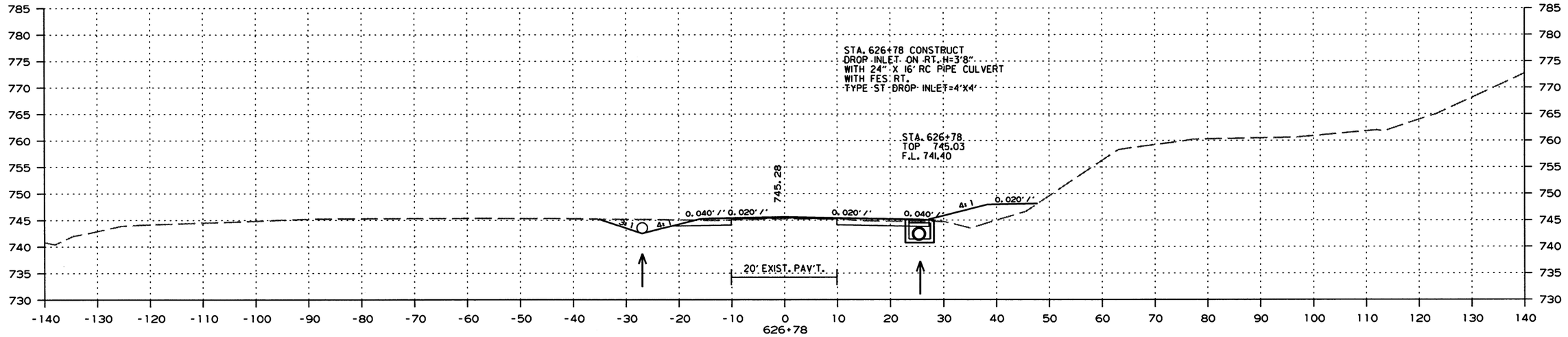
SITE 7
CROSS SECTION STA. 625+82 TO STA. 626+00

akge653 12/4/2019
R061438.DGN

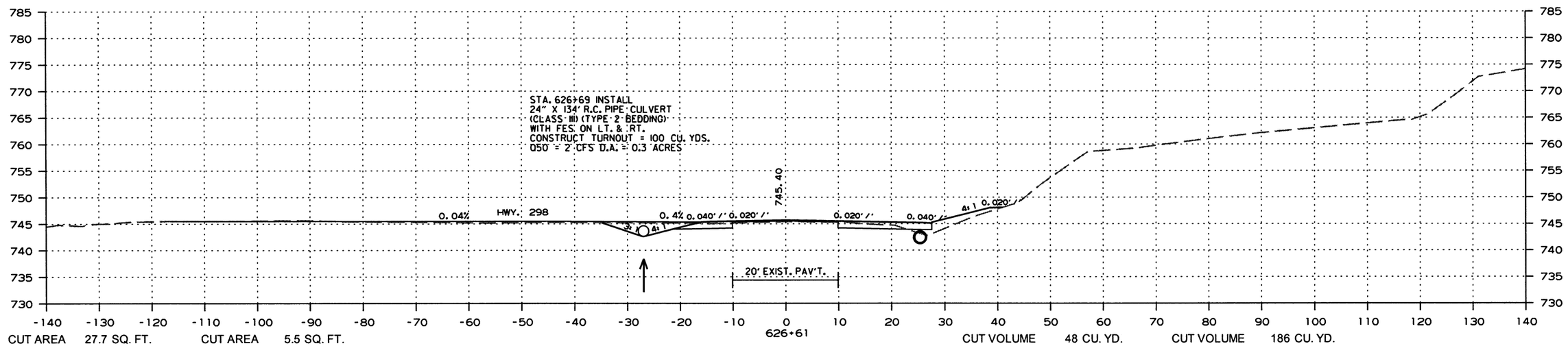
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061438	272	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA	29 SQ. FT.	CUT AREA	10.21 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	72.13 SQ. FT.
CUT VOLUME	18 CU. YD.	CUT VOLUME	5 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	32 CU. YD.



CUT AREA	27.7 SQ. FT.	CUT AREA	5.5 SQ. FT.
FILL AREA	0 SQ. FT.	FILL AREA	29.44 SQ. FT.
CUT VOLUME	48 CU. YD.	CUT VOLUME	186 CU. YD.
FILL VOLUME	0 CU. YD.	FILL VOLUME	39 CU. YD.

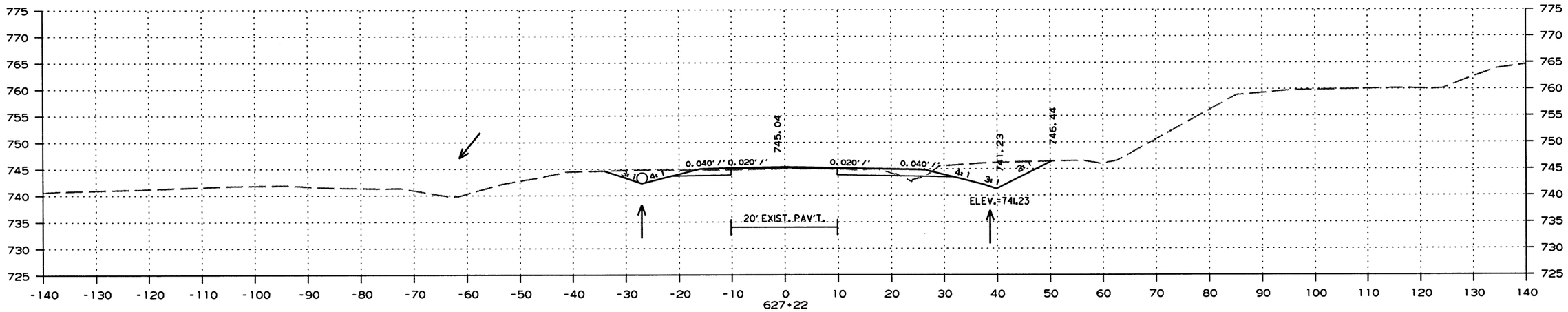
SITE 7
CROSS SECTION STA. 626+61 TO STA. 626+78

ikge655 12/4/2019
R061438.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.		061438	273	277

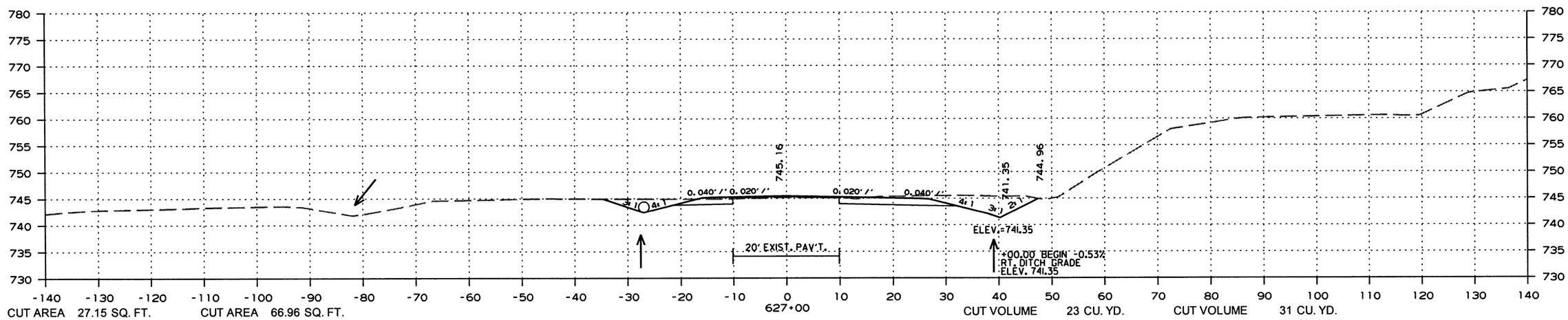
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



CUT AREA 26.64 SQ. FT. CUT AREA 68.2 SQ. FT.
FILL AREA 27.83 SQ. FT. FILL AREA 3.56 SQ. FT.

CUT VOLUME 45 CU. YD. CUT VOLUME 64 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 62 CU. YD.



CUT AREA 27.15 SQ. FT. CUT AREA 66.96 SQ. FT.
FILL AREA 11.22 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 23 CU. YD. CUT VOLUME 31 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 29 CU. YD.

SITE 7
CROSS SECTION STA. 627+00 TO STA. 627+22

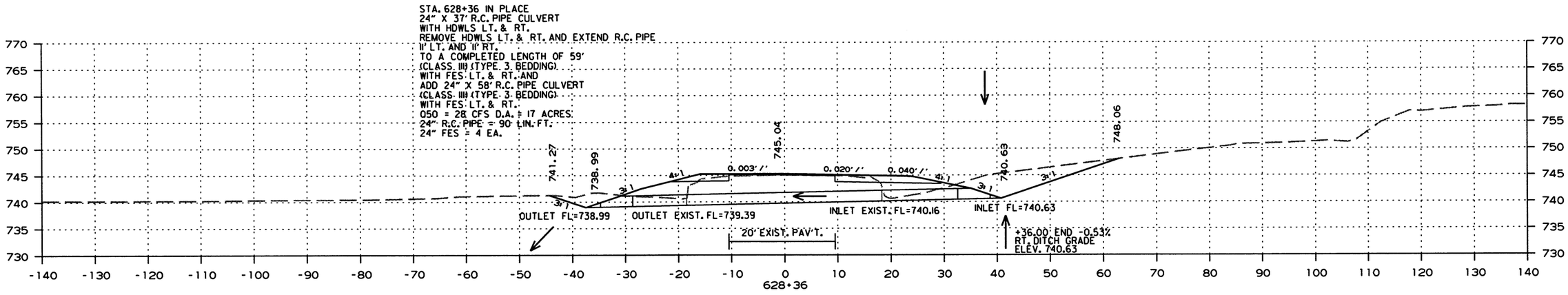
ikge653 12/4/2019
R0614.38.DGN

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.		061438	274	277

(2) CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 18.04 SQ. FT. CUT AREA 77.51 SQ. FT.
FILL AREA 0.03 SQ. FT. FILL AREA 20.5 SQ. FT.

CUT VOLUME 13 CU. YD. CUT VOLUME 111 CU. YD.
FILL VOLUME 2 CU. YD. FILL VOLUME 19 CU. YD.

CUT AREA 1.98 SQ. FT. CUT AREA 88.71 SQ. FT.
FILL AREA 2.87 SQ. FT. FILL AREA 7.45 SQ. FT.

CUT VOLUME 41 CU. YD. CUT VOLUME 227 CU. YD.
FILL VOLUME 16 CU. YD. FILL VOLUME 16 CU. YD.

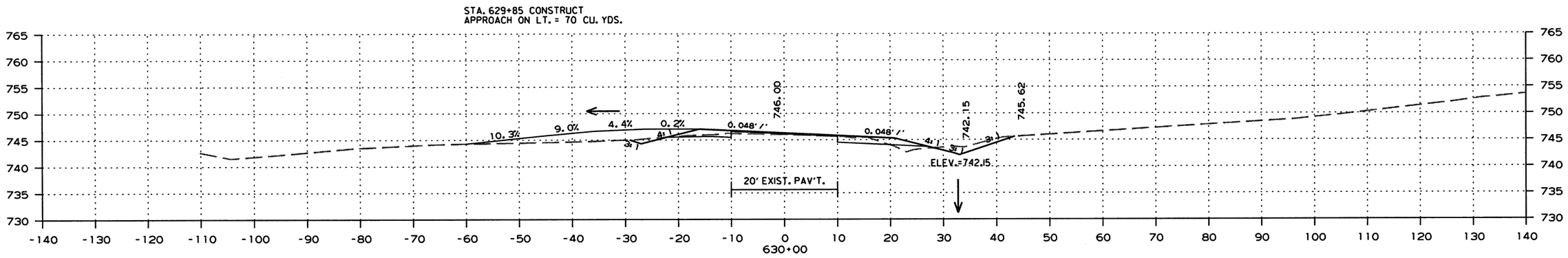
SITE 7
CROSS SECTION STA. 628+00 TO STA. 628+36

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R061438.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.		061438	275	277

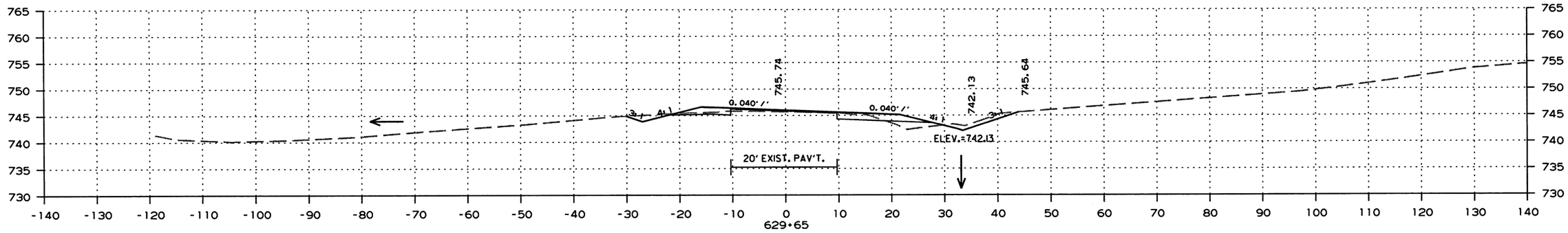
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2



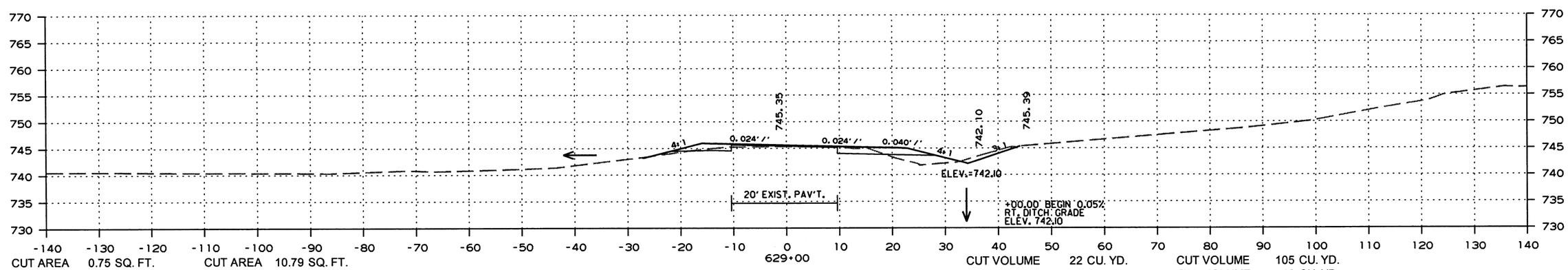
CUT AREA	3.49 SQ. FT.	CUT AREA	17.35 SQ. FT.
FILL AREA	1.86 SQ. FT.	FILL AREA	6.85 SQ. FT.

CUT VOLUME	6 CU. YD.	CUT VOLUME	20 CU. YD.
FILL VOLUME	2 CU. YD.	FILL VOLUME	12 CU. YD.



CUT AREA	6.5 SQ. FT.	CUT AREA	13.76 SQ. FT.
FILL AREA	1.71 SQ. FT.	FILL AREA	11.17 SQ. FT.

CUT VOLUME	9 CU. YD.	CUT VOLUME	30 CU. YD.
FILL VOLUME	3 CU. YD.	FILL VOLUME	35 CU. YD.



CUT AREA	0.75 SQ. FT.	CUT AREA	10.79 SQ. FT.
FILL AREA	0.41 SQ. FT.	FILL AREA	17.93 SQ. FT.

CUT VOLUME	22 CU. YD.	CUT VOLUME	105 CU. YD.
FILL VOLUME	1 CU. YD.	FILL VOLUME	46 CU. YD.

SITE 7

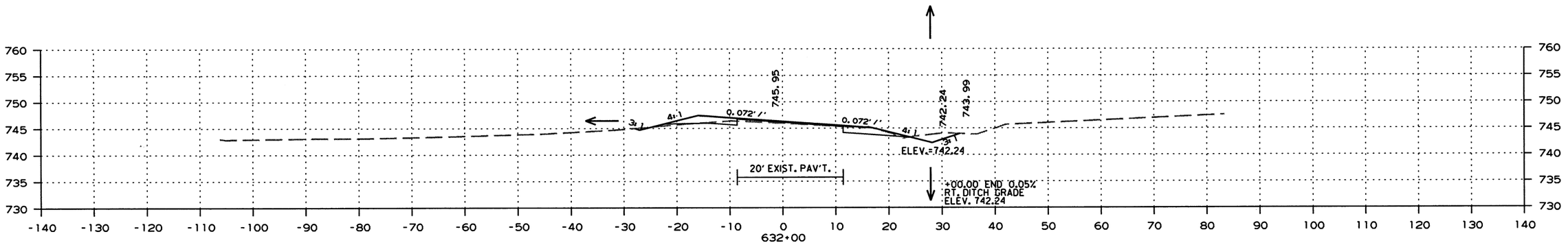
CROSS SECTION STA. 629+00 TO STA. 630+00

ikge653 12/4/2019
R061438.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.		061438	276	277

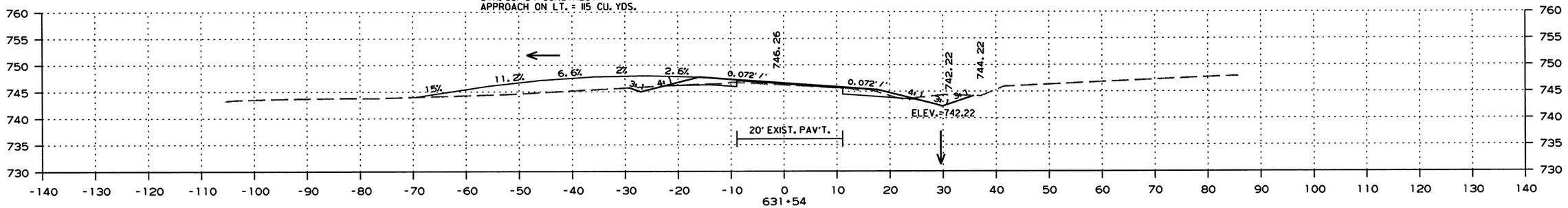
(2) CROSS SECTIONS

STAGE 1 STAGE 2 STAGE 1 STAGE 2

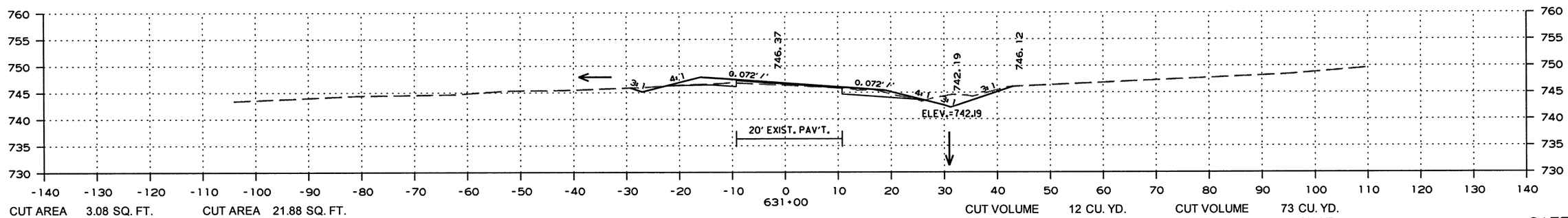


CUT AREA	1.23 SQ. FT.	CUT AREA	13.98 SQ. FT.	CUT VOLUME	4 CU. YD.	CUT VOLUME	27 CU. YD.
FILL AREA	0 SQ. FT.	FILL AREA	1.07 SQ. FT.	FILL VOLUME	3 CU. YD.	FILL VOLUME	2 CU. YD.

STA. 631+54 CONSTRUCT APPROACH ON LT. = 115 CU. YDS.



CUT AREA	3.28 SQ. FT.	CUT AREA	17.15 SQ. FT.	CUT VOLUME	6 CU. YD.	CUT VOLUME	39 CU. YD.
FILL AREA	3.12 SQ. FT.	FILL AREA	1.36 SQ. FT.	FILL VOLUME	7 CU. YD.	FILL VOLUME	2 CU. YD.



CUT AREA	3.08 SQ. FT.	CUT AREA	21.88 SQ. FT.	CUT VOLUME	12 CU. YD.	CUT VOLUME	73 CU. YD.
FILL AREA	3.71 SQ. FT.	FILL AREA	0.61 SQ. FT.	FILL VOLUME	10 CU. YD.	FILL VOLUME	14 CU. YD.

SITE 7
CROSS SECTION STA. 631+00 TO STA. 632+00

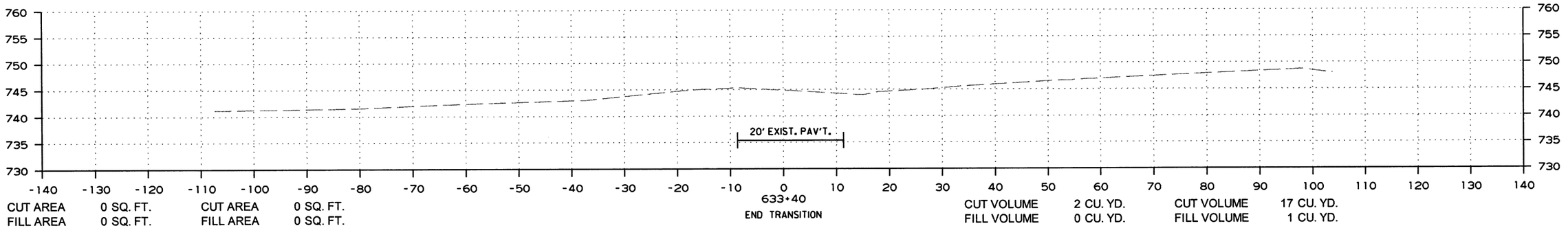
ikge653 12/4/2019
R061438.DGN

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.		061438	277	277

(2) CROSS SECTIONS

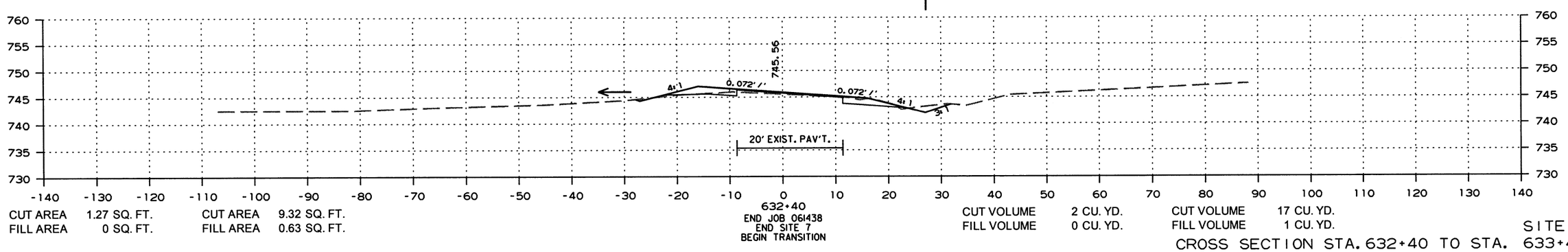
STAGE 1 STAGE 2

STAGE 1 STAGE 2



CUT AREA 0 SQ. FT. CUT AREA 0 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0 SQ. FT.

CUT VOLUME 2 CU. YD. CUT VOLUME 17 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 1 CU. YD.

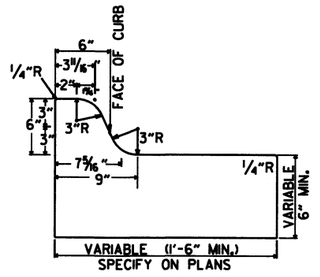


CUT AREA 1.27 SQ. FT. CUT AREA 9.32 SQ. FT.
FILL AREA 0 SQ. FT. FILL AREA 0.63 SQ. FT.

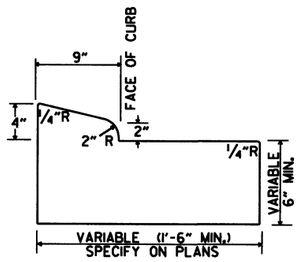
CUT VOLUME 2 CU. YD. CUT VOLUME 17 CU. YD.
FILL VOLUME 0 CU. YD. FILL VOLUME 1 CU. YD.

SITE 7
CROSS SECTION STA. 632+40 TO STA. 633+40

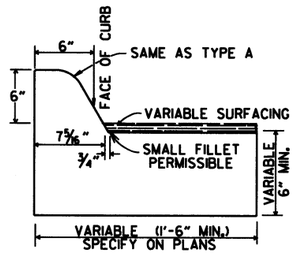
ikge653 12/4/2019
R061438.DGN



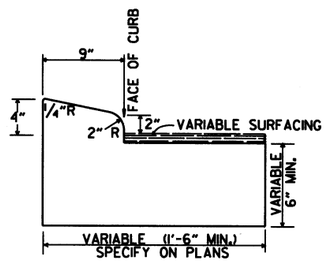
TYPE A



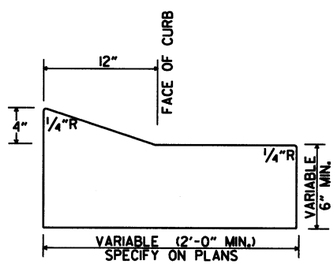
TYPE B-1



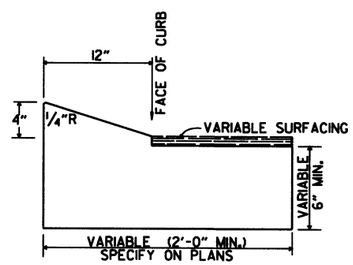
TYPE C



TYPE B-2

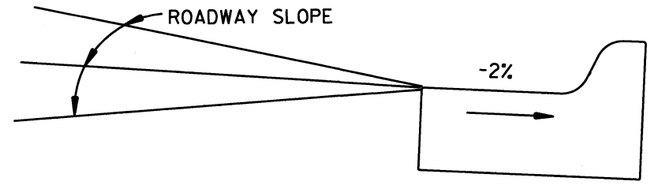


TYPE E-1



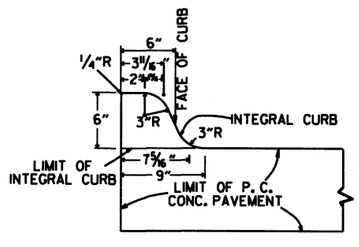
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

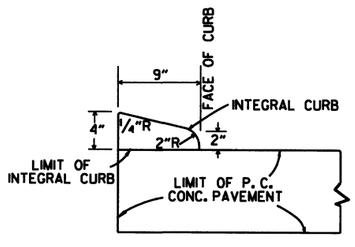


DETAIL OF GUTTER SLOPE

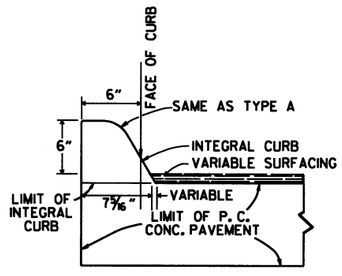
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

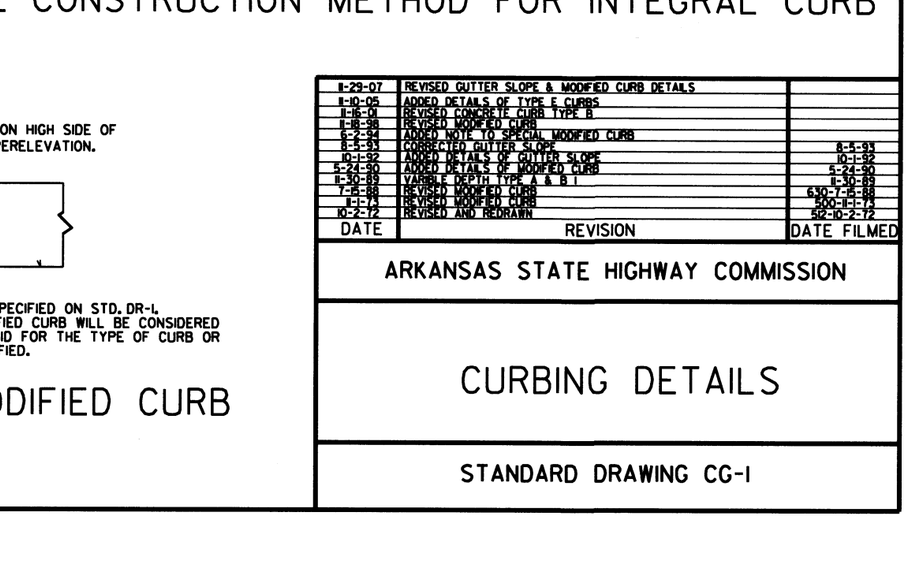


TYPE B

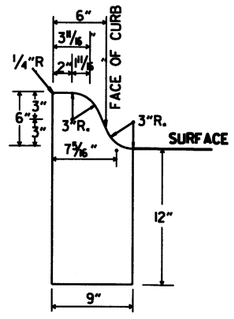


TYPE C

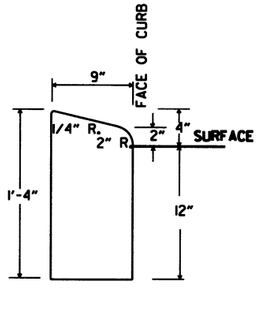
INTEGRAL CURB



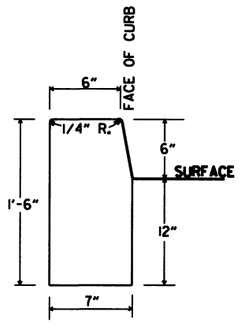
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



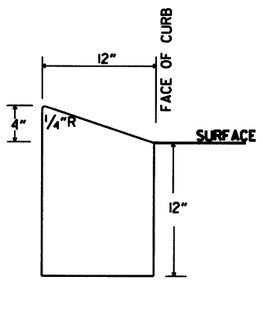
TYPE A



TYPE B

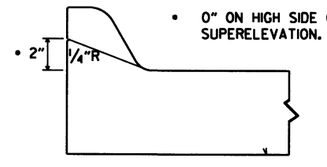


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

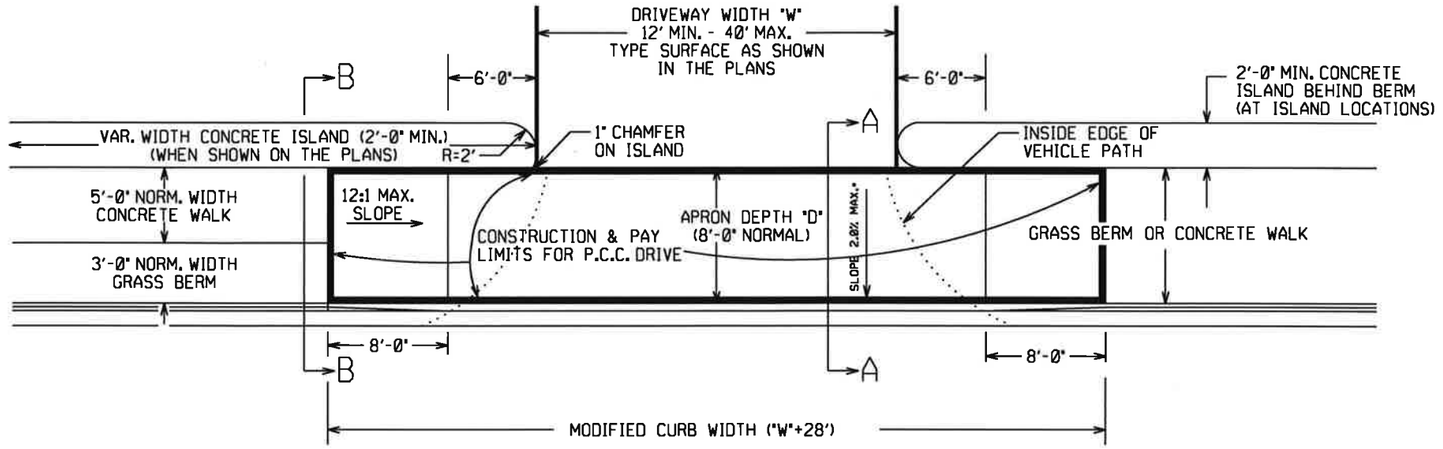
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIABLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	502-10-2-72

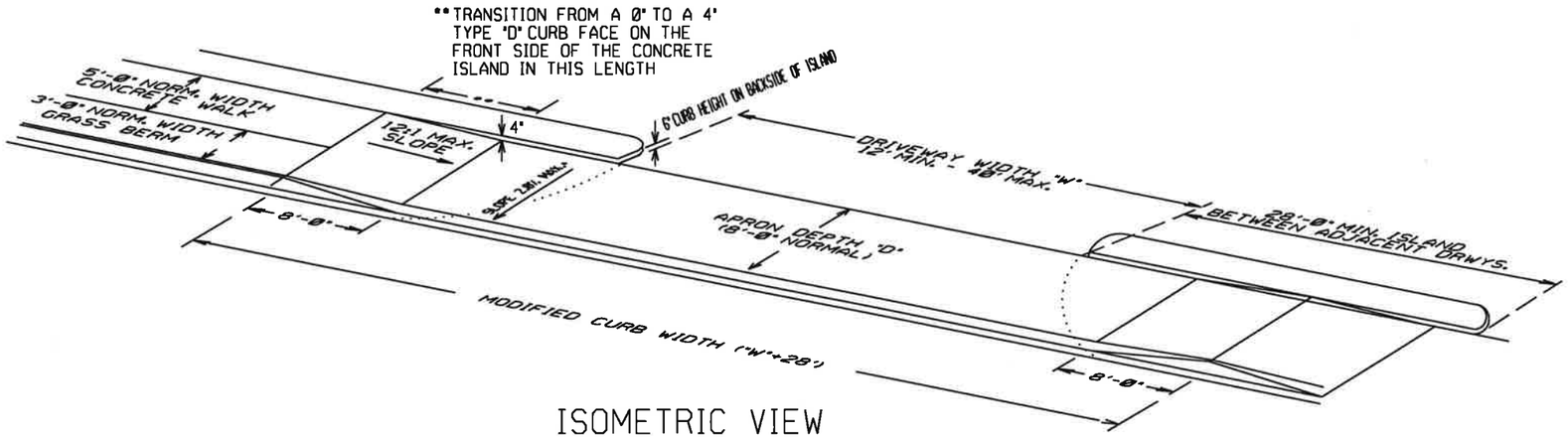
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

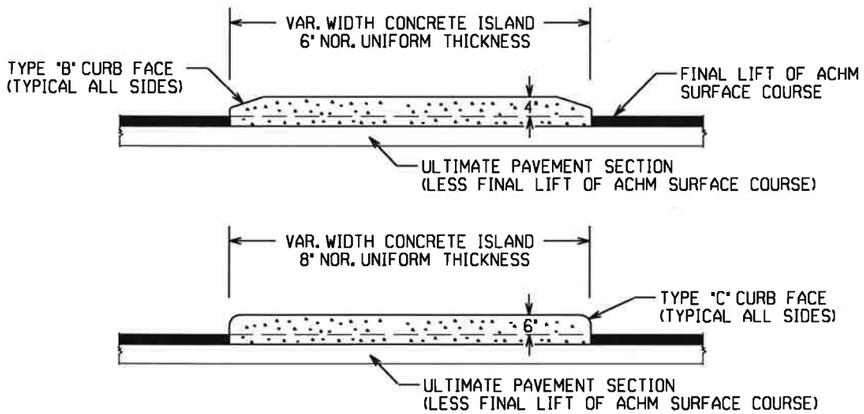
STANDARD DRAWING CG-1



PLAN VIEW

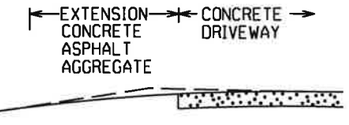


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

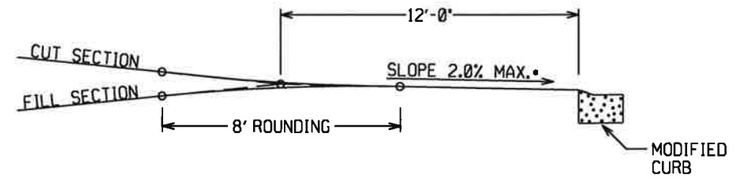
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE (1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

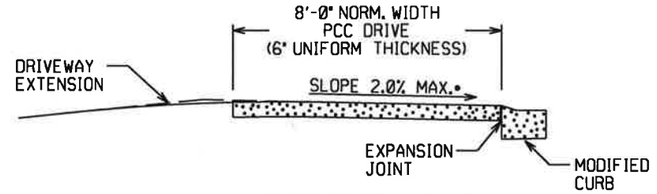
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

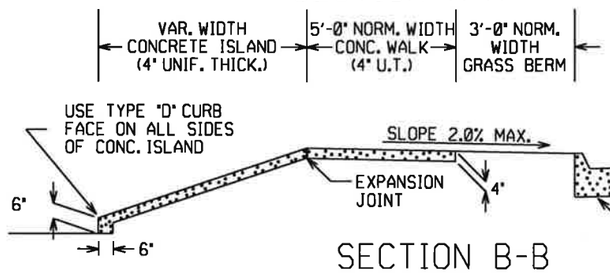


DRIVEWAY VERTICAL ALIGNMENT DETAILS

- NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



SECTION A-A



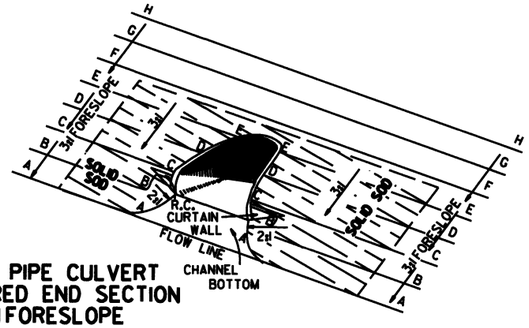
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
11-07-19		REVISED WALK DETAILS
2-27-14		REVISED PLAN & ISOMETRIC VIEW
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

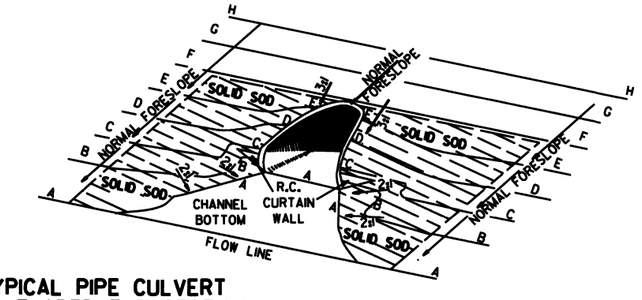
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & ISLANDS

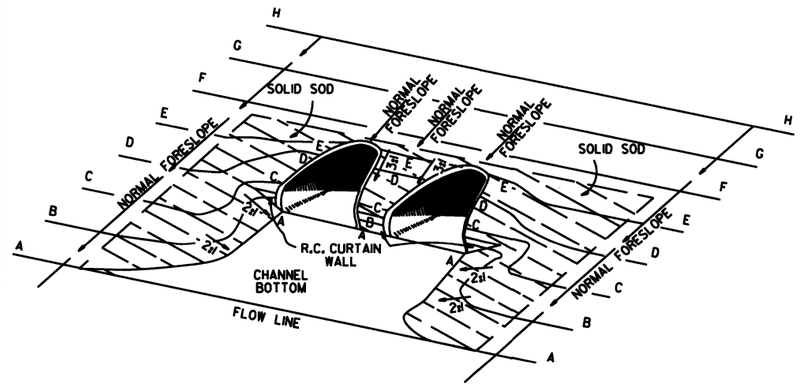
STANDARD DRAWING DR-1



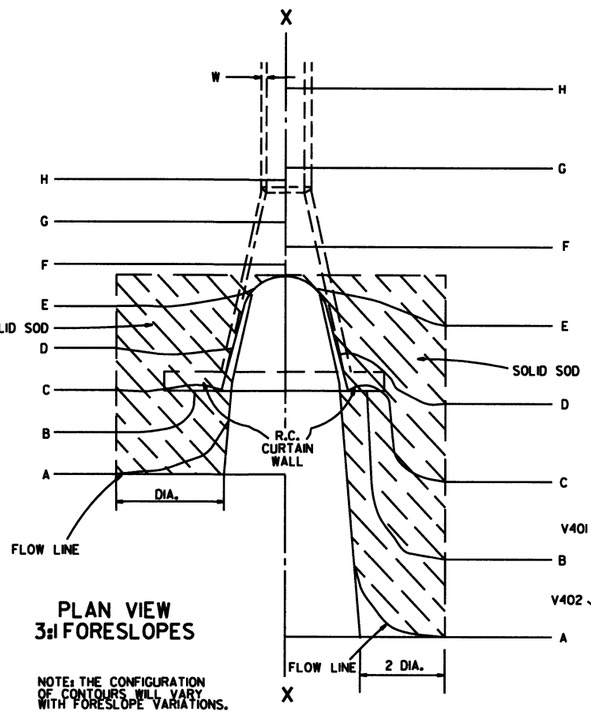
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES



PLAN VIEW
3:1 FORESLOPES

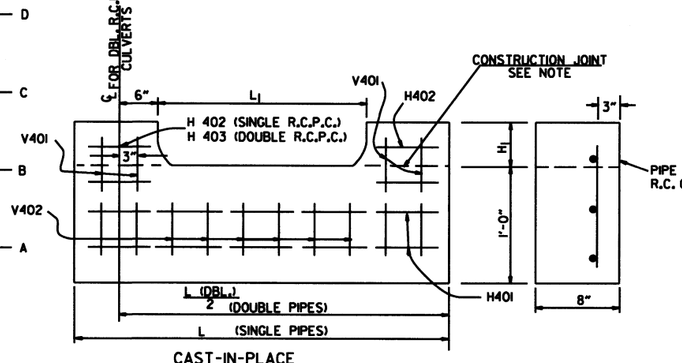
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

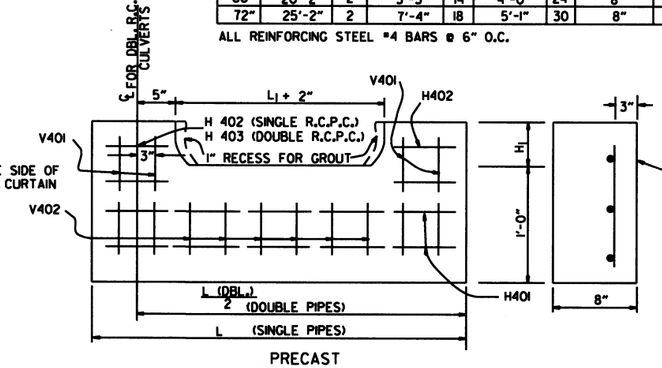
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

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



CAST-IN-PLACE

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



PRECAST

NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

R.C. CURTAIN WALL DETAILS

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402 L	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403 L	H403 NO.	V401 L	V401 NO.	V402 L	V402 NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

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

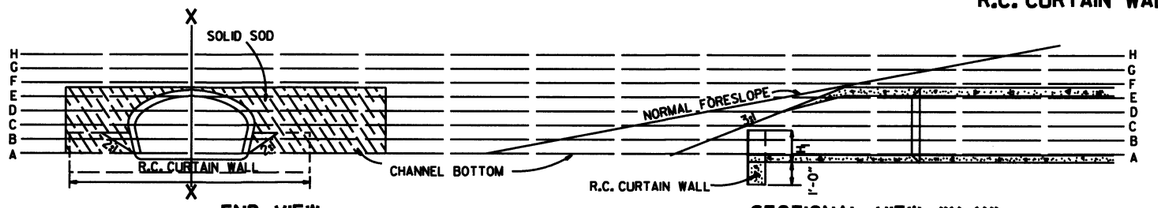
SOLID SODDING

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

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

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1

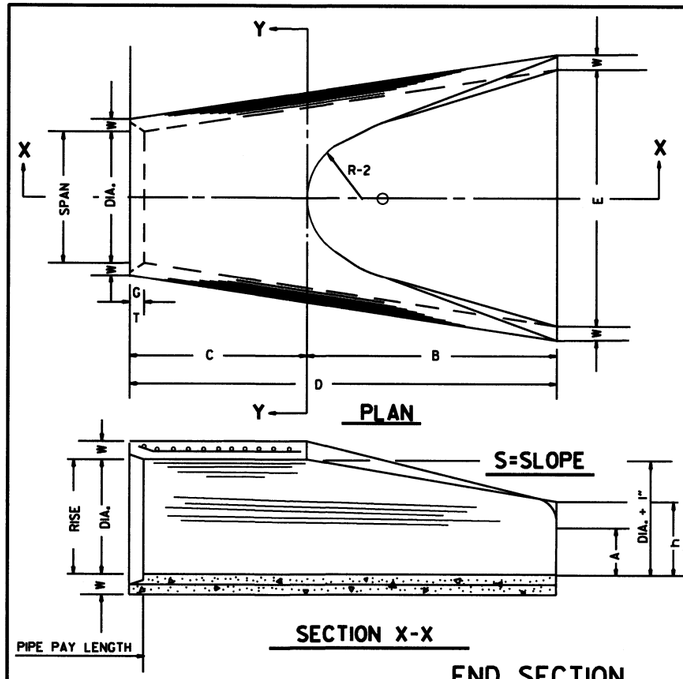


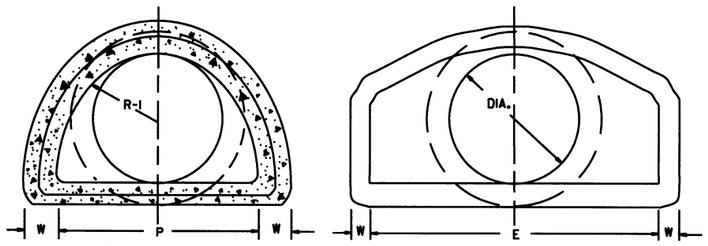
TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3sl	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3sl	25"	33⅜"	16⅝"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3sl	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3sl	37"	47¾"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3sl	43"	53¼"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3sl	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3sl	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3sl	61"	72½"	36⅛"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3sl	73"	77⅝"	38⅝"	24"	5"	13250	4'-6"

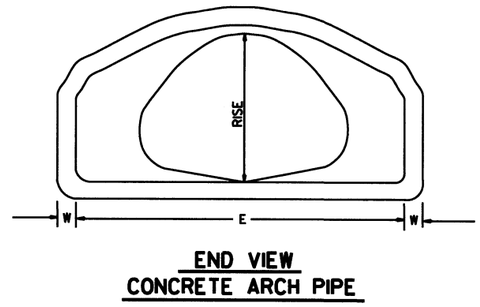
ARCH PIPE

EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½sl
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅞"	13"	2½"	2½sl
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½sl
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36⅝"	15"	2½"	2½sl
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47⅝"	20"	3"	2½sl
36	43¾	44	26⅞	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅝"	22"	3½"	2½sl
42	51⅛	51	31⅝	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½sl
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2½sl
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72⅛"	24"	4¾"	2½sl
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅝"	24"	5"	2½sl

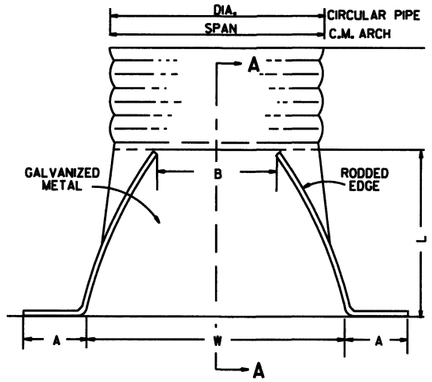
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

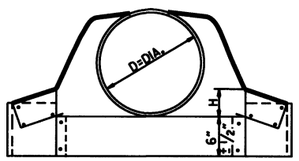


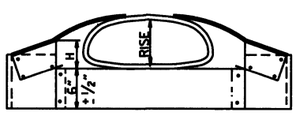
NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION



END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS





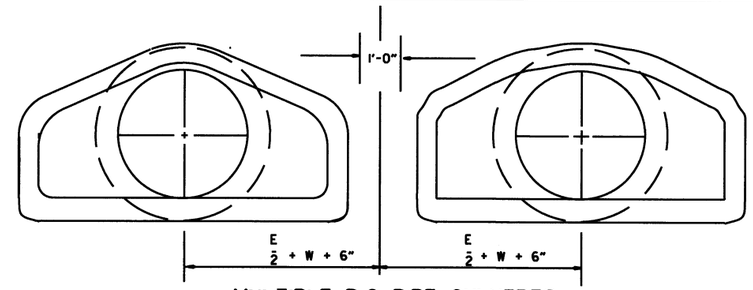


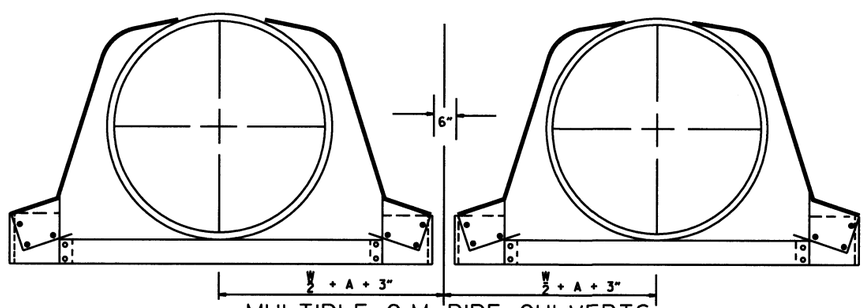
CIRCULAR PIPE

D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½sl
15	16	7	8	6	26	30	2½sl
18	16	8	10	6	31	36	2½sl
21	16	9	12	6	36	42	2½sl
24	16	10	13	6	41	48	2½sl
30	14	12	16	8	51	60	2½sl
36	14	14	19	9	60	72	2½sl
42	12	16	22	11	69	84	2½sl
48	12	18	27	12	78	90	2½sl
54	12	18	30	12	84	102	2sl
60	12	18	33	12	87	114	1⅝sl
66	12	18	36	12	87	120	1½sl
72	12	18	39	12	87	126	1 1/3sl

C.M. ARCH PIPE

EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½sl	16
18"	21	15	7	10	6	23	36	2½sl	16
21"	24	18	8	12	6	28	42	2½sl	16
24"	28	20	9	14	6	32	48	2½sl	16
30"	35	24	10	16	6	39	60	2½sl	14
36"	42	29	12	18	8	46	75	2½sl	14
42"	49	33	13	21	9	53	85	2½sl	12
48"	57	38	18	26	12	63	90	2½sl	12
54"	64	43	18	30	12	70	102	2¾sl	12
60"	71	47	18	33	12	77	114	2¾sl	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.

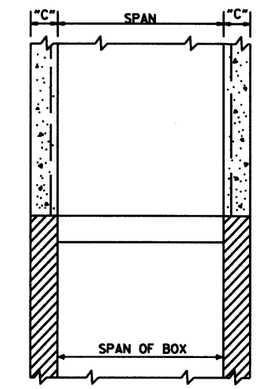
END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS

DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73
10-2-72	REVISED AND REDRAWN	760-10-2-72

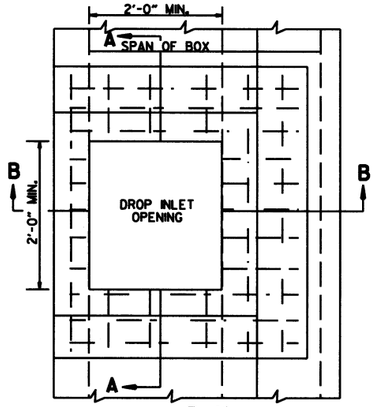
ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

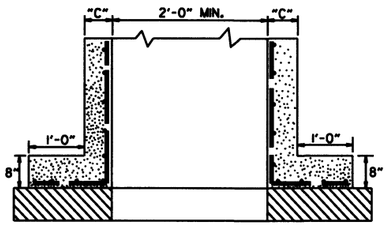
STANDARD DRAWING FES-2



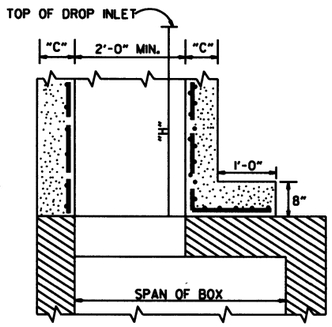
SECTION B-B



PLAN

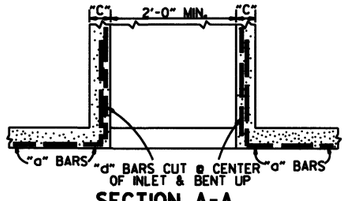


SECTION A-A

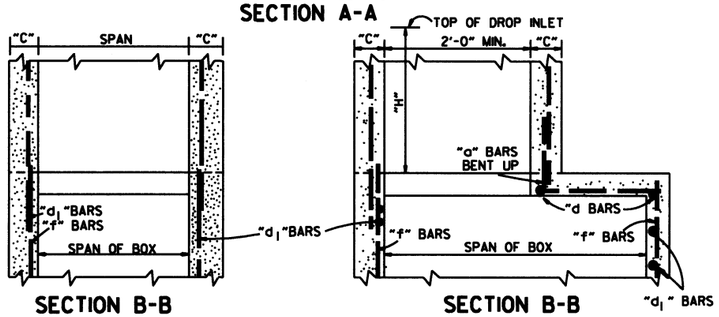


SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT

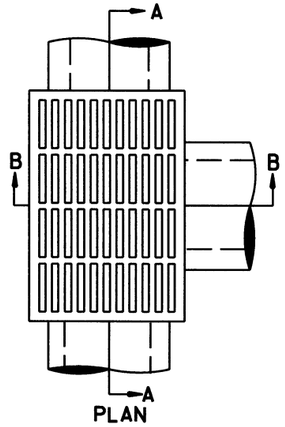


SECTION A-A

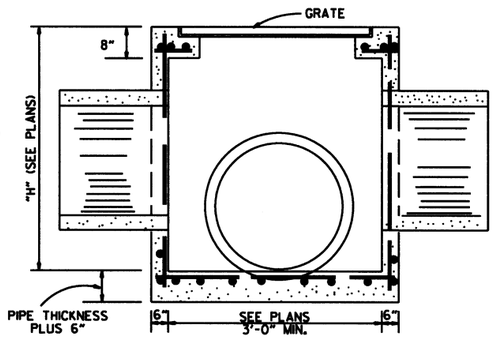


METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

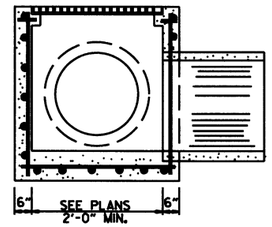
NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.



PLAN



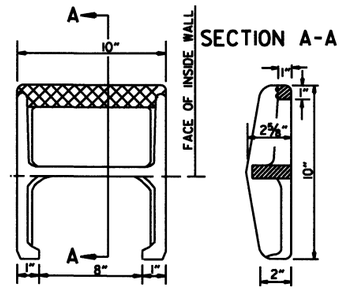
SECTION A-A



SECTION B-B

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

DROP INLET (TYPE E)

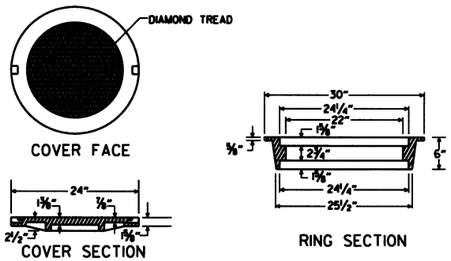


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

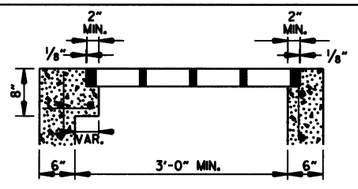
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

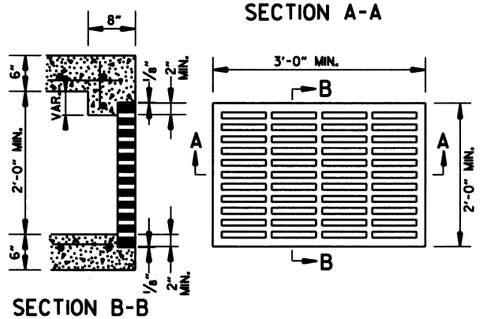


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



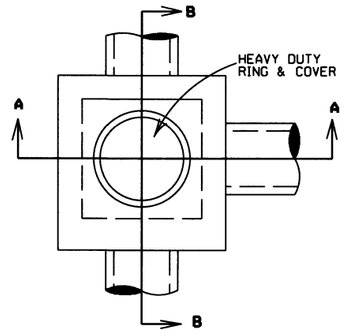
SECTION A-A



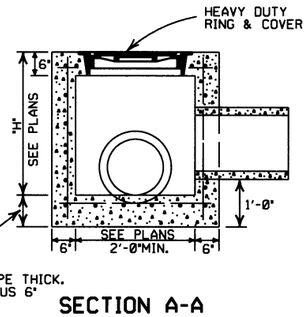
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

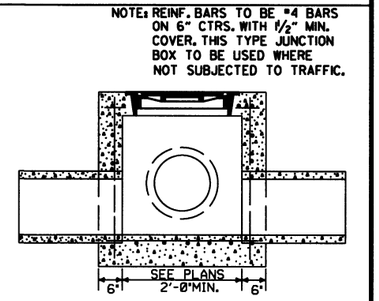
GRATE FOR TYPE E DROP INLET



PLAN

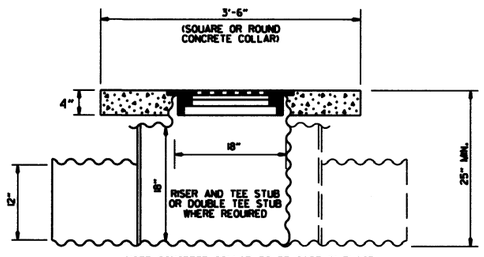


SECTION A-A

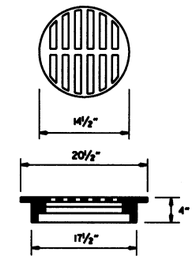


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

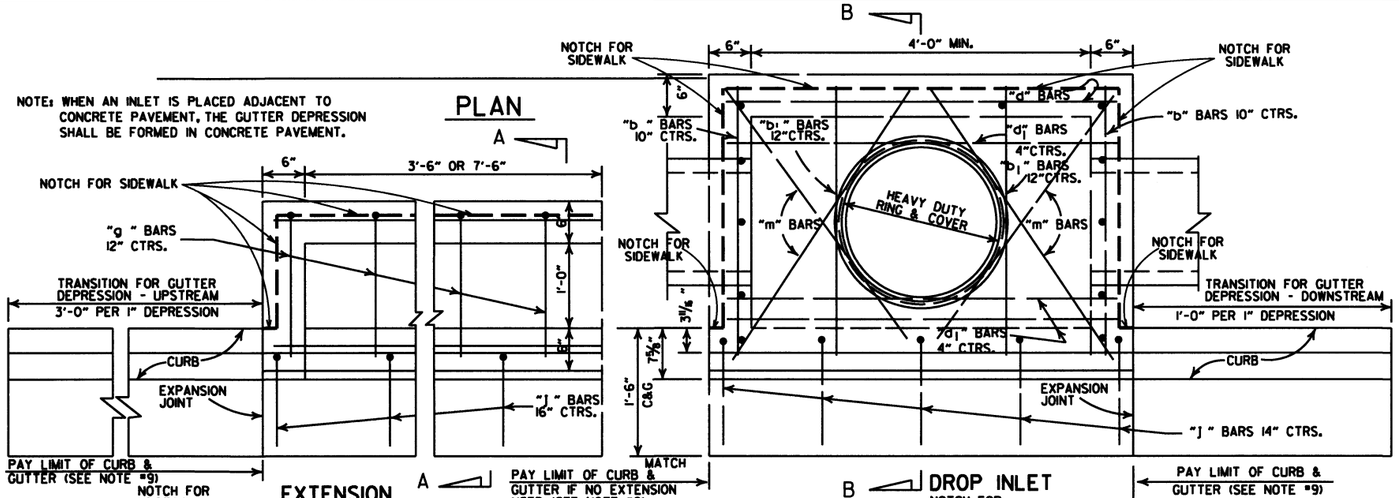
1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI (TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9



4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC.	HEIGHT 5'-0" REINF. STEEL	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL
		CU. YDS.	POUNDS	CU. YDS.	POUNDS
18"	2'-6"	1.77	156	0.28	22
24"	2'-6"	1.79	156	0.28	22
30"	3'-2"	2.39	205	0.30	26
36"	3'-8"	2.63	236	0.32	28
42"	4'-4"	2.95	250	0.34	30
48"	4'-10"	3.21	265	0.36	32

DROP INLET EXTENSION

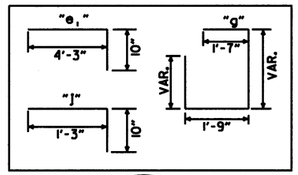
4'-0" CLASS A CONC.	4'-0" REINF. STEEL	8'-0" CLASS A CONC.	8'-0" REINF. STEEL
CU. YDS.	POUNDS	CU. YDS.	POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

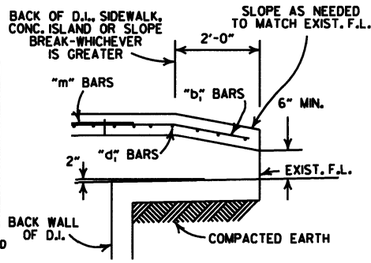
NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

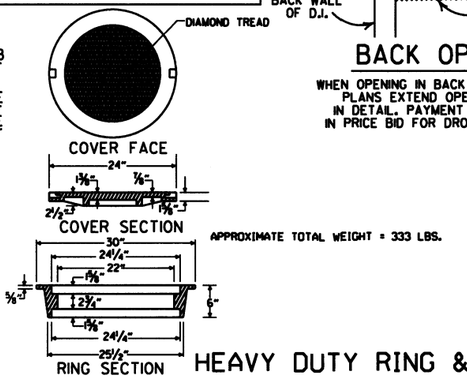
BAR DIAMETER





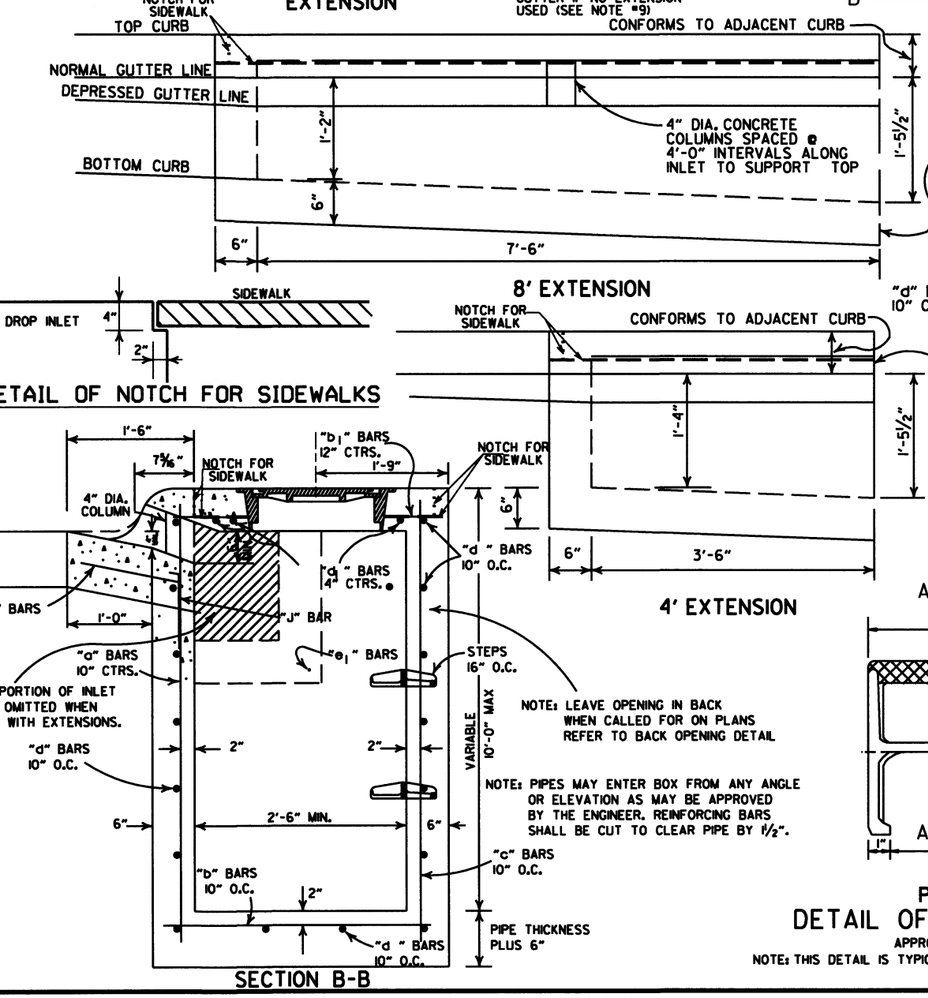
BACK OPENING

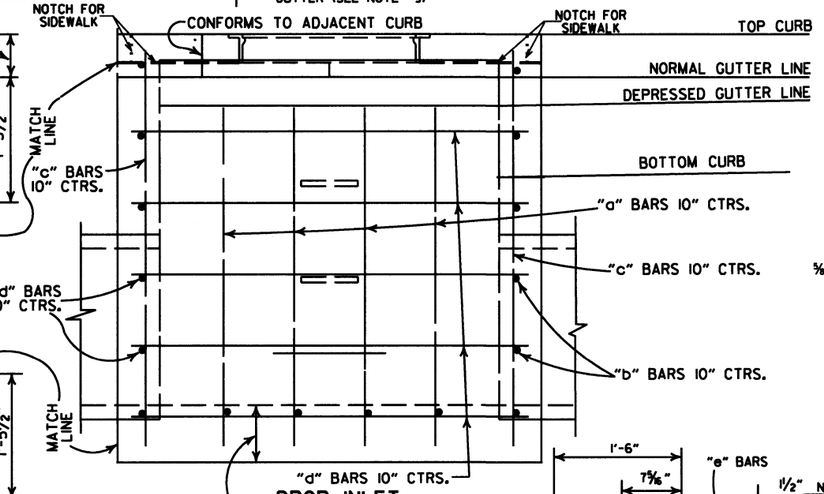
WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

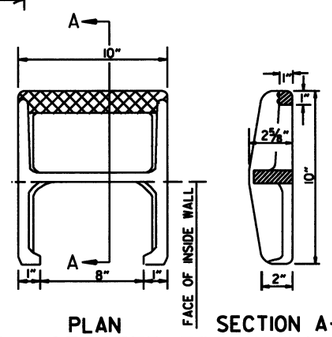


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

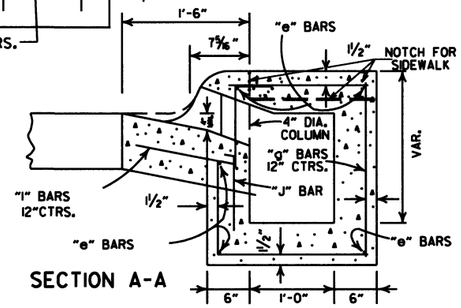






APPROX. WEIGHT = 11 LBS. (CAST IRON)

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.



GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

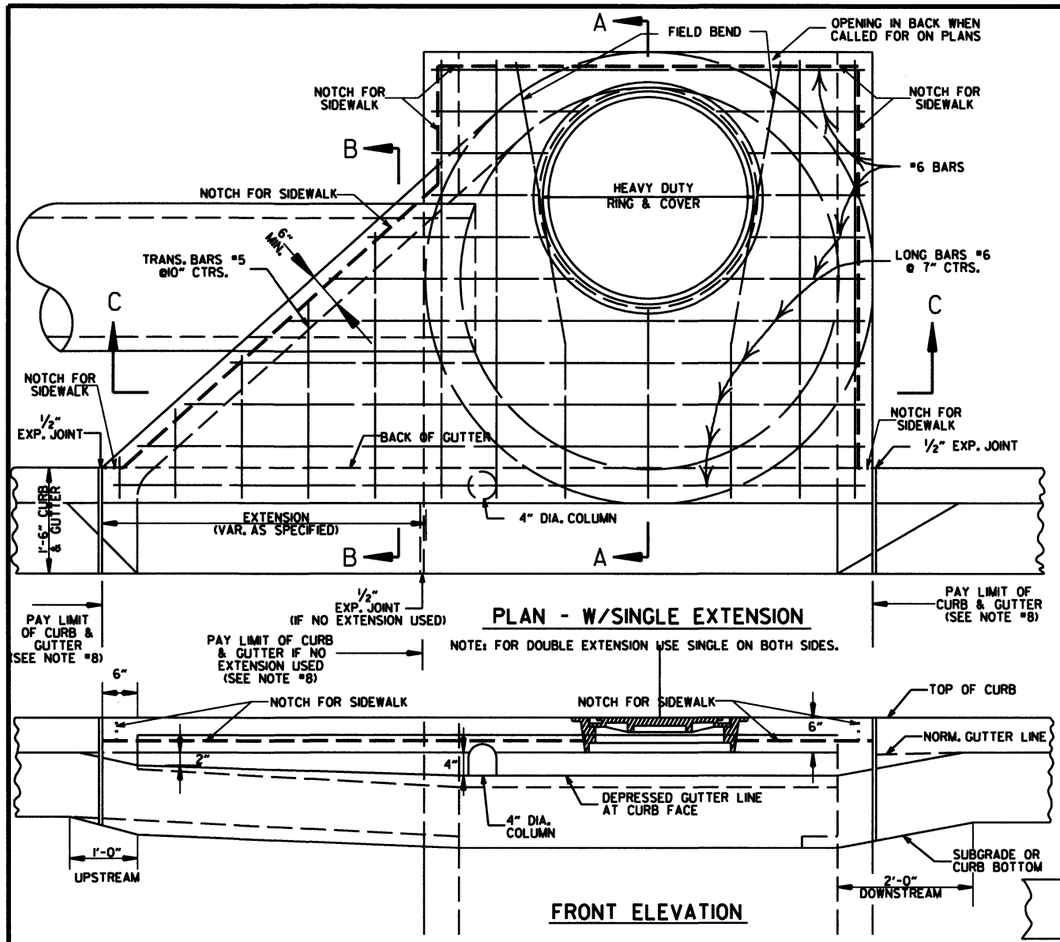
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13, REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4'X8') EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

(TYPE C)

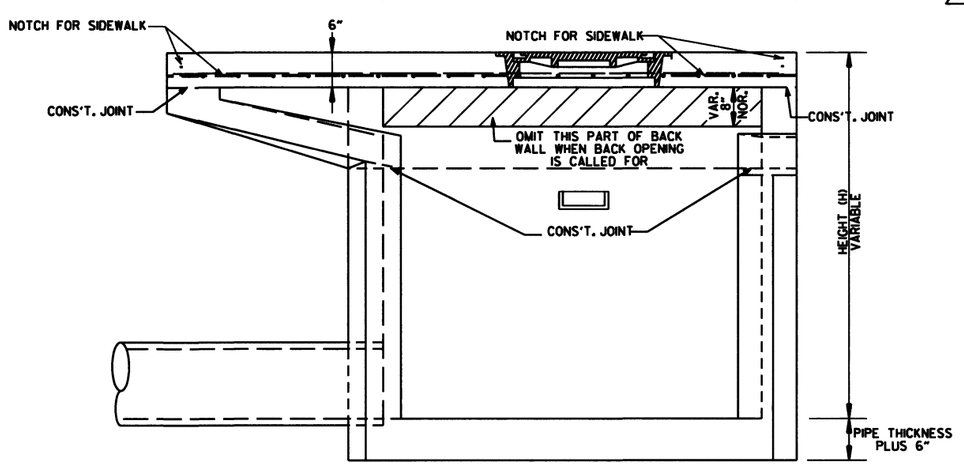
STANDARD DRAWING FPC-9E



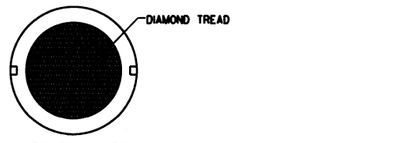
PLAN - W/SINGLE EXTENSION

NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.

FRONT ELEVATION



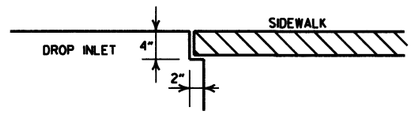
SECTION C-C



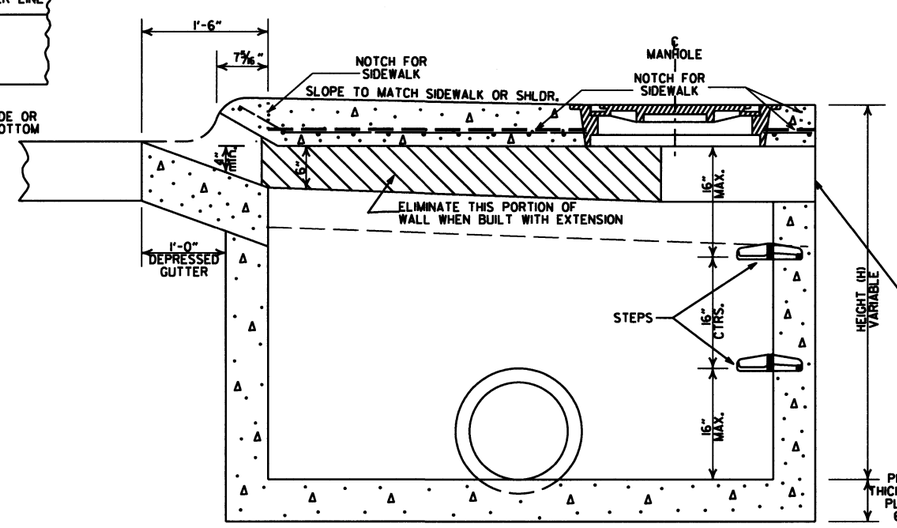
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

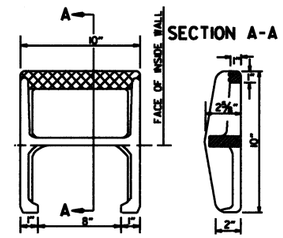
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF NOTCH FOR SIDEWALKS



SECTION A-A

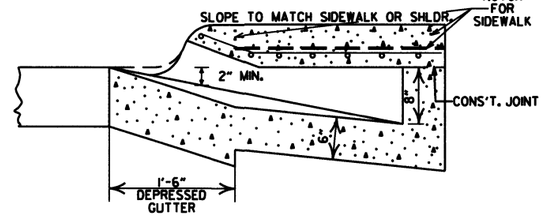


APPROX. WEIGHT = 81 LBS. (CAST IRON)

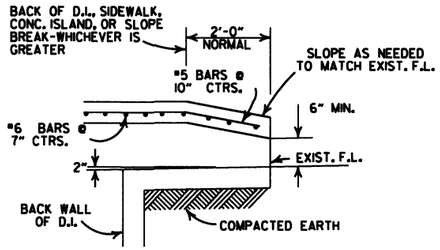
PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



SECTION B-B



BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1 1/2" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

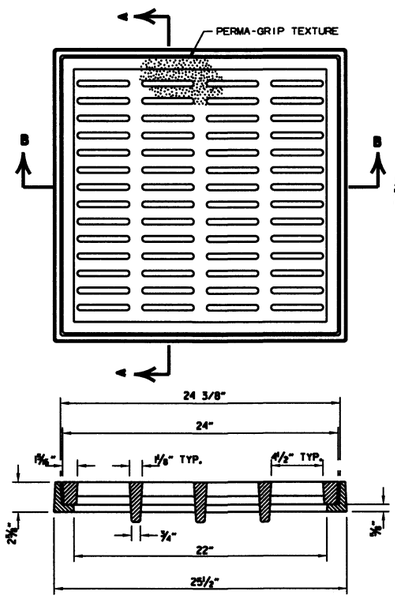
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS	
		CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
8-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11 & ADJ. OPENING DIMENSION	
10-24-95	CORRECTED #5 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
2-22-95	TYPE C TO MO OPEN BACK DETAIL)	
10-1-94	REVISED GENERAL NOTES	11-1-94
4-1-93	REV. BACK OPEN. DETAIL & NOTE	4-1-93
12-2-92	REVISED NOTES 1,12 & ADDED BK.OPEN DETAIL	12-2-92
11-20-89	ADDED NOTE NO.12	11-30-89
4-24-89	ADDED NOTE 4, MINIMUM WALL THICKNESS	5-1-89
12-5-88	ADDED CURB AND GUTTER TO SECTION A-A	6-30-89
1-11-87	MODIFIED WALL THICKNESS	1-31-87
6-12-87	ISSUED	6-30-87

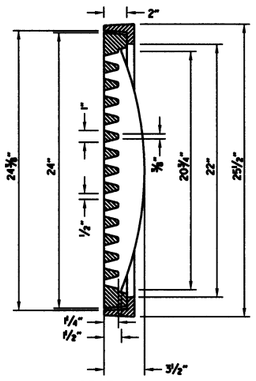
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M



SECTION B-B

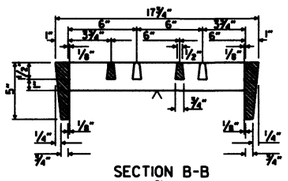


SECTION A-A

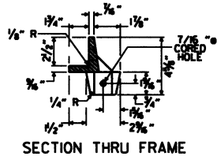
DETAILS OF PEDESTRIAN GRATE AND FRAME

GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

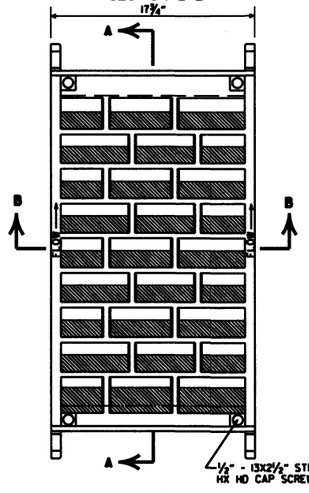
1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE ½" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
3. THE GRATE AND FRAME SHALL NOT BE PAINTED.
4. THE GRATE AND FRAME SHALL BE INSTALLED IN THE DROP INLET IN THE ASSEMBLED POSITION.
5. THE APPROXIMATE WEIGHT OF THE GRATE AND FRAME SHALL BE 218 LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

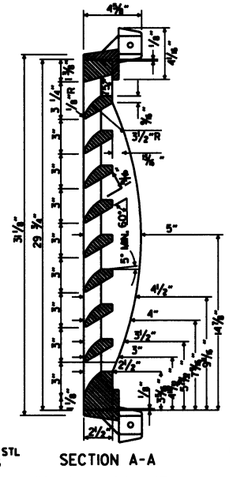


SECTION B-B



SECTION THRU FRAME



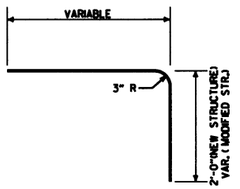


SECTION A-A

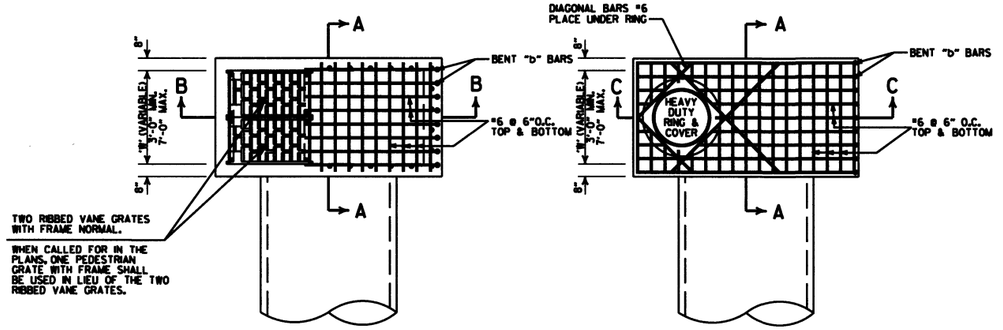
DETAILS OF RIBBED VANE GRATE AND FRAME

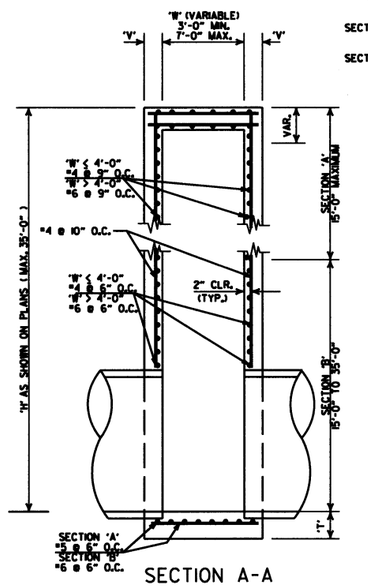
GENERAL NOTES (RIBBED VANE GRATE & FRAME)

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.



DETAIL OF BENT "b" BAR



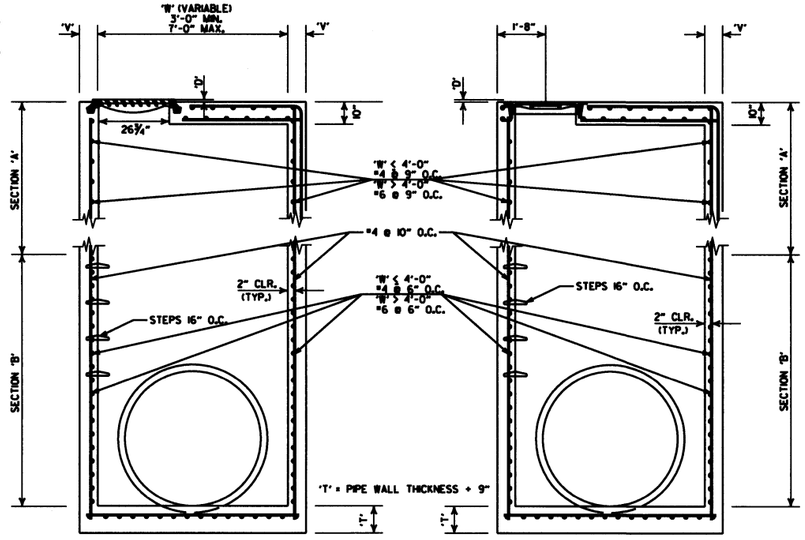


SECTION A-A

SECTION 'A' 'V' = 8"

SECTION 'B' (H≤4'-0") 'V' = 8"

SECTION 'B' (H>4'-0") 'V' = 10"



SECTION B-B

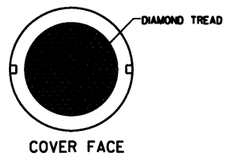
SECTION C-C

DETAILS OF DROP INLET (TYPE ST)

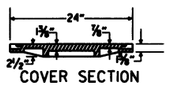
DETAILS OF JUNCTION BOX (TYPE ST)

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

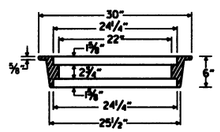
1. THE 'D' DIMENSION SHALL MATCH THE FINAL LIFT OF ACHM SURFACE COURSE SHOWN IN THE PLANS WHEN ASPHALT PAVING SURROUNDS THE GRATE OR RING COVER, AND SHALL BE 0" AT OTHER INSTALLATIONS.
2. THE STEPS SHALL BE OMITTED WHERE 'H' IS LESS THAN 4'-0".
3. ALL EXPOSED CORNERS ARE TO HAVE A ¾" CHAMFER.



COVER FACE



COVER SECTION



RING SECTION

HEAVY DUTY RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.

GENERAL NOTES (HEAVY DUTY RING & COVER):

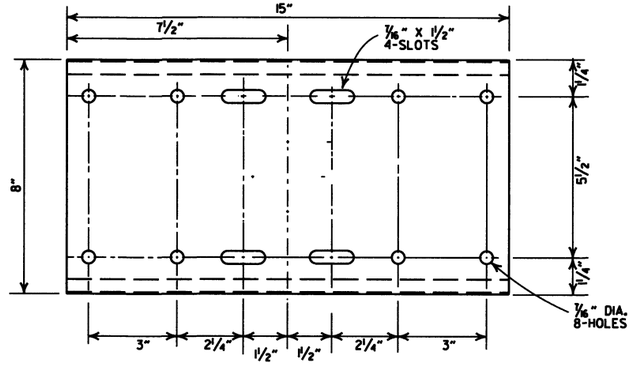
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
4. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REVISED	DATE FILMED	DESCRIPTION
7-26-12		REMOVED NOTE 4, REVISED 'T', REVISED BOTTOM SLAB REBAR FOR SECTION 'A', SHOWED REBAR CLEARANCE IN SECTIONS
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED & REISSUED
8-15-91	8-15-91	REVISED & REISSUED

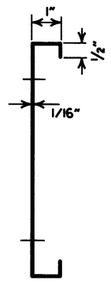
ARKANSAS STATE HIGHWAY COMMISSION

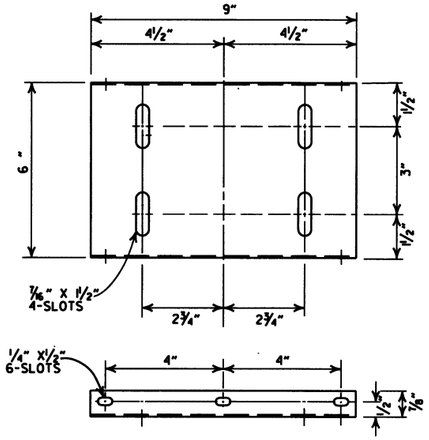
DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

STANDARD DRAWING FPC-9S

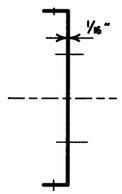


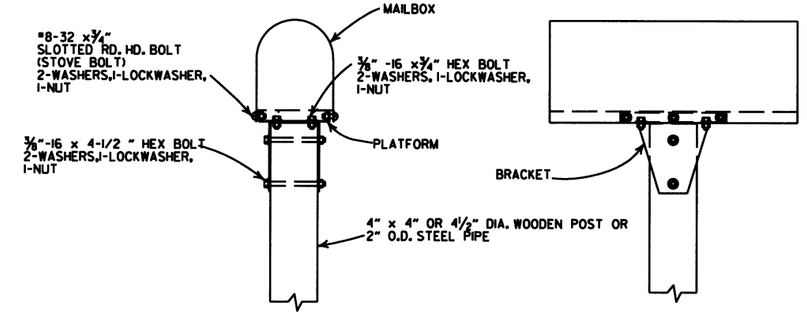
SHELF



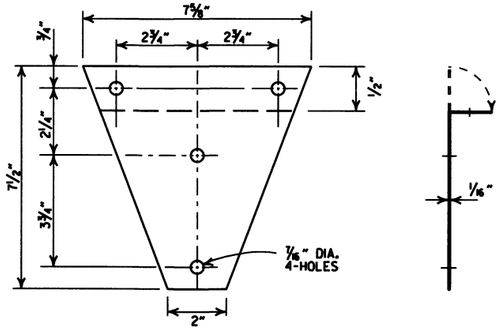


PLATFORM

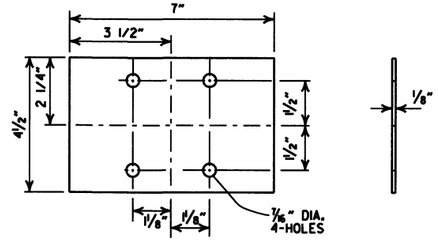




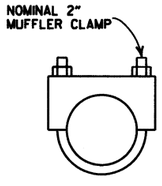
SINGLE INSTALLATION



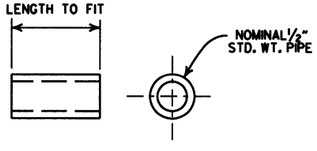
BRACKET



ANTI-TWIST PLATE



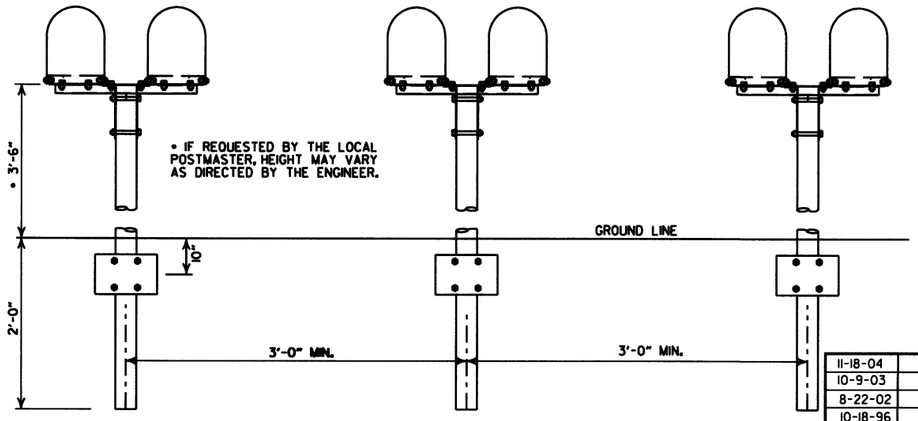
CLAMP



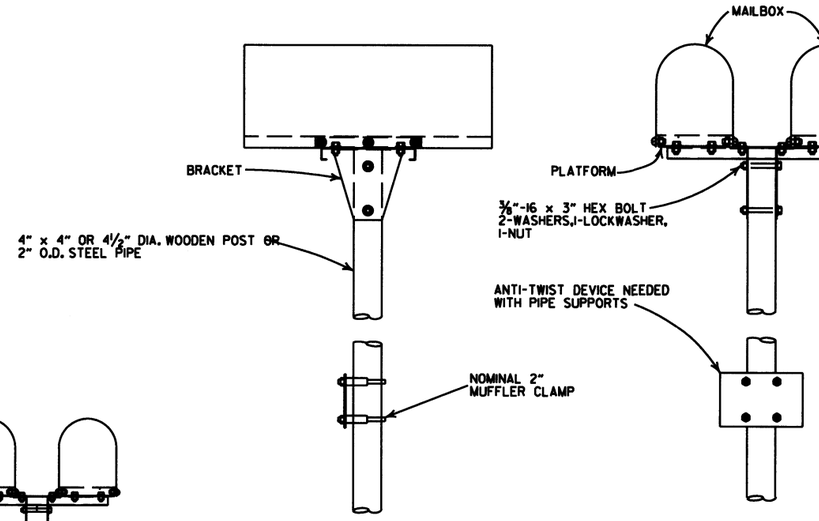
SPACER

GENERAL NOTES

1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X¾" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE AHTD QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



SPACING FOR MULTIPLE POST INSTALLATION



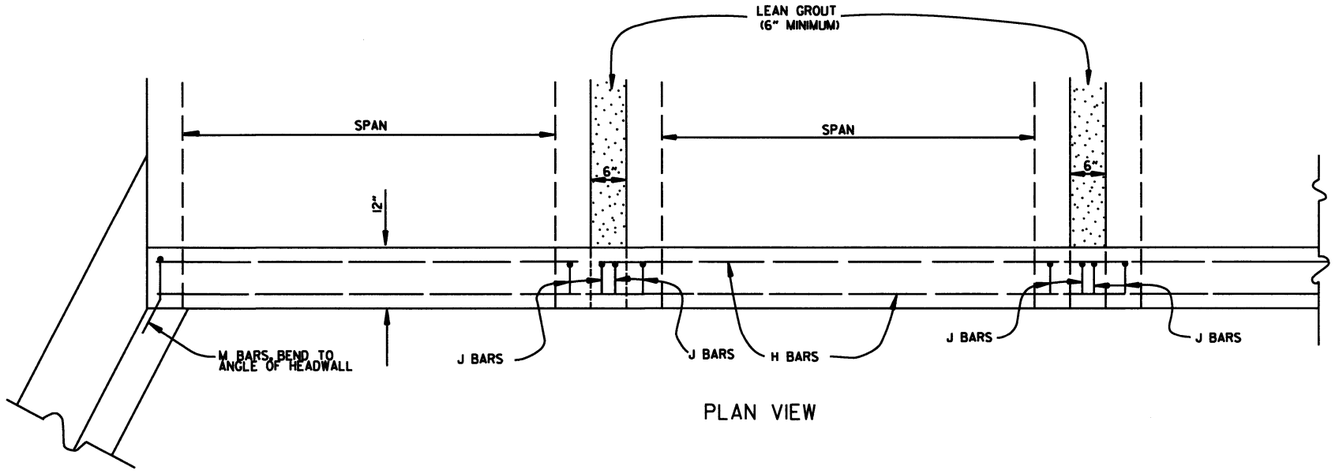
DOUBLE INSTALLATION

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	20-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

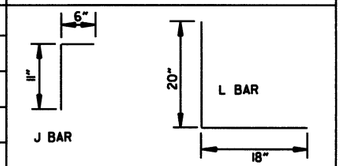
STANDARD DRAWING MB-1



PLAN VIEW

BAR LIST

BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	



• NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

GENERAL NOTES

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

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING. STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE ¾" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, MEMBRANE WATERPROOFING, DRAINAGE FILL MATERIAL, GEOTEXTILE FILTER FABRIC, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS.
THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE.
THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

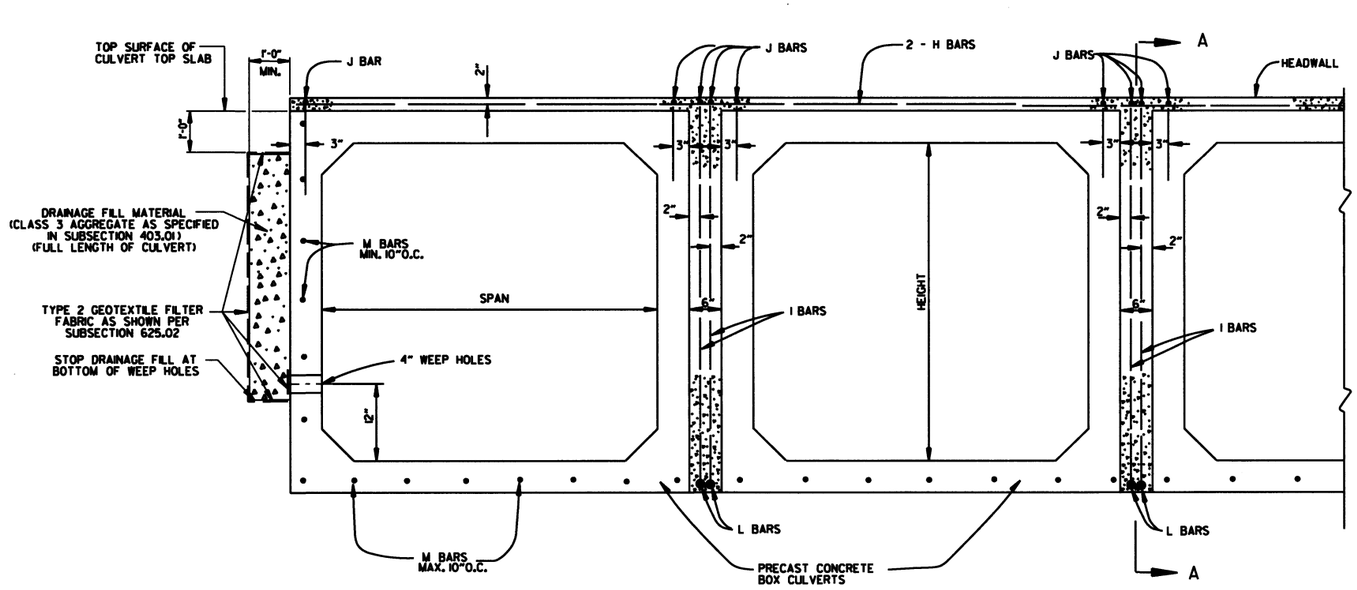
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER BARRELS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

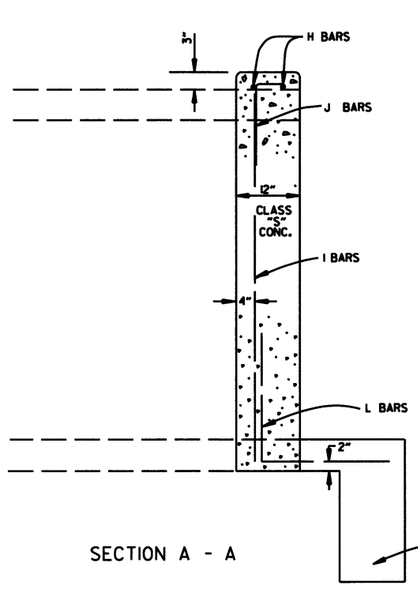
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.



END VIEW



SECTION A - A

DATE	REVISION	DATE FILMED
1-28-15	REVISED GEOTEXTILE FABRIC PLACEMENT	
12-15-11	ADDED NOTE & DTLS FOR WEEP HOLE AND DRAINAGE FILL	
10-15-09	ADDED GENERAL NOTE	
11-10-05	REVISED SPACING OF "M" BARS	
4-10-03	REVISED GENERAL NOTES	
10-18-96	CORRECTED AASHTO REF.	
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING	
8-15-91	ADDED NOTE FOR LEAN GROUT	
11- 8-90	REVISED FOR 1991 SPECS	
11-30-89	ISSUED; JABE	

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

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

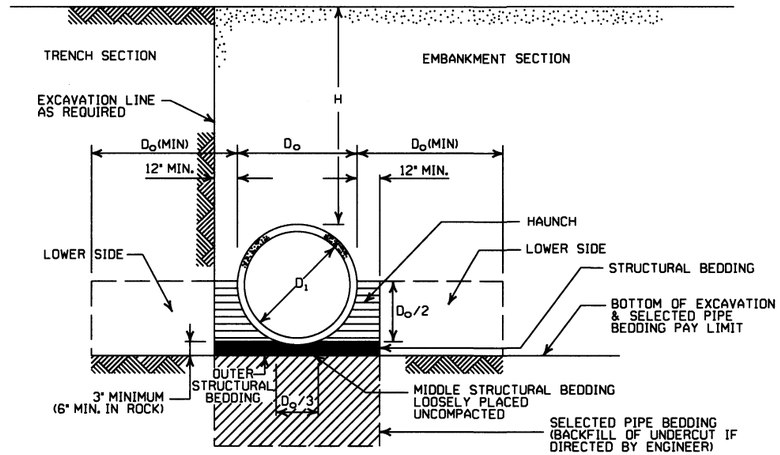
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

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

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

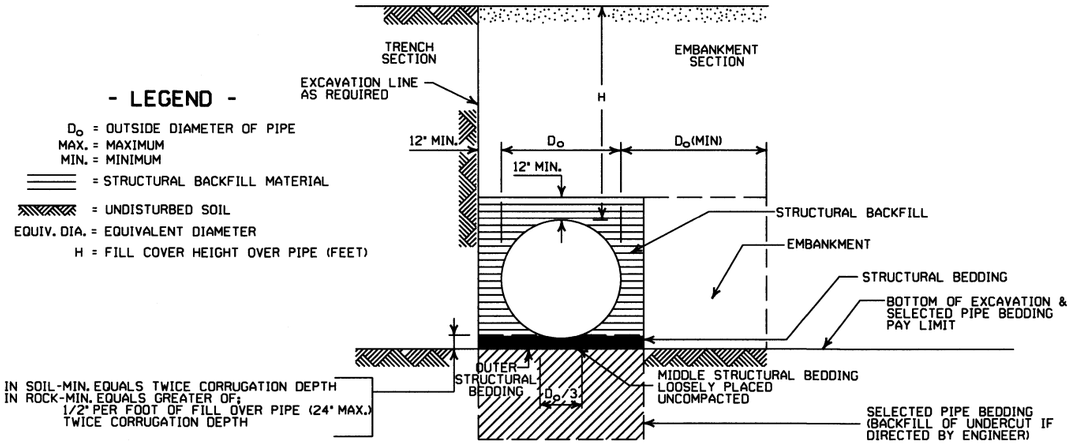
METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)
				INSTALLATION		INSTALLATION		INSTALLATION		INSTALLATION
				TYPE 1		TYPE 1		TYPE 1		TYPE 1
			2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM			
15	17x13	3	0.064	2		15	0.060	2		15
18	21x15	3	0.064	2		15	0.060	2		15
21	24x18	3	0.064	2.25		15	0.060	2.25		15
24	28x20	3	0.064	2.5		15	0.075	2.5		15
30	35x24	3	0.079	3		12	0.075	3		12
36	42x29	3½	0.079	3		12	0.105	3		12
42	49x33	4	0.079	3		12	0.105	3		12
48	57x38	5	0.109	3		13	0.135	3		13
54	64x43	6	0.109	3		14	0.135	3		14
60	71x47	7	0.138	3		15	0.164	3		15
66	77x52	8	0.168	3		15				
72	83x57	9	0.168	3		15				
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM							
				INSTALLATION		INSTALLATION				
				TYPE 2	TYPE 1	TYPE 2	TYPE 1			
36	40x31	5	0.079	3	2	12	15			
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

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 TRENCH WIDTH BASED ON FILL HEIGHT "H"

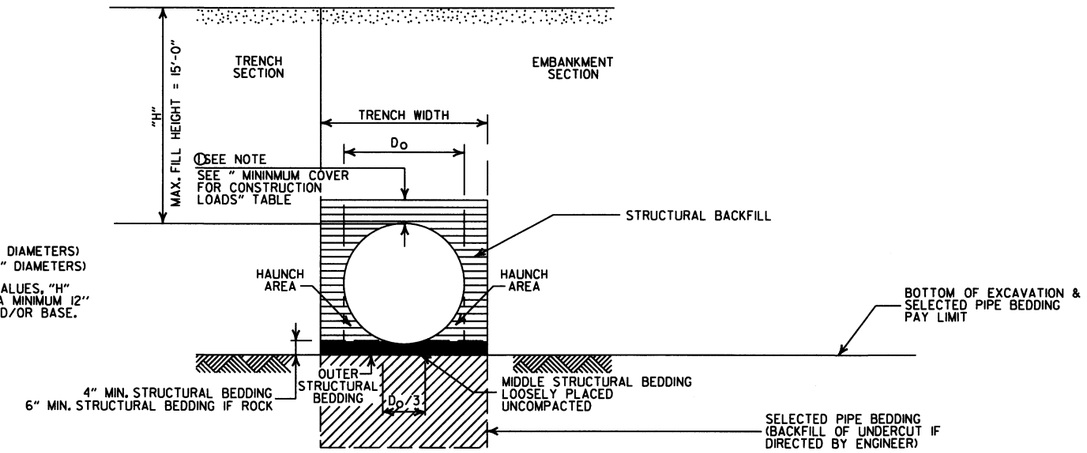
PIPE DIAMETER	TRENCH WIDTH (FEET) "H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)
MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS 18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

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

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

MULTIPLE INSTALLATION OF PVC PIPES

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

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

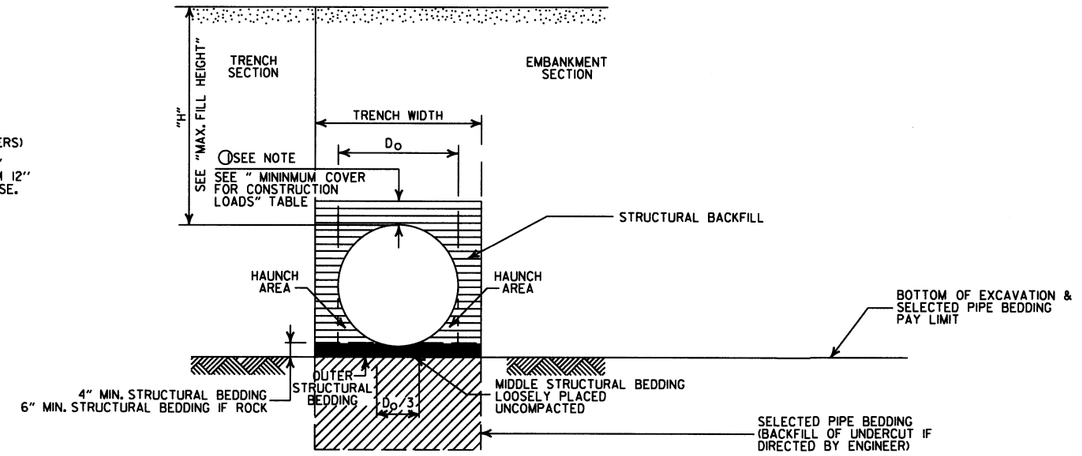
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4)

• SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

MAXIMUM HEIGHT OF FILL "H"

PIPE DIAMETER	INSTALLATION TYPE	
	TYPE 1	TYPE 2
18"	18'	14'
24"	16'	12'
30"	18'	14'
36"	16'	12'
42"	18'	13'
48"	15'	11'
60"	17'	12'

MULTIPLE INSTALLATION OF PVC 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"
60"	5'-0"

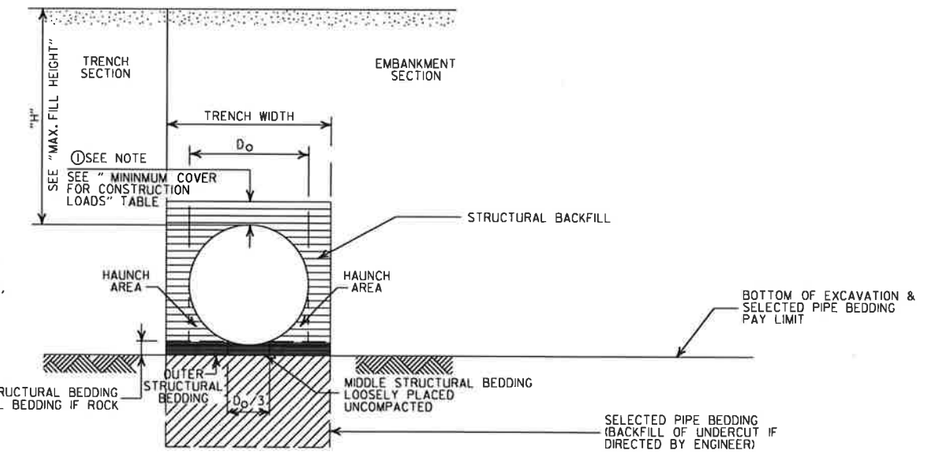
MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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"
60"	10'-0"	15'-0"

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL

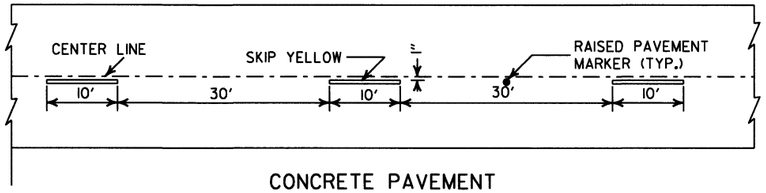
DATE	REVISION	DATE FILMED
11-07-19	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

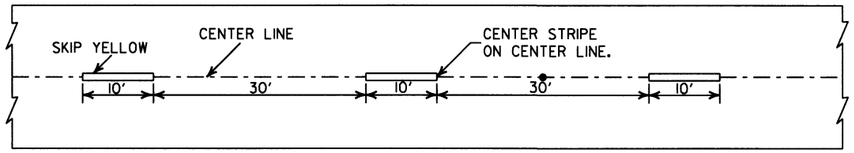
PLASTIC PIPE CULVERT (POLYPROPYLENE)

STANDARD DRAWING PCP-3

NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

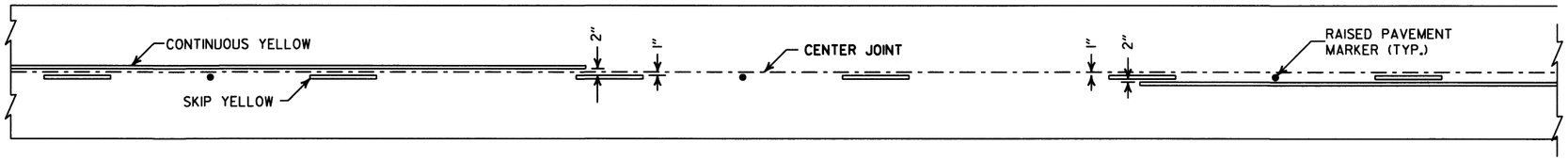


CONCRETE PAVEMENT

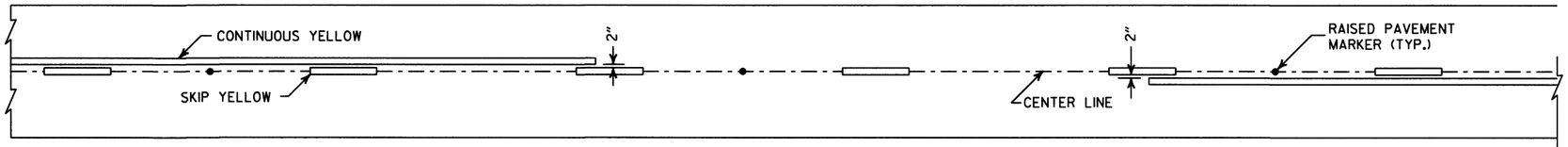


ASPHALT PAVEMENT

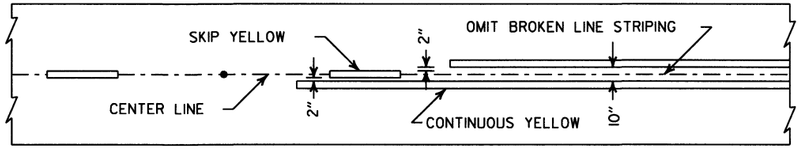
BROKEN LINE STRIPING



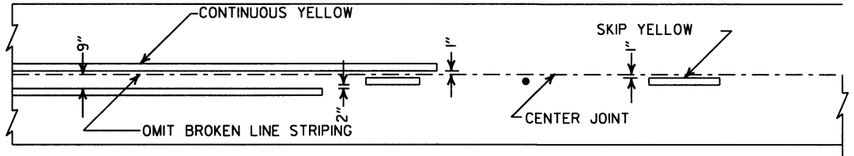
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

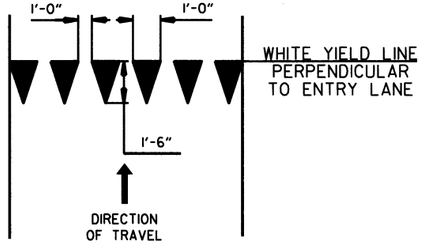


ASPHALT PAVEMENT

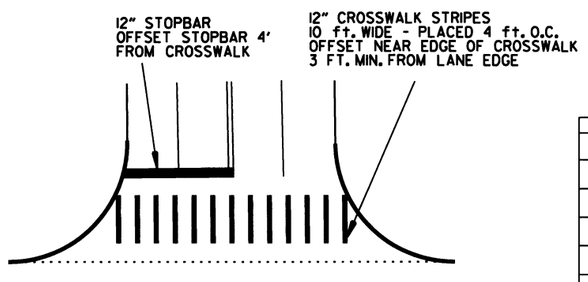


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

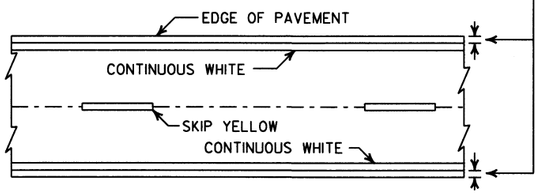


YIELD LINE DETAIL



CROSSWALK AND STOPBAR DETAILS

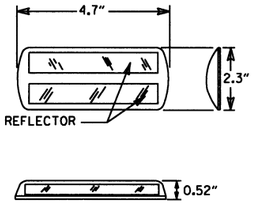
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING

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

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



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.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

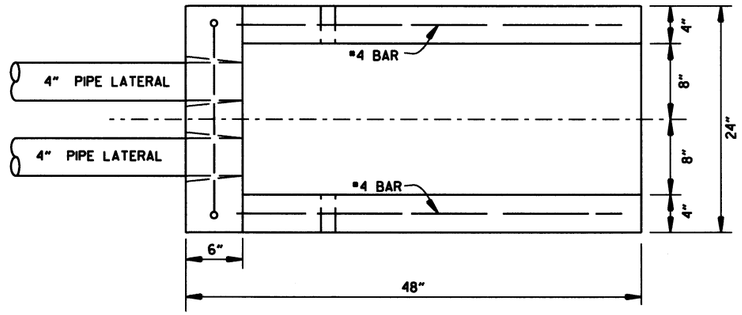
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

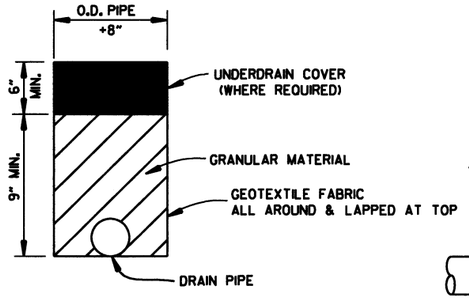
NOTE:

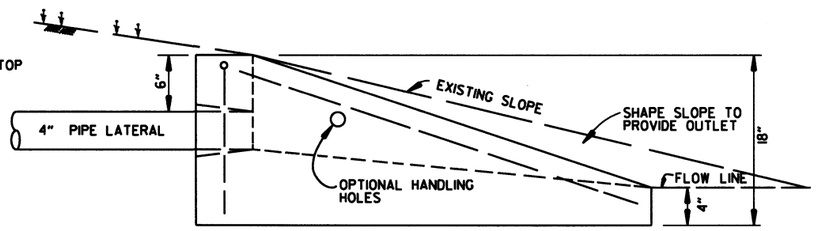
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

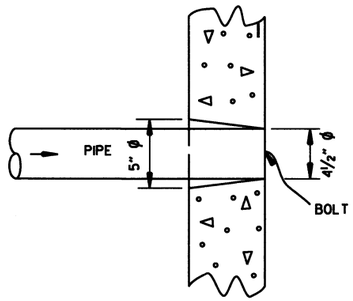


PLAN VIEW

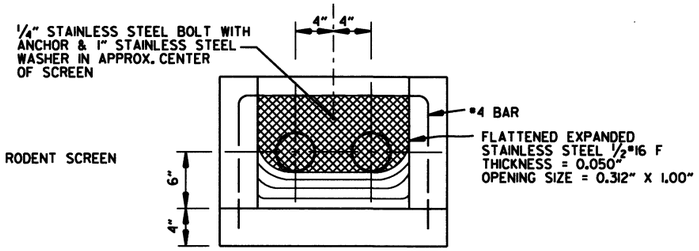




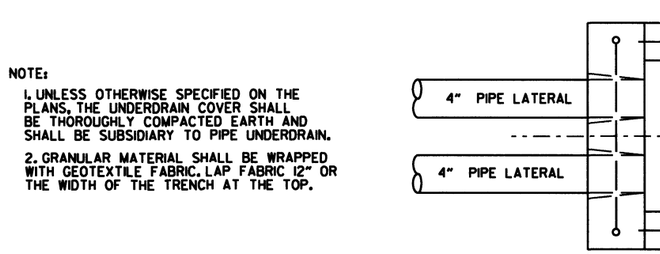
SIDE VIEW



DETAIL OF HOLE FOR 4" PIPE

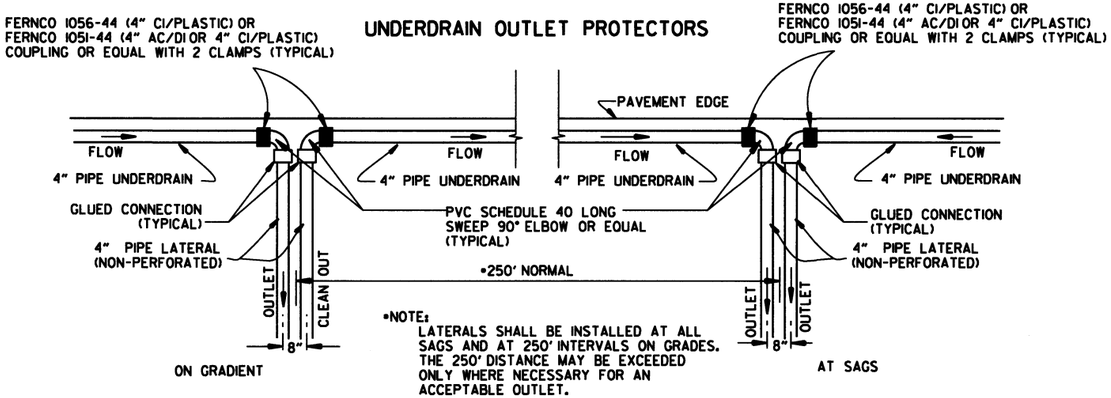


FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE 1. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

3. EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."

4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."

7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

DATE	REVISION	DATE FILMED
12-8-16	ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC	
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE: 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

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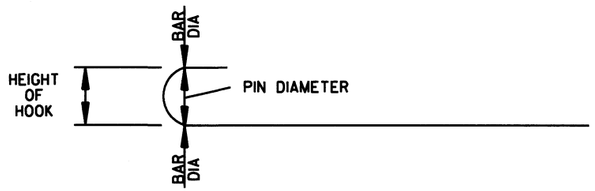
DETAILS OF PIPE UNDERDRAIN

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	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

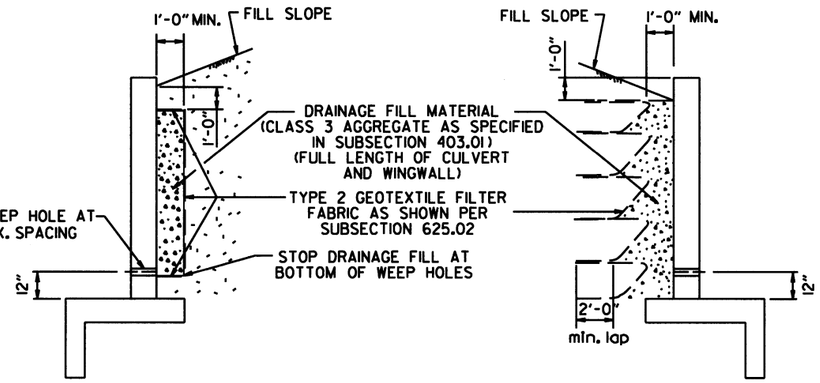
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

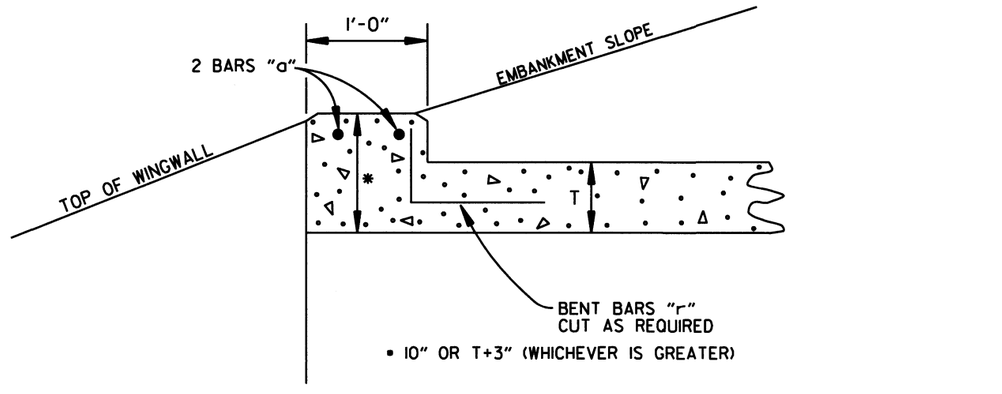
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

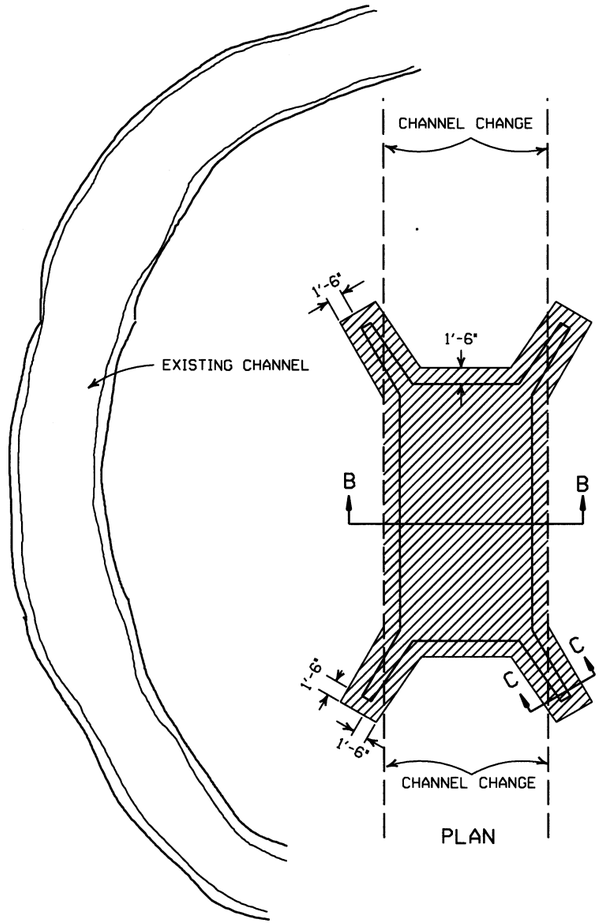
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

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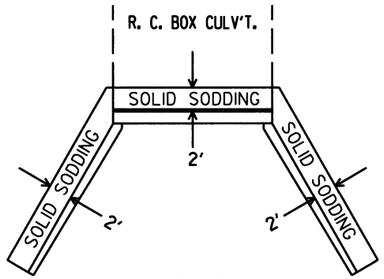
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

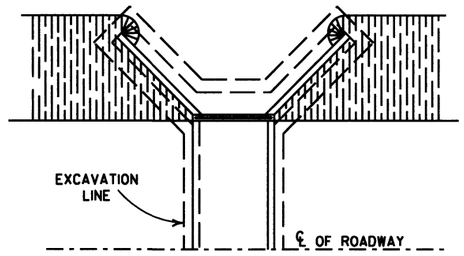
SOLID SODDING



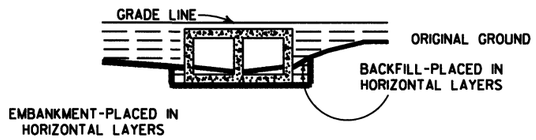
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

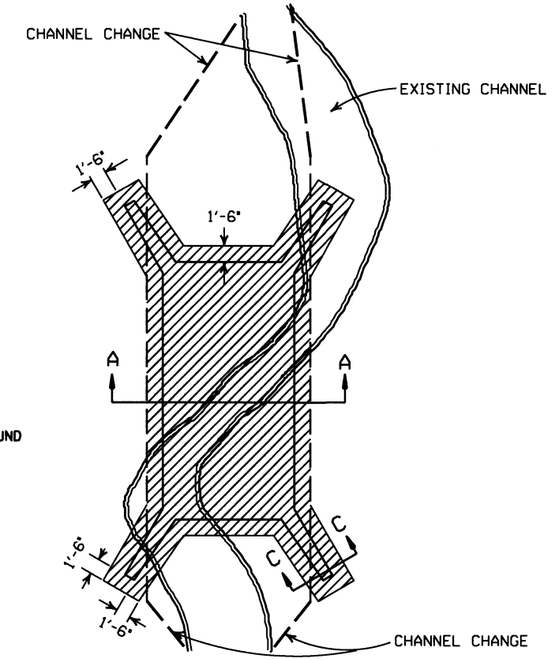


PLAN

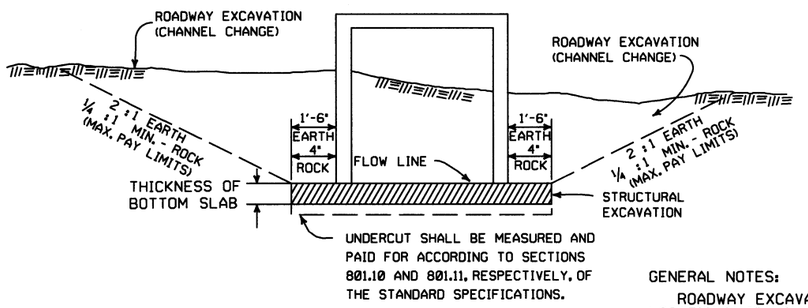


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

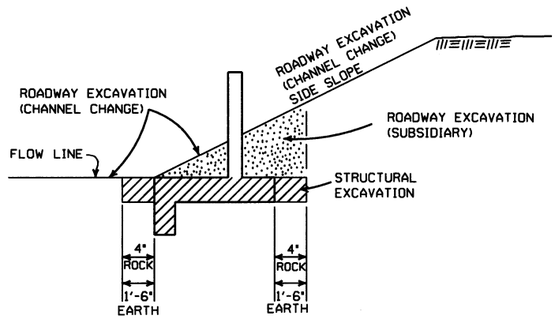


PLAN

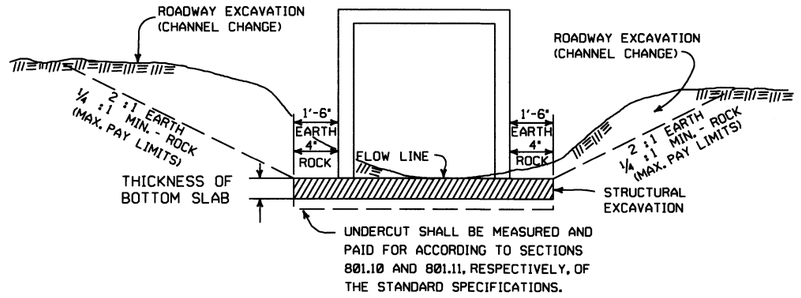


SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



SECTION A-A

DETAILS THROUGH EXISTING CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

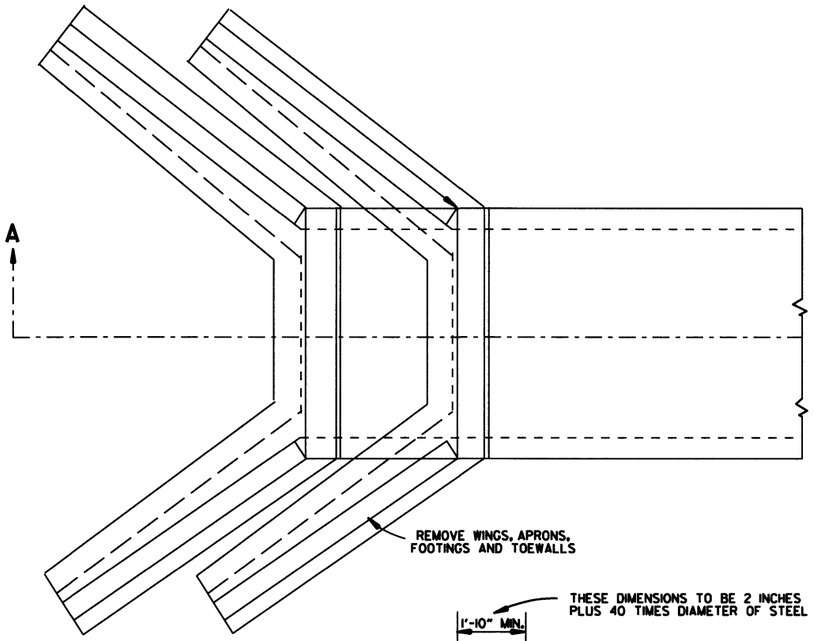
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

DATE	REVISION	FILMED
11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES	674-1-4-83
	AND ADDED MAXIMUM PAY	
	LIMIT NOTES.	
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

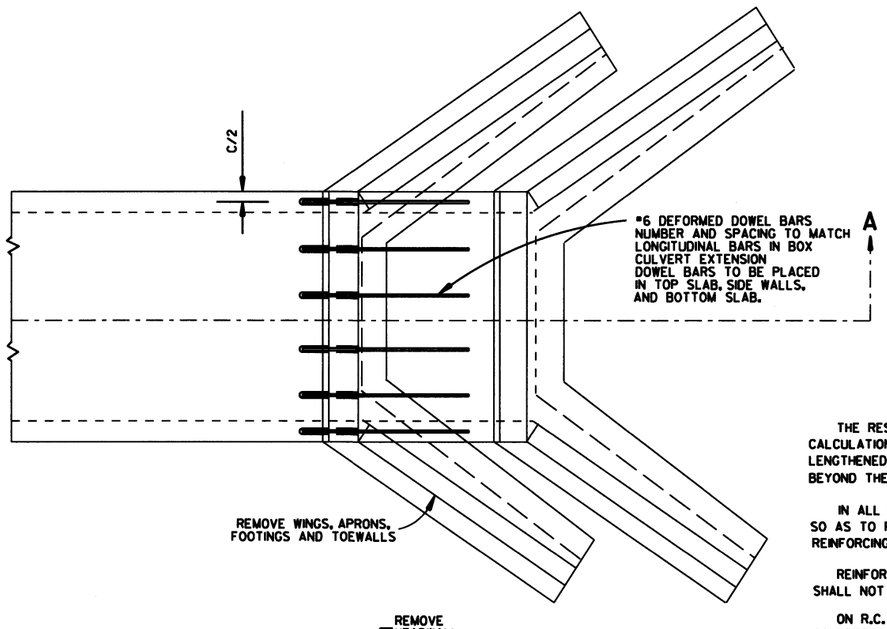
STANDARD DRAWING RCB-2



TOP VIEW
R.C. BOX CULVERT

SECTION A-A

METHOD 1



TOP VIEW
R.C. BOX CULVERT

SECTION A-A

METHOD 2

GENERAL NOTES

	USE FOR METHOD
THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.	1
IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.	1
REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.	1&2
ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.	1&2
MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.	2
DOWEL BARS SHALL BE INSTALLED AS FOLLOWS; THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER, AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.	2
THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2, REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.	1&2

NOTE:
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.

SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

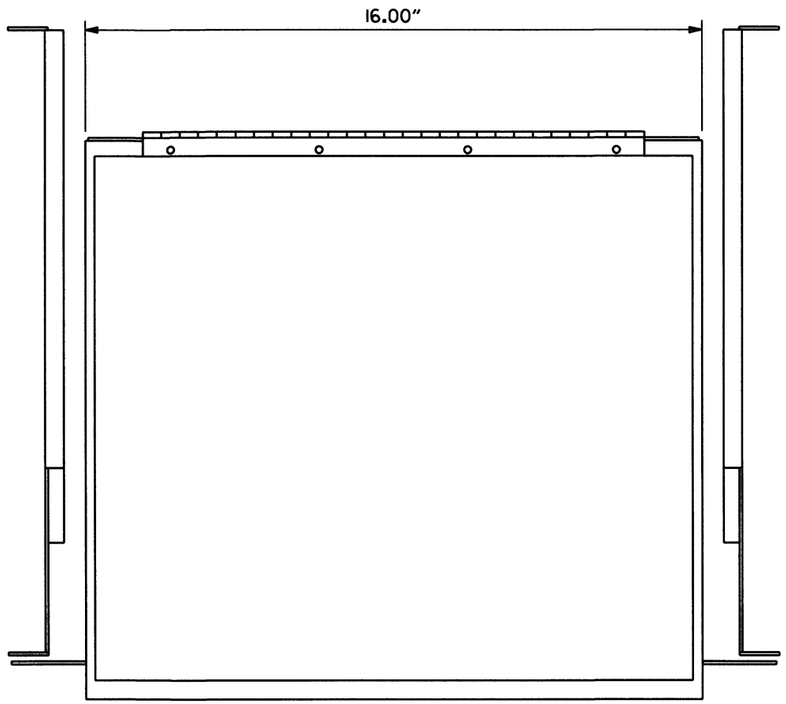
DATE	REVISION	DATE FILM
10-12-95	CHANGED DRAWING # FROM 144-A	
4-1-93	ADDED GENERAL NOTE	
10-1-92	ADDED ALT. METHOD OF EXTENSION	
11-30-89	REDRAWN	
1-4-83	ELIMINATED CONCRETE CLASS	
12-20-56	RETRACED	

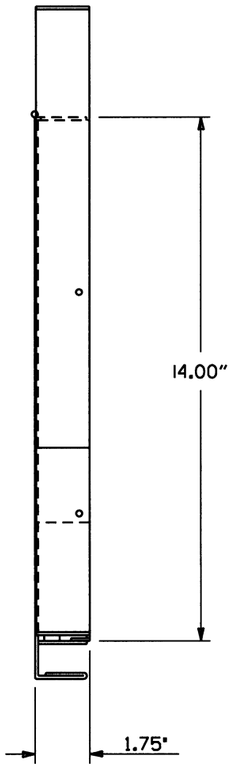
ARKANSAS STATE HIGHWAY COMMISSION

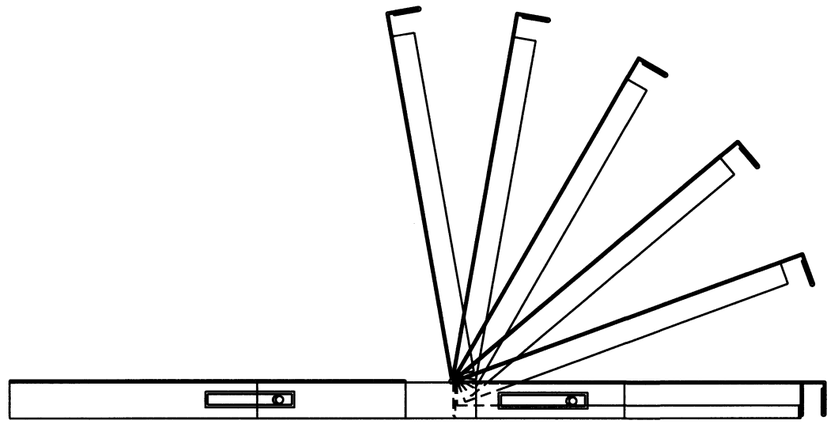
METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

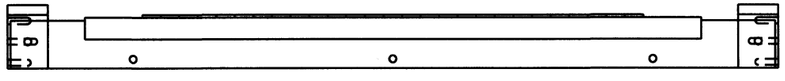
DRAWER PLAN VIEW



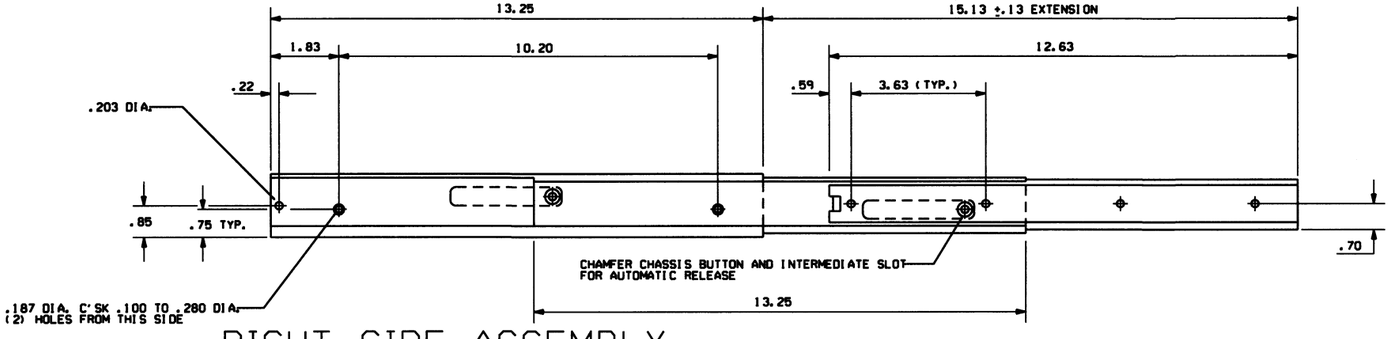




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

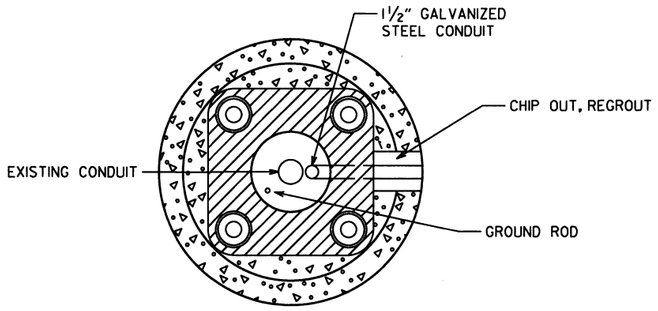
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

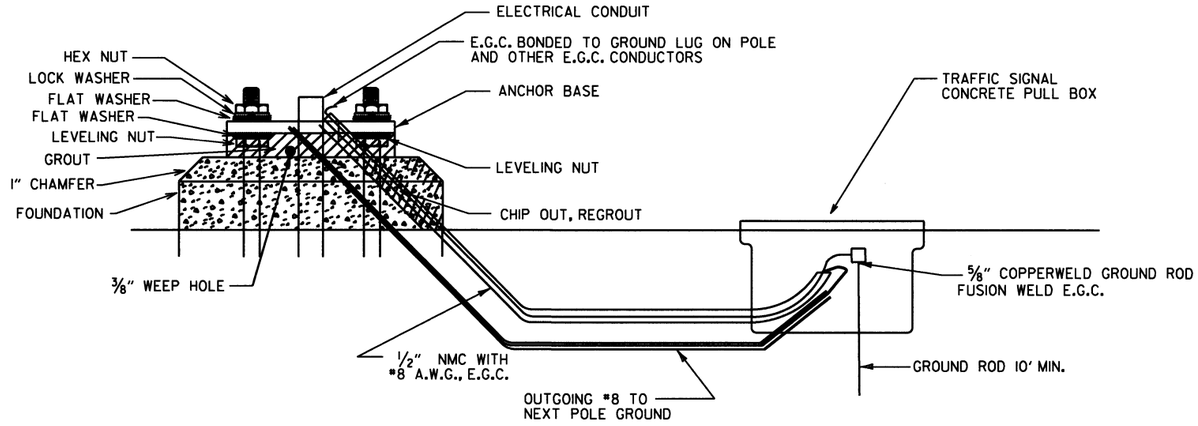
CONTROLLER CABINET UTILITY DRAWER

STANDARD DRAWING SD-5

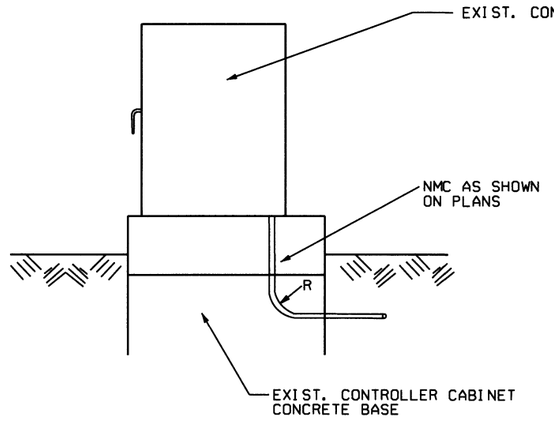
CONDUIT ENTRY TO EXISTING POLE BASE



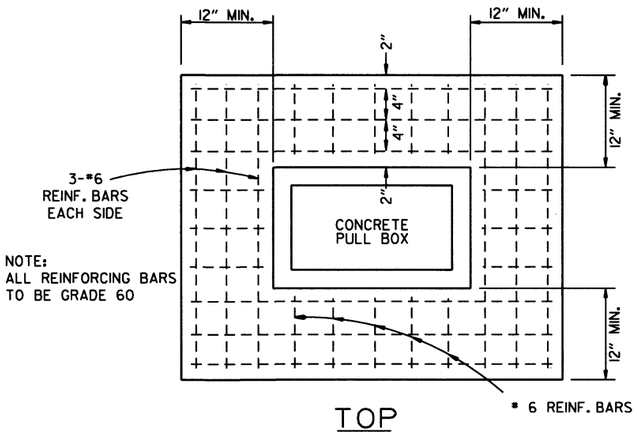
ANCHOR BASE



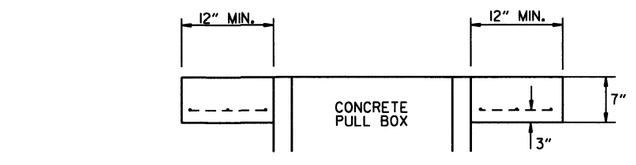
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

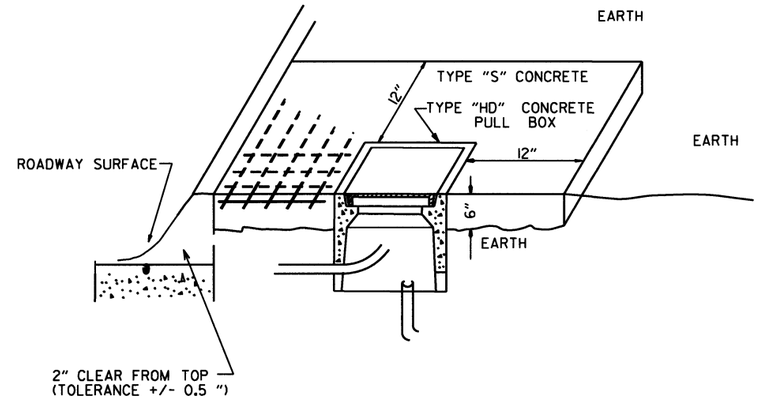


TOP



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



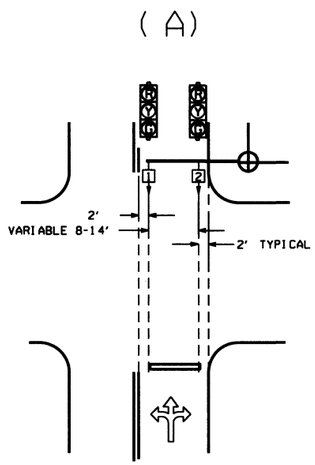
NOTE:
ALL TYPE 1 AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S". THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.

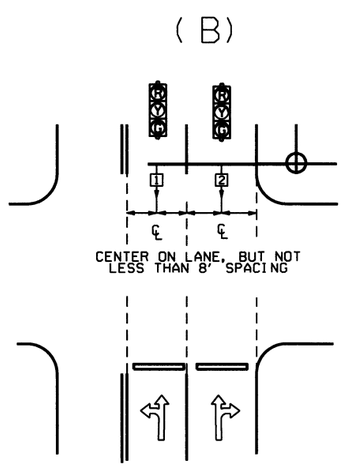
DATE	REVISION	FILMED
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	ADDED & REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
01-04-02	ADDED REINFORCING TO BOX APRON	
07-02-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

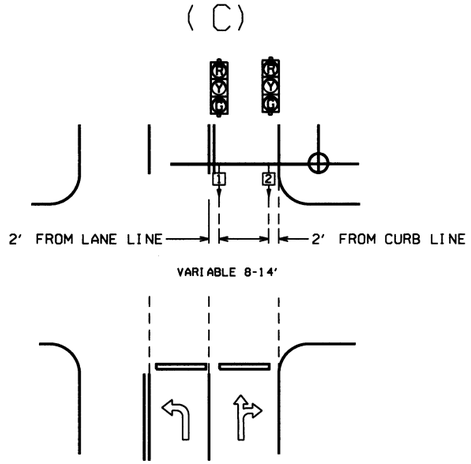
ARKANSAS STATE HIGHWAY COMMISSION

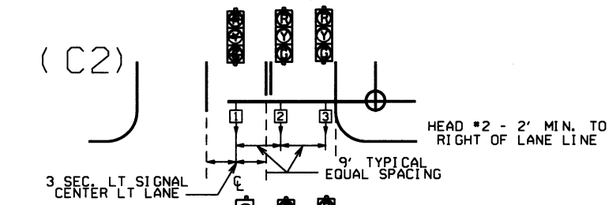
HEAVY DUTY PULL BOX

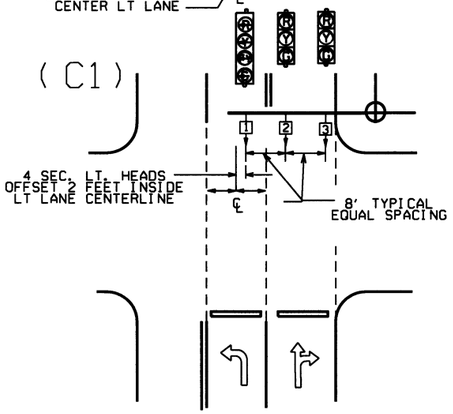
STANDARD DRAWING SD-6

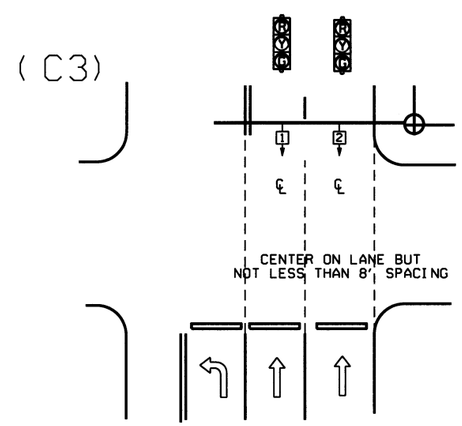


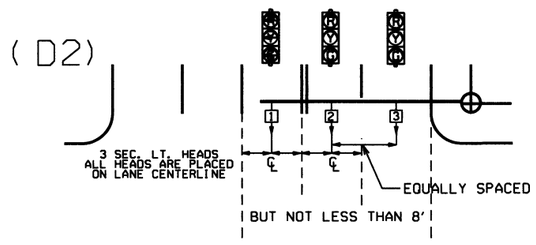


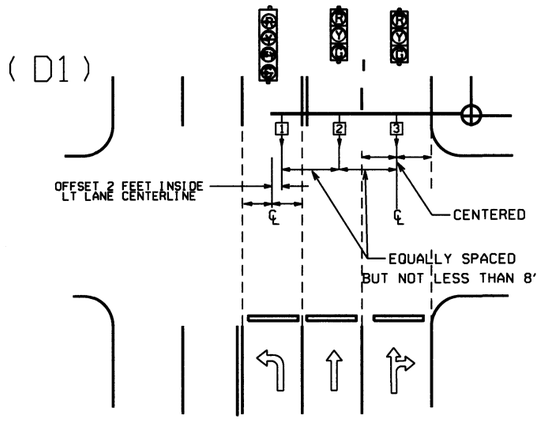




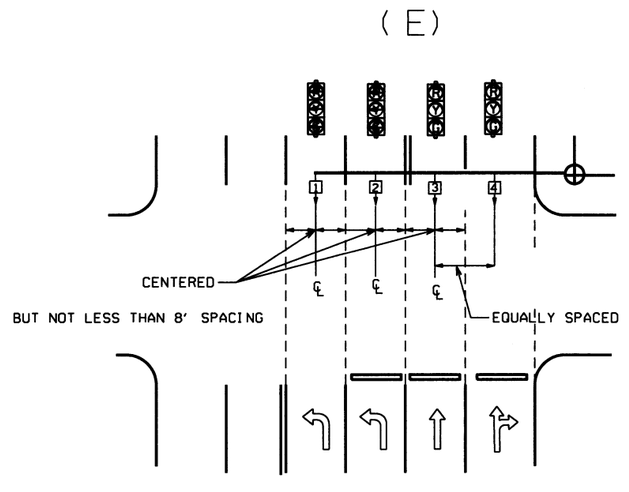








NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-5 OF 2009 MUTCD.

DATE	REVISION	DATE FILM
12-8-16	REVISED NOTE 6	
9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	

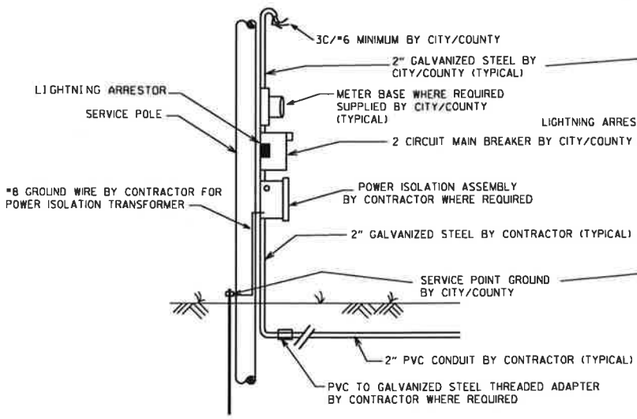
ARKANSAS STATE HIGHWAY COMMISSION

SIGNAL HEAD PLACEMENT

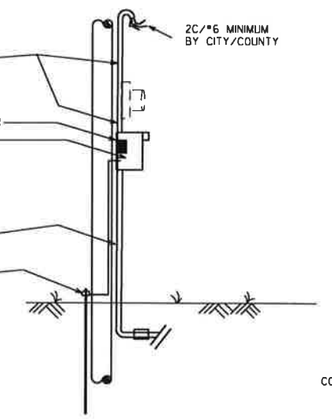
STANDARD DRAWING SD-8

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY



WITHOUT POWER ISOLATION ASSEMBLY



NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES:
MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S/COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

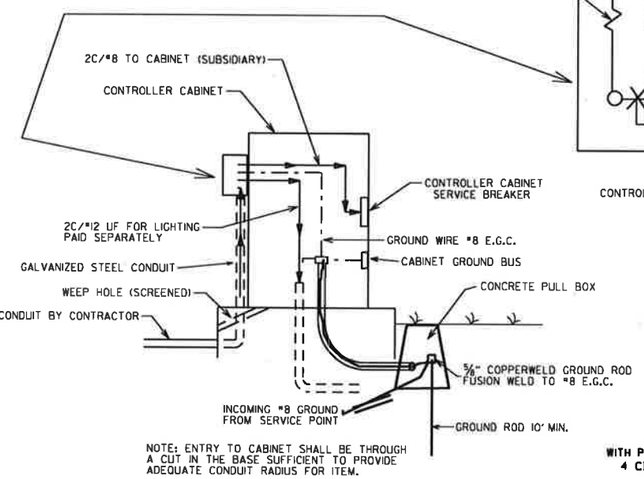
ALL SITUATIONS:
ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY COMPANY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION STREET LIGHTING CIRCUIT (2C/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

MAIN BREAKER NOT NEAR CONTROLLER CABINET:
THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT. WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

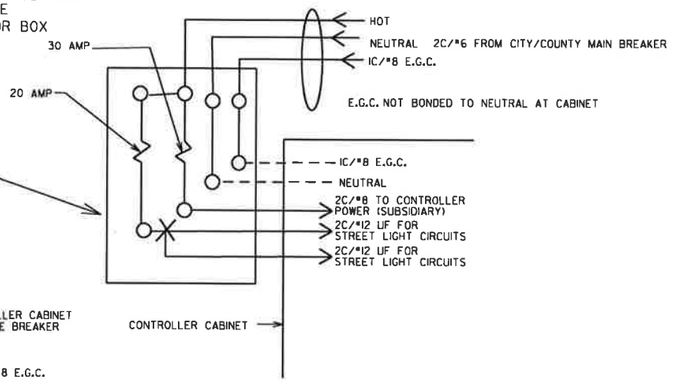
MAIN BREAKER NEAR CONTROLLER CABINET:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 701. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



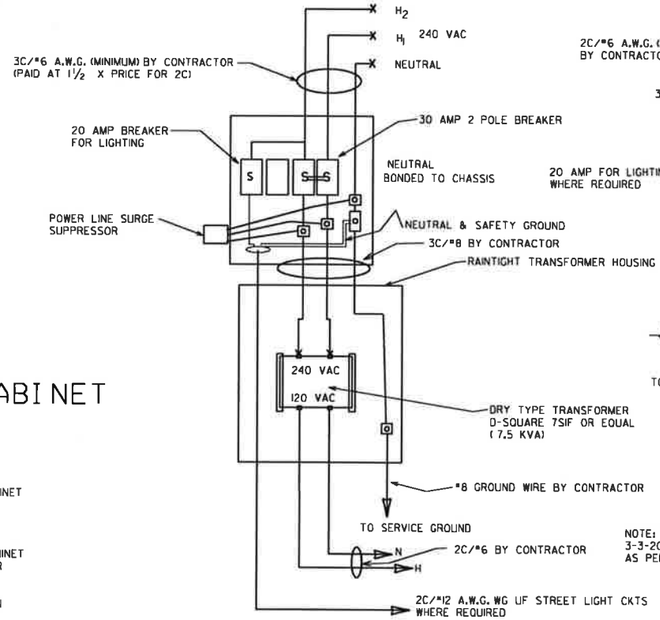
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



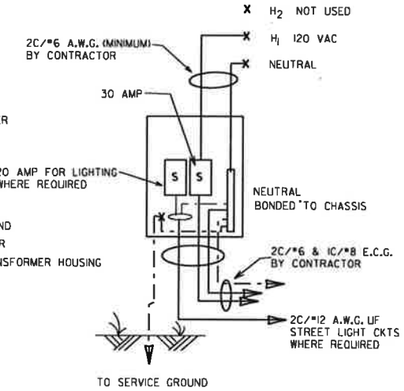
MAIN BREAKER WIRING (TYPICAL)

SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

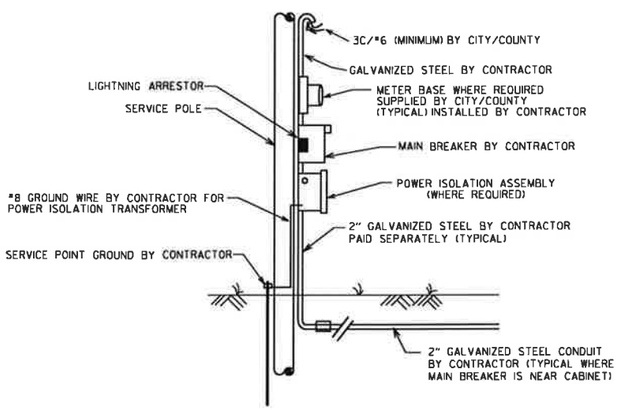


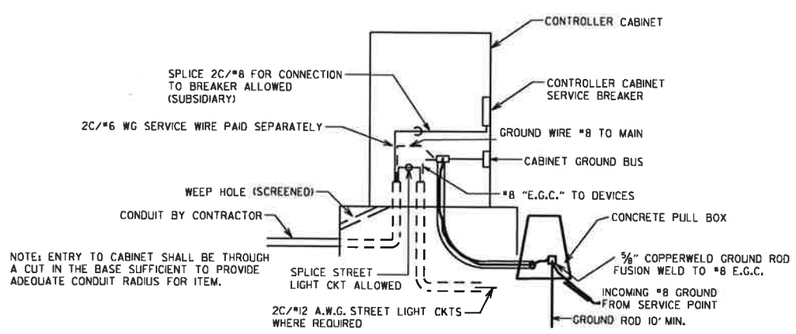
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (E.C.G.) ADDED 3-3-2003, CONSISTING OF A IC/#8 A.W.G. CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED





NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

DATE	REVISION	FILMED
11-07-19	REVISED	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
04-18-13	ADDED LIGHTNING ARRESTOR	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
03-03-03	ADDED EGC NOTE	
09-26-01	REVISED	
12-27-99	REVISED	
07-28-99	REVISED	
02-05-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES:
PEDESTRIAN AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (RIO-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE RIO-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 723 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209, ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY II FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH MAST ARMS LESS THAN 60' AND ON ROUTES WHERE THE SPEED LIMITS OF 45 MPH AND LESS WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE THE SPEED LIMIT IS 45 MPH AND LESS AND MAST ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS:
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES:

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6"; 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (3 SEC., 56 LB., 8.3 SQ. FT.): DESIGN TO ACCOMMODATE:
2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAT 12 FT. FROM POLE, DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT.
ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) - VARIABLE ARM LENGTH (MAX. WT. 75 LB., 3.3 SQ. FT.)
PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTED 8 FT. FROM BASE OF POLE. POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

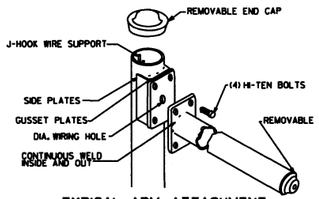
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE - HAND HOLES SHALL BE 4 IN. X 6 IN. FOR STANDARD, AND 3 IN. X 5 IN. FOR PED POLES. MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACCUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDED A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

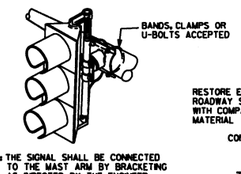
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACED UNDER LOAD.

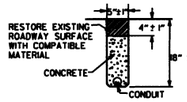
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



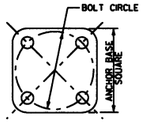
TYPICAL ARM ATTACHMENT



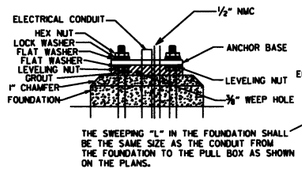
NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.

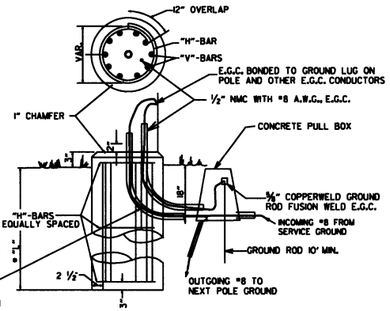


TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



ANCHOR BASE



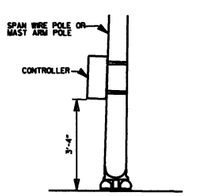


THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE GROUND ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

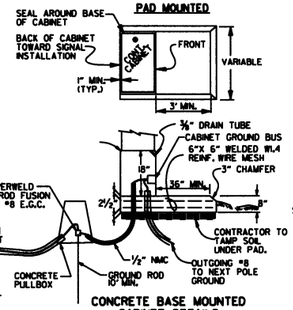
TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FOUNDATION DIAMETER	DEPTH "L"*	STEEL VERTICAL	STEEL HORIZONTAL	O.C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' TO 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
OVER 12' TO 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
OVER 20' TO 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
OVER 35' TO 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
OVER 50' TO 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
TWINS TO 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
TWINS OVER 20' TO 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
TWINS OVER 44' TO 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
TWINS OVER 50' TO 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED



CONCRETE BASE MOUNTED CABINET DETAILS

CONTROLLER CABINET MOUNTING DETAILS

NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPERATELY.

9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A ¼" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PEDESTRIAN PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 707 PEDESTRIAN SIGNAL HEAD.

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS.

** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANIFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60" X 16" X 0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH THE HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OF SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

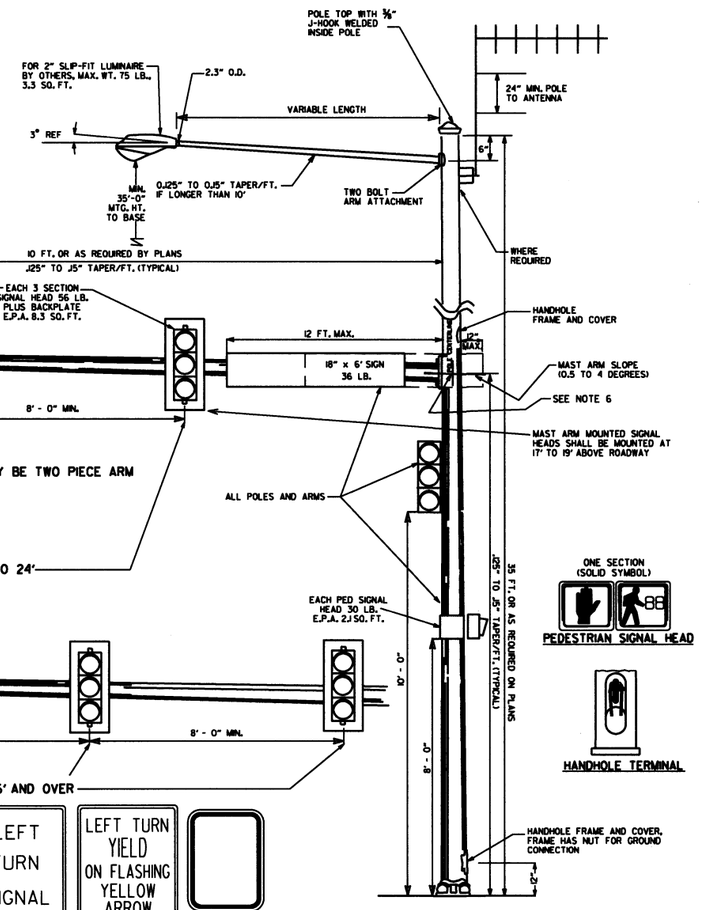
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

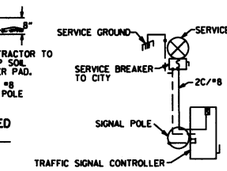
SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

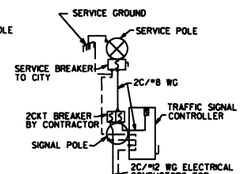
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATION IN FLASH SEQUENCE.

SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.





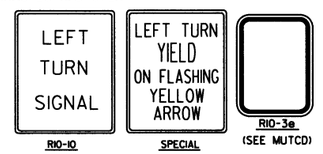
NO LUMINAIRE



WITH LUMINAIRE

SERVICE DISCONNECT

NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES



RIO-10 SPECIAL

DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
12-08-16	REVISED NOTES	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-9	REVISED VMD, SIGNAL HEADS	
05-21-09	REVISED GROUNDING	
07-18-08	REVISED GROUNDING	
04-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
04-18-08	REVISED AASHTO NOTES	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
06-23-04	REVISED	
05-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
06-11-01	REV. NOTES & POLE MAST ARM SLOPE	
04-11-01	REVISED POLE TAPERS	
04-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			35 MPH			40 MPH			45 MPH			50 MPH			55 MPH			60 MPH			65 MPH			70 MPH			75 MPH		
	e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		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		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE
0° 15'	NC			NC			NC			NC			NC			NC			NC			NC			NC			NC		
0° 30'	NC			NC			NC			NC			NC			RC	96		RC	96		RC	96		RC	96		0.022	101	
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.030	120		0.032	125	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.034	130		0.038	139		0.042	149	300
1° 15'	NC			NC			RC	84		0.022	95		0.028	115		0.032	125		0.038	139		0.042	149		0.046	158	300	0.052	173	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	138		0.044	154		0.050	168	300	0.056	182		0.062	197	
1° 45'	RC	72		RC	78		0.026	97		0.030	113		0.036	134		0.044	154		0.050	168		0.056	182		0.064	202		0.070	216	
2° 00'	RC	72		0.024	86		0.028	101		0.034	122		0.042	149		0.048	163		0.056	182		0.064	202		0.070	216		0.080	240	350
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178		0.062	197		0.070	216		0.078	235		0.088	259	
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187	300	0.068	211		0.076	230		0.082	245	350	0.096	278	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149	200	0.054	178		0.064	202		0.072	221		0.082	245		0.092	269		0.100	288	400
3° 00'	0.026	83		0.034	105		0.040	126		0.050	158		0.058	187		0.068	211		0.078	235		0.088	259		0.098	283	400	D MAX = 2° 45'		
3° 15'	0.028	86		0.036	109		0.044	134		0.052	162		0.062	197		0.072	221		0.082	245		0.092	269		0.100	288				
3° 30'	0.030	90		0.038	113		0.046	139		0.056	171		0.066	206		0.076	230		0.086	254	350	0.096	278	350	D MAX = 3° 30'					
3° 45'	0.032	93		0.040	117		0.050	147		0.058	176		0.070	216		0.080	240		0.090	264		0.098	283							
4° 00'	0.034	97		0.042	121		0.052	151		0.062	185		0.072	221		0.084	250		0.094	274		0.100	288							
4° 15'	0.036	100		0.044	125	200	0.054	155		0.064	189		0.076	230		0.086	254		0.096	278		D MAX = 5° 15'								
4° 30'	0.036	100	200	0.046	129		0.056	160		0.068	198		0.078	235		0.090	264		0.098	283										
4° 45'	0.038	104		0.048	133		0.060	168		0.070	203		0.082	245		0.092	269		0.100	288										
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207		0.084	250		0.094	274													
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221	250	0.088	259		0.098	283													
6° 00'	0.046	119		0.058	152		0.070	189		0.082	230		0.092	269		0.100	288													
6° 30'	0.050	126		0.062	160		0.074	198		0.086	239		0.096	278		D MAX = 6° 30'														
7° 00'	0.052	130		0.064	164		0.078	206		0.090	248		0.098	283																
7° 30'	0.054	133		0.068	172		0.080	210		0.092	252		0.100	288																
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257		D MAX = 8° 25'																	
8° 30'	0.060	144		0.072	179		0.086	223	250	0.096	261	300																		
9° 00'	0.062	148		0.076	187		0.088	227		0.098	266																			
9° 30'	0.064	151		0.078	191		0.092	235		0.100	270																			
10° 00'	0.066	155		0.080	195		0.094	240		D MAX = 10° 30'																				
11° 00'	0.070	162		0.084	203		0.096	244																						
12° 00'	0.074	169		0.088	211	250	0.098	248																						
13° 00'	0.076	173		0.090	215		0.100	252	300																					
14° 00'	0.080	180		0.094	222		D MAX = 13° 45'																							
15° 00'	0.082	184		0.096	226																									
16° 00'	0.086	191		0.098	230																									
17° 00'	0.088	194		0.100	234																									
18° 00'	0.090	198	250	D MAX = 19° 30'																										
19° 00'	0.092	202																												
20° 00'	0.094	205																												
21° 00'	0.096	209																												
22° 00'	0.098	209																												
23° 00'	0.098	212																												
24° 00'	0.098	212																												
25° 00'	0.100	216																												
D MAX = 28° 30'																														

ABBREVIATIONS

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

GENERAL NOTES

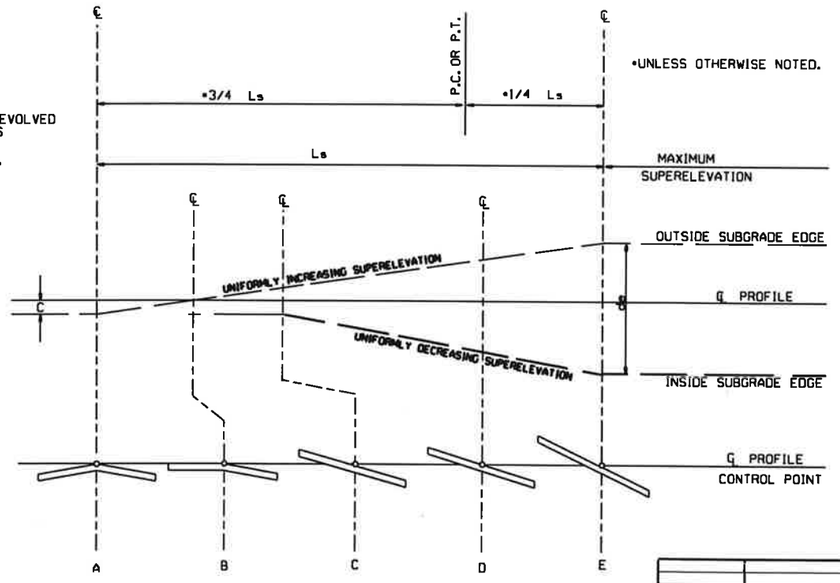
1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED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

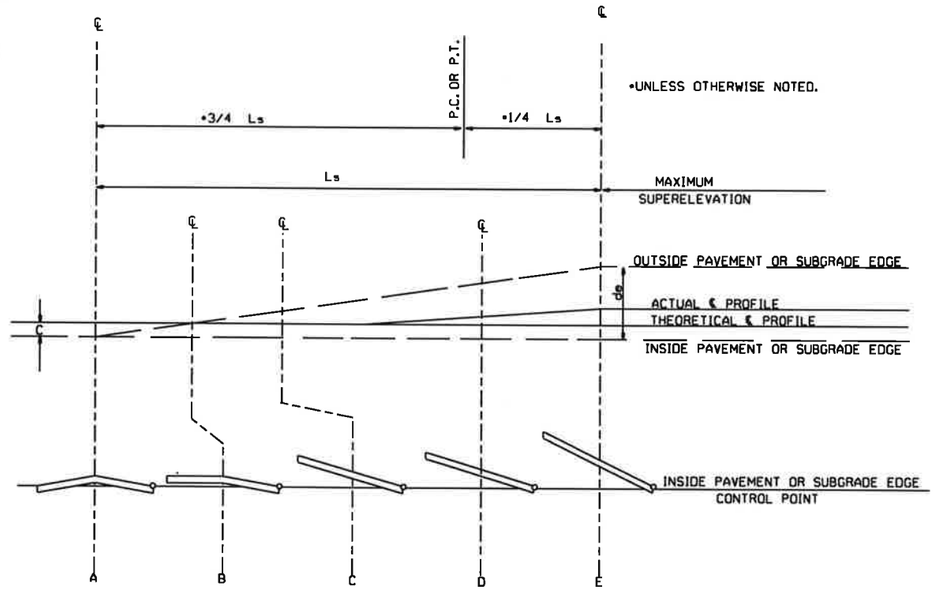
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

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



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.

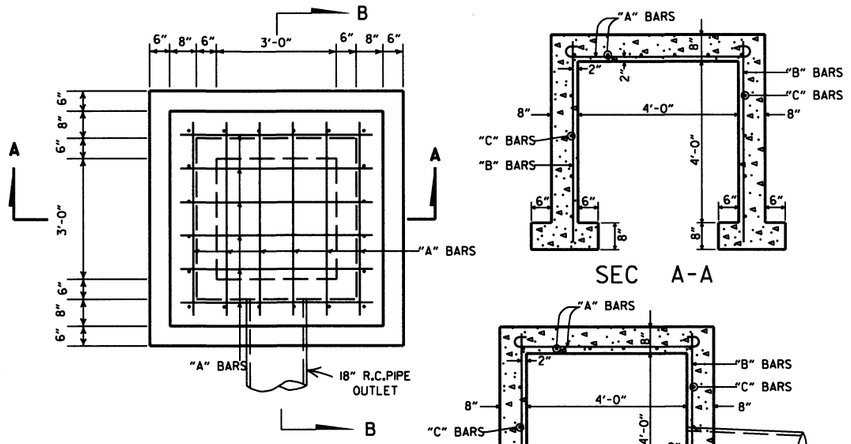
DATE	REVISION
11-07-19	REVISED SUPERELEVATION TABLE
10-18-96	ADDED FORMULA
01-09-87	ISSUED

534-1-9-87
DATE FILMED

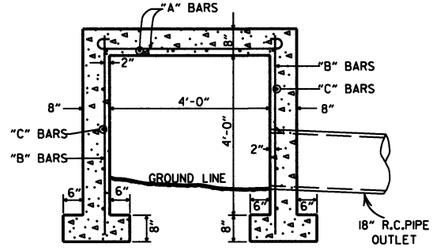
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2



SEC A-A



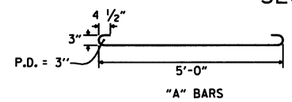
SEC B-B

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

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 ½"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



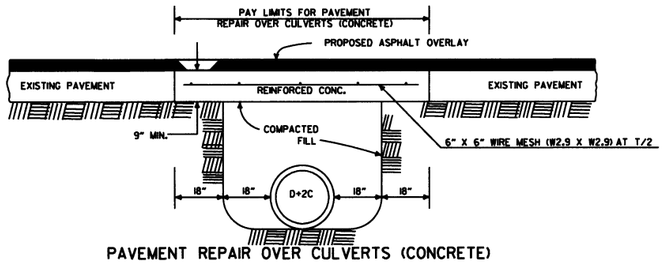
QUANTITIES

CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

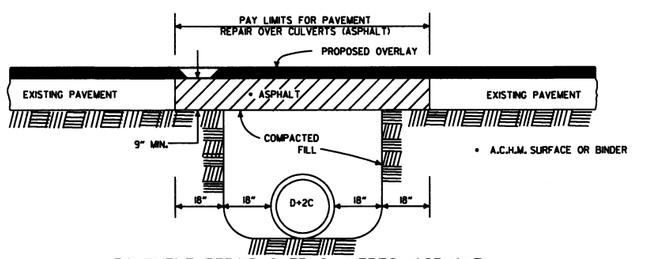
GENERAL NOTE:

THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

REINFORCED CONCRETE SPRING BOX



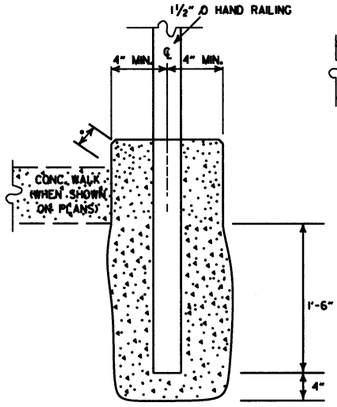
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



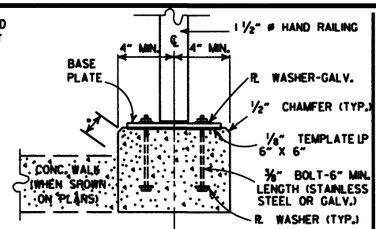
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

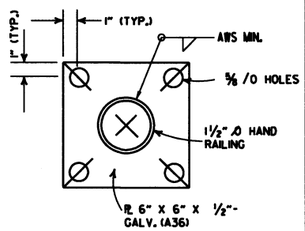
* A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

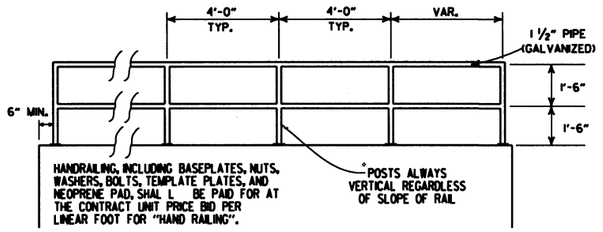


POST CONNECTION TO WALL

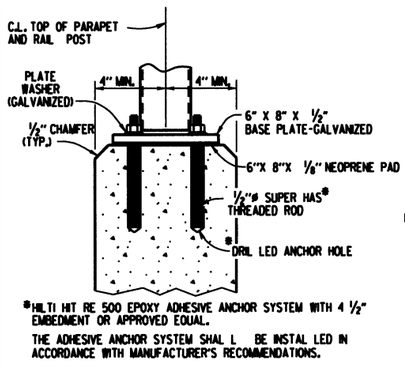


BASE PLATE

POST CONNECTION DETAILS



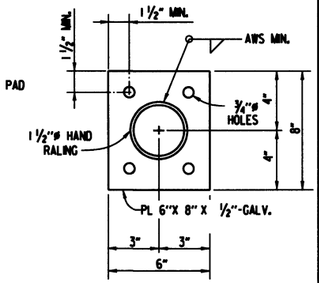
HAND RAILING SHALL CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 ½" EMBEDMENT OR APPROVED EQUAL.

THE ADHESIVE ANCHOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

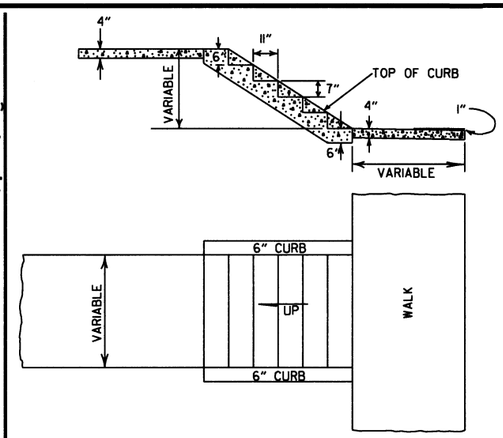
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



GENERAL NOTES

1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
10-25-18	REVISED DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS	
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 ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	649-7-15-88
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET& PAVEMENT REPAIR	674-4-20-79
2-2-76	12"MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI-1

R1-1



STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1



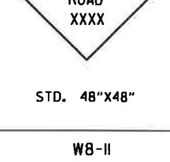
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2



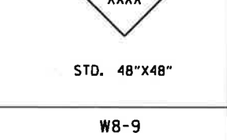
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



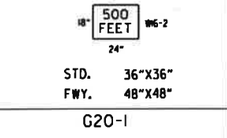
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



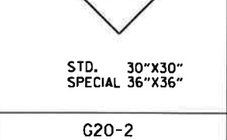
48"X30"

RII-3A



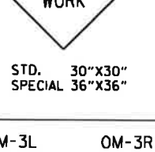
60"X30"

RII-4



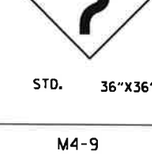
60"X30"

W21-5a



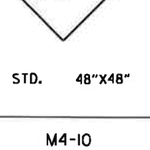
STD. 36"X36"
FWY. 48"X48"

WI-1



STD. 36"X36"
FWY. 48"X48"

WI-2



STD. 36"X36"
FWY. 48"X48"

WI-3



STD. 48"X48"

WI-4



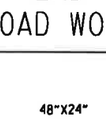
STD. 48"X48"

WI-6



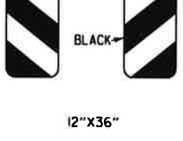
STD. 48"X24"
SPECIAL 60"X30"

WI-8



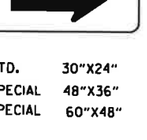
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE
	AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

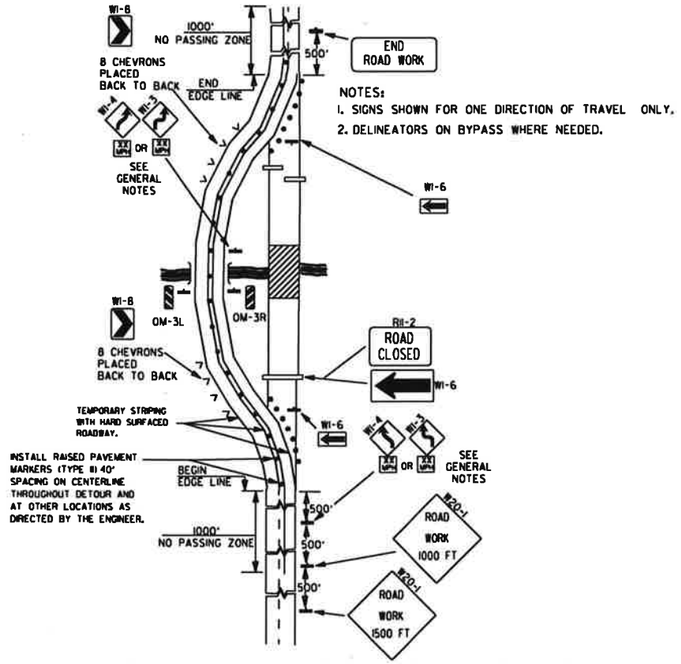
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
8-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

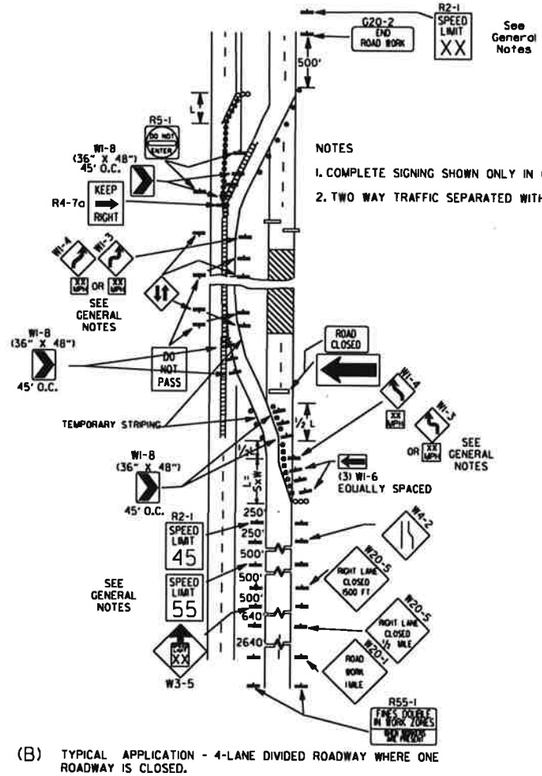
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

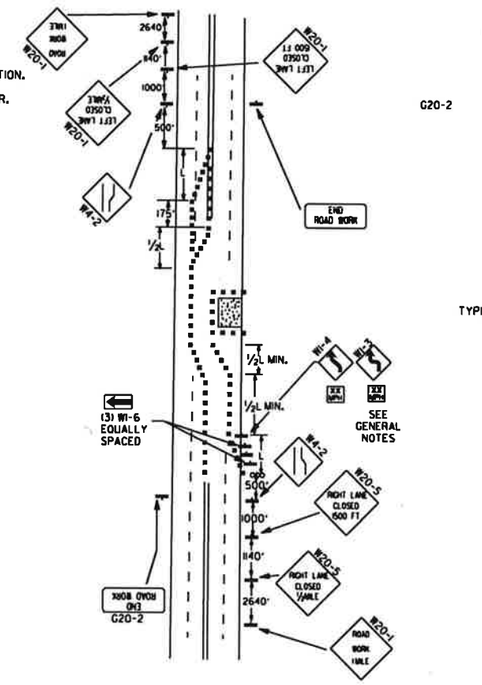
STANDARD DRAWING TC-1



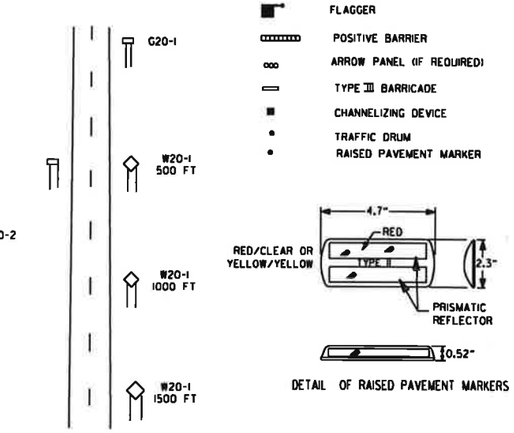
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



(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:

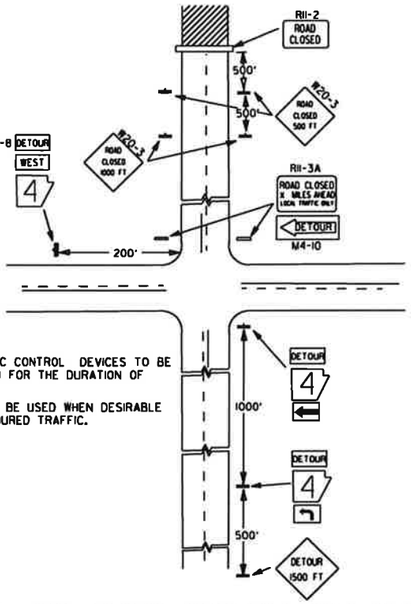
L= MINIMUM LENGTH OF TAPER.

S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

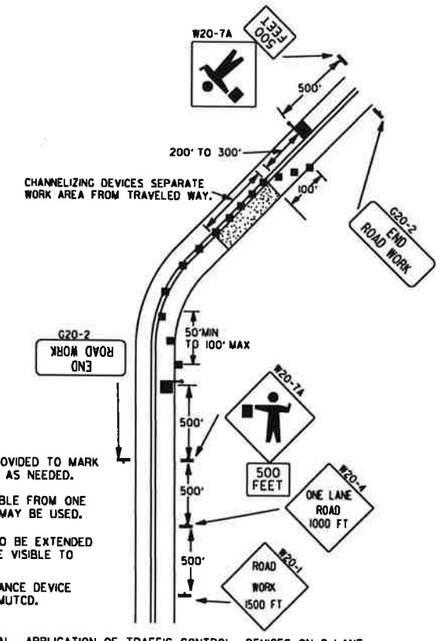
W= WIDTH OF OFFSET.

GENERAL NOTES:

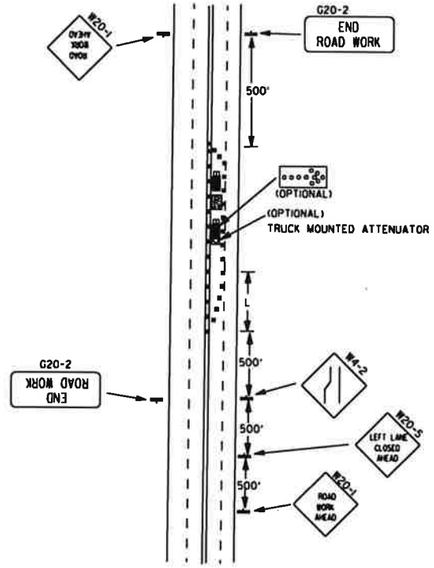
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



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



(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



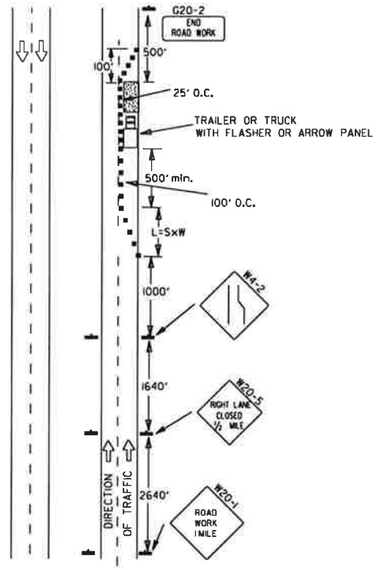
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-8-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

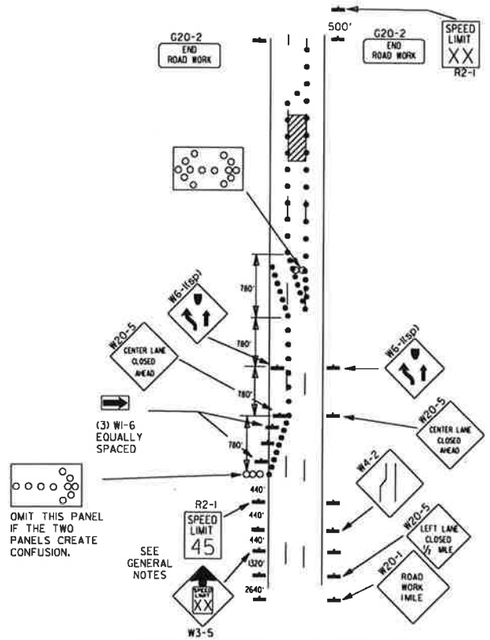
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



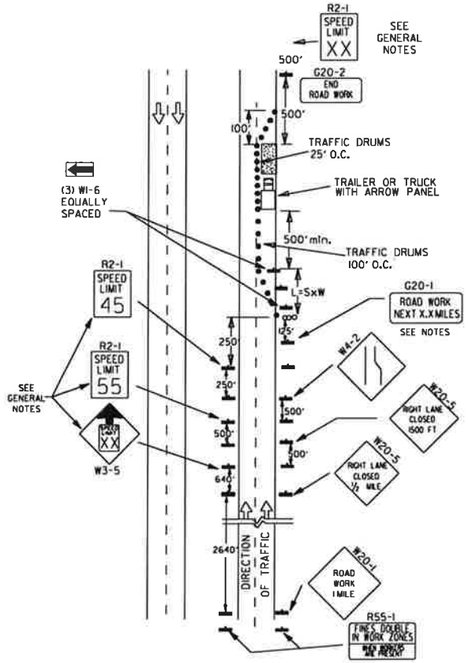
(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

- ooo ARROW PANEL (IF REQUIRED)
- ■ CHANNELIZING DEVICE
- ● TRAFFIC DRUM

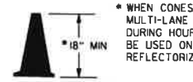
GENERAL NOTES:

1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1(55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN WILL BE REQUIRED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF 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.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



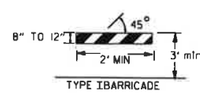
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES

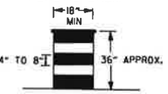


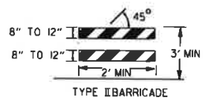
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

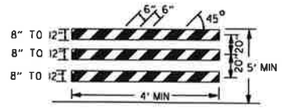
CONES



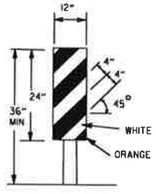
PLASTIC DRUM



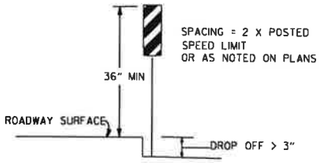




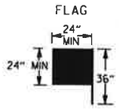
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



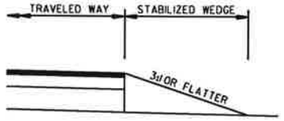
VERTICAL PANEL PLACEMENT



FLAG



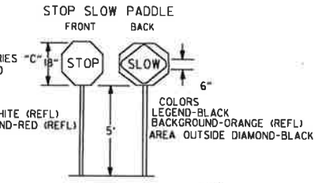
FLAG SHALL BE OF GOOD GRADE RED MATERIAL



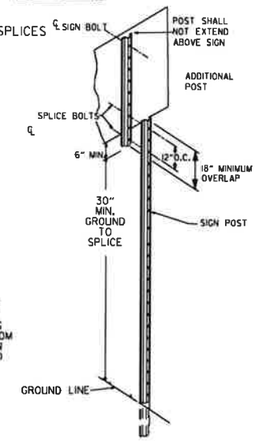
STABILIZED WEDGE

NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

STOP SLOW PADDLE



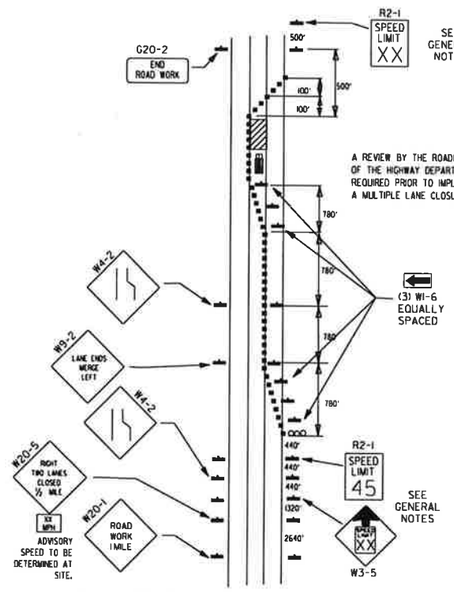
DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
> 2"	CENTERLINE	STANDARD LANE CLOSURE	STANDARD LANE CLOSURE
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS
> 6" ≤ 12"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]
> 12" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	PRECAST CONCRETE BARRIER[3] & EDGE LINES
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER[2] & EDGE LINES	PRECAST CONCRETE BARRIER[3] & EDGE LINES

INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 2"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 2" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

INTERSTATE AND NON-INTERSTATE

FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

GENERAL NOTES:

1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
4. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.

DATE	REVISION	FILMED
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
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 R5S-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

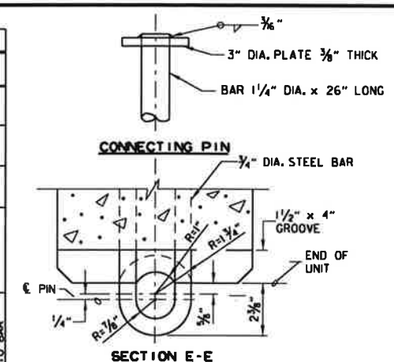
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

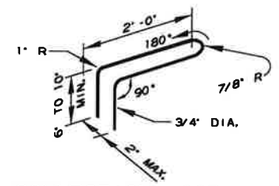
REINFORCING BAR TABLE PER BARRIER UNIT

MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1' MIN. CLEAR TO BAR, 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP, 1'-6"
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12", 9", 1/2", 2'-1 3/8", 4 3/8"

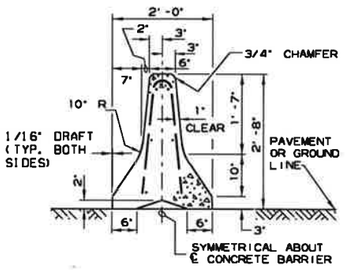


SECTION E-E

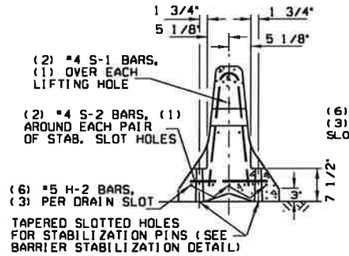
CONNECTION DETAILS



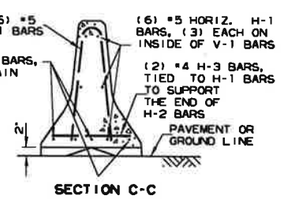
CONNECTION LOOP



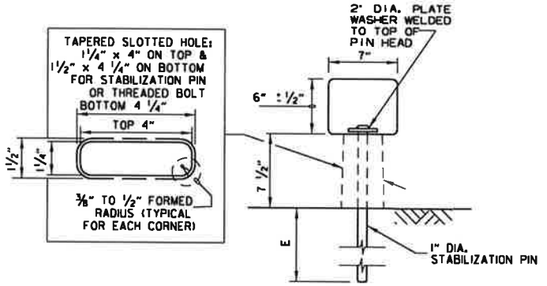
SECTION A-A



SECTION B-B



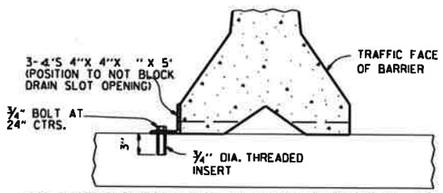
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

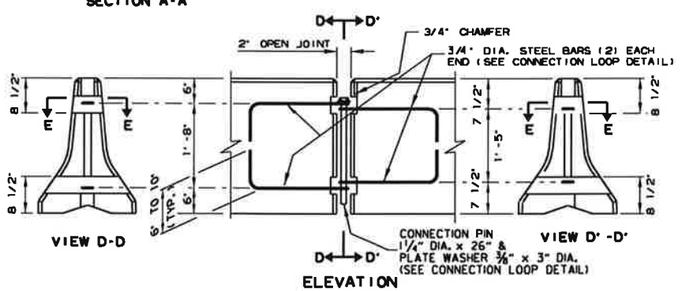
(E) 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION. AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.

BARRIER STABILIZATION DETAIL

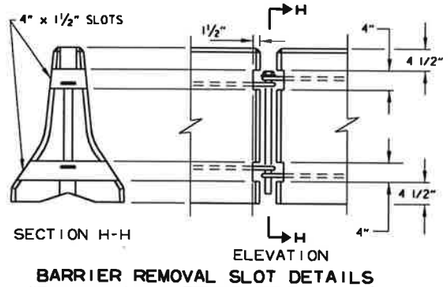
BRIDGE DECKS



VIEW D-D

VIEW D'-D'

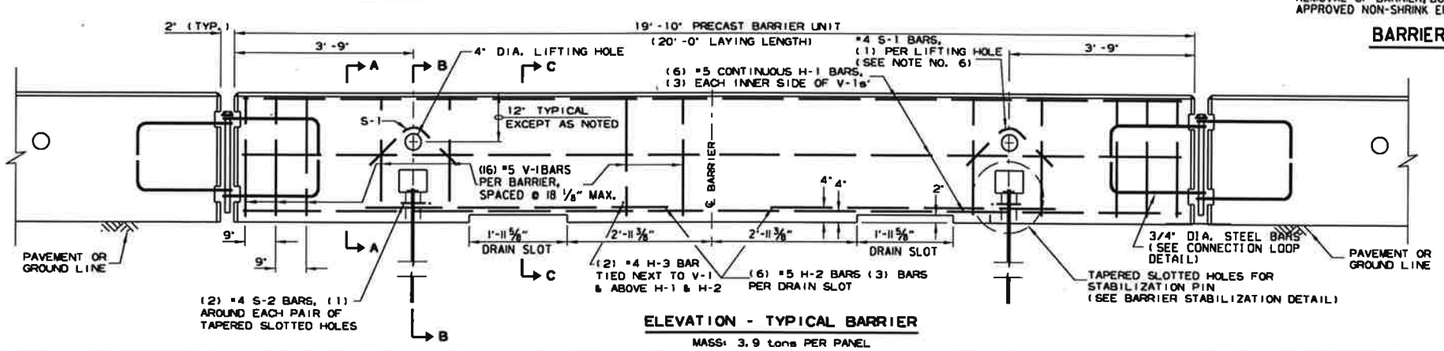
ELEVATION



SECTION H-H

ELEVATION

BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

GENERAL NOTES

(1) THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

(2) MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER".
THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

(3) OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF 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 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 MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

(4) DOWEL HOLES IN PAVEMENT OR BRIDGE SLABS THAT ARE TO REMAIN IN PLACE SHALL BE FILLED. HOLES IN CONCRETE PAVEMENT AND BRIDGE SLABS SHALL BE FILLED WITH AN APPROVED NON-SHRINK EPOXY GROUT. HOLES IN ASPHALT PAVEMENT SHALL BE FILLED WITH AN APPROVED ASPHALT JOINT FILLER. PAYMENT FOR DRILLING AND FILLING HOLES TO BE INCLUDED IN THE PRICE FOR VARIOUS BARRIER ITEMS.

(5) ATTACH UNITS TO ROADWAY SURFACE WITH STABILIZATION PINS AND TO DECK SLABS USING BOLTS WHEN REQUIRED.

(6) A 4" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE AND IF USED THE SLEEVE IS TO BE LEFT IN PLACE.

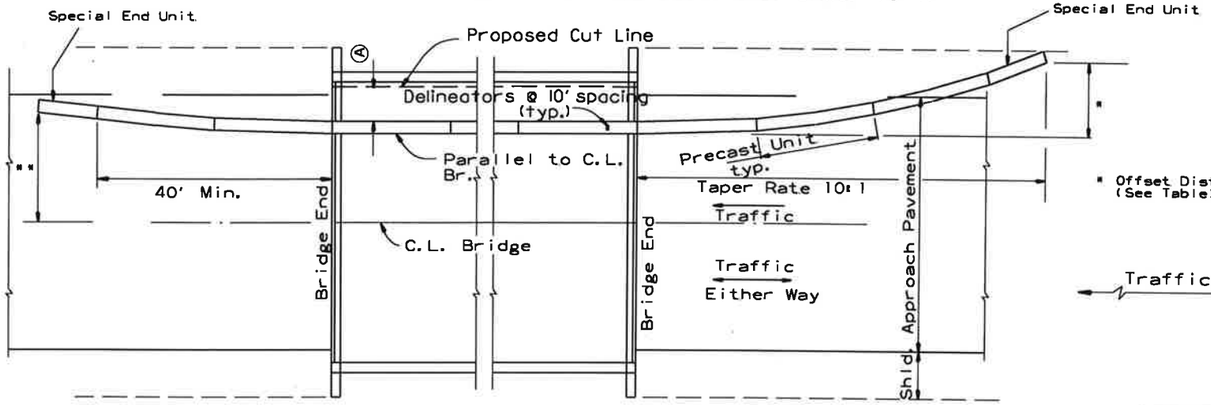
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
8-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

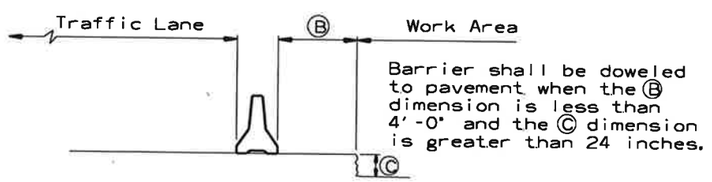
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

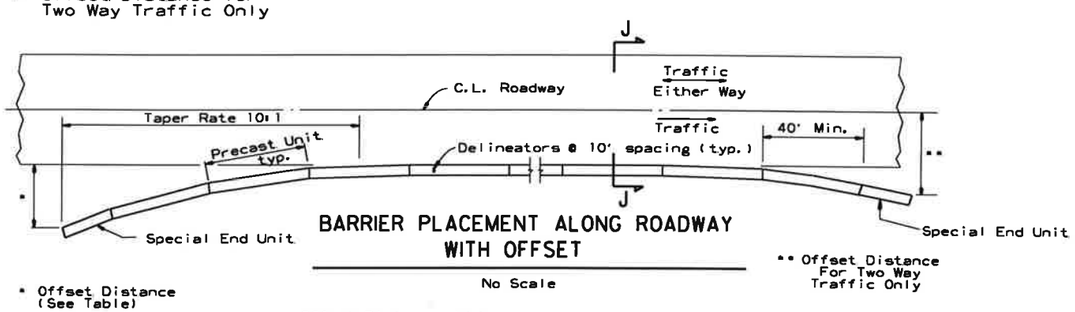
** Offset Distance for Two Way Traffic Only



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

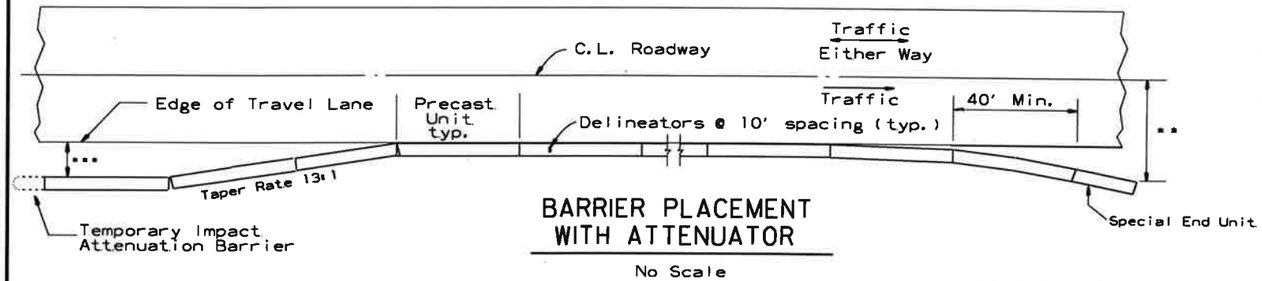
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

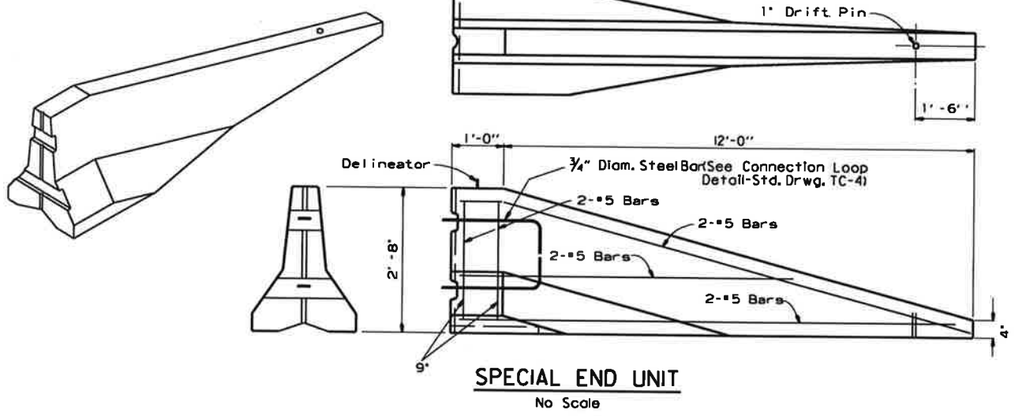


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

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

** Offset Distance For Two Way Traffic Only



SPECIAL END UNIT

No Scale

General Notes

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

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

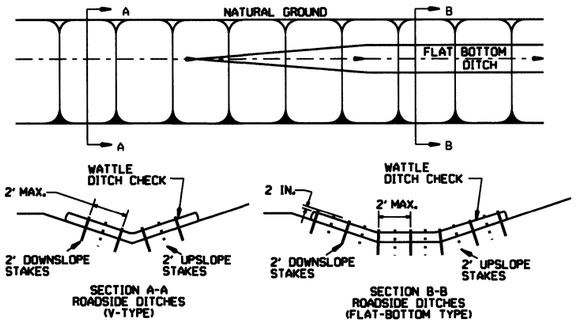
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

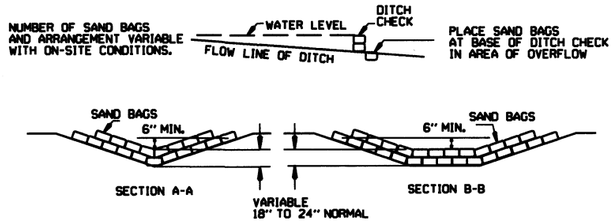
STANDARD DRAWING TC-5

GENERAL NOTES

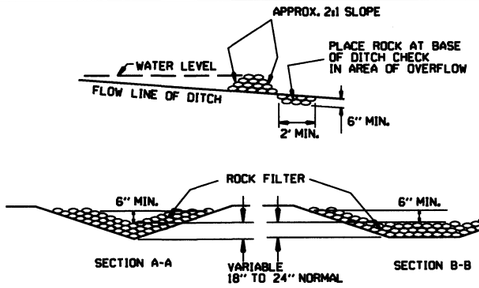
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

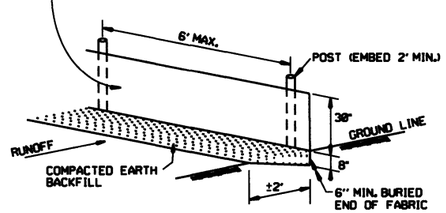


ROCK DITCH CHECK (E-6)

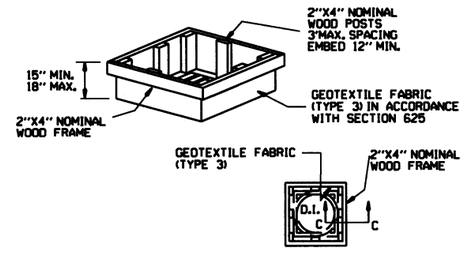
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

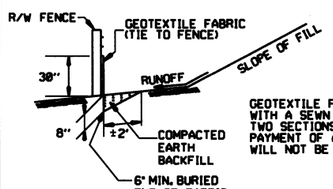
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)

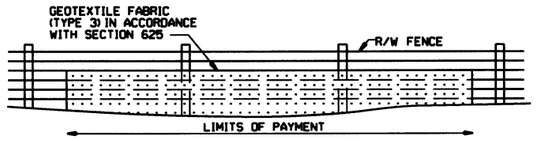


DROP INLET SILT FENCE (E-7)



GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



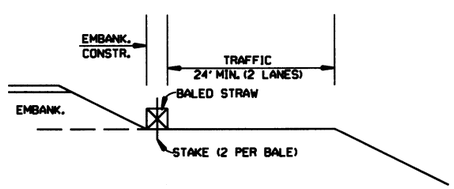
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

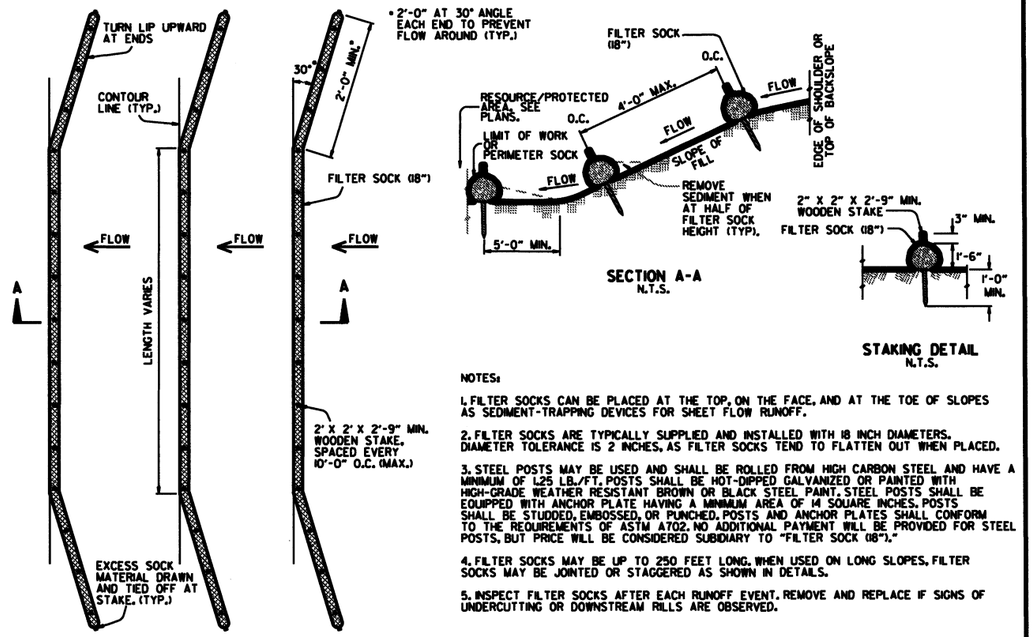
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

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)



NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

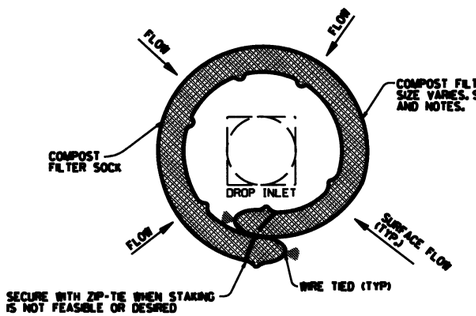
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBSIDIARY TO "FILTER SOCK (18")."

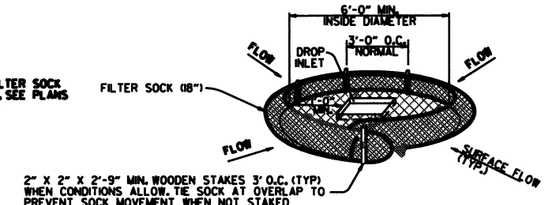
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG, WHEN USED ON LONG SLOPES. FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)



DROP INLET PLAN VIEW
N.T.S.



DROP INLET PERSPECTIVE VIEW
N.T.S.

NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

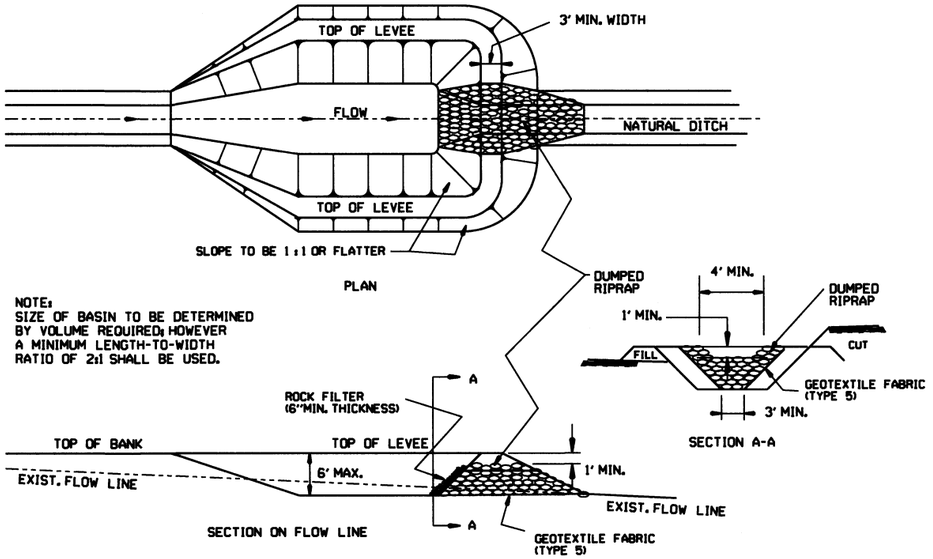
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 9; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

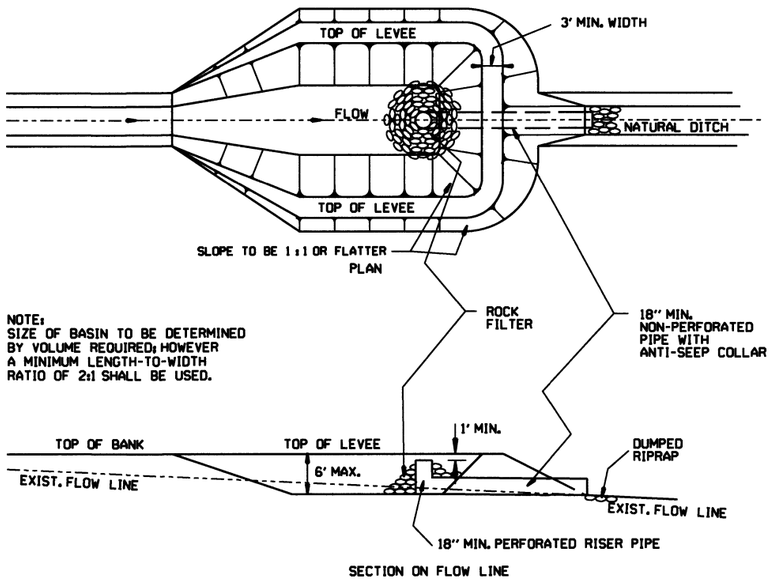
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

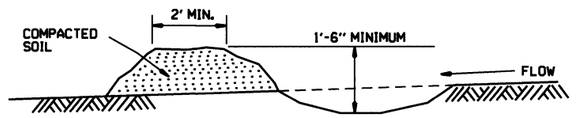
STANDARD DRAWING TEC-1



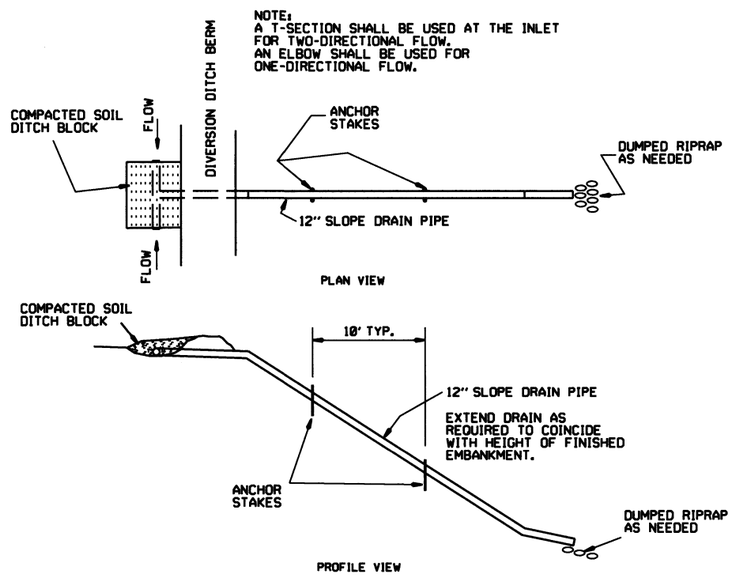
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



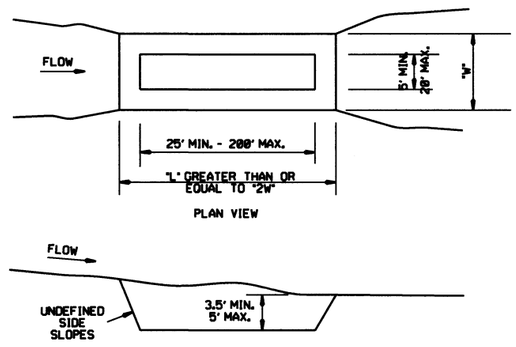
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

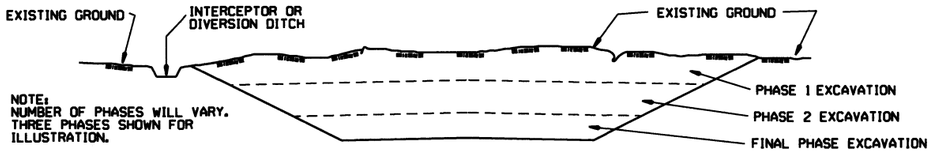
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



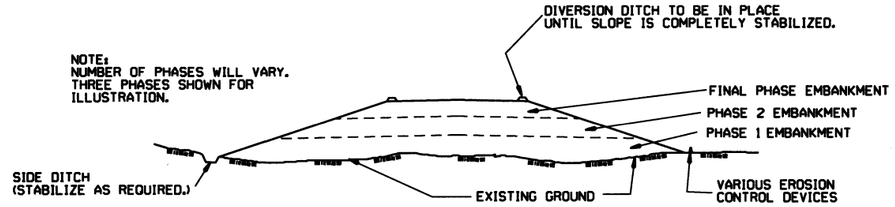
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

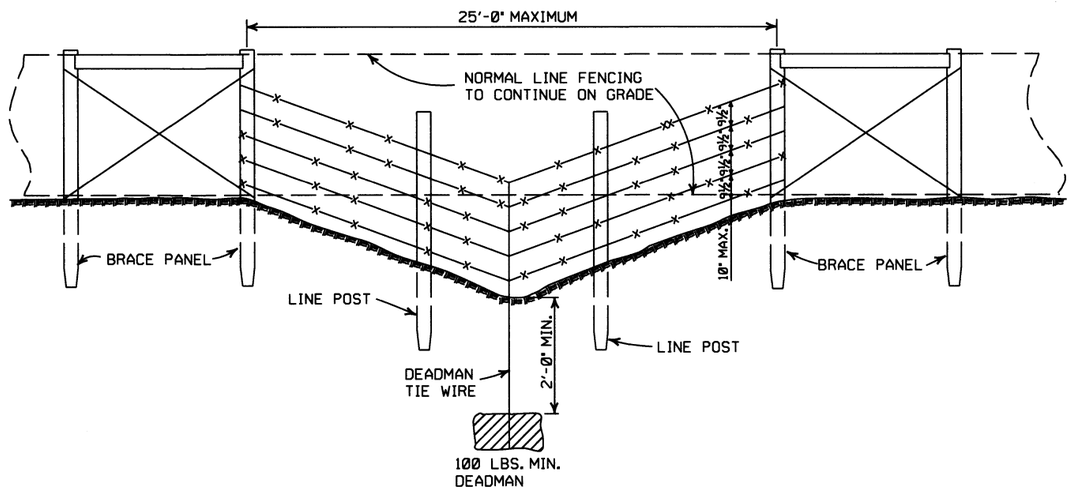
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD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

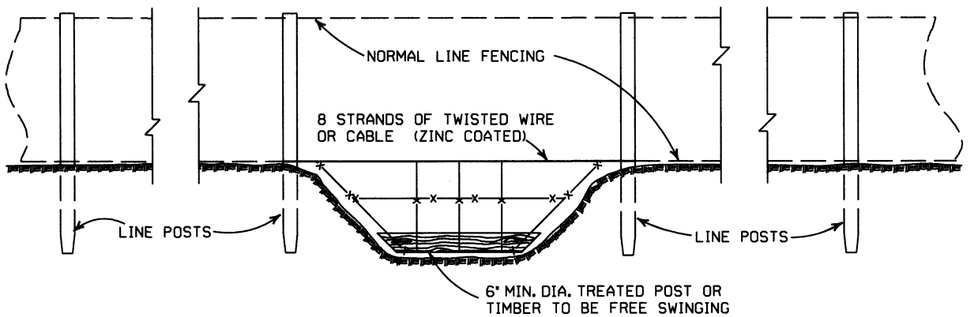
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

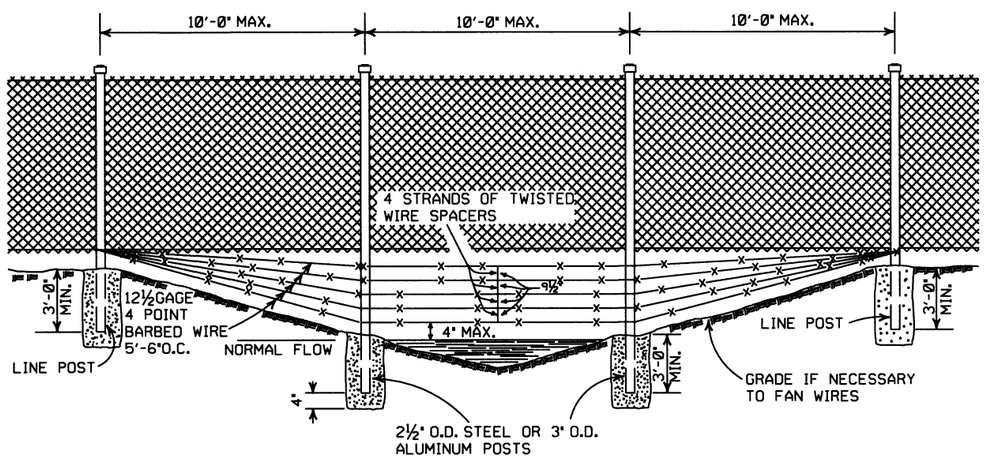
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3







GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

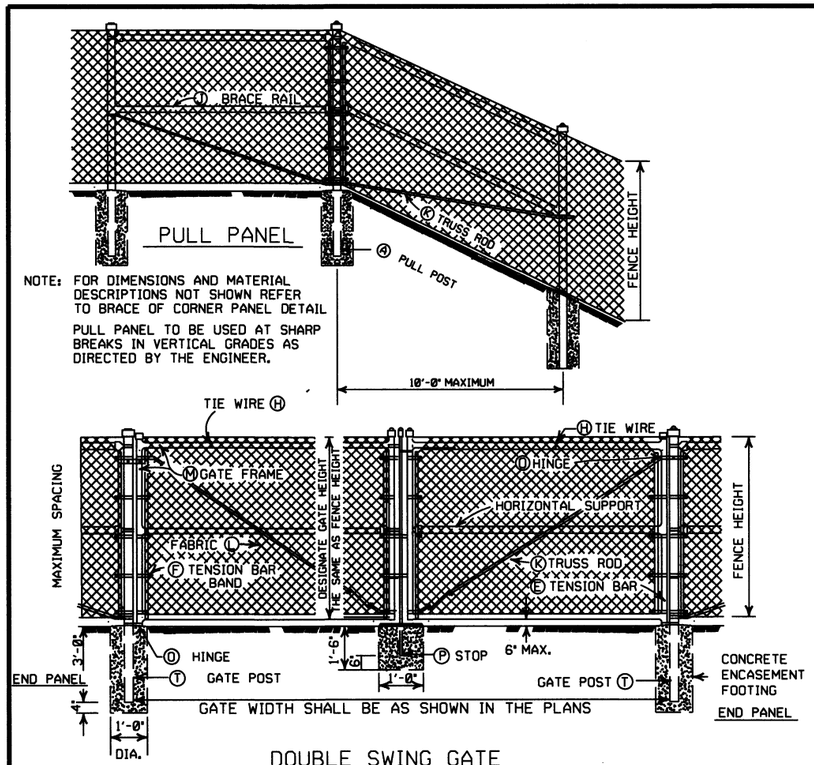
PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

DATE	REVISION	FILMED
4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED AND REDRAWN	529-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE WATER GAPS

STANDARD DRAWING WF-2

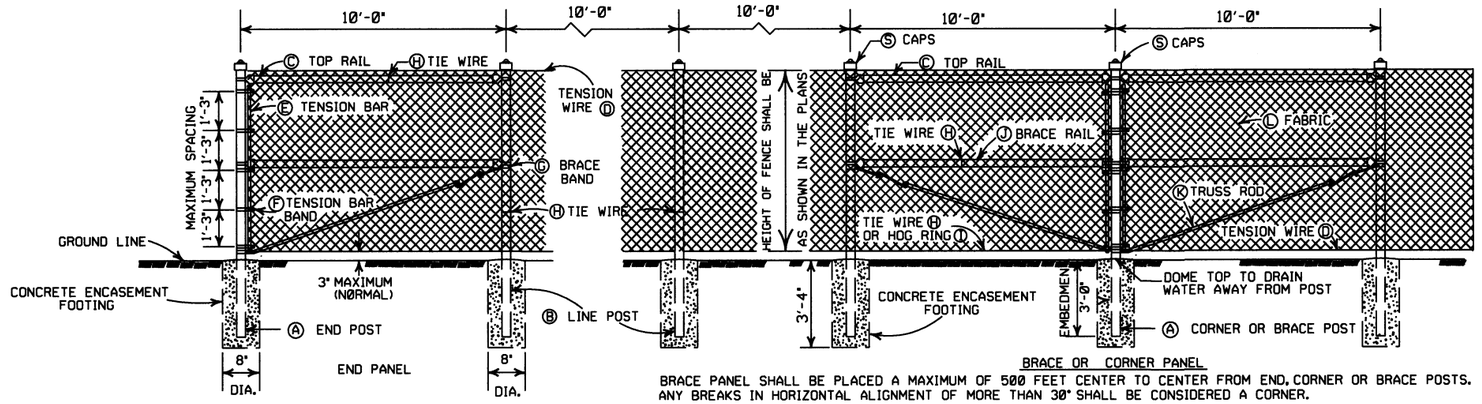


NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL

PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.

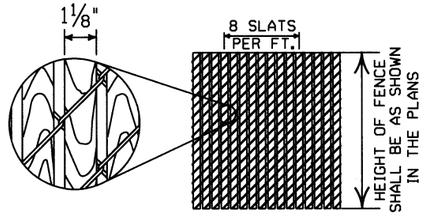
DOUBLE SWING GATE

POST SPACING DETAIL



BRACE OR CORNER PANEL

BRACE PANEL SHALL BE PLACED A MAXIMUM OF 500 FEET CENTER TO CENTER FROM END, CORNER OR BRACE POSTS. ANY BREAKS IN HORIZONTAL ALIGNMENT OF MORE THAN 30° SHALL BE CONSIDERED A CORNER.



1⅛" X ¼" REDWOOD SLATS (LENGTH TO MATCH HEIGHT OF FENCE)

DETAIL OF REDWOOD SLAT INSTALLATION

(WHERE APPLICABLE)

GENERAL NOTES:

(C) CHAIN LINK FENCE BEING PLACED ON PRIVATE PROPERTY SHALL INCLUDE A TOP RAIL. ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LIN. FT. OF CHAIN LINK FENCE.

(D) TENSION WIRE: SHALL BE SECURED TO ALL TERMINAL, PULL, BRACE OR CORNER POSTS WITH TENSION BAR BANDS.

(J) BRACE RAIL: BRACE RAILS SHALL BE PROVIDED AT ALL TERMINAL, PULL, BRACE OR CORNER POSTS HALFWAY BETWEEN THE TOP RAIL AND GROUND LEVEL WHEN TOPRAIL IS SPECIFIED AND TWELVE INCHES (12") DOWN FROM TOP OF FABRIC WHEN TOP TENSION WIRE IS SPECIFIED. BRACE RAIL SHALL EXTEND FROM SUCH POST TO THE FIRST ADJACENT LINE POST.

(L) FABRIC: SHALL CONFORM TO THE SPECIFICATIONS.

(M) GATE FRAMES: SHALL BE CONSTRUCTED OF TUBULAR MEMBERS ASSEMBLED BY USE OF HEAVY PRESSED STEEL, MALLEABLE FITTINGS OR BY WELDING. ALL GATES SHALL HAVE ONE HORIZONTAL SUPPORT EXTENDING THE WIDTH OF THE GATE AT THE MIDPOINTS OF VERTICAL FRAME MEMBERS. THE COMPLETE FRAME SHALL BE RIGID AND HAVE AMPLE STRENGTH TO BE FREE FROM SAG AND TWIST.

(O) HINGES: SHALL BE OF HEAVY PATTERN, OF ADEQUATE STRENGTH FOR GATE, AND WITH LARGE BEARING SURFACES FOR CLAMPING IN POSITION. THE HINGE SHALL BE OF THE PROPER TYPE TO ALLOW FOR THE DESIGNATED DEGREE OF SWING. THE HINGE SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. THE GATES SHALL BE CAPABLE OF BEING OPENED AND CLOSED EASILY BY ONE PERSON.

(P) LATCHES AND STOPS: SHALL BE PROVIDED FOR ALL GATES. GATES SHALL HAVE A DROP BAR LATCH. LATCHES SHALL BE ARRANGED FOR LOCKING. THE STOP FOR DROP BAR LATCHES SHALL BE SET IN CONCRETE AND ENGAGE THE PLUNGER OF THE BAR LATCH.

(S) CAPS: ALL POSTS, EXCEPT ROLL FORMED POSTS AND "T" POSTS SHALL BE CAPPED OVER THE EXTERIOR OF THE POST, AND SHALL CONFORM TO ASTM F626.

CONCRETE REQUIRED FOR THE EMBEDMENT OF ALL POSTS SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR CHAIN LINK FENCE.

POSTS SHALL BE SPACED EQUIDISTANT ON A MAXIMUM OF 10' CENTERS.

EXCAVATION FOR POSTS: IN OTHER THAN ROCK SHALL BE OF THE DIMENSIONS INDICATED. IF ROCK IS ENCOUNTERED BEFORE REACHING THE REQUIRED DEPTH, THE EXCAVATION SHALL BE CONTINUED TO THE DEPTH INDICATED OR 1'-6" INTO THE ROCK, WHICHEVER IS LESS, AND SHALL BE A MINIMUM OF 8 INCHES IN DIAMETER.

HEIGHT OF FENCE FABRIC	(A) END, PULL CORNER OR BRACE POST	(B) LINE POSTS SIZE	(B) LINE POSTS TIE SPACING	(C) TOP RAIL SIZE	(C) TOP RAIL TIE SPACING	(C) TOP RAIL MIN. LENGTH	(D) TENSION WIRE SIZE	(D) TENSION WIRE TIE SPACING	(E) TENSION BAR SIZE	(E) TENSION BAR LENGTH	(F) TENSION BAR BAND SIZE	(F) TENSION BAR BAND BOLT SIZE	(F) TENSION BAR BAND SPACING	(G) BRACE BAND SIZE	(G) BRACE BAND BOLT SIZE
6' AND LESS	2½" O.D.	2" O.D.	1 TIE EVERY 1'-2" OF FABRIC HEIGHT	1⅝" O.D.	1 TIE EVERY 2'-0"	10'-0"	7 GAUGE COIL SPRING WIRE	1 TIE EVERY 1'-0"	MIN. OF ⅜" X ¾"	MIN. OF 2" LESS THAN FABRIC HEIGHT	MIN. OF ¾" X 0.074	⅝" X 1¼"	1 BAND AT TOP AND BOTTOM 15" MAX. INTERVAL BETWEEN BANDS	MIN. OF ¾" X 0.105	⅝" X 1¼"
OVER 6' TO 12' INCL.	3 " O.D.	2½" O.D.													

HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL SIZE	(J) BRACE RAIL TIE SPACING	(K) TRUSS ROD	(L) FABRIC SIZE	(L) FABRIC MESH	(L) FABRIC SELVAGE	(M) GATE FRAME SIZE	(M) GATE FRAME TIE SPACING	(N) HORIZONTAL SUPPORT SIZE	(N) HORIZONTAL SUPPORT TIE SPACING	(O) HINGE TYPE 180° SWING	(T) GATE POST GATE WIDTH 12' AND LESS	(T) GATE POST GATE WIDTH OVER 12' TO 24' INCL.
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅜" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK -ING AND/OR TWIST -ING	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.														4" O.D.	

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½" FOR FENCE HEIGHT OF 6' AND LESS, AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' TO 12'. END, PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' AND LESS; AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHT OF 6' AND LESS. ALUMINUM TENSION WIRE SHALL BE 0.192" IN DIAMETER, MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE 0.078". POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

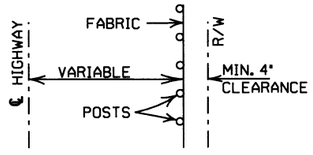
OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

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

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	GRADE 2 O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅝	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2	1.900	0.145	2.72	0.940	1.900	0.120	2.28
2½	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3½	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4	4.000	0.226	9.11	3.151	4.000	0.160	6.56

TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

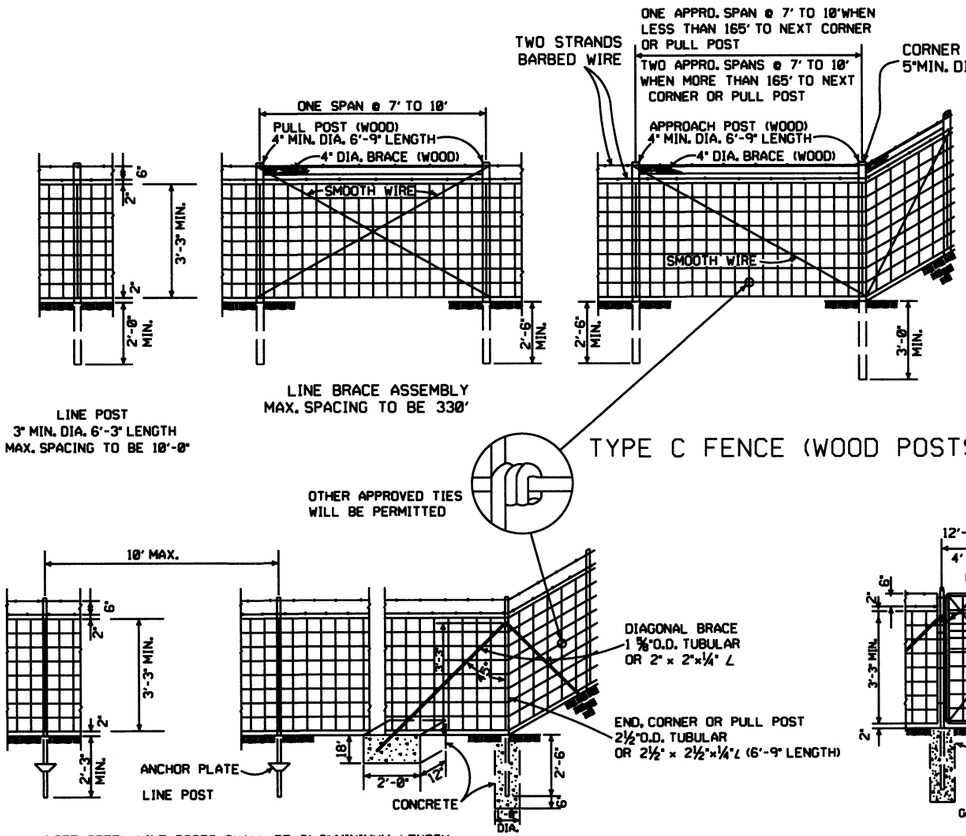
DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91 8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
11-17-88	REVISED O.D. SIZES	668-11-17-88
10-30-87	GENERAL REVISIONS	548-10-30-87
4-20-79	REVISED TOP RAIL & TENSION WIRE	695-4-20-79
10-2-72	REVISED AND REDRAWN	530-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

CHAIN LINK FENCE

STANDARD DRAWING WF-3

TYPE C FENCE (WOOD POSTS)



NOTE: STEEL LINE POSTS SHALL BE 6'-6" MINIMUM LENGTH.

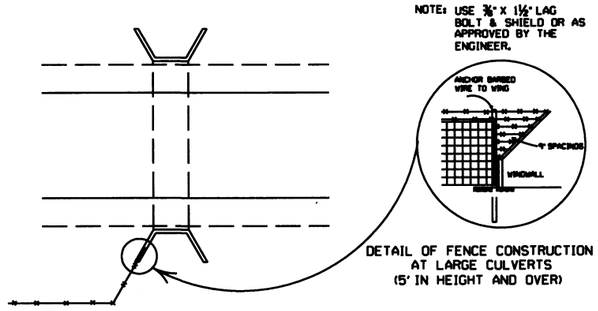
GENERAL NOTES:

STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED.
TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE - 1" TO +2".
TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.



DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

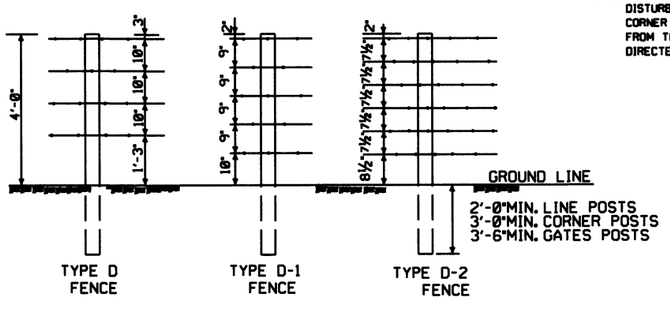
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD" AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

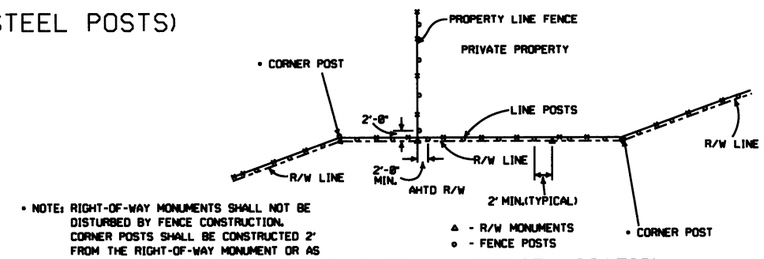
STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE C FENCE (STEEL POSTS)

4 STRANDS BARBED WIRE (D)
5 STRANDS BARBED WIRE (D-1)
6 STRANDS BARBED WIRE (D-2)

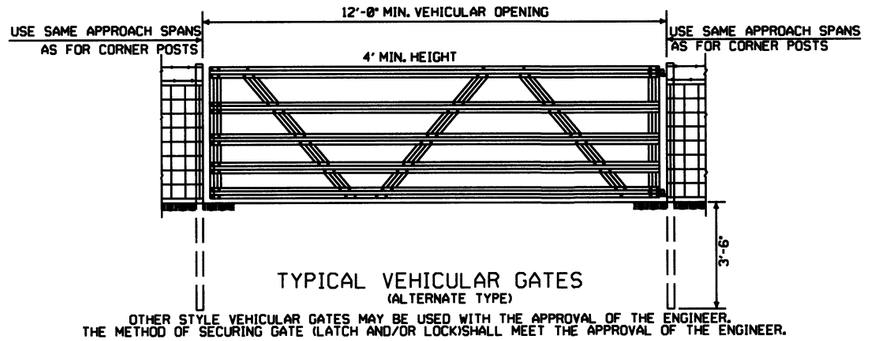


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



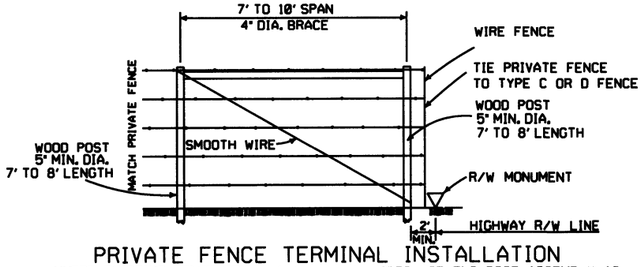
• NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



TYPICAL VEHICULAR GATES (ALTERNATE TYPE)

OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER. THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.



PRIVATE FENCE TERMINAL INSTALLATION

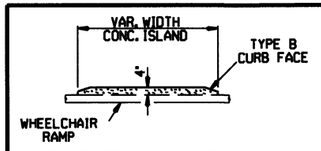
WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

DATE	REVISION	FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72

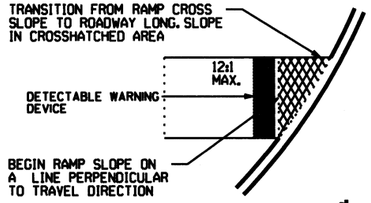
ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE TYPE C AND D

STANDARD DRAWING WF-4



CONCRETE ISLAND DETAIL



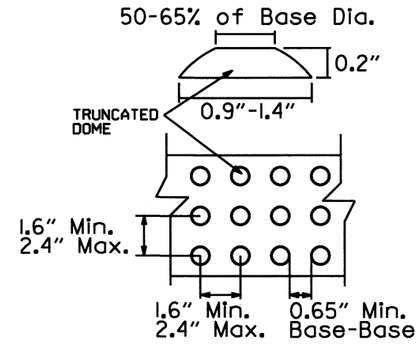
SLOPE TRANSITION DETAILS

TYPE 1 RAMP DIMENSIONS AND QUANTITIES

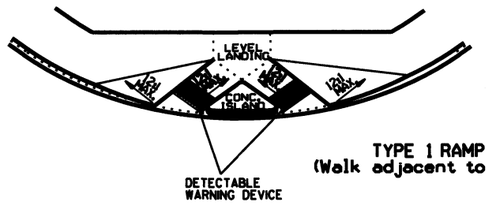
RADIUS "R" FEET	DISTANCE "X" FEET	DISTANCE "Y" FEET	LENGTH "L" FEET	RAMP AREA "A" SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

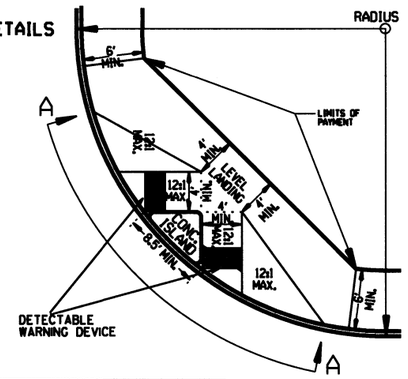
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).

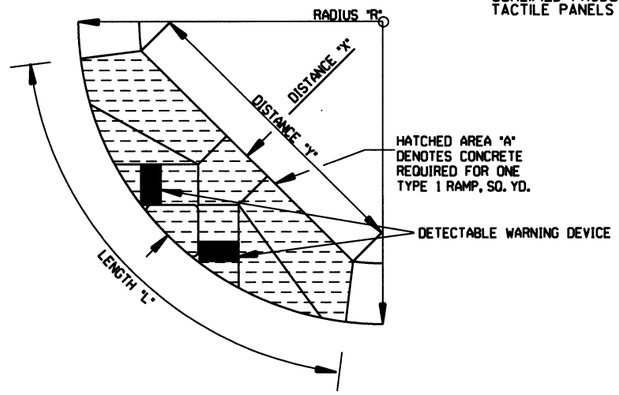


DETECTABLE WARNING DEVICE DETAIL



TYPE 1 RAMP
(Walk adjacent to curb)







SECTION A-A

GENERAL NOTES:

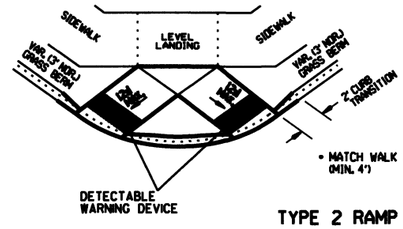
IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.

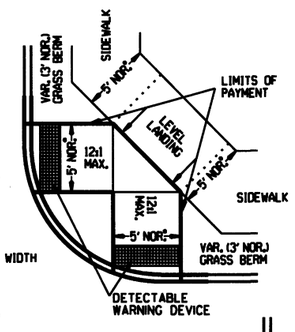
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.

THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.

RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.

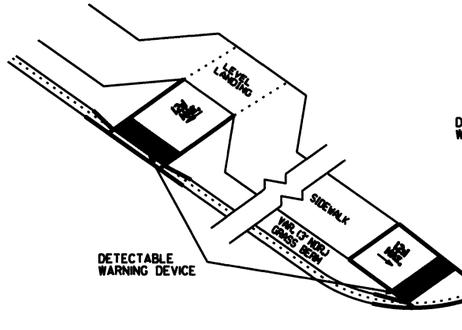
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

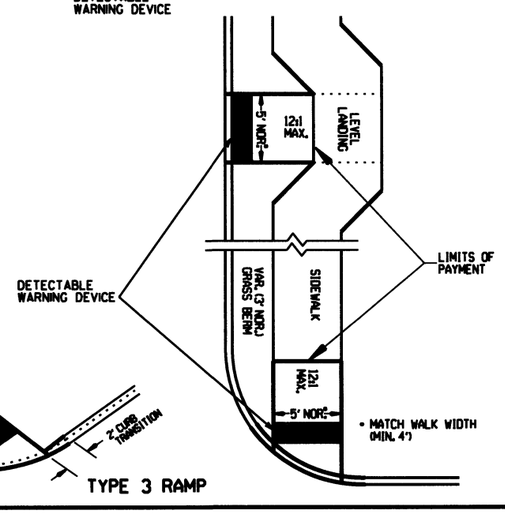




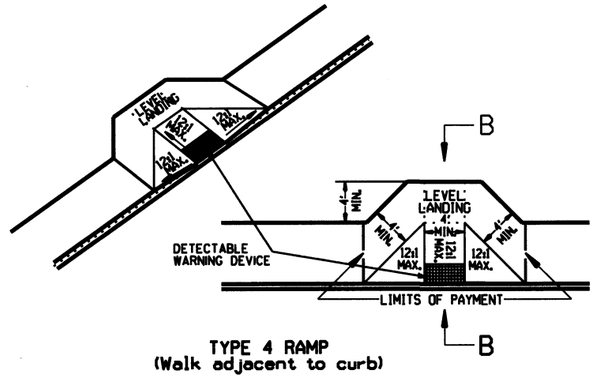
TYPE 2 RAMP

NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.

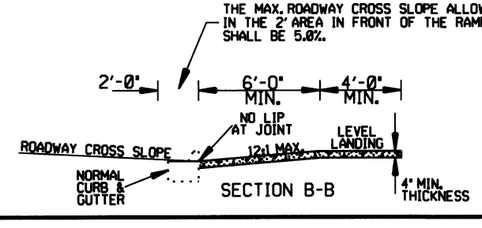




TYPE 3 RAMP



TYPE 4 RAMP
(Walk adjacent to curb)



SECTION B-B

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

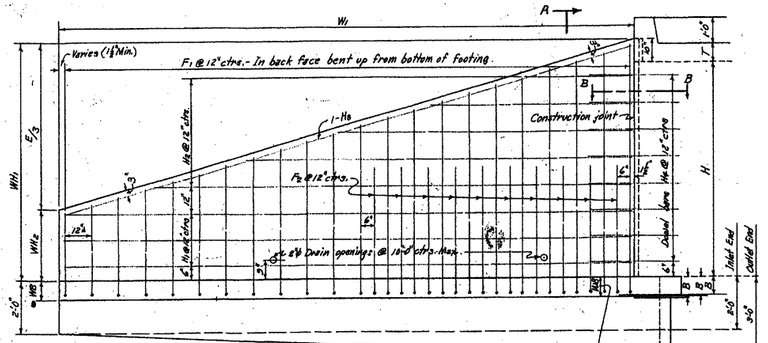
DATE	REVISION	DATE FILM
1-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
5-30-00	ADD SLOPE TRANS. & REV. ISL. DIMS.	
9-9-98	REVISED NOTES	
8-2-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM MITOR/MAX. SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	662-7-15-88
7-14-88	INCLUD. "CONC. ISLD." IN PAY ITEM	------
6-02-76	ISSUED-P.W.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

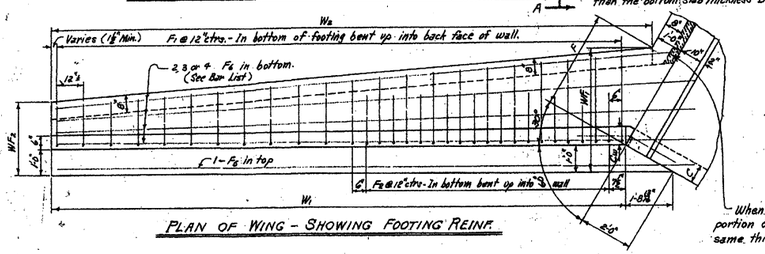
WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS

STANDARD DRAWING WR-1

FED. ROAD NO.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	ARK.				
JOB NO.					

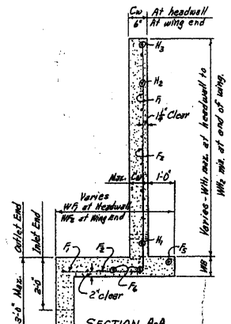


REAR ELEVATION OF WING - SHOWING BACK FACE REINF.

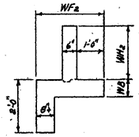


PLAN OF WING - SHOWING FOOTING REINF.

WB may be more, equal to, or less than the bottom slab thickness B.



SECTION A-A



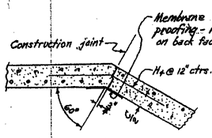
END VIEW OF WING

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

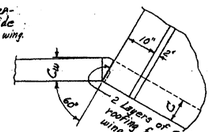
WING DIMENSIONS

CLEAR HEIGHT OF BOX	THICKNESS OF WING FOOTING	THICKNESS OF WING AT HEADWALL = C	WINGWALL HEIGHTS		WIDTHS OF WING FOOTINGS		PERPENDICULAR FOOTING DIMENSION	PERPENDICULAR DIST. FROM HDWL. TO END OF WING	LENGTH OF WINGWALLS	INSIDE FOOTING DIMENSION	* QUANTITY PER WING CLASS S CONCRETE	
			AT HEADWALL	AT END OF WING	AT HEADWALL	AT END OF WING					INLET END	OUTLET END
H	WB	Cw	WH1	WH2	WF1	WF2	F	E	W1	W2	CU.YD.	CU.YD.
2'	7"	6"	2'-10"	0'-8"	2'-4"	2'-0"	0'-11⅜"	6'-6"	7'-6"	7'-1½"	0.889	0.986
3'	7"	6"	3'-10"	1'-0"	2'-8"	2'-1⅛"	1'-1⅜"	8'-6"	9'-3⅜"	9'-2½"	1.338	1.466
4'	7"	6"	4'-10"	1'-3"	3'-0"	2'-3"	1'-3"	10'-6"	12'-1⅛"	12'-1½"	1.868	2.027
5'	7"	6"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅛"	12'-6"	14'-5⅛"	14'-5½"	2.478	2.668
		7"	5'-10"	1'-8"	3'-4"	2'-4½"	2'-1⅛"	12'-6"	14'-5⅛"	14'-5½"	2.582	2.772
6'	8"	7"	6'-10"	2'-0"	3'-8"	2'-6"	2'-4⅜"	14'-6"	16'-9"	17'-1⅛"	3.440	3.661
		7⅛"	6'-10"	2'-0"	3'-8"	2'-6"	2'-4⅜"	14'-6"	16'-9"	17'-1⅛"	3.511	3.732
		8"	6'-10"	2'-0"	3'-8"	2'-6"	2'-4⅜"	14'-6"	16'-9"	17'-1⅛"	3.588	3.803
7'	8⅛"	7⅛"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1⅛"	16'-6"	19'-0⅝"	19'-8⅝"	4.505	4.758
		8"	7'-10"	2'-4"	4'-2"	2'-7½"	3'-1⅛"	16'-6"	19'-0⅝"	19'-8⅝"	4.597	4.851
8'	9"	8"	8'-10"	2'-8"	4'-8"	2'-9"	3'-8"	18'-6"	21'-4⅝"	22'-2"	5.761	6.049

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



SECTION B-B THRU CONSTRUCTION JOINT



DETAIL AT TOP OF WING

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

APRON DIMENSION W3

W3 = (OW - 2F)

CLEAR SPAN	CLEAR HEIGHT	2 x FOOTING DIMENSION	SINGLE BARREL CULVERT		DOUBLE BARREL CULVERT		TRIPLE BARREL CULVERT		QUADRUPLE BARREL CULVERT		QUINTUPLE BARREL CULVERT	
			OW	W3	OW	W3	OW	W3	OW	W3	OW	W3
S	H	2F										
4'	2'	1'-11⅝"	5'-0"	3'-0⅛"	9'-8"	7'-8⅛"	14'-4"	12'-4⅛"	19'-0"	17'-0⅛"	23'-8"	21'-8⅛"
	3'	2'-8⅜"	5'-0"	2'-3⅜"	9'-8"	6'-11⅜"	14'-4"	11'-7⅜"	19'-0"	16'-3⅜"	23'-8"	20'-11⅜"
	4'	3'-4⅝"	5'-0"	1'-6"	9'-8"	6'-2"	14'-4"	10'-10"	19'-0"	15'-6"	23'-8"	20'-2"
	5'	4'-3⅜"	5'-0"	0'-8⅜"	9'-8"	5'-4⅜"	14'-4"	10'-0⅜"	19'-0"	14'-8⅜"	23'-8"	19'-8⅜"
	6'	5'-0⅝"	5'-2"	0'-1⅛"	9'-11"	4'-10⅛"	14'-8"	9'-7⅛"	19'-5"	14'-2⅛"	24'-2"	19'-1⅛"
5'	3'	2'-8⅜"	6'-0"	3'-3⅜"	11'-8"	8'-11⅜"	17'-4"	14'-7⅜"	23'-0"	20'-3⅜"	28'-8"	25'-11⅜"
	4'	3'-4⅝"	6'-0"	2'-6"	11'-8"	8'-2"	17'-4"	13'-10"	23'-0"	19'-6"	28'-8"	25'-2"
	5'	4'-3⅜"	6'-0"	1'-8⅜"	11'-8"	7'-4⅜"	17'-4"	13'-0⅜"	23'-0"	18'-8⅜"	28'-8"	24'-4⅜"
	6'	5'-0⅝"	6'-2"	1'-1⅛"	11'-11"	6'-10⅛"	17'-8"	12'-7⅛"	23'-5"	18'-2⅛"	29'-2"	24'-1⅛"
	7'	6'-2⅛"	6'-5"	0'-0⅝"	12'-1"	5'-10⅝"	17'-11"	11'-8⅝"	23'-9"	17'-1⅝"	29'-6"	23'-5⅝"
6'	3'	2'-8⅜"	7'-0"	4'-3⅜"	13'-8"	10'-11⅜"	20'-4"	17'-7⅜"	27'-0"	24'-3⅜"	33'-8"	30'-11⅜"
	4'	3'-4⅝"	7'-0"	3'-6"	13'-8"	10'-2"	20'-4"	16'-10"	27'-0"	23'-6"	33'-8"	30'-2"
	5'	4'-3⅜"	7'-0"	2'-8⅜"	13'-8"	9'-4⅜"	20'-4"	16'-0⅜"	27'-0"	22'-8⅜"	33'-8"	29'-4⅜"
	6'	5'-0⅝"	7'-2"	2'-1⅛"	13'-11"	8'-10⅛"	20'-8"	15'-7⅛"	27'-5"	22'-2⅛"	34'-2"	29'-1⅛"
	7'	6'-2⅛"	7'-5"	1'-0⅝"	14'-1"	7'-10⅝"	20'-11"	14'-8⅝"	27'-9"	21'-1⅝"	34'-7"	28'-5⅝"
	8'	7'-1⅝"	7'-8"	0'-0"	14'-2"	6'-10"	21'-0"	13'-8"	27'-10"	20'-0"	34'-8"	27'-10"
7'	4'	3'-6"	8'-0"	4'-6"	15'-8"	12'-6"	23'-4"	19'-10"	31'-0"	27'-6"	38'-8"	35'-2"
	5'	4'-3⅜"	8'-0"	3'-8⅜"	15'-8"	11'-4⅜"	23'-4"	19'-0⅜"	31'-0"	26'-8⅜"	38'-8"	34'-4⅜"
	6'	5'-0⅝"	8'-2"	3'-1⅛"	15'-11"	10'-10⅛"	23'-8"	18'-7⅛"	31'-5"	26'-2⅛"	39'-2"	34'-1⅛"
	7'	6'-2⅛"	8'-5"	2'-0⅝"	16'-1"	9'-10⅝"	23'-11"	17'-8⅝"	31'-9"	25'-1⅝"	39'-7"	33'-5⅝"
	8'	7'-1⅝"	8'-8"	1'-0"	16'-2"	8'-10"	24'-0"	16'-8"	31'-10"	24'-0"	39'-8"	32'-10"
8'	4'	3'-6"	9'-0"	5'-6"	17'-8"	14'-6"	26'-4"	22'-10"	35'-0"	31'-6"	43'-8"	40'-2"
	5'	4'-3⅜"	9'-2"	4'-10⅜"	17'-11"	13'-7⅜"	26'-8"	22'-0⅜"	35'-5"	31'-1⅜"	44'-2"	39'-10⅜"
	6'	5'-0⅝"	9'-2"	4'-1⅛"	17'-11"	12'-10⅛"	26'-8"	21'-1⅛"	35'-5"	30'-1⅛"	44'-2"	39'-1⅛"
	7'	6'-2⅛"	9'-5"	3'-0⅝"	18'-1"	11'-10⅝"	26'-11"	20'-0⅝"	35'-9"	29'-6⅝"	44'-7"	38'-5⅝"
	8'	7'-1⅝"	9'-8"	2'-0"	18'-2"	10'-10"	27'-0"	19'-0"	35'-10"	28'-6"	44'-8"	37'-10"
9'	5'	4'-3⅜"	10'-2"	5'-10⅜"	19'-11"	15'-7⅜"	29'-8"	25'-4⅜"	39'-5"	35'-1⅜"	49'-2"	44'-10⅜"
	6'	5'-0⅝"	10'-3"	5'-2⅛"	20'-1"	15'-0⅛"	29'-11"	24'-5⅛"	39'-9"	34'-6⅛"	49'-7"	44'-1⅛"
	7'	6'-2⅛"	10'-3"	4'-0⅝"	20'-1"	13'-10⅝"	29'-11"	23'-4⅝"	39'-9"	33'-4⅝"	49'-7"	43'-4⅝"
	8'	7'-1⅝"	10'-4"	3'-0"	20'-2"	12'-10"	30'-0"	22'-3"	39'-10"	32'-3"	49'-8"	42'-8"
10'	5'	4'-3⅜"	11'-2"	6'-10⅜"	21'-11"	17'-7⅜"	32'-8"	28'-4⅜"	43'-5"	39'-1⅜"	54'-2"	49'-10⅜"
	6'	5'-0⅝"	11'-3"	6'-2⅛"	22'-1"	17'-0⅛"	32'-11"	27'-10⅛"	43'-9"	38'-6⅛"	54'-7"	49'-1⅛"
	7'	6'-2⅛"	11'-3"	5'-0⅝"	22'-1"	15'-10⅝"	32'-11"	26'-9⅝"	43'-9"	37'-4⅝"	54'-7"	48'-4⅝"
	8'	7'-1⅝"	11'-4"	4'-0"	22'-2"	14'-10"	33'-0"	25'-8"	43'-10"	36'-5"	54'-8"	47'-10"
11'	6'	5'-0⅝"	12'-4"	7'-3⅛"	24'-2"	19'-1⅛"	36'-0"	30'-11⅛"	47'-10"	42'-1⅛"		
	7'	6'-2⅛"	12'-4"	6'-1⅝"	24'-2"	17'-11⅝"	36'-0"	29'-10⅝"	47'-10"	41'-0⅝"		
	8'	7'-1⅝"	12'-5"	5'-0"	24'-3"	16'-10"	36'-0"	28'-8"	47'-10"	40'-6"		
12'	6'	5'-0⅝"	13'-4"	8'-3⅛"	26'-2"	21'-1⅛"	39'-0"	33'-11⅛"	51'-10"	46'-1⅛"		
	7'	6'-2⅛"	13'-4"	7'-1⅝"	26'-2"	19'-11⅝"	39'-0"	32'-10⅝"	51'-10"	45'-0⅝"		
	8'	7'-1⅝"	13'-4"	6'-0"	26'-2"	18'-10"	39'-0"	31'-8"	51'-10"	44'-6"		

QUANTITIES

CLEAR SPAN	CLEAR HEIGHT	THICKNESS OF WING AT HEADWALL	THICKNESS OF WING FOOTING	REINFORCING STEEL - FOR 4 WINGS	CLASS S CONCRETE - 4 WINGS HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS				
					SINGLE BARREL CULVERT	DOUBLE BARREL CULVERT	TRIPLE BARREL CULVERT	QUADRUPLE BARREL CULVERT	QUINTUPLE BARREL CULVERT
S	H	Cw	WB	LB.	CU.YD.	CU.YD.	CU.YD.	CU.YD.	CU.YD.
4'	2'	6"	7"	108.0	4.50	5.96	6.42	7.38	8.34
	3'	6"	7"	169.8	6.26	7.21	8.17	9.13	10.09
	4'	6"	7"	259.6	8.33	9.28	10.24	11.20	12.16
	5'	6"	7"	357.8	10.72	11.68	12.64	13.60	14.56
	6'	7"	8"	583.1	14.55	15.53	16.52	17.51	18.49
5'	3'	6"	7"	164.9	6.97	7.63	8.29	9.96	11.12
	4'	6"	7"	259.6	8.58	9.70	10.87	10.03	18.20
	5'	6"	7"	357.8	10.94	12.10	15.26	14.43	15.59
	6'	7"	8"	583.1	14.77	15.96	17.15	18.34	19.54
	7'	7⅛"	8⅛"	1134.6	18.94	20.15	2137	22.59	23.80
6'	3'	6"	7"	164.9	6.68	8.06	9.42	10.80	12.18
	4'	6"	7"	259.6	8.75	10.14	11.49	12.87	14.25
	5'	6"	7"	357.8	11.15	12.53	13.89	15.27	16.65
	6'	7"	8"	583.1	14.98	16.39	17.78	19.18	20.59
	7'	7⅛"	8⅛"	1134.6	19.15	20.58	22.00	23.93	24.86
	8'	8"	9"	1425.6	24.09	25.53	26.96	28.39	29.83
7'	4'	6"	7"	259.6	8.97	10.58	12.15	13.76	15.35
	5'	6"	7"	357.8	11.36	12.97	14.58	16.15	17.75
	6'	7"	8"	583.1	15.20	16.82	18.42	20.04	21.66
	7'	7⅛"	8⅛"	1134.6	19.38	21.02	22.69	24.28	25.92
	8'	8"	9"	1425.6	24.32	25.97	27.60	29.25	30.89
8'	4'	6"	7"	259.6	9.19	11.03	12.82	14.65	16.45
	5'	7"	7"	357.8	12.03	13.89	15.70	17.55	19.36
	6'	7"	8"	583.1	15.92	17.27	19.09	20.93	22.75
	7'	7⅛"	8⅛"	1134.6	19.59	21.46	23.30	25.16	26.99
	8'	8"	9"	1425.6	24.54	26.41	28.29	30.11	31.96
9'	5'	7"	7"	357.8	12.26	14.34	16.87	18.95	20.97
	6'	7⅛"	8"	583.1	15.94	18.04	20.09	22.19	24.23
	7'	7⅛"	8⅛"	1134.6	19.81	21.91	23.96	26.06	28.10
	8'	8"	9"	1425.6	24.76	26.86	28.91	31.00	33.05
10'	5'	7"	7"	357.8	12.99	14.80	17.05	19.24	21.52
	6'	7⅛"	8"	583.1	16.17	18.50	20.77	22.99	25.28
	7'	7⅛"	8⅛"	1134.6	20.04	22.37	24.64	26.87	29.15
	8'	8"	9"	1425.6	24.98	27.31	29.58	31.81	34.10
11'	6'	8"	8"	583.1	16.69	19.27	21.76	24.23	
	7'	8"	8⅛"	1134.6	20.64	23.22	25.71	28.18	
	8'	8"	9"	1425.6	25.19	27.77	30.27	32.74	
12'	6'	8"	8"	583.1	16.92	19.75	22.45	25.18	
	7'	8"	8⅛"	1134.6	20.87	23.69	26.40	29.19	
	8'	8"	9"	1425.6	25.42	28.25	30.96	33.69	

* For reinforcing steel in Headwalls and Aprons, See Details of Standard Barrel Sections for R.C. Box Culverts for the desired Span and Height.

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾ chamfers.

REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.

CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and sidewalls shall be only where shown on plans.

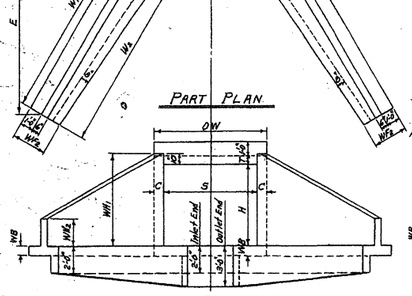
SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

UNIT STRESSES:-

Class S Concrete (n=10) 1200#/□"
Reinforcing Steel 20,000#/□"

NOTE:- This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos. as listed below.

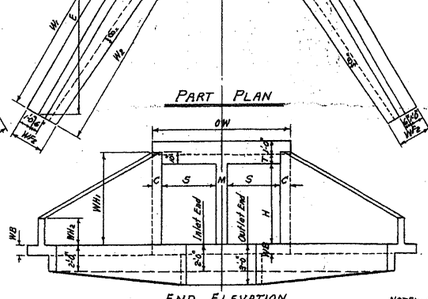
SINGLES	DOUBLES	TRIPLES	QUADRUPLES	QUINTUPLES
R-100X-0	R-200X-0	R-300X-0	R-400X-0	R-500X-0
R-100X-X1	R-200X-X1	R-300X-X1	R-400X-X1	R-500X-X1
R-100X-X2	R-200X-X2	R-300X-X2	R-400X-X2	
	R-200X-X3	R-300X-X3		



PART PLAN

END ELEVATION

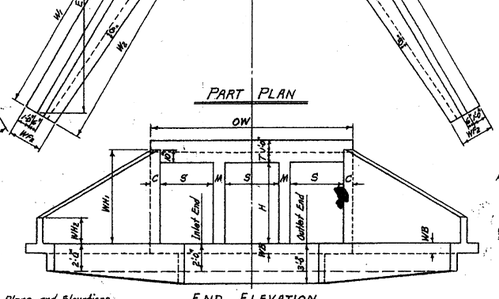
SINGLE BARREL CULVERT



PART PLAN

END ELEVATION

DOUBLE BARREL CULVERT

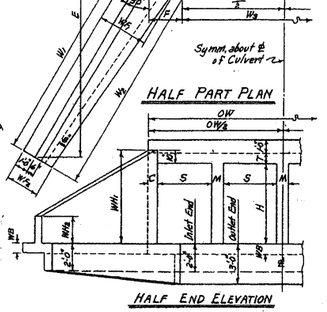


PART PLAN

END ELEVATION

TRIPLE BARREL CULVERT

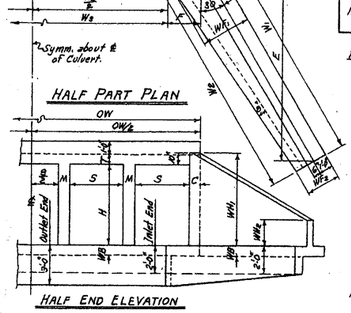
NOTE:- Plans and Elevations are not to scale.



HALF PART PLAN

HALF END ELEVATION

QUADRUPLE BARREL CULVERT



HALF PART PLAN

HALF END ELEVATION

QUINTUPLE BARREL CULVERT

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three mopings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints in wings.

BAR LIST FOR ONE WING - 4 REQUIRED

CLEAR HEIGHT	F1 Bent: In bottom of footing, bent up into back face of wing. One bar of each length.							F3 Bent: In bottom of footing, bent up into back face of wing. Alt. with F1 bars.						F5 Straight: Longitudinal in top of wing footing heel.			F4 Straight: Longitudinal in bottom of wing footing toe.			H1 Straight: Horizontal in back face of wing.			H2 Straight: Horizontal in back face of wing. One bar of each length.				H3 Straight: In back face of wing at top - on slope.			H4 Bent: Dowels thru construction joint at headwall.				QUANTITY REINFORCING STEEL PER WING
H	SIZE	SPACING	NO. REQ'D	LENGTHS VARY MIN.	LENGTHS VARY MAX.	X	Y	SIZE	SPACING	NO. REQ'D	LENGTH	X	Y	SIZE	NO. REQ'D	LENGTH	SIZE	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTHS VARY MAX.	LENGTHS VARY MIN.	SIZE	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	X	LB.
2'	#3	18"	8	1'-6"	3'-10"	0'-8"	1'-0"	—	—	—	—	—	—	#3	1	9'-8"	#3	2	8'-6"	#3	18"	1	7'-2"	#3	12"	1	—	9'-0"	#8	1	7'-0"	#3	12"	2	2'-8"	1'-9"	27.0
3'	#3	12"	10	2'-2"	5'-2"	0'-10"	1'-3"	—	—	—	—	—	—	#3	1	12'-0"	#3	2	11'-0"	#3	12"	1	9'-6"	#3	12"	2	7'-6"	9'-0"	#8	1	9'-9"	#3	12"	3	2'-8"	1'-9"	41.1
4'	#3	12"	13	2'-8"	6'-6"	0'-11"	1'-7"	—	—	—	—	—	—	#3	1	14'-8"	#3	3	13'-6"	#3	12"	1	11'-10"	#3	12"	3	10'-11"	9'-0"	#3	1	12'-2"	#3	12"	4	2'-8"	1'-9"	63.7
5'	#3	12"	15	2'-11"	7'-10"	1'-1"	1'-11"	1'-11"	6'-0"	#3	12"	4	3'-6"	#3	1	16'-8"	#3	3	16'-0"	#8	12"	2	14'-2"	#3	12"	3	14'-11"	9'-0"	#3	1	14'-7"	#3	12"	5	2'-8"	1'-9"	89.5
6'	#4	12"	17	3'-6"	9'-3"	1'-2"	2'-3"	2'-5"	7'-1"	#3	12"	4	4'-6"	#4	1	19'-0"	#3	3	18'-6"	#3	12"	2	16'-6"	#3	12"	4	16'-5"	9'-0"	#3	1	17'-6"	#3	12"	6	2'-8"	1'-9"	145.8
7'	#4	12"	20	3'-9"	10'-5"	1'-3"	2'-9"	2'-7"	8'-1"	#4	12"	5	5'-6"	#4	1	21'-4"	#4	4	21'-0"	#4	12"	2	18'-9"	#4	12"	5	17'-9"	9'-0"	#4	1	19'-5"	#4	12"	7	3'-6"	1'-9"	283.7
8'	#4	12"	22	4'-6"	12'-5"	1'-5"	3'-2"	3'-0"	9'-2"	#4	12"	10	6'-6"	#4	1	23'-8"	#4	4	23'-6"	#4	12"	3	21'-1"	#4	12"	5	17'-9"	9'-0"	#4	1	21'-10"	#4	12"	8	3'-6"	1'-9"	356.4

BAR BENDING DIAGRAMS

REVISIONS:- Membrane added. 5-10-66 W.C.H.

Designed By:- W.C.H. 8-20-62. Checked By:- RMS. 1-9-63
Drawn By:- W.C.H. 12-4-62. Checked By:- RMS. 1-31-63
Quantities By:- W.C.H. 12-14-62. Checked By:- RMS. 3-29-63
Rechecked By:- RMS. 3-29-63

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, QUADRUPLES & QUINTUPLES. — ALL DEPTHS OF COVER FOR H = 8'-0" OR LESS

STANDARD DRAWING NO. W-X003-1

MYLAR

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

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

DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	"a" bars STRAIGHT In Top and Bottom Slabs of Barrel. & Add'l in Apron and Headwall- Each. SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	"b" bars BENT - See Diagram below. In Top and Bottom Slabs of Barrel. Alternate with "a" bars. SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	"d" bars STRAIGHT. Longitudinal in Top Slab of Barrel SIZE	SPACING	No. REQ'D	LENGTH	"d1" bars STRAIGHT. Longitudinal in Sidewalls SIZE	SPACING	No. REQ'D	LENGTH	"e" bars. Longitudinal in Bottom Slab of Barrel SIZE	SPACING	No. REQ'D	LENGTH	"f" bars STRAIGHT Verticals in Sidewalls SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH
D	S	H																											
0'-0" TO 5'-0" MAXIMUM	1 @ 4'	2'	#5	13"	120	120	4'-9"	#6	13"	110	110	5'-10"	4'-8"	#5	10½"	6	#4	12"	4	#4	12"	5	#4	12"	5	#4	12"	120	120	2'-11"
		3'			120	120	4'-9"			110	110	5'-10"	4'-8"			6			6			5			5			120	120	3'-11"
		4'			120	120	4'-9"			110	110	5'-10"	4'-8"			6			8			5			5			120	120	4'-11"
		5'			120	120	4'-9"			110	110	5'-10"	4'-8"			6			10			5			5			120	120	5'-11"
		6'			120	120	4'-11"			110	110	6'-0"	4'-10"			6			12			5			5			120	120	6'-11"
	1 @ 5'	3'	#6	13"	120	120	5'-9"	#6	13"	110	110	6'-10"	5'-8"	#5	10⅝"	7	#4	12"	6	#4	12"	6	#4	12"	6	#4	12"	120	120	4'-0"
		4'			120	120	5'-9"			110	110	6'-10"	5'-8"			7			8			6			6			120	120	5'-0"
		5'			120	120	5'-9"			110	110	6'-10"	5'-8"			7			10			6			6			120	120	6'-0"
		6'			120	120	5'-11"			110	110	7'-1"	5'-11"			7			12			6			6			120	120	7'-0"
		7'			120	120	6'-0"			110	110	7'-1"	5'-11"			7			14			6			6			120	120	8'-0"
	1 @ 6'	3'	#6	12"	128	128	6'-3"	#6	12"	118	118	7'-10"	6'-6"			8			6			7			7			120	120	4'-1"
		4'			128	128	6'-9"			118	118	7'-10"	6'-6"			8			8			7			7			120	120	5'-1"
		5'			128	128	6'-9"			118	118	7'-10"	6'-6"	#5	10⅝"	8	#4	12"	10	#4	12"	7	#4	12"	7	#6	12"	120	120	6'-1"
		6'			128	128	6'-11"			118	118	8'-1"	6'-7"			8			12			7			7			120	120	7'-1"
		7'			128	128	7'-0"			118	118	8'-1"	6'-7"			8			14			7			7			120	120	8'-1"
		8'			128	128	7'-1"			118	118	8'-1"	6'-7"			8			16			7			7					
	1 @ 7'	4'	#6	11"	140	140	7'-9"	#6	11"	130	130	8'-10"	7'-8"			9			8			8			8	#5	12"	120	120	5'-2"
		5'			140	140	7'-9"			130	130	8'-10"	7'-8"			9			10			8			8			120	120	6'-2"
		6'			140	140	7'-11"			130	130	9'-0"	7'-10"	#5	10⅝"	9	#4	12"	12	#4	12"	8	#4	12"	8			120	120	7'-2"
		7'			140	140	8'-0"			130	130	9'-1"	7'-10"			9			14			8			8			120	120	8'-2"
		8'			140	140	8'-1"			130	130	9'-2"	8'-0"			9			16			8			8					
		9'			140	140	8'-3"			130	130	9'-4"	8'-2"			9			18			8			8					
	1 @ 8'	4'	#7	12"	128	128	8'-5"	#6	12"	118	118	9'-10"	8'-8"			11			8			9			9	#5	12"	120	120	5'-3"
		5'			128	128	8'-11"			118	118	10'-0"	8'-10"			11			10			9			9			120	120	6'-3"
		6'			128	128	8'-11"			118	118	10'-0"	8'-10"	#5	10"	11	#4	12"	12	#4	12"	9	#4	12"	9			120	120	7'-3"
		7'			128	128	9'-0"			118	118	10'-1"	8'-11"			11			14			9			9			120	120	8'-3"
		8'			128	128	9'-1"			118	118	10'-2"	9'-0"			11			16			9			9					
		9'			128	128	9'-3"			118	118	10'-4"	9'-2"			11			18			9			9					
		10'			128	128	9'-5"			118	118	10'-6"	9'-3"			11			20			9			9					
	1 @ 9'	5'	#7	11"	140	140	9'-10"	#6	11"	130	130	11'-0"	9'-10"			12			10			10			10	#5	11"	120	120	6'-5"
		6'			140	140	10'-0"			130	130	11'-1"	9'-11"			12			12			10			10			120	120	7'-5"
		7'			140	140	10'-0"			130	130	11'-1"	9'-11"			12			14			10			10			120	120	8'-5"
		8'			140	140	10'-1"			130	130	11'-2"	10'-0"	#5	10"	12	#4	12"	16	#4	12"	10	#4	12"	10			120	120	9'-5"
		9'			140	140	10'-3"			130	130	11'-4"	10'-2"			12			18			10			10			120	120	10'-5"
		10'			140	140	10'-5"			130	130	11'-6"	10'-4"			12			20			10			10					
		11'			140	140	10'-7"			130	130	11'-8"	10'-6"			12			22			10			10					
	1 @ 10'	5'	#7	12"	128	128	10'-11"	#7	12"	118	118	12'-2"	10'-10"			13			10			11			11	#5	12"	120	120	6'-6"
		6'			128	128	11'-0"			118	118	12'-3"	10'-11"			13			12			11			11			120	120	7'-6"
		7'			128	128	11'-0"			118	118	12'-3"	10'-11"			13			14			11			11			120	120	8'-6"
		8'			128	128	11'-1"			118	118	12'-5"	11'-0"	#5	10"	13	#4	12"	18	#4	12"	11	#4	12"	11					
		9'			128	128	11'-3"			118	118	12'-6"	11'-2"			13			20			11			11					
		10'			128	128	11'-5"			118	118	12'-8"	11'-4"			13			22			11			11					
		11'			128	128	11'-7"			118	118	12'-10"	11'-6"			13			24			11			11					
		12'			128	128	11'-9"			118	118	13'-0"	11'-8"			13			24			11			11					
	1 @ 11'	6'	#7	11"	140	140	12'-1"	#7	11"	130	130	13'-4"	12'-0"	#5	9⅝"	15	#4	12"	12	#4	12"	12	#4	12"	12	#4	12"	120	120	7'-7"
		7'			140	140	12'-1"			130	130	13'-4"	12'-0"			15			14			12			12			120	120	8'-7"
		8'			140	140	12'-2"			130	130	13'-4"	12'-0"			15			16			12			12			120	120	9'-7"
		9'			140	140	12'-3"			130	130	13'-6"	12'-2"			15			18			12			12	#5	12"	120	120	10'-7"
		10'			140	140	12'-5"			130	130	13'-8"	12'-4"			15			20			12			12			120	120	11'-7"
		11'			140	140	12'-7"			130	130	13'-10"	12'-6"			15			22			12			12			120	120	12'-7"
		12'			140	140	12'-9"			130	130	14'-0"	12'-8"			15			24			12			12			120	120	13'-7"
	1 @ 12'	6'	#8	12"	128	128	13'-1"	#7	12"	118	118	14'-4"	13'-0"	#5	9⅝"	16	#4	12"	12	#4	12"	13	#4	12"	13	#4	12"	120	120	8'-7"
		7'			128	128	13'-1"			118	118	14'-4"	13'-0"			16			14			13			13			120	120	9'-7"
		8'			128	128	13'-1"			118	118	14'-6"	13'-0"			16			16			13			13			120	120	10'-7"
		9'			128	128	13'-3"			118	118	14'-8"	13'-2"			16			18			13			13			120	120	11'-7"
		10'			128	128	13'-5"			118	118	14'-8"	13'-4"			16			20			13			13					
		11'			128	128	13'-7"			118	118	14'-10"	13'-6"			16			22			13			13					
		12'			128	128	13'-9"			118	118	15'-0"	13'-8"			16			24			13			13					

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS	BENDING DIAGRAM Bars "b".
#6	3"	5"	1'-2"	K, Pin Diam., X
#7	3½"	5⅝"	1'-4"	

NOTE:- Dimensions are to centers of bars.

DOWEL BARS FOR TWO HEADWALLS

SPAN	SIZE	SPACING	No/RDD	LENGTH	X
4'	#4	11"	12	2'-6"	1'-3"
5'	#4	11"	14	2'-7"	1'-3½"
6'	#4	11"	16	2'-8"	1'-4"
7'	#4	11"	18	2'-9"	1'-4½"
8'	#4	11½"	20	2'-11"	1'-5½"
9'	#4	11½"	22	3'-0"	1'-6"
10'	#4	11½"	24	3'-1"	1'-6½"
11'	#4	12"	26	3'-2"	1'-7"
12'	#4	12"	28	3'-3"	1'-7½"

Bars "n" Dowel bars in Headwalls. (x, e, 12", X)

Designed By:- W.C.H. 1-28-63. Checked By:- RMG-5-24-63
Drawn By:- W.C.H. 2-8-63. Checked By:- RMG-5-24-63
Quantities By:- W.C.H. 2-12-63. Checked By:- RMG-5-24-63

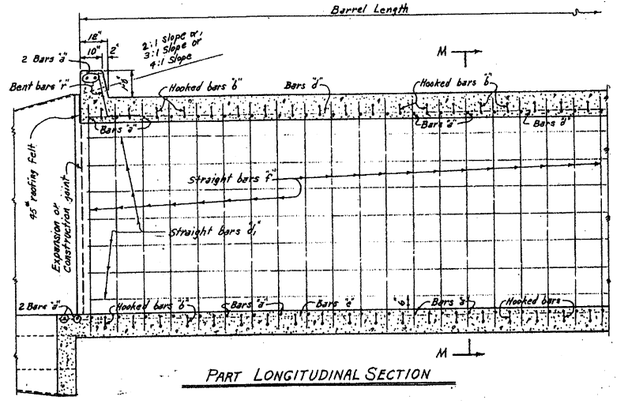
DIMENSIONS AND QUANTITIES

MAX. DESIGN DEPTH OF COVER	CLEAR SPAN	CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	CLASS S CONC. PER LIN. FT. OF BARREL	REINFORCING STEEL PER LIN. FT. OF BARREL	ADDITIONAL PER LAP	ADDITIONAL TWO HEADWALLS & APRONS
D	S	H	A	OW	T	C	B	OH	CU.YD.	LB.	LB.	LB.
5'-0"	1 @ 4'	2'	8	5'-0"	7"	6"	6½"	3'-1⅝"	0.282	41.99	17.95	66.35
		3'	12	5'-0"		6"		3'-7⅝"	0.319	44.16	19.62	66.35
		4'	16	5'-0"		6"		4'-1⅝"	0.356	46.83	21.29	66.35
		5'	20	5'-0"		6"		4'-7⅝"	0.394	49.50	22.96	66.35
		6'	24	5'-2"		7"		5'-1⅝"	0.474	52.96	24.63	67.75
	1 @ 5'	3'	15	6'-0"	7½"	6"	6½"	3'-1⅝"	0.380	55.55	22.19	101.27
		4'	20	6'-2"		6"		3'-7⅝"	0.417	58.23	23.86	101.27
		5'	25	6'-0"		6"		4'-1⅝"	0.454	60.90	25.53	101.27
		6'	30	6'-2"		7"		4'-7⅝"	0.535	64.49	27.20	103.27
		7'	35	6'-3"		7½"		5'-1⅝"	0.604	67.63	28.87	104.27
	1 @ 6'	3'	18	7'-0"	8"	6"	7½"	4'-1⅜"	0.496	66.23	29.76	118.96
		4'	24	7'-0"		6"		4'-7⅜"	0.983	68.96	26.93	118.96
		5'	30	7'-0"		6"		5'-1⅜"	0.520	71.64	28.10	118.96
		6'	36	7'-2"		7"		5'-7⅜"	0.602	75.31	29.77	120.96
		7'	42	7'-3"		7½"		6'-1⅜"	0.671	78.98	31.44	121.97
		8'	48	7'-4"		8"		6'-7⅜"	0.746	88.97	33.11	122.97
	1 @ 7'	4'	28	8'-0"	8½"	6"	8½"	5'-5"	0.568	81.32	29.01	136.88
		5'	35	8'-0"		6"		6'-5"	0.605	84.00	30.68	136.88
		6'	42	8'-2"		7"		7'-5"	0.688	87.76	32.35	138.88
		7'	49	8'-3"		7½"		8'-5"	0.757	90.38	34.02	139.88
		8'	56	8'-4"		8"		9'-5"	0.832	96.63	35.69	140.88
		9'	63	8'-6"		9"		10'-5"	0.996	105.59	37.36	142.89
	1 @ 8'	4'	32	9'-0"	9½"	6"	9½"	5'-7"	0.676	95.26	33.32	196.07
		5'	40	9'-2"		7"		6'-7"	0.756	99.12	34.99	196.80
		6'	48	9'-2"		7"		7'-7"	0.797	101.79	36.66	196.80
		7'	56	9'-3"		7½"		8'-7"	0.867	105.05	38.33	198.16
		8'	64	9'-4"		8"		9'-7"	0.942	110.81	40.00	199.52
		9'	72	9'-6"		9"		10'-7"	1.057	119.92	41.67	200.25
		10'	80	9'-8"		10"		11'-7"	1.184	126.67	43.34	209.97
	1 @ 9'	5'	45	10'-2"	10"	7"	10"	6'-8"	0.844	119.72	37.56	219.61
		6'	54	10'-3"		7½"		7'-8"	0.910	118.06	39.23	220.97
		7'	63	10'-3"		7½"		8'-8"	0.957	120.71	40.90	220.97
		8'	72	10'-4"		8"		9'-8"	1.033	126.54	42.57	222.33
		9'	81	10'-6"		9"		10'-8"	1.148	135.80	44.24	225.02
		10'	90	10'-8"		10"		11'-8"	1.274	192.66	45.91	227.78
		11'	99	10'-10"		11"		12'-8"	1.916	160.40	47.58	230.51
	1 @ 10'	5'	50	11'-2"	10½"	7"	11"	6'-9⅝"	0.957	130.64	40.13	292.64
		6'	60	11'-3"		7½"		7'-9⅝"	1.024	133.39	41.80	294.00
		7'	70	11'-3"		7½"		8'-9⅝"	1.071	136.64	43.47	294.00
		8'	80	11'-5"		8"		9'-9⅝"	1.147	142.55	45.14	295.36
		9'	90	11'-6"		9"		10'-9⅝"	1.263	151.92	98.81	248.09
		10'	100	11'-8"		10"		11'-9⅝"	1.391	158.89	98.98	250.81
		11'	110	11'-10"		11"		12'-9⅝"	1.532	164.71	50.15	253.54
		12'	120	12'-0"		12"		13'-9⅝"	1.685	178.67	51.82	256.26
	1 @ 11'	6'	66	12'-9"	11⅝"	8"	11⅝"	7'-10⅛"	1.153	156.16	96.12	268.62
		7'	77	12'-8"		8"		8'-10⅛"	1.202	157.88	97.79	268.62
		8'	88	12'-8"		8"		9'-10⅛"	1.252	163.06	99.46	268.62
		9'	99	12'-8"		9"		10'-10⅛"	1.368	172.60	51.18	271.34
		10'	110	12'-8"		10"		11'-10⅛"	1.497	179.70	52.80	274.07
		11'	121	12'-10"		11"		12'-10⅛"	1.638	187.67	54.97	276.79
		12'	132	13'-0"		12"		13'-10⅛"	1.792	198.79	56.14	279.52
	1 @ 12'	6'	72	13'-4"	12"	8"	12½"	8'-0"	1.284	172.20	98.69	357.62
		7'	84	13'-5"		8"		9'-0"	1.333	179.87	50.36	357.62
		8'	96	13'-5"		8"		10'-0"	1.383	180.15	52.03	357.62
		9'	108	13'-6"		9"		11'-0"	1.500	189.85	58.70	361.18
		10'	120	13'-8"		10"		12'-0"	1.630	197.07	55.37	364.74
		11'	132	13'-10"		11"		13'-0"	1.772	205.14	57.04	368.30
		12'	144	14'-0"		12"		14'-0"	1.926	217.95	58.71	371.86

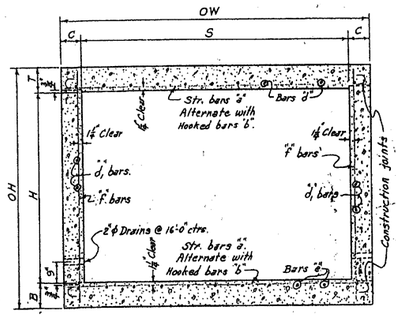
W-X002-1, W-X003-1, W-X004-1 or W-X004-2.

W-X002-1 or W-X003-1 or W-X004-1 and W-X004-2.

Note:- For details of wings and bar bars, see Drawing Nos.



PART LONGITUDINAL SECTION



TYPICAL SECTION M-M

LONGITUDINAL SECTION

GENERAL NOTES:-

CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have ¾" chamfers.

REINFORCING STEEL:- Reinforcing to be deformed bars of intermediate or hard grade.

BAR LAP:- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of barrel over 32'-0". Lap longitudinal bars 30 diameters.

CONSTRUCTION JOINTS:- Construction joints between wingwalls, sidewalls and slabs shall be only where shown on plans.

SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD

H20-S16 LOADING A.A.S.H.O. 1961 AND

SPECIAL MILITARY LOADING
Two 24,000 Lb. Axles @ 4'-0" ctrs.

UNIT STRESSES:-
Class S Concrete (n=10) 1200 #/□"
Reinforcing Steel 20,000 #/□"

Note:- This drawing to be used in conjunction with Standard Drawing Nos. W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2. Also Drawing Nos. W-X002-1 or W-X002-2.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS

4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS — 3:1 OR 4:1 SLOPES
SINGLES — UNDER 5'-0" COVER

STANDARD DRAWING NO. R-100X-0

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

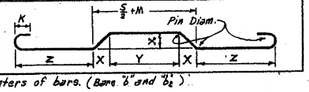
BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH

DEPTH OF COVER.	CLEAR SPANS	CLEAR HEIGHT	"a" bars STRAIGHT In Top and Bottom Slab of Barrel. & Add'l in Apron and Headwall - Each.				"b" bars BENT - See Diagram below. In Bottom of Top Slab bent up over Division Wall - hooked. Alternate with "a" and "c" bars.								"b2" bars BENT - See Diagram below. In Top of Bottom Slab bent down under Division Wall - hooked. Alternate with "a" and "c" bars.								"c" bars STRAIGHT In Top and Bottom Slab of Barrel. Alternate with "b" and "b2" bars.				"d" bars Longitudinal in Top Slab of Barrel.		"d1" bars Longitudinal in Sidewalls and Division Walls.			"e" bars Longitudinal in Bottom Slab of Barrel.			"f" bars Vertical in Sidewalls and Division Walls.			
			SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	X	Y	Z	SIZE	SPACING	NUMBER REQ'D 3:1	NUMBER REQ'D 4:1	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH
D	S	H																																						
0'-0" TO 5'-0" MAXIMUM.	2 @ 4'-0"	2'	#5	12"	128	128	#5	12"	59	59	10'-6"	0'-3"	2'-2½"	3'-0"	#5	12"	59	59	10'-6"	0'-8½"	2'-3½"	3'-4"	#5	12"	120	120	4'-8"	#4	12"	16							#4	12"	290	290	2'-10"
		3'			128	128			59	59	10'-6"	0'-3"	2'-2½"	3'-6"			59	59	10'-6"	0'-8½"	2'-3½"	3'-6"			120	120	4'-8"			12									290	290	3'-10"
		4'			128	128			59	59	10'-6"	0'-3"	2'-2½"	3'-6"			59	59	10'-6"	0'-8½"	2'-3½"	3'-6"			120	120	4'-8"			16									290	290	4'-10"
		5'			128	128			59	59	10'-6"	0'-3"	2'-2½"	3'-6"			59	59	10'-6"	0'-8½"	2'-3½"	3'-6"			120	120	4'-8"			20									290	290	5'-10"
		6'			128	128			59	59	10'-9"	0'-3"	2'-3½"	3'-5"			59	59	10'-9"	0'-8½"	2'-3½"	3'-5"			120	120	4'-8"			24									290	290	6'-10"
2 @ 5'-0"		3'	#6	12"	128	128	#5	12"	59	59	11'-5"	0'-3"	2'-2½"	4'-1"	#5	12"	59	59	12'-1"	0'-3"	2'-6½"	4'-1"	#5	12"	120	120	5'-8"	#4	12"	12							#4	12"	290	290	3'-11"
		4'			128	128			59	59	11'-5"	0'-3"	2'-2½"	4'-1"			59	59	12'-1"	0'-3"	2'-6½"	4'-1"			120	120	5'-8"			16									290	290	4'-11"
		5'			128	128			59	59	11'-5"	0'-3"	2'-2½"	4'-1"			59	59	12'-1"	0'-3"	2'-6½"	4'-1"			120	120	5'-8"			20									290	290	5'-11"
		6'			128	128			59	59	11'-8"	0'-3"	2'-3½"	4'-2"			59	59	12'-6"	0'-3"	2'-6½"	4'-2"			120	120	5'-8"			24									290	290	6'-11"
		7'			128	128			59	59	11'-10"	0'-3"	2'-3½"	4'-2½"			59	59	12'-11"	0'-3"	2'-10½"	4'-2½"			120	120	5'-10"			28									290	290	7'-11"
		8'			140	140			65	65	11'-7"	0'-4"	3'-0½"	4'-10"			65	65	12'-3"	0'-4"	3'-0½"	4'-10"			132	132	6'-8"			18									290	290	4'-0"
		4'			140	140			65	65	11'-7"	0'-4"	3'-0½"	4'-10"			65	65	12'-3"	0'-4"	3'-0½"	4'-10"			132	132	6'-8"			18									290	290	5'-0"
		5'			140	140			65	65	11'-7"	0'-4"	3'-0½"	4'-10"			65	65	12'-3"	0'-4"	3'-0½"	4'-10"			132	132	6'-8"			18									290	290	6'-0"
		6'			140	140			65	65	11'-7"	0'-4"	3'-0½"	4'-10"			65	65	12'-3"	0'-4"	3'-0½"	4'-10"			132	132	6'-8"			18									290	290	7'-0"
		7'			140	140			65	65	11'-7"	0'-4"	3'-0½"	4'-10"			65	65	12'-3"	0'-4"	3'-0½"	4'-10"			132	132	6'-8"			18									290	290	8'-0"
		8'			140	140			65	65	11'-7"	0'-4"	3'-0½"	4'-10"			65	65	12'-3"	0'-4"	3'-0½"	4'-10"			132	132	6'-8"			18									290	290	8'-11"
		4'			128	128			59	59	15'-5"	0'-4½"	3'-5"	5'-1"			59	59	16'-9"	0'-4½"	3'-5"	5'-1"			120	120	7'-2"			14									290	290	5'-1"
		5'			128	128			59	59	15'-5"	0'-4½"	3'-5"	5'-1"			59	59	16'-9"	0'-4½"	3'-5"	5'-1"			120	120	7'-2"			20									290	290	6'-1"
		6'			128	128			59	59	15'-5"	0'-4½"	3'-5"	5'-1"			59	59	16'-9"	0'-4½"	3'-5"	5'-1"			120	120	7'-2"			24									290	290	7'-1"
		7'			128	128			59	59	15'-5"	0'-4½"	3'-5"	5'-1"			59	59	16'-9"	0'-4½"	3'-5"	5'-1"			120	120	7'-2"			28									290	290	8'-1"
		8'			128	128			59	59	15'-5"	0'-4½"	3'-5"	5'-1"			59	59	16'-9"	0'-4½"	3'-5"	5'-1"			120	120	7'-2"			32									290	290	9'-1"
		9'			128	128			59	59	15'-5"	0'-4½"	3'-5"	5'-1"			59	59	16'-9"	0'-4½"	3'-5"	5'-1"			120	120	7'-2"			36									290	290	10'-1"
		4'			140	140			65	65	16'-9"	0'-4½"	3'-5"	5'-2"			65	65	16'-9"	0'-4½"	3'-5"	5'-2"			132	132	8'-0"			16									290	290	5'-2"
		5'			140	140			65	65	16'-9"	0'-4½"	3'-5"	5'-2"			65	65	16'-9"	0'-4½"	3'-5"	5'-2"			132	132	8'-0"			20									290	290	6'-2"
		6'			140	140			65	65	17'-0"	0'-4½"	3'-6"	5'-3"			65	65	17'-0"	0'-4½"	3'-6"	5'-3"			132	132	8'-0"			24									290	290	7'-2"
		7'			140	140			65	65	17'-2"	0'-4½"	3'-6"	5'-3"			65	65	17'-2"	0'-4½"	3'-6"	5'-3"			132	132	8'-0"			28									290	290	8'-2"
		8'			140	140			65	65	17'-5"	0'-4½"	3'-7"	5'-4"			65	65	17'-5"	0'-4½"	3'-7"	5'-4"			132	132	8'-0"			32									290	290	9'-2"
		9'			140	140			65	65	17'-8"	0'-4½"	3'-8"	5'-5"			65	65	17'-8"	0'-4½"	3'-8"	5'-5"			132	132	8'-0"			36									290	290	10'-2"
		4'			140	140			65	65	17'-5"						65	65	18'-10"	0'-5"	3'-10½"	6'-4"			132	132	8'-8"			16									290	290	5'-2"
		5'			140	140			65	65	17'-8"						65	68	19'-2"	0'-5"	3'-11"	6'-4"			132	132	8'-8"			20									290	290	6'-2"
		6'			140	140			65	65	17'-8"						65	65	19'-2"	0'-5"	3'-11"	6'-4"			132	132	8'-8"			24									290	290	7'-2"
		7'			140	140			65	65	17'-8"						65	65	19'-2"	0'-5"	3'-11"	6'-4"			132	132	8'-8"			28									290	290	8'-2"
		8'			140	140			65	65	17'-9"						65	65	19'-3"	0'-5"	4'-0"	6'-5"			132	132	8'-10"			32									290	290	9'-2"
		9'			140	140			65	65	17'-9"						65	65	19'-6"	0'-5"	4'-0"	6'-5"			132	132	8'-10"			36									290	290	10'-2"
		10'			140	140			65	65	17'-9"						65	65	19'-10"	0'-5"	4'-1"	6'-6"			132	132	9'-0"			40									290	290	11'-2"
		5'			140	140			65	65	18'-8"						65	65	21'-1"	0'-5½"	4'-1½"	7'-2"			132	132	9'-6"			20									290	290	6'-2"
		6'			140	140			65	65	18'-8"						65	65	21'-3"	0'-5½"	4'-1½"	7'-2½"			132	132	9'-10"			24									290	290	7'-2"
		7'			140	140			65	65	18'-8"						65	65	21'-3"	0'-5½"	4'-1½"	7'-2½"			132	132	9'-10"			28									290	290	8'-2"
		8'			140	140			65	65	18'-8"						65	65	21'-3"	0'-5½"	4'-1½"	7'-2½"			132	132	9'-10"			32									290	290	9'-2"
		9'			140	140			65	65	19'-0"						65	65	21'-6"	0'-5½"	4'-1½"	7'-3"			132	132	9'-10"			36									290	290	10'-2"
		10'			140	140			65	65	19'-3"						65	65	21'-10"	0'-5½"	4'-1½"	7'-3"			132	132	9'-10"			40									290	290	11'-2"
		11'			140	140			65	65	19'-6"						65	65	22'-0"	0'-5½"	4'-1½"	7'-3"			132	132	10'-0"			44									290	290	11'-6"
		5'			128	128			59	59	23'-2"	0'-6"	4'-5"	7'-1"			59	59	23'-6"	0'-6"	4'-5"	7'-1"			120	120	10'-8"			20									290	290	6'-2"
		6'			128	128			59	59	23'-6"	0'-6"	4'-5"	7'-1½"			59	59	23'-6"	0'-6"	4'-5"	7'-1½"			120	120	10'-8"			24									290	290	7'-2"
		7'			128	128			59	59	23'-6"	0'-6"	4'-5"	7'-1½"			59	59	23'-6"	0'-6"	4'-5"	7'-1½"			120	120	10'-8"			28									290	290	8'-2"
		8'			128	128			59	59	23'-11"	0'-6"	4'-5½"	7'-2"			59	59	23'-11"	0'-6"	4'-5½"	7'-2"			120	120	10'-10"			32									290	290	9'-2"
		9'			128	128			59	59	24'-4"	0'-6"	4'-6"	7'-2½"			59	59	24'-4"	0'-6"	4'-6"	7'-2½"			120	120	10'-11"			36									290	290	10'-2"
		10'			128	128			59	59	24'-7"	0'-6"	4'-6"	7'-3"			59	59	24'-7"	0'-6"	4'-6"	7'-3"			120	120	11'-0"			40									290	290	11'-2"
		11'			128	128			59	59	24'-10"	0'-6"	4'-6½"	7'-3½"			59	59	24'-10"	0'-6"	4'-6½"	7'-3½"			120	120	11'-2"			44									290	290	11'-6"
		12'			128	128			59	59	25'-1"	0'-6"	4'-7"	7'-4"			59	59	25'-1"	0'-6"	4'-7"	7'-4"			120	120	11'-4"			48									290	290	11'-10"
		6'			140	140			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			132	132	12'-0"			24									290	290	7'-2"
		7'			140	140			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			132	132	12'-0"			28									290	290	8'-2"
		8'			140	140			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			132	132	12'-0"			32									290	290	9'-2"
		9'			140	140			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			132	132	12'-0"			36									290	290	10'-2"
		10'			140	140			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			132	132	12'-0"			40									290	290	11'-2"
		11'			140	140			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			132	132	12'-0"			44									290	290	11'-6"
		12'			140	140			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			65	65	25'-1"	0'-6½"	5'-2"	8'-1"			132	132	12'-0"			48									290	290	11'-10"
		6'			128	128			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			120	120	11'-10"			30									290	290	7'-2"
		7'			128	128			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			120	120	11'-10"			30									290	290	8'-2"
		8'			128	128			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			120	120	11'-10"			30									290	290	9'-2"
		9'			128	128			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			120	120	11'-10"			30									290	290	10'-2"
		10'			128	128			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			120	120	11'-10"			30									290	290	11'-2"
		11'			128	128			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			120	120	11'-10"			30									290	290	11'-6"
		12'			128	128			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			59	59	25'-5"	0'-6½"	5'-8"	8'-9"			120	120	11'-10"			30									290	290	11'-10"
		6'			140	140			65	65	27'-5"	0'-7"	5'-8"	9'-4"			65	65	27'-5"	0'-7"	5'-8"	9'-4"			132	132	12'-10"			32									290	290	7'-2"
		7'			140	140			65	65	27'-5"	0'-7"	5'-8"	9'-4"			65	65	27'-5"	0'-7"	5'-8"	9'-4"			132	132	12'-10"			32									290	290	8'-2"
		8'			140	140			65	65	27'-5"	0'-7"	5'-8"	9'-4"			65	65	27'-5"	0'-7"	5'-8"	9'-4"			132	132	12'-10"			32									290	290	9'-2"
		9'			140	140			65	65	27'-8"	0'-7"	5'-8"	9'-5"			65	65	27'-8"	0'-7"	5'-8"	9'-5"			132	132	12'-10"			32									290	290	10'-2"
		10'			140	140			65	65	28'-0"	0'-7"	5'-9"	9'-6"			65	65	28'-0"	0'-7"	5'-9"	9'-6"			132	132	13'-0"			32									290	290	11'-2"
		11'			140	140			65	65	28'-3"	0'-7"	5'-10"	9'-8"			65	65	28'-3"	0'-7"	5'-10"	9'-8"			132	132	13'-0"			32									290	290	11'-6"
		12'			140	140			65	65	28'-6"	0'-7"	5'-10"	9'-10"			65	65	28'-6"	0'-7"	5'-10"	9'-10"			132	132	13'-0"			32									290	290	11'-10"
		6'			128	128			59	59	29'-5"	0'-8"	5'-0"	9'-8"			59	59	29'-5"	0'-8"	5'-0"	9'-8"			120	120	11'-6"			28									290	290	7'-2"
		7'			128	128			59	59	29'-5"	0'-8"	5'-0"	9'-8"			59	59	29'-5"	0'-8"	5'-0"	9'-8"			120	120	11'-6"			28									290	290	8'-2"
		8'			128	128			59	59	29'-5"	0'-8"	5'-0"	9'-8"			59	59	29'-5"	0'-8"	5'-0"	9'-8"			120	120	11'-6"			28									290	290	9'-2"
		9'			128	128			59	59	29'-5"	0'-8"	5'-0"	9'-8"			59	59	29'-5"	0'-8"	5'-0"	9'-8"			120	120	11'-6"			28									290	290	10'-2"
		10'			128	128			59	59	29'-5"	0'-8"	5'-0"	9'-8"			59	59	29'-5"	0'-8"	5'-0"	9'-8"			120	120	11'-6"			28									290	290	11'-2"
		11'			128	128			59	59	29'-5"	0'-8"	5'-0"	9'-8"			59	59	29'-5"	0'-8"	5'-0"	9'-8"			120	120	11'-6"			28									290	290	11'-6"
		12'			128	128			59	59	29'-5"	0'-8"	5'-0"	9'-8"			59	59	29'-5"	0'-8"	5'-0"	9'-8"			120	120	11'-6"			28									290	290	11'-10"
		6'			140	140			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			132	132	13'-2"			30									290	290	7'-2"
		7'			140	140			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			132	132	13'-2"			30									290	290	8'-2"
		8'			140	140			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			132	132	13'-2"			30									290	290	9'-2"
		9'			140	140			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			132	132	13'-2"			30									290	290	10'-2"
		10'			140	140			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			132	132	13'-2"			30									290	290	11'-2"
		11'			140	140			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			132	132	13'-2"			30									290	290	11'-6"
		12'			140	140			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			65	65	29'-5"	0'-8½"	5'-8"	9'-11"			132	132	13'-2"			30									290	290	11'-10"
		6'			140	140			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			132	132	13'-4"			32									290	290	7'-2"
		7'			140	140			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			132	132	13'-4"			32									290	290	8'-2"
		8'			140	140			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			132	132	13'-4"			32									290	290	9'-2"
		9'			140	140			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			132	132	13'-4"			32									290	290	10'-2"
		10'			140	140			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			132	132	13'-4"			32									290	290	11'-2"
		11'			140	140			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			132	132	13'-4"			32									290	290	11'-6"
		12'			140	140			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			65	65	30'-1"	0'-8½"	5'-9"	10'-0"			132	132	13'-4"			32									290	290	11'-10"

Designed by:- W.C.H. 1-17-63. Checked by:- BWS - 5-14-63.
Drawn by:- W.C.H. 2-15-63. Checked by:- BWS - 5-24-63.
Quantities by:- W.C.H. 2-19-63. Checked by:- BWS - 5-24-63.

BAR SIZE	PIN DIAM.	K	ADD FOR 2 HOOKS
#5	2⅝"	4⅛"	0'-11½"
#6	3"	5"	1'-2"

BENDING DIAGRAM FOR Bars "b" and "b2".

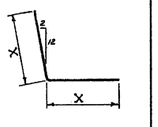


Note:- Dimensions are to centers of bars. (Bars "b" and "b2").

DOWEL BARS FOR TWO HEADWALLS

2 SPANS @	SIZE	SPACING	NO. REQ'D	LENGTH	X
4'	#4	12"c	20	2'-5"	1'-2½"
5'	#4	12"c	24	2'-6"	1'-3"
6'	#4	12"c	28	2'-7"	1'-3⅜"
7'	#4	12"c	32	2'-8"	1'-4"
8'	#4	12"c	36	2'-9"	1'-4⅜"
9'	#4	12"c	40	2'-10"	1'-5"
10'	#4	12"c	46	2'-11"	1'-5½"
11'	#4	12"c	50	3'-0"	1'-6"
12'	#4	12"c	54	3'-1"	1'-6½"

Bars "f" Dowel bars in Headwalls.



DIMENSIONS AND QUANTITIES

MAX. DESIGN DEPTH OF COVER.	BARREL DIMENSIONS CLEAR SPANS	CLEAR HEIGHT	SQ. FT. OPENING	OVERALL WIDTH	THICKNESS OF TOP SLAB	THICKNESS OF SIDEWALLS	THICKNESS OF DIVISION WALL	THICKNESS OF BOTTOM SLAB	OVERALL HEIGHT	UNIT QUANTITIES CLASS S CONC. PER LIN. FT. OF BARREL	REINFORCING STEEL PER LIN. FT. OF BARREL	REINFORCING STEEL ADDITIONAL PER LAP	REINFORCING STEEL ADDITIONAL TWO HEADWALLS & APRONS
D	S	H	A	OW	T	C	M	B	OH	CU.YD.	LB.	LB.	LB.
5'-0"	2 @ 4'-0"	2'	16	9'-8"	6½"	6"	8"	6"	3'-0½"	0.496	88.15	42.71	189.56
		3'	24	9'-8"					4'-0½"	0.558	93.49	44.05	189.56
		4'	32	9'-8"					5'-0½"	0.620	98.84	45.39	189.56
		5'	40	9'-8"					6'-0½"	0.682	104.18	52.73	189.56
		6'	48	9'-11"					7'-0½"	0.809	110.74	56.07	131.65
	2 @ 5'-0"	3'	30	11'-8"		6"	8"		4'-1½"	0.671	183.34	51.19	198.64
		4'	40	11'-8"		6"	8"		5'-1½"	0.783	128.68	59.53	198.64
		5'	50	11'-8"		6"	8"		6'-1½"	0.795	134.08	57.87	198.64
		6'	60	11'-11"	7"	6"	8"	6½"	7'-1½"	0.922	140.89	61.21	201.64
		7'	70	12'-1"		7½"	10"		8'-1½"	1.046	147.34	64.55	203.65
	2 @ 6'-0"	3'	36	13'-8"		6"	8"		4'-5"	0.818	148.50	56.34	233.58
		4'	48	13'-8"		6"	8"		5'-5"	0.880	163.85	59.68	233.58
		5'	60	13'-8"	7½"	6"	8"	7½"	6'-5"	0.941	159.19	63.02	233.58
		6'	72	13'-11"		7"	9"		7'-5"	1.070	166.20	66.36	236.59
		7'	84	14'-1"		7½"	10"		8'-5"	1.192	172.74	69.70	238.59
		8'	96	14'-2"		8"	10"		9'-5"	1.298	183.36	73.04	239.59