DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	1	235
				(2)	HWY. 18 IMPROVEMENTS (MANILA) (S)			

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

HWY. 18 IMPROVEMENTS (MANILA) (S)

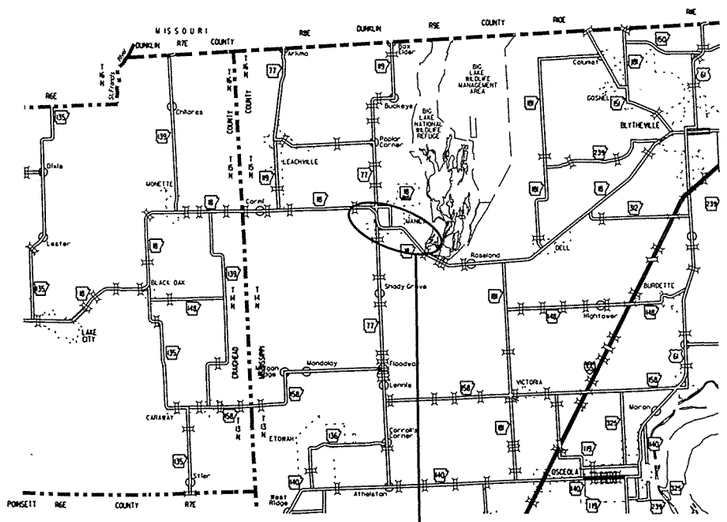
MISSISSIPPI COUNTY

ROUTE 18 SECTIONS 5 & 6

JOB 100654

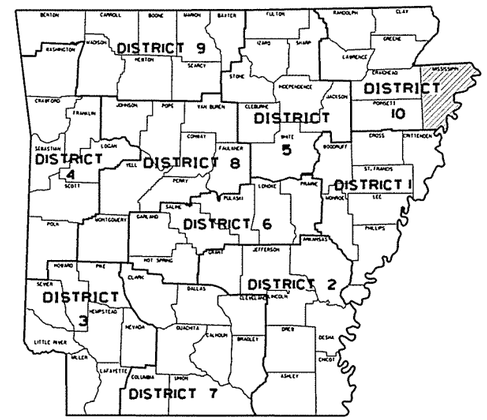
FED. AID PROJ. STPR-0047(48)

NOT TO SCALE



VICINITY MAP

PROJECT LOCATION

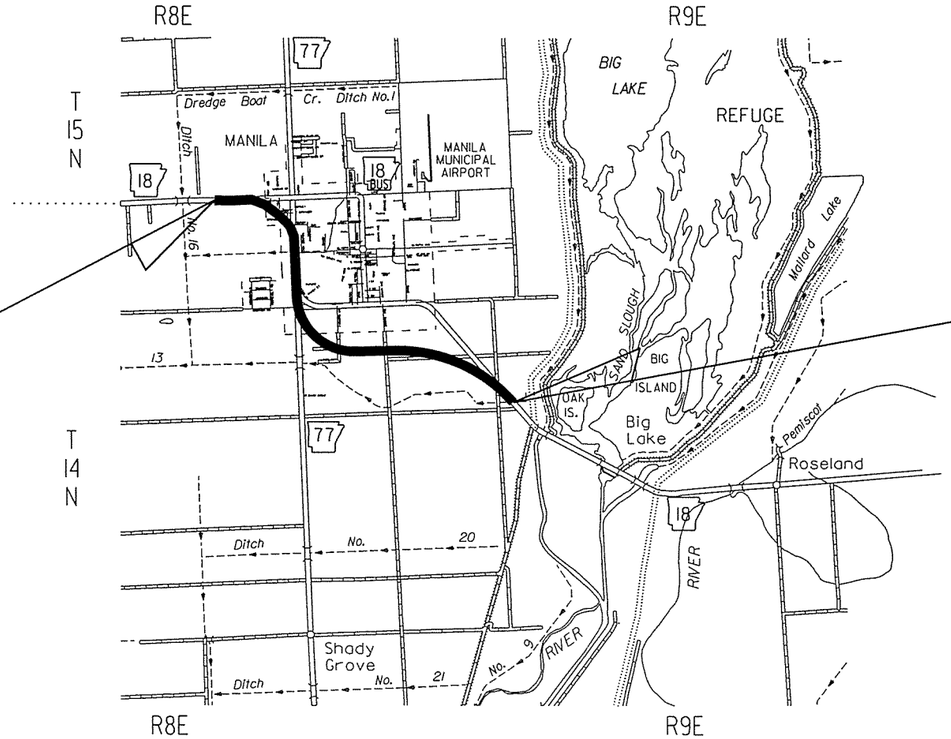


ARK. HWY. DIST. NO. 10

• DESIGN TRAFFIC DATA •

DESIGN YEAR	2035
2015 ADT	6000
2035 ADT	7500
2035 DHV	825
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	9%
DESIGN SPEED	URBAN 40 MPH
	RURAL 60 MPH

STA. 1005+00.00
BEGIN JOB 100654
LOG MILE 5.40



STA. 1220+03.38
END JOB 100654

N

APPROVED

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

3-11-15

DEPUTY DIRECTOR
AND CHIEF ENGINEER

	LATITUDE	LONGITUDE
BEGIN JOB	N 35° 53' 15"	W 90° 11' 31"
MID POINT	N 35° 51' 51"	W 90° 01' 25"
END JOB	N 35° 51' 32"	W 90° 08' 36"

GROSS LENGTH OF PROJECT	21503.38	FEET	OR	4.073	MILES
NET " " ROADWAY	21503.38	"	"	4.073	"
NET " " BRIDGES	0.00	"	"	0.000	"
NET " " PROJECT	21503.38	"	"	4.073	"

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1/26/15

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				6	ARK.			
				JOB NO.		100654	2	235

(2) INDEX OF SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-31-15

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127		METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	2-27-14
128		PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	PCP-1	2-27-14
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146 - 235		CROSS SECTIONS		

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

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				6	ARK.			
				JOB NO.		100654	3	235

(2) GOVERNING SPECIFICATIONS AND GENERAL NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
8-31-15

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA_____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - TRAINING PROGRAM - JOB 100654
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
108-1_____	LIQUIDATED DAMAGES
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1_____	PIPE CULVERTS FOR SIDE DRAINS
620-1_____	MULCH COVER
JOB 100654__	AIRPORT CLEARANCE REQUIREMENTS
JOB 100654__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 100654__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 100654__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 100654__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 100654__	COORDINATION OF WORK
JOB 100654__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 100654__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 100654__	MANDATORY ELECTRONIC CONTRACT
JOB 100654__	PARTNERING REQUIREMENTS
JOB 100654__	PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS
JOB 100654__	PLASTIC PIPE
JOB 100654__	SHORING FOR CULVERTS
JOB 100654__	SOIL STABILIZATION
JOB 100654__	STORM WATER POLLUTION PREVENTION PLAN
JOB 100654__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 100654__	UTILITY ADJUSTMENTS
JOB 100654__	VALUE ENGINEERING
JOB 100654__	WARM MIX ASPHALT
JOB 100654__	WELLHEAD PROTECTION

GENERAL NOTES

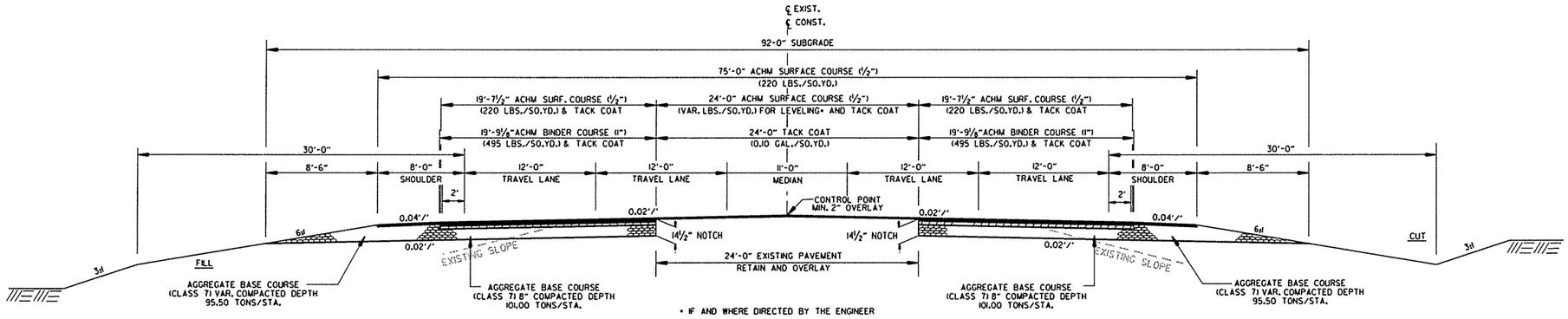
1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY 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 INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. 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.
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.

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				JOB NO.		100654	4	235

(2) TYPICAL SECTIONS OF IMPROVEMENT

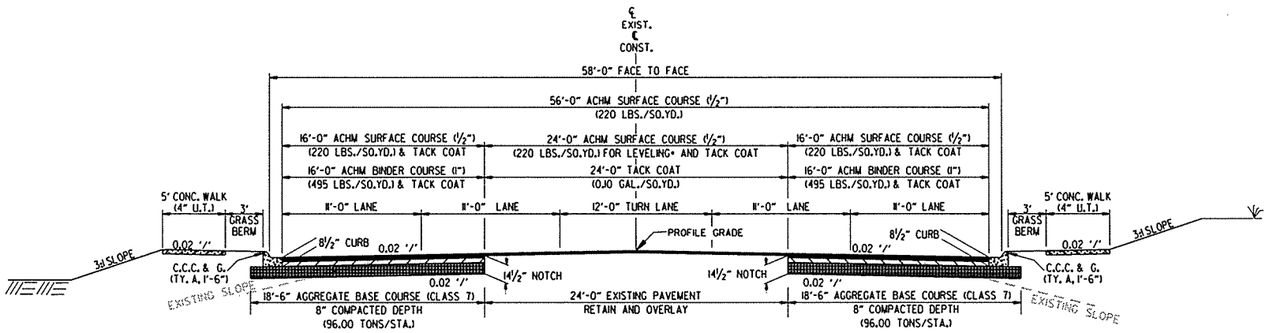
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



* IF AND WHERE DIRECTED BY THE ENGINEER

HWY. 18 NOTCH & WIDEN
OPEN SHOULDER

STA. 1005+00.00 - STA. 1015+00.00



* IF AND WHERE DIRECTED BY THE ENGINEER

HWY. 18 NOTCH & WIDEN
W/2" SURFACING CURB AND GUTTER

STA. 1015+00.00 - STA. 1024+23.09
STA. 1039+97.66 - STA. 1044+23.69
STA. 1061+57.27 - STA. 1081+00.00

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

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

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

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

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

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

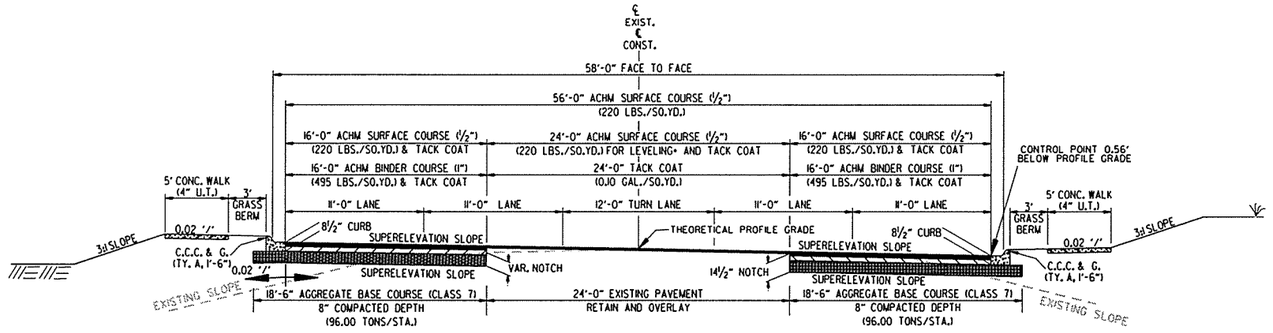
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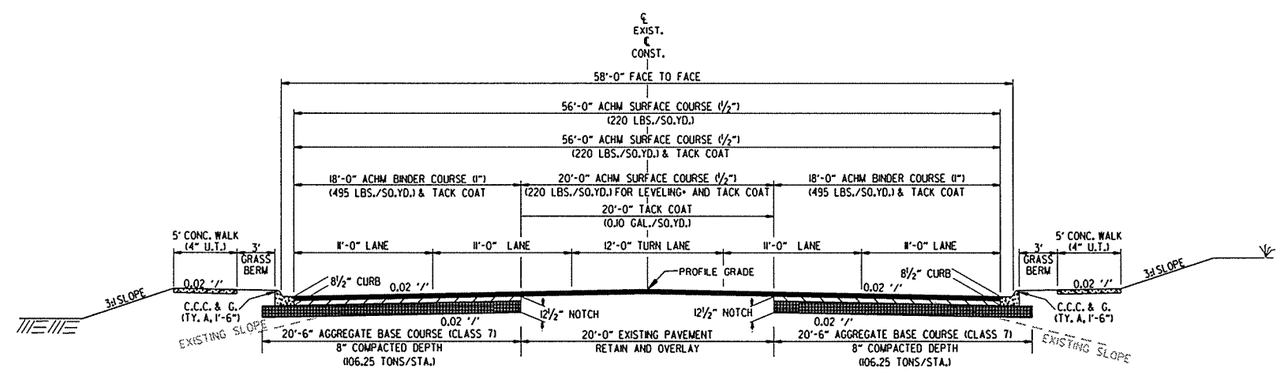
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



* IF AND WHERE DIRECTED BY THE ENGINEER

HWY. 18 NOTCH & WIDEN
W/2" SURFACING CURB AND GUTTER
SUPERELEVATION

STA. 1024+23.09 - STA. 1039+97.66
STA. 1044+23.69 - STA. 1061+57.27



* IF AND WHERE DIRECTED BY THE ENGINEER

HWY. 18 NOTCH & WIDEN
W/4" SURFACING CURB AND GUTTER

STA. 1081+00.00 - STA. 1095+31.48

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

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

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

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

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

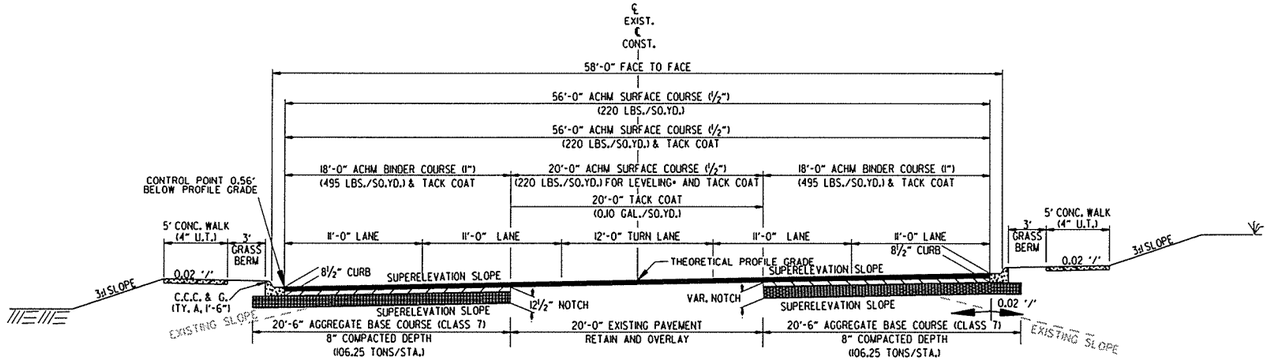
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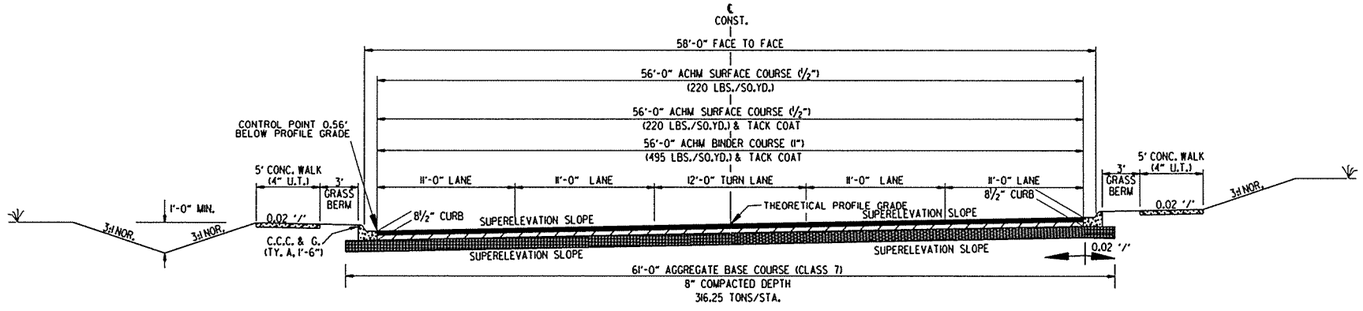
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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



* IF AND WHERE DIRECTED BY THE ENGINEER

HWY. 18 NOTCH & WIDEN W/4" SURFACING CURB AND GUTTER SUPERELEVATION
STA. 1095+31.48 - STA. 1102+39.00



HWY. 18 FULL DEPTH CURB AND GUTTER SUPERELEVATION
STA. 1102+39.00 - STA. 1112+00.00

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

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

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

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

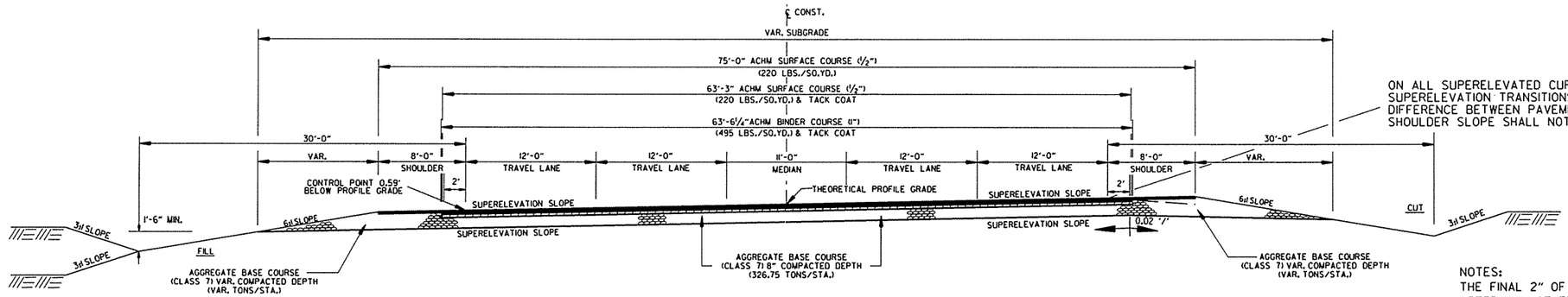
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STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
3-10-15



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

HWY. 18 FULL DEPTH OPEN SHOULDER SUPERELEVATION

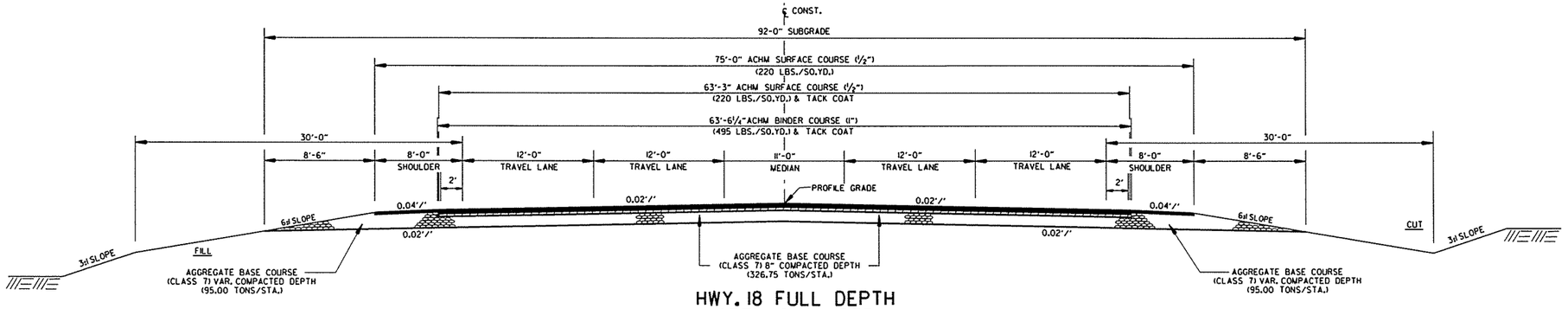
STA. 1112+00.00 - STA. 1130+32.30
STA. 1160+95.14 - STA. 1187+38.38

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

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

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



HWY. 18 FULL DEPTH OPEN SHOULDER

STA. 1130+32.30 - STA. 1160+95.14

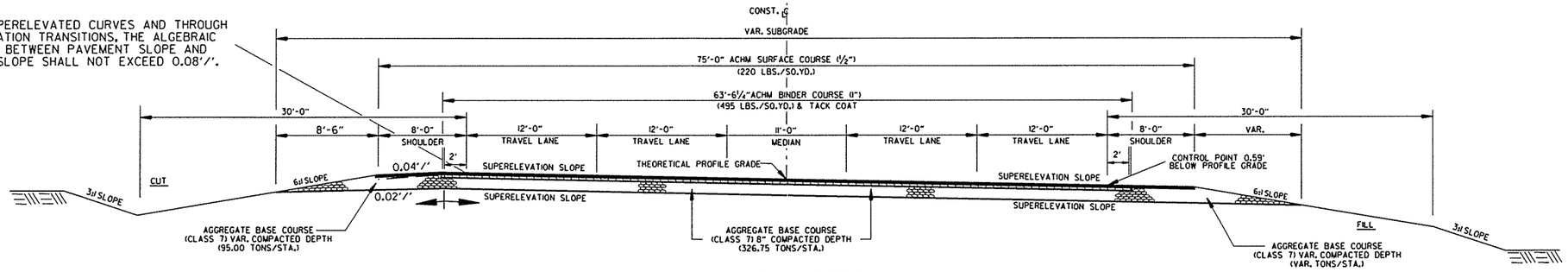
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TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	8	235

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-16-15



HWY. 18 FULL DEPTH
W/OUT 2" FINAL SURFACING OPEN SHOULDER
SUPERELEVATION

STA. 1187+38.38 - STA. 1211+00.00

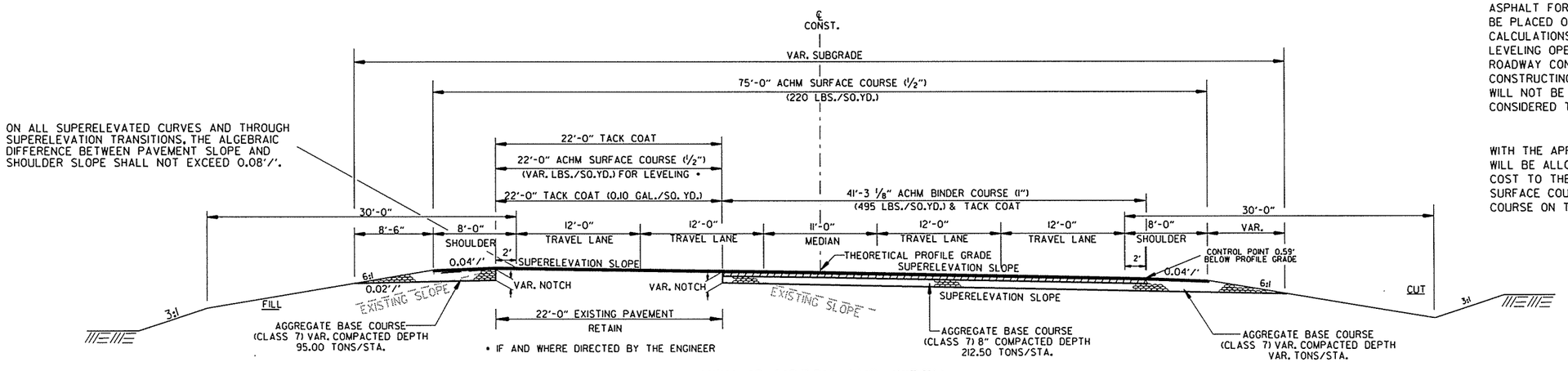
NOTES:
THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

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

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

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

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



HWY. 18 NOTCH AND WIDEN
W/OUT 2" FINAL SURFACE OPEN SHOULDER
SUPERELEVATION

STA. 1211+00.00 - STA. 1219+03.38

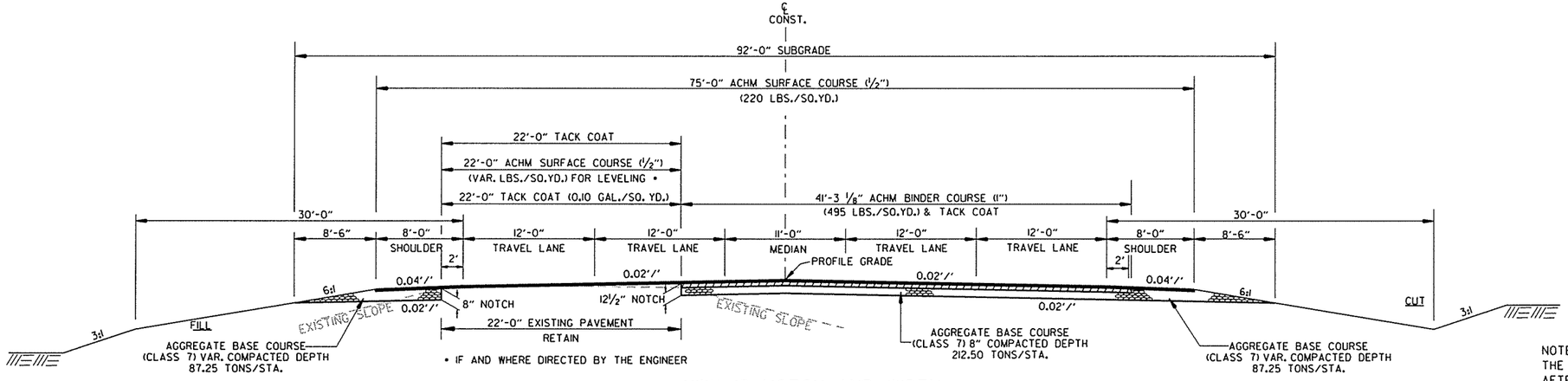
r100654.dgn 1/28/2015

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.		100654	9	235

(2) TYPICAL SECTIONS OF IMPROVEMENT

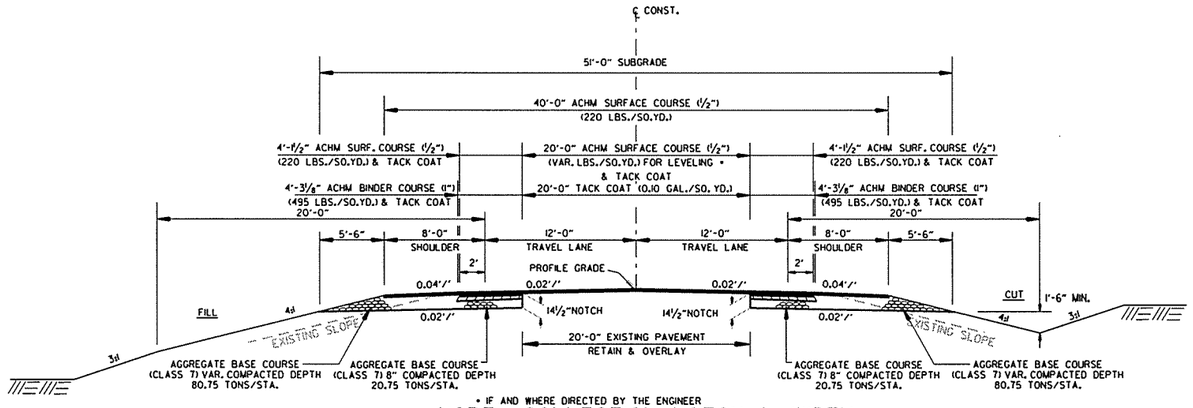
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



• IF AND WHERE DIRECTED BY THE ENGINEER

HWY. 18 NOTCH AND WIDEN
W/OUT 2" FINAL SURFACE OPEN SHOULDER

STA. 1219+03.38 - STA. 1220+03.38



• IF AND WHERE DIRECTED BY THE ENGINEER

NORTH CONNECTION NOTCH & WIDEN
OPEN SHOULDER
SUPERELEVATION

STA. 11+30.00 - STA. 11+75.77

NOTES:
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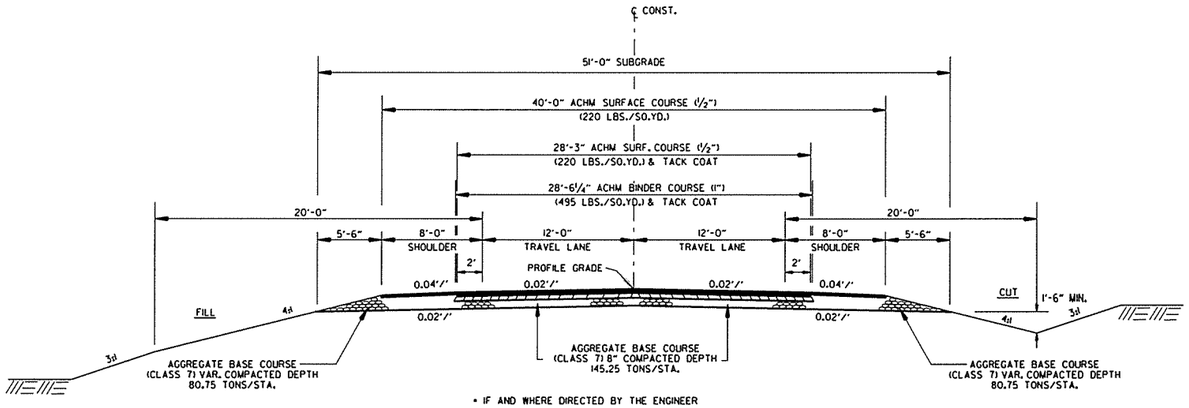
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TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	10	235

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



* IF AND WHERE DIRECTED BY THE ENGINEER

NORTH CONNECTION FULL DEPTH
OPEN SHOULDER
STA. 10+28.00 - STA. 11+30.00
TRANSITIONS THRU TURNOUT WITH
CURB AND GUTTER

WEST CONNECTION FULL DEPTH
OPEN SHOULDER
TRANSITION THRU TURNOUT
STA. 20+28.00 - STA. 20+73.85

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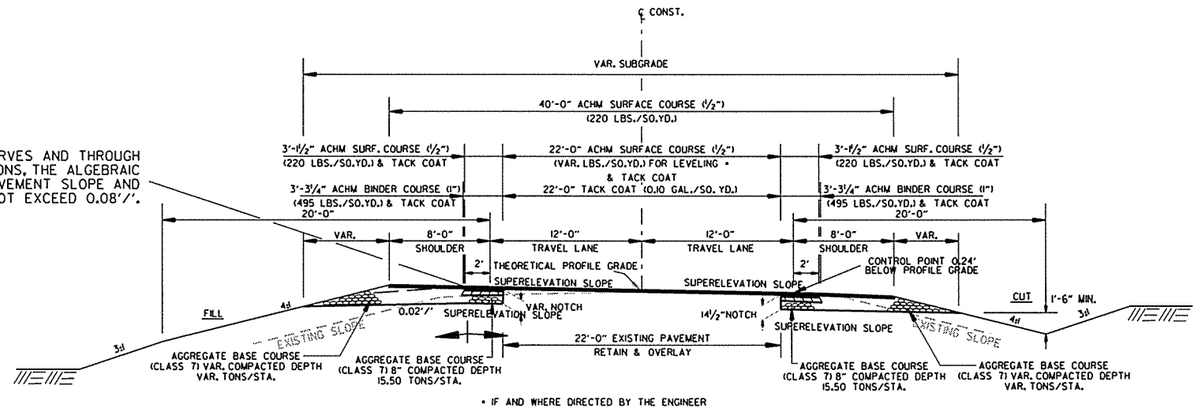
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ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS, THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.



* IF AND WHERE DIRECTED BY THE ENGINEER

EAST CONNECTION NOTCH & WIDEN
OPEN SHOULDER
SUPERELEVATION
STA. 31+69.26 - STA. 32+68.81

WEST CONNECTION NOTCH AND WIDEN
OPEN SHOULDER
SUPERELEVATION
STA. 25+48.00 - STA. 28+05.00

TYPICAL SECTIONS OF IMPROVEMENT

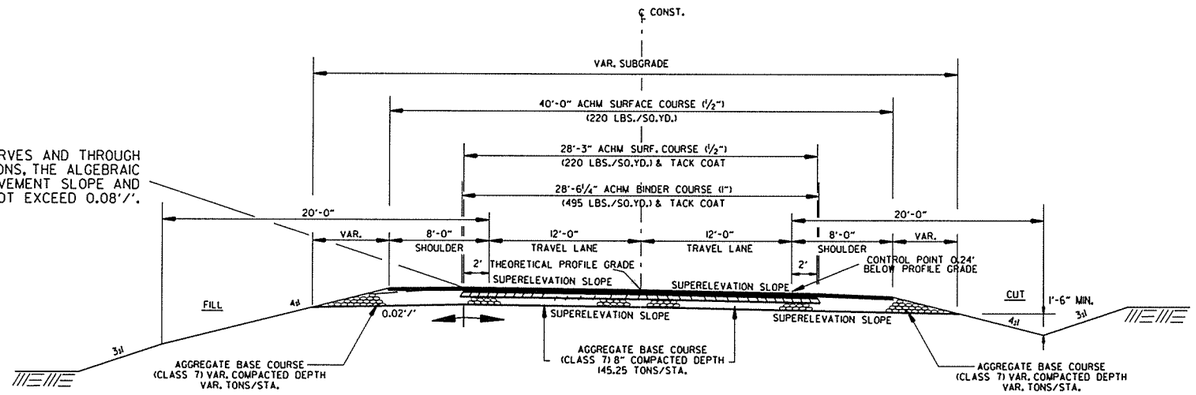
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				6	ARK.			
				JOB NO.		100654	11	235

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

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



* IF AND WHERE DIRECTED BY THE ENGINEER

EAST CONNECTION FULL DEPTH OPEN SHOULDER SUPERELEVATION

STA. 32+68.81 - STA. 38+60.20

TRANSITIONS THRU TURNOUT

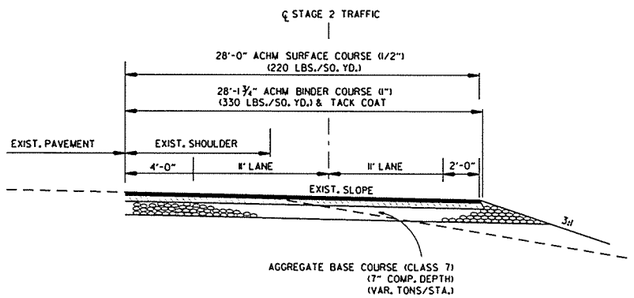
STA. 37+63.17 - STA. 38+60.20

WEST CONNECTION FULL DEPTH OPEN SHOULDER SUPERELEVATION

STA. 21+27.88 - STA. 25+48.00

TRANSITIONS THRU TURNOUT

STA. 20+73.85 - STA. 21+27.88



DETOUR

TO BE USED FOR STAGE 2 TRAFFIC
STA. 1056+60 - STA. 1063+80 TAPER
STA. 1063+80 - STA. 1064+30
STA. 1064+30 - STA. 1071+50 TAPER

NOTES:
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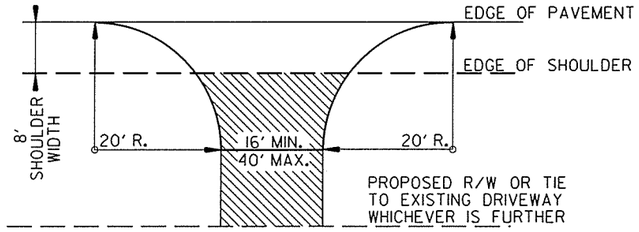
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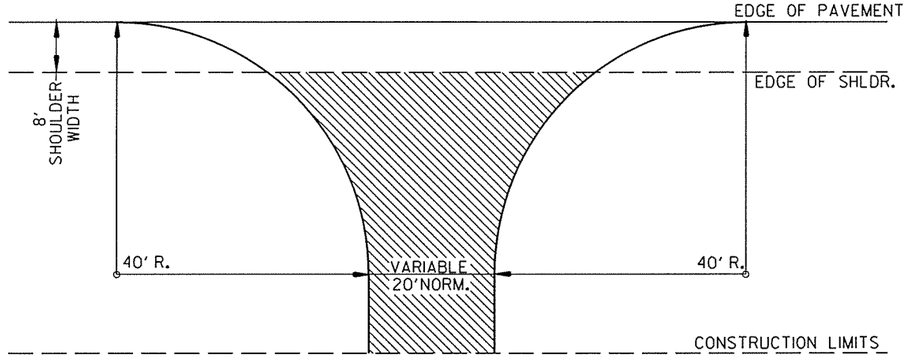
TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
				JOB NO.		100654	12	235

(2) SPECIAL DETAILS

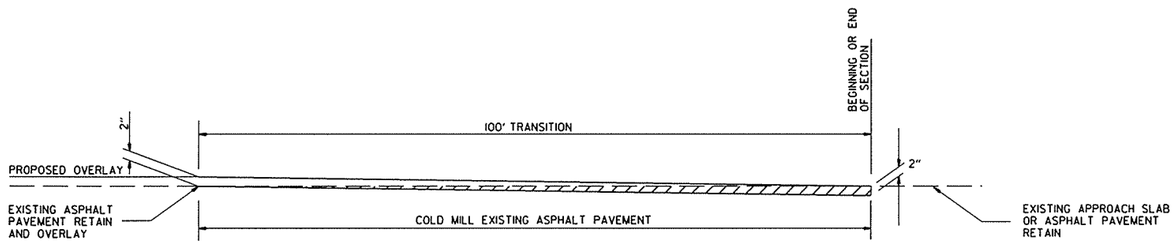


DRIVEWAY TURNOUTS

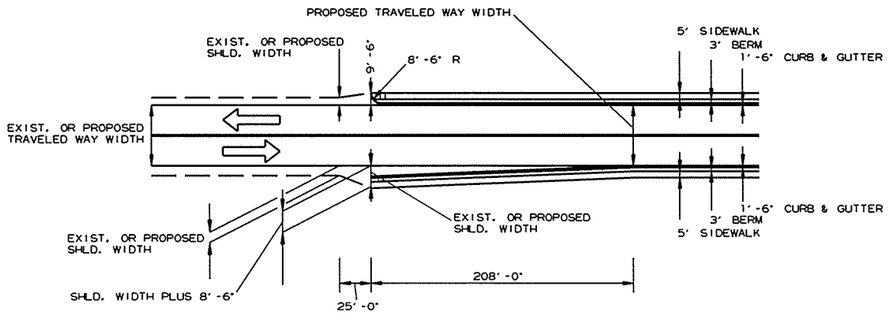


NOTE:
REFER TO PLAN SHEETS FOR WIDTHS OF COUNTY ROADS.

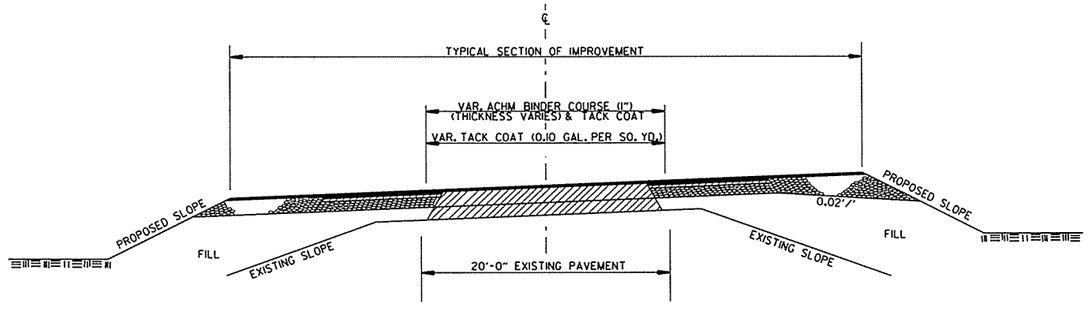
COUNTY ROAD TURNOUTS



DETAIL FOR TRANSITIONS



TRANSITION FROM OPEN SHOULDER TO CURB & GUTTER SECTION



DETAIL OF METHOD OF RAISING GRADE

NOTES:
(1) THIS DETAIL TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.
(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014.

STATE OF ARKANSAS
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3-10-15

2/3/2015

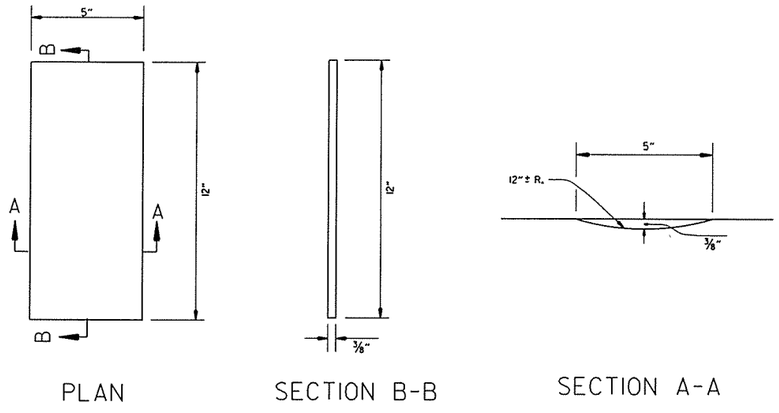
R100654.DGN

SPECIAL DETAILS

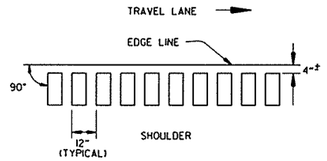
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	13	235

(2) SPECIAL DETAILS

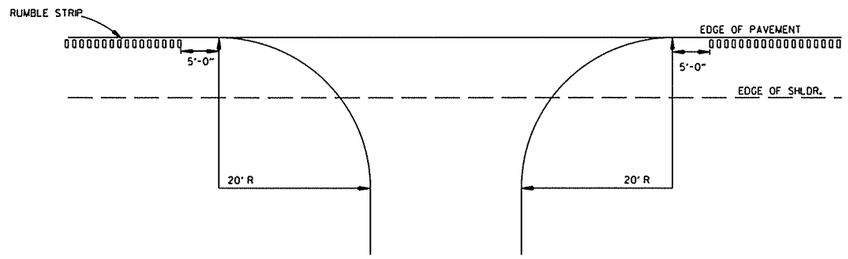
STATE OF ARKANSAS
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TRINITY D. SMITH
3-10-15



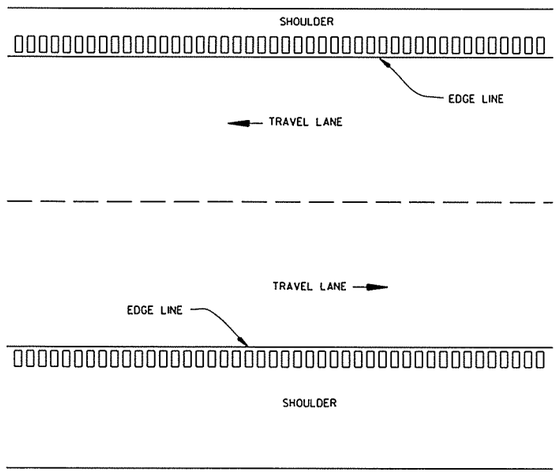
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



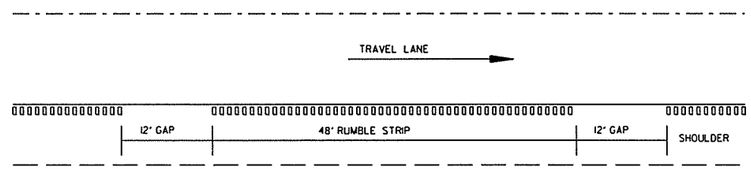
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

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



DETAIL FOR GAP PATTERN RUMBLE STRIP

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

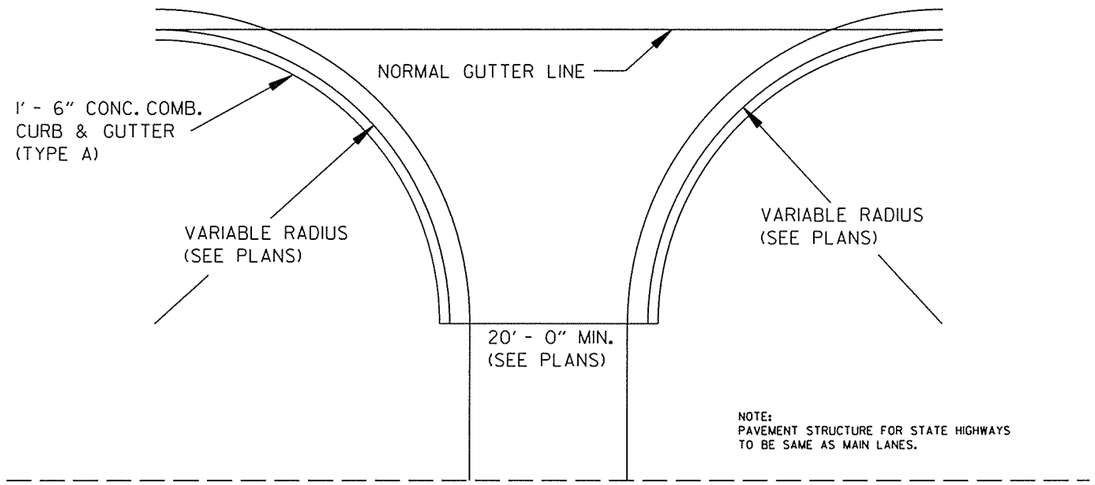
SPECIAL DETAILS

2/3/2015

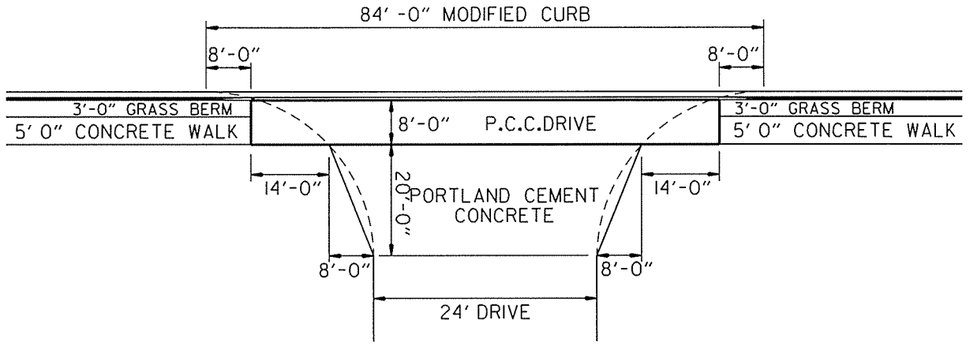
R100654.DGN

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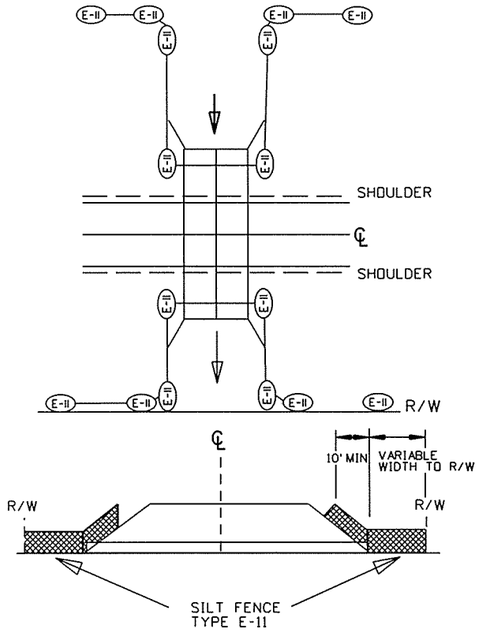
(2) SPECIAL DETAILS



DETAIL OF TURNOUTS
ASPHALT STREETS, COUNTY ROADS
& STATE HIGHWAYS



DRIVEWAY DETAIL
STA. 1093+29
STA. 1098+26



DETAILS OF SILT FENCE
AT CROSS DRAINS

STATE OF ARKANSAS
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TRINITY D. SMITH
3-10-15

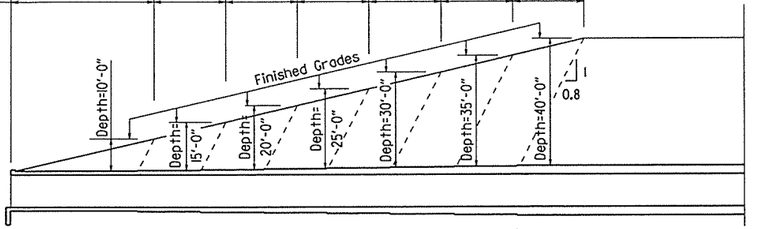
SPECIAL DETAILS

2/3/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	15	235
				①		SPECIAL DETAILS		

2:1 Slope	20'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	
3:1 Slope	30'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	
4:1 Slope	40'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	



Slope Section Length @ 2:1 Slope	A=12'-0"	B=6'-0"	C=6'-0"	D=6'-0"	E=6'-0"	F=6'-0"	G=6'-0"	Mid-Section Length - Varies
Slope Section Length @ 3:1 Slope	A=22'-0"	B=11'-0"	C=11'-0"	D=11'-0"	E=11'-0"	F=11'-0"	G=11'-0"	Mid-Section Length - Varies
Slope Section Length @ 4:1 Slope	A=32'-0"	B=16'-0"	C=16'-0"	D=16'-0"	E=16'-0"	F=16'-0"	G=16'-0"	Mid-Section Length - Varies

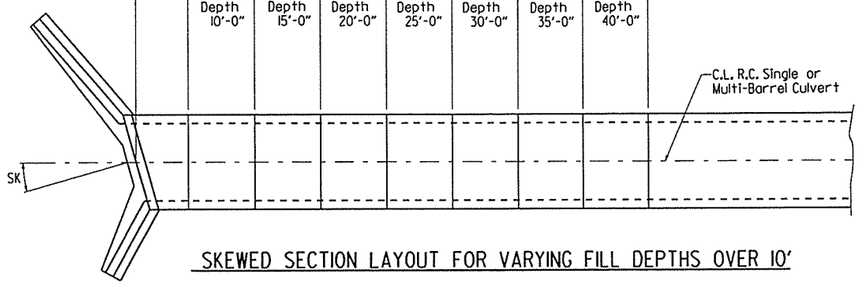
LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes

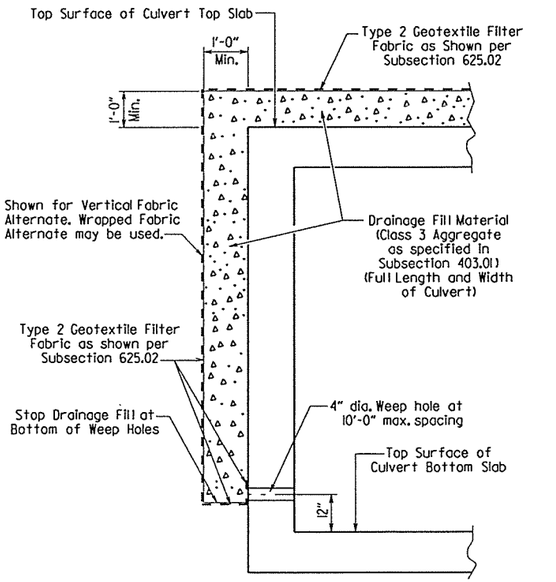
Note: For fill depths 10' and under, use Mid-Section full length of box culvert.

*LL = Skewed End Section Length - See "Skewed End Section Details" Length LL varies with skew angle, overall box width and fill depth and may eliminate the need for some slope section lengths as shown.

Section Length	*LL		C	D	E	F	G	Mid-Section Length - Varies
Section Length	*LL	B	C	D	E	F	G	Mid-Section Length - Varies
Section Length	*LL	A	B	C	D	E	F	G	Mid-Section Length - Varies
		Depth 10'-0"	Depth 15'-0"	Depth 20'-0"	Depth 25'-0"	Depth 30'-0"	Depth 35'-0"	Depth 40'-0"	

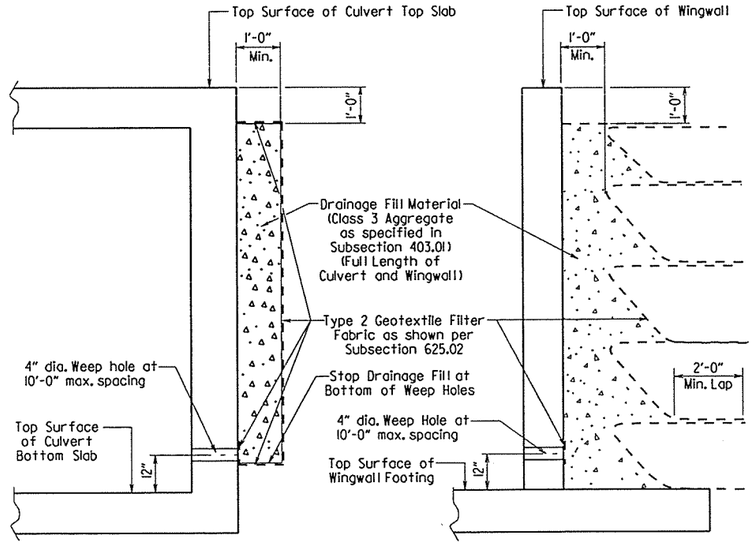


SKEWED SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'



CULVERT DRAINAGE DETAIL FOR ROCK FILL

This detail shall be used when rock fill is specified for embankment construction.



VERTICAL FABRIC ALTERNATE
(Shown for Culvert, Similar for Wingwall)

WRAPPED FABRIC ALTERNATE
(Shown for Wingwall, Similar for Culvert)

For Details of Excavation and Pay Limits, see Standard Drawing RCB-2.

WINGWALL & CULVERT DRAINAGE DETAIL

GENERAL NOTES:

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Fifth Edition (2010) with 2010 interim revisions.

LIVE LOADING: HL-93

All concrete shall be Class S with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have ¾" chamfers.

Reinforcing Steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Reinforcing Steel Tolerances: The tolerances for reinforcing steel shall meet those listed in 'Manual of Standard Practice' published by Concrete Reinforcing Steel Institute (CRSI) except that the tolerance for truss bars such as Figure 3 on page 7-4 of the CRSI Manual shall be minus zero to plus 1/2 inch.

Excavation and backfilling shall be in accordance with the requirements of Section 801.

Membrane Waterproofing shall conform to the requirements of Section 815. Membrane Waterproofing shall be Type C and as directed by the Engineer applied to all construction joints in the top slab and the sidewalls of R.C. Box culverts and to the construction joint between wingwalls and R.C. Box culvert walls.

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 barrel components of the culvert may be constructed using continuous pours. For longer culvert construction, the Contractor may use multiple pours with transverse construction joints spaced a minimum of 50 feet apart unless superseded by stage construction or site constraints as approved by the Engineer. Construction joints between footings and walls shall be made only where shown in the Plans. Joints shall be normal to the centerline of barrel and shall be keyed. Longitudinal reinforcing shall be continuous through joints unless shown otherwise. All longitudinal construction joints shall be submitted to the Engineer for approval.

Membrane Waterproofing, Weep Holes, Geotextile Filter Fabric, and Drainage Fill Material will not be paid for directly but shall be considered subsidiary to Class S Concrete.

When the top slab of the box culvert serves as finished roadway surface, curing and finishing shall be in accordance with subsections 802.17 and 802.20 for bridge roadway surface and a tine finish shall be applied in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Curing and finishing shall not be paid for directly, but shall be considered incidental to the item "Class S Concrete-Roadway". Class 1 Protective Surface Treatment shall be applied to the roadway surface and this work shall be paid for under the unit price bid for "Class 1 Protective Surface Treatment".

When precast reinforced concrete box culverts are substituted for cast in place box culverts, they shall be manufactured according to ASTM C 1577 and meet the requirements of Section 607. When the top slab of the box culvert serves as the finished roadway surface, a precast reinforced concrete box culvert substitution is not allowed.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
2/12/14

SHEET 1 OF 4

GENERAL DETAILS OF R.C. BOX CULVERT

GENERAL NOTES &
LONGITUDINAL SECTION LENGTH SCHEDULE

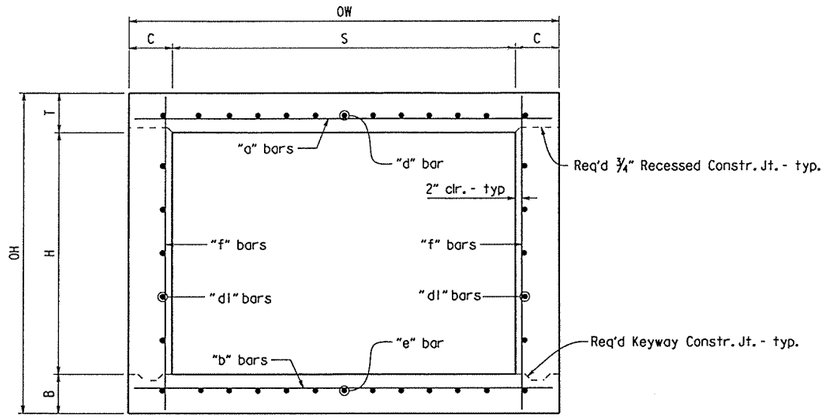
SPECIAL DETAILS

V 1.14 bl00654_culvert.dgn

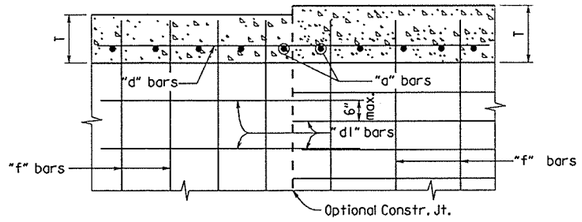
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	16	235

(1) SPECIAL DETAILS

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



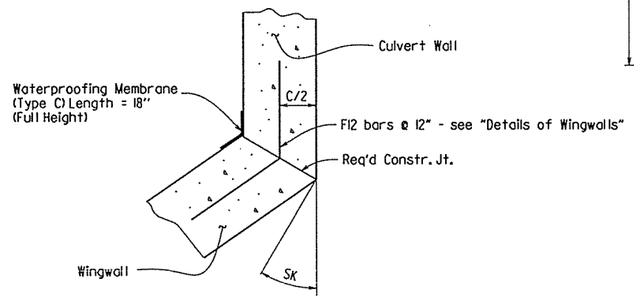
TYPICAL SECTION M-M



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

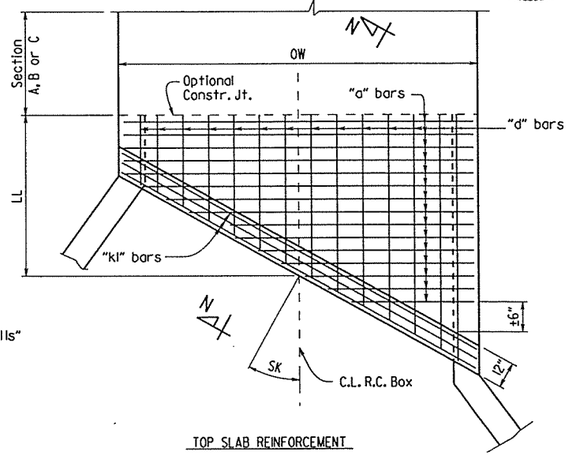
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

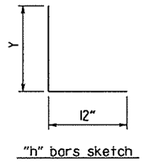


WINGWALL ATTACHMENT

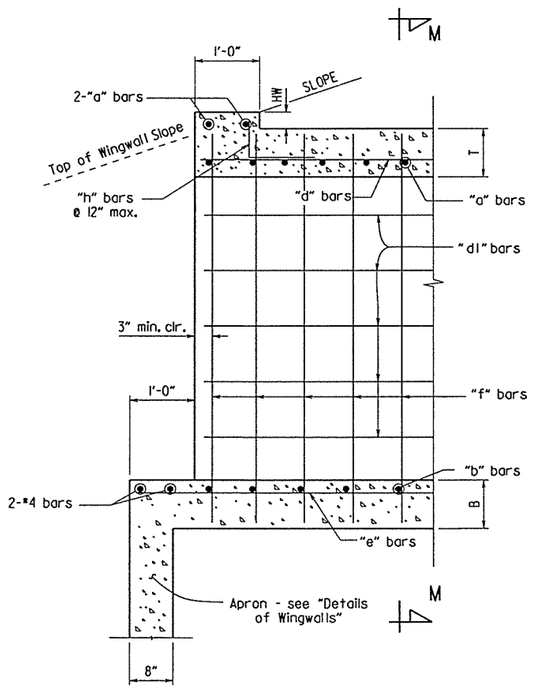
See "Details of Wingwalls" for additional information and wingwall details.



TOP SLAB REINFORCEMENT

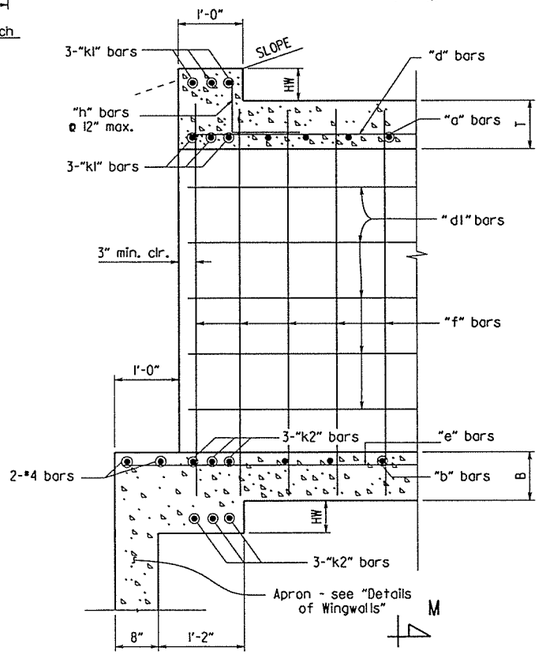


"h" bars sketch



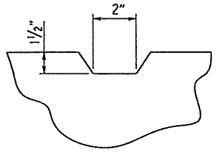
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



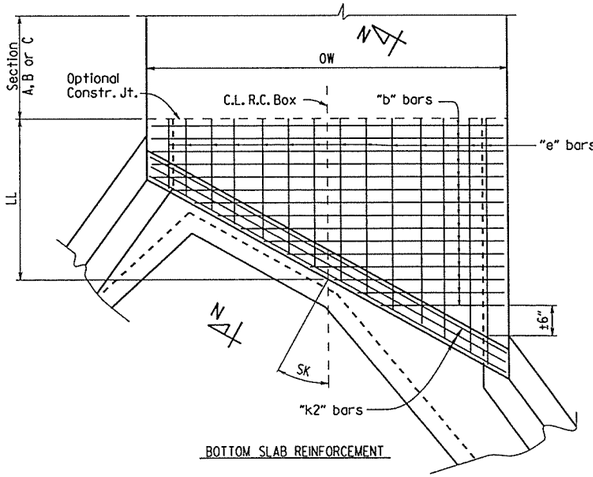
PART LONGITUDINAL SECTION N-N

(Skewed Ends)



TYPICAL KEYWAY DETAIL

(All Construction Joints)



BOTTOM SLAB REINFORCEMENT

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

STATE OF ARKANSAS
Carl J. Fuselier
REGISTERED PROFESSIONAL ENGINEER
No. 7510
2/12/14
CARL J. FUSELIER

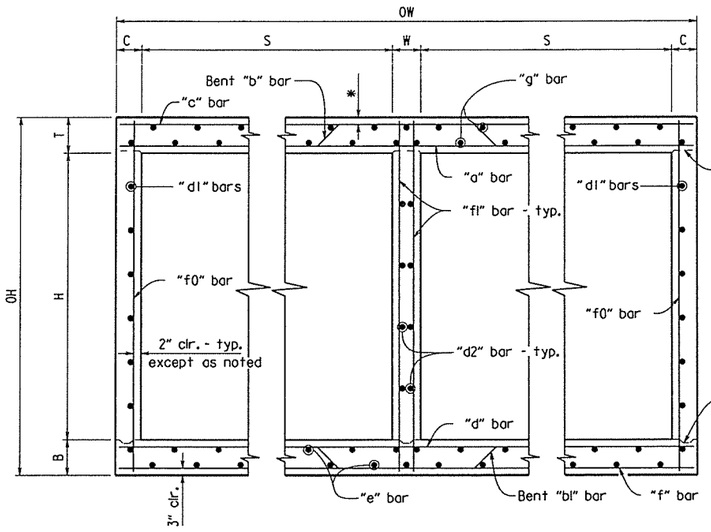
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DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	17	235

(1) 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.

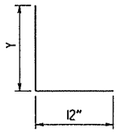
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



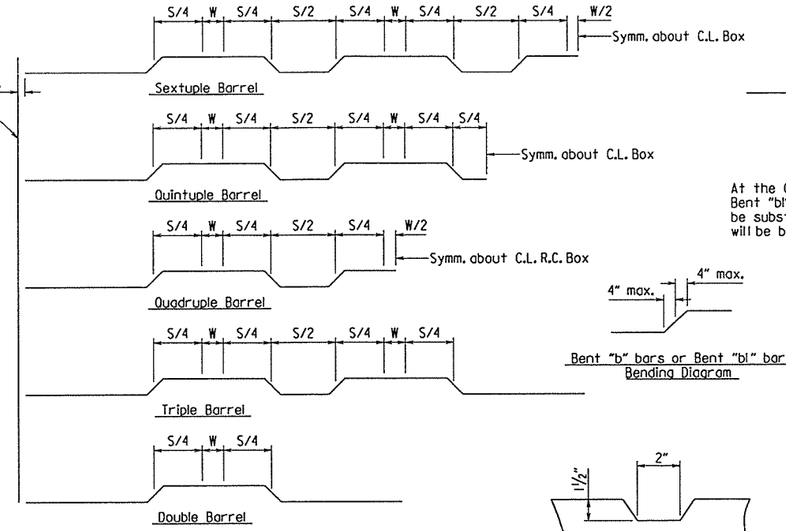
TYPICAL SECTION M-M

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

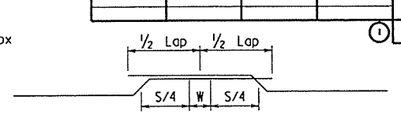
Bottom Slab
Straight "d" bars shall alternate with Bent "bl" bars in top.
Straight "f" bars shall alternate with Bent "bl" bars in bottom.



"h" bars sketch



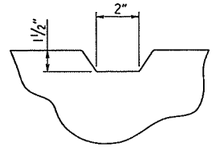
Bent "b" bars or Bent "bl" bars sketch



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

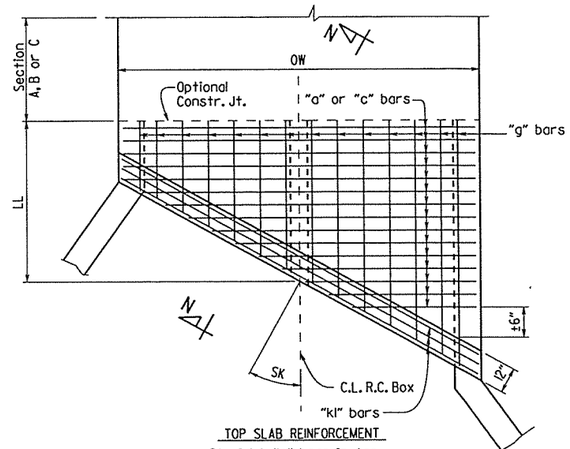
At the Contractor's option in lieu of providing Bent "b" or Bent "bl" bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the "b" or "bl" bar.

Bent "b" bars or Bent "bl" bars Bending Diagram

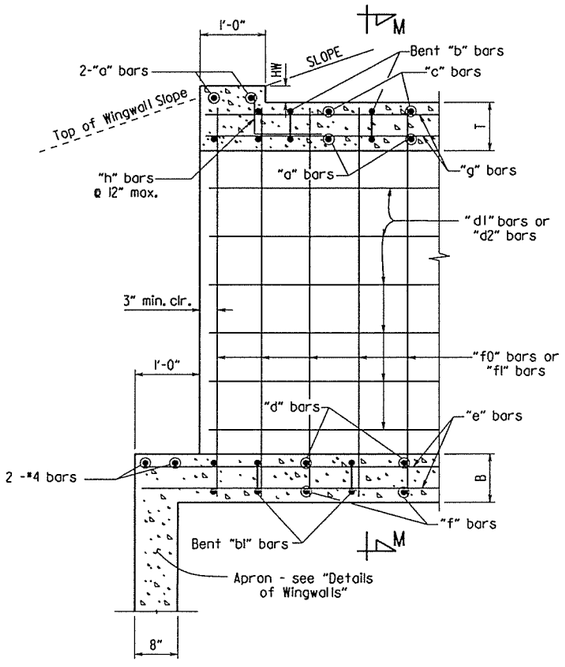


TYPICAL KEYWAY DETAIL

(All Construction Joints)

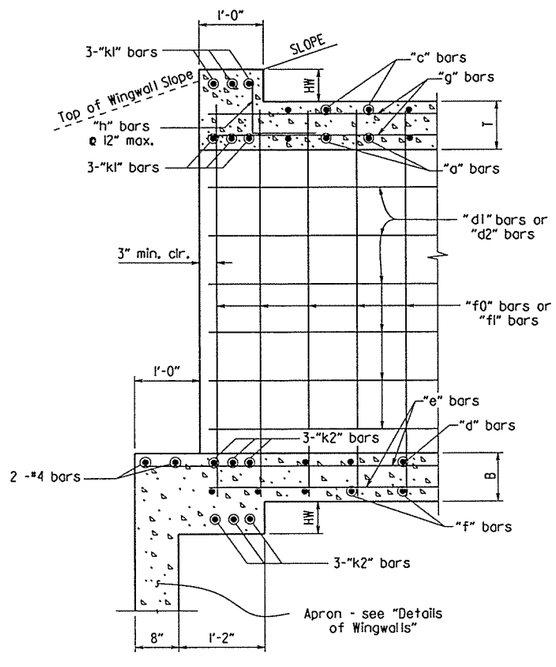


TOP SLAB REINFORCEMENT
Straight "c" bars in top.
Straight "a" bars in bottom.



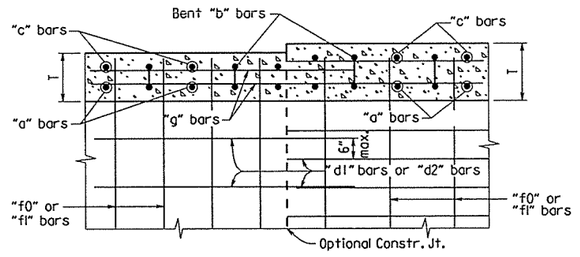
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N

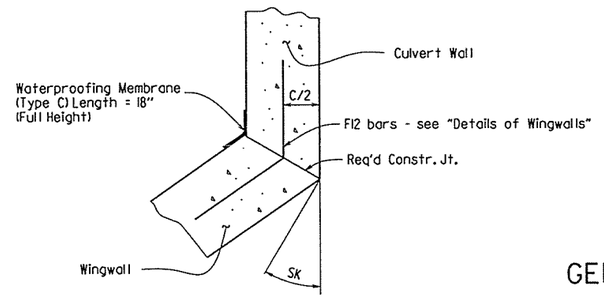
(Skewed Ends)



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

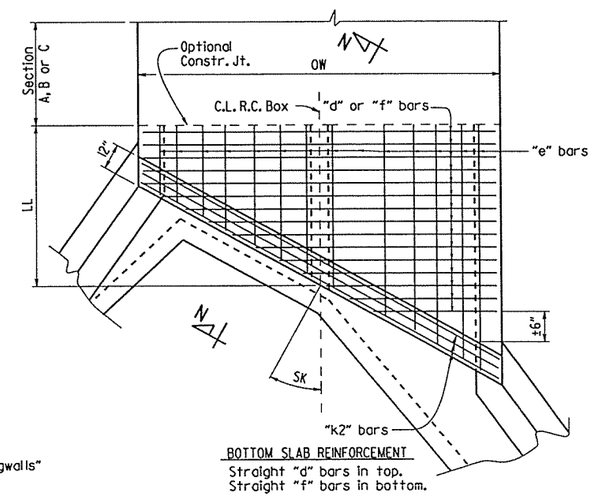
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

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

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

DETAILS OF MULTI-BARREL
R.C. BOX CULVERT

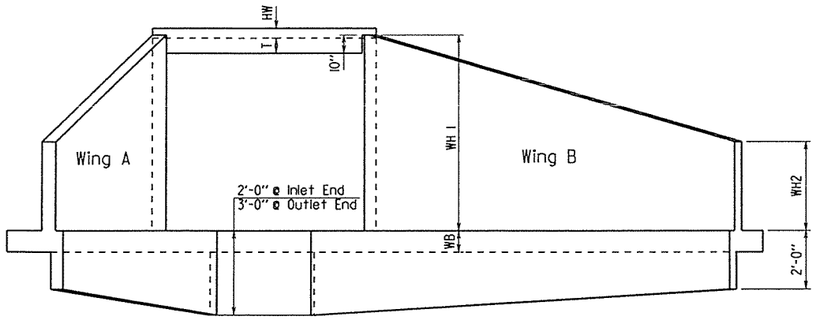
SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7510
CARL J. FUSELIER
2/12/14

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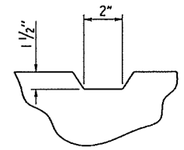
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				6	ARK.			
				JOB NO.		100654	18	235

(1) SPECIAL DETAILS



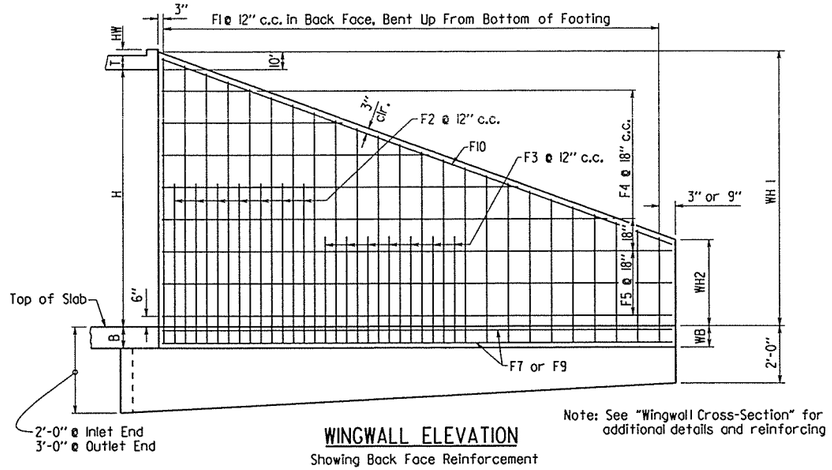
END ELEVATION

Flared Wingwalls Shown



TYPICAL KEYWAY DETAIL

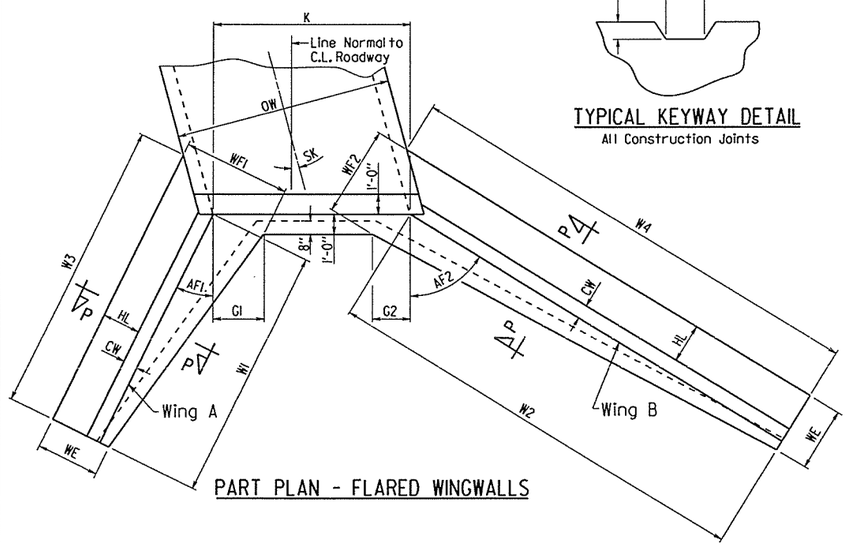
All Construction Joints



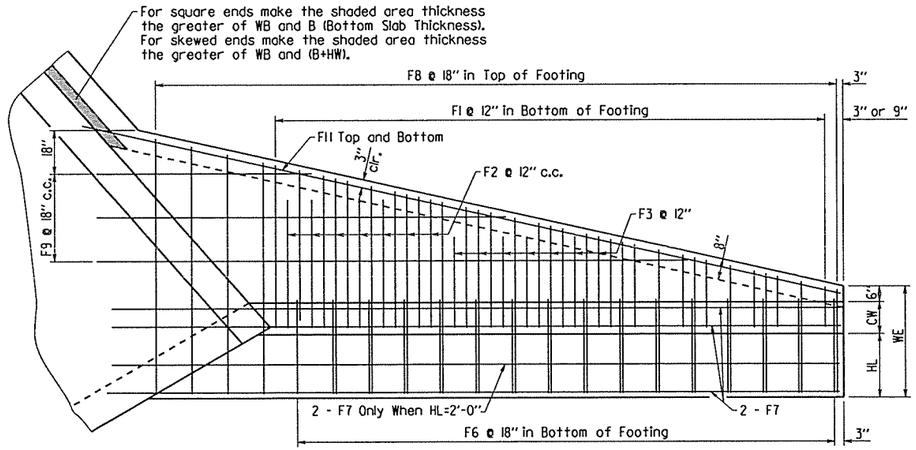
WINGWALL ELEVATION

Showing Back Face Reinforcement

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

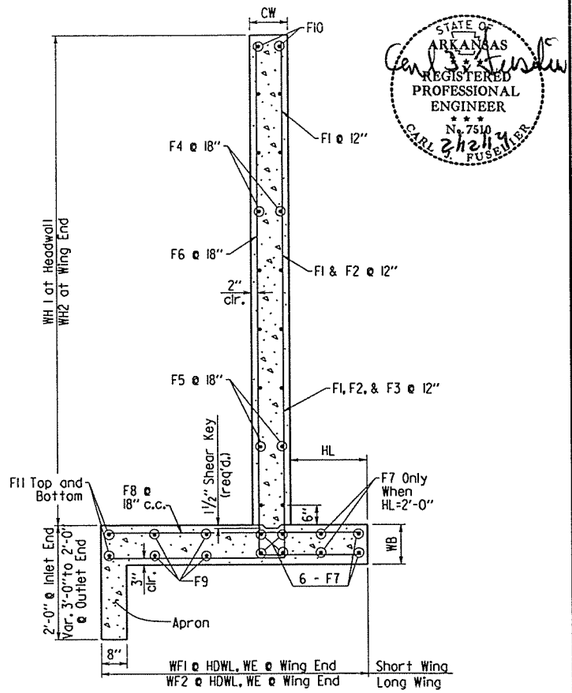


PART PLAN - FLARED WINGWALLS

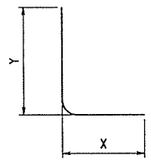


PLAN - FLARED WINGWALLS

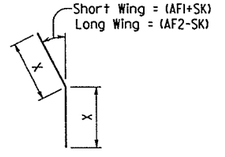
Showing Footing Reinforcement



WINGWALL SECTION P-P

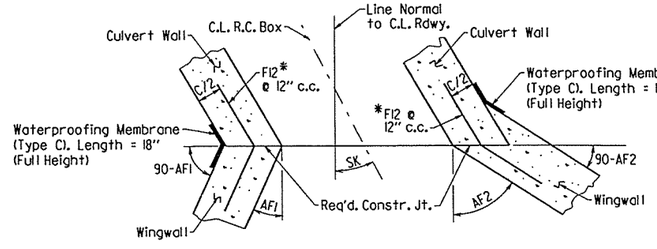


F1, F2, F3, & F6 BARS



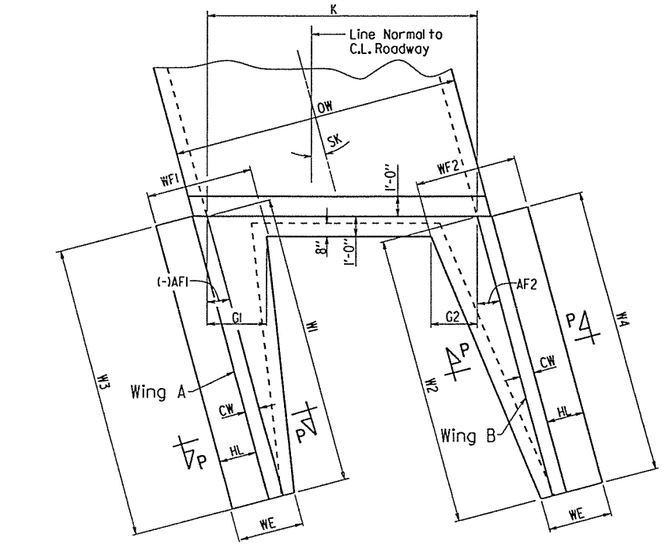
*F12 BAR

*F12 is a straight bar for parallel wingwalls

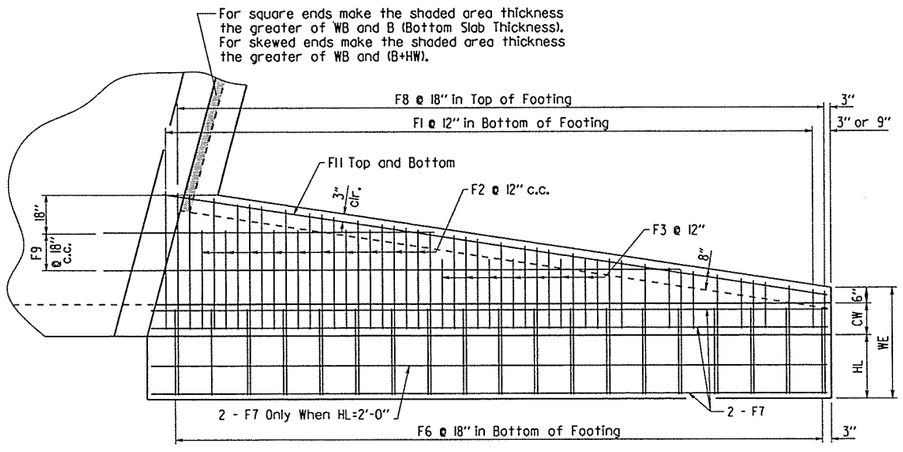


CONSTRUCTION JOINTS

Flared Wingwalls Shown



PART PLAN - PARALLEL WINGWALLS



PLAN - PARALLEL WINGWALLS

Showing Footing Reinforcement

SHEET 4 OF 4

GENERAL DETAILS OF R.C. BOX CULVERT

DETAILS OF WINGWALLS

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.		100654	19	235

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
9'-0"	5'-0"	0'-9"	0'-8"	0	3:1	8'-0"	1'-0"	5'-10"	1'-8"	30	30	2'-2"	2'-11 3/4"	2'-11 3/4"	0'-11 1/4"	0'-11 1/4"	14'-0"	14'-0"	15'-10 5/8"	15'-10 5/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
INLET	INLET
CU.YD	LBS.
5.87	564

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F1 LENGTHS	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY	F6 LENGTHS	F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F8 LENGTHS	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	12	14	L Min	2'-10"	-	-	-	L -	-	-	-	L -	4	18	6	Min	4	18	2	13'-8"	4	18	10	L Min	3'-3"	4	6	16'-9"	4	18	10	Min	1'-8"	-	-	-	Min	4	2	14'-2"	4	2	15'-8"	6	12	5	L 3'-4"	282
				L Max	7'-6"				L -				L -				2'-1"								L Max	7'-3"							1'-8"				-										X 1'-8"	
				X Min	0'-9"				X -				X -				Max								X Min	1'-4"							Max				Max										
				X Max	1'-7"				X -				X -				12'-2"								X Max	1'-4"							2'-6"				-										
				Y Min	2'-2"				Y -				Y -												Y Min	2'-0"																					
				Y Max	6'-0"				Y -				Y -												Y Max	6'-0"																					
WING B	4	12	14	L Min	2'-10"	-	-	-	L -	-	-	-	L -	4	18	6	Min	4	18	2	13'-8"	4	18	10	L Min	3'-3"	4	6	16'-9"	4	18	10	Min	1'-8"	-	-	-	Min	4	2	14'-2"	4	2	15'-8"	6	12	5	L 3'-4"	282
				L Max	7'-6"				L -				L -				2'-1"								L Max	7'-3"							1'-8"				-										X 1'-8"	
				X Min	0'-9"				X -				X -				Max								X Min	1'-4"							Max				Max										
				X Max	1'-7"				X -				X -				12'-2"								X Max	1'-4"							2'-6"				-										
				Y Min	2'-2"				Y -				Y -												Y Min	2'-0"																					
				Y Max	6'-0"				Y -				Y -												Y Max	6'-0"																					

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 2 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF SINGLE-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.

INLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THICKNESS	BOTTOM SLAB THK.	SIDE WALL THICKNESS	HEADWALL HEIGHT	OVER ALL WIDTH	OVER ALL HEIGHT	TOP SLAB REINFORCING STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	BOTTOM SLAB REINFORCING STEEL "b" SIZE	"b" SPACING	"b" LENGTHS VARY	"b" NO. REQ'D	SIDE WALL REINFORCING STEEL "f" SIZE	"f" SPACING	"f" NO. REQ'D	"f" LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "d" SIZE	"d" SPACING	"d" NO. REQ'D	"d" 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	HDWL "k1", "k2" & "h" BAR	HDWL SIZE	HDWL NO. REQ'D	HDWL LENGTH
SK	SL	D	S	H	LL	T	B	C	HW	OW	OH			Max				Max										Max						LONG	k1				
																																			k2				
														Min				Min										Min						SHORT	h			Y	

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

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

INLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THICKNESS T	BOTTOM SLAB THK. B	SIDE WALL THICKNESS C	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL "a" LENGTH = OW - 4" SIZE	"a" SPACING	"a" NO. REQ'D	"a" LENGTH	BOTTOM SLAB REINFORCING STEEL "b" LENGTH = OW - 4" SIZE	"b" SPACING	"b" NO. REQ'D	"b" LENGTH	SIDE WALL REINFORCING STEEL "f" LENGTH = OH - 4" SIZE	"f" SPACING	"f" NO. REQ'D	"f" LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "d" LENGTH = SL SIZE	"d" SPACING	"d" 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
	5	8	5																												

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 50) LBS. PER LIN. FT.	② ADTL. REINF. PER LONG. LAP LOCATION LBS.	ADDITIONAL CONCRETE FOR HDWL CU. YDS.	TOTAL ADDITIONAL REINF FOR HDWL LBS.
			0.08	22

HDWL THK.	ADDITIONAL REINF. FOR HDWL	"h" bars			
HW	LBS	SIZE	Y	LENGTH	NO. REQ'D
3"	12	4	0'-7"	1'-7"	10

② Bar Lap - Add one long. lap for each Slope Section, and one additional long. lap for Slope Sections greater than 40'-0" in length.

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"

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	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL "a" LENGTH = OW - 4" SIZE	"a" SPACING	"a" NO. REQ'D	"a" LENGTH	BOTTOM SLAB REINFORCING STEEL "b" LENGTH = OW - 4" SIZE	"b" SPACING	"b" NO. REQ'D	"b" LENGTH	SIDE WALL REINFORCING STEEL "f" LENGTH = OH - 4" SIZE	"f" SPACING	"f" NO. REQ'D	"f" LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "d" LENGTH = SL SIZE	"d" SPACING	"d" 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
A	5	8	5	8.5	9	6	9'-0"	6'-5 1/2"	94.00	6	6	188	8'-8"	6	7.5	150	8'-8"	4	6.5	346	6'-2"	4	12	9	4	12	9	4	12	10

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (Gr. 60) LBS. PER LIN. FT.	③ ADTL. REINF. PER LONG. LAP LOCATION(S) LBS.
0.67	81	33

③ 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

SPECIAL DETAILS

STATE OF ARKANSAS
CARL E. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
2/12/14

TABULAR DATA BY: MCB DATE: 02/10/2014
CHECKED BY: AMS DATE: 2/12/14

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
SINGLE BARREL BOX CULVERT
STA 1064+03

SPECIAL DETAILS

Ver. 1.14 bl00654_cl.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	20	235

① SPECIAL DETAILS

STATE OF ARKANSAS
CARL E. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
2/12/14

TABULAR DATA BY: MCB DATE: 02/10/2014
CHECKED BY: AMS DATE: 2/12/14

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
9'-0"	5'-0"	0'-9"	0'-8"	0	3:1	8'-0"	1'-0"	5'-10"	1'-8"	30	30	2'-2"	2'-11 3/4"	2'-11 3/4"	0'-11 1/4"	0'-11 1/4"	14'-0"	14'-0"	15'-10 5/8"	15'-10 5/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OUTLET	OUTLET
CU.YD	LBS.
6.35	564

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY	F1	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	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	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	12	14	L	Min 2'-10"	-	-	-	L -	-	-	-	L -	4	18	6	Min	4	18	2	13'-8"	4	18	10	L Min 3'-3"	4	6	16'-9"	4	18	10	Min	-	-	-	Min	4	2	14'-2"	4	2	15'-8"	6	12	5	L 3'-4"	282
					Max 7'-6"												2'-1"								Max 7'-3"							1'-8"															X 1'-8"	
				X	Min 0'-9"				X -				X -				Max								L Min 3'-3"							-														
					Max 1'-7"												12'-2"								Max 7'-3"							2'-6"														
				Y	Min 2'-2"				Y -				Y -												X Min 1'-4"							Min														
					Max 6'-0"																				Max 1'-4"							1'-8"														
																									Y Min 2'-0"							Max														
																									Max 6'-0"							2'-6"														
WING B	4	12	14	L	Min 2'-10"	-	-	-	L -	-	-	-	L -	4	18	6	Min	4	18	2	13'-8"	4	18	10	L Min 3'-3"	4	6	16'-9"	4	18	10	Min	-	-	-	Min	4	2	14'-2"	4	2	15'-8"	6	12	5	L 3'-4"	282
					Max 7'-6"												2'-1"								Max 7'-3"							1'-8"														
				X	Min 0'-9"				X -				X -				Max								L Min 3'-3"							-														
					Max 1'-7"												12'-2"								Max 7'-3"							2'-6"														
				Y	Min 2'-2"				Y -				Y -												X Min 1'-4"							Min														
					Max 6'-0"																				Max 1'-4"							1'-8"														
																									Y Min 2'-0"							Max														
																									Max 6'-0"							2'-6"														

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THICKNESS	BOTTOM SLAB THK.	SIDE WALL THICKNESS	HEADWALL HEIGHT	OVER ALL WIDTH	OVER ALL HEIGHT	TOP SLAB REINFORCING STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	BOTTOM SLAB REINFORCING STEEL "b" SIZE	"b" SPACING	"b" LENGTHS VARY	"b" NO. REQ'D	SIDE WALL REINFORCING STEEL "f" SIZE	"f" SPACING	"f" NO. REQ'D	"f" LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "d" SIZE	"d" SPACING	"d" NO. REQ'D	"d" 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	HDWL "k1", "k2" & "h"	HDWL SIZE	HDWL NO. REQ'D	HDWL LENGTH
SK	SL	D	S	H	LL	T	B	C	HW	OW	OH																												
														Max				Max															Max			LONG	k1			
																																					k2			
														Min				Min															Min			SHORT	h			Y

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

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

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THICKNESS T	BOTTOM SLAB THK. B	SIDE WALL THICKNESS C	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL "a" LENGTH = OW - 4" SIZE	SPACING	NO. REQ'D	LENGTH	BOTTOM SLAB REINFORCING STEEL "b" LENGTH = OW - 4" SIZE	SPACING	NO. REQ'D	LENGTH	SIDE WALL REINFORCING STEEL "f" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "d" 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
	5	8	5																											

HDWL THK.	ADDITIONAL REINF. FOR HDWL	"h" bars SIZE	Y	LENGTH	NO. REQ'D
HW	LBS				
3"	12	4	0'-7"	1'-7"	10

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 50) LBS. PER LIN. FT.	② ADTL. REINF. PER LONG. LAP LOCATION LBS.	ADDITIONAL CONCRETE FOR HDWL CU. YDS.	TOTAL ADDITIONAL REINF. FOR HDWL LBS.
			0.08	22

② Bar Lap - Add one long. lap for each Slope Section, and one additional long. lap for Slope Sections greater than 40'-0" in length.

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"

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

SINGLE BARREL BOX CULVERT
STA 1064+03

SPECIAL DETAILS

Ver. 1.14 bl00654_cl.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	21	235

① SPECIAL DETAILS

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7510
2/12/14

TABULAR DATA BY: MCB DATE: 02/10/14
CHECKED BY: AMS DATE: 2/12/14

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	CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	INLET	INLET
7'-0"	3'-0"	0'-9"	0'-8"	0	3:1	6'-0"	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"	CU.YD	LBS.
																					3.20	324

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			F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	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	12	10	L	Min	2'-0"				L	-					L	-	4	18	2	Min	4	18	2	9'-2"	4	18	7	L	Min	2'-7"	4	6	12'-3"	4	18	6	Min	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	162
					Max	4'-8"															5'-5"								Max	5'-3"								1'-8"			Max									X	1'-8"	
				X	Min	0'-9"	-	-	-	X	-	-	-	-	X	-					Max							X	Min	1'-4"								-												
					Max	0'-9"															5'-5"								Max	1'-4"								1'-8"												
				Y	Min	1'-4"				Y	-					Y	-				Min								Min	1'-4"								-												
					Max	4'-0"															5'-5"								Max	4'-0"								1'-8"												
WING B	4	12	10	L	Min	2'-0"				L	-					L	-	4	18	2	Min	4	18	2	9'-2"	4	18	7	L	Min	2'-7"	4	6	12'-3"	4	18	6	Min	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	162
					Max	4'-8"															5'-5"								Max	5'-3"								1'-8"			Max									X	1'-8"	
				X	Min	0'-9"	-	-	-	X	-	-	-	-	X	-					Max							X	Min	1'-4"								-												
					Max	0'-9"															5'-5"								Max	1'-4"								1'-8"												
				Y	Min	1'-4"				Y	-					Y	-				Min								Min	1'-4"								-												
					Max	4'-0"															5'-5"								Max	4'-0"								1'-8"												

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 2 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", 'DETAILS OF SINGLE-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.

INLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THICKNESS	BOTTOM SLAB THK.	SIDE WALL THICKNESS	HEADWALL HEIGHT	OVER ALL WIDTH	OVER ALL HEIGHT	TOP SLAB REINFORCING STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	BOTTOM SLAB REINFORCING STEEL "b" SIZE	"b" SPACEING	"b" LENGTHS VARY	"b" NO. REQ'D	SIDE WALL REINFORCING STEEL "f" SIZE	"f" SPACING	"f" NO. REQ'D	"f" LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "d" SIZE	"d" SPACING	"d" NO. REQ'D	"d" 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	HDWL "k1", "k2" & "h" BAR	HDWL SIZE	HDWL NO. REQ'D	HDWL LENGTH
SK	SL	D	S	H	LL	T	B	C	HW	OW	OH			Max				Max									Max						LONG	k1					
																																	k2					
														Min				Min									Min						SHORT	h				Y	

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 THICKNESS T	BOTTOM SLAB THK. B	SIDE WALL THICKNESS C	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL "a" LENGTH = OW - 4" SIZE	SPACING	NO. REQ'D	LENGTH	BOTTOM SLAB REINFORCING STEEL "b" LENGTH = OW - 4" SIZE	SPACING	NO. REQ'D	LENGTH	SIDE WALL REINFORCING STEEL "f" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "d" 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
	2	6	3																											

HDWL THK. HW	ADDITIONAL REINF. FOR HDWL LBS	"h" bars SIZE	"h" bars Y	"h" bars LENGTH	"h" bars NO. REQ'D
3"	14	4	0'-9"	1'-9"	8

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 50) LBS. PER LIN. FT.	② ADTL. REINF. PER LONG. LAP LOCATION LBS.	ADDITIONAL CONCRETE FOR HDWL CU. YDS.	TOTAL ADDITIONAL REINF FOR HDWL LBS.
			0.06	23

② Bar Lap - Add one long. lap for each Slope Section, and one additional long. lap for Slope Sections greater than 40'-0" in length.

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"

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	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL "a" LENGTH = OW - 4" SIZE	SPACING	NO. REQ'D	LENGTH	BOTTOM SLAB REINFORCING STEEL "b" LENGTH = OW - 4" SIZE	SPACING	NO. REQ'D	LENGTH	SIDE WALL REINFORCING STEEL "f" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "d" 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
A	2	6	3	10.5	10.5	6	7'-0"	4'-9"	121.00	5	8	181	6'-8"	4	6	242	6'-8"	4	9	322	4'-5"	4	10	9	4	10	9	4	12	6

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (Gr. 60) LBS. PER LIN. FT.	③ ADTL. REINF. PER LONG. LAP LOCATION(S) LBS.
0.56	43	28

③ 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

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

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
SINGLE BARREL BOX CULVERT
STA 1206+00

SPECIAL DETAILS

Ver. 1.1.4 b100654_c2.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	22	235

① SPECIAL DETAILS

STATE OF ARKANSAS
CARL J. FUSELIER
REGISTERED PROFESSIONAL ENGINEER
No. 7518
2/12/14

TABULAR DATA BY: MCB DATE: 02/10/14
CHECKED BY: AMS DATE: 2/12/14

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	CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
																					OUTLET	OUTLET
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.
7'-0"	3'-0"	0'-9"	0'-8"	0	3:1	6'-0"	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"	3.56	324

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	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS
WING A	4	12	10	L	Min	2'-0"				L -				L -	4	18	2	Min	4	18	2	9'-2"
					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	4	18	2	9'-2"
					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	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	7	L	Min	2'-7"	4	6	12'-3"	4	18	6	Min	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	162
					Max	5'-3"							1'-8"				-												
				X	Min	1'-4"							Max				Max										X	1'-8"	
					Max	1'-4"							1'-8"				-												
				Y	Min	1'-4"																							
					Max	4'-0"																							
WING B	4	18	7	L	Min	2'-7"	4	6	12'-3"	4	18	6	Min	-	-	-	Min	4	2	9'-5"	4	2	10'-7"	6	12	3	L	3'-4"	162
					Max	5'-3"							1'-8"				-												
				X	Min	1'-4"							Max				Max										X	1'-8"	
					Max	1'-4"							1'-8"				-												
				Y	Min	1'-4"																							
					Max	4'-0"																							

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THICKNESS	BOTTOM SLAB THK.	SIDE WALL THICKNESS	HEADWALL HEIGHT	OVER ALL WIDTH	OVER ALL HEIGHT	TOP SLAB REINFORCING STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	BOTTOM SLAB REINFORCING STEEL "b" SIZE	"b" SPACEING	"b" LENGTHS VARY	"b" NO. REQ'D	SIDE WALL REINFORCING STEEL "f" SIZE	"f" SPACING	"f" NO. REQ'D	"f" LENGTH
SK	SL	D	S	H	LL	T	B	C	HW	OW	OH												
														Max				Max					
														Min				Min					

TOP SLAB DISTRIBUTION REINFORCING STEEL "d" SIZE	"d" SPACING	"d" NO. REQ'D	"d" 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	HDWL "k1", "k2" & "h" BAR	HDWL SIZE	HDWL NO. REQ'D	HDWL LENGTH
			Max				Max				LONG	k1			
												k2			
			Min				Min				SHORT				
												h			Y

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

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

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THICKNESS	BOTTOM SLAB THK.	SIDE WALL THICKNESS	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINFORCING STEEL "a" LENGTH = OW - 4" SIZE	"a" SPACING	"a" NO. REQ'D	"a" LENGTH	BOTTOM SLAB REINFORCING STEEL "b" LENGTH = OW - 4" SIZE	"b" SPACING	"b" NO. REQ'D	"b" LENGTH
D	S	H	T	B	C	OW	OH	SL									
2	6	3															

SIDE WALL REINFORCING STEEL "f" LENGTH = OH - 4" SIZE	"f" SPACING	"f" NO. REQ'D	"f" LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "d" LENGTH = SL SIZE	"d" SPACING	"d" 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

HDWL THK.	ADDITIONAL REINF. FOR HDWL	"h" bars SIZE	"h" bars Y	"h" bars LENGTH	"h" bars NO. REQ'D
HW	LBS				
3"	14	4	0'-9"	1'-9"	8

CLASS "S" CONCRETE CU. YDS. PER LIN. FT.	REINFORCING STEEL (GR. 50) LBS. PER LIN. FT.	② ADTL. REINF. PER LONG. LAP LOCATION LBS.	ADDITIONAL CONCRETE FOR HDWL CU. YDS.	TOTAL ADDITIONAL REINF FOR HDWL LBS.
			0.06	23

② Bar Lap - Add one long. lap for each Slope Section, and one additional long. lap for Slope Sections greater than 40'-0" in length.

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"

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

SINGLE BARREL BOX CULVERT
STA 1206+00

SPECIAL DETAILS

Ver. 1.1.4 bl00654_c2.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	23	235

(2) TEMPORARY EROSION CONTROL DETAILS

REVISIONS

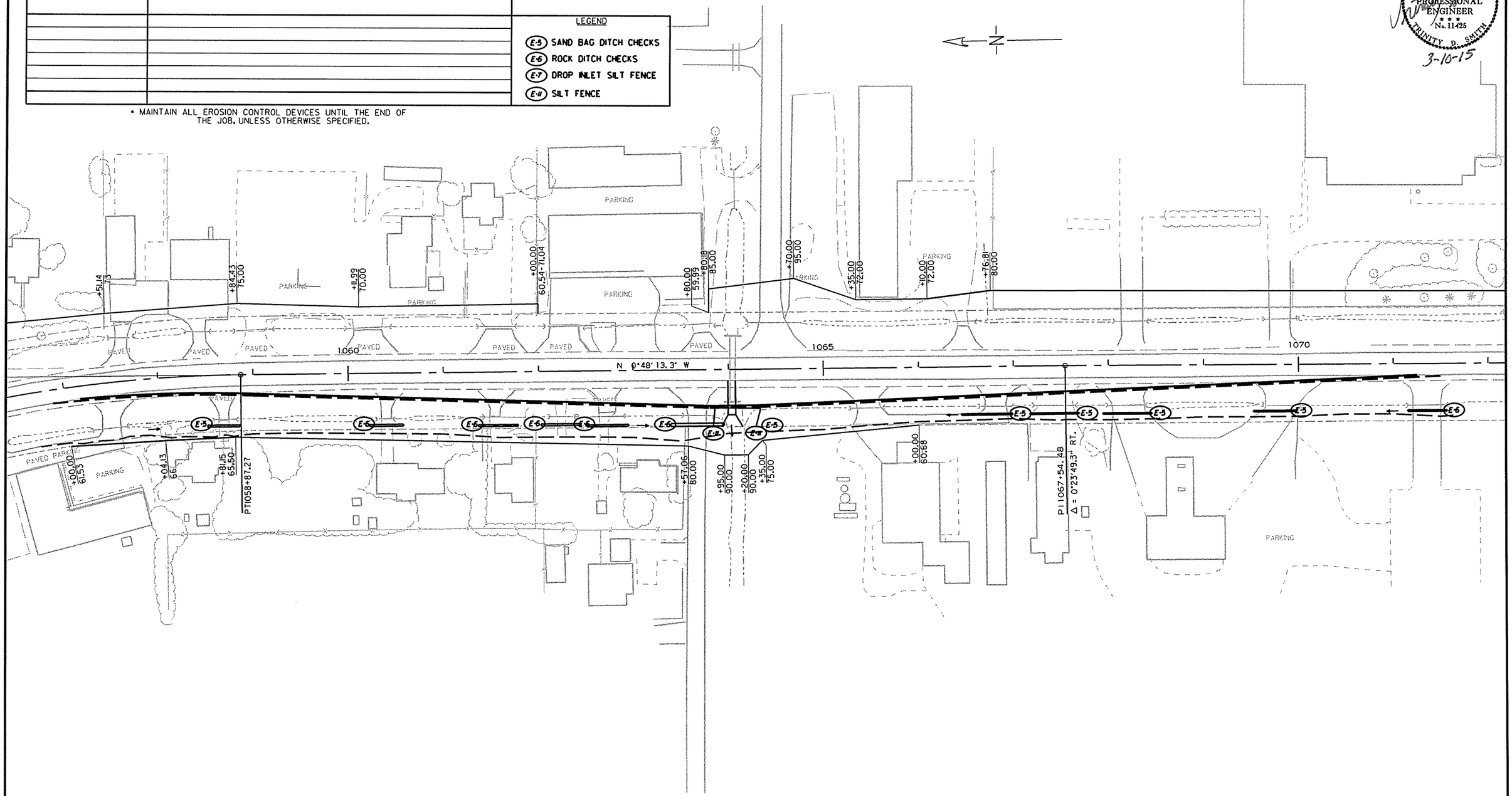
DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



STAGE I
TEMPORARY EROSION CONTROL DETAILS

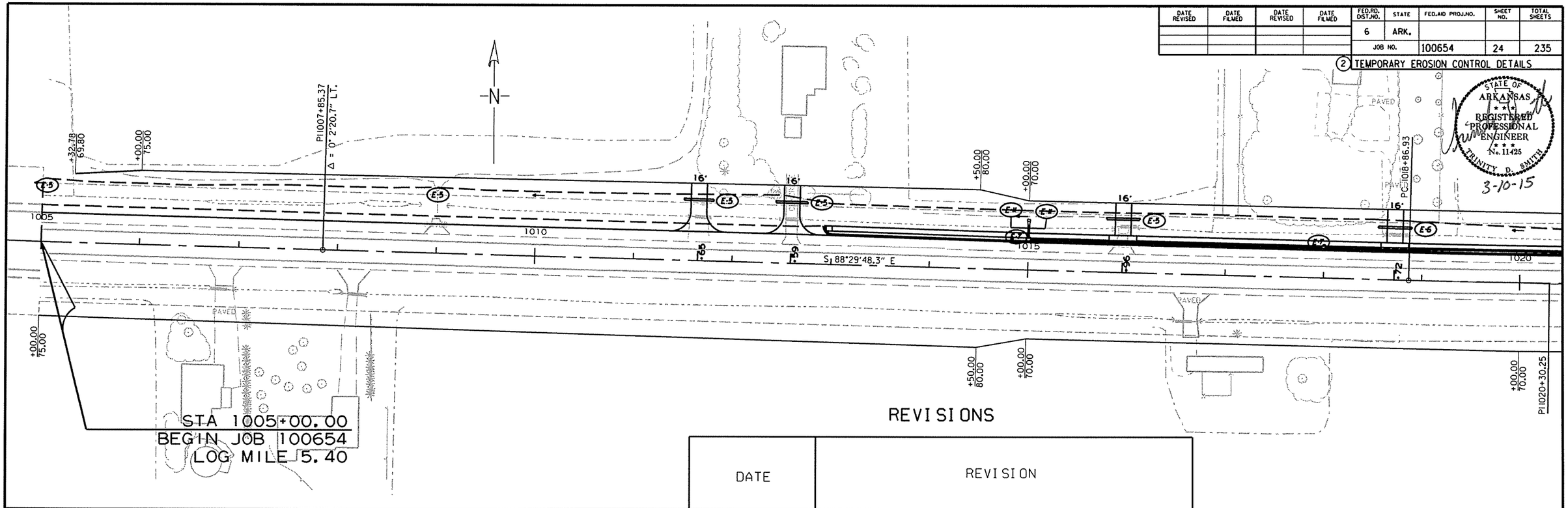
3/2/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	24	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



STA 1005+00.00
BEGIN JOB 100654
LOG MILE 5.40

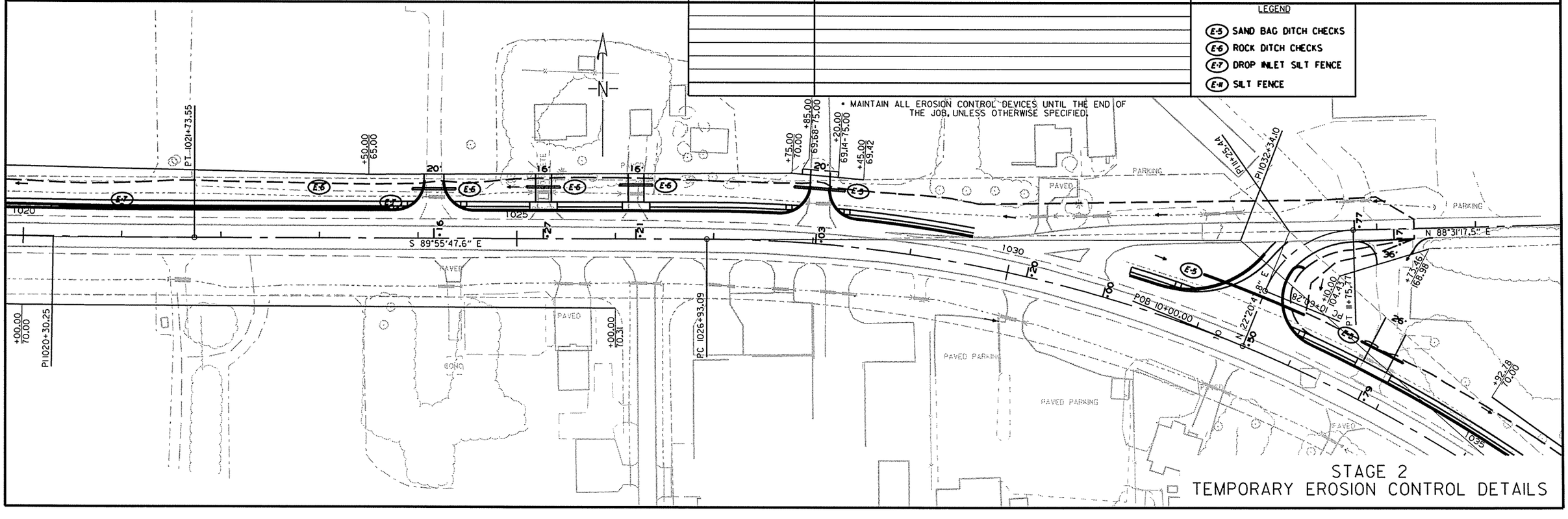
REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



STAGE 2
TEMPORARY EROSION CONTROL DETAILS

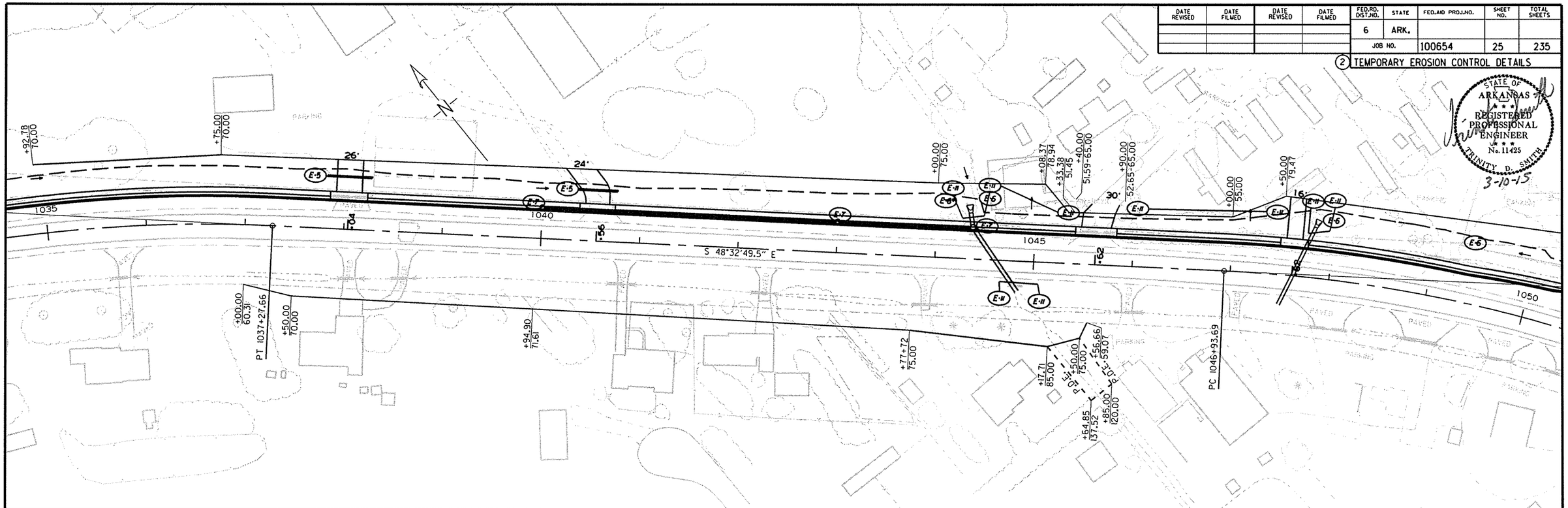
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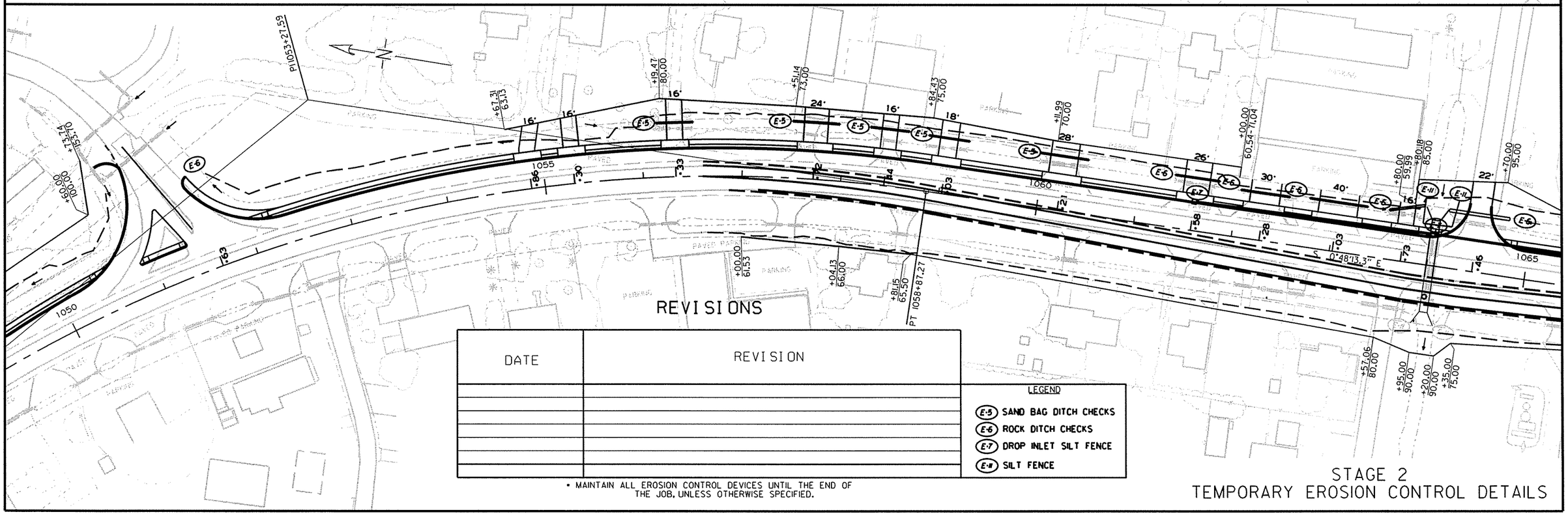
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	25	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15





REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

3/2/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	26	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

REVISIONS

DATE	REVISION

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-7) DROP INLET SILT FENCE
- (E-N) SILT FENCE

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

3/2/2015

R100654.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.		100654	27	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
3-2-15
TRINITY D. SMITH

REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

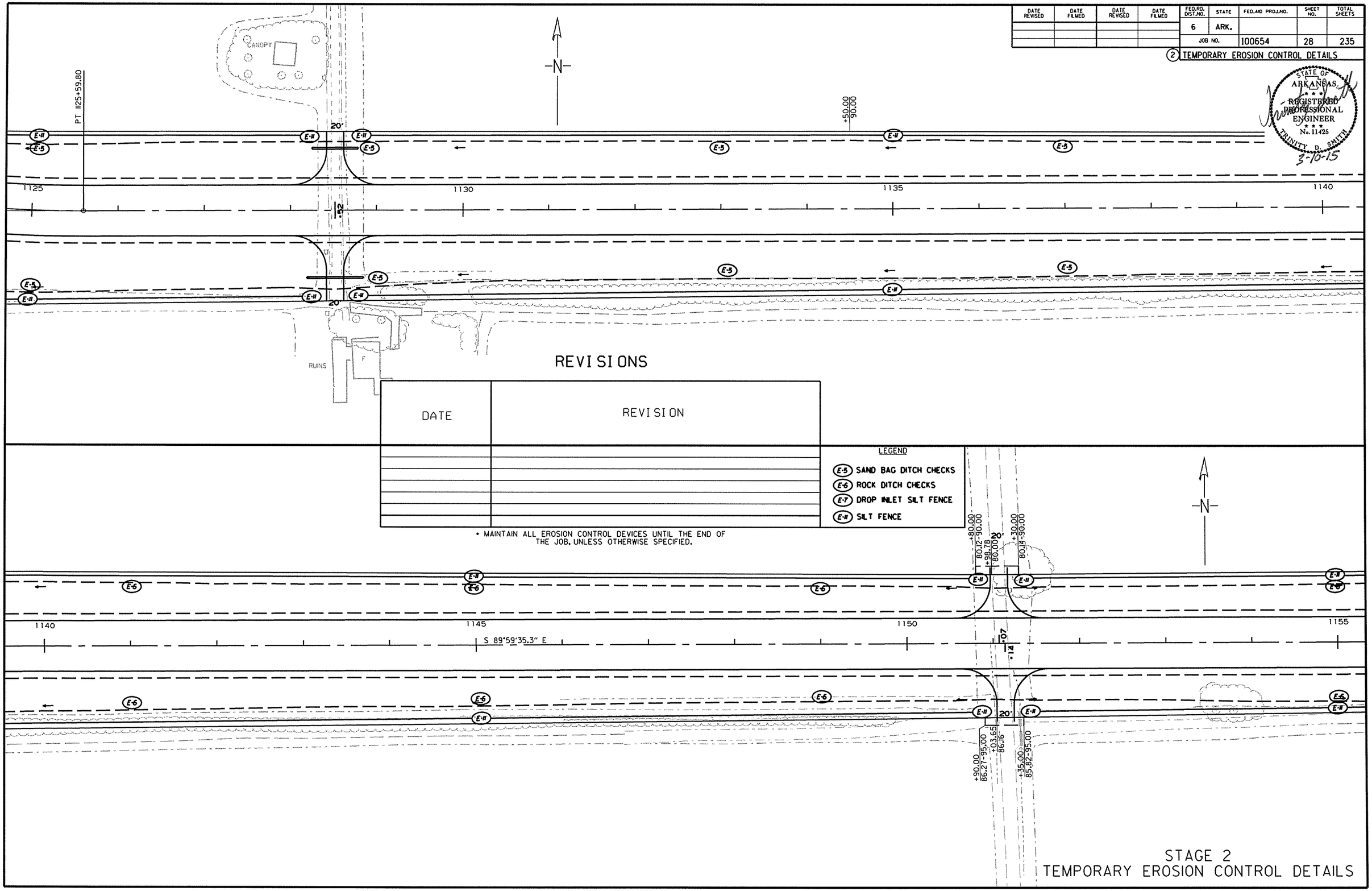
3/2/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	28	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



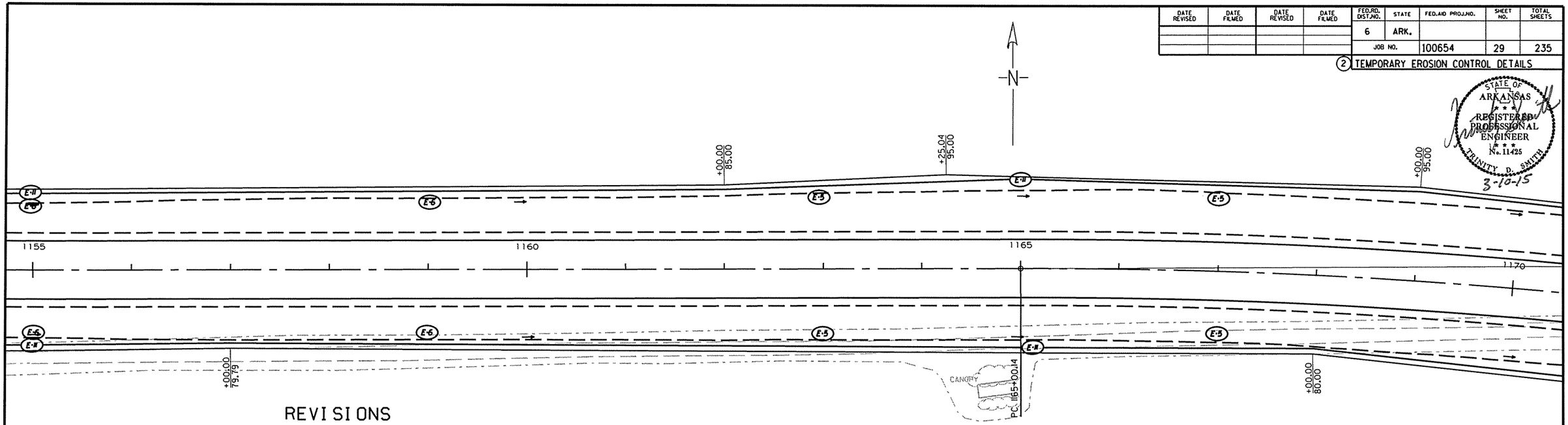
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

3/2/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	29	235

(2) TEMPORARY EROSION CONTROL DETAILS



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

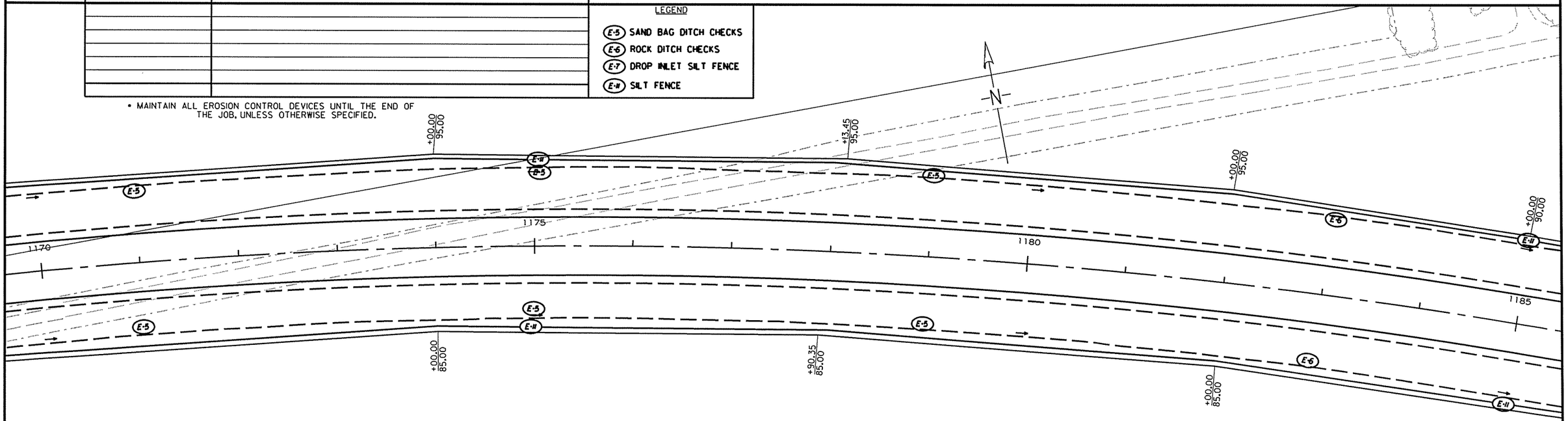
REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



3/2/2015

R100654.DGN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	30	235

2 TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

PT 36+95.52

+51.75
130.00

+00.00
100.00

+00.00
95.00

+00.00
90.00

1190

1195

1185

1200

N 29°21'58.4" E

38

POE 38+89.71

+00.00
85.00

+35.09
90.35

+00.00
85.00

+00.00
85.00

+00.00
85.00

16'

CULTIVATED FIELD

REVISIONS

DATE	REVISION	

LEGEND

- E-5 SAND BAG DITCH CHECKS
- E-6 ROCK DITCH CHECKS
- E-7 DROP INLET SILT FENCE
- E-11 SILT FENCE

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

+75.00
77.82

+70.00
80.00

1205

1210

1215

1200

RAVEL

20'

+52.31
73.95

+00.00
95.00

+00.00
85.00

+00.00
80.00

+00.00
80.00

+00.00
85.00

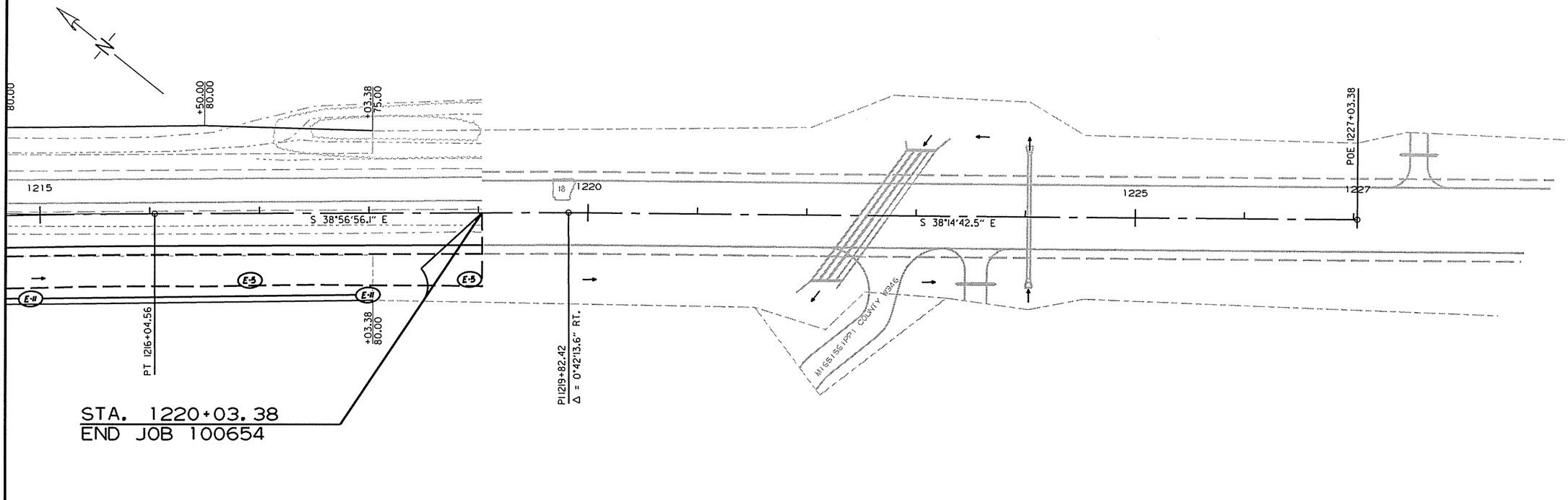
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

3/2/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	31	235

(2) TEMPORARY EROSION CONTROL DETAILS



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

REVISIONS

DATE	REVISION

LEGEND

- (E-5) SAND BAG DITCH CHECKS
- (E-6) ROCK DITCH CHECKS
- (E-7) ROCK DITCH CHECKS
- (E-H) SILT FENCE

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

3/2/2015

R100654.DGN

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	32	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

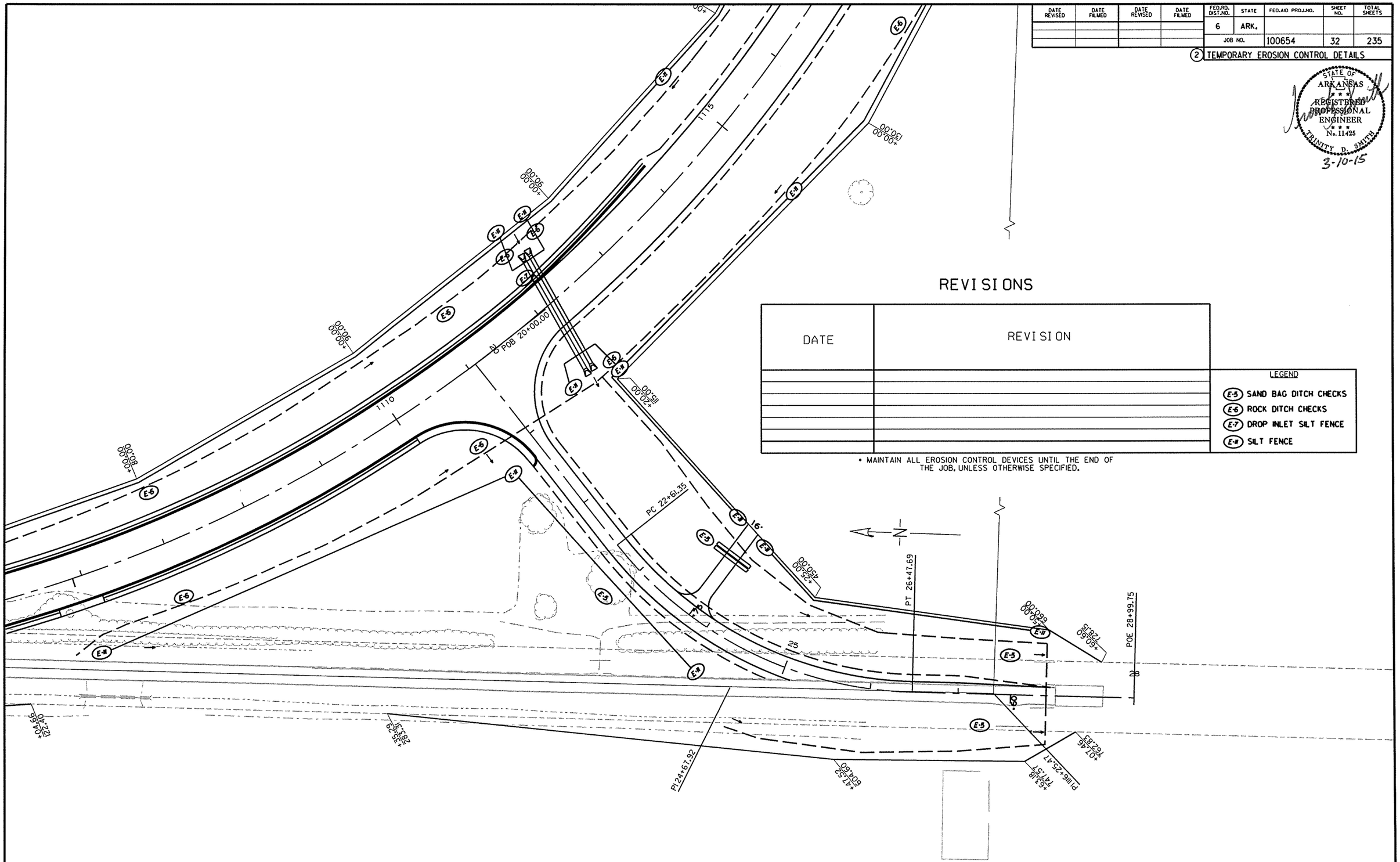
REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



STAGE 2
TEMPORARY EROSION CONTROL DETAILS

3/2/2015

R100654.DGN

REVISIONS

DATE	REVISION

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		100654	33	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

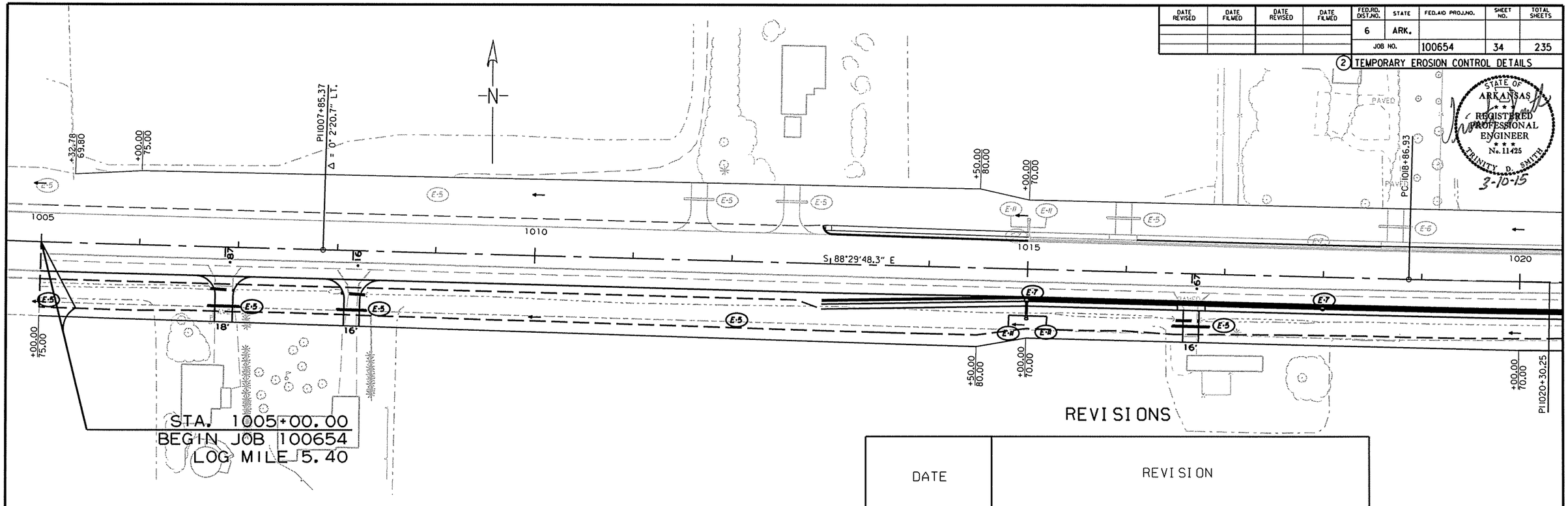
PI 34+68.87
+16.49 592.10-6.31
+30.25 582.82
+47.67 643.89-679.54
35
+14.31 442.72
+26.23 532.05
+48.17 554.57
+48.45 525.01
PC 31+69.26
+17.35 556.10
+17.80 588.05
PI 30+00.00
+89.64 706.62
N 39°02'22.2" W
PI 32+35.72
+61.98 311.88
PT 36+95.52
+54.75 130.00
+00.00 100.00
N 29°21'56.4" E
POE 38+89.71
1195
+00.00 85.00
+35.09 90.35
1190
+00.00 85.00
+00.00 95.00
PARKING

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

3/2/2015
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	34	235

(2) TEMPORARY EROSION CONTROL DETAILS

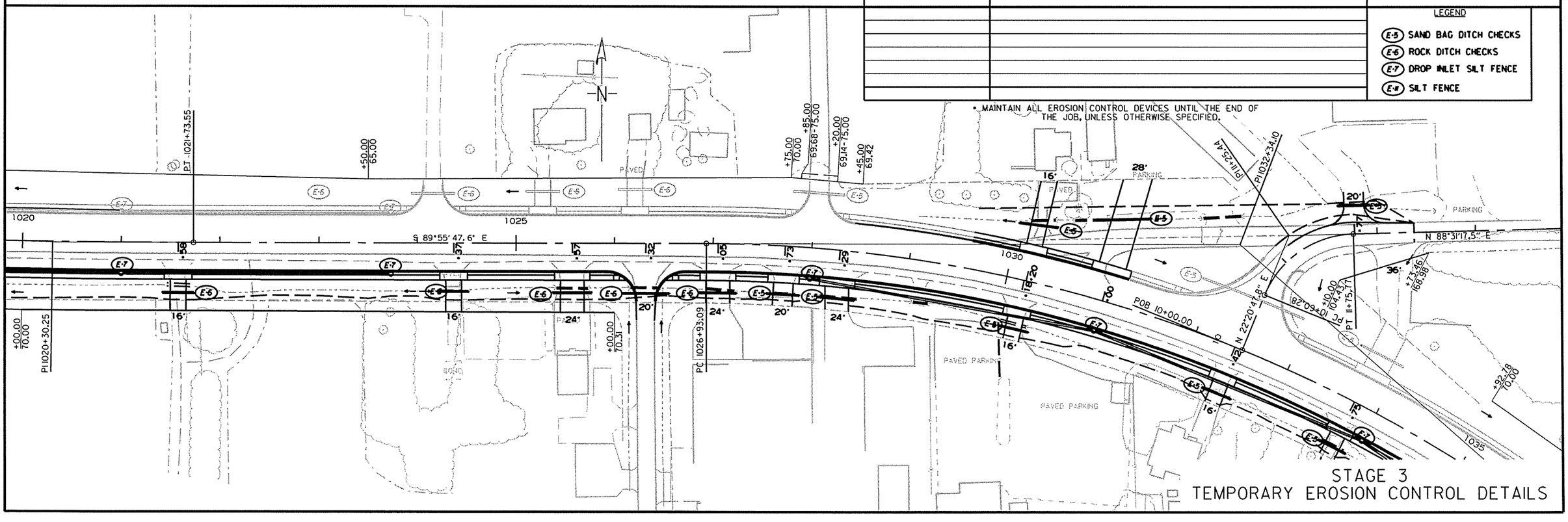


REVISIONS

DATE	REVISION

LEGEND

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



- MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STAGE 3
TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

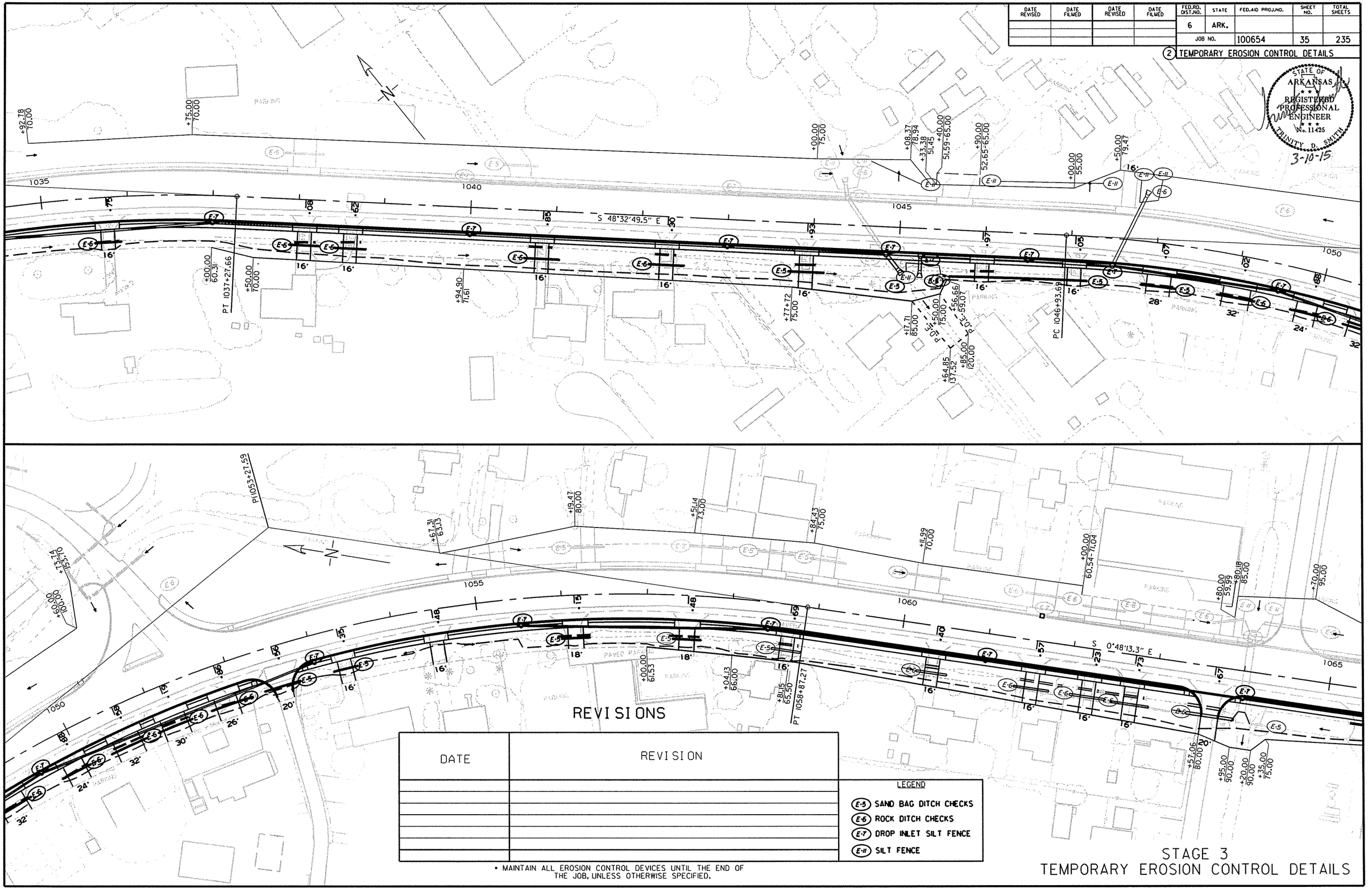
3/2/2015

R100654.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.		100654	35	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



REVISIONS

DATE	REVISION

LEGEND

- E-5 SAND BAG DITCH CHECKS
- E-6 ROCK DITCH CHECKS
- E-7 DROP INLET SILT FENCE
- E-11 SILT FENCE

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STAGE 3
TEMPORARY EROSION CONTROL DETAILS

3/2/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	36	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

3/2/2015

R100654.DGN

STAGE 3
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.		100654	37	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

STAGE 3
TEMPORARY EROSION CONTROL DETAILS

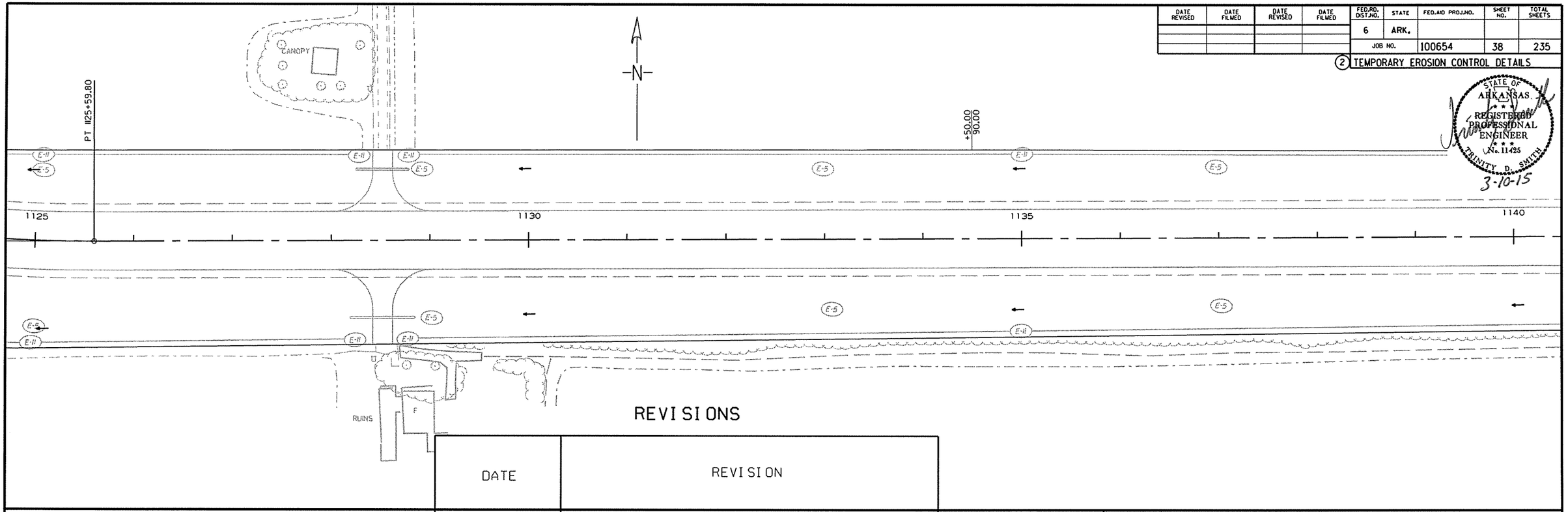
3/2/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	38	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

3/2/2015

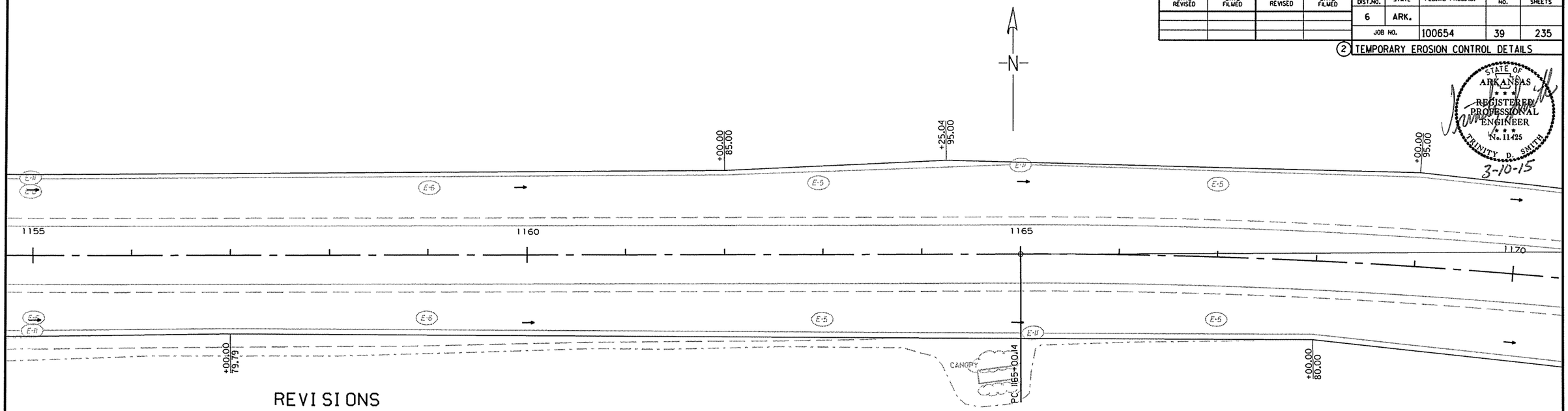
R100654.DGN

STAGE 3
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.		100654	39	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



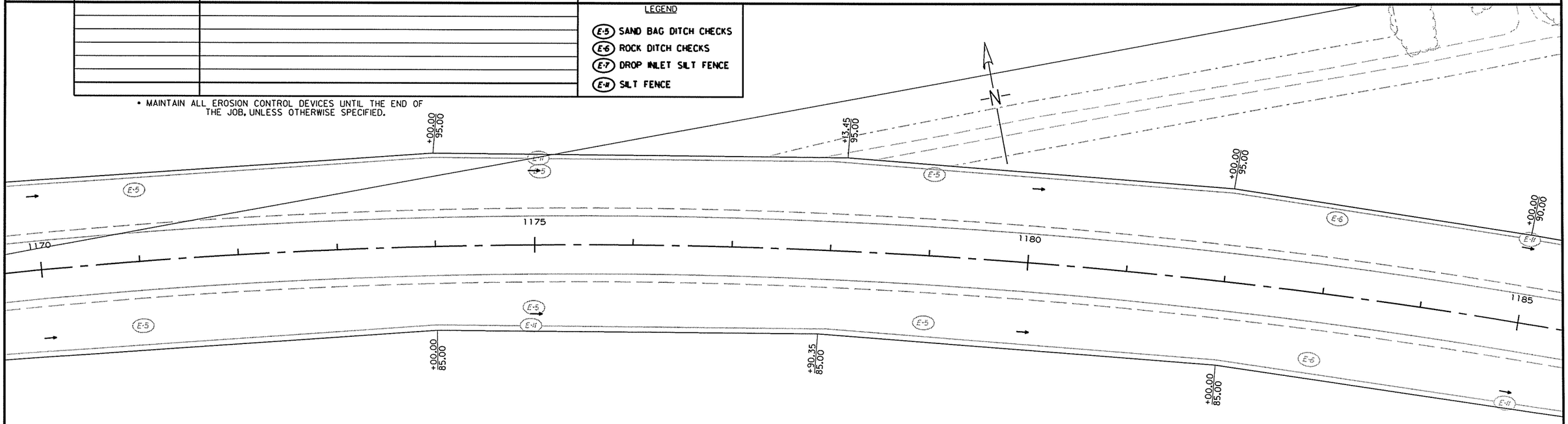
REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



3/2/2015

R100654.DGN

STAGE 3
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.		100654	40	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

PT 36+95.52
+51.75
130.00
+00.00
100.00
+00.00
95.00
+00.00
90.00
N 29°21'58.4" E
1190
1195
POE 38+89.71
1200
1185
+00.00
85.00
+35.09
90.35
+00.00
85.00
+00.00
85.00
+00.00
85.00

N

REVISIONS

DATE	REVISION	

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

N

20'
16'
1205
1200
1210
1215
+52.31
73.95
+00.00
95.00
+00.00
85.00
+00.00
85.00
+75.00
77.82
+70.00
80.00
+00.00
80.00
+00.00
85.00

STAGE 3
TEMPORARY EROSION CONTROL DETAILS

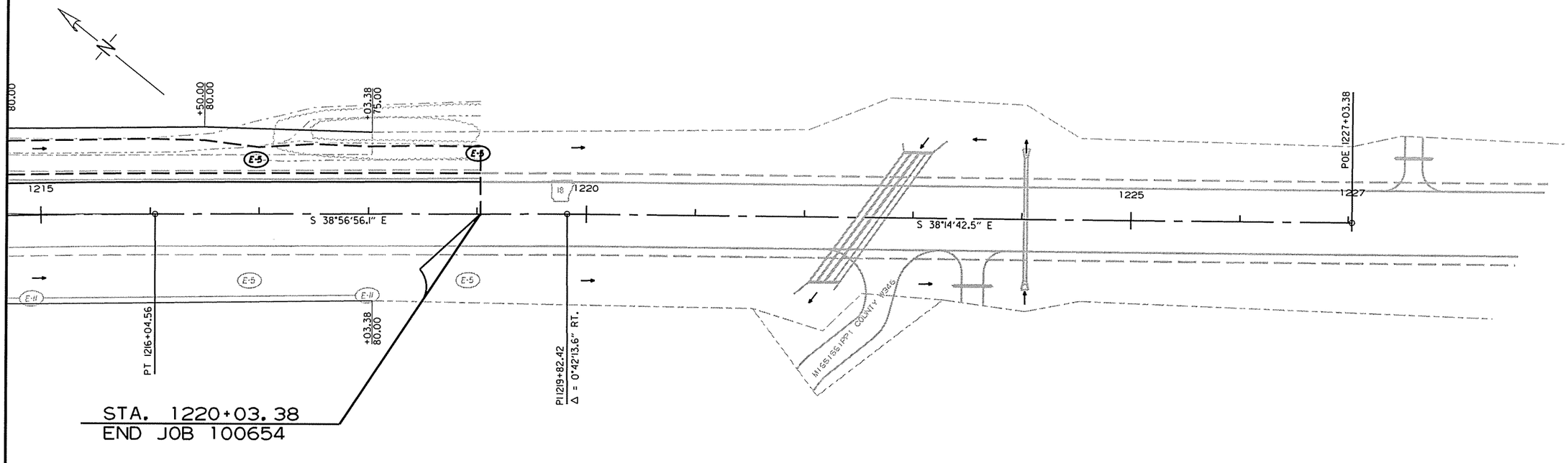
3/2/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	41	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

3/2/2015

R100654.DGN

STAGE 3
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.		100654	42	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

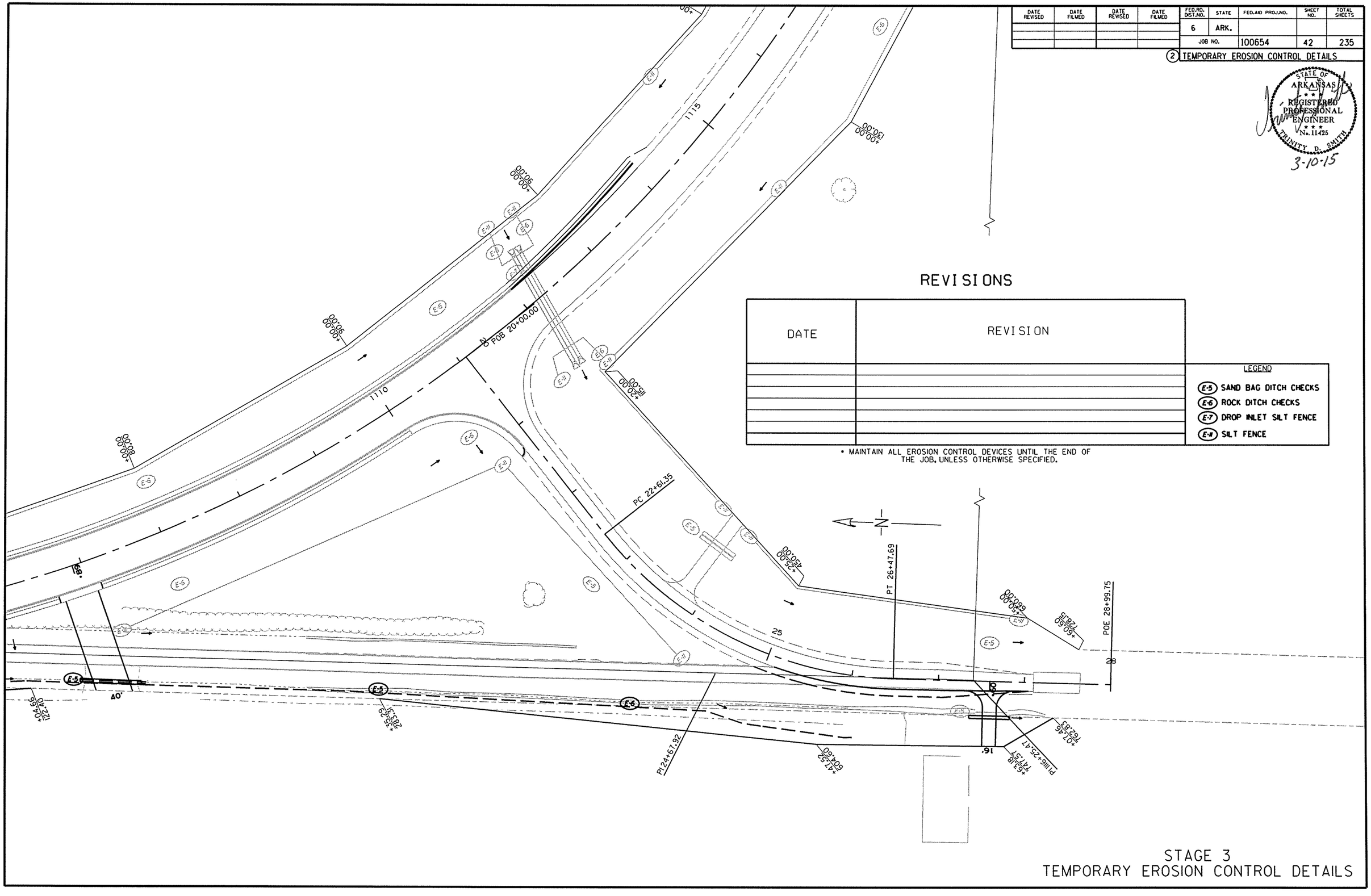
REVISIONS

DATE	REVISION

LEGEND

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

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.



STAGE 3
TEMPORARY EROSION CONTROL DETAILS

3/2/2015

R100654.DGN

REVISIONS

DATE	REVISION

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

LEGEND

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	43	235

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

PI 34+68.87
35
20'
+47.67
643.89-67.54
+16.49
592.10-63.51
+30.25
582.82
PI 11+92.+35.12
+89.64
706.62
N 22°25'20" E
708 30+00.00
+14.31
442.12
+61.98
311.88
+26.23
532.05
+81.45
525.01
+81.87
554.57
+69.26
PC 31+69.26
+17.35
556.10
+17.80
588.05
PT 36+95.52
+51.75
1301.00
+00.00
100.00
N 29°58'47" E
POE 38+89.71
1195
+00.00
85.00
+35.09
90.35
1190
+00.00
85.00
+00.00
95.00
PARKING

STAGE 3
TEMPORARY EROSION CONTROL DETAILS

3/2/2015

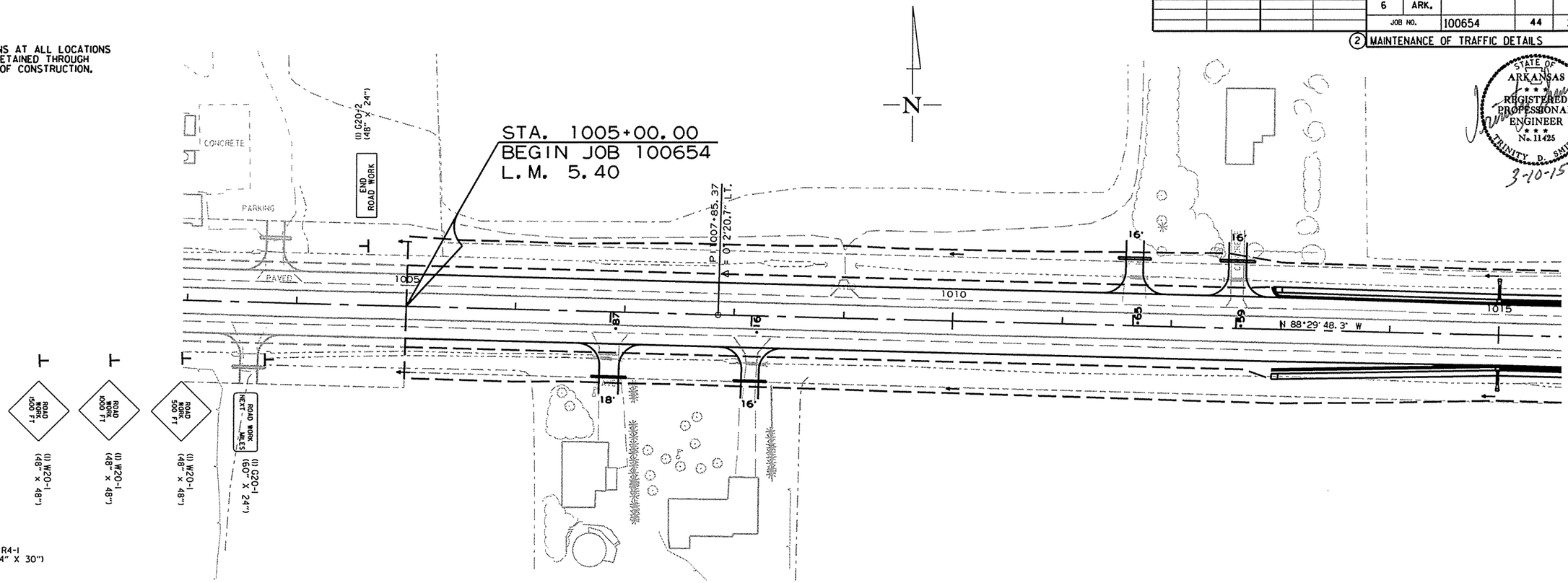
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	44	235

(2) MAINTENANCE OF TRAFFIC DETAILS

NOTE:
ADVANCE SIGNS AT ALL LOCATIONS
ARE TO BE RETAINED THROUGH
ALL STAGES OF CONSTRUCTION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



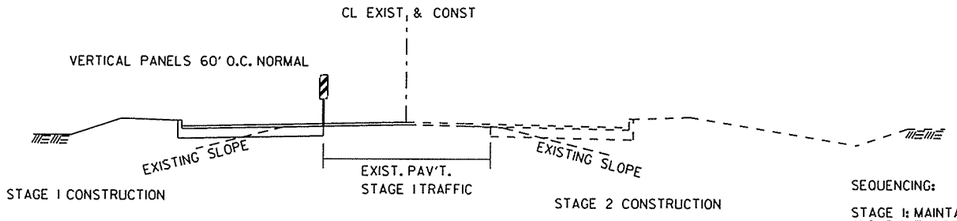
NOTE:
THE TOTAL LENGTH OF THE WORK AREA ON THE ENTIRE PROJECT
HAVING VERTICAL DIFFERENCES GREATER THAN 4" SHALL BE
LIMITED TO ONE MILE.

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS

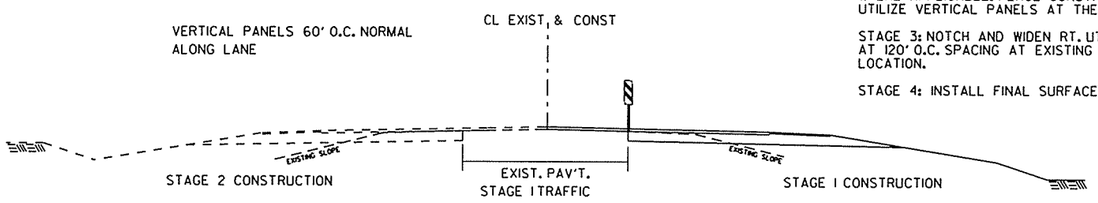
1/30/2015
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	45	235

(2) MAINTENANCE OF TRAFFIC DETAILS



STAGE 1



STAGE 1

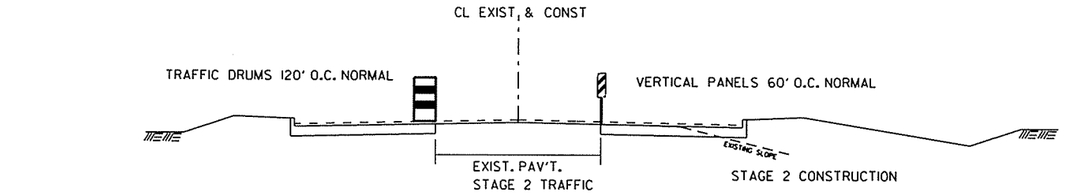
SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

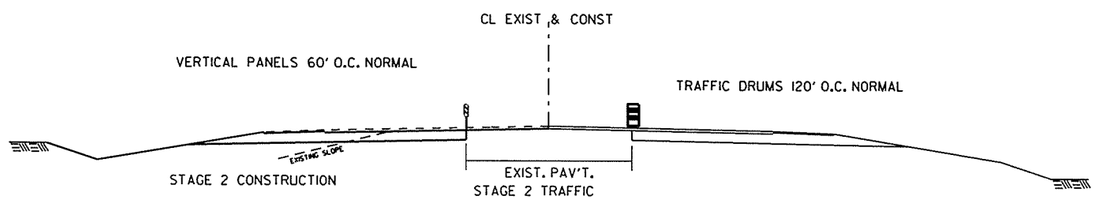
STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

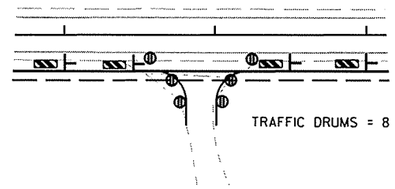
STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.



STAGE 2

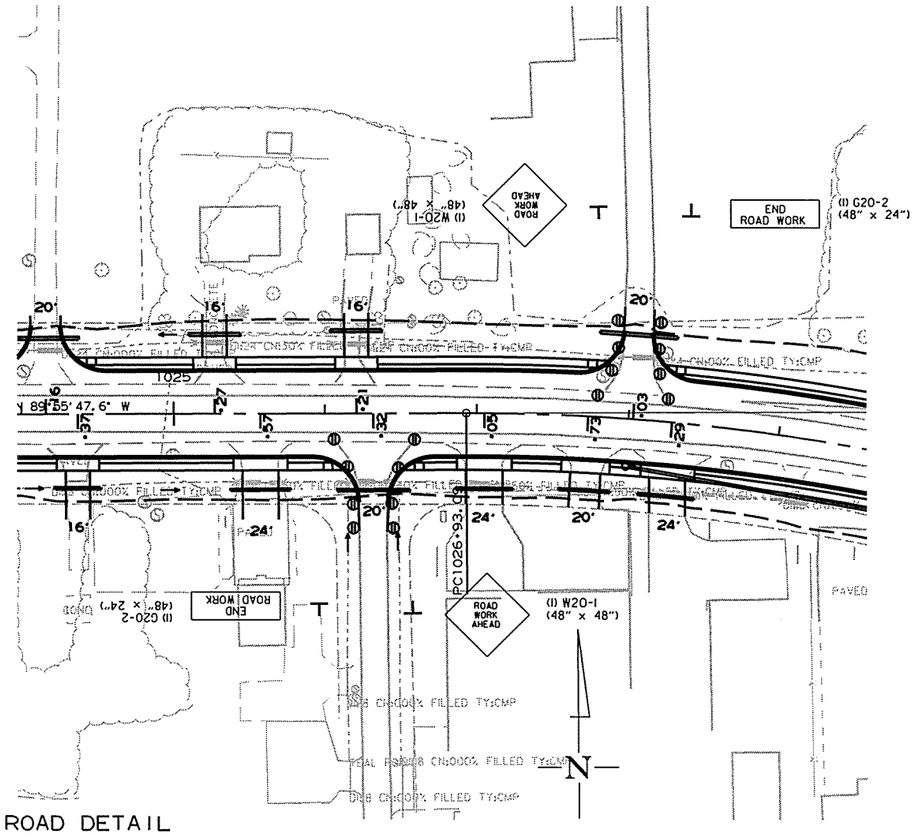


STAGE 2



NOTE: AT CLUSTERS OF TURNOUTS, TRAFFIC DRUMS MAY BE OMITTED BETWEEN TURNOUTS.

DRIVEWAY TRAFFIC DRUM DETAIL



CITY STREET/COUNTY ROAD DETAIL

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

1/30/2015

R100654.DGN

MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	46	235

(2) MAINTENANCE OF TRAFFIC DETAILS

SEQUENCING:

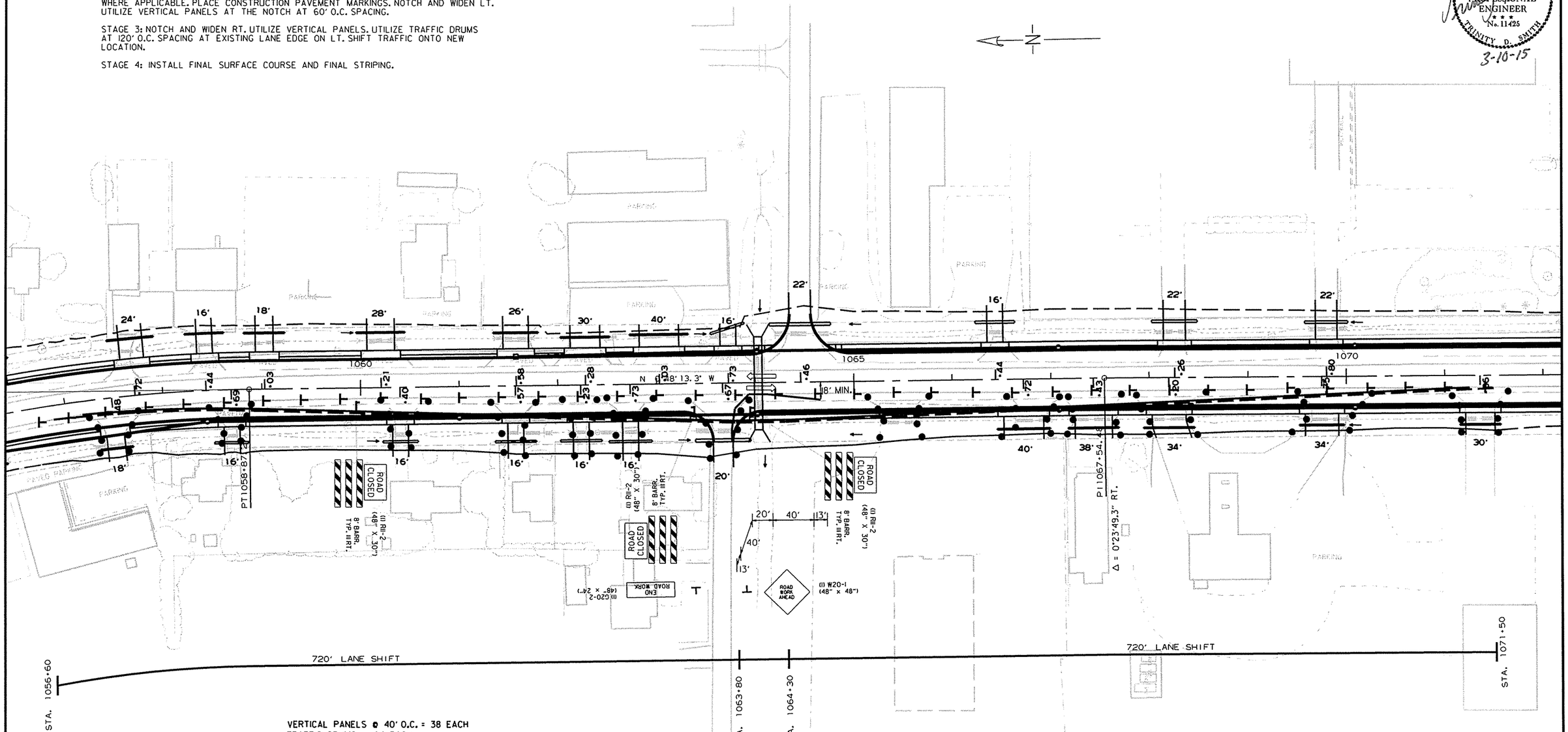
STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



VERTICAL PANELS @ 40' O.C. = 38 EACH
TRAFFIC DRUMS = 104 EACH

STAGE I
REMOVAL OF PAVEMENT MARKINGS
HWY. 18:
RT. & LT. EDGE LINES + DBL. CENTERLINE FROM
STA. 1056+60 - STA. 1071+50 = 5960 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS DETOUR:

HWY. 18 STA. 1056+60 - STA. 1071+50:
RT. AND LT. EDGE LINES = 2980 LIN. FT.
DBL. CENTERLINE = 2980 LIN. FT.

FURNISHING AND INSTALLING TEMPORARY PRECAST CONCRETE BARRIER
WITH TWO (13') SPECIAL END UNITS = 126 LIN. FT.
OM-3R = 3 EACH
OM-3L = 3 EACH

1/30/2015

R100654.DGN

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.		100654	47	235

(2) MAINTENANCE OF TRAFFIC DETAILS

VERTICAL PANELS @ 60' O.C. = 26 EACH
TRAFFIC DRUMS = 32 EACH

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

PI 1007+85.37
Δ = 0° 2'20.7" LT.

PC 1018+86.93

PI 1020+30.25

N 88°29'48.3" W

PAVED

STA. 1005+00.00
BEGIN JOB 100654
LOG MILE = 5.40

CONSTRUCTION PAVEMENT MARKINGS:

AS DIRECTED BY THE ENGINEER OVER LEVELING COURSE
HWY. 18 STA. 1005+00 - STA. 1103+00, STA. 1211+00 - STA. 1220+03:
RT. AND LT. EDGE LINES = 21406 LIN. FT.
DBL. CENTERLINE = 21406 LIN. FT.
NORTH CONNECTION STA. 11+50 - STA. 12+39:
RT. AND LT. EDGE LINES = 178 LIN. FT.
DBL. CENTERLINE = 178 LIN. FT.
WEST CONNECTION STA. 25+00 - STA. 28+00:
RT. AND LT. EDGE LINES = 610 LIN. FT.
DBL. CENTERLINE = 610 LIN. FT.
EAST CONNECTION STA. 30+69 - STA. 33+00:
RT. AND LT. EDGE LINES = 462 LIN. FT.
DBL. CENTERLINE = 462 LIN. FT.

VERTICAL PANELS @ 60' O.C. = 22 EACH
TRAFFIC DRUMS = 48 EACH

PI 1021+73.55

PI 1020+30.25

PC 1026+93.09

PI 1025+25.44

PI 1032+34.10

N 89°55'47.6" W

N 88°31'17.5" E

N 22°20'8" E

PAVED PARKING

PARKING

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

1/30/2015

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				6	ARK.			
				JOB NO.		100654	48	235

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

VERTICAL PANELS @ 60' O.C. = 25 EACH
TRAFFIC DRUMS = 32 EACH

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

PT 1037+27.66

PC 1046+93.69

N 48°32'49.5" W

VERTICAL PANELS @ 60' O.C. = 27 EACH
TRAFFIC DRUMS = 96 EACH

TRAFFIC DRUMS @ 40' O.C. = 42 EACH
TRAFFIC DRUMS = 56 EACH

STA. 1056+09

720' LANE SHIFT

RELOCATING TEMPORARY PRECAST CONCRETE BARRIER WITH TWO (13') SPECIAL END UNITS = 126 LIN. FT.

OM-3R = 3 EACH
OM-3L = 3 EACH

PT 1058+87.27

N 0°48'13.3" W

48' MIN.

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

1/30/2015

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				6	ARK.			
				JOB NO.		100654	49	235

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

VERTICAL PANELS @ 60' O.C. = 25 EACH
TRAFFIC DRUMS = 48 EACH

(1) RII-2 (48" X 30") 8' BARR. TYP. III L.T.
ROAD CLOSED
END ROAD WORK
(1) G20-2 (48" X 24")
PARKING
(1) RII-2 (48" X 30")
(1) WI-6 (48" X 24")
8' BARR. TYP. III RT.
(1) WI-6 (48" X 24")
(1) WI-4L (48" X 48")
(1) WI3-1 (24" X 24")
XX M.P.H.
16'
22'
22'
22'
34'
1065
1070
1075
1080
N 0°24'24.0" W
(8) WI-8 (18" X 24")
PI 1067+54.48
Δ = 0°23'49.3" RT.
720' LANE SHIFT
STA. 1071+50
TRAFFIC DRUMS @ 40' O.C. = 34 EACH
TRAFFIC DRUMS = 48 EACH
(1) W20-1 (48" X 48")
ROAD WORK AHEAD
20'
(1) G20-2 (48" X 24")
END ROAD WORK

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY, CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

(1) W20-1 (48" X 48")
ROAD WORK AHEAD
(1) RII-2 (48" X 30") 8' BARR. TYP. III RT.
ROAD CLOSED
(1) G20-2 (48" X 24")
END ROAD WORK
PAVED
PAVED PARKING
PARKING
VERTICAL PANELS @ 60' O.C. = 23 EACH
TRAFFIC DRUMS = 48 EACH
16'
24'
28'
30'
32'
1080
1085
1090
1095
N 0°10'54.5" W
PI 1083+01.01
Δ = 0°13'29.5" RT.
PI 1095+01.18
Δ = 0°21'26.8" LT.

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

1/30/2015

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				6	ARK.			
				JOB NO.		100654	50	235

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

VERTICAL PANELS @ 60' O.C. = 17 EACH
TRAFFIC DRUMS = 32 EACH

PI 1095+01.18
Δ = 0°21'26.8" LT.
32'
1095
N 0°32'21.3" W
PC 1100+03.98
1100
16'
1105
(1) R11-2 (48" X 30")
8' BARR. TYP. IRT.
ROAD CLOSED
(1) R11-2 (48" X 30")
8' BARR. TYP. IRT.
ROAD CLOSED

TRAFFIC DRUMS = 16 EACH

PT 1125+59.80
1125
1130
1135
1140
CANOPY
(1) W20-1 (48" X 48")
ROAD WORK AHEAD
END ROAD WORK
(1) G20-2 (48" X 24")
20'
RUINS

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

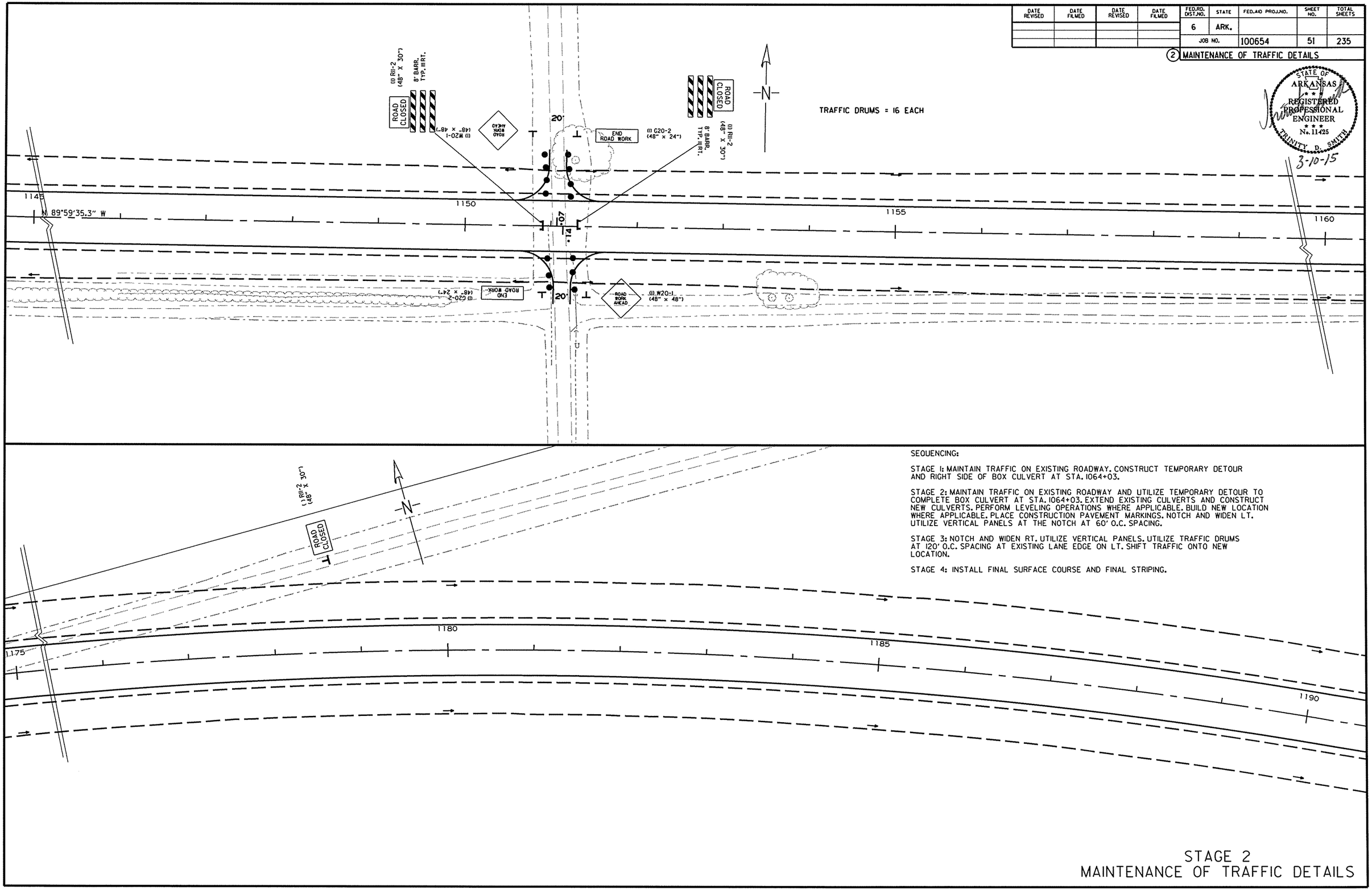
STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

1/30/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	51	235

(2) MAINTENANCE OF TRAFFIC DETAILS



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

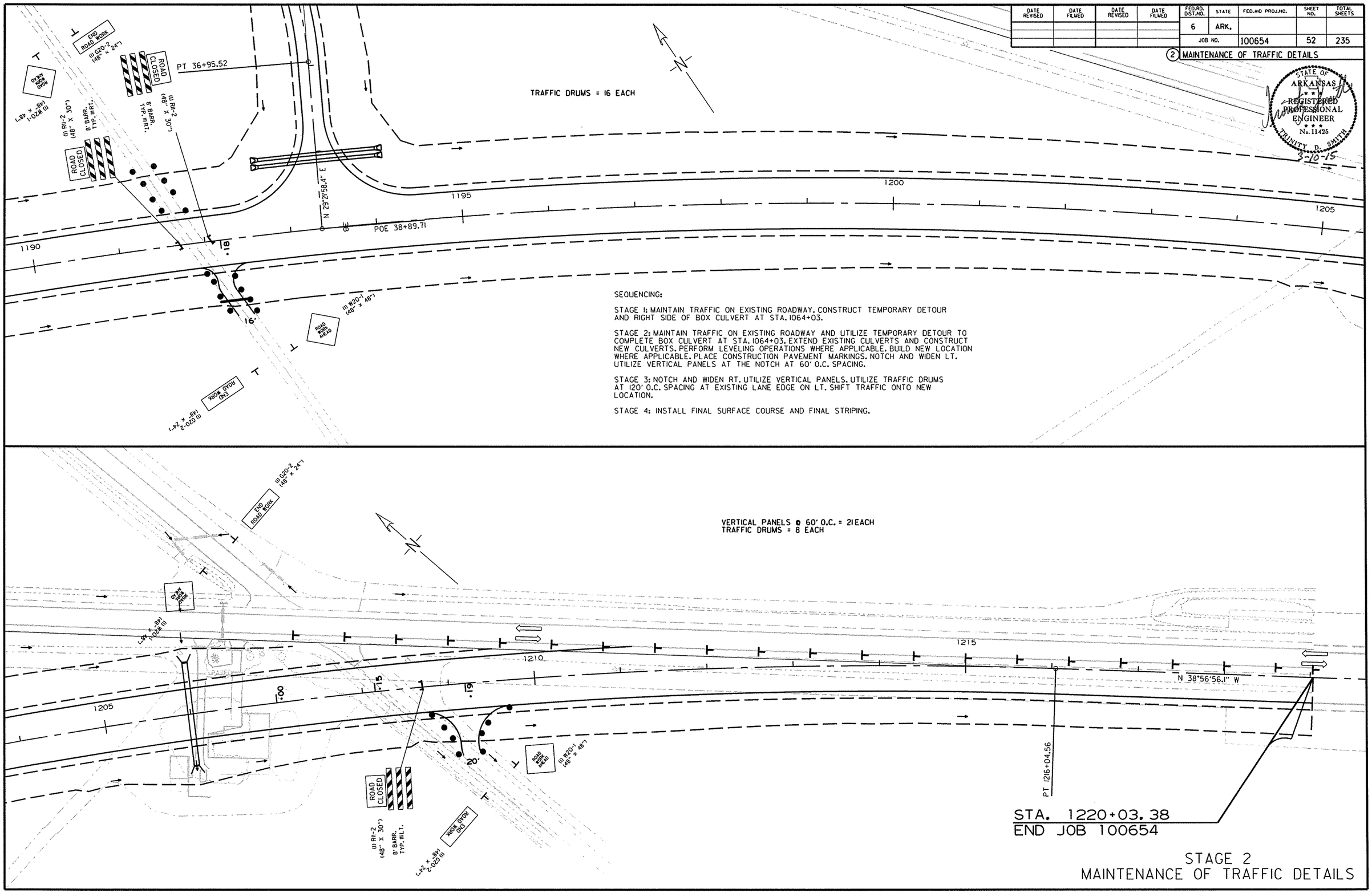
STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

1/30/2015

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	52	235

(2) MAINTENANCE OF TRAFFIC DETAILS



SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

1/30/2015

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	53	235

(2) MAINTENANCE OF TRAFFIC DETAILS

SEQUENCING:

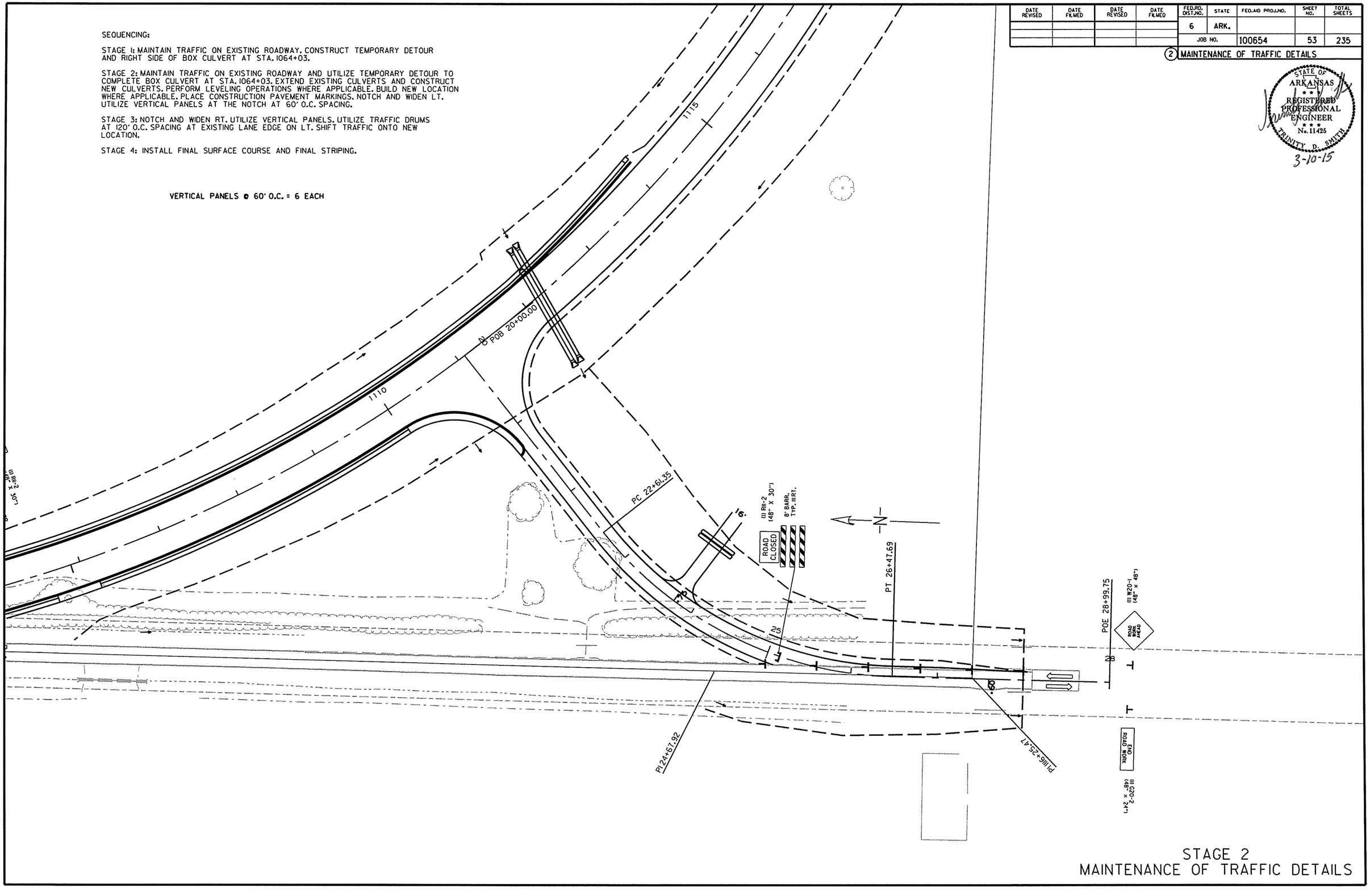
STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

VERTICAL PANELS @ 60' O.C. = 6 EACH



STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

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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.		100654	54	235

(2) MAINTENANCE OF TRAFFIC DETAILS

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

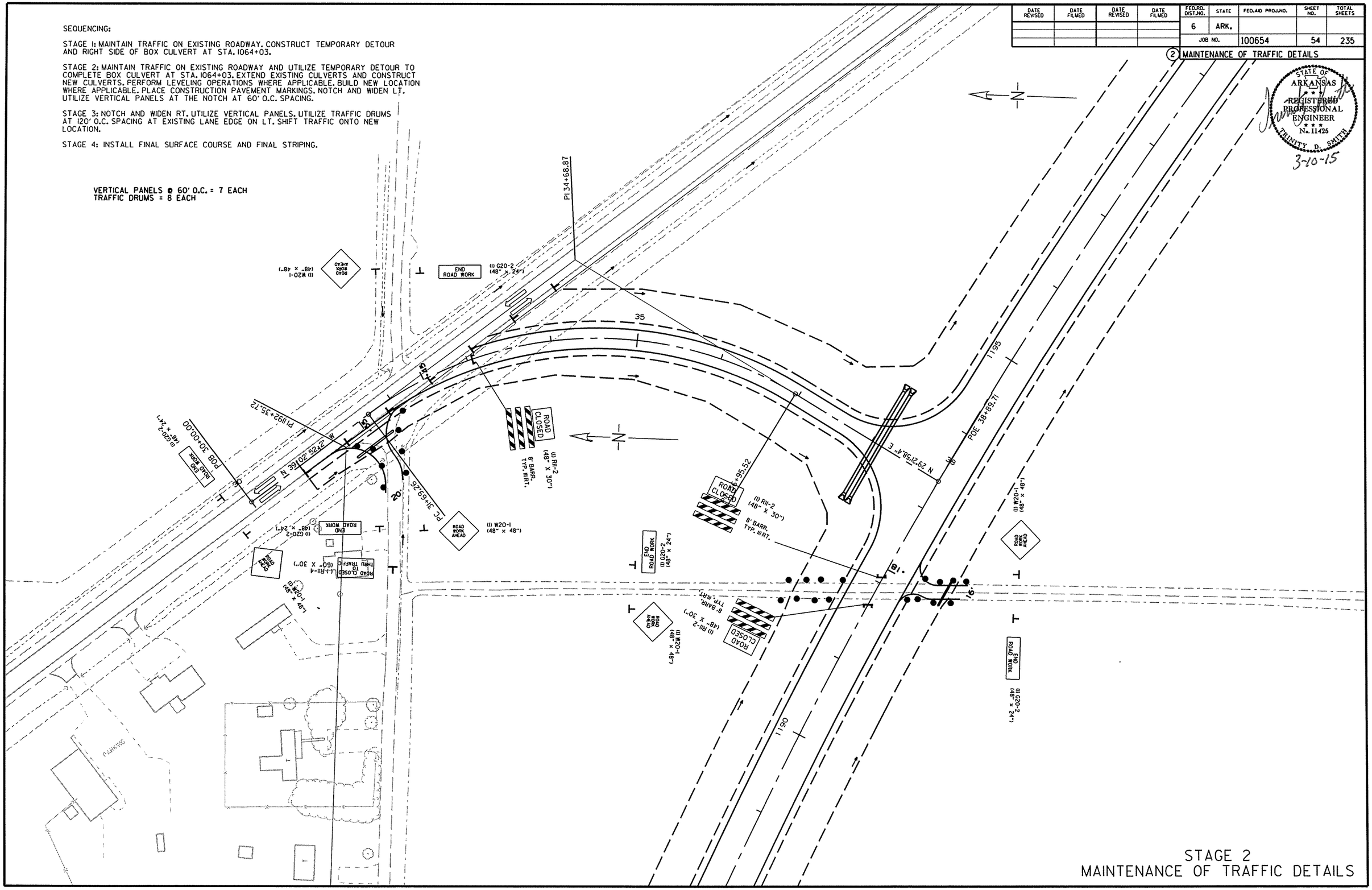
STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

VERTICAL PANELS @ 60' O.C. = 7 EACH
TRAFFIC DRUMS = 8 EACH

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
3-10-15



STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

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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.		100654	55	235

(2) MAINTENANCE OF TRAFFIC DETAILS

TRAFFIC DRUMS = 56 EACH
VERTICAL PANELS @ 60' O.C. = 25 EACH
TRAFFIC DRUMS @ 120' O.C. = 13 EACH

STA. 1005+00.00
BEGIN JOB 100654
LOG MILE = 5.40

PI 1007+85.37
Δ = 0° 2'20.7" LT.

CONSTRUCTION PAVEMENT MARKINGS:
AS DIRECTED BY THE ENGINEER OVER ADDITIONAL SURFACE BUILDUP:
HWY. 18 STA. 1015+00 - STA. 1081+00:
RT. AND LT. EDGE LINES = 26400 LIN. FT.
DBL. CENTERLINE = 26400 LIN. FT.
HWY. 18 STA. 1081+00 - STA. 1103+00:
RT. AND LT. EDGE LINES = 12600 LIN. FT.
DBL. CENTERLINE = 12600 LIN. FT.
HWY. 18 STA. 1103+00 - STA. 1220+03:
RT. AND LT. EDGE LINES = 23406 LIN. FT.
DBL. CENTERLINE = 23406 LIN. FT.
NORTH CONNECTION:
RT. AND LT. EDGE LINES = 418 LIN. FT.
DBL. CENTERLINE = 418 LIN. FT.
WEST CONNECTION:
RT. AND LT. EDGE LINES = 1554 LIN. FT.
DBL. CENTERLINE = 1554 LIN. FT.
EAST CONNECTION:
RT. AND LT. EDGE LINES = 1582 LIN. FT.
DBL. CENTERLINE = 1582 LIN. FT.

STATE OF ARKANSAS
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TRINITY D. SMITH
3-10-15

1005 1010 1015 1020

N 88°29'48.3" W

PC 1018+86.83
PI 1020+30.25

ROAD CLOSED
(1) RII-2 (48" X 30")
8' BARR. TYP. IMRT.

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TRAFFIC DRUMS = 169 EACH
VERTICAL PANELS @ 60' O.C. = 28 EACH
TRAFFIC DRUMS @ 120' O.C. = 12 EACH

PT 1021+73.55
PI 1020+30.25
PC 1026+93.00
POB 10+00.00
PT 11+75.77
PI 11+25.54
P11032+34.10
PC 10+60.28
Δ = 41° 8' 22"
N 22° 42' 42" E
N 88°31'17.5" E
N 89°55'41.6" W

1020 1025 1030 1035

PAVED PARKING

(1) G20-2 (48" X 24") END ROAD WORK
(1) W20-1 (48" X 48") ROAD WORK AHEAD
(1) W20-1 (48" X 48") ROAD ROCK AHEAD
(1) W9-6 (48" X 24")
(1) RII-2 (48" X 30") ROAD CLOSED
8' BARR. TYP. MRT.
16' BARR. TYP. IMRT.

STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

R100654.DGN 1/30/2015

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.		100654	56	235

(2) MAINTENANCE OF TRAFFIC DETAILS

SEQUENCING:

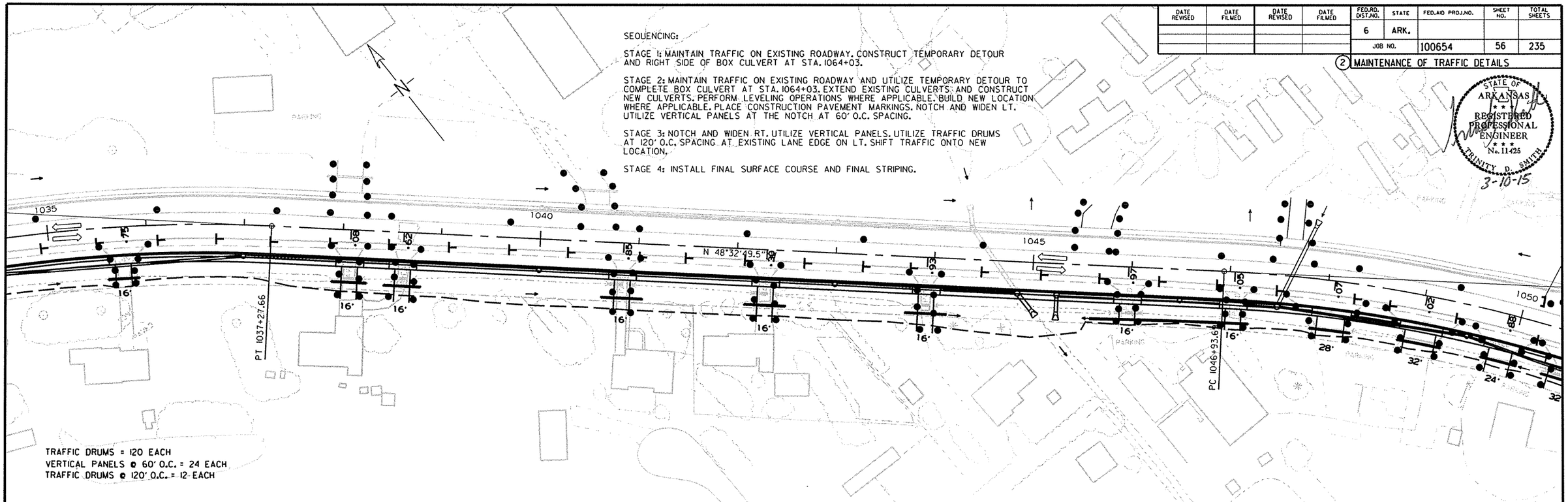
STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

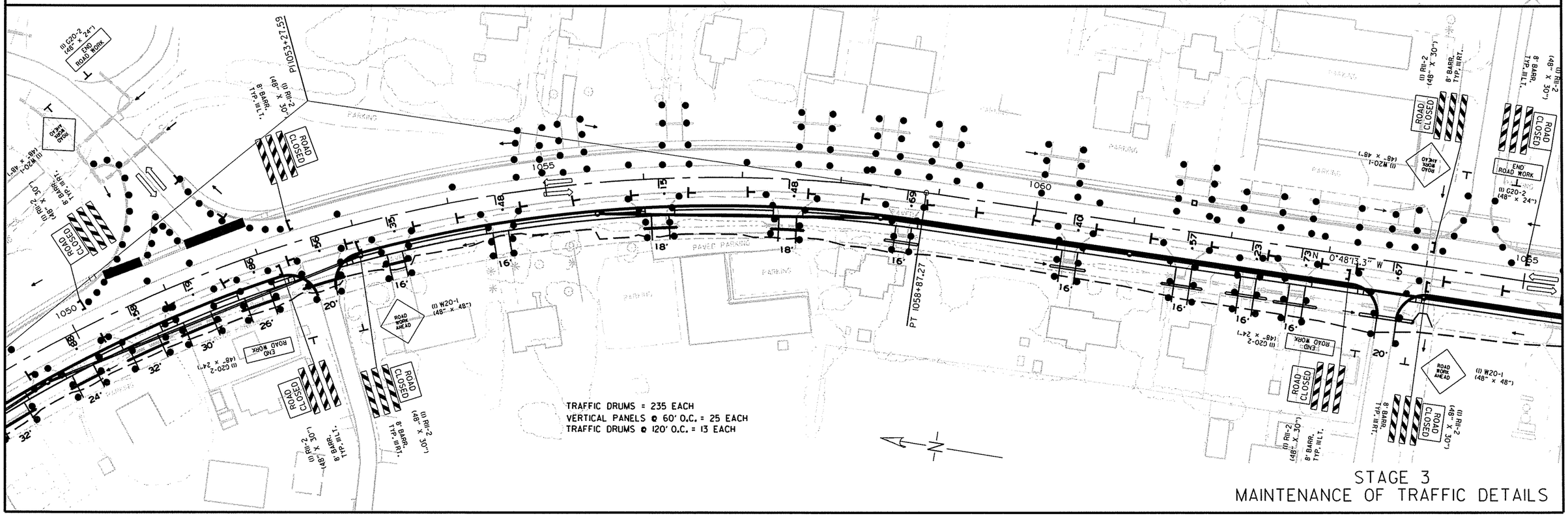
STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15





STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

1/30/2015

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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.		100654	57	235

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

TRAFFIC DRUMS = 136 EACH
VERTICAL PANELS @ 60' O.C. = 25 EACH
TRAFFIC DRUMS @ 120' O.C. = 12 EACH

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TRAFFIC DRUMS = 114 EACH
VERTICAL PANELS @ 60' O.C. = 30 EACH
TRAFFIC DRUMS @ 120' O.C. = 9 EACH

STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

1/30/2015

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	58	235

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

TRAFFIC DRUMS = 72 EACH
VERTICAL PANELS @ 60' O.C. = 13 EACH
TRAFFIC DRUMS @ 120' O.C. = 20 EACH

PI 1095+01.18
Δ = 0°21'26.8" LT.

PC 1100+03.98

N 0°32'21.3" W

1095
1100
1105

24'
24'
24'
16'
40'

ROAD CLOSED
(1) RW-2 (48" X 30")
8' BARR. TYP. III LT.
(1) W1-6 (48" X 24")
16' BARR. TYP. III RT.
(1) RW-2 (48" X 30")

TRAFFIC DRUMS @ 120' O.C. = 26 EACH

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

1110
1115
1120
1125

POB 20+00.00

ROAD CLOSED
(1) RW-2 (48" X 30")
8' BARR. TYP. III LT.
ROAD CLOSED
8' BARR. TYP. III RT.
(1) RW-2 (48" X 30")

STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

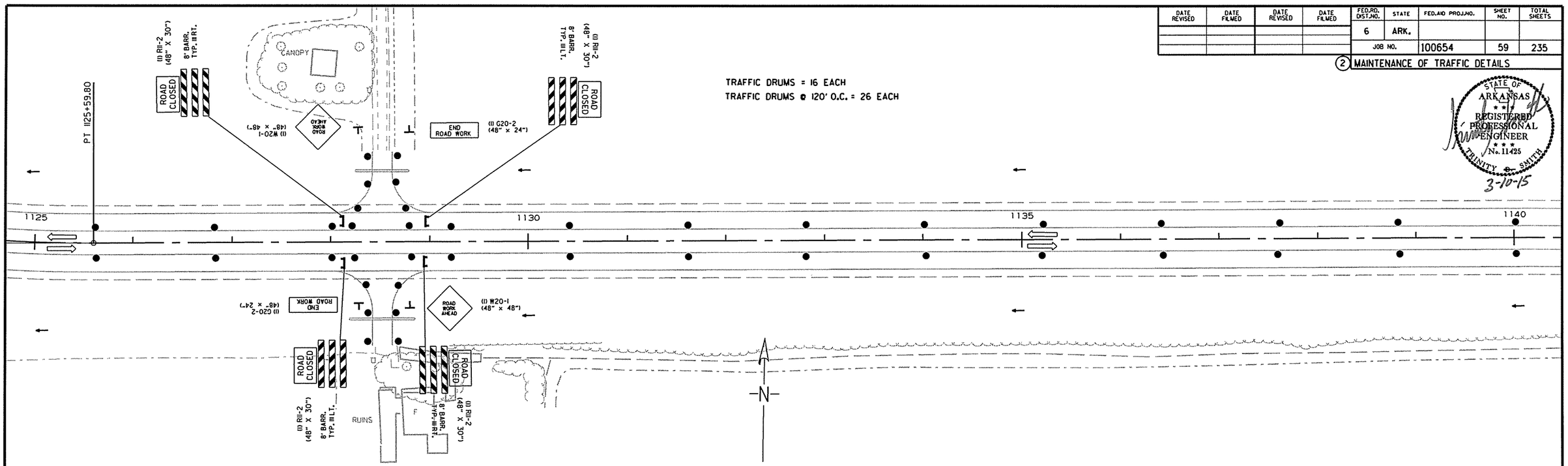
1/30/2015

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	59	235

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY E. SMITH
3-10-15



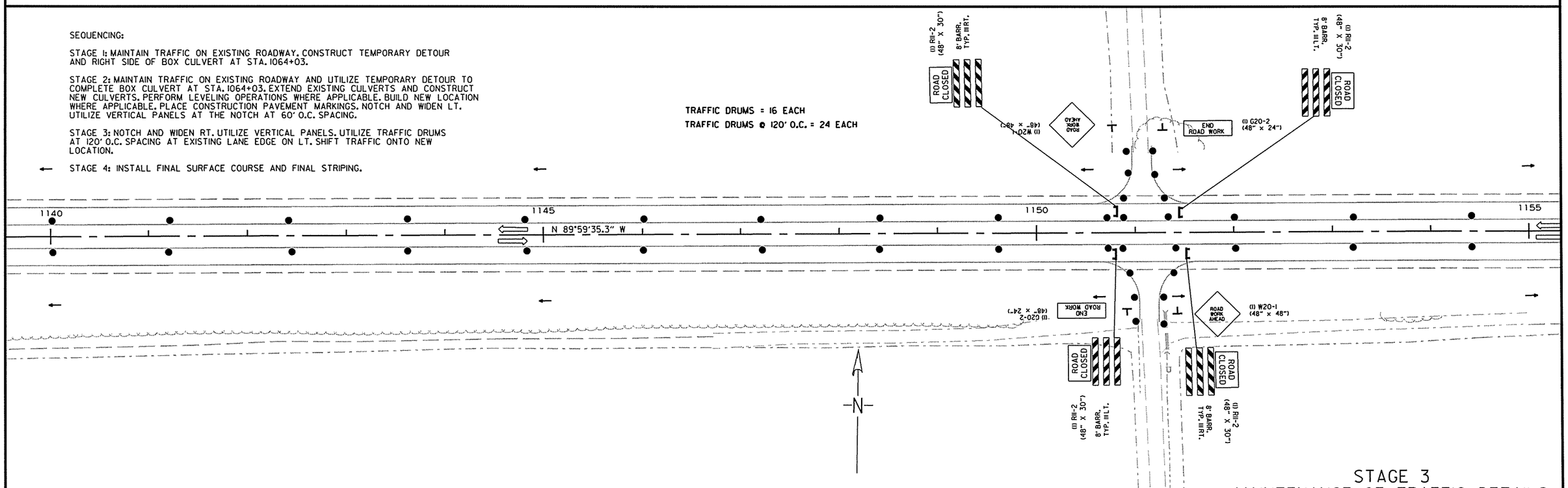
SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.



STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

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				6	ARK.			
				JOB NO.		100654	60	235

(2) MAINTENANCE OF TRAFFIC DETAILS

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

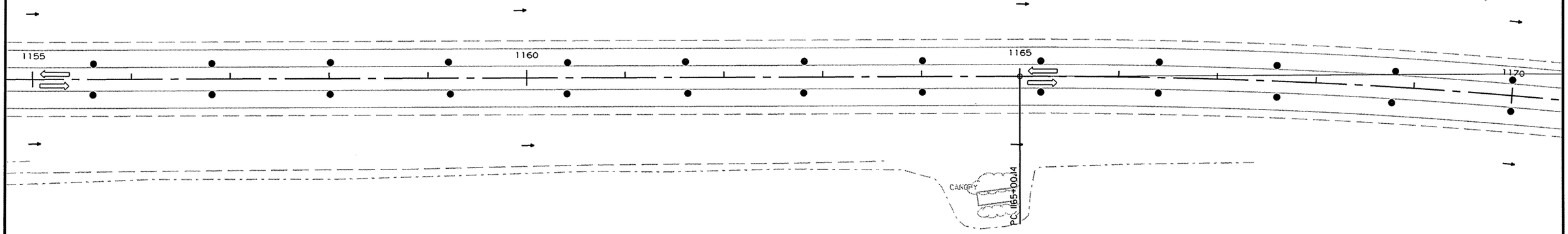
STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

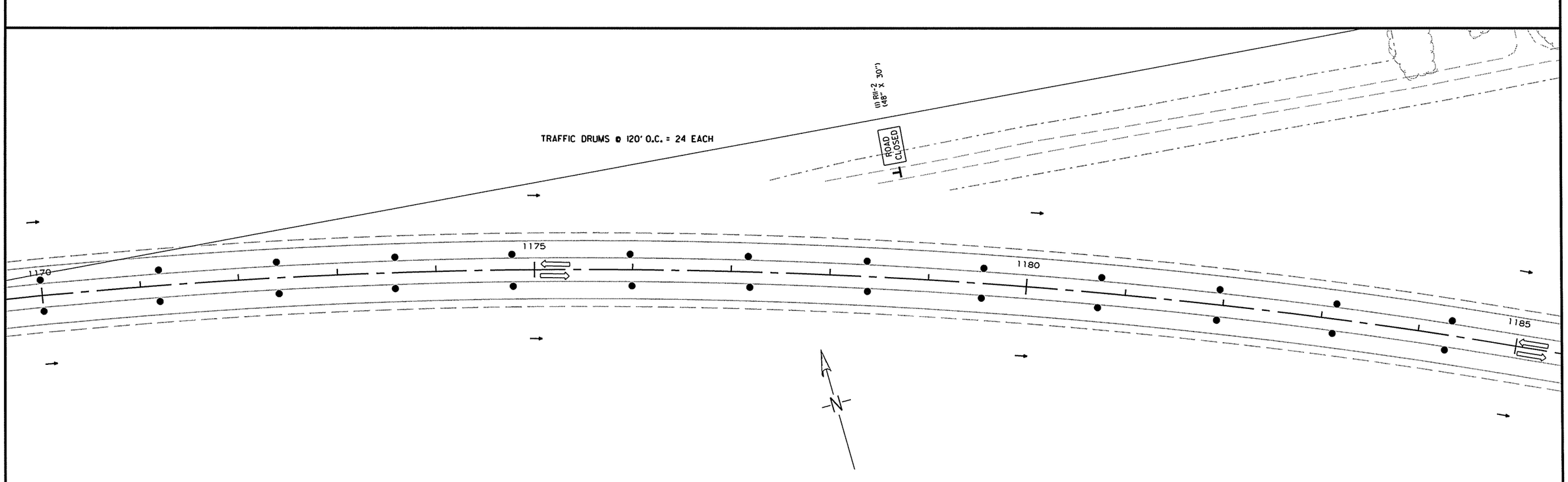
STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TRAFFIC DRUMS @ 120' O.C. = 26 EACH

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15





STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

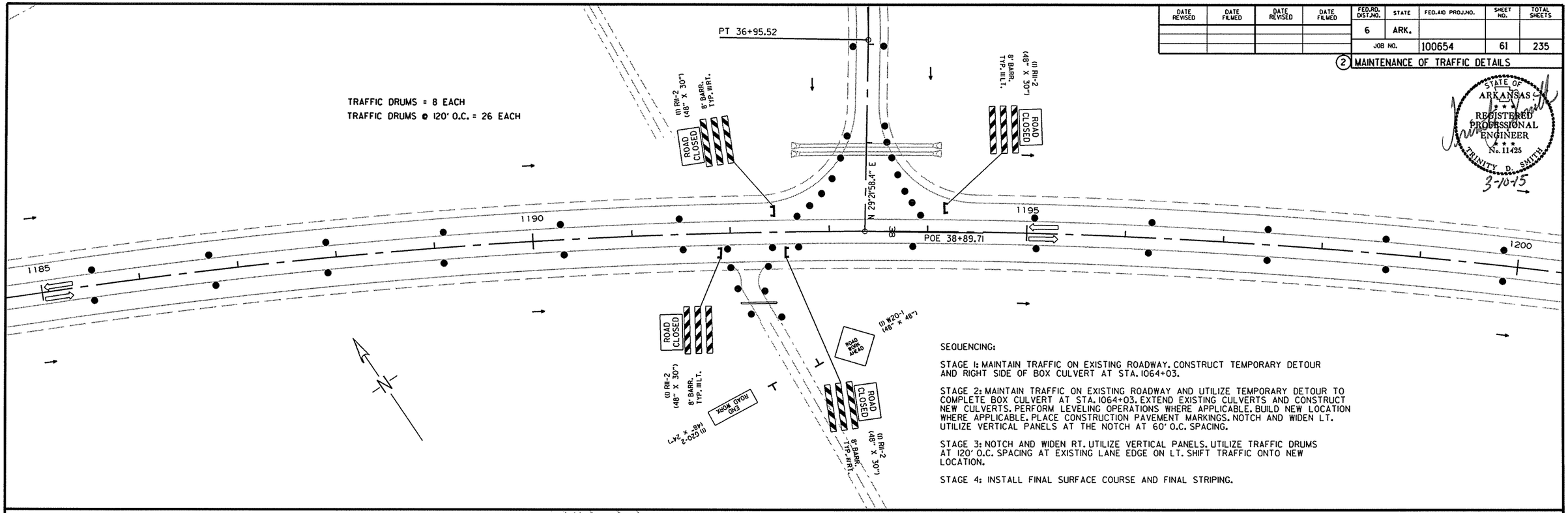
1/30/2015

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				6	ARK.			
				JOB NO.		100654	61	235

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

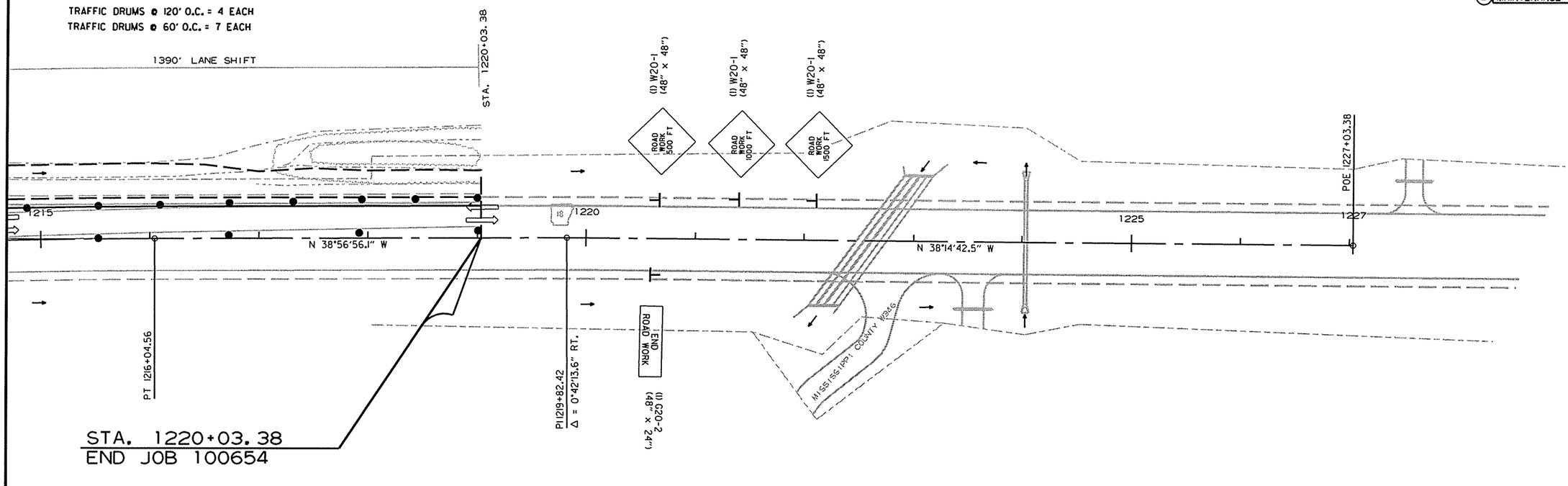
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R100654.DGN

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				6	ARK.			
				JOB NO.		100654	62	235

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
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3-10-15



STAGE 2
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
HWY. 18:
RT. & LT. EDGE LINES + DBL. CENTERLINE FROM STAGE I TRAFFIC
STA. 1211+10 - STA. 1220+03 = 3572 LIN. FT.
WEST CONNECTION:
RT. & LT. EDGE LINES + DBL. CENTERLINE FROM STAGE I TRAFFIC
= 900 LIN. FT.
EAST CONNECTION:
RT. & LT. EDGE LINES + DBL. CENTERLINE FROM STAGE I TRAFFIC
= 1400 LIN. FT.

STAGE 2
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
HWY. 18:
RT. & LT. EDGE LINES + DBL. CENTERLINE FROM STAGE 2 TRAFFIC
STA. 1187+38 - STA. 1220+03 = 13060 LIN. FT.

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

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STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	63	235

(2) MAINTENANCE OF TRAFFIC DETAILS

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

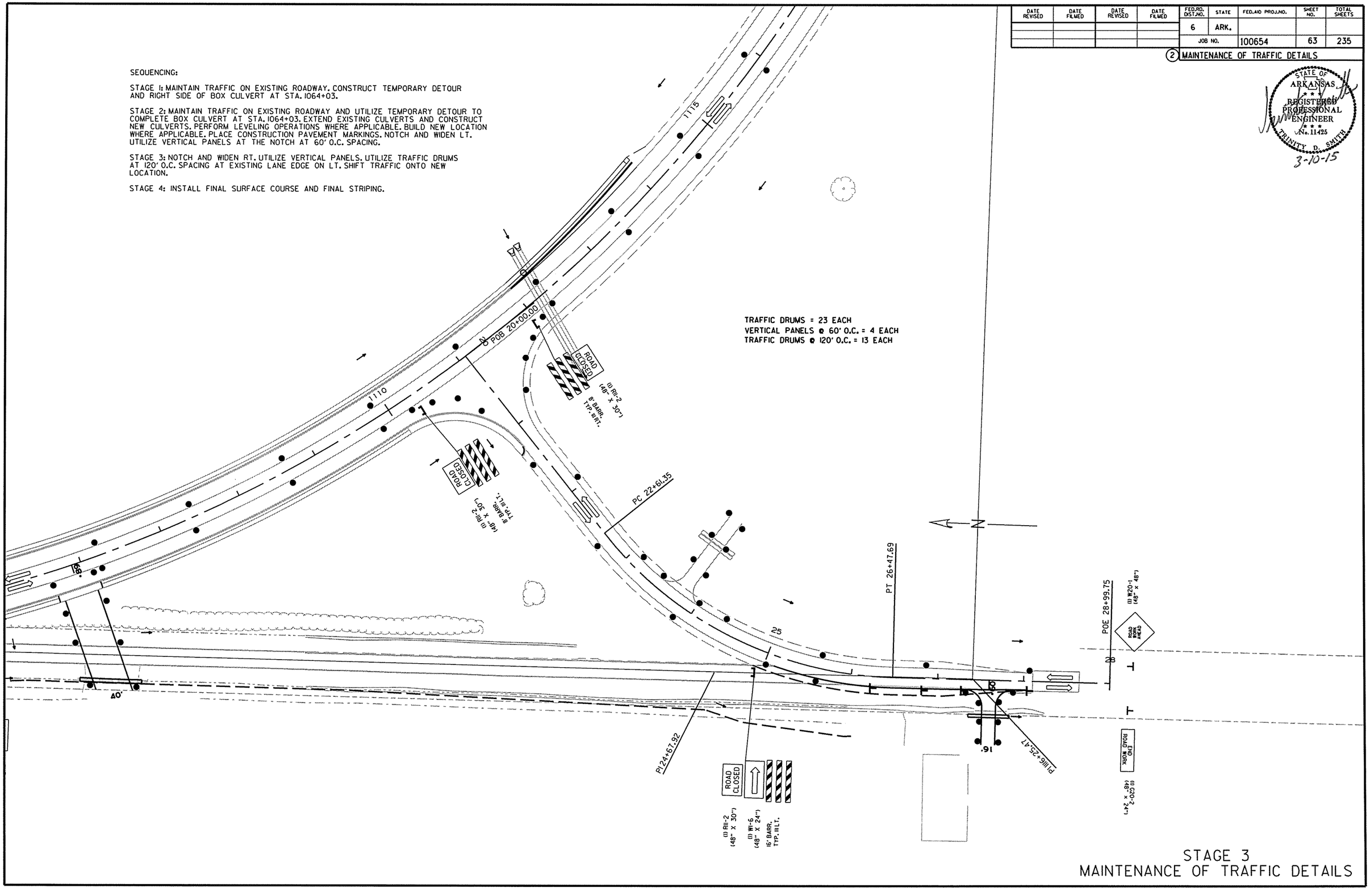
STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TRAFFIC DRUMS = 23 EACH
VERTICAL PANELS @ 60' O.C. = 4 EACH
TRAFFIC DRUMS @ 120' O.C. = 13 EACH

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STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

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				6	ARK.			
				JOB NO.		100654	64	235

(2) MAINTENANCE OF TRAFFIC DETAILS

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY DETOUR AND RIGHT SIDE OF BOX CULVERT AT STA. 1064+03.

STAGE 2: MAINTAIN TRAFFIC ON EXISTING ROADWAY AND UTILIZE TEMPORARY DETOUR TO COMPLETE BOX CULVERT AT STA. 1064+03. EXTEND EXISTING CULVERTS AND CONSTRUCT NEW CULVERTS. PERFORM LEVELING OPERATIONS WHERE APPLICABLE. BUILD NEW LOCATION WHERE APPLICABLE. PLACE CONSTRUCTION PAVEMENT MARKINGS. NOTCH AND WIDEN LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 60' O.C. SPACING.

STAGE 3: NOTCH AND WIDEN RT. UTILIZE VERTICAL PANELS. UTILIZE TRAFFIC DRUMS AT 120' O.C. SPACING AT EXISTING LANE EDGE ON LT. SHIFT TRAFFIC ONTO NEW LOCATION.

STAGE 4: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

TRAFFIC DRUMS = 26 EACH
VERTICAL PANELS @ 60' O.C. = 3 EACH
TRAFFIC DRUMS @ 120' O.C. = 12 EACH

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3-10-15

PI 34+68.87
PT 36+95.52
POE 38+89.71
PI 192+35.12
PC 31+69.26
PI 39+02.52
POB 30+00.00
N 29°21'58.4" E
35
20
30
1190
1190

(1) R11-2 (48" X 30") 8' BARR. TYP. BLT.
(1) W5-1 (48" X 24") 16' BARR. TYP. BLT.
(1) R11-2 (48" X 30") 8' BARR. TYP. BLT.
(1) R11-2 (48" X 30") 8' BARR. TYP. BRT.
(1) R11-2 (48" X 30") 8' BARR. TYP. BRT.
(1) R11-4 (60" X 30") THRU TRAFFIC
(1) W20-1 (48" X 48") ROAD WORK AHEAD
(1) G20-2 (48" X 24") END ROAD WORK
(1) W20-1 (48" X 48") ROAD WORK AHEAD
(1) G20-2 (48" X 24") END ROAD WORK
(1) W20-1 (48" X 48") ROAD WORK AHEAD
(1) G20-2 (48" X 24") END ROAD WORK
(1) G20-2 (48" X 24") END ROAD WORK
ROAD CLOSED
ROAD CLOSED
ROAD CLOSED
ROAD CLOSED
ROAD CLOSED
PARKING

STAGE 3
MAINTENANCE OF TRAFFIC DETAILS

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				JOB NO.		100654	65	235

(2) PERMANENT PAVEMENT MARKING DETAILS

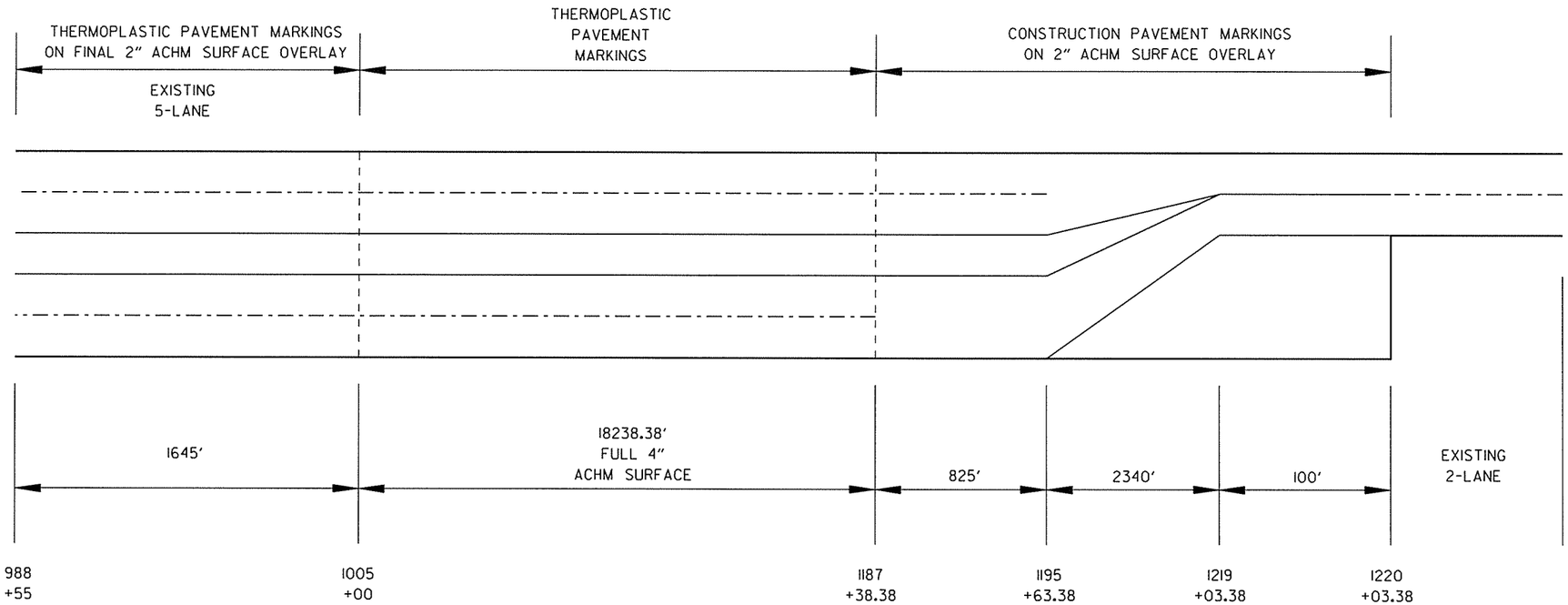
TRAFFIC DRUMS 120' O.C. NORMAL
LENGTH OF TAPER AND TRANSITION
CLOSING OUTSIDE LANES = 28 EACH

RAISED PAVEMENT MARKERS:

HWY. 18 STA. 988+55 - STA. 1195+63:
TYPE II (WHITE/WHITE) 80' O.C. ON SKIP LANE DIVIDERS BOTH DIRECTIONS = 508 EACH
TYPE II (YELLOW/YELLOW) 80' O.C. ON SKIP LANE DIVIDERS BOTH DIRECTIONS = 580 EACH
NORTH CONNECTION:
TYPE II (YELLOW/YELLOW) 80' O.C. ON SKIP LANE DIVIDERS BOTH DIRECTIONS = 3 EACH
WEST CONNECTION:
TYPE II (YELLOW/YELLOW) 80' O.C. ON SKIP LANE DIVIDERS BOTH DIRECTIONS = 10 EACH
EAST CONNECTION:
TYPE II (YELLOW/YELLOW) 80' O.C. ON SKIP LANE DIVIDERS BOTH DIRECTIONS = 10 EACH
OVERLAYS:
TYPE II (YELLOW/YELLOW) 80' O.C. ON SKIP LANE DIVIDERS BOTH DIRECTIONS = 281 EACH

THERMOPLASTIC PAVEMENT MARKINGS:
HWY. 77 INTERSECTION:
WORDS = 2 EACH
HWY. 18:
TO BE SPACED ALONG CONTINUOUS LT. TURN LANE
ARROWS = 52 EACH

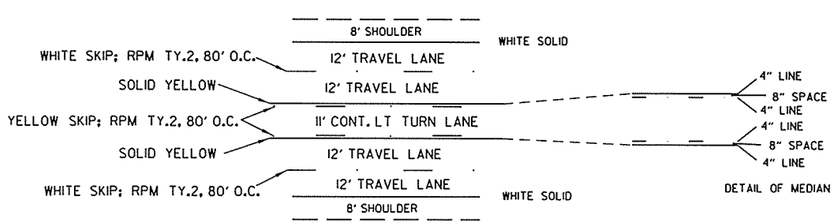
STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
3-10-15



SCHEMATIC OF FINAL STRIPING

NOT TO SCALE

CONSTRUCTION PAVEMENT MARKINGS
LT. & RT. EDGE LINES + DBL. CENTERLINE
+ CONTINUOUS LT. TURN LANE + SKIP LINES
OVER FINAL 2" ACHM SURFACE OVERLAY
STA. 1187+38 - STA. 1220+03 = 14849 LIN. FT.



5 LANE STRIPING
OPEN SHOULDER
CONTINUOUS LT. TURN LANE

LINE WIDTHS 4"

PERMANENT STRIPING ON FINAL ACHM SURFACE
THERMOPLASTIC PAVEMENT MARKINGS
HWY. 18 STA. 988+55 - STA. 1187+38
CONTINUOUS LT. TURN LANE = 4930.7 LIN. FT. 4" YELLOW
18 CITY STREETS, CO. RDS. DBL. CENTERLINE = 3600 LIN. FT. 4" YELLOW
NORTH CONNECTION DBL. CENTERLINE = 418 LIN. FT. 4" YELLOW
WEST CONNECTION DBL. CENTERLINE = 1554 LIN. FT. 4" YELLOW
EAST CONNECTION DBL. CENTERLINE = 1582 LIN. FT. 4" YELLOW
OVERLAYS DBL. YELLOW CENTERLINE = 44958 LIN. FT. 4" YELLOW

THERMOPLASTIC PAVEMENT MARKINGS
HWY. 18 STA. 988+55 - STA. 1015+00
HWY. 18 STA. 1113+00 - STA. 1187+38
LT. & RT. LANES OUTSIDE EDGE LINES = 19960 LIN. FT. 4" WHITE
LT. & RT. SKIP LINES = 9942 LIN. FT. 4" WHITE
18 CITY STREETS, CO. RDS. LT. & RT. LANES OUTSIDE EDGE LINES = 3600 LIN. FT. 4" WHITE
NORTH CONNECTION LT. & RT. LANES OUTSIDE EDGE LINES = 397 LIN. FT. 4" WHITE
WEST CONNECTION LT. & RT. LANES OUTSIDE EDGE LINES = 1829 LIN. FT. 4" WHITE
EAST CONNECTION LT. & RT. LANES OUTSIDE EDGE LINES = 1694 LIN. FT. 4" WHITE
OVERLAYS LT. & RT. LANES OUTSIDE EDGE LINES = 44958 LIN. FT. 4" WHITE

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

PERMANENT PAVEMENT MARKING DETAILS

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(2) PERMANENT PAVEMENT MARKING DETAILS

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TRINITY D. SMITH
3-10-15

77

EXIST.

TYPE II (YELLOW/YELLOW) 80' O.C.
ON DBL. YELLOW CENTERLINE = 3 EACH

4" WHITE

DBL. 4" YELLOW

ISLAND
THERMOPLASTIC PAVEMENT MARKINGS
8" WHITE = 221 LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKINGS ON CURB
10" WHITE = 160 LIN. FT.

10" WHITE REFLECTORIZED
PAINT PAVEMENT MARKINGS
TO BE PLACED ON ISLAND

8" WHITE OUTLINING ISLAND

CROSSWALK STRIPES
3 LOCATIONS
THERMOPLASTIC PAVEMENT MARKINGS
12" WHITE = 830 LIN. FT.

STA. 1051+14 CONSTRUCT
CONCRETE ISLAND W/TYPE
B CURB FACE = 136 SQ. YD.

2'R
26'
12'
2'
2'
100'
RADIUS
2'R
3'
1'R
100'
RADIUS

18

12'
11'
12'
11'
12'
85'

30'
RADIUS
30'
RADIUS
20'

1050+12.49
75' TAPER
1050
1049+37.49
28'

17'
11'
12'
11'
12'
12'
11'
12'
11'
12'

HWY. 18/HWY. 77 LAYOUT AND STRIPING DETAIL

SCALE 1" = 30'

PERMANENT PAVEMENT MARKING DETAILS

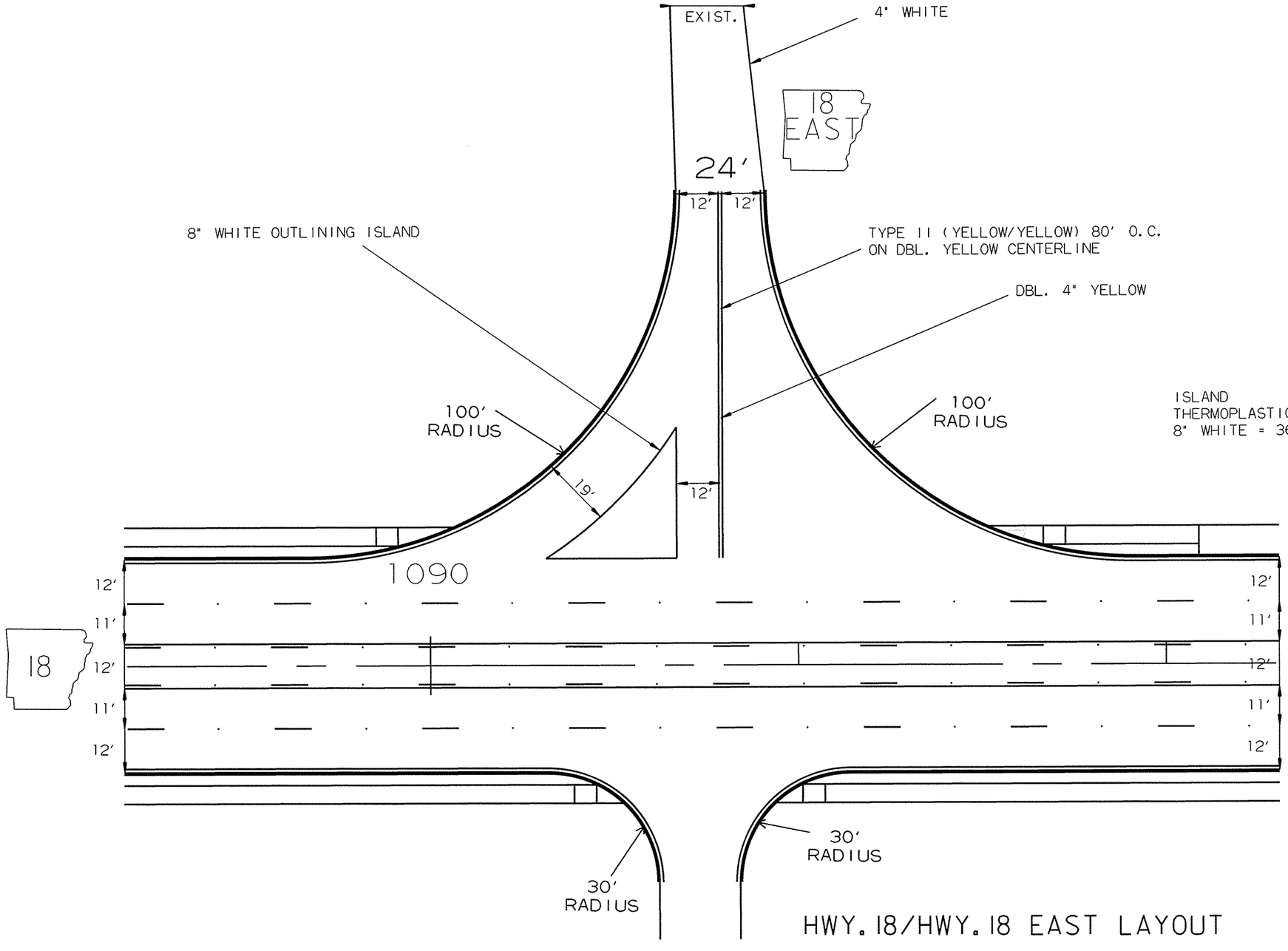
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(2) PERMANENT PAVEMENT MARKING DETAILS

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ISLAND
THERMOPLASTIC PAVEMENT MARKINGS
8" WHITE = 364 LIN. FT.

HWY. 18/HWY. 18 EAST LAYOUT AND STRIPING DETAIL

SCALE 1" = 30'

1/30/2015

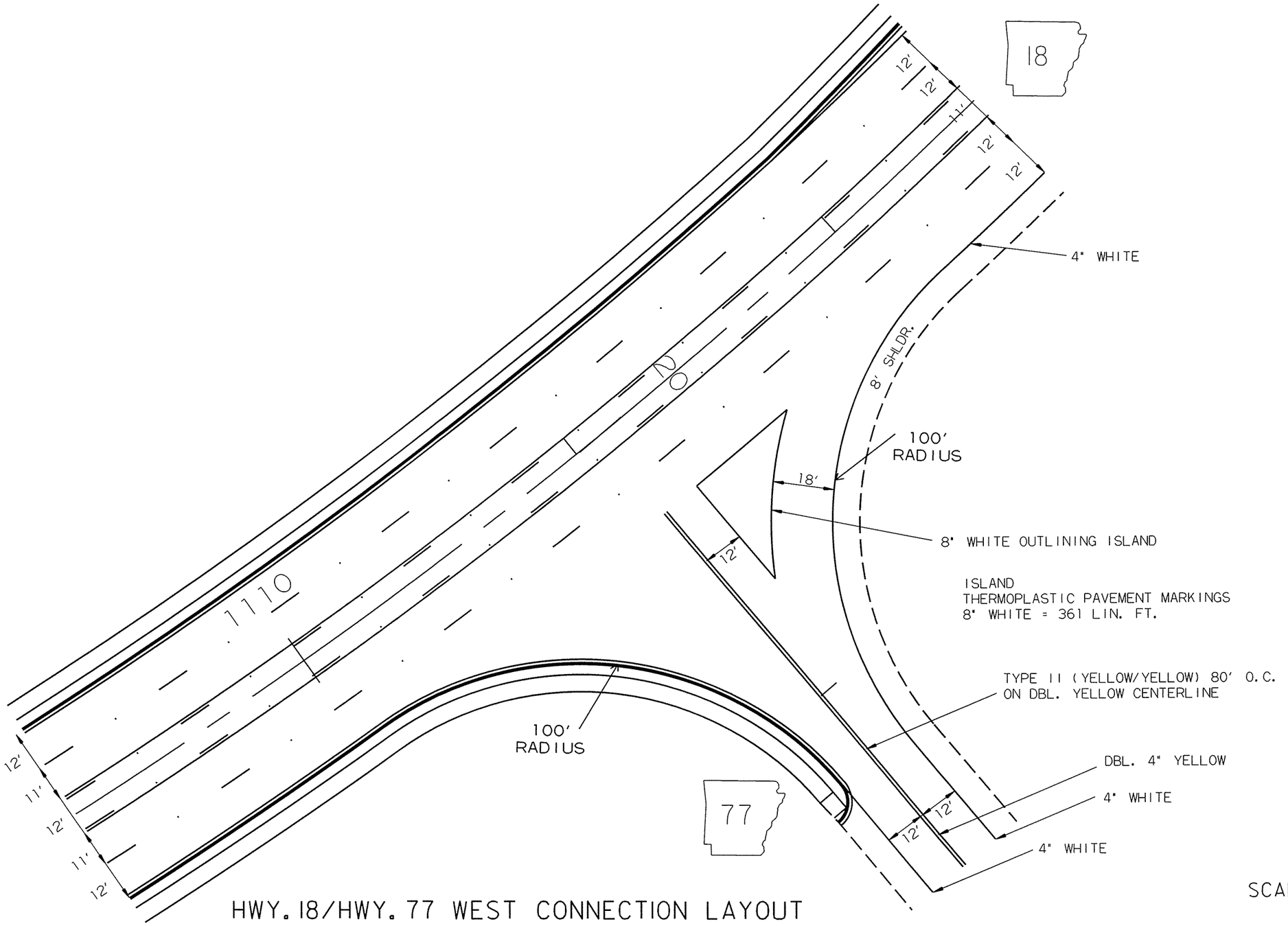
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PERMANENT PAVEMENT MARKING DETAILS

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(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
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No. 11425
TRINITY D. SMITH
3-10-15



HWY. 18/HWY. 77 WEST CONNECTION LAYOUT AND STRIPING DETAIL

SCALE 1" = 30'

PERMANENT PAVEMENT MARKING DETAILS

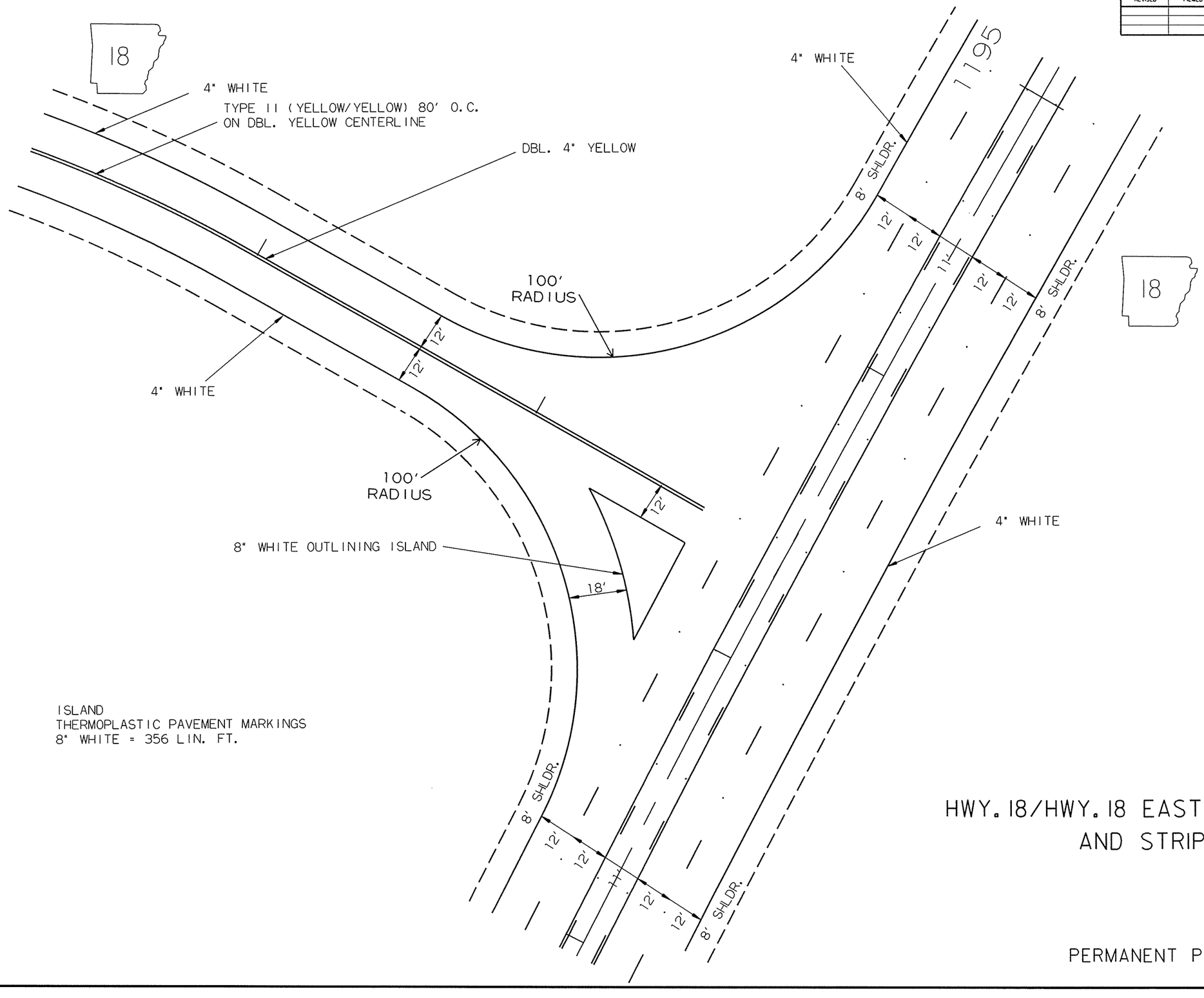
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(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



ISLAND
THERMOPLASTIC PAVEMENT MARKINGS
8" WHITE = 356 LIN. FT.

HWY. 18/HWY. 18 EAST CONNECTION LAYOUT AND STRIPING DETAIL

SCALE 1" = 30'

PERMANENT PAVEMENT MARKING DETAILS

1/30/2015

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(2) QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER
												RIGHT	LEFT		
			LIN. FT. - EACH					NO.	SQ. FT.	EACH				LIN. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	2	32.0						
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	2	32.0						
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	2	32.0						
W20-1	ROAD WORK AHEAD	48"x48"	3	25	23	23	25	25	400.0						
G20-2	END ROAD WORK	48"x24"	3	27	25	25	27	27	216.0						
G20-1	ROAD WORK NEXT xx MILES	60"x24"	2	2	2	2	2	2	20.0						
W1-4R	REVERSE CURVE RT.	48"x48"		2			2	2	32.0						
W1-4L	REVERSE CURVE LT.	48"x48"		2			2	2	32.0						
W13-1	SPEED LIMIT (ADVISORY)	24"x24"		4			4	4	16.0						
R11-2	ROAD CLOSED	48"x30"	3	31	52	3	52	52	520.0						
R-11-4	ROAD CLOSED TO THRU TRAFFIC	60"x30"			2	2	2	2	25.0						
OM-3R	OBJECT MARKER	12"x36"	3	3			3	3	9.0						
OM-3L	OBJECT MARKER	12"x36"	3	3			3	3	9.0						
W1-6	LARGE ARROW	48"x24"		4	6		6	6	48.0						
W1-8	CHEVRONS	18"x24"		16			16	16	48.0						
R4-1	DO NOT PASS	24"x30"	8	8	8		8	8	40.0						
RSP-1	SHOULDER CLOSED	48"x30"	8	8	8	8	8	8	80.0						
	VERTICAL PANELS		38	199	177		199			199					
	TRAFFIC DRUMS		104	580	1322		1322				1322				
	TYPE III BARRICADE-RT. (8')		3	19	22		22					176			
	TYPE III BARRICADE-LT. (8')			13	21		21						168		
	TYPE III BARRICADE-RT. (16')				3		3					48			
	TYPE III BARRICADE-LT. (16')				3		3						48		
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		126				126							126	
	RELOCATING PRECAST CONCRETE BARRIER			126			126								126
TOTALS:									1591.0	199	1322	224	216	126	126

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

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF PERMANENT PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING						REFLECTORIZED PAINT PAVEMENT MARKING
								TYPE II (WHITE)	TYPE II (YEL/YEL)	4" WHITE	4" YELLOW	8" WHITE	12" WHITE	WORDS	ARROWS	10" WHITE
	LIN. FT. - EACH				LIN. FT.			EACH		LIN. FT.				EACH		LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS	5960	45312	131920	14849	198041											
REMOVAL OF PAVEMENT MARKINGS	5960					5960										
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			5872	13060			18932									
RAISED PAVEMENT MARKERS TYPE II (WHITE)				508				508								
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)				887					887							
THERMOPLASTIC PAVEMENT MARKING WHITE (4")				82380						82380						
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")				101419							101419					
THERMOPLASTIC PAVEMENT MARKING WHITE (8")				1302								1302				
THERMOPLASTIC PAVEMENT MARKING WHITE (12")				830									830			
THERMOPLASTIC PAVEMENT MARKING WORDS				2										2		
THERMOPLASTIC PAVEMENT MARKING ARROWS				52											52	
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")				160												160
TOTALS:					198041	5960	18932	508	887	82380	101419	1302	830	2	52	160

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

2/3/2015

R100654.DGN

QUANTITIES

REMOVAL AND DISPOSAL ITEMS

STATION	STATION	LOCATION	CURB	CURB AND GUTTER	CONCRETE PAVEMENT	CONCRETE DRIVEWAYS	BILLBOARDS	FOUNDATIONS	POSTS	BELL	CONCRETE DITCH PAVING	BIRD BATH	BUILDINGS	FLAG POLE	SIGNS	SIGN FOUNDATIONS	LUMINAIRE POLES	DECORATIVE LIGHT POLE	WATER SPIGOT	SPRINKLER SYSTEM
			LIN. FT.	LIN. FT.	SQ. YD.	SQ. YD.	EACH	SQ. YD.	EACH	EACH	SQ. YD.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
1006+30		HWY. 18 RT.													1					
1006+87		HWY. 18 RT.				51														
1007+19		HWY. 18 RT.													1					
1012+40		HWY. 18 LT.																		1
1012+59		HWY. 18 LT.				81														
1016+90		HWY. 18 RT.							1											
1023+52		HWY. 18 RT.													1	1				
1024+38		HWY. 18 LT.													1					
1025+27		HWY. 18 LT.				31														
1025+34		HWY. 18 RT.													1	1				
1025+57		HWY. 18 RT.				176														
1027+05		HWY. 18 RT.				119														
1027+73		HWY. 18 RT.				83														
1027+84		HWY. 18 RT.													1	2				
1028+21		HWY. 18 LT.													1					
1028+29		HWY. 18 RT.				128														
1030+48		HWY. 18 RT.													2	3				
1033+79		HWY. 18 LT.				65														
1035+75		HWY. 18 RT.				12														
1036+90		HWY. 18 LT.													1	1				
1038+28		HWY. 18 LT.													1	2				
1038+28	1038+89	HWY. 18 LT.						102												
1040+00		HWY. 18 LT.													1					
1040+56		HWY. 18 LT.				65														
1040+85		HWY. 18 RT.				15														
1041+80		HWY. 18 RT.										1								
1042+13		HWY. 18 RT.								1										
1042+30		HWY. 18 RT.				35														
1042+67		HWY. 18 RT.												1						
1042+78		HWY. 18 RT.												1						
1044+66	1045+32	HWY. 18 LT.						124												
1045+62		HWY. 18 LT.				165														
1048+42		HWY. 18 RT.													1	1				
1050+76	1051+05	HWY. 18 LT.	67																	
1050+92	1051+35	HWY. 18 LT.	131																	
1051+02	1052+17	HWY. 18 RT.				149														
1051+46		HWY. 18 LT.	189																	
1051+64	1052+13	HWY. 18 LT.	76																	
1052+10		HWY. 18 LT.													1					
1052+56		HWY. 18 RT.				78														
1053+35		HWY. 18 RT.				15														
1055+84		HWY. 18 LT.													1	2				
1055+95	1056+20	HWY. 18 RT.							6											
1057+10		HWY. 18 RT.													1	2				
1057+34	1057+58	HWY. 18 RT.							6											
1057+57	1058+14	HWY. 18 LT.			50															
1057+59		HWY. 18 RT.							1											
1058+03		HWY. 18 LT.													1	2				
1058+15		HWY. 18 LT.													1	2	1			
1059+19		HWY. 18 LT.							1											
1059+60		HWY. 18 LT.													1	2				
1061+57		HWY. 18 RT.				14														
1062+10		HWY. 18 LT.							2											
1062+12	1063+23	HWY. 18 LT.			161															
1063+03		HWY. 18 LT.				152														
1063+80		HWY. 18 LT.													1	2				
1063+87		HWY. 18 LT.													1	2				
1064+40		HWY. 18 RT.					1													
1065+40		HWY. 18 LT.													1	2				
1066+51		HWY. 18 RT.	52																	
1066+72		HWY. 18 RT.				203														
1066+92		HWY. 18 RT.	52																	
1068+10		HWY. 18 LT.							1											
1068+20		HWY. 18 RT.				180														
1068+26		HWY. 18 LT.				50														
1068+38		HWY. 18 LT.							1											
1069+67		HWY. 18 LT.							1											
1069+75		HWY. 18 RT.				198														
1069+80		HWY. 18 LT.				46														
1069+93		HWY. 18 LT.							1											
1071+36		HWY. 18 RT.				141														
1072+75		HWY. 18 LT.							1											
1072+94		HWY. 18 RT.				145														
1073+15		HWY. 18 LT.									12									
1073+23		HWY. 18 RT.													1	1				
1073+47		HWY. 18 LT.				248														
1074+02		HWY. 18 RT.				92														
1074+67		HWY. 18 RT.				121														
1074+86		HWY. 18 RT.													1					
1075+48		HWY. 18 RT.													1					
1075+70		HWY. 18 RT.				165														
1080+02		HWY. 18 RT.													1	2				
1080+14		HWY. 18 RT.				99														
1081+61		HWY. 18 RT.				100														
1081+72		HWY. 18 RT.													1	2				
1082+41		HWY. 18 RT.							1											
1082+95		HWY. 18 RT.													1	1				
1083+39		HWY. 18 RT.							1											
1083+68		HWY. 18 RT.							1											
1084+72		HWY. 18 RT.													1	1				
1086+08		HWY. 18 RT.				108														
1087+85		HWY. 18 LT.																1		
1088+30		HWY. 18 RT.				51														
1090+76		HWY. 18 RT.																	1	
1090+94		HWY. 18 RT.													1	1				
1091+67		HWY. 18 LT.													1	1				
1092+10		HWY. 18 LT.													1					
1092+14		HWY. 18 LT.	46																	
1092+29		HWY. 18 LT.				218														
1092+44		HWY. 18 LT.	46																	
1092+45		HWY. 18 LT.													1					
1092+69		HWY. 18 LT.													1	1				
1092+70	1093+10	HWY. 18 LT.		69																
1093+07		HWY. 18 LT.													1	1				
1093+29		HWY. 18 RT.				338														
1093+44	1094+94	HWY. 18 LT.		182																
1093+48		HWY. 18 LT.													1	1				
1095+29	1095+45	HWY. 18 LT.		37																
1095+54		HWY. 18 LT.					2									1				
1097+65		HWY. 18 RT.																		1
1097+77		HWY. 18 LT.													1					
1098+26		HWY. 18 RT.				316														
1099+09		HWY. 18 RT.				247														
1100+81		HWY. 18 RT.				196														
1102+75		HWY. 18 LT.											1							
1205+77		HWY. 18 RT.											1							
1206+06		HWY. 18 RT.											1							
1206+52		HWY. 18 RT.											1							
1206+56		HWY. 18 RT.				83														
TOTALS:			659	288	211	4779	3	226	25	1	12	1	4	2	37	40	1	1	1	2

QUANTITIES

(2) QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		71	235

JOB NO. 100654

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11,485
TIMOTHY D. SMITH
3-10-15

CONCRETE WALKS

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS
			LIN. FT.	SQ.YD.
1012+92	1015+82	HWY. 18 LEFT	290	161
1012+92	1016+53	HWY. 18 RIGHT	361	201
1016+10	1018+58	HWY. 18 LEFT	248	138
1016+81	1021+44	HWY. 18 RIGHT	463	257
1018+86	1023+83	HWY. 18 LEFT	497	276
1021+72	1024+23	HWY. 18 RIGHT	251	139
1024+49	1025+13	HWY. 18 LEFT	64	36
1024+51	1025+39	HWY. 18 RIGHT	88	49
1025+41	1026+07	HWY. 18 LEFT	66	37
1025+75	1025+99	HWY. 18 RIGHT	24	13
1026+35	1027+71	HWY. 18 LEFT	136	76
1026+65	1026+87	HWY. 18 RIGHT	22	12
1027+23	1027+57	HWY. 18 RIGHT	34	19
1027+89	1028+11	HWY. 18 RIGHT	22	12
1028+35	1030+06	HWY. 18 LEFT	171	95
1028+47	1030+04	HWY. 18 RIGHT	157	87
1030+32	1032+28	HWY. 18 RIGHT	196	109
1030+34	1030+80	HWY. 18 LEFT	46	26
1031+20	1031+66	HWY. 18 LEFT	46	26
1032+56	1033+61	HWY. 18 RIGHT	105	58
1033+02	1033+60	HWY. 18 LEFT	58	32
1033+89	1035+61	HWY. 18 RIGHT	172	96
1033+98	1037+85	HWY. 18 LEFT	387	215
1035+89	1037+94	HWY. 18 RIGHT	205	114
1038+22	1038+48	HWY. 18 RIGHT	26	14
1038+23	1040+38	HWY. 18 LEFT	215	119
1038+76	1040+71	HWY. 18 RIGHT	195	108
1040+74	1045+41	HWY. 18 LEFT	467	259
1040+99	1042+16	HWY. 18 RIGHT	117	65
1042+44	1043+79	HWY. 18 RIGHT	135	75
1044+07	1045+83	HWY. 18 RIGHT	176	98
1045+83	1048+92	HWY. 18 LEFT	309	172
1046+11	1046+91	HWY. 18 RIGHT	80	44
1047+19	1047+87	HWY. 18 RIGHT	68	38
1048+27	1048+79	HWY. 18 RIGHT	52	29
1049+20	1050+36	HWY. 18 LEFT	116	64
1049+25	1049+70	HWY. 18 RIGHT	45	25
1050+06	1050+35	HWY. 18 RIGHT	29	16
1050+81	1050+98	HWY. 18 RIGHT	17	9
1050+97	1051+29	HWY. 18 LEFT	32	18
1051+40	1051+67	HWY. 18 RIGHT	27	15
1052+05	1052+22	HWY. 18 RIGHT	17	9
1052+22	1054+72	HWY. 18 LEFT	250	139
1052+90	1053+21	HWY. 18 RIGHT	31	17
1053+49	1054+34	HWY. 18 RIGHT	85	47
1054+62	1056+00	HWY. 18 RIGHT	138	77
1055+00	1055+16	HWY. 18 LEFT	16	9
1055+44	1056+19	HWY. 18 LEFT	75	42
1056+30	1057+33	HWY. 18 RIGHT	103	57
1056+47	1057+54	HWY. 18 LEFT	107	59
1057+63	1058+55	HWY. 18 RIGHT	92	51
1057+90	1058+30	HWY. 18 LEFT	40	22
1058+58	1058+88	HWY. 18 LEFT	30	17
1058+83	1060+26	HWY. 18 RIGHT	143	79
1059+18	1060+01	HWY. 18 LEFT	83	46
1060+41	1061+39	HWY. 18 LEFT	98	54
1060+54	1061+43	HWY. 18 RIGHT	89	49
1061+71	1062+09	HWY. 18 RIGHT	38	21
1061+77	1062+07	HWY. 18 LEFT	30	17
1062+37	1062+59	HWY. 18 RIGHT	22	12
1062+49	1062+77	HWY. 18 LEFT	28	16
1062+87	1063+34	HWY. 18 RIGHT	47	26
1063+29	1063+59	HWY. 18 LEFT	30	17
1063+87	1064+04	HWY. 18 LEFT	17	9
1064+00	1066+46	HWY. 18 RIGHT	246	137
1064+88	1066+30	HWY. 18 LEFT	142	79
1066+58	1068+09	HWY. 18 LEFT	151	84
1066+98	1067+18	HWY. 18 RIGHT	20	11
1067+68	1067+97	HWY. 18 RIGHT	29	16
1068+43	1069+63	HWY. 18 LEFT	120	67
1068+43	1069+52	HWY. 18 RIGHT	109	61
1069+97	1072+48	HWY. 18 LEFT	251	139
1069+98	1071+15	HWY. 18 RIGHT	117	65
1071+57	1072+73	HWY. 18 RIGHT	116	64
1072+82	1073+24	HWY. 18 LEFT	42	23
1073+15	1073+85	HWY. 18 RIGHT	70	39
1073+70	1078+85	HWY. 18 LEFT	515	286
1074+19	1074+49	HWY. 18 RIGHT	30	17
1074+85	1075+47	HWY. 18 RIGHT	62	34
1075+93	1077+61	HWY. 18 RIGHT	168	93
1077+89	1078+38	HWY. 18 RIGHT	49	27
1078+66	1080+00	HWY. 18 RIGHT	134	74
1079+51	1087+79	HWY. 18 LEFT	828	460
1080+28	1081+47	HWY. 18 RIGHT	119	66
1081+75	1082+14	HWY. 18 RIGHT	39	22
1082+44	1083+36	HWY. 18 RIGHT	92	51
1083+70	1084+09	HWY. 18 RIGHT	39	22
1084+41	1085+75	HWY. 18 RIGHT	134	74
1086+41	1088+16	HWY. 18 RIGHT	175	97
1088+07	1089+85	HWY. 18 LEFT	178	99
1088+44	1090+39	HWY. 18 RIGHT	195	108
1091+07	1092+95	HWY. 18 RIGHT	188	104
1091+73	1092+09	HWY. 18 LEFT	36	20
1092+49	1093+07	HWY. 18 LEFT	58	32
1093+49	1094+89	HWY. 18 LEFT	140	78
1093+63	1097+92	HWY. 18 RIGHT	429	238
1095+33	1098+53	HWY. 18 LEFT	320	178
1098+60	1098+91	HWY. 18 RIGHT	31	17
1098+81	1101+74	HWY. 18 LEFT	293	163
1099+27	1100+63	HWY. 18 RIGHT	136	76
1100+99	1103+70	HWY. 18 RIGHT	271	151
1102+02	1102+89	HWY. 18 LEFT	87	48
1103+17	1114+08	HWY. 18 LEFT	1091	606
1103+98	1105+64	HWY. 18 RIGHT	166	92
1106+14	1111+00	HWY. 18 RIGHT	623	346
TOTAL:				8808

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
1006+85	18"X24' C.M. PIPE CULVERT ON RT.	1
1008+17	18"X26' R.C. PIPE CULVERT ON RT.	1
1011+66	24"X24' C.M. PIPE CULVERT ON LT.	1
1012+58	24"X24' C.M. PIPE CULVERT ON LT.	1
1015+99	24"X22' C.M. PIPE CULVERT ON LT.	1
1016+63	18"X24' C.M. PIPE CULVERT ON RT.	1
1018+74	24"X24' C.M. PIPE CULVERT ON LT.	1
1021+58	36"X24' C.M. PIPE CULVERT ON RT.	1
1024+16	24"X24' C.M. PIPE CULVERT ON LT.	1
1024+33	18"X24' C.M. PIPE CULVERT ON RT.	1
1025+26	24"X24' C.M. PIPE CULVERT ON LT.	1
1025+57	18"X32' C.M. PIPE CULVERT ON RT.	1
1026+16	24"X24' C.M. PIPE CULVERT ON LT.	1
1026+32	18"X30' C.M. PIPE CULVERT ON RT.	1
1027+07	18"X30' C.M. PIPE CULVERT ON RT.	1
1027+74	18"X24' C.M. PIPE CULVERT ON RT.	1
1028+03	24"X26' C.M. PIPE CULVERT ON LT.	1
1028+31	18"X38' C.M. PIPE CULVERT ON RT.	1
1029+18	18"X16' R.C. PIPE CULVERT ON RT.	1
1030+01	6"X56' R.C. PIPE CULVERT ON RT.	1
1030+17	24"X28' R.C. PIPE CULVERT ON RT.	1
1030+24	18"X24' R.C. PIPE CULVERT ON LT.	1
1030+69	18"X34' C.M. PIPE CULVERT ON LT.	1
1032+42	18"X30' R.C. PIPE CULVERT ON RT.	1
1033+75	18"X24' R.C. PIPE CULVERT ON RT.	1
1033+79	18"X40' C.M. PIPE CULVERT ON LT.	1
1035+75	18"X26' R.C. PIPE CULVERT ON RT.	1
1038+06	18"X40' C.M. PIPE CULVERT ON LT.	1
1038+09	18"X26' R.C. PIPE CULVERT ON RT.	1
1038+63	18"X24' R.C. PIPE CULVERT ON RT.	1
1040+60	18"X36' C.M. PIPE CULVERT ON LT.	1
1040+83	18"X28' R.C. PIPE CULVERT ON RT.	1
1042+29	18"X26' R.C. PIPE CULVERT ON RT.	1
1043+92	18"X26' R.C. PIPE CULVERT ON RT.	1
1044+61	42"X66' R.C. PIPE CROSS DRAIN	1
1045+61	24"X50' C.M. PIPE CULVERT ON LT.	1
1045+97	18"X28' R.C. PIPE CULVERT ON RT.	1
1048+06	18"X40' C.M. PIPE CULVERT ON RT.	1
1049+02	18"X40' C.M. PIPE CULVERT ON RT.	1
1049+10	24"X32' C.M. PIPE CULVERT ON LT.	1
1049+89	18"X30' C.M. PIPE CULVERT ON RT.	1
1050+63	18"X48' STEEL PIPE CULVERT ON RT.	1
1051+21	18"X34' R.C. PIPE CULVERT ON RT.	1
1052+00	18"X40' R.C. PIPE CULVERT ON RT.	1
1052+58	24"X40' C.M. PIPE CULVERT ON RT.	1
1053+36	18"X24' R.C. PIPE CULVERT ON RT.	1
1056+13	18"X38' C.M. PIPE CULVERT ON RT.	1
1056+35	18"X32' C.M. PIPE CULVERT ON LT.	1
1057+45	18"X36' C.M. PIPE CULVERT ON RT.	1
1057+64	18"X22' R.C. PIPE CULVERT ON LT.	1
1058+44	18"X24' R.C. PIPE CULVERT ON LT.	1
1058+69	24"X24' C.M. PIPE CULVERT ON RT.	1
1059+02	18"X40' R.C. PIPE CULVERT ON LT.	1
1060+22	18"X46' R.C. PIPE CULVERT ON LT.	1
1060+40	36"X16' C.M. PIPE CULVERT ON RT.	1
1061+57	18"X38' R.C. PIPE CULVERT ON LT.	1
1061+68	24"X50' C.M. PIPE CULVERT ON RT.	1
1062+24	24"X26' R.C. PIPE CULVERT ON RT.	1
1062+35	18"X52' C.M. PIPE CULVERT ON LT.	1
1062+66	24"X46' C.M. PIPE CULVERT ON RT.	1
1063+02	18"X50' C.M. PIPE CULVERT ON LT.	1
1063+62	36"X46' C.M. PIPE CULVERT ON RT.	1
1063+70	36"X30' C.M. PIPE CULVERT ON LT.	1
1064+02	36"X70' R.C. PIPE CROSS DRAIN	1
1064+07	36"X70' R.C. PIPE CROSS DRAIN	1
1064+48	36"X54' C.M. PIPE CULVERT ON LT.	1
1065+46	18"X34' C.M. PIPE CULVERT ON RT.	1
1066+48	30"X22' C.M. PIPE CULVERT ON LT.	1
1066+82	18"X34' C.M. PIPE CULVERT ON RT.	1
1067+44	18"X44' C.M. PIPE CULVERT ON RT.	1
1068+18	18"X38' C.M. PIPE CULVERT ON RT.	1
1068+25	30"X34' C.M. PIPE CULVERT ON LT.	1
1069+81	30"X34' C.M. PIPE CULVERT ON LT.	1
1069+83	18"X38' C.M. PIPE CULVERT ON RT.	1
1071+35	18"X40' C.M. PIPE CULVERT ON RT.	1
1072+66	30"X34' C.M. PIPE CULVERT ON LT.	1
1072+93	12"X40' C.M. PIPE CULVERT ON RT.	1
1073+46	30"X46' R.C. PIPE CULVERT ON LT.	1
1074+06	18"X40' C.M. PIPE CULVERT ON RT.	1
1074+66	18"X36' C.M. PIPE CULVERT ON RT.	1
1075+70	18"X40' C.M. PIPE CULVERT ON RT.	1
1078+51	18"X24' R.C. PIPE CULVERT ON RT.	1
1079+18	18"X30' C.M. PIPE CULVERT ON LT.	1
1080+15	18"X30' C.M. PIPE CULVERT ON RT.	1
1081+60	18"X30' C.M. PIPE CULVERT ON RT.	1
1082+29	18"X30' C.M. PIPE CULVERT ON RT.	1
1083+54	18"X30' C.M. PIPE CULVERT ON RT.	1
1084+24	18"X32' C.M. PIPE CULVERT ON RT.	1
1086+06	24"X40' C.M. PIPE CULVERT ON RT.	1
1088+29	24"X18' C.M. PIPE CULVERT ON RT.	1
1090+47	30"X44' C.M. PIPE CROSS DRAIN	1
1090+50	30"X44' C.M. PIPE CROSS DRAIN	1
1090+73	36"X40' C.M. PIPE CULVERT ON RT.	2
1092+30	24"X40' C.M. PIPE CULVERT ON LT.	1
1093+29	42"X90' C.M. PIPE CULVERT ON RT.	1
1093+29	24"X48' C.M. PIPE CULVERT ON LT.	1
1095+12	24"X48' C.M. PIPE CULVERT ON LT.	1
1098+19	36"X86' C.M. PIPE CULVERT ON RT.	1
1098+67	24"X18' R.C. PIPE CULVERT ON LT.	1
1099+10	36"X48' C.M. PIPE CULVERT ON RT.	1
1100+83	36"X36' C.M. PIPE CULVERT ON RT.	1
1101+80	24"X26' R.C. PIPE CULVERT ON LT.	1
1102+84	24"X24' C.M. PIPE CULVERT ON LT.	1
1103+90	24"X24' C.M. PIPE CULVERT ON RT.	1
1105+91	24"X78' R.C. PIPE CULVERT ON RT.	1
1206+24	30"X24' R.C. PIPE CULVERT ON LT.	1
1206+50	24"X46' R.C. PIPE CROSS DRAIN	1
1206+64	30"X26' R.C. PIPE CULVERT ON LT.	1
10+93	18"X40' C.M. PIPE CULVERT ON LT.	1
11+77	18"X30' C.M. PIPE CULVERT ON LT.	1
23+35	24"X24' C.M. PIPE CULVERT ON RT.	1
27+63	24"X37' C.M. PIPE CULVERT ON RT.	1
27+98	36"X24' C.M. PIPE CULVERT ON LT.	1
31+66	18"X24' C.M. PIPE CULVERT ON RT.	1
32+28	18"X24' C.M. PIPE CULVERT ON LT.	1
TOTAL:		116

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

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		72	235

(2) QUANTITIES

JOB NO. 100654

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11,485 TIMOTHY D. SMITH

3-10-15

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10/12/2015				6	ARK.			
				JOB NO.		100654	73	235

(2) QUANTITIES

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	MAIN LANES	27363	276189	
1056+60	1071+50	DETOUR	1706	1244	
1056+60	1071+50	DETOUR OBLITERATION	913		
		NORTH CONNECTION	98	676	
		WEST CONNECTION	2402	25648	
		EAST CONNECTION	675	7169	
		NORTH CONNECTION OBLITERATION	445		
		WEST CONNECTION OBLITERATION	1614		
		EAST CONNECTION OBLITERATION	5846		
		HWY. 18 OBLITERATION	2645		
ENTIRE	PROJECT	APPROACHES	5	9320	
ENTIRE	PROJECT	TEMPORARY APPROACHES	100	1000	
1064+03		CHANNEL CHANGE	498		
1206+00		CHANNEL CHANGE	291		
* ENTIRE	PROJECT	TO BE USED IF AND WHERE			1000
		DIRECTED BY THE ENGINEER			
TOTALS:			44601	321246	1000

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

WHEELCHAIR RAMPS

STATION	LOCATION	TYPE 3
		SQ. YD.
1012+92	HWY. 18 RIGHT	3.3
1012+94	HWY. 18 LEFT	3.9
1023+89	HWY. 18 LEFT	5.6
1024+43	HWY. 18 LEFT	5.6
1026+05	HWY. 18 RIGHT	5.6
1026+59	HWY. 18 RIGHT	5.6
1027+77	HWY. 18 LEFT	5.6
1028+29	HWY. 18 LEFT	5.6
1031+72	HWY. 18 LEFT	7.6
1032+96	HWY. 18 LEFT	6.3
1050+42	HWY. 18 LEFT	7.4
1050+91	HWY. 18 LEFT	4.8
1051+35	HWY. 18 LEFT	3.8
1052+16	HWY. 18 LEFT	7.6
1052+28	HWY. 18 RIGHT	5.6
1052+84	HWY. 18 RIGHT	5.6
1063+40	HWY. 18 RIGHT	5.6
1063+94	HWY. 18 RIGHT	5.6
1064+10	HWY. 18 LEFT	6.0
1064+82	HWY. 18 LEFT	6.0
1078+91	HWY. 18 LEFT	5.6
1079+45	HWY. 18 LEFT	5.6
1085+81	HWY. 18 RIGHT	5.6
1086+35	HWY. 18 RIGHT	5.6
1089+91	HWY. 18 LEFT	7.8
1090+45	HWY. 18 RIGHT	5.6
1091+01	HWY. 18 RIGHT	5.6
1091+67	HWY. 18 LEFT	7.8
1111+00	HWY. 18 RIGHT	3.3
1114+08	HWY. 18 LEFT	3.3
TOTAL:		168.5

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

STATION	LOCATION	WIDTH	LENGTH	CU.YD.
		FEET		
1024+16	C.R. 191 LT. INSTALL	8.50	16	5.0
1024+16	C.R. 191 LT. REMOVAL	8.50	16	5.0
1026+32	ASHLEY DRIVE RT. INSTALL	7.92	18	5.3
1026+32	ASHLEY DRIVE RT. REMOVAL	7.92	20	5.9
1028+03	BRYON LANE LT. INSTALL	8.50	20	6.3
1028+03	BRYON LANE LT. REMOVAL	8.50	21	6.6
1044+61	HWY. 18 INSTALL/REMOVAL	10.25	30	14.2
1047+63	HWY. 18 INSTALL	9.67	26	9.3
1052+56	GAMBLE LANE RT. INSTALL	7.92	34	10.0
1052+56	GAMBLE LANE RT. INSTALL	7.92	29	8.5
1063+67	OLYMPIA DRIVE RT. INSTALL	7.92	29	8.5
1063+67	OLYMPIA DRIVE RT. REMOVAL	9.67	19	6.8
1063+67	OLYMPIA DRIVE RT. INSTALL	9.67	19	6.8
1064+03	HWY. 18 INSTALL/REMOVAL	15.33	24	17.0
1064+46	OLYMPIA DRIVE LT. INSTALL	7.92	46	13.5
1064+46	OLYMPIA DRIVE LT. REMOVAL	9.67	30	10.7
1064+46	OLYMPIA DRIVE LT. INSTALL	9.67	25	9.0
1079+18	FUTURE DRIVE LT. REMOVAL	7.92	18	5.3
1079+18	FUTURE DRIVE LT. INSTALL	7.92	18	5.3
1086+08	JOHNSON DRIVE RT. INSTALL	7.92	24	7.0
1086+08	JOHNSON DRIVE RT. REMOVAL	8.50	24	7.6
1086+08	JOHNSON DRIVE RT. INSTALL	8.50	22	6.9
1090+51	HWY. 18	12.00	20	11.1
1090+73	COSTNER DRIVE RT. REMOVAL	17.33	24	15.4
1090+73	COSTNER DRIVE RT. INSTALL	12.00	26	11.6
TOTAL:				218.6

AVG. DEPTH = 12"

DUMPED RIPRAP AND FILTER BLANKET

STATION	LOCATION	DUMPED RIPRAP (GROUTED)	FILTER BLANKET
		CU. YDS.	SQ. YDS.
28+05	WEST CONNECTION RT. DITCH	17	33
	TO BE USED IF AND WHERE	100	200
	DIRECTED BY THE ENGINEER		
TOTALS:		117	233

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

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

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
1061+90	1063+90	HWY. 18 LT.	200.00	18	400.00	88.89	1.12
TOTALS:					400.00	88.89	1.12

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-12-15

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
1006+00	35	53	15.30	90	11	29.50	5' RT.	0-5	26	15	A-2-6(0)	BROWN
1006+00	35	53	15.20	90	11	29.50	14' RT.	0-5	21	8	A-4(0)	BROWN
1006+00	35	53	15.10	90	11	29.50	25' RT.	0-5	20	6	A-4(0)	BROWN
1014+00	35	53	15.00	90	11	19.80	5' LT.	0-5	20	8	A-4(0)	BROWN
1014+00	35	53	15.10	90	11	19.80	14' LT.	0-5	22	9	A-4(1)	BROWN
1014+00	35	53	15.20	90	11	19.80	25' LT.	0-5	23	8	A-4(0)	BROWN
1022+00	35	53	14.60	90	11	10.10	5' LT.	0-5	19	6	A-4(0)	BROWN
1022+00	35	53	14.50	90	11	10.10	14' LT.	0-5	ND	NP	A-4(0)	BROWN
1022+00	35	53	14.40	90	11	10.10	25' LT.	0-5	ND	NP	A-4(0)	BROWN
1030+00	35	53	14.10	90	11	0.40	CL	0-5	21	8	A-4(1)	BROWN
1038+00	35	53	10.30	90	10	52.00	CL	0-5	20	7	A-4(0)	BROWN
1046+00	35	53	5.00	90	10	44.80	CL	0-5	18	3	A-2-4(0)	BROWN
1054+00	35	52	58.60	90	10	39.30	CL	0-5	20	6	A-4(0)	BROWN
1062+00	35	52	50.80	90	10	38.40	CL	0-5	ND	NP	A-4(0)	BROWN
1070+00	35	52	42.90	90	10	38.50	CL	0-5	16	2	A-2-4(0)	BROWN
1078+00	35	52	35.00	90	10	38.60	CL	0-5	17	3	A-4(0)	BROWN
1086+00	35	52	27.00	90	10	38.70	CL	0-5	ND	NP	A-2-4(0)	BROWN
1092+00	35	52	21.10	90	10	38.80	CL	0-5	26	13	A-6(6)	BROWN
1100+00	35	52	13.20	90	10	38.90	CL	0-5	18	5	A-4(0)	BROWN
1108+00	35	52	5.60	90	10	36.40	CL	0-5	ND	NP	A-2-4(0)	BROWN
1116+00	35	51	59.90	90	10	29.90	CL	0-5	ND	NP	A-2-4(0)	BROWN
1124+00	35	51	56.40	90	10	20.80	78' RT.	0-5	ND	NP	A-2-4(0)	BROWN
1132+00	35	51	56.40	90	10	11.10	78' RT.	0-5	16	2	A-4(0)	BROWN
1140+00	35	51	55.90	90	10	1.50	78' RT.	0-5	24	6	A-4(3)	BROWN
1148+00	35	51	56.30	90	9	51.80	78' RT.	0-5	15	1	A-4(0)	BROWN
1156+00	35	51	56.20	90	9	41.90	78' RT.	0-5	17	4	A-4(0)	BROWN
1164+00	35	51	56.10	90	9	32.20	78' RT.	0-5	17	2	A-4(0)	BROWN
1172+00	35	51	55.40	90	9	22.60	78' RT.	0-5	ND	NP	A-4(0)	BROWN
1178+00	35	51	54.70	90	9	15.50	CL	0-5	21	6	A-4(1)	BROWN
1186+00	35	51	52.40	90	9	6.30	CL	0-5	ND	NP	A-4(0)	BROWN
1196+00	35	51	47.70	90	8	55.60	CL	0-5	ND	NP	A-4(0)	BROWN
1204+00	35	51	42.90	90	8	47.80	CL	0-5	21	6	A-4(2)	BROWN
1212+00	35	51	37.30	90	8	41.00	CL	0-5	23	5	A-4(1)	BROWN
1212+00	35	51	37.40	90	8	40.90	12' LT.	0-5	ND	NP	A-4(0)	BROWN
1212+00	35	51	37.50	90	8	41.80	25' LT.	0-5	21	4	A-4(0)	BROWN
1006+00	35	53	15.10	90	11	29.50	25' RT.	0-5	ND	NP	A-2-4(0)	BROWN
1100+00	35	52	13.20	90	10	38.70	14' LT.	0-5	ND	NP	A-2-4(0)	BROWN
1172+00	35	51	55.30	90	9	15.30	78' LT.	0-5	ND	NP	A-2-4(0)	BROWN
1212+00	35	51	37.30	90	8	41.00	25' RT.	0-5	22	4	A-4(1)	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

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 SILT FENCE (E-7)	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	STAGE 1	0.50	1.00	0.50	51.0	0.50	0.50	0.50	10.2	132	18		95			16
ENTIRE	PROJECT	STAGE 2	29.05	58.10	29.05	2963.1	29.05	53.35	53.35	1088.3	1254	129	625	24944			1047
ENTIRE	PROJECT	STAGE 3	11.26	22.52	11.26	1148.5	11.26	13.00	13.00	265.2	924	90	825	195			110
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.											440	60	100	3000	3000	3000	3155
TOTALS:			40.81	81.62	40.81	4162.6	40.81	66.85	66.85	1363.7	2750	297	1550	28234	3000	3000	4328

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION
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.

YARD DRAINS

LOCATION	YARD DRAINS	12" SIDE DRAIN
	EACH	LIN. FT.
ENTIRE PROJECT TO BE USED IF	10	250
AND WHERE DIRECTED BY THE		
ENGINEER		
TOTALS:	10	250

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

2/3/2015

R100654.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	74	235

(2) QUANTITIES

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			2000	10
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			2000	10

* NOTE: QUANTITIES 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.

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	1300
AND WHERE DIRECTED BY THE	
ENGINEER	
TOTAL:	1300

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

FENCING

STATION	STATION	LOCATION	* 4' CHAIN LINK FENCE
			LIN. FT.
1040+94	1041+58	HWY. 18 RT.	64
1102+01	1102+94	HWY. 18 LT.	89
TOTAL:			153

* DENOTES ALTERNATE BID ITEM.

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
1064+03	LT. HEADWALL OF BOX CULVERT	1
1206+00	RT. HEADWALL OF BOX CULVERT	1
TOTAL:		2

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 18"	30"	36"	42"	48"	(CLASS IV) 42"	(CLASS V) 24"	36"	51"X31"	PIPE CULVERT STORM DRAIN ALTERNATES 1 & 2 18"	24"	36"	51"X31"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 18"	24"	30"	36"	42"	48"	DROP INLETS TYPE MO	EXT. 4'	8'	JUNCT. BOX (TYPE ST)	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE-ROADWAY	REINF. STEEL-ROADWAY (GRADE 60)	UNCL.EXC. FOR STR.-ROADWAY	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.													EACH										LIN. FT.			CU.YD.	POUND	CU.YD.	SQ.YD.	M.GAL	
1015+00	CONST. DI ON LT. W/R.C. PIPE OUTLET	12													1						1	1											
1015+00	CONST. DI ON RT. W/R.C. PIPE OUTLET	12													1						1	1									5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
1018+00	CONST. DI ON LT. W/PIPE OUTLET										296										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1018+00	CONST. DI ON RT. W/PIPE OUTLET										296										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1021+00	CONST. DI ON LT. W/PIPE OUTLET										295										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1021+00	CONST. DI ON RT. W/PIPE OUTLET										297										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1023+73	CONST. DI ON LT. W/PIPE OUTLET										269										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1023+73	CONST. DI ON RT. W/PIPE OUTLET										269										1		1										FPC-9E, FPC-9M, PCC-1, PCM-1
1028+00	CONST. DI ON RT. W/PIPE OUTLET										289										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1031+00	CONST. DI ON RT. W/PIPE OUTLET										289										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1034+00	CONST. DI ON RT. W/PIPE OUTLET											289									1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1037+00	CONST. DI ON RT. W/PIPE OUTLET											295									1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1040+00	CONST. DI ON LT. W/PIPE OUTLET										296										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1040+00	CONST. DI ON RT. W/PIPE OUTLET											296									1		1										FPC-9E, FPC-9M, PCC-1, PCM-1
1043+00	CONST. DI ON LT. W/PIPE OUTLET										133										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1043+00	CONST. DI ON RT. W/PIPE OUTLET											181									1		1										FPC-9E, FPC-9M, PCC-1, PCM-1
1044+37	CONST. DI ON LT. W/R.C. PIPE INLET & OUTLET				12		75												1		1	1									23	0.29	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
1044+85	CONST. DI ON RT. W/R.C. PIPE OUTLET				20														1		1	1									23	0.29	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
1045+25	CONST. DI ON RT. W/R.C. PIPE OUTLET			14													1	1			1	1									17	0.21	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
1046+50	CONST. DI ON RT. W/PIPE OUTLET												121								1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
147+50	CONST. DI ON RT. W/R.C. PIPE INLET & OUTLET							80					95					1			1	1									17	0.21	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1, PCM-1
1049+50	CONST. DI ON RT. W/PIPE OUTLET										191										1		1										FPC-9E, FPC-9M, PCC-1, PCM-1
1053+00	CONST. DI ON RT. W/PIPE OUTLET										337										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1055+50	CONST. DI ON RT. W/PIPE OUTLET										283										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1058+44	CONST. DI ON RT. W/PIPE OUTLET										251										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1061+00	CONST. DI ON RT. W/PIPE OUTLET										298										1		1										FPC-9E, FPC-9M, PCC-1, PCM-1
1061+58	CONST. JB ON LT. W/PIPE OUTLET										240													1									FPC-9S, PCC-1, PCM-1
1064+02	CONST. DI ON LT. OVER R.C. BOX CULVERT																				1	1											FPC-9E, FPC-9M
1064+02	CONST. DI ON RT. OVER R.C. BOX CULVERT																				1	1											FPC-9E, FPC-9M
1064+03	CONST. R.C. BOX CULVERT W/3:1 WINGS LT. & RT.																								8	5	94	75.36	8852	46	16	0.20	RCB-1, RCB-2, SPECIAL DETAILS
1067+08	CONST. DI ON LT. W/PIPE OUTLET										302										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1067+08	CONST. DI ON RT. W/PIPE OUTLET										302										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1070+09	CONST. DI ON LT. W/PIPE OUTLET										297										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1070+09	CONST. DI ON RT. W/PIPE OUTLET										297										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1072+37	CONST. DI ON LT. W/PIPE OUTLET										224										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1072+37	CONST. DI ON RT. W/PIPE OUTLET										224										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1075+36	CONST. DI ON LT. W/PIPE OUTLET										295										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1075+36	CONST. DI ON RT. W/PIPE OUTLET										295										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1078+14	CONST. DI ON LT. W/PIPE OUTLET										274										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1078+14	CONST. DI ON RT. W/PIPE OUTLET										274										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1081+00	CONST. DI ON LT. W/PIPE OUTLET										221										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1081+00	CONST. DI ON RT. W/PIPE OUTLET										221										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1083+25	CONST. DI ON LT. W/PIPE OUTLET										221										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1083+25	CONST. DI ON RT. W/PIPE OUTLET										221										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1085+50	CONST. DI ON LT. W/PIPE OUTLET										196										1		1										FPC-9E, FPC-9M, PCC-1, PCM-1
1085+50	CONST. DI ON RT. W/PIPE OUTLET										196										1		1										FPC-9E, FPC-9M, PCC-1, PCM-1
1087+50	CONST. DI ON LT. W/PIPE OUTLET										210										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1087+50	CONST. DI ON RT. W/PIPE OUTLET										210										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1089+64	CONST. DI ON LT. W/PIPE OUTLET										210										1		1										FPC-9E, FPC-9M, PCC-1, PCM-1
1089+64	CONST. DI ON RT. W/PIPE OUTLET										82										1		1										FPC-9E, FPC-9M, PCC-1, PCM-1
1090+50	CONST. JB ON RT. W/R.C. PIPE INLET & PIPE OUTLET		8											50			1							1							13	0.16	FES-1, FES-2, FPC-9S, PCC-1, PCM-1
1090+51	CONST. JB ON LT. W/R.C. PIPE INLET & OUTLET				48					60									1					1							23	0.29	FES-1, FES-2, FPC-9S, PCC-1
1092+60	CONST. DI ON LT. W/PIPE OUTLET										286										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1092+60	CONST. DI ON RT. W/PIPE OUTLET										286										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1095+50	CONST. DI ON LT. W/PIPE OUTLET										286										1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1095+50	CONST. DI ON RT. W/R.C. PIPE OUTLET	14																1			1	1									5	0.06	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
1098+40	CONST. DI ON LT. W/PIPE OUTLET											294									1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1101+40	CONST. DI ON LT. W/PIPE OUTLET											120									1	1											FPC-9E, FPC-9M, PCC-1, PCM-1
1102+67	CONST. DI ON LT. W/R.C. PIPE OUTLET							6								1					1		1								8	0.10	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
1112+21	CONST. DBL. R.C. PIPE CULVERT 15^ LT. FWD. SKEW W/FES LT. & RT.**					284														4											62	0.78	FES-1, FES-2, PCC-1
1112+24	CONST. DI ON LT. OVER R.C. PIPE CULVERT																				1	1											FPC-9E, FPC-9M
1206+00	CONST. R.C. BOX CULVERT W/3:1 WINGS LT. & RT.																								6	3	121	74.64	5981	38	12	0.15	RCB-1, RCB-2, SPECIAL DETAILS
38+07	CONST. DBL. R.C. PIPE CULVERT W/FES LT. & RT.				272															4											74	0.93	FES-1, FES-2, PCC-1
TOTALS:		38	8	14	352	284	75	6	80	60	9959	1475	216	50	3	1	1	2	8	4	56	46	10	3				150.00	14833	84	303	3.79	

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.
** TYPE 2 BEDDING

2/3/2015

R100654.DGN

QUANTITIES

DRIVEWAYS & TURNOUTS

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"	42"	48"	51"X31"	
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.							
1006+87	RT.	HWY. 18 / DRIVEWAY	18			27.40	52.80	5.81	21.56	32							PCC-1, PCM-1, PCP-1, PCP-2
1008+16	RT.	HWY. 18 / DRIVEWAY	16				72.70	8.00	29.69	30							PCC-1, PCM-1, PCP-1, PCP-2
1011+65	LT.	HWY. 18 / DRIVEWAY	16				76.10	8.37	31.07		30						PCC-1, PCM-1, PCP-1, PCP-2
1012+59	LT.	HWY. 18 / DRIVEWAY	16			77.00					32						PCC-1, PCM-1, PCP-1, PCP-2
1015+96	LT.	HWY. 18 / DRIVEWAY	16	1015+74	1016+18	24.90	58.30	6.41	23.81		34						PCC-1, PCM-1, PCP-1, PCP-2
1016+67	RT.	HWY. 18 / DRIVEWAY	16	1016+45	1016+89	24.90	57.40	6.31	23.44	38							PCC-1, PCM-1, PCP-1, PCP-2
1018+72	LT.	HWY. 18 / DRIVEWAY	16	1018+50	1018+94	24.90	60.10	6.61	24.54		34						PCC-1, PCM-1, PCP-1, PCP-2
1021+58	RT.	HWY. 18 / DRIVEWAY	16	1021+36	1021+80	24.90	56.20	6.18	22.95	32							PCC-1, PCM-1, PCP-1, PCP-2
1024+16	LT.	HWY. 18 / COUNTY ROAD N191	20				97.10	10.68	39.65		44						PCC-1, PCM-1, PCP-1, PCP-2
1024+37	RT.	HWY. 18 / DRIVEWAY	16	1024+15	1024+59	24.90	57.60	6.34	23.52	30							PCC-1, PCM-1, PCP-1, PCP-2
1025+27	LT.	HWY. 18 / DRIVEWAY	16	1025+05	1025+49	75.70					34						PCC-1, PCM-1, PCP-1, PCP-2
1025+57	RT.	HWY. 18 / DRIVEWAY	24	1025+31	1025+83	119.20				40							PCC-1, PCM-1, PCP-1, PCP-2
1026+21	LT.	HWY. 18 / DRIVEWAY	16	1025+99	1026+43	24.90	51.70	5.69	21.11		34						PCC-1, PCM-1, PCP-1, PCP-2
1026+32	RT.	HWY. 18 / ASHLEY DRIVE	20				125.60	13.82	51.29	48							PCC-1, PCM-1, PCP-1, PCP-2
1027+05	RT.	HWY. 18 / DRIVEWAY	24	1026+79	1027+31	93.10				38							PCC-1, PCM-1, PCP-1, PCP-2
1027+73	RT.	HWY. 18 / DRIVEWAY	20	1027+49	1027+97	80.40				34							PCC-1, PCM-1, PCP-1, PCP-2
1028+03	LT.	HWY. 18 / BRYON LANE	20				117.10	12.88	47.82		52						PCC-1, PCM-1, PCP-1, PCP-2
1028+29	RT.	HWY. 18 / DRIVEWAY	24	1028+03	1028+55	94.10				38							PCC-1, PCM-1, PCP-1, PCP-2
1030+18	RT.	HWY. 18 / DRIVEWAY	16	1029+96	1030+40	24.90	43.70	4.81	17.84	32							PCC-1, PCM-1, PCP-1, PCP-2
1030+20	LT.	HWY. 18 / DRIVEWAY	16	1029+98	1030+42	24.90	119.10	13.10	48.63	40							PCC-1, PCM-1, PCP-1, PCP-2
1031+00	LT.	HWY. 18 / DRIVEWAY	28	1030+72	1031+28	35.60	285.00	31.35	116.38	52							PCC-1, PCM-1, PCP-1, PCP-2
1032+42	RT.	HWY. 18 / DRIVEWAY	16	1032+20	1032+64	24.90	44.30	4.87	18.09	32							PCC-1, PCM-1, PCP-1, PCP-2
1033+75	RT.	HWY. 18 / DRIVEWAY	16	1033+53	1033+97	24.90	43.70	4.81	17.84	32							PCC-1, PCM-1, PCP-1, PCP-2
1033+79	LT.	HWY. 18 / DRIVEWAY	26	1033+52	1034+06	33.80	135.20	14.87	55.21	48							PCC-1, PCM-1, PCP-1, PCP-2
1035+75	RT.	HWY. 18 / DRIVEWAY	16	1035+53	1035+97	67.00				32							PCC-1, PCM-1, PCP-1, PCP-2
1038+04	LT.	HWY. 18 / DRIVEWAY	26	1037+77	1038+31	33.80	94.20	10.36	38.47	46							PCC-1, PCM-1, PCP-1, PCP-2
1038+08	RT.	HWY. 18 / DRIVEWAY	16	1037+86	1038+30	24.90	58.70	6.46	23.97	36							PCC-1, PCM-1, PCP-1, PCP-2
1038+62	RT.	HWY. 18 / DRIVEWAY	16	1038+40	1038+84	24.90	59.40	6.53	24.26	38							PCC-1, PCM-1, PCP-1, PCP-2
1040+56	LT.	HWY. 18 / DRIVEWAY	24	1040+30	1040+82	32.00	107.70	11.85	43.98	40							PCC-1, PCM-1, PCP-1, PCP-2
1040+85	RT.	HWY. 18 / DRIVEWAY	16	1040+63	1041+07	24.90	62.60	6.89	25.56	42							PCC-1, PCM-1, PCP-1, PCP-2
1042+30	RT.	HWY. 18 / DRIVEWAY	16	1042+08	1042+52	89.60				42							PCC-1, PCM-1, PCP-1, PCP-2
1043+93	RT.	HWY. 18 / DRIVEWAY	16	1043+71	1044+15	24.90	68.60	7.55	28.01	42							PCC-1, PCM-1, PCP-1, PCP-2
1045+62	LT.	HWY. 18 / DRIVEWAY	30	1045+33	1045+91	130.00											
1045+97	RT.	HWY. 18 / DRIVEWAY	16	1045+75	1046+19	24.90	38.20	4.20	15.60	162							PCC-1, PCM-1, PCP-1, PCP-2
1047+05	RT.	HWY. 18 / DRIVEWAY	16	1046+83	1047+27	24.90	38.90	4.28	15.88								PCC-1, PCM-1, PCP-1, PCP-2
1047+62	LT.	HWY. 18 / DRIVEWAY	16	1047+40	1047+84	24.90	73.20	8.05	29.89								
1048+07	RT.	HWY. 18 / DRIVEWAY	28	1047+79	1048+35	35.60	72.80	8.01	29.73	42							PCC-1, PCM-1, PCP-1, PCP-2
1049+02	RT.	HWY. 18 / DRIVEWAY	32	1048+72	1049+32	39.10	87.10	9.58	35.57	46							PCC-1, PCM-1, PCP-1, PCP-2
1049+88	RT.	HWY. 18 / DRIVEWAY	24	1049+62	1050+14	32.00	67.50	7.43	27.56	38							PCC-1, PCM-1, PCP-1, PCP-2
1050+58	RT.	HWY. 18 / DRIVEWAY	32	1050+28	1050+88	39.10	91.70	10.09	37.44	46							PCC-1, PCM-1, PCP-1, PCP-2
1051+19	RT.	HWY. 18 / DRIVEWAY	30	1050+90	1051+48	124.60				44							PCC-1, PCM-1, PCP-1, PCP-2
1051+86	RT.	HWY. 18 / DRIVEWAY	26	1051+59	1052+13	110.10				40							PCC-1, PCM-1, PCP-1, PCP-2
1052+56	RT.	HWY. 18 / GAMBLE LANE	20			82.90	12.90	1.42	5.27	44							PCC-1, PCM-1, PCP-1, PCP-2
1053+35	RT.	HWY. 18 / DRIVEWAY	16	1053+13	1053+57	72.00				30							PCC-1, PCM-1, PCP-1, PCP-2
1054+48	RT.	HWY. 18 / DRIVEWAY	16	1054+26	1054+70	24.90	46.40	5.10	18.95								
1054+86	LT.	HWY. 18 / DRIVEWAY	16	1054+64	1055+08	24.90	50.10	5.51	20.46								
1055+30	LT.	HWY. 18 / DRIVEWAY	16	1055+08	1055+52	24.90	54.20	5.96	22.13								
1056+15	RT.	HWY. 18 / DRIVEWAY	18	1055+92	1056+38	26.70	49.80	5.48	20.34	34							PCC-1, PCM-1, PCP-1, PCP-2
1056+33	LT.	HWY. 18 / DRIVEWAY	16	1056+11	1056+55	24.90	73.20	8.05	29.89	38							PCC-1, PCM-1, PCP-1, PCP-2
1057+48	RT.	HWY. 18 / DRIVEWAY	18	1057+25	1057+71	26.70	54.00	5.94	22.05	34							PCC-1, PCM-1, PCP-1, PCP-2
1057+72	LT.	HWY. 18 / DRIVEWAY	24	1057+46	1057+98	32.00	93.30	10.26	38.10	48							PCC-1, PCM-1, PCP-1, PCP-2
1058+44	LT.	HWY. 18 / DRIVEWAY	16	1058+22	1058+66	24.90	63.30	6.96	25.85	40							PCC-1, PCM-1, PCP-1, PCP-2
1058+69	RT.	HWY. 18 / DRIVEWAY	16	1058+47	1058+91	24.90	50.30	5.53	20.54		34						PCC-1, PCM-1, PCP-1, PCP-2
1059+03	LT.	HWY. 18 / DRIVEWAY	18	1058+80	1059+26	26.70	73.60	8.10	30.05	42							PCC-1, PCM-1, PCP-1, PCP-2
1060+21	LT.	HWY. 18 / DRIVEWAY	28	1059+93	1060+49	35.60	101.70	11.19	41.53	50							PCC-1, PCM-1, PCP-1, PCP-2
1060+40	RT.	HWY. 18 / DRIVEWAY	16	1060+18	1060+62	24.90	58.50	6.44	23.89		36						PCC-1, PCM-1, PCP-1, PCP-2
1061+57	RT.	HWY. 18 / DRIVEWAY	16	1061+35	1061+79	24.90	64.90	7.14	26.50		42						PCC-1, PCM-1, PCP-1, PCP-2
1061+58	LT.	HWY. 18 / DRIVEWAY	26	1061+31	1061+85	33.80	96.20	10.58	39.28	46							PCC-1, PCM-1, PCP-1, PCP-2
1062+23	RT.	HWY. 18 / DRIVEWAY	16	1062+01	1062+45	24.90	68.40	7.52	27.93		42						PCC-1, PCM-1, PCP-1, PCP-2
1062+28	LT.	HWY. 18 / DRIVEWAY	30	1061+99	1062+57	114.00				50							PCC-1, PCM-1, PCP-1, PCP-2
1062+73	RT.	HWY. 18 / DRIVEWAY	16	1062+51	1062+95	24.90	71.10	7.82	29.03		44						PCC-1, PCM-1, PCP-1, PCP-2
1063+03	LT.	HWY. 18 / DRIVEWAY	40	1062+69	1063+37	147.50				60							PCC-1, PCM-1, PCP-1, PCP-2
1063+67	RT.	HWY. 18 / OLYMPIA DRIVE	20				144.20	15.86	58.88				56				PCC-1, PCM-1, PCP-1, PCP-2
1063+73	LT.	HWY. 18 / DRIVEWAY	16	1063+51	1063+95	24.90	40.00	4.40	16.33		36						PCC-1, PCM-1, PCP-1, PCP-2
1064+46	LT.	HWY. 18 / OLYMPIA DRIVE	22				195.80	21.54	79.95				62				PCC-1, PCM-1, PCP-1, PCP-2
1066+44	LT.	HWY. 18 / DRIVEWAY	16	1066+22	1066+66	24.90	68.60	7.55	28.01			40					PCC-1, PCM-1, PCP-1, PCP-2
1066+72	RT.	HWY. 18 / DRIVEWAY	40	1066+38	1067+06	46.20	104.00	11.44	42.47	54							PCC-1, PCM-1, PCP-1, PCP-2
1067+43	RT.	HWY. 18 / DRIVEWAY	38	1067+10	1067+76	44.40	99.60	10.96	40.67	52							PCC-1, PCM-1, PCP-1, PCP-2
1068+20	RT.	HWY. 18 / DRIVEWAY	34	1067+89	1068+51	132.30				52							PCC-1, PCM-1, PCP-1, PCP-2
1068+26	LT.	HWY. 18 / DRIVEWAY	22	1068+01	1068+51	30.20	100.50	11.06	41.04			46					PCC-1, PCM-1, PCP-1, PCP-2
1069+75	RT.	HWY. 18 / DRIVEWAY	34	1069+44	1070+06	127.00				46							PCC-1, PCM-1, PCP-1, PCP-2
1069+80	LT.	HWY. 18 / DRIVEWAY	22	1069+55	1070+05	30.20	98.00	10.78	40.02			44					PCC-1, PCM-1, PCP-1, PCP-2
1071+36	RT.	HWY. 18 / DRIVEWAY	30	1071+07	1071+65	112.60				42							PCC-1, PCM-1, PCP-1, PCP-2
1072+65	LT.	HWY. 18 / DRIVEWAY	22	1072+40	1072+90	30.20	93.60	10.30	38.22			42					PCC-1, PCM-1, PCP-1, PCP-2
1072+94	RT.	HWY. 18 / DRIVEWAY	30	1072+65	1073+23	113.30				42							PCC-1, PCM-1, PCP-1, PCP-2
1073+47	LT.	HWY. 18 / DRIVEWAY	34	1073+16	1073+78	183.70						52					PCC-1, PCM-1, PCP-1, PCP-2
1074+02	RT.	HWY. 18 / DRIVEWAY	22	1073+77	1074+27	30.20	56.20	6.18	22.95	34							PCC-1, PCM-1, PCP-1, PCP-2
1074+67	RT.	HWY. 18 / DRIVEWAY	24	1074+41	1074+93	93.60				34							PCC-1, PCM-1, PCP-1, PCP-2
1075+70	RT.	HWY. 18 / DRIVEWAY	34	1075+39	1076+01	128.90				44							PCC-1, PCM-1, PCP-1, PCP-2
1077+75	RT.	HWY. 18 / DRIVEWAY	16	1077+53	1077+97	24.90	42.00	4.62	17.15								
1078+52	RT.	HWY. 18 / DRIVEWAY	16	1078+30	1078+74	24.90	42.10	4.63	17.19	28							PCC-1, PCM-1, PCP-1, PCP-2
1079+18	LT.	HWY. 18 / FUTURE DRIVE	20				82.90	9.12	33.85	46							PCC-1, PCM-1, PCP-1, PCP-2
1080+14	RT.	HWY. 18 / DRIVEWAY	16	1079+92	1080+36	66.50				30							PCC-1, PCM-1, PCP-1, PCP-2
1081+61	RT.	HWY. 18 / DRIVEWAY	16	1081+39	1081+83	79.70				32							PCC-1, PCM-1, PCP-1, PCP-2
1082+29	RT.	HWY. 18 / DRIVEWAY	18	1082+06	1082+52	26.70	62.60	6.89	25.56	34							PCC-1, PCM-1, PCP-1, PCP-2
1083+53	RT.	HWY. 18 / DRIVEWAY	22	1083+28	1083+78	30.20	69.70	7.67	28.46	38							PCC-1, PCM-1, PCP-1, PCP-2
1084+25	RT.	HWY. 18 / DRIVEWAY	20	1084+01	1084+49	28.40	68.20	7.50	27.85	36							PCC-1, PCM-1, PCP-1, PCP-2
1086+08	RT.	HWY. 18 / JOHNSON DRIVE	20			82.90	18.00	1.98	7.35		48						PCC-1, PCM-1, PCP-1, PCP-2
1087+93	LT.	HWY. 18 / DRIVEWAY	16	1087+71	1088+15	24.90	33.20	3.65	13.56								
1088+30	RT.	HWY. 18 / DRIVEWAY	16	1088+08	1088+52	84.60					36						PCC-1, PCM-1, PCP-1, PCP-2
1090+73	RT.	HWY. 18 / COSTNER ROAD	22				126.60	13.93	51.70								PCC-1, PCM-1, PCP-1, PCP-2
1090+79	LT.	HWY. 18 CONNECTION TO HWY. 77	24				793.90	87.33	324.18								
1092+29	LT.	HWY. 18 / DRIVEWAY	28	1092+01	1092+57	139.20					46						PCC-1, PCM-1, PCP-1, PCP-2
1093+28	LT.	HWY. 18 / DRIVEWAY	30	1092+99	1093+57	37.30	114.00	12.54	46.55		48						PCC-1, PCM-1, PCP-1, PCP-2
1093+29	RT.	HWY. 18 / DRIVEWAY	24	1093+03	1093+55	177.50										44	PCC-1, PCM-1, PCP-1, PCP-2
1095+11	LT.	HWY. 18 / DRIVEWAY	32	1094+81	1095+41	39.10	128.00	14.08	52.27		50						PCC-1, PCM-1, PCP-1, PCP-2
1098+26	RT.	HWY. 18 / DRIVEWAY	24	1098+00	1098+52	192.60										52	PCC-1, PCM-1, PCP-1, PCP-2
1098+67	LT.	HWY. 18 / DRIVEWAY	16	1098+45	1098+89	24.90	78.80	8.67	32.18		32						PCC-1, PCM-1, PCP-1, PCP-2
1099+09	RT.	HWY. 18 / DRIVEWAY	24	1098+83	1099+35	151.70										50	PCC-1, PCM-1, PCP-1, PCP-2
1100+81	RT.	HWY. 18 / DRIVEWAY	24	1100+55	1101+07	145.90										50	PCC-1, PCM-1, PCP-1, PCP-2
1101+88	LT.	HWY. 18 / DRIVEWAY	16	1101+66	1102+10	24.90	53.00	5.83	21.64			28					PCC-1, PCM-1, PCP-1, PCP-2
1103+03	LT.	HWY. 18 / DRIVEWAY	16	1102+81	1103+25	24.90	51.70	5.69	21.11			28					PCC-1, PCM-1, PCP-1, PCP-2
1103+84	RT.	HWY. 18 / DRIVEWAY	16	1103+62	1104+06	24.90	108.80	11.97	44.43							46	PCC-1, PCM-1, PCP-1, PCP-2
1105+89	RT.	HWY. 18 / DRIVEWAY	40	1105+55	1106+23	46.20	517.80	56.96	211.44							72	PCC-1, PCM-1, PCP-1, PCP-2
1128+52	LT.	HWY. 18 / COUNTY ROAD	20				154.00	16.94	62.88		54						PCC-1, PCM-1, PCP-1, PCP-2
1128+52	RT.	HWY. 18 / COUNTY ROAD	20				185.30	20.38	75.66		66						PCC-1, PCM-1, PCP-1, PCP-2
1151+07	LT.	HWY. 18 / COUNTY ROAD	20				148.00	16.28	60.43								
1151+14	RT.	HWY. 18 / COUNTY ROAD	20				152.90	16.82	62.43								
1192+18	RT.	HWY. 18 / DRIVEWAY	16				104.90	11.54	42.83	36							PCC-1, PCM-1, PCP-1, PCP-2
1207+00	LT.	HWY. 18 / COUNTY ROAD	20				229.10	25.20	93.55								
1208+15	LT.	HWY. 18 / DRIVEWAY	16				128.50	14.14	52.47								
1209+19	RT.	HWY. 18 / COUNTY ROAD	20				135.50	14.91	55.33								
11+77	LT.	NORTH CONNECTION / DRIVEWAY	20				59.40	6.53	24.26	34							PCC-1, PCM-1, PCP-1, PCP-2
12+17	RT.	NORTH CONNECTION / DRIVEWAY	36				67.00	7.37	27.36								
23+75	LT.	WEST CONNECTION / DRIVEWAY	16				168.50	18.54	68.80						92		PCC-1, PCM-1, PCP-1, PCP-2
27+60	RT.	WEST CONNECTION / DRIVEWAY	16				114.50	12.60	46.75					48			PCC-1, PCM-1, PCP-1, PCP-2
31+55	RT.	EAST CONNECTION / COUNTY ROAD	20				184.90	20.34	75.50		52						PCC-1, PCM-1, PCP-1, PCP-2
32+45	LT.	EAST CONNECTION / COUNTY ROAD	20				171.70	18.89	70.11		42						PCC-1, PCM-1, PCP-1, PCP-2
* ENTIRE PROJECT TEMPORARY DRIVES									750.00								
TOTALS:						5294.80	8952.20	984.80	4405.52	2562	1002	280	118	48	92	314	

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

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.

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

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.

QUANTITIES

(2) QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	I00654	75	235

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
TIMOTHY D. RAINES
No. 11495
3-10-15

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	76	235

(2) QUANTITIES

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
1006+00	1009+00	HWY. 18 MAIN LANES	3	3
1011+00	1014+00	HWY. 18 MAIN LANES	3	3
1017+00	1019+00	HWY. 18 MAIN LANES	2	2
1023+00	1028+00	HWY. 18 MAIN LANES	5	5
1029+00	1036+00	HWY. 18 MAIN LANES	7	7
1039+00	1051+00	HWY. 18 MAIN LANES	12	12
1054+00	1059+00	HWY. 18 MAIN LANES	5	5
1060+00	1062+00	HWY. 18 MAIN LANES	2	2
1070+00	1077+00	HWY. 18 MAIN LANES	7	7
1078+00	1081+00	HWY. 18 MAIN LANES	3	3
1084+00	1085+00	HWY. 18 MAIN LANES	1	1
1088+00	1095+00	HWY. 18 MAIN LANES	7	7
1098+00	1107+00	HWY. 18 MAIN LANES	9	9
1120+00	1122+00	HWY. 18 MAIN LANES	2	2
1129+00	1150+00	HWY. 18 MAIN LANES	21	21
1151+00	1152+00	HWY. 18 MAIN LANES	1	1
1153+00	1154+00	HWY. 18 MAIN LANES	1	1
1205+00	1209+00	HWY. 18 MAIN LANES	4	4
1217+00	1219+00	HWY. 18 MAIN LANES	2	2
22+00	28+00	HWY. 77 INTERSECTION	6	6
TOTALS:			103	103

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
988+55	989+55	MAIN LANES	63	700.00
1026+32		ASHLEY DRIVE	20	222.22
1028+03		BRYON LANE	20	222.22
1051+63		HWY. 77 NORTH	24	266.67
1052+56		GAMBLE LANE	20	222.22
1063+67		OLYMPIA DRIVE RT.	20	222.22
1064+46		OLYMPIA DRIVE LT.	22	244.44
1079+18		FUTURE DRIVE	20	222.22
1086+08		JOHNSON DRIVE	20	222.22
1090+73		COSTNER DRIVE	22	244.44
1090+79		HWY. 18 EAST	24	266.67
1207+00		CR N275	20	222.22
1219+03.38	1220+03.38	MAIN LANES	22	244.44
* 1.383	1.540	HWY. 18 B OVERLAY	43	3960.78
11+75.77	12+37.46	NORTH CONNECTION	20	137.09
27+05	28+05	WEST CONNECTION	20	222.22
30+69.26	31+69.26	EAST CONNECTION	22	244.44
TOTAL:				8086.73

NOTE: AVERAGE MILLING DEPTH 1".
* NOTE: TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
			LIN.FT.
988+55	1005+00	HWY. 18 LT. SHOULDER	1447
988+55	1005+00	HWY. 18 RT. SHOULDER	1225
1005+00	1012+92	HWY. 18 LT. SHOULDER	660
1005+00	1012+92	HWY. 18 RT. SHOULDER	656
1112+20	1187+38	HWY. 18 RT. SHOULDER	7298
1114+08	1187+38	HWY. 18 LT. SHOULDER	7110
10+90	11+49	NORTH CONNECTION LT. SHOULDER	59
11+08	11+74	NORTH CONNECTION RT. SHOULDER	66
21+28	27+05	WEST CONNECTION LT. SHOULDER	511
21+33	27+05	WEST CONNECTION RT. SHOULDER	506
31+69	37+59	EAST CONNECTION LT. SHOULDER	480
32+15	37+63	EAST CONNECTION RT. SHOULDER	438
TOTAL:			20456

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

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	200
DIRECTED BY THE ENGINEER	
TOTAL:	200

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

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

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

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22
			FEET			FEET				FEET			TON	FEET			TON
MAIN LANES																	
988+55.00	1005+00.00	JOB 100653 MAIN LANES	1645.00			75.00	13708.33	0.10	1370.83					75.00	13708.33	220.00	1507.92
1005+00.00	1015+00.00	NOTCH & WIDEN OPEN SHLDR.	1000.00	393.00	3930.00	102.80	11422.22	0.03	342.67	39.50	4388.89	495.00	1086.25	114.30	12700.00	220.00	1397.00
1015+00.00	1081+00.00	NOTCH & WIDEN CURB & GUTTER 2"	6600.00	192.00	12672.00	88.00	64533.33	0.03	1936.00	32.00	23466.67	495.00	5808.00	88.00	64533.33	220.00	7098.67
1081+00.00	1102+39.00	NOTCH & WIDEN CURB & GUTTER 4"	2139.00	212.50	4545.38	112.00	26618.67	0.03	798.56	36.00	8556.00	495.00	2117.61	112.00	26618.67	220.00	2928.05
1102+39.00	1112+00.00	FULL DEPTH CURB & GUTTER	961.00	316.25	3039.16	112.00	11959.11	0.03	358.77	56.00	5979.56	495.00	1479.94	112.00	11959.11	220.00	1315.50
1112+00.00	1187+38.38	FULL DEPTH OPEN SHOULDER	7538.38	516.75	38954.58	126.80	106207.40	0.03	3186.22	63.50	53187.46	495.00	13163.90	138.30	115839.77	220.00	12742.37
1187+38.38	1211+00.00	FULL DEPTH OPEN SHOULDER ONLY 2" SURF.	2361.62	516.75	12203.67	63.50	16662.54	0.03	499.88	63.50	16662.54	495.00	4123.98	75.00	19680.17	220.00	2164.82
1211+00.00	1220+03.38	NOTCH & WIDEN OPEN SHLDR. ONLY 2" SURF.	903.38	402.50	3636.10	63.30	6353.77	0.03	190.61	41.30	4145.51	495.00	1026.01	75.00	7528.17	220.00	828.10
10+28.00	10+90.00	NORTH CONNECTION TURNOUT	62.00	VAR.	550.23	VAR.	952.80	0.03	28.58	VAR.	476.40	495.00	117.91	VAR.	1067.10	220.00	117.38
10+90.00	11+30.00	NORTH CONNECTION OPEN SHOULDER	40.00	306.75	122.70	56.80	252.44	0.03	7.57	28.50	126.67	495.00	31.35	68.30	303.56	220.00	33.39
11+30.00	12+37.46	NORTH CONNECTION TRANSITION	107.46	VAR.	181.70	VAR.	275.00	0.10	27.50	VAR.	52.30	495.00	12.94	VAR.	450.20	220.00	49.52
1051+63.00		HWY. 77		VAR.	303.85	VAR.	574.80	0.03	17.24	VAR.	287.40	495.00	71.13	VAR.	1543.60	220.00	169.80
20+28.00	21+27.88	WEST CONNECTION TURNOUT	99.88	VAR.	797.45	VAR.	1672.20	0.03	50.17	VAR.	836.10	495.00	206.93	VAR.	1885.80	220.00	207.44
21+27.88	25+48.00	WEST CONNECTION OPEN SHOULDER	420.12	306.75	1288.72	56.80	2651.42	0.03	79.54	28.50	1330.38	495.00	329.27	68.30	3188.24	220.00	350.71
25+48.00	28+05.00	WEST CONNECTION TRANSITION	257.00	VAR.	724.50	VAR.	693.00	0.10	69.30	VAR.	142.00	495.00	35.15	VAR.	1225.00	220.00	134.75
30+69.26	32+68.81	EAST CONNECTION TRANSITION	199.55	VAR.	92.90	VAR.	566.70	0.10	56.67	VAR.	95.60	495.00	23.66	VAR.	999.00	220.00	109.89
32+68.81	37+63.17	EAST CONNECTION OPEN SHOULDER	494.36	306.75	1516.45	56.80	3119.96	0.03	93.60	28.50	1565.47	495.00	387.45	68.30	3751.64	220.00	412.68
37+63.17	38+60.20	EAST CONNECTION TURNOUT	97.03	VAR.	869.80	VAR.	1623.60	0.03	48.71	VAR.	811.80	495.00	200.92	VAR.	1820.00	220.00	200.20
		HWY. 18 B OVERLAY: L.M. 0.095 - L.M. 2.000	10560.00			20.00	23466.67	0.10	2346.67					20.00	23466.67	220.00	2581.33
		HWY. 18 B OVERLAY ADD.: L.M. 1.383 - L.M. 1.540	829.00			23.00	2118.56	0.10	211.86					23.00	2118.56	220.00	233.04
		WEST FLEEMAN STREET: L.M. 0.019 - L.M. 0.209	1003.20			20.00	2229.33	0.10	222.93					20.00	2229.33	220.00	245.23
		HWY. 18 OVERLAY SECT. 5 & 6: L.M. 7.068 - L.M. 0.133	3310.60			28.00	10299.64	0.10	1029.96					28.00	10299.64	220.00	1132.96
		HWY. 18 OVERLAY SECT. 6: L.M. 0.133 - L.M. 1.140	5314.00			36.00	21256.00	0.10	2125.60					36.00	21256.00	220.00	2338.16
		HWY. 77 OVERLAY: L.M. 11.940 - L.M. 12.217	1462.60			20.00	3250.22	0.10	325.02					20.00	3250.22	220.00	357.52
ADDITIONAL FOR DETOUR																	
1056+60.00	1063+80.00	HWY. 18 MAIN LANES	720.00	89.00	640.80	14.10	1128.00	0.03	33.84	14.10	1128.00	330.00	186.12	14.00	1120.00	220.00	123.20
1063+80.00	1064+30.00	HWY. 18 MAIN LANES	50.00	152.50	76.25	28.20	156.67	0.03	4.70	28.20	156.67	330.00	25.85	28.00	155.56	220.00	17.11
1064+30.00	1071+50.00	HWY. 18 MAIN LANES	720.00	89.00	640.80	14.10	1128.00	0.03	33.84	14.10	1128.00	330.00	186.12	14.00	1120.00	220.00	123.20
ADDITIONAL FOR LEVELING																	
1005+00.00	1015+00.00	HWY. 18 MAIN LANES	1000.00			24.00	2666.67	0.10	266.67					24.00	2666.67	220.00	293.33
1015+00.00	1081+00.00	HWY. 18 MAIN LANES	6600.00			24.00	17600.00	0.10	1760.00					24.00	17600.00	660.00	5808.00
1081+00.00	1102+39.00	HWY. 18 MAIN LANES	2139.00			20.00	4753.33	0.10	475.33					20.00	4753.33	770.00	1830.03
1211+00.00	1220+03.38	HWY. 18 MAIN LANES	903.38			22.00	2208.26	0.10	220.83					22.00	2208.26	660.00	728.73
11+30.00	12+37.46	NORTH CONNECTION	107.46			20.00	238.80	0.10	23.88					20.00	238.80	330.00	39.40
25+54.00	28+05.00	WEST CONNECTION	251.00			20.00	557.78	0.10	55.78					20.00	557.78	1430.00	398.81
30+69.26	32+65.00	EAST CONNECTION	195.74			20.00	434.98	0.10	43.50					20.00	434.98	660.00	143.54
ADDITIONAL FOR SUPERELEVATION																	
1112+00.00	1124+02.30	MAIN LANES SHOULDER	1202.30	136.00	1635.13												
1124+02.30	1130+32.30	MAIN LANES SHOULDER	630.00	68.00	428.40												
1160+95.14	1166+35.14	MAIN LANES SHOULDER	540.00	4.25	22.95												
1166+35.14	1187+38.38	MAIN LANES SHOULDER	2103.24	8.50	178.78												
1187+38.38	1213+63.38	MAIN LANES SHOULDER	2625.00	0.75	19.69												
1213+63.38	1219+03.38	MAIN LANES SHOULDER	540.00	0.50	2.70												
20+73.85	23+23.85	WEST CONNECTION SHOULDER	250.00	45.75	114.38												
23+23.85	25+50.00	WEST CONNECTION SHOULDER	226.15	91.25	206.36												
25+50.00	28+00.00	WEST CONNECTION SHOULDER	250.00	45.75	114.38												
30+69.26	33+19.26	EAST CONNECTION SHOULDER	250.00	45.75	114.38												
33+19.26	36+00.00	EAST CONNECTION SHOULDER	280.74	91.25	256.18												
36+00.00	38+50.00	EAST CONNECTION SHOULDER	250.00	45.75	114.38												
TOTALS:					89994.75		363340.20		18342.83		124523.42		30620.49		382277.49		48161.78

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE	GATES
			LIN. FT.	EACH
1008+36		HWY. 18 RT.	13	
1016+96	1017+11	HWY. 18 LT.	38	
1019+17		HWY. 18 LT.	10	
1038+28	1039+30	HWY. 18 LT.	154	
1039+84	1039+96	HWY. 18 RT.	18	
1040+94	1041+58	HWY. 18 RT.	89	
1042+96	1043+08	HWY. 18 RT.	18	
1049+25	1050+62	HWY. 18 LT.	171	
1057+50		HWY. 18 LT.	17	
1058+04		HWY. 18 RT.	9	
1061+23		HWY. 18 LT.	14	
1061+40		HWY. 18 RT.	15	
1061+96	1063+54	HWY. 18 RT.	180	2
1061+98		HWY. 18 LT.	13	
1066+80	1072+51	HWY. 18 LT.	564	2
1083+18		HWY. 18 RT.	10	
1101+97	1102+94	HWY. 18 LT.	158	
1206+25	1206+84	HWY. 18 RT.	74	
TOTALS:			1565	4

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS	
		(SINGLE)	(DOUBLE)
		EACH	
ENTIRE PROJECT	26	24	1
TOTALS:	26	24	1

CONCRETE ISLAND

STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND
			SQ.YD.
1051+14	HWY. 18 / HWY. 77	B	136
TOTAL:			136

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
1012+92	1026+23	HWY. 18 RIGHT	1313
1012+92	1024+07	HWY. 18 LEFT	1107
1024+25	1027+94	HWY. 18 LEFT	406
1026+41	1052+47	HWY. 18 RIGHT	2556
1028+12	1032+37	HWY. 18 LEFT	476
1032+66	1051+05	HWY. 18 LEFT	1963
1051+54	1064+36	HWY. 18 LEFT	1335
1052+65	1063+58	HWY. 18 RIGHT	1090
1063+76	1085+99	HWY. 18 RIGHT	2183
1064+56	1079+09	HWY. 18 LEFT	1453
1079+27	1090+68	HWY. 18 LEFT	1168
1086+17	1090+63	HWY. 18 RIGHT	462
1090+83	1111+01	HWY. 18 RIGHT	2091
1090+90	1114+08	HWY. 18 LEFT	2324
TOTAL:			19927

2/3/2015

R100654.DGN

QUANTITIES

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		103	STATION
201	GRUBBING		103	STATION
202	REMOVAL AND DISPOSAL OF CURB		659	LIN. FT.
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER		288	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE		1565	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES		4	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT		211	SQ. YD.
202	REMOVAL AND DISPOSAL OF POSTS		25	EACH
202	REMOVAL AND DISPOSAL OF BIRD BATH		1	EACH
202	REMOVAL AND DISPOSAL OF BELL		1	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS		4779	SQ. YD.
202	REMOVAL AND DISPOSAL OF FOUNDATIONS		226	SQ. YD.
202	REMOVAL AND DISPOSAL OF SIGN FOUNDATIONS		40	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		116	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING		12	SQ. YD.
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLES		1	EACH
202	REMOVAL AND DISPOSAL OF DECORATIVE LIGHT POLE		1	EACH
202	REMOVAL AND DISPOSAL OF BUILDINGS		4	EACH
202	REMOVAL AND DISPOSAL OF BILLBOARDS		3	EACH
202	REMOVAL AND DISPOSAL OF SIGNS		37	EACH
202	REMOVAL AND DISPOSAL OF SPRINKLER SYSTEM		2	EACH
202	REMOVAL AND DISPOSAL OF FLAG POLE		2	EACH
202	REMOVAL AND DISPOSAL OF WATER SPIGOT		1	EACH
210	UNCLASSIFIED EXCAVATION		44601	CU. YD.
210	COMPACTED EMBANKMENT		321246	CU. YD.
SP & 210	SOIL STABILIZATION		1000	TON
303	AGGREGATE BASE COURSE (CLASS 7)		94400	TON
401	TACK COAT		18543	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		29335	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")		1286	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")		46542	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")		2605	TON
412	COLD MILLING ASPHALT PAVEMENT		8087	SQ. YD.
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		100	TON
SP & 415	ACHM PATCHING OF EXISTING ROADWAY		200	TON
505	PORTLAND CEMENT CONCRETE DRIVEWAY		5294.80	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
SS & 604	SIGNS		1591	SQ. FT.
SS & 604	BARRICADES		440	LIN. FT.
SS & 604	TRAFFIC DRUMS		1322	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		126	LIN. FT.
604	RELOCATING PRECAST CONCRETE BARRIER		126	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS		198041	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		18932	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS		5960	LIN. FT.
SS & 604	VERTICAL PANELS		199	EACH
605	CONCRETE DITCH PAVING (TYPE B)		400	SQ. YD.
606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		38	LIN. FT.
* 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	9959	LIN. FT.
* 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	9959	LIN. FT.
* 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	1475	LIN. FT.
* 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	1475	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		6	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		8	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		14	LIN. FT.
* 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	216	LIN. FT.
* 606	36" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	216	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)		80	LIN. FT.
606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		352	LIN. FT.
606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)		75	LIN. FT.
606	48" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		284	LIN. FT.
* 606	51" X 31" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	50	LIN. FT.
* 606	51" X 31" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL ARCH PIPE	(ALTERNATE NO. 2)	50	LIN. FT.
606	51" X 31" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS V)		60	LIN. FT.
SS & 606	12" SIDE DRAIN		250	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN		2562	LIN. FT.
SP, SS, & 606	24" SIDE DRAIN		1002	LIN. FT.
SP, SS, & 606	30" SIDE DRAIN		280	LIN. FT.
SP, SS, & 606	36" SIDE DRAIN		118	LIN. FT.
SP, SS, & 606	42" SIDE DRAIN		48	LIN. FT.
SP, SS, & 606	48" SIDE DRAIN		92	LIN. FT.
SS, & 606	51" X 31" SIDE DRAIN		314	LIN. FT.
606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		3	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	EACH
606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		8	EACH
606	48" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		4	EACH
606	SELECTED PIPE BEDDING		1300	CU. YD.
609	DROP INLETS (TYPE MO)		56	EACH
609	JUNCTION BOXES (TYPE ST)		3	EACH
609	DROP INLET EXTENSIONS (4')		46	EACH
609	DROP INLET EXTENSIONS (8')		10	EACH
609	YARD DRAINS		10	EACH
611	UNDERDRAIN OUTLET PROTECTORS		10	EACH
611	4" PIPE UNDERDRAINS		2000	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)		218.6	CU. YD.
* 619	4' STEEL CHAIN LINK FENCE	(ALTERNATE NO. 1)	153	LIN. FT.
* 619	4' ALUMINUM CHAIN LINK FENCE	(ALTERNATE NO. 2)	153	LIN. FT.
620	LIME		82	TON
620	SEEDING		40.81	ACRE
SS & 620	MULCH COVER		107.66	ACRE
620	WATER		5531.2	M.GAL.
621	TEMPORARY SEEDING		66.85	ACRE
621	SILT FENCE		28234	LIN. FT.
621	SAND BAG DITCH CHECKS		2750	BAG
621	DROP INLET SILT FENCE		1550	LIN. FT.
621	SEDIMENT BASIN		3000	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		3000	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		4328	CU. YD.
621	ROCK DITCH CHECKS		297	CU. YD.
623	SECOND SEEDING APPLICATION		40.81	ACRE
624	SOLID SODDING		392	SQ. YD.
632	CONCRETE ISLAND		136	SQ. YD.
633	CONCRETE WALKS		8808	SQ. YD.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")		19927	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
637	MAILBOXES		26	EACH
637	MAILBOX SUPPORTS (SINGLE)		24	EACH
637	MAILBOX SUPPORTS (DOUBLE)		1	EACH
641	WHEELCHAIR RAMPS (TYPE 3)		169	SQ. YD.
642	RUMBLE STRIPS IN ASPHALT SHOULDERS		20456	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")		160	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")		82380	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")		1302	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")		830	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")		101419	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)		2	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)		52	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)		1395	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY		84	CU. YD.
802	CLASS S CONCRETE-ROADWAY		150.00	CU. YD.
804	REINFORCING STEEL-ROADWAY (GRADE 60)		14833	POUND
816	FILTER BLANKET		233	SQ. YD.
816	DUMPED RIPRAP (GROUTED)		117	CU. YD.

*DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
9/10/2015	REVISED LINE ITEM 51" X 31" R.C. ARCH PIPE CULVERT (CLASS V) TO CULVERTS	77
10/12/2015	REMOVED ITEMS "PROCESSING LIME TREATED SUBGRADE, QUICKLIME (SLURRY) IN TREATED SUBGRADE, QUICKLIME (DRY) IN TREATED SUBGRADE, AND HYDRATED LIME IN TREATED SUBGRADE"	73, 77

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
9/10/2015			
10/12/2015			

(2) SUMMARY OF QUANTITIES AND REVISIONS

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	100654	77	235

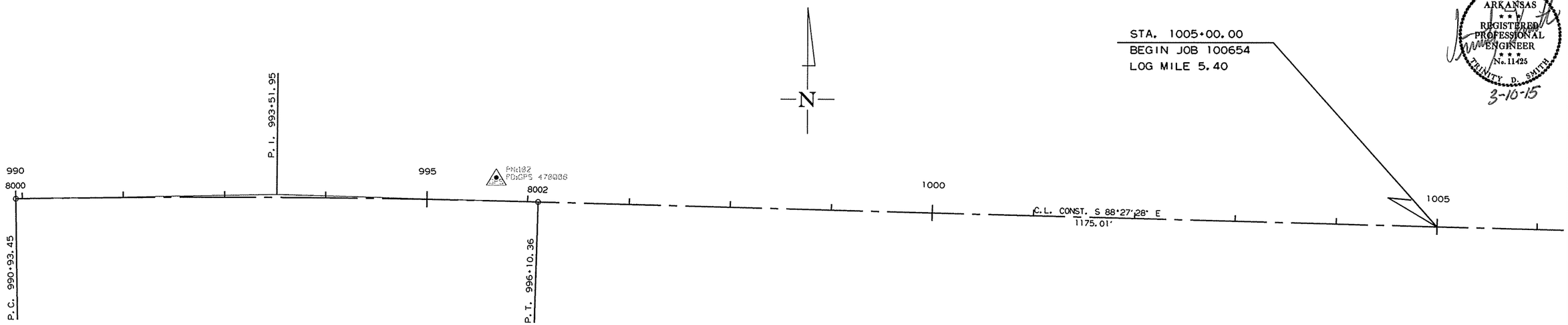
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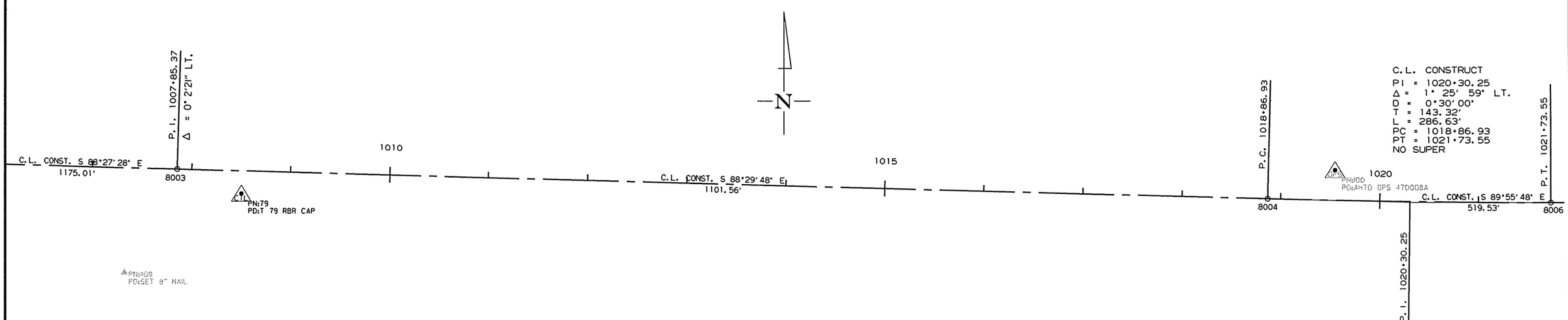
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11295
TIMOTHY D. SMITH
10-12-15

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.		100654	78	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15





SURVEY CONTROL DETAILS

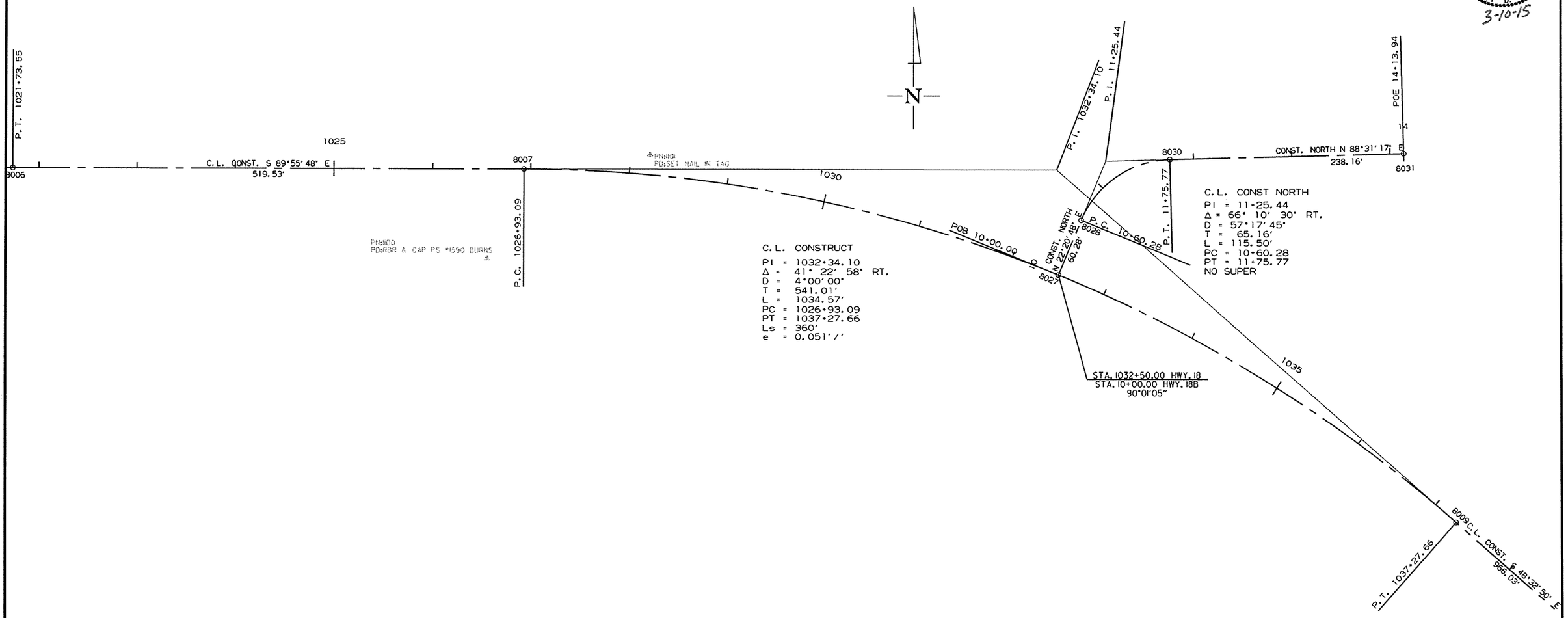
1/28/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	79	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



SURVEY CONTROL DETAILS

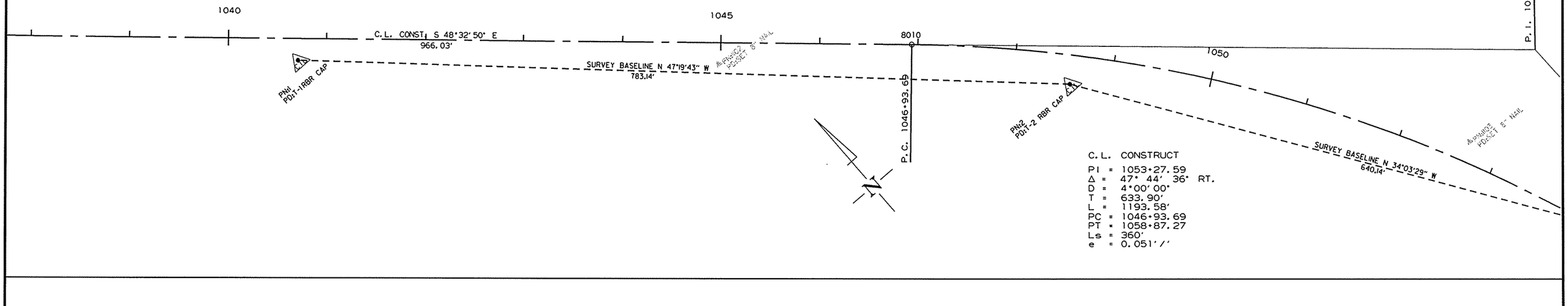
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R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	80	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



C.L. CONSTRUCT
PI = 1053+27.59
Δ = 47° 44' 36" RT.
D = 4°00'00"
T = 633.90'
L = 1193.58'
PC = 1046+93.69
PT = 1058+87.27
Ls = 360'
e = 0.051'/'

C.L. CONSTRUCT
PI = 1053+27.59
Δ = 47° 44' 36" RT.
D = 4°00'00"
T = 633.90'
L = 1193.58'
PC = 1046+93.69
PT = 1058+87.27
Ls = 360'
e = 0.051'/'

1/28/2015

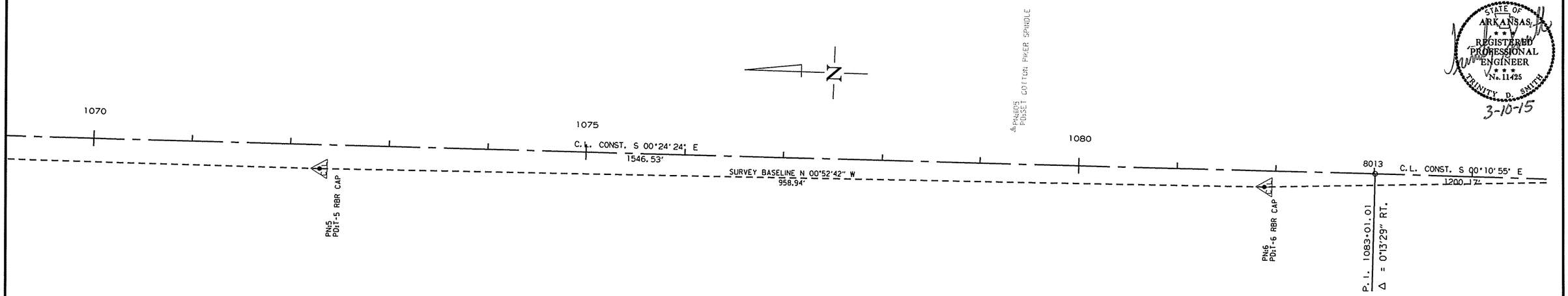
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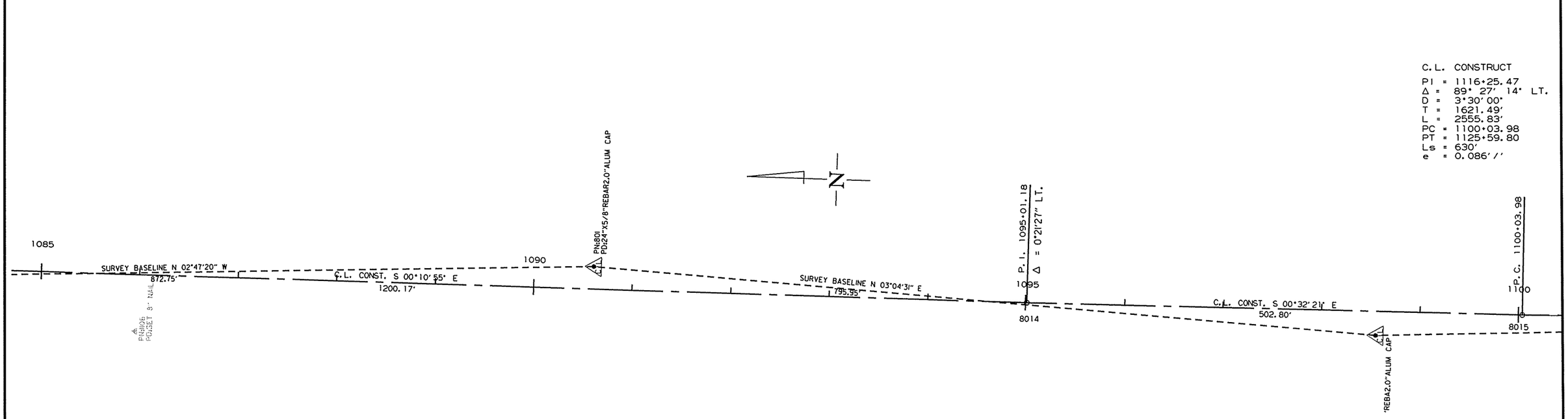
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	81	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15





SURVEY CONTROL DETAILS

1/28/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	82	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

FIRE HYDRANT BOLT

SURVEY BASELINE N 25°58'07" W
972.53'

1105

PK NAIL SET
PN807

C.L. CONSTRUCT
PI = 1116+25.47
Δ = 89° 27' 14" LT.
D = 3°30'00"
T = 1621.49'
L = 2555.83'
PC = 1100+03.98
PT = 1125+59.80
Ls = 630'
e = 0.086'/'

1110

STA. 1111+09.05 HWY. 18
STA. 20+00.00 WEST CONNECTION
91°03'20.5"

PN803
PD:24"X5/8"REBAR2.0"ALUM CAP

8032
20

POB 20+00.00

SURVEY BASELINE N 54°32'08" W
850.49'

1115

PN804
PD:24"X5/8"REBAR2.0"ALUM CAP

SURVEY BASELINE N 67°10'33"
581.43'

C.L. CONST. S 00°32'21" E
502.80'

CONST. WEST S 49°43'42" W
261.35'

C.L. CONST WEST
PI = 24+67.92
Δ = 50° 13' 26" LT.
D = 13°00'00"
T = 206.57'
L = 386.34'
PC = 22+61.35
PT = 26+47.69
Ls = 250'
e = 0.100'/'

PN809
PONE SCRIBE

8033

P.C. 22+61.35

SURVEY CONTROL DETAILS

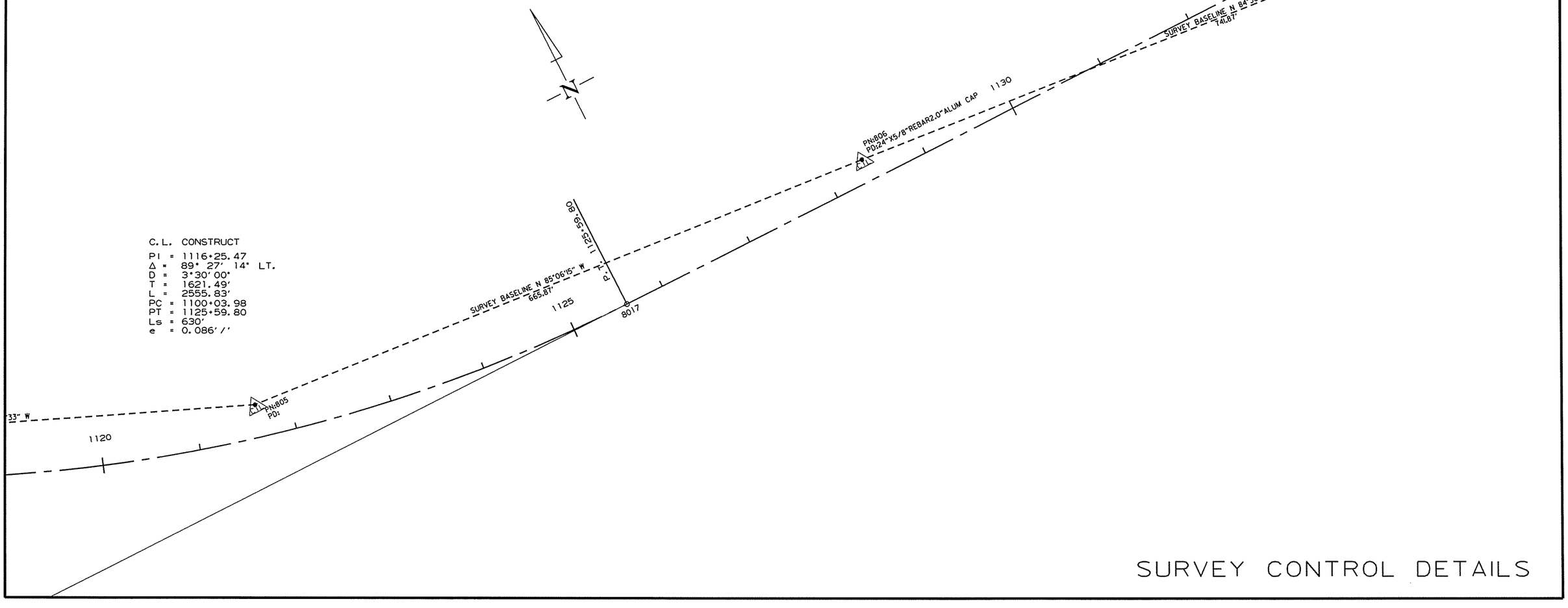
1/28/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	83	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



SURVEY CONTROL DETAILS

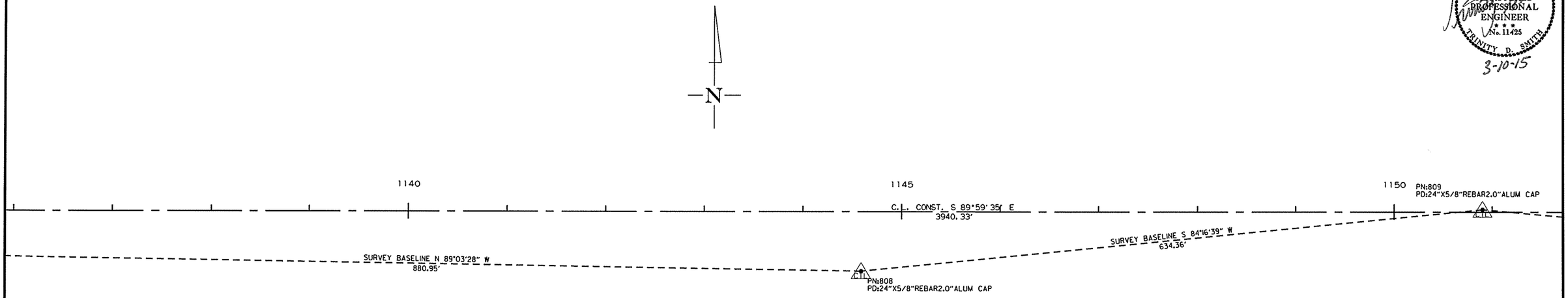
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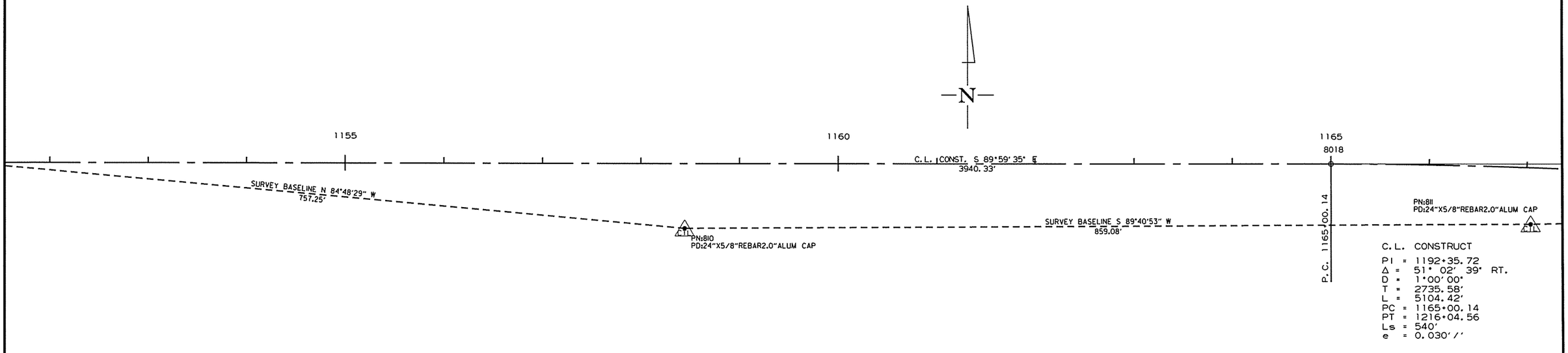
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	84	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15





SURVEY CONTROL DETAILS

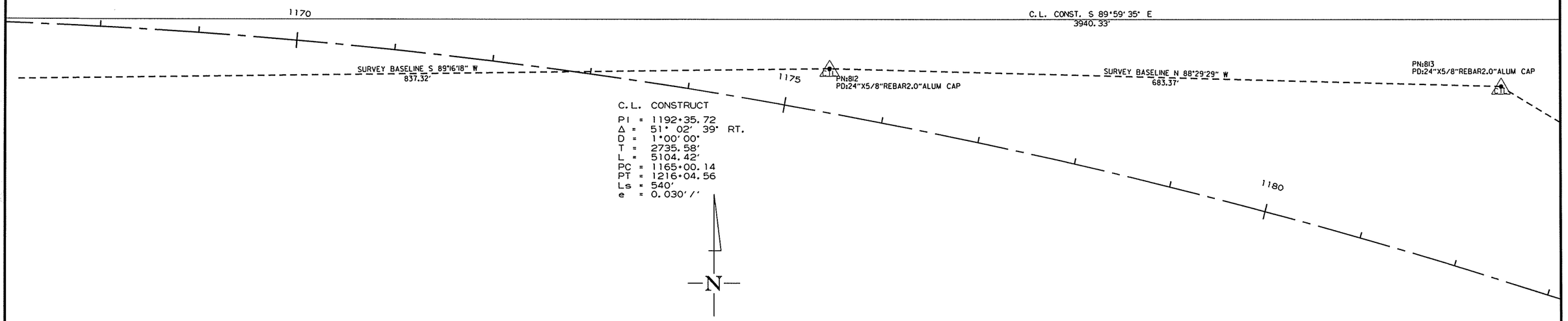
1/28/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	85	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15



1/28/2015

R100654.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.		100654	86	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

POB 30+00.00

CONST. EAST S 39°02'52" E 169.26'

8022

P.I. 1192+35.72

8023

P.C. 31+69.26

P.I. 34+68.87

C.L. CONST. S 89°59'35" E 3940.33'

C.L. CONST EAST
PI = 34+68.87
Δ = 68° 24' 51" RT.
D = 13°00'00"
T = 299.60'
L = 526.26
PC = 31+69.26
PT = 36+95.52
Ls = 250'
e = 0.100'/'

35

C.L. CONST. S 38°56'56" E 377.86'

N

P.T. 36+95.52

8025

CONST. EAST S 22°12'59" W 194.18'

SURVEY BASELINE N 58°39'01" W 1011.43'

1185

1190

PN:814
PD:24"X5/8"REBAR2.0"ALUM CAP

1195

38

8026

IPOE 38+89.71

SURVEY BASELINE N 62°27'30" W 1209.69'

C.L. CONSTRUCT
PI = 1192+35.72
Δ = 51° 02' 39" RT.
D = 1°00'00"
T = 2735.58'
L = 5104.42'
PC = 1165+00.14
PT = 1216+04.56
Ls = 540'
e = 0.030'/'

STA. 1193+36.29 HWY. 18
STA. 38+89.71EAST CONNECTION
90°59'52.8"

SURVEY CONTROL DETAILS

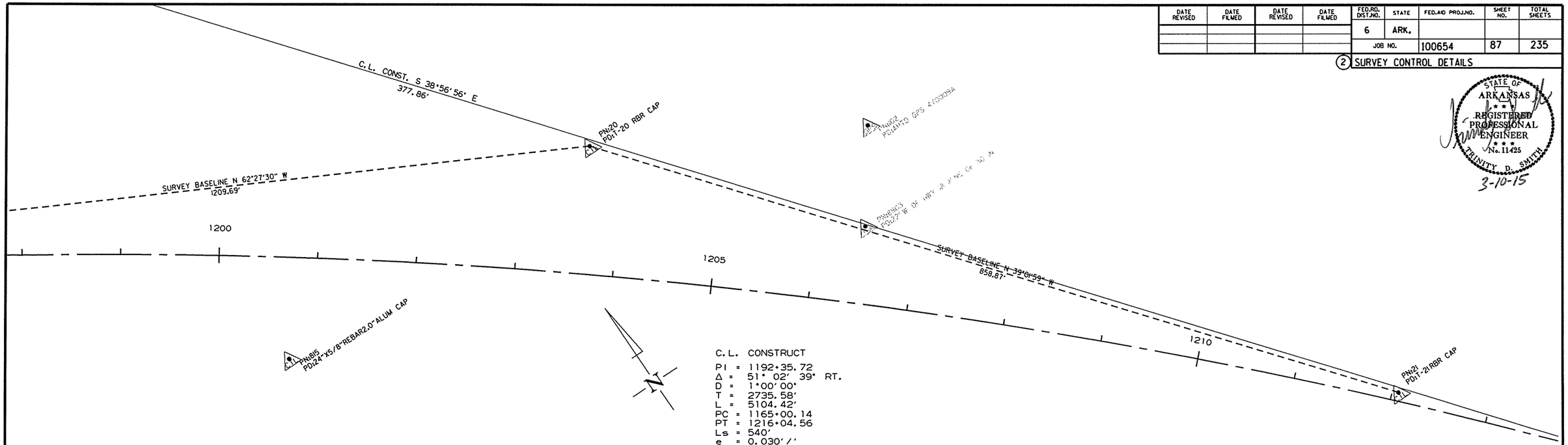
1/28/2015

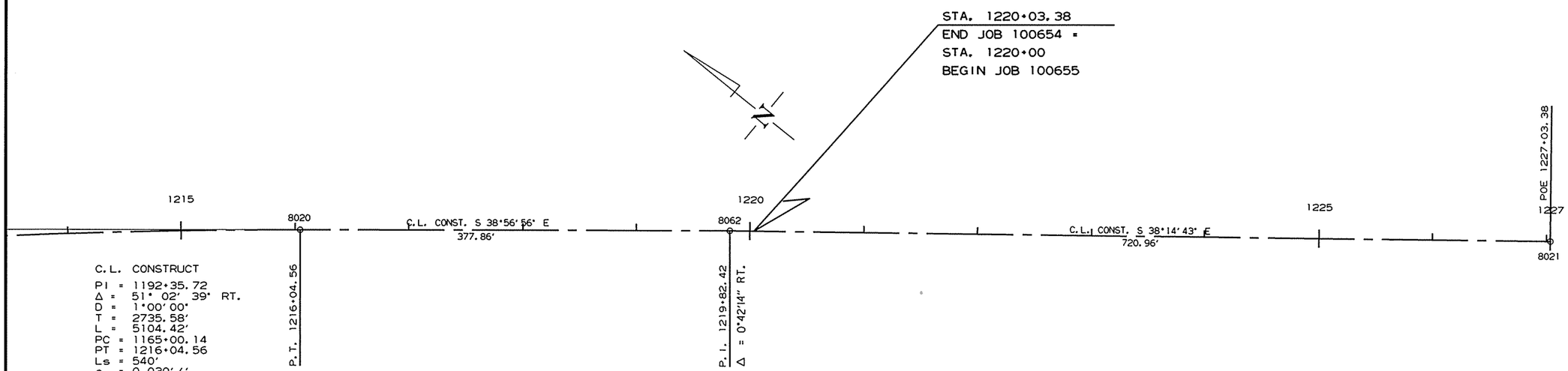
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	87	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15





SURVEY CONTROL DETAILS

1/28/2015

R100654.DGN

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(2) SURVEY CONTROL DETAILS

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PN:803
PO:24"X5/8"REBAR2.0"ALUM CAP

STA. 1111+09.05 HWY. 18
STA. 20+00.00 WEST CONNECTION
91°03'20.5"

C.L. CONSTRUCT
PI = 1116+25.47
Δ = 89° 27' 14" LT.
D = 3°30' 00"
T = 1621.49'
L = 2555.83'
PC = 1100+03.98
PT = 1125+59.80
Ls = 630'
e = 0.086'/'

1110

8032
20

POB 20+00.00

SURVEY BASELINE N 54°32'08" W
850.49'

1115

PN:804
PO:24"X5/8"REBAR2.0"ALUM CAP

SURVEY BASELINE N 67°10'33" E
581.43'

CONST. WEST S 49°43'42" W
261.35'

PN:809
PO:8"SPIKE

C.L. CONST. S 01°32'21" E
502.80'

8033

P.C. 22+61.35

C.L. CONST WEST
PI = 24+67.92
Δ = 50° 13' 26" LT.
D = 13°00' 00"
T = 206.57'
L = 386.34'
PC = 22+61.35
PT = 26+47.69
Ls = 250'
e = 0.100'/'

P.I. 24+67.92

25

PN:810
PO:8"SPIKE

P.T. 26+47.69

8035

C.L. CONST. S 89°59' 35" E
3940.33'

PN:811
PO:8"SPIKE

P.I. 1116+25.47

CONST. WEST S 00°29'44" E
252.06'

POE 28+99.75

8036

N

1/28/2015

R100654.DGN

SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		100654	89	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

SURVEY CONSTROL COORDINATES

Project Name: s100654
Date: 3/12/2012
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	570036.3835	1851390.8852	237.41	CTL	T-1 24" X5/8" REBAR2.0" ALUM CAP
2	569505.5761	1851966.6934	236.22	CTL	T-2 24" X5/8" REBAR2.0" ALUM CAP
3	568975.2363	1852325.1952	238.12	CTL	T-3 24" X5/8" REBAR2.0" ALUM CAP
4	568073.8093	1852343.0676	238.62	CTL	T-4 24" X5/8" REBAR2.0" ALUM CAP
5	567244.6523	1852347.3895	238.26	CTL	T-5 24" X5/8" REBAR2.0" ALUM CAP
6	566285.8229	1852362.0897	238.34	CTL	T-6 24" X5/8" REBAR2.0" ALUM CAP
20	561694.7379	1861624.8863	239.24	CTL	T-20 24" X5/8" REBAR2.0" ALUM CAP
21	561027.5805	1862165.7789	238.42	CTL	T-21 24" X5/8" REBAR2.0" ALUM CAP
79	570647.8776	1848358.8050	236.51	CTL	T 79 24" X5/8" REBAR2.0" ALUM CAP
100	570672.5777	1849463.4794	235.76	GPS	AHTD GPS 470008A
102	561554.6546	1861870.5340	241.00	GPS	AHTD GPS 470009A
801	565414.1035	1852404.5565	237.71	CTL	24" X5/8" REBAR2.0" ALUM CAP
802	564619.2964	1852361.8549	237.22	CTL	24" X5/8" REBAR2.0" ALUM CAP
803	563648.0766	1852412.2432	237.15	CTL	24" X5/8" REBAR2.0" ALUM CAP
804	563154.6237	1853104.9502	233.82	CTL	24" X5/8" REBAR2.0" ALUM CAP
805	562929.0848	1853640.8529	233.90	CTL	24" X5/8" REBAR2.0" ALUM CAP
806	562872.2557	1854304.2893	237.44	CTL	24" X5/8" REBAR2.0" ALUM CAP
807	562802.6277	1855042.8883	237.91	CTL	24" X5/8" REBAR2.0" ALUM CAP
808	562788.1406	1855923.7188	237.59	CTL	24" X5/8" REBAR2.0" ALUM CAP
809	562851.3939	1856554.9222	238.12	CTL	24" X5/8" REBAR2.0" ALUM CAP
810	562782.8678	1857309.0604	238.02	CTL	24" X5/8" REBAR2.0" ALUM CAP
811	562787.6436	1858168.1239	237.83	CTL	24" X5/8" REBAR2.0" ALUM CAP
812	562798.2892	1859005.3772	237.35	CTL	24" X5/8" REBAR2.0" ALUM CAP
813	562780.2987	1859688.5142	238.25	CTL	24" X5/8" REBAR2.0" ALUM CAP
814	562254.0898	1860552.2860	238.20	CTL	24" X5/8" REBAR2.0" ALUM CAP
815	561684.8524	1861251.4686	236.94	CTL	24" X5/8" REBAR2.0" ALUM CAP
990	-99999.0000	-99999.0000	243.42	BM	
991	-99999.0000	-99999.0000	238.33	BM	
8900	565498.0259	1855688.2013	241.93	BM	CH SQ IN CENTER OF HDWL
8901	565156.7230	1852122.5985	237.41	TBM	24" X5/8" REBAR2.0" ALUM CAP
8902	564248.3196	1852221.7263	239.02	TBM	CH X IN FIRE HYDRANT BOLT
8903	561470.7995	1861811.3975	240.11	TBM	22' W OF HWY. 18 11' NE OF 30 IN

Note - Rebar and Cap - Standard -" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point.).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999411667 HAS BEEN USED TO COMPUTE THE GROUND COORDINATES ABOVE.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME. s100654gi_dh.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONSTROL POINTS:
CONVERGENCE ANGLE: 1-09-00.03 RIGHT AT LT: 35-51-51.9 LG: 090-01-25.3
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

1/28/2015

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SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	90	235

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

CONST

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	PC	990+93.45	570706.4658	1846602.8279
8002	PT	996+10.36	570704.2101	1847119.6879
8003	PI	1007+85.37	570672.5842	1848294.2737
8004	PC	1018+86.93	570643.6865	1849395.4531
8006	PT	1021+73.55	570639.7513	1849682.0446
8007	PC	1026+93.09	570639.1155	1850201.5774
8009	PT	1037+27.66	570280.3019	1851148.0758
8010	PC	1046+93.69	569640.7848	1851872.1166
8012	PT	1058+87.27	568587.2968	1852356.1189
8054	PI	1067+54.48	567720.1757	1852368.2829
8013	PI	1083+01.01	566173.6859	1852379.2599
8014	PI	1095+01.18	564973.5210	1852383.0682
8015	PC	1100+03.98	564470.7452	1852387.8002
8017	PT	1125+59.80	562849.1297	1854024.5538
8018	PC	1165+00.14	562848.6575	1857964.8856
8020	PT	1216+04.56	560720.8486	1862420.1303
8062	PI	1219+82.42	560426.9823	1862657.6650
8021	POE	1227+03.38	559860.7657	1863103.9564

CONST NORTH

POINT NO.	TYPE	STATION	NORTHING	EASTING
8027	POB	10+00.00	570531.5449	1850744.4331
8028	PC	10+60.28	570587.2955	1850767.3510
8030	PT	11+75.77	570649.2413	1850857.2609
8031	POE	14+13.94	570655.3862	1851095.3432

CONST WEST

POINT NO.	TYPE	STATION	NORTHING	EASTING
8032	POB	20+00.00	563451.1348	1852756.4514
8033	PC	22+61.35	563282.1940	1852557.0441
8035	PT	26+47.69	562942.1058	1852401.2221
8036	POE	28+99.75	562690.0538	1852403.4021

CONST EAST

POINT NO.	TYPE	STATION	NORTHING	EASTING
8022	POB	30+00.00	562955.0635	1860633.3261
8023	PC	31+69.26	562823.6106	1860739.9564
8025	PT	36+95.52	562329.8272	1860781.7748
8026	POE	38+89.71	562160.5948	1860686.5487

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SURVEY CONTROL DETAILS

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				6	ARK.			
				JOB NO.		100654	91	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1002+00 IN PLACE
24" X 30' PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 1003+79 IN PLACE
28" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
RETAIN

+00 100' TRANSITION +00

+32.78 69.80

+00.00 75.00

EXIST. R/W

PROPOSED R/W

CONST. LIMITS

16' 16'

1000 1005 1010

S 88°27'27.6" E

8' 59' 8'

PI 1007+85.37
Δ 02°20.7" LT.

16' 16'

PN179
PDT1 75 RBR CAP

EXIST. R/W

STA. 1001+00 IN PLACE
24" X 30" PIPE CULVERT
RT. SIDE DRAIN
RETAIN

STA. 1001+56 IN PLACE
24" X 30" PIPE CULVERT
RT. SIDE DRAIN
RETAIN

STA. 1003+58 IN PLACE
24" X 30" PIPE CULVERT
RT. SIDE DRAIN
RETAIN

STA. 1005+00.00
BEGIN JOB 100654
LOG MILE 5.40

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

+00.00 75.00

PROPOSED R/W

CONST. LIMITS

18' 16'

PN1996
PDSET 3" NAIL

STA. 1006+85 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +87
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 55 CU. YDS.

STA. 1008+17 IN PLACE
18" X 26" R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +16
18" X 30" PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 50 CU. YDS.

HWY. 18

STA. 1011+66 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +65
24" X 30' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 60 CU. YDS.

STA. 1012+58 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +59
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 60 CU. YDS.

P.V.I. 1005+00.00
ELEV. 237.47

1005+00.00
232.92

LT. DITCH GRADE 0.01%
RT. DITCH GRADE 0.01%

260 255 250 245 240 235 230 225 220 215

999+00 1000+00 1001+00 1002+00 1003+00 1004+00 1005+00 1006+00 1007+00 1008+00 1009+00 1010+00 1011+00 1012+00 1013+00 1014+00

8/28/2014

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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.		100654	92	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1015+00 CONSTRUCT
DROP INLET ON LT. H = 5' 2"
WITH 4' EXTENSION AND
18" X 12' R.C. PIPE CULVERT STUB OUT
(CLASS III) (TYPE 3 BEDDING) WITH FES
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'

C.L. CONSTRUCT
PI = 1020+30.25
Δ = 1° 25' 59.3" LT.
D = 0°30'00"
T = 143.32'
L = 286.63'
PC = 1018+86.93
PT = 1021+73.55
NO SUPER

STA. 1021+00 CONSTRUCT
DROP INLET ON LT. H = 3' 11"
WITH 4' EXTENSION AND
18" X 295' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 2 BEDDING) = 295 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 295 LIN. FT.

STA. 1018+00 CONSTRUCT
DROP INLET ON LT. H = 4' 7"
WITH 4' EXTENSION AND
18" X 296' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 296 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 296 LIN. FT.

STA. 1024+16 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 50 CU. YDS.

STA. 1025+26 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +27
24" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 50 CU. YDS.

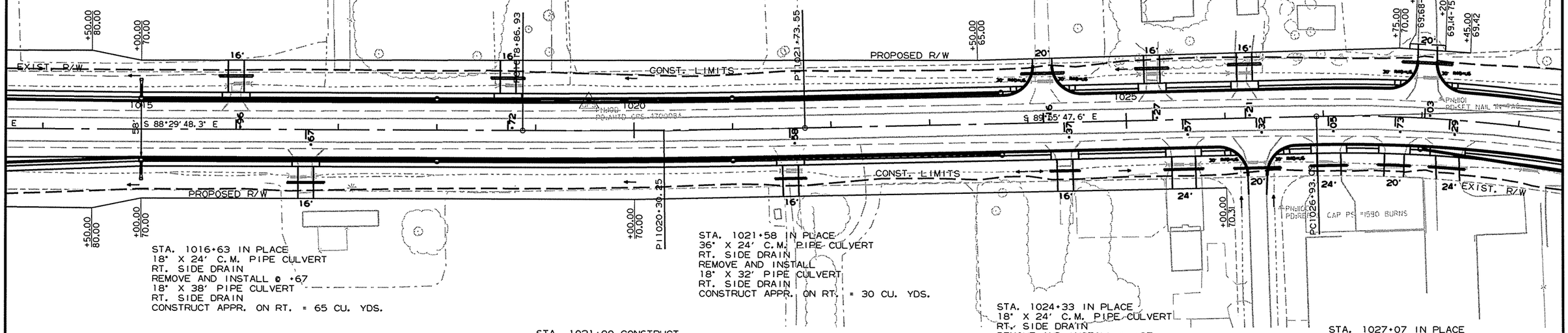
STA. 1028+03 IN PLACE
24" X 26' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 52' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 100 CU. YDS.

STA. 1015+99 IN PLACE
24" X 22' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +96
24" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 50 CU. YDS.

STA. 1018+74 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +72
24" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 50 CU. YDS.

STA. 1023+73 CONSTRUCT
DROP INLET ON LT. H = 3' 5"
WITH 4' EXTENSION AND
18" X 269' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 269 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 269 LIN. FT.

STA. 1026+16 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +21
24" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 60 CU. YDS.



STA. 1016+63 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +67
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 65 CU. YDS.

STA. 1021+58 IN PLACE
36" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.

STA. 1024+33 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +37
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.

STA. 1027+07 IN PLACE
18" X 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +05
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 35 CU. YDS.

STA. 1015+00 CONSTRUCT
DROP INLET ON RT. H = 5' 3"
WITH 4' EXTENSION AND
18" X 12' R.C. PIPE CULVERT STUB OUT
(CLASS III) (TYPE 3 BEDDING) WITH FES
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'

STA. 1021+00 CONSTRUCT
DROP INLET ON RT. H = 4' 0"
WITH 4' EXTENSION AND
18" X 297' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 2 BEDDING) = 297 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 297 LIN. FT.

STA. 1025+57 IN PLACE
18" X 32' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 40' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 45 CU. YDS.

STA. 1027+74 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +73
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.

STA. 1018+00 CONSTRUCT
DROP INLET ON RT. H = 4' 8"
WITH 4' EXTENSION AND
18" X 296' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 296 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 296 LIN. FT.

STA. 1023+73 CONSTRUCT
DROP INLET ON RT. H = 3' 5"
WITH 8' EXTENSION AND
18" X 269' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 269 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 269 LIN. FT.

STA. 1026+32 IN PLACE
18" X 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 65 CU. YDS.

STA. 1028+31 IN PLACE
18" X 38' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +29
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.

STA. 1028+00 CONSTRUCT
DROP INLET ON RT. H = 2' 9"
WITH 4' EXTENSION AND
18" X 289' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS V) (TYPE 3 BEDDING) = 289 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 289 LIN. FT.

C.L. CONSTRUCT
PI = 1032+34.10
Δ = 41° 22' 58.1" RT.
D = 4°00'00"
T = 541.01'
L = 1034.57'
PC = 1026+93.09
PT = 1037+27.66
e = 0.051'/'
Ls = 360'

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

8/28/2014
R100654.DGN

HWY. 18

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	93	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1024+23.09 BEGIN SUPERELEVATION
STA. 1027+83.09 MAX. SUPERELEVATION (0.051'/')
STA. 1036+37.66 MAX. SUPERELEVATION (0.051'/')
STA. 1039+97.66 END SUPERELEVATION

P.V.I. 1015+00.00 ELEV. 238.35
P.V.I. 1016+50.00 ELEV. 238.80
P.V.I. 1018+00.00 ELEV. 238.31
P.V.I. 1019+50.00 ELEV. 238.76
P.V.I. 1021+00.00 ELEV. 238.25
P.V.I. 1022+50.00 ELEV. 238.70
P.V.I. 1023+73.00 ELEV. 238.20
P.V.I. 1025+64.27 ELEV. 238.78
P.V.I. 1028+00.00 ELEV. 237.87

0.30% -0.33% 0.30% -0.34% 0.30% -0.41% 0.30% -0.39% 0.30%

18" X 12' @ 0.54%
18" X 296' @ 0.19%
18" X 295' @ 0.19%
18" X 269' @ 0.19%

LT. DITCH GRADE 0.01%
LT. DITCH GRADE 0.12%

1015+00.00 233.02

1015+00
TOP=238.27
FL INLET=233.13
FL OUTLET=233.13
FL OUTLET=233.02

1018+00
TOP=238.23
FL INLET=233.69
FL OUTLET=233.69

1021+00
TOP=238.17
FL INLET=234.25
FL OUTLET=234.25

1023+73
TOP=238.12
FL OUTLET=234.76

1014+00 1015+00 1016+00 1017+00 1018+00 1019+00 1020+00 1021+00 1022+00 1023+00 1024+00 1025+00 1026+00 1027+00 1028+00 1029+00

215 220 225 230 235 240 245 250 255 260

P.V.I. 1015+00.00 ELEV. 238.35
P.V.I. 1016+50.00 ELEV. 238.80
P.V.I. 1018+00.00 ELEV. 238.31
P.V.I. 1019+50.00 ELEV. 238.76
P.V.I. 1021+00.00 ELEV. 238.25
P.V.I. 1022+50.00 ELEV. 238.70
P.V.I. 1023+73.00 ELEV. 238.20
P.V.I. 1025+64.27 ELEV. 238.78
P.V.I. 1028+00.00 ELEV. 237.87

0.30% -0.33% 0.30% -0.34% 0.30% -0.41% 0.30% -0.39% 0.30%

18" X 12' @ 0.24%
18" X 296' @ 0.19%
18" X 297' @ 0.19%
18" X 269' @ 0.21%
18" X 289' @ 0.20%

RT. DITCH GRADE 0.01%
RT DITCH GRADE 0.16%
RT. DITCH GRADE -0.10%

1015+00.00 233.02

1015+00
TOP=238.27
FL INLET=233.07
FL OUTLET=233.07
FL OUTLET=233.02

1018+00
TOP=238.23
FL OUTLET=233.64
FL INLET=233.64

1021+00
TOP=238.17
FL INLET=234.20
FL OUTLET=234.20

1023+73
TOP=238.12
FL OUTLET=234.76

1024+00.00 234.46

1028+00
TOP=237.79
FL OUTLET=235.10

1014+00 1015+00 1016+00 1017+00 1018+00 1019+00 1020+00 1021+00 1022+00 1023+00 1024+00 1025+00 1026+00 1027+00 1028+00 1029+00

215 220 225 230 235 240 245 250 255 260

8/28/2014

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	94	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1040+00 CONSTRUCT
DROP INLET ON LT. H = 3' 9"
WITH 4' EXTENSION AND
18" X 296' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 296 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 296 LIN. FT.

STA. 1043+00 CONSTRUCT
DROP INLET ON LT. H = 4' 4"
WITH 4' EXTENSION AND
18" X 133' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 133 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 133 LIN. FT.

STA. 1032+50 INSTALL
18" X 110' PIPE CULVERT
LT. SIDE DRAIN

STA. 1030+69 IN PLACE
18" X 34' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +00
18" X 52' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 180 CU. YDS.

STA. 1030+24 IN PLACE
18" X 24' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +20
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 130 CU. YDS.

STA. 1033+79 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 120 CU. YDS.

STA. 1038+06 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +04
18" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 65 CU. YDS.

STA. 1040+60 IN PLACE
18" X 36' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +56
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 55 CU. YDS.

STA. 1030+17 IN PLACE
24" X 28' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +18
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.

STA. 1032+42 IN PLACE
18" X 30' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 35 CU. YDS.

STA. 1035+75 IN PLACE
18" X 26' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 40 CU. YDS.

STA. 1038+09 IN PLACE
18" X 26' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +08
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 55 CU. YDS.

STA. 1040+83 IN PLACE
18" X 28' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +85
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 85 CU. YDS.

STA. 1029+18 IN PLACE
18" X 16' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 1030+01 IN PLACE
6" X 56' R.C. PIPE CULVERT
RT. DRAIN
REMOVE 10' AS DIRECTED
BY THE ENGINEER

STA. 1033+75 IN PLACE
18" X 24' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 35 CU. YDS.

STA. 1038+63 IN PLACE
18" X 24' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +62
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 60 CU. YDS.

STA. 1042+29 IN PLACE
18" X 26' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +30
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 85 CU. YDS.

STA. 1031+00 CONSTRUCT
DROP INLET ON RT. H = 3' 0"
WITH 4' EXTENSION AND
18" X 289' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 289 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 289 LIN. FT.

STA. 1037+00 CONSTRUCT
DROP INLET ON RT. H = 4' 6"
WITH 4' EXTENSION AND
24" X 295' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
24" R.C. PIPE (CLASS III) (TYPE 2 BEDDING) = 295 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 295 LIN. FT.

STA. 1040+00 CONSTRUCT
DROP INLET ON RT. H = 5' 9"
WITH 8' EXTENSION AND
24" X 296' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 296 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 296 LIN. FT.

STA. 1043+92 IN PLACE
18" X 26' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +93
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 95 CU. YDS.

STA. 1034+00 CONSTRUCT
DROP INLET ON RT. H = 3' 11"
WITH 4' EXTENSION AND
24" X 289' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
24" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 289 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 289 LIN. FT.

C.L. CONSTRUCT
PI = 1032+34.10
Δ = 41° 22' 58.1" RT.
D = 4°00'00"
T = 541.01'
L = 1034.57'
PC = 1026+93.09
PT = 1037+27.66
e = 0.051'/'
Ls = 360'

STA. 1043+00 CONSTRUCT
DROP INLET ON RT. H = 6' 4"
WITH 8' EXTENSION AND
24" X 181' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 181 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 181 LIN. FT.

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

HWY. 18

8/28/2014

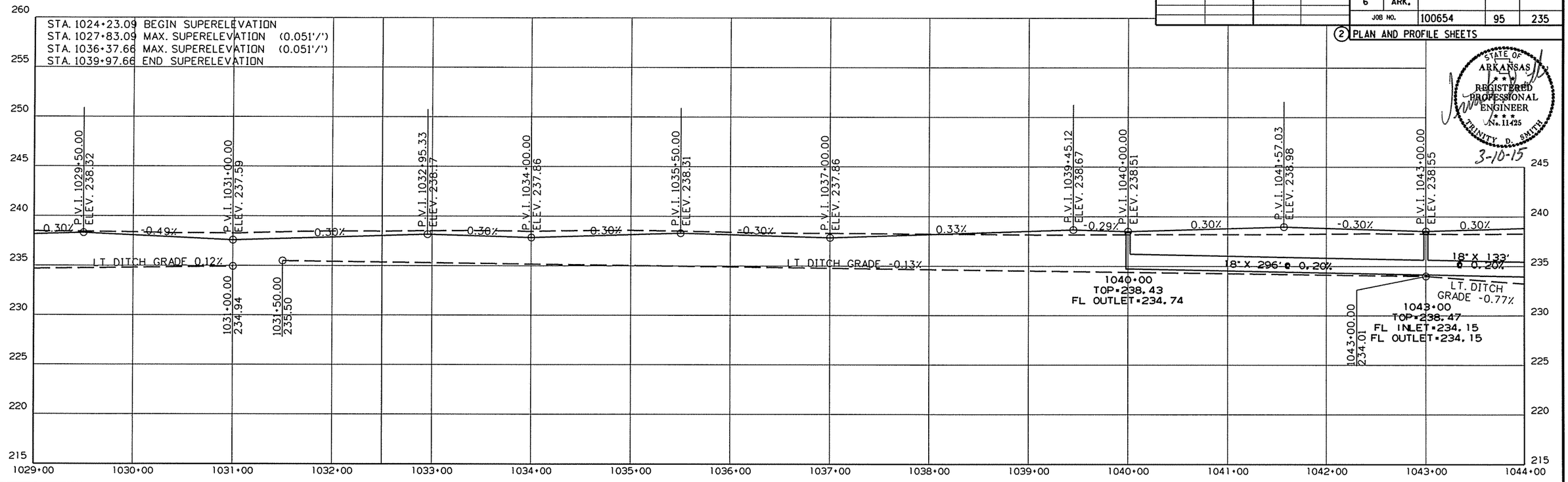
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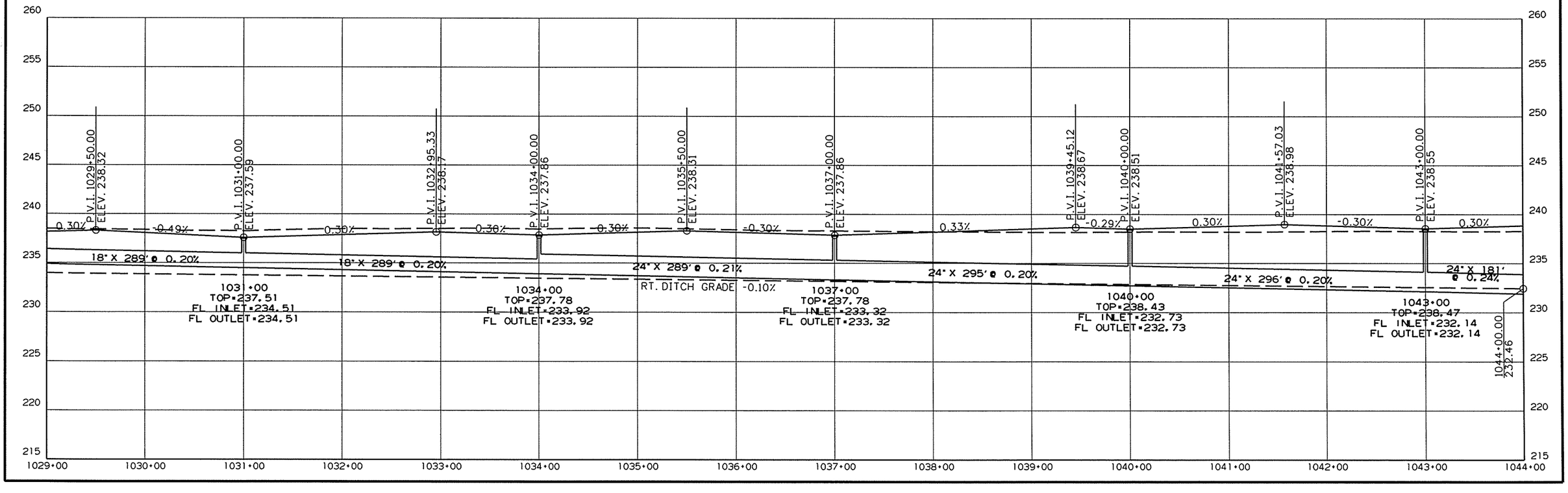
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	95	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1024+23.09 BEGIN SUPERELEVATION
STA. 1027+83.09 MAX. SUPERELEVATION (0.051'/')
STA. 1036+37.66 MAX. SUPERELEVATION (0.051'/')
STA. 1039+97.66 END SUPERELEVATION





8/28/2014

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	96	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1044+37 CONSTRUCT
DROP INLET ON LT. H = 7' 3"
WITH 4' EXTENSION AND
42" X 12' R.C. PIPE CULVERT STUB IN
42" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 12 LIN. FT.
WITH FES. AND 42" X 75' R.C. PIPE CULVERT
TO DROP INLET ON RT.
42" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 75 LIN. FT.
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 5' X 6'
D.A. = 52 AC., Q50 = 39 C.F.S.

STA. 1045+62 IN PLACE
24" X 50' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE
CONSTRUCT APPR. ON LT. = 25 CU. YDS.

STA. 1049+10 IN PLACE
24" X 32' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE
STA. 1047+62
CONSTRUCT APPR. ON LT. = 50 CU. YDS.

STA. 1050+80 IN PLACE
24" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 1051+08 IN PLACE
24" X 68' C.M. PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 1051+23 IN PLACE
24" X 74' C.M. PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 1044+61 IN PLACE
42" X 66' R.C. PIPE CULVERT
W/HDWLS. LT. & RT.
REMOVE

STA. 1047+50 CONSTRUCT
DROP INLET ON RT. H = 5' 8"
WITH 4' EXTENSION AND
36" X 80' R.C. PIPE CULVERT STUB IN
36" R.C. PIPE (CLASS V) (TYPE 3 BEDDING) = 80 LIN. FT.
WITH FES.
AND 36" X 95' R.C. PIPE CULVERT
TO DROP INLET ON RT.
36" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 95 LIN. FT.
36" SLPRMCCS PIPE (TYPE 2 BEDDING) = 95 LIN. FT.
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 5' X 6'
D.A. = 50 AC., Q50 = 34 C.F.S.

STA. 1045+25 CONSTRUCT
DROP INLET ON RT. H = 7' 4"
WITH 4' EXTENSION AND
36" X 14' R.C. PIPE CULVERT STUB OUT
36" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 14 LIN. FT.
WITH FES.
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 5' X 6'

STA. 1054+86 CONSTRUCT
APPR. ON LT. = 25 CU. YDS.

STA. 1055+30 CONSTRUCT
APPR. ON LT. = 20 CU. YDS.

STA. 1056+35 IN PLACE
18" X 32' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +33
18" X 38' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 75 CU. YDS.

STA. 1057+64 IN PLACE
18" X 22' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +72
18" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 100 CU. YDS.

STA. 1058+44 IN PLACE
18" X 24' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 80 CU. YDS.

PI 1053+27.59

PROPOSED R/W

EXIST. R/W

CONST. LIMITS

8" WALL

1045

1050

S 48°32'49.5" E

PC 1045+33

STA. 1050+63 IN PLACE
18" X 48' STEEL PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +58
18" X 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 45 CU. YDS.

STA. 1051+63.00 HWY. 18
HWY. 18B
19°50'45"

STA. 1052+58 IN PLACE
24" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +56
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 35 CU. YDS.

STA. 1056+13 IN PLACE
18" X 38' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +15
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 35 CU. YDS.

S 0°48'13.3" E

PT 1058+87.27

STA. 1045+97 IN PLACE
18" X 28' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL BEGIN
18" X 162' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 50 CU. YDS.

STA. 1047+05 INSTALL END
18" X 162' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 35 CU. YDS.

STA. 1048+06 IN PLACE
18" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +07
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 40 CU. YDS.

STA. 1049+02 IN PLACE
18" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 45 CU. YDS.

STA. 1051+21 IN PLACE
18" X 34' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +19
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 40 CU. YDS.

STA. 1052+00 IN PLACE
18" X 40' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +86
18" X 40' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 35 CU. YDS.

STA. 1053+36 IN PLACE
18" X 24' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +35
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 25 CU. YDS.

STA. 1054+48 CONSTRUCT
APPR. ON RT. = 20 CU. YDS.

STA. 1057+45 IN PLACE
18" X 36' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +48
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 40 CU. YDS.

STA. 1046+50 CONSTRUCT
DROP INLET ON RT. H = 6' 5"
WITH 4' EXTENSION AND
36" X 121' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
36" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 121 LIN. FT.
36" SLPPMCCS PIPE (TYPE 2 BEDDING) = 121 LIN. FT.

STA. 1049+89 IN PLACE
18" X 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +88
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.

STA. 1044+85 CONSTRUCT
DROP INLET ON RT. H = 7' 4"
WITH 4' EXTENSION AND
42" X 20' R.C. PIPE CULVERT STUB OUT
42" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 20 LIN. FT.
WITH FES.
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 5' X 6'

C.L. CONSTRUCT

PI = 1053+27.59
Δ = 47° 44' 36.2" RT.
D = 4°00'00"
T = 633.90'
L = 1193.58'
PC = 1046+93.69
PT = 1058+87.27
e = 0.051'/'
Ls = 360'

STA. 1055+50 CONSTRUCT
DROP INLET ON RT. H = 3' 6"
WITH 4' EXTENSION AND
18" X 283' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 283 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 283 LIN. FT.

STA. 1058+69 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 50 CU. YDS.

STA. 1049+50 CONSTRUCT
DROP INLET ON RT. H = 4' 6"
WITH 8' EXTENSION AND
18" X 191' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 191 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 191 LIN. FT.

STA. 1053+00 CONSTRUCT
DROP INLET ON RT. H = 3' 6"
WITH 4' EXTENSION AND
18" X 337' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 337 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 337 LIN. FT.

STA. 1058+44 CONSTRUCT
DROP INLET ON RT. H = 5' 3"
WITH 4' EXTENSION AND
18" X 251' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 251 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 251 LIN. FT.

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

HWY. 18

8/28/2014

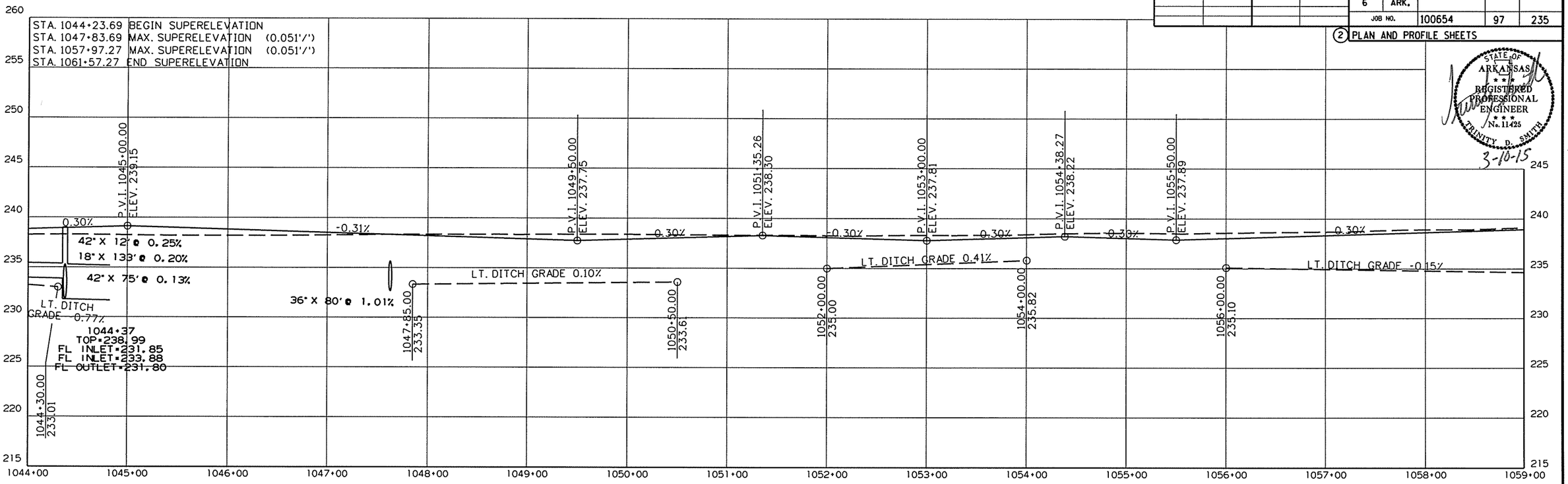
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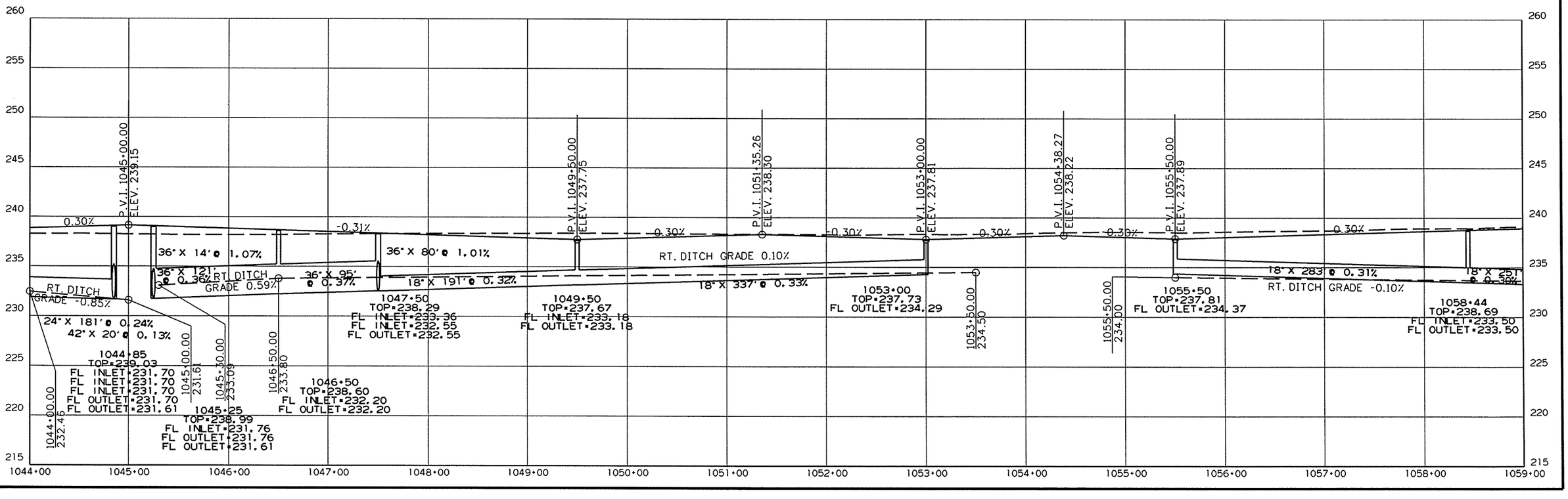
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	97	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1044+23.69 BEGIN SUPERELEVATION
STA. 1047+83.69 MAX. SUPERELEVATION (0.051'/')
STA. 1057+97.27 MAX. SUPERELEVATION (0.051'/')
STA. 1061+57.27 END SUPERELEVATION





8/28/2014

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	98	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

TRIBUTARY TO DITCH NO. 16 AT STA. 1064+03 IS CLASSIFIED AS INTERMITTENT. THE TOP OF CHANNEL ELEVATION IS 234.0 FT. MSL. REFER TO SECTION 110.05(c) TEMPORARY FILL OF THE 2014 STANDARD SPECIFICATIONS.

STA. 1067+08 CONSTRUCT
DROP INLET ON LT. H = 5' 10"
WITH 4' EXTENSION AND
18" X 302' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 302 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 302 LIN. FT.

STA. 1064+03 CONSTRUCT
8' X 5' X 94' R.C. BOX CULVERT
W/ 3:1 WINGS LT. & RT.
CHANNEL CHANGE = 498 CU. YDS.
D.A. = 470 AC., Q50 = 330 C.F.S.

STA. 1061+58 CONSTRUCT
JUNCTION BOX ON LT. H = 3' 3"
18" X 240' PIPE CULVERT
TO DROP INLET ON LT.
TYPE ST JUNCTION BOX = 4' X 3'
18" R.C. PIPE (CLASS V) (TYPE 3 BEDDING) = 240 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 240 LIN. FT.

STA. 1070+09 CONSTRUCT
DROP INLET ON LT. H = 5' 2"
WITH 4' EXTENSION AND
18" X 297' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 297 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 297 LIN. FT.

STA. 1064+02 CONSTRUCT
DROP INLET ON LT. H = 8' 7"
WITH 4' EXTENSION
TOP OF R.C. BOX CULVERT
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'

STA. 1072+37 CONSTRUCT
DROP INLET ON LT. H = 4' 8"
WITH 4' EXTENSION AND
18" X 224' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 224 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 224 LIN. FT.

STA. 1059+02 IN PLACE
18" X 40' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +03
18" X 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 80 CU. YDS.

STA. 1061+57 IN PLACE
18" X 38' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +58
18" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 75 CU. YDS.

STA. 1063+02 IN PLACE
18" X 50' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +03
18" X 60' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 75 CU. YDS.

STA. 1064+48 IN PLACE
36" X 54' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +46
36" X 62' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 195 CU. YDS.

STA. 1068+25 IN PLACE
30" X 34' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +26
30" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 115 CU. YDS.

STA. 1072+66 IN PLACE
30" X 34' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +65
30" X 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 75 CU. YDS.

STA. 1060+22 IN PLACE
18" X 46' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +21
18" X 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 95 CU. YDS.

STA. 1062+35 IN PLACE
18" X 52' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +28
18" X 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 50 CU. YDS.

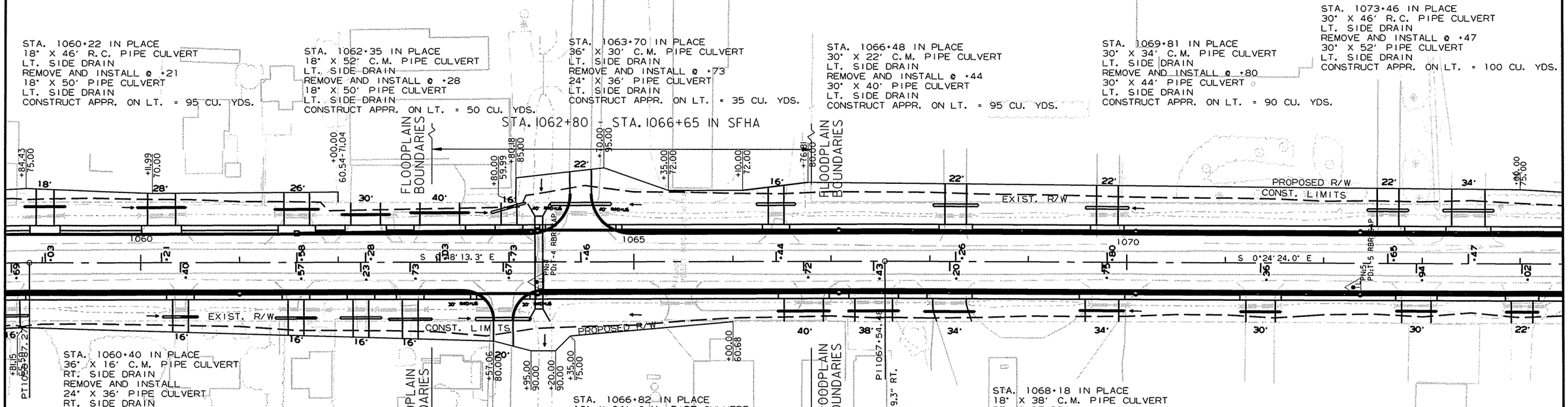
STA. 1063+70 IN PLACE
36" X 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +73
24" X 36' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 35 CU. YDS.

STA. 1066+48 IN PLACE
30" X 22' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +44
30" X 40' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 95 CU. YDS.

STA. 1069+81 IN PLACE
30" X 34' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +80
30" X 44' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 90 CU. YDS.

STA. 1073+46 IN PLACE
30" X 46' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +47
30" X 52' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 100 CU. YDS.

STA. 1062+80 - STA. 1066+65 IN SFHA



STA. 1060+40 IN PLACE
36" X 16' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
24" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 60 CU. YDS.

STA. 1066+82 IN PLACE
18" X 34' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +72
18" X 54' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 50 CU. YDS.

STA. 1068+18 IN PLACE
18" X 38' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +20
18" X 52' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 50 CU. YDS.

STA. 1071+35 IN PLACE
18" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +36
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 35 CU. YDS.

STA. 1061+68 IN PLACE
24" X 50' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +57
24" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 90 CU. YDS.

STA. 1062+66 IN PLACE
24" X 46' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +73
24" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 105 CU. YDS.

STA. 1067+44 IN PLACE
18" X 44' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +43
18" X 52' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 45 CU. YDS.

STA. 1069+83 IN PLACE
18" X 38' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +75
18" X 46' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 35 CU. YDS.

STA. 1072+93 IN PLACE
12" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +94
18" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.

STA. 1062+24 IN PLACE
24" X 26' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +23
24" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 90 CU. YDS.

STA. 1063+62 IN PLACE
36" X 46' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +67
36" X 56' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 155 CU. YDS.

STA. 1064+05 IN PLACE
DBL. 36" X 70' R.C. PIPE CULVERT
W/HDWLS. LT. & RT.
REMOVE

STA. 1065+46 IN PLACE
18" X 34' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA. 1072+37 CONSTRUCT
DROP INLET ON RT. H = 4' 8"
WITH 4' EXTENSION AND
18" X 224' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 224 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 224 LIN. FT.

STA. 1061+00 CONSTRUCT
DROP INLET ON RT. H = 6' 4"
WITH 8' EXTENSION AND
18" X 298' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 298 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 298 LIN. FT.

STA. 1067+08 CONSTRUCT
DROP INLET ON RT. H = 5' 10"
WITH 4' EXTENSION AND
18" X 302' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 302 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 302 LIN. FT.

STA. 1064+02 CONSTRUCT
DROP INLET ON RT. H = 8' 11"
WITH 4' EXTENSION
TOP OF R.C. BOX CULVERT
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'

STA. 1070+09 CONSTRUCT
DROP INLET ON RT. H = 5' 2"
WITH 4' EXTENSION AND
18" X 297' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 297 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 297 LIN. FT.

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

8/28/2014

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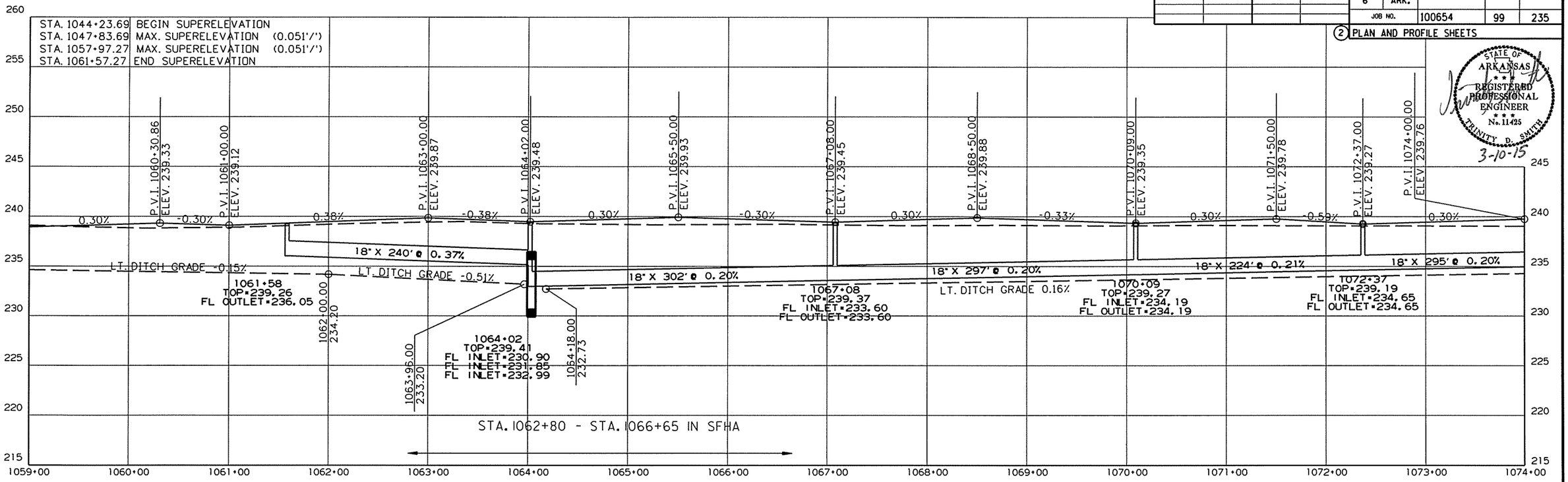
HWY. 18

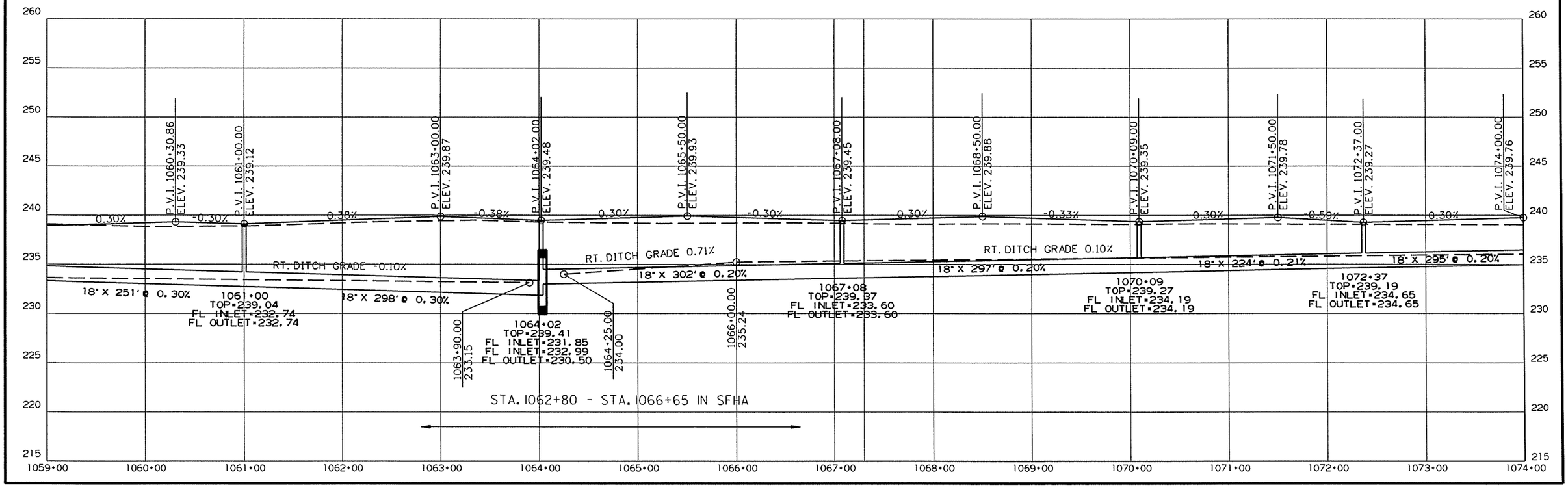
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	99	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1044+23.69 BEGIN SUPERELEVATION
STA. 1047+83.69 MAX. SUPERELEVATION (0.051'/')
STA. 1057+97.27 MAX. SUPERELEVATION (0.051'/')
STA. 1061+57.27 END SUPERELEVATION





8/28/2014

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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
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				JOB NO.		100654	100	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1075+36 CONSTRUCT
DROP INLET ON LT. H = 4' 1"
WITH 4' EXTENSION AND
18" X 295' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 2 BEDDING) = 295 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 295 LIN. FT.

STA. 1078+14 CONSTRUCT
DROP INLET ON LT. H = 3' 6"
WITH 4' EXTENSION AND
18" X 274' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 274 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 274 LIN. FT.

STA. 1081+00 CONSTRUCT
DROP INLET ON LT. H = 3' 7"
WITH 4' EXTENSION AND
18" X 221' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 221 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 221 LIN. FT.

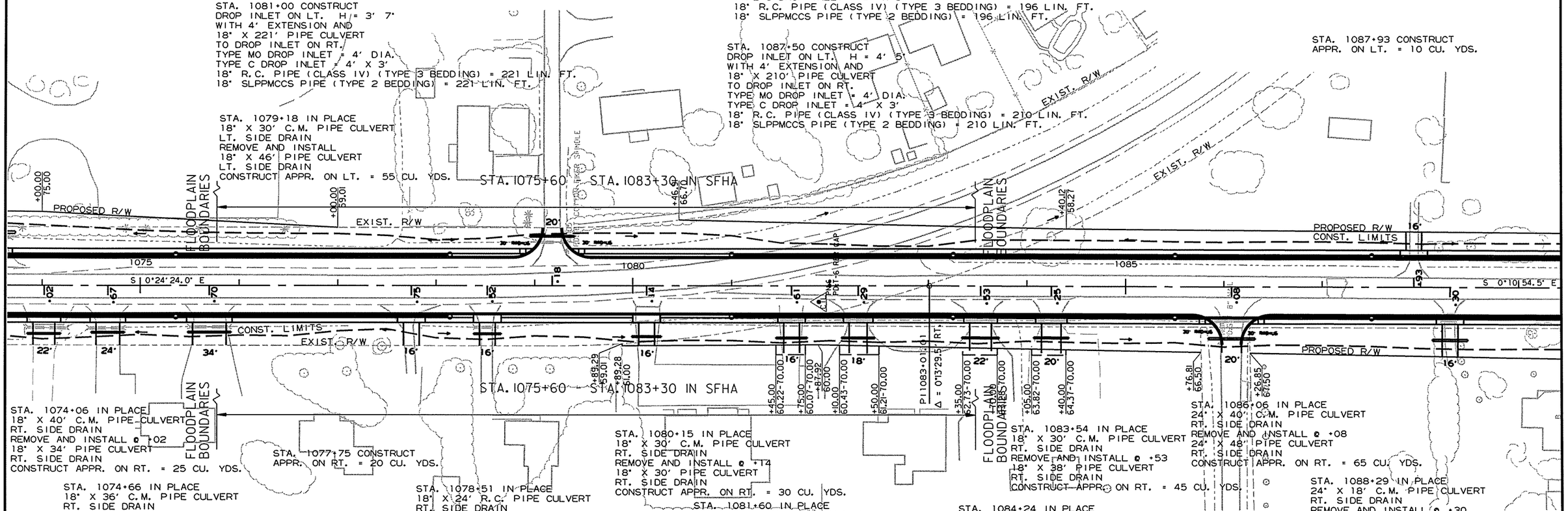
STA. 1079+18 IN PLACE
18" X 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 55 CU. YDS.

STA. 1083+25 CONSTRUCT
DROP INLET ON LT. H = 4' 0"
WITH 4' EXTENSION AND
18" X 221' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 221 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 221 LIN. FT.

STA. 1085+50 CONSTRUCT
DROP INLET ON LT. H = 3' 9"
WITH 8' EXTENSION AND
18" X 196' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 196 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 196 LIN. FT.

STA. 1087+50 CONSTRUCT
DROP INLET ON LT. H = 4' 5"
WITH 4' EXTENSION AND
18" X 210' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 210 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 210 LIN. FT.

STA. 1087+93 CONSTRUCT
APPR. ON LT. = 10 CU. YDS.



STA. 1074+06 IN PLACE
18" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +02
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 25 CU. YDS.

STA. 1077+75 CONSTRUCT
APPR. ON RT. = 20 CU. YDS.

STA. 1080+15 IN PLACE
18" X 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +14
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.

STA. 1083+54 IN PLACE
18" X 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +53
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 45 CU. YDS.

STA. 1086+06 IN PLACE
24" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +08
24" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 65 CU. YDS.

STA. 1074+66 IN PLACE
18" X 36' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +67
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 25 CU. YDS.

STA. 1078+51 IN PLACE
18" X 24' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +52
18" X 28' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 20 CU. YDS.

STA. 1081+60 IN PLACE
18" X 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +61
18" X 32' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 45 CU. YDS.

STA. 1084+24 IN PLACE
18" X 32' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +25
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 45 CU. YDS.

STA. 1088+29 IN PLACE
24" X 18' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +30
24" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 60 CU. YDS.

STA. 1075+70 IN PLACE
18" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.

STA. 1078+14 CONSTRUCT
DROP INLET ON RT. H = 3' 6"
WITH 4' EXTENSION AND
18" X 274' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS V) (TYPE 3 BEDDING) = 274 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 274 LIN. FT.

STA. 1082+29 IN PLACE
18" X 30' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 45 CU. YDS.

STA. 1083+25 CONSTRUCT
DROP INLET ON RT. H = 4' 0"
WITH 4' EXTENSION AND
18" X 221' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 221 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 221 LIN. FT.

STA. 1085+50 CONSTRUCT
DROP INLET ON RT. H = 3' 9"
WITH 8' EXTENSION AND
18" X 196' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 196 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 196 LIN. FT.

STA. 1075+36 CONSTRUCT
DROP INLET ON RT. H = 4' 1"
WITH 4' EXTENSION AND
18" X 295 PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 2 BEDDING) = 295 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 295 LIN. FT.

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

STA. 1087+50 CONSTRUCT
DROP INLET ON RT. H = 4' 5"
WITH 4' EXTENSION AND
18" X 210' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 210 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 210 LIN. FT.

HWY. 18

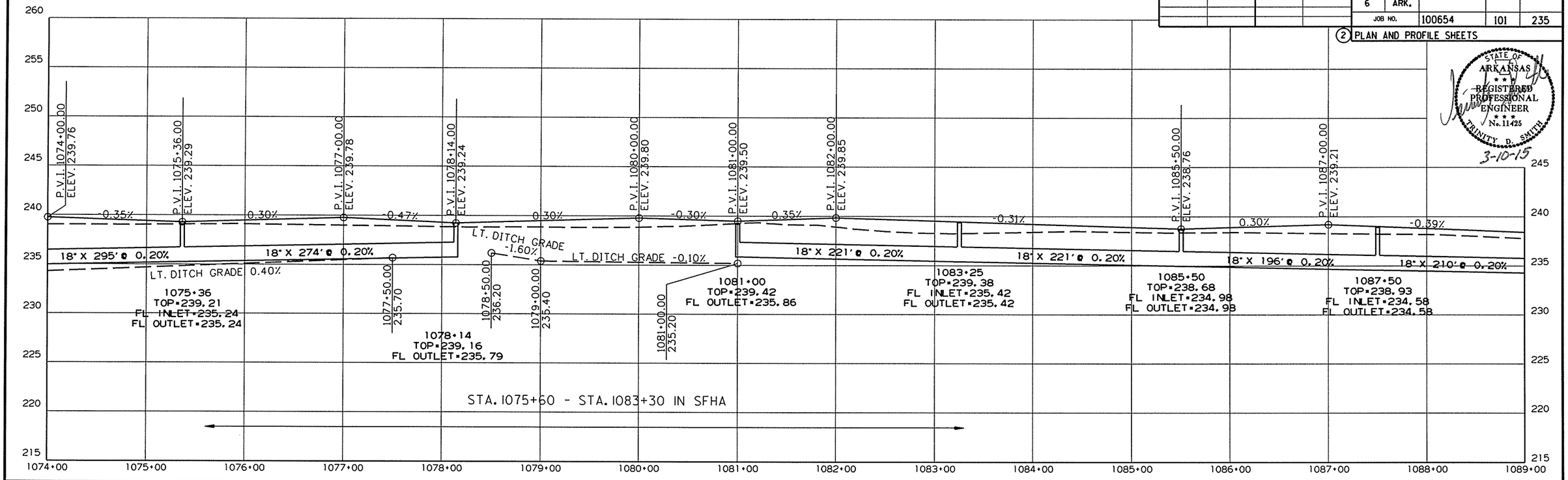
8/28/2014

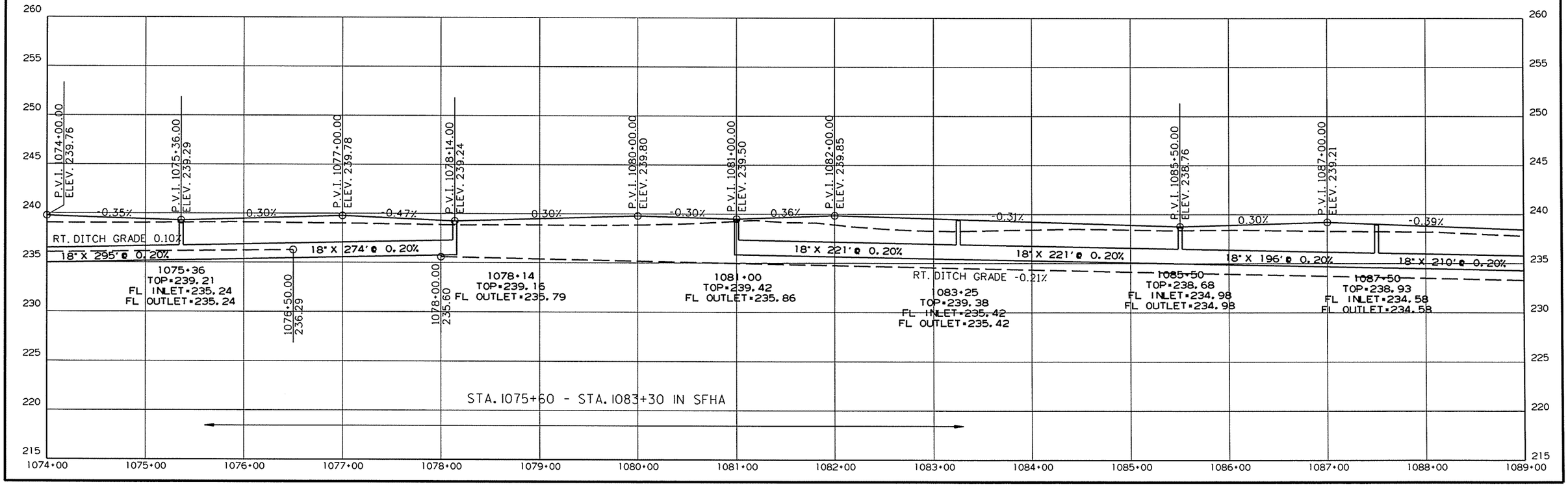
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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15





8/28/2014

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(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1089+64 CONSTRUCT
DROP INLET ON LT. H = 4' 0"
WITH 8' EXTENSION AND
18" X 210' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 210 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 210 LIN. FT.

STA. 1092+60 CONSTRUCT
DROP INLET ON LT. H = 2' 9"
WITH 4' EXTENSION AND
18" X 286 PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS V) (TYPE 3 BEDDING) = 286 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 286 LIN. FT.

STA. 1090+50 IN PLACE
DBL. 30" X 44' C.M. PIPE CULVERT
W/HDLWS. LT. & RT.
REMOVE

STA. 1095+50 CONSTRUCT
DROP INLET ON LT. H = 3' 4"
WITH 4' EXTENSION AND
18" X 286 PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS V) (TYPE 3 BEDDING) = 286 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 286 LIN. FT.

STA. 1098+40 CONSTRUCT
DROP INLET ON LT. H = 3' 8"
WITH 4' EXTENSION AND
24" X 294 PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS V) (TYPE 3 BEDDING) = 294 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 294 LIN. FT.

STA. 1102+67 CONSTRUCT
DROP INLET ON LT. H = 3' 4"
WITH 8' EXTENSION AND
24" X 6' R.C. PIPE CULVERT STUB OUT
(CLASS V) (TYPE 3 BEDDING) WITH FES
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'

STA. 1101+40 CONSTRUCT
DROP INLET ON LT. H = 3' 4"
WITH 4' EXTENSION AND
24" X 120 PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
24" R.C. PIPE (CLASS V) (TYPE 3 BEDDING) = 120 LIN. FT.
24" SLPPMCCS PIPE (TYPE 2 BEDDING) = 120 LIN. FT.

C.L. CONSTRUCT
PI = 1116+25.47
Δ = 89° 27' 14.0" LT.
D = 3°30'00"
T = 1621.49'
L = 2555.83'
PC = 1100+03.98
PT = 1125+59.80
e = 0.086'/'
Ls = 630'

STA. 1092+30 IN PLACE
24" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +29
24" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 70 CU. YDS.

STA. 1093+29 IN PLACE
24" X 48' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +28
24" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 75 CU. YDS.

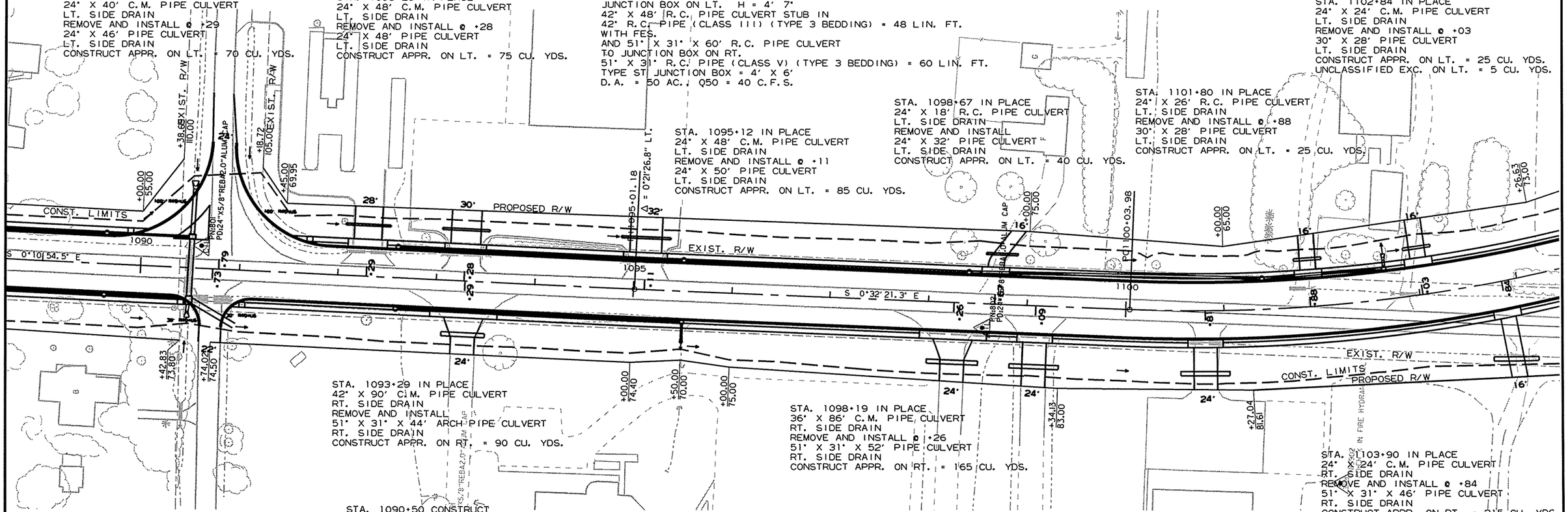
STA. 1090+51 CONSTRUCT
JUNCTION BOX ON LT. H = 4' 7"
42" X 48' R.C. PIPE CULVERT STUB IN
42" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 48 LIN. FT.
WITH FES.
AND 51" X 31" X 60' R.C. PIPE CULVERT
TO JUNCTION BOX ON RT.
51" X 31" R.C. PIPE (CLASS V) (TYPE 3 BEDDING) = 60 LIN. FT.
TYPE ST JUNCTION BOX = 4' X 6'
D.A. = 50 AC. Q50 = 40 C.F.S.

STA. 1095+12 IN PLACE
24" X 48' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +11
24" X 50' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 85 CU. YDS.

STA. 1098+67 IN PLACE
24" X 18' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
24" X 32' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 40 CU. YDS.

STA. 1101+80 IN PLACE
24" X 26' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +88
30" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 25 CU. YDS.

STA. 1102+84 IN PLACE
24" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +03
30" X 28' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 25 CU. YDS.
UNCLASSIFIED EXC. ON LT. = 5 CU. YDS.

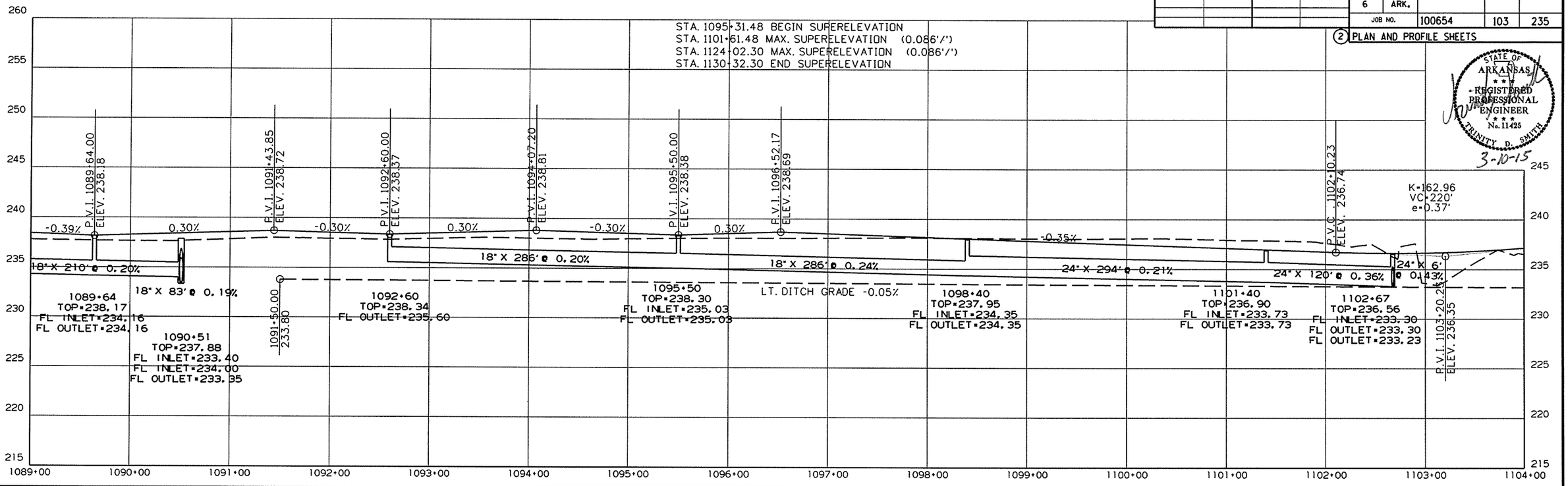


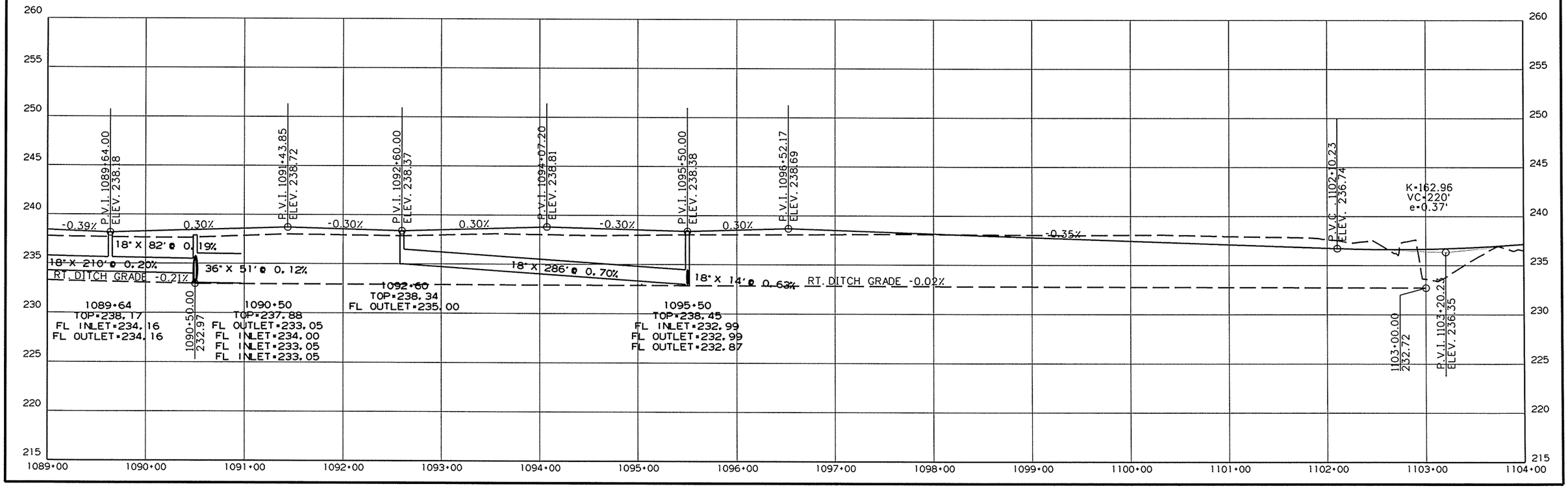
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	103	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1095+31.48 BEGIN SUPERELEVATION
STA. 1101+61.48 MAX. SUPERELEVATION (0.086'/')
STA. 1124+02.30 MAX. SUPERELEVATION (0.086'/')
STA. 1130+32.30 END SUPERELEVATION





8/28/2014

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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.		100654	104	235

(2) PLAN AND PLOT SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

C.L. CONSTRUCT
PI = 1116+25.47
Δ = 89° 27' 14.0" LT.
D = 3°30' 00"
T = 1621.49'
L = 2555.83'
PC = 1100+03.98
PT = 1125+59.80
e = 0.086'/'
Ls = 630'

STA. 1112+21 CONSTRUCT
DBL. 48" X 142' R.C. PIPE CULVERT
15° LT. FWD. SKEW
(CLASS III)(TYPE 2 BEDDING) WITH
FES LT. & RT.
D.A. = 220 AC., Q50 = 100 C.F.S.
48" R.C. PIPE = 284 LIN. FT.
48" FES = 4 EACH

STA. 1112+24 CONSTRUCT
DROP INLET ON LT. H = 10'-3"
WITH 4' EXTENSION
OVER R.C. PIPE CULVERT
TYPE MO DROP INLET = 6' DIA.
TYPE C DROP INLET = 6' X 3'

STA. 1105+91 IN PLACE
24" X 78' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL 6-89
51" X 31" X 72' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 525 CU. YDS.

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

PROPOSED R/W
EXIST. R/W
CONST. LIMITS
S 0°32'21.3" E
S 89°59'35.3" E
POB20+00.00
PM80H PD24"X51"C"REB42.0"ALUM CAP
HWY. 18
STA. 1111+09.05 HWY. 18
STA. 20+00.00 WEST CONNECTION
91°03'20.5"

STA. 1095+31.48 BEGIN SUPERELEVATION
STA. 1101+61.48 MAX. SUPERELEVATION (0.086'/')
STA. 1124+02.30 MAX. SUPERELEVATION (0.086'/')
STA. 1130+32.30 END SUPERELEVATION

K=162.96
VC=220'
e=0.37'
P.V.T. 1104+30.23
ELEV. 237.45
1.00%
1106+00.00
235.00
RT. DITCH GRADE -0.45%
LT. DITCH GRADE -0.12%
LT. DITCH GRADE -0.05%
1105+00.00
233.13
P.V.C. 1108+96.25
ELEV. 242.11
P.V.I. 1109+96.25
ELEV. 243.11
K=153.40
VC=200'
e=-0.33'
1110+35.00
233.04
P.V.T. 1110+96.25
ELEV. 242.81
-0.30%
P.V.C. 1111+50.00
ELEV. 242.64
K=247.65
VC=100'
e=0.05'
P.V.I. 1112+00.00
ELEV. 242.49
P.V.T. 1112+50.00
ELEV. 242.54
0.10%
1114+00.00
233.74
LT. DITCH GRADE 0.86%
RT. DITCH GRADE 0.16%
LT. DITCH GRADE 0.12%
1112+00.00
232.13
1112+28.00
232.26
FL INLET LT. = 232.26
FL OUTLET RT. = 232.13
1112+24
TOP=242.45
FL OUTLET=232.13
FL INLET=232.26

260 255 250 245 240 235 230 225 220 215
1104+00 1105+00 1106+00 1107+00 1108+00 1109+00 1110+00 1111+00 1112+00 1113+00 1114+00 1115+00 1116+00 1117+00 1118+00 1119+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.		100654	105	235

(2) PLAN AND PROFILE SHEETS

C. L. CONSTRUCT
PI = 1116+25.47
Δ = 89° 27' 14.0" LT.
D = 3°30'00"
T = 1621.49'
L = 2555.83'
PC = 1100+03.98
PT = 1125+59.80
e = 0.086'/'
Ls = 630'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1128+52 INSTALL
24" X 54' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 185 CU. YDS.

STA. 1128+14 INSTALL
24" X 66' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 325 CU. YDS.

CONST. LIMITS
PROPOSED R/W
CANOPY
RUINS
PI 1125+59.80
S 89°59'35.3" E
PI:806
PD:
PI:806
PD:4"X5/8"REBA2.0"ALUM CAP
+00.00 85.00
+00.00 125.00
+00.00 117.71
+50.00
1120
1125
1130
20'
40' RADIUS

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

HWY. 18

STA. 1095+31.48 BEGIN SUPERELEVATION
STA. 1101+61.48 MAX. SUPERELEVATION (0.086'/')
STA. 1124+02.30 MAX. SUPERELEVATION (0.086'/')
STA. 1130+32.30 END SUPERELEVATION

0.10%
0.00%
LT. DITCH GRADE 0.12%
RT. DITCH GRADE 0.16%
K=500.00
VC=50'
e=0.01'
P.V.C. 1131+81.90
ELEV. 244.47
P.V.I. 1132+06.90
ELEV. 244.50
P.V.T. 1132+31.90
ELEV. 244.50
P.V.I. 1134+00.00
ELEV. 244.50

260 255 250 245 240 235 230 225 220 215

1119+00 1120+00 1121+00 1122+00 1123+00 1124+00 1125+00 1126+00 1127+00 1128+00 1129+00 1130+00 1131+00 1132+00 1133+00 1134+00

8/28/2014
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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.		100654	106	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

N

+50.00
90.00

PROPOSED R/W

CONST. LIMITS

1135 1140 1145

S 89°59' 35.3" E

PN:807
PD:24"X5/8"REBA2.0"ALUM CAP

CONST. LIMITS

PN:808
PD:24"X5/8"REBA2.0"ALUM CAP

PROPOSED R/W

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

HWY. 18

P.V.I. 1134+00.00
ELEV. 244.50

P.V.I. 1149+00.00
ELEV. 244.50

0.00%

LT DITCH GRADE 0.12%
RT DITCH GRADE 0.16%

260 255 250 245 240 235 230 225 220 215

1134+00 1135+00 1136+00 1137+00 1138+00 1139+00 1140+00 1141+00 1142+00 1143+00 1144+00 1145+00 1146+00 1147+00 1148+00 1149+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.		100654	107	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1151+07 CONSTRUCT
APPR. ON LT. = 125 CU. YDS.

N

+80.00
80.12-90.00
+98.78
20'
80.00-90.00
+30.00
80.14-90.00

PROPOSED R/W

+00.00
85.00

+25.04
95.00

CONST. LIMITS

1150 1155 1160

S 89°59'35.3" E

L-07
PN:800
PD:24" X5/8" REBA2.0"ALUM CAP

CONST. LIMITS

20'

PN:810
PD:24" X5/8" REBA2.0" ALUM CAP

PROPOSED R/W

+90.00
86.27-95.00
+03.65
86.16'

+35.00
85.62-95.00

+00.00
761.69

STA. 1151+14 CONSTRUCT
APPR. ON RT. = 135 CU. YDS.

STA. 1051+31 IN PLACE
18" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
RETAIN

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

HWY. 18

260 255 250 245 240 235 230 225 220 215

P.V.I. 1149+00.00
ELEV. 244.50

K-199.99
VC-50'
e-0.02'

P.V.C. 1153+55.00
ELEV. 244.50

P.V.T. 1154+05.00
ELEV. 244.56

P.V.I. 1158+00.00
ELEV. 245.55

K-199.99
VC-50'
e--0.02'

P.V.I. 1164+00.00
ELEV. 245.55

STA. 1160+95.14 BEGIN SUPERELEVATION
STA. 1166+35.14 MAX. SUPERELEVATION (0.030'/')
STA. 1213+63.38 MAX. SUPERELEVATION (0.030'/')
STA. 1219+03.38 END SUPERELEVATION

0.00% 0.25% 0.00%

1150+75.00
238.33

1151+50.00
238.25

RT. DITCH GRADE -0.16%
LT. DITCH GRADE 0.12%

RT. DITCH GRADE -0.03%
LT. DITCH GRADE -0.03%

1150+75.00
238.15

1151+50.00
238.24

P.V.I. 1153+80.00
ELEV. 244.50

P.V.C. 1157+75.00
ELEV. 245.49

P.V.T. 1158+25.00
ELEV. 245.55

1149+00 1150+00 1151+00 1152+00 1153+00 1154+00 1155+00 1156+00 1157+00 1158+00 1159+00 1160+00 1161+00 1162+00 1163+00 1164+00

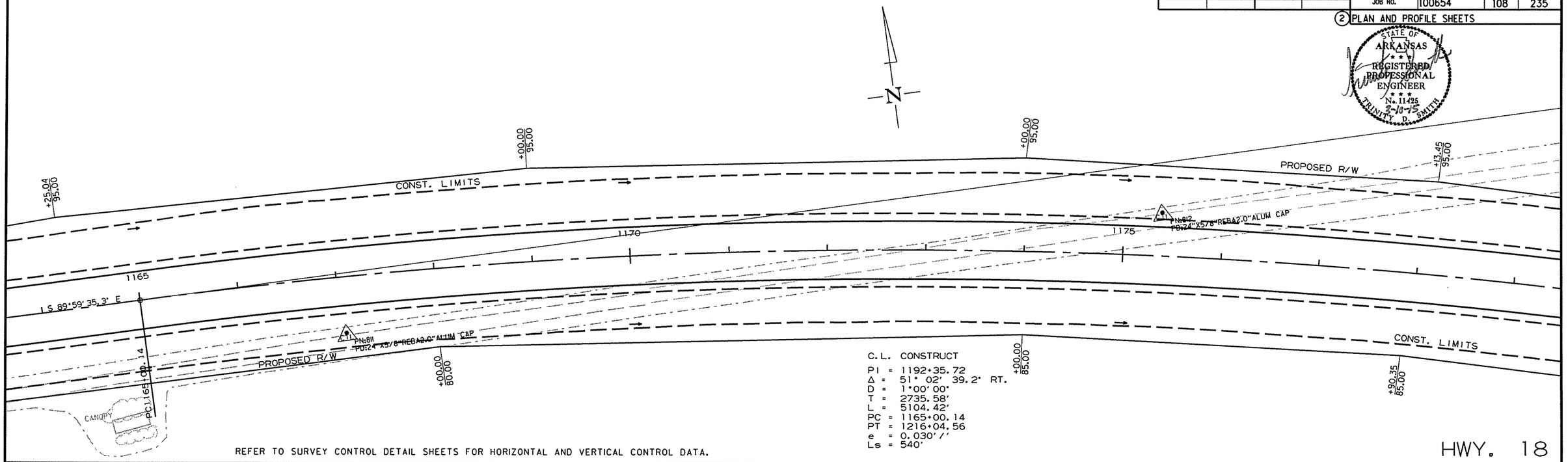
8/28/2014

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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.		100654	108	235

(2) PLAN AND PROFILE SHEETS

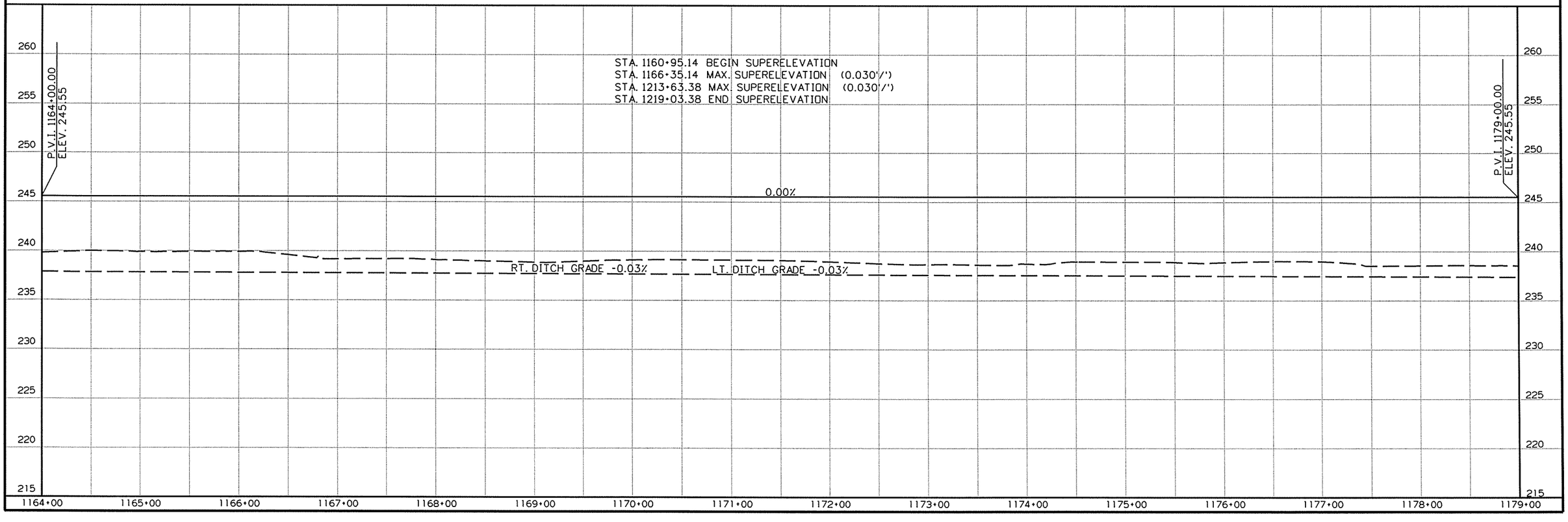
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
8-18-14
TRINITY D. SMITH



C.L. CONSTRUCT
PI = 1192+35.72
Δ = 51° 02' 39.2" RT.
D = 1°00'00"
T = 2735.58'
L = 5104.42'
PC = 1165+00.14
PT = 1216+04.56
e = 0.030'/'
Ls = 540'

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

HWY. 18



8/28/2014
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	109	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

S 89°59' 35.3" E

PN:813
PD:24"X5/8"REBAR2.0"ALUM CAP

PROPOSED R/W

CONST. LIMITS

+00.00 95.00

+00.00 90.00

+00.00 95.00

+00.00 100.00

+51.75 130.00

PT36+95.52

S 28°41' 58.4" W

100' RADIUS

PN:814
PD:24"X5/8"REBAR2.0"ALUM CAP

1180

1185

1190

POE38+89.

CONST. LIMITS

PROPOSED R/W

+00.00 85.00

+00.00 85.00

+00.00 85.00

C.L. CONSTRUCT
PI = 1192+35.72
Δ = 51° 02' 39.2" RT.
D = 1°00' 00"
T = 2735.58'
L = 5104.42'
PC = 1165+00.14
PT = 1216+04.56
e = 0.030'/'
Ls = 540'

STA. 1192+18 INSTALL
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 100 CU. YDS.

+35.09 90.35

STA.1193+36.29 HWY. 18
STA.38+89.71 HWY. 18
∢90°59'52.8"

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

HWY. 18

STA. 1160+95.14 BEGIN SUPERELEVATION
STA. 1166+35.14 MAX. SUPERELEVATION (0.030'/')
STA. 1213+63.38 MAX. SUPERELEVATION (0.030'/')
STA. 1219+03.38 END SUPERELEVATION

P.V.I. 1179+00.00
ELEV. 245.55

0.00%

P.V.I. 1194+00.00
ELEV. 245.55

1191+00.00
237.05

1192+50.00
236.50

LT. DITCH GRADE -0.03% RT. DITCH GRADE -0.03%

LT. DITCH GRADE -0.37% LT. DITCH GRADE -0.03%

260 255 250 245 240 235 230 225 220 215

1179+00 1180+00 1181+00 1182+00 1183+00 1184+00 1185+00 1186+00 1187+00 1188+00 1189+00 1190+00 1191+00 1192+00 1193+00 1194+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.		100654	110	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1206+15 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 1206+34 IN PLACE
18" X 50' C.M. PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 1206+50 IN PLACE
24" X 46' R.C. PIPE CULVERT
REMOVE

STA. 1206+24 IN PLACE
30" X 24' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 1206+64 IN PLACE
30" X 26' R.C. PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 1207+14 IN PLACE
18" X 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
RETAIN

STA. 1207+00 CONSTRUCT
APPR. ON LT. = 240 CU. YDS.

STA. 1208+15 CONSTRUCT
APPR. ON LT. = 70 CU. YDS.

EXIST. R/W

EXIST. R/W

CONST. LIMITS

PØE38+89.71

PROPOSED R/W

1195

1200

1205

+00.00
85.00

+00.00
85.00

+52.31
73.95

+00.00
95.00

+00.00
85.00

LT. ONAHIS
PK NAIL
PDI=20 RBR CAP

LT. ONAHIS
PK NAIL
PDI=20 RBR CAP

C.L. CONSTRUCT
PI = 1192+35.72
Δ = 51° 02' 39.2" RT.
D = 1°00'00"
T = 2735.58'
L = 5104.42'
PC = 1165+00.14
PT = 1216+04.56
e = 0.030'/'
Ls = 540'

STA. 1206+00 CONSTRUCT
6' X 3' X 121' R.C. BOX CULVERT
W/ 3:1 WINGS LT. & RT.
CHANNEL CHANGE = CU. YDS.
D. A. = 230 AC., Q50 = 70 C.F.S.

STA. 1206+50 IN PLACE
24" X 45' R.C. PIPE CULVERT
W/HDWLS. LT. & RT.
REMOVE

20'

16'

18'

18'

20'

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

HWY. 18

STA. 1160+95.14 BEGIN SUPERELEVATION
STA. 1166+35.14 MAX. SUPERELEVATION (0.030'/')
STA. 1213+63.38 MAX. SUPERELEVATION (0.030'/')
STA. 1219+03.38 END SUPERELEVATION

P.V.I. 1194+00.00
ELEV. 245.55

0.00%

P.V.C. 1198+04.58
ELEV. 245.55

P.V.I. 1198+54.58
ELEV. 245.55

P.V.T. 1199+04.58
ELEV. 245.30

K=200.40
VC=100'
e=-0.06'

-0.50%

1205+00.00
236.63

RT. DITCH GRADE
-0.72%

+00
236.10

1208+60.00
235.83

RT. DITCH GRADE -0.03%

RT. DITCH GRADE -0.03%

LT. DITCH GRADE -0.03%

FL INLET LT. = 236.10
FL OUTLET RT. = 235.91

1206+00.00 RT.
235.91

1206+00.00 LT.
236.10

260
255
250
245
240
235
230
225
220
215

1194+00 1195+00 1196+00 1197+00 1198+00 1199+00 1200+00 1201+00 1202+00 1203+00 1204+00 1205+00 1206+00 1207+00 1208+00 1209+00

8/28/2014

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	111	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 1222+55 IN PLACE
QUAD 5' X 5' X 149' R.C. BOX CULVERT
ON 30° LT. FWD. SKEW
W/3:1 WINGS LT. & RT.
RETAIN

+03.38 +03.38
100' TRANSITION

STA. 1223+96 IN PLACE
36" X 114' R.C. PIPE CULVERT
W/FES LT. & RT.
RETAIN

+75.00 77.82
+70.00 80.00
PROPOSED R/W
+50.00 80.00
+03.38 75.00
CONST. LIMITS
EXIST. R/W
1215
1220
1210
Found 1/2" POB. 21 RBR CAP
S 38°56'56.1" E
S 38°14'42.5" E
59'
8'
CONST. LIMITS
PROPOSED R/W
EXIST. R/W
+00.00 80.00
PT1216+04.56
+03.38 80.00
P.I.1219+82.42
Δ = 0°42'13.6" RT.
T.20' E.

STA. 1209+19 CONSTRUCT
APPR. ON RT. = 100 CU. YDS.

C.L. CONSTRUCT
PI = 1192+35.72
Δ = 51° 02' 39.2" RT.
D = 1°00'00"
T = 2735.58'
L = 5104.42'
PC = 1165+00.14
PT = 1216+04.56
e = 0.030'/'
Ls = 540'

STA. 1223+48 IN PLACE
18" X 36' PIPE CULVERT
RT. SIDE DRAIN
RETAIN

STA. 1220+03.38
END JOB 100654 =
STA. 1220+00.00
BEGIN JOB CA1002

HWY. 18

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

STA. 1160+95.14 BEGIN SUPERELEVATION
STA. 1166+35.14 MAX. SUPERELEVATION (0.030'/')
STA. 1213+63.38 MAX. SUPERELEVATION (0.030'/')
STA. 1219+03.38 END SUPERELEVATION

P.V.C. 1210+50.00
ELEV. 239.58
K=154.45
VC=100'
e=0.08'
P.V.T. 1211+50.00
ELEV. 239.41
P.V.I. 1219+03.38
ELEV. 240.53
-0.50%
0.15%
LT. DITCH GRADE -0.11%
RT. DITCH GRADE -0.01%
1209+50.00
235.92
1211+00.00
236.70
P.V.I. 1211+00.00
ELEV. 239.34
1219+03.38
235.82
55

260 255 250 245 240 235 230 225 220 215

1209+00 1210+00 1211+00 1212+00 1213+00 1214+00 1215+00 1216+00 1217+00 1218+00 1219+00 1220+00 1221+00 1222+00 1223+00 1224+00

8/28/2014
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	112	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

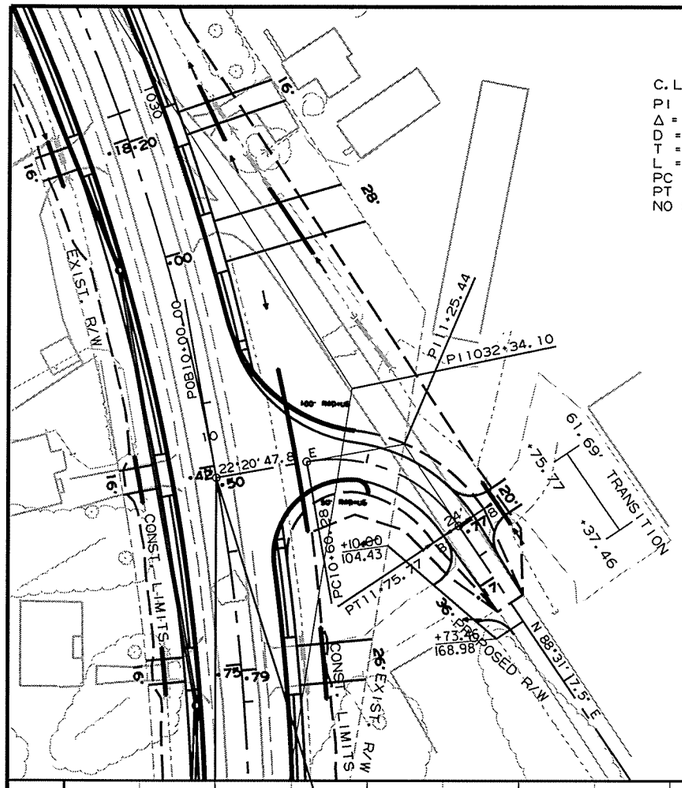
C.L. CONSTRUCT
PI = 11+25.44
Δ = 66° 10' 29.7" RT.
D = 57°17'44.8"
T = 65.16'
L = 115.50'
PC = 10+60.28
PT = 11+75.77
NO SUPER

STA. 10+93 IN PLACE
18" X 40' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 11+77 IN PLACE
18" X 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 45 CU. YDS.

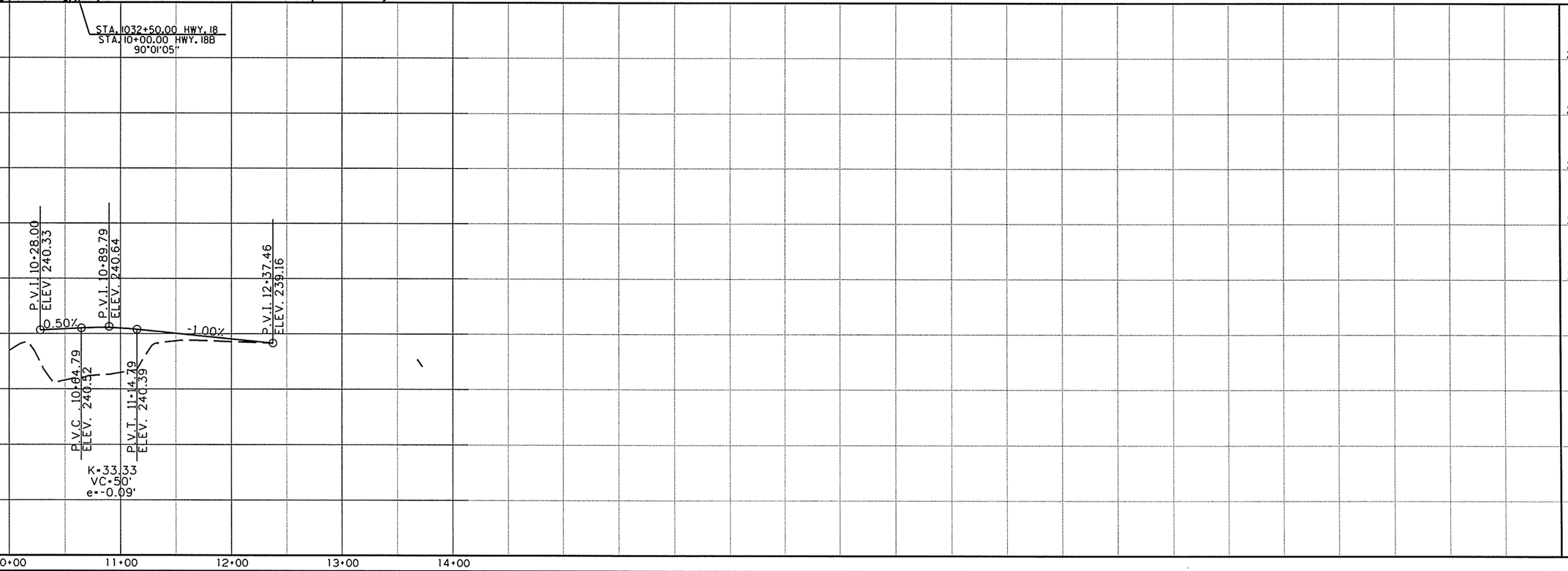
STA. 1032+50 INSTALL
18" X 110' PIPE CULVERT
LT. SIDE DRAIN

STA. 12+17 CONSTRUCT
APPR. ON RT. = 30 CU. YDS.



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

NORTH CONNECTION



8/28/2014

r100654.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	113	235

(2) PLAN AND PROFILE SHEETS

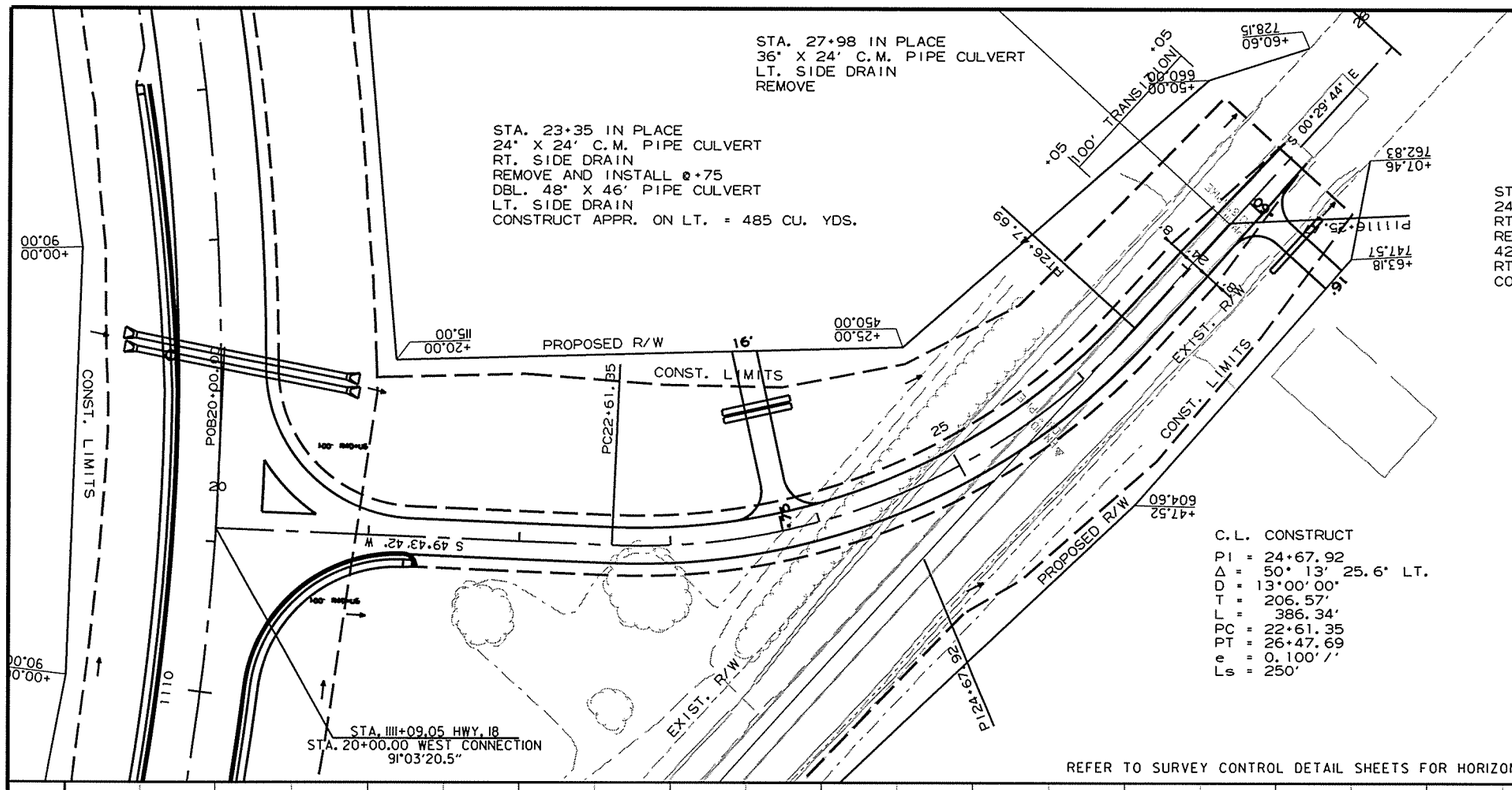
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 27+98 IN PLACE
36" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE

STA. 23+35 IN PLACE
24" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @+75
DBL. 48" X 46' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 485 CU. YDS.

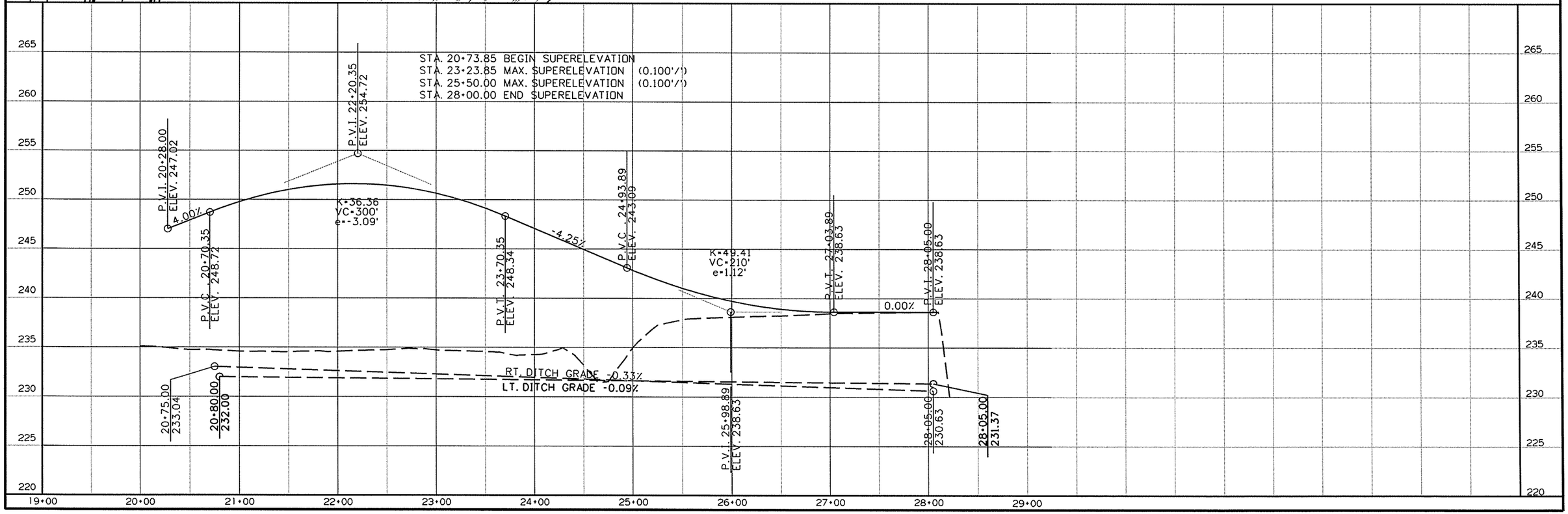
STA. 27+63 IN PLACE
24" X 37' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @+60
42" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 250 CU. YDS.

C.L. CONSTRUCT
PI = 24+67.92
Δ = 50° 13' 25.6" LT.
D = 13°00'00"
T = 206.57'
L = 386.34'
PC = 22+61.35
PT = 26+47.69
e = 0.100'/'
Ls = 250'



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

WEST CONNECTION



8/28/2014

r100654.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	114	235

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
3-10-15

STA. 32+28 IN PLACE
18" X 24' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL @ +45
24" X 42' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 130 CU. YDS.

STA. 31+66 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +55
24" X 52' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 85 CU. YDS.

STA. 38+07 CONSTRUCT
DBL. 42" X 136' R.C. PIPE CULVERT
(CLASS III) (TYPE 3 BEDDING) WITH
FES LT. & RT.
D.A. = 200 AC., Q50 = 61 C.F.S.
42" R.C. PIPE = 272 LIN. FT.
42" FES = 4 EACH

C.L. CONSTRUCT
PI = 34+68.87
Δ = 68° 24' 50.6" RT.
D = 13°00'00"
T = 299.60'
L = 526.26
PC = 31+69.26
PT = 36+95.52
e = 0.100'/'
Ls = 250'

STA. 1193+36.29 HWY. 18
STA. 38+89.71 EAST CONN.
90°59'52.8"

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

EAST CONNECTION

STA. 30+69.26 BEGIN SUPERELEVATION
STA. 33+19.26 MAX. SUPERELEVATION (0.100'/')
STA. 36+00.00 MAX. SUPERELEVATION (0.100'/')
STA. 38+50.00 END SUPERELEVATION

P.V.I. 30+69.26 ELEV. 241.27
P.V.I. 31+69.26 ELEV. 241.14
P.V.C. 32+40.05 ELEV. 240.92
P.V.I. 33+70.05 ELEV. 241.61
P.V.I. 33+05.05 ELEV. 240.73
P.V.I. 37+54.11 ELEV. 246.79
P.V.C. 37+16.61 ELEV. 246.28
P.V.T. 37+91.61 ELEV. 246.79
P.V.I. 38+60.20 ELEV. 246.79

-0.13% -0.30% 1.35% 0.00%

K=78.79 VC=130' e=0.27'
K=55.56 VC=75' e=-0.13'

30+69.26 238.01
30+69.26 237.48

LT. DITCH GRADE -0.21%
RT. DITCH GRADE -0.13%

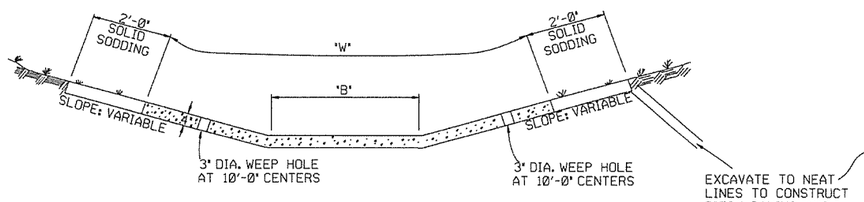
38+10.97 236.47
38+10.97 236.52
+0.07

FL INLET RT. = 236.53
FL OUTLET LT. = 236.50

29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00

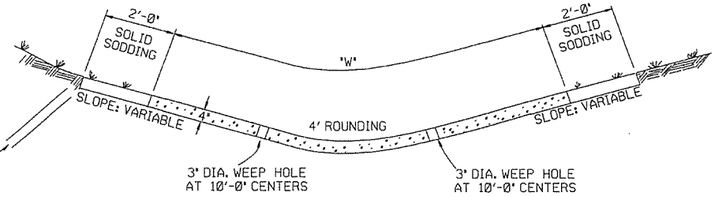
8/28/2014
r100654.dgn

REFER TO TABULATION OF QUANTITIES FOR 'W' & 'B' DIMENSIONS



TYPE A

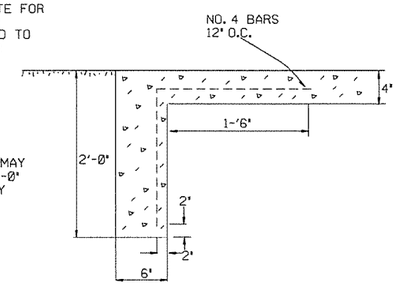
REFER TO TABULATION OF QUANTITIES FOR 'W' DIMENSIONS



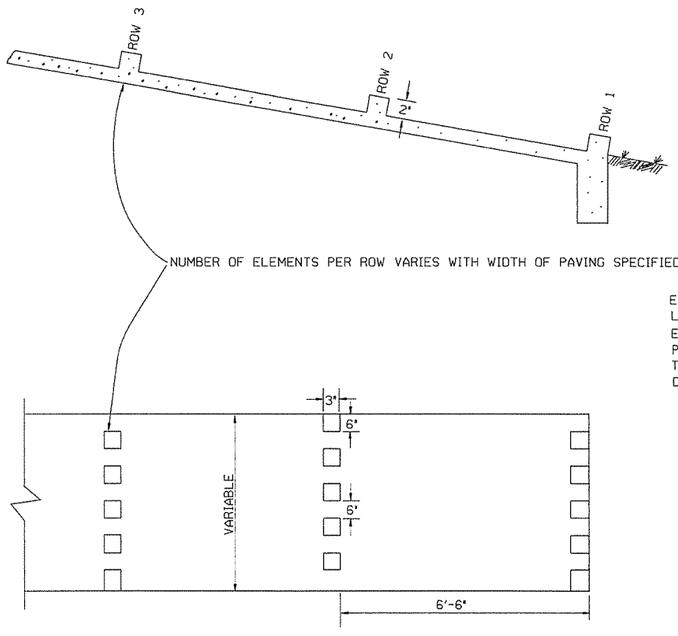
TYPE B

THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR 'CONCRETE DITCH PAVING.'

TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION



TOE WALL DETAIL FOR CONCRETE DITCH PAVING



ENERGY DISSIPATORS
(NO SCALE)

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE UNCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

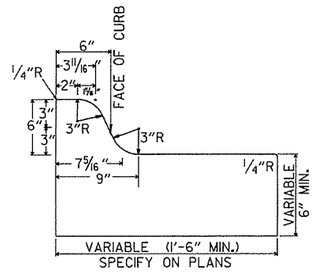
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

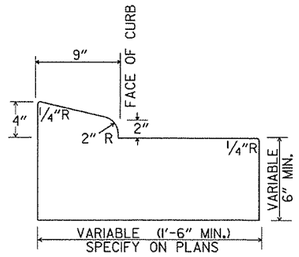
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

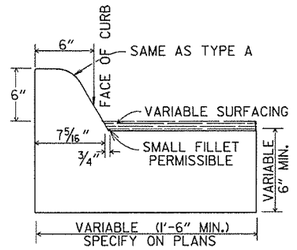
STANDARD DRAWING CDP-1



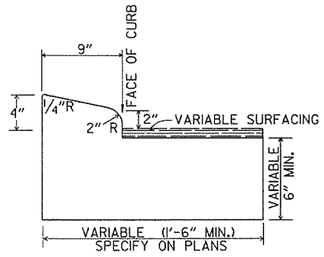
TYPE A



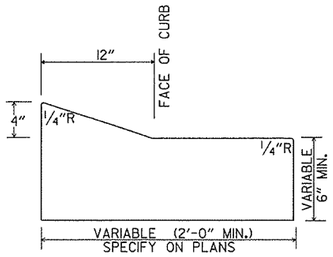
TYPE B-1



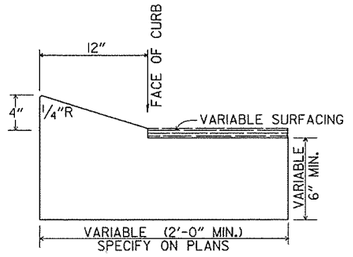
TYPE C



TYPE B-2

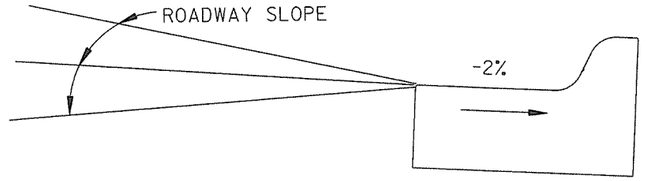


TYPE E-1



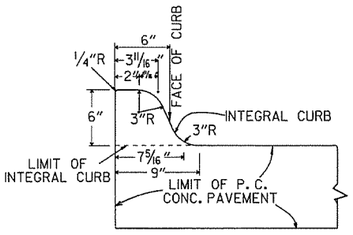
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

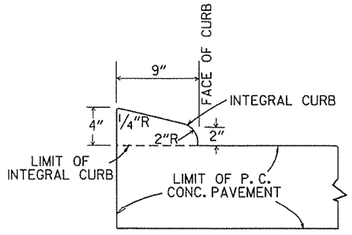


DETAIL OF GUTTER SLOPE

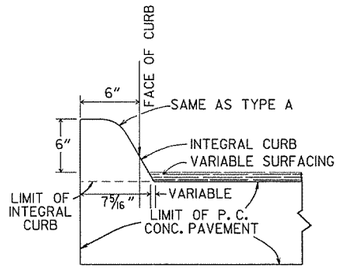
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

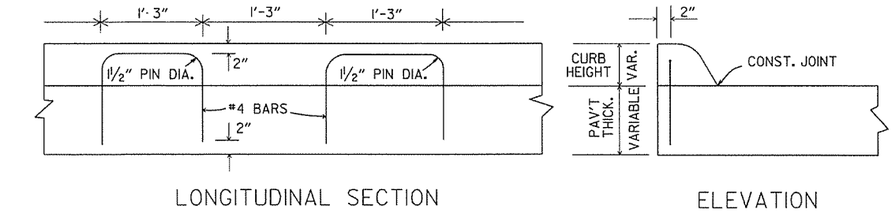


TYPE B



TYPE C

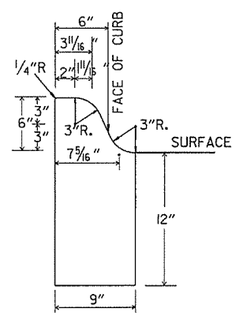
INTEGRAL CURB



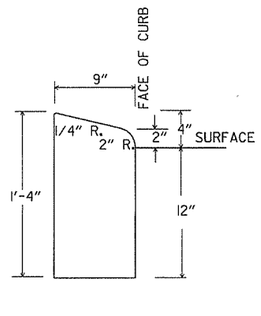
LONGITUDINAL SECTION

ELEVATION

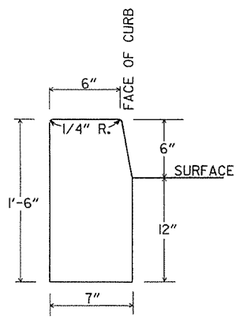
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



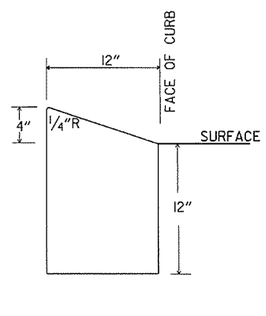
TYPE A



TYPE B

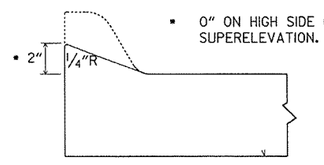


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

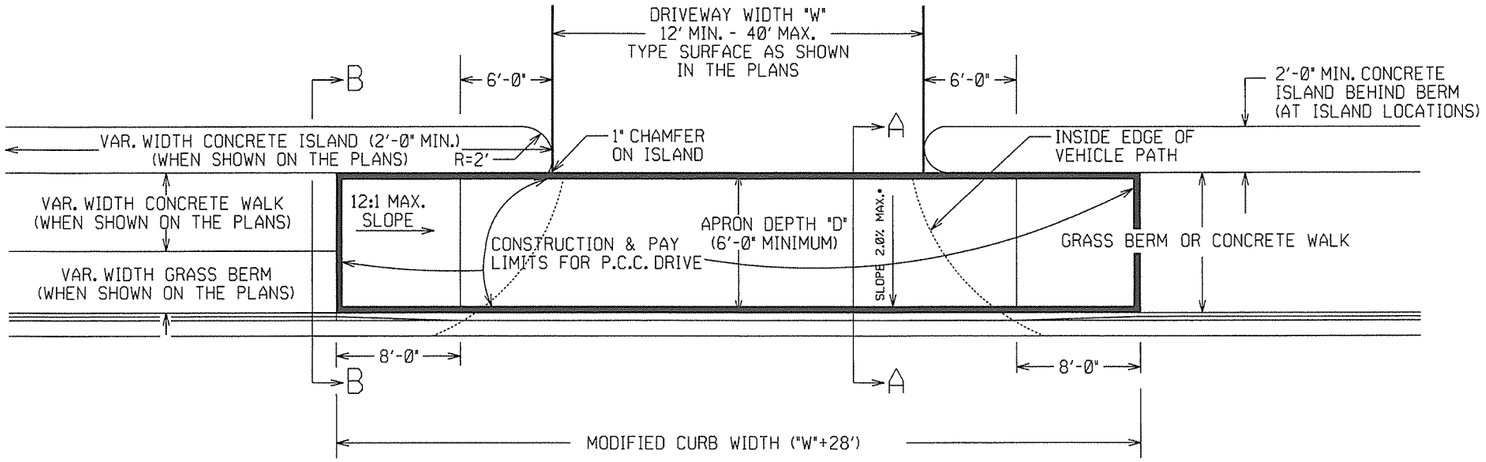
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

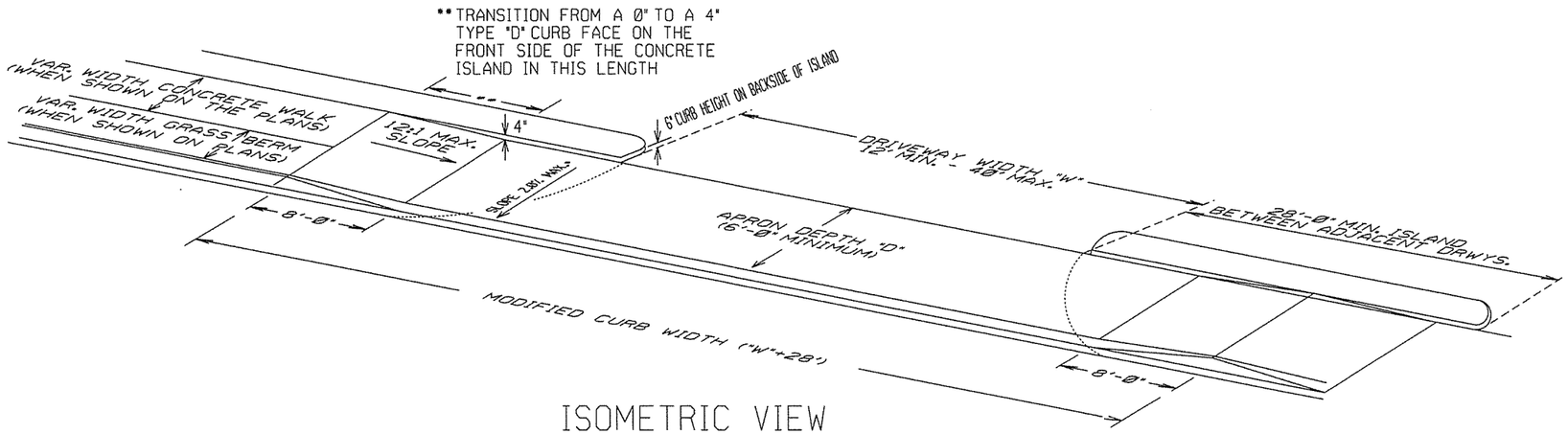
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

STANDARD DRAWING CG-1

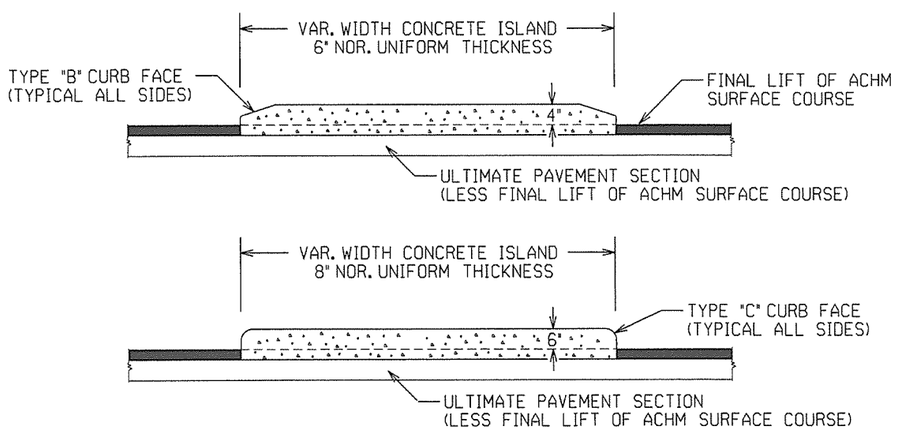


PLAN VIEW

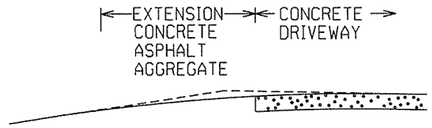


ISOMETRIC VIEW

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".



CURBED ISLANDS FOR CHANNELIZATION



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

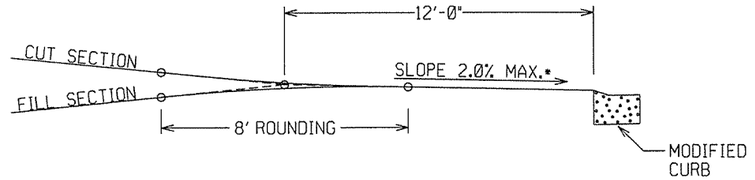
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

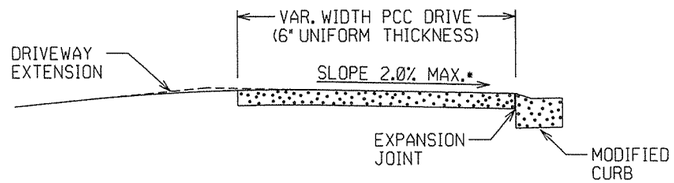
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

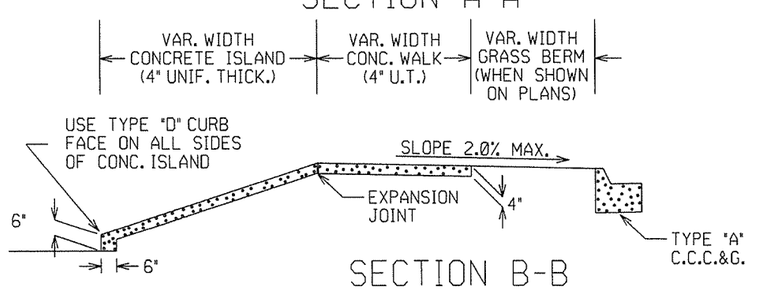


DRIVEWAY VERTICAL ALIGNMENT DETAILS

* NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



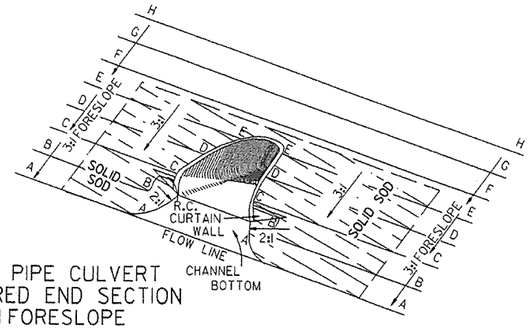
SECTION A-A



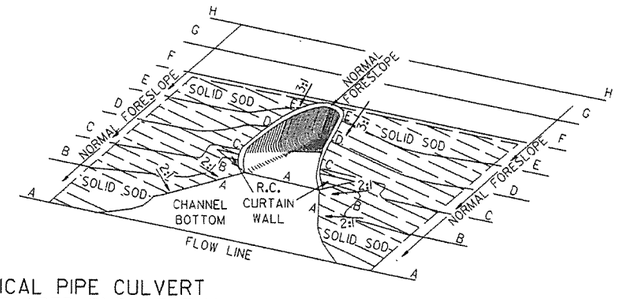
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
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

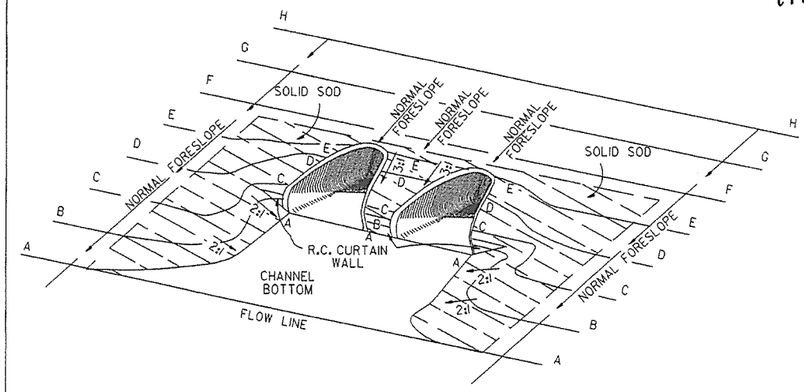
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



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

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

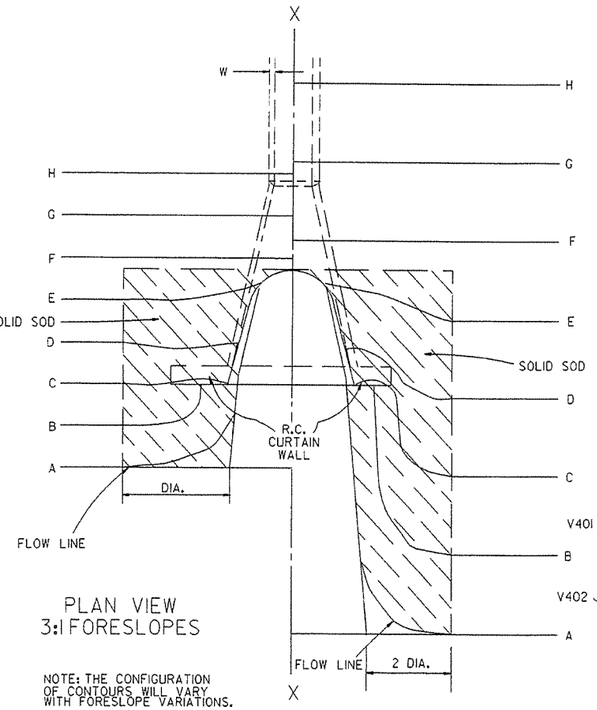
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

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

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

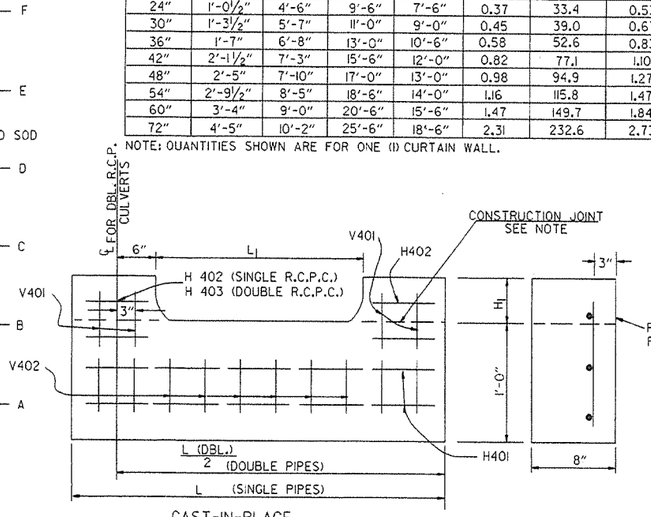
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

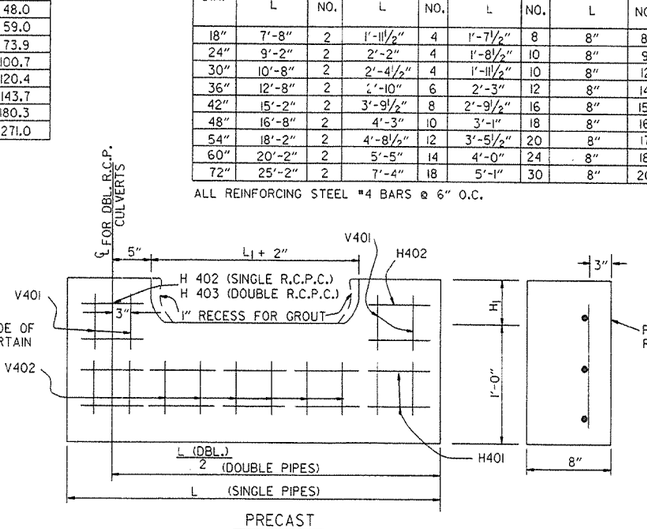
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

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



PRECAST

NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

R.C. CURTAIN WALL DETAILS

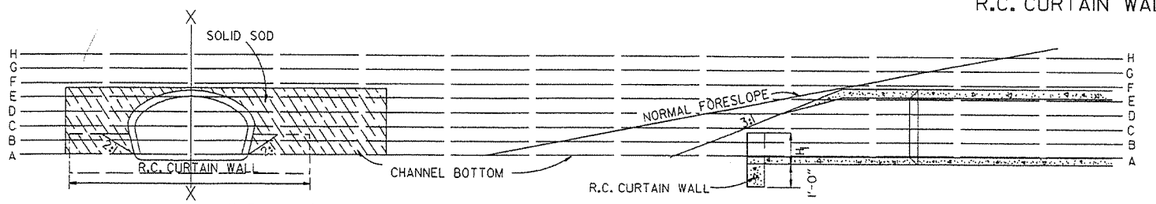
SOLID SODDING

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

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

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE: FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 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

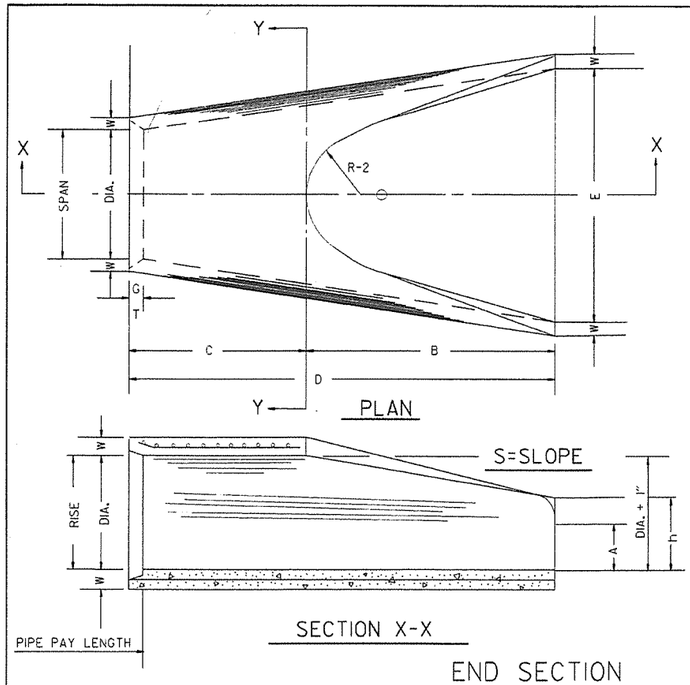
SECTIONAL VIEW "X-X"

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

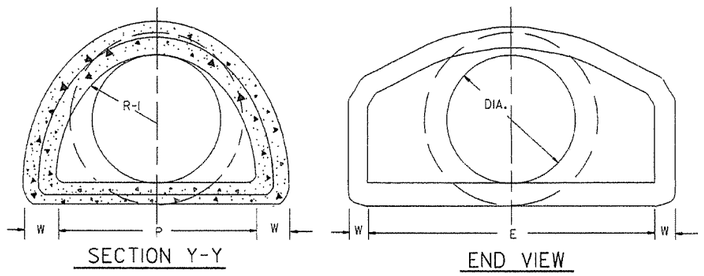
STANDARD DRAWING FES-1



END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. - 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7 3/4"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1¾"	6'-0"	3:1	37"	47 1/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 1/8"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33 1/8"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 13/16"	38 15/16"	24"	5"	13250	4'-6"

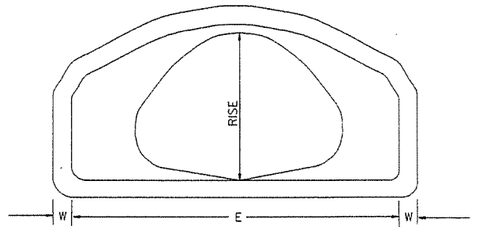


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

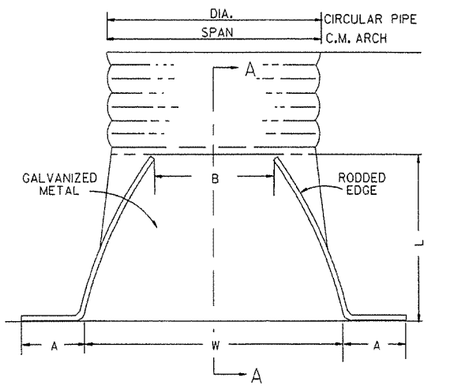
ARCH PIPE

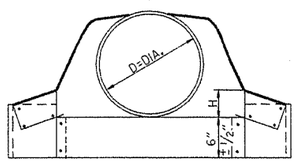
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 13/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 13/16"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅜"	22"	3½"	2½:1
42	51⅛	51	31 3/16	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70 5/16"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 13/16"	24"	5"	2¼:1

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



END VIEW
CONCRETE ARCH PIPE

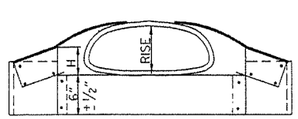




CIRCULAR PIPE

CIRCULAR PIPE

D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1



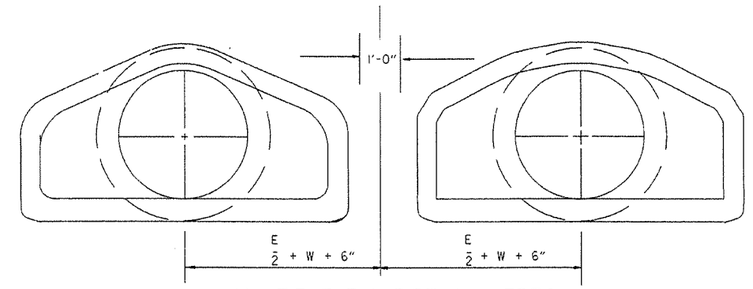
C.M. ARCH PIPE

C.M. ARCH PIPE

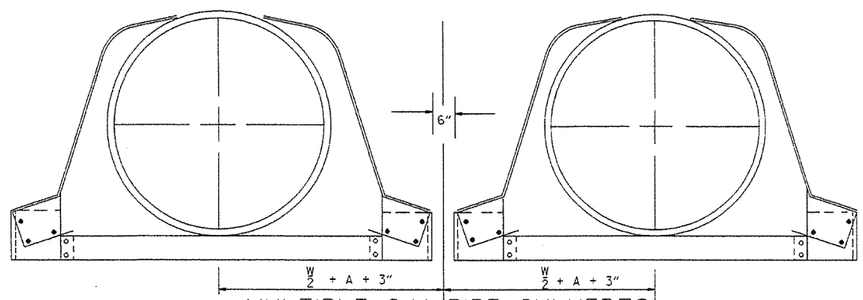
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	12

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



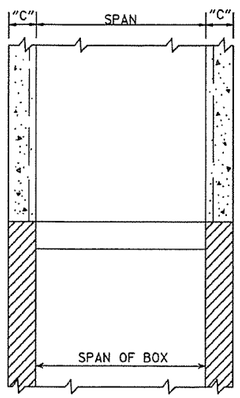
MULTIPLE R.C. PIPE CULVERTS



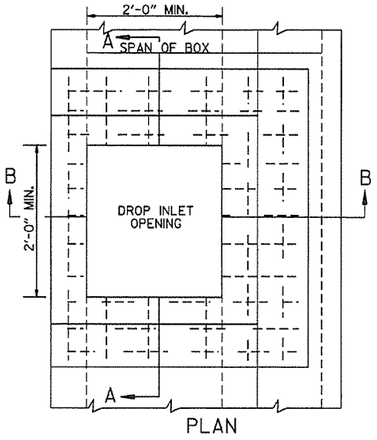
MULTIPLE C.M. PIPE CULVERTS

DATE	REVISION	FILMED	
10-18-96	REVISED ASTM REF. TO AASHTO	16-18-96	ARKANSAS STATE HIGHWAY COMMISION
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	FLARED END SECTION
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	STANDARD DRAWING FES-2
10-2-72	REVISED AND REDRAWN	760-10-2-72	

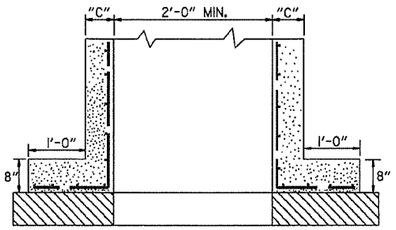
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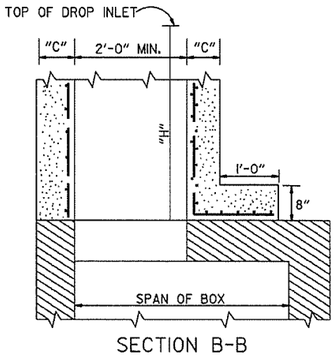
SECTION B-B



PLAN

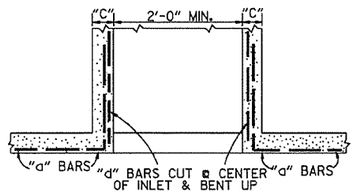


SECTION A-A

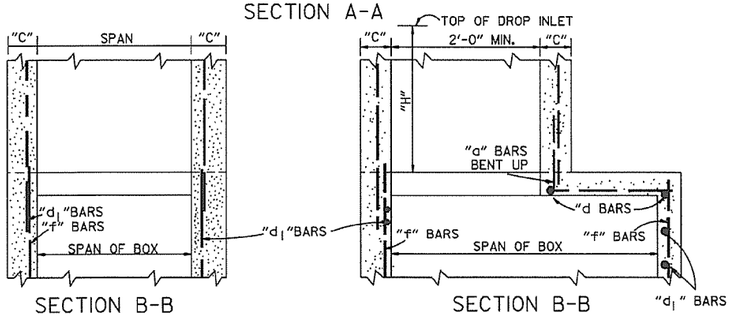


SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



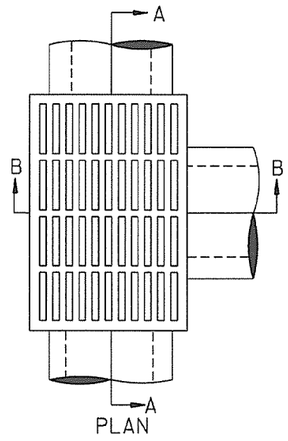
SECTION A-A



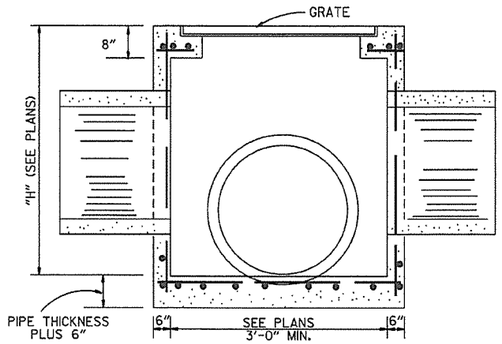
SECTION B-B SECTION B-B

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.

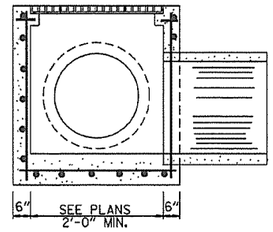


PLAN



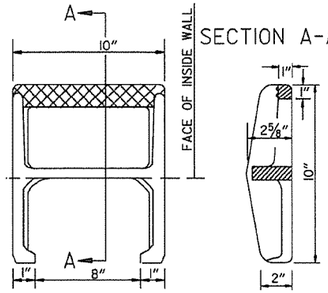
SECTION A-A

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.



SECTION B-B

DROP INLET (TYPE E)

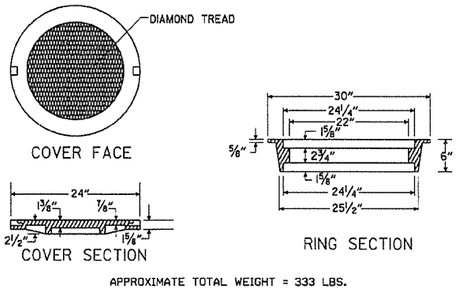


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

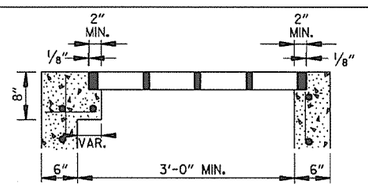
DETAIL OF STEP FOR DROP INLET



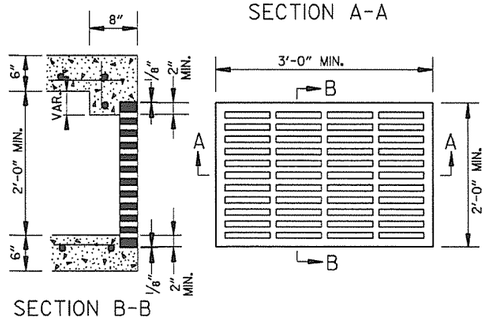
COVER SECTION RING SECTION

APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



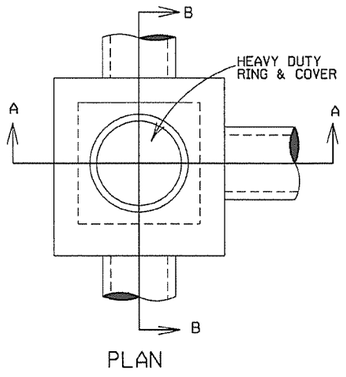
SECTION A-A



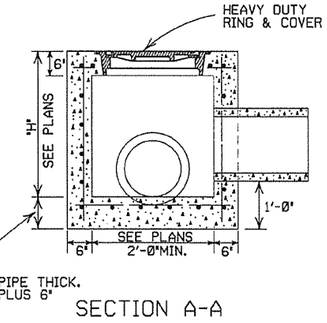
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

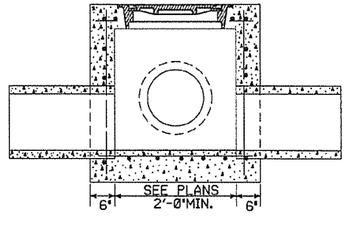


PLAN



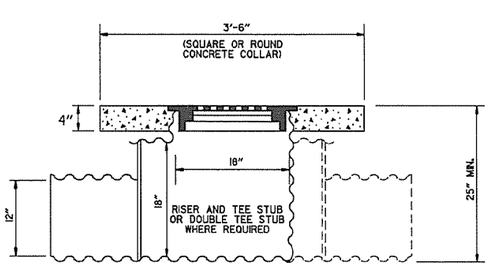
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

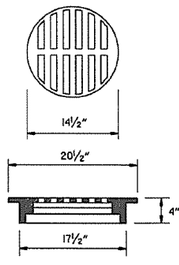


SECTION B-B

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. CU. YDS.	HEIGHT 5′-0″ REINF. STEEL POUNDS	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC. CU. YDS.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL POUNDS
18″	2′-6″	1.77	156	0.28	22
24″	2′-6″	1.79	156	0.28	22
30″	3′-2″	2.39	205	0.30	26
36″	3′-8″	2.63	236	0.32	28
42″	4′-4″	2.95	250	0.34	30
48″	4′-10″	3.21	265	0.36	32

NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

DROP INLET EXTENSION

4′-0″ CLASS A CONC. CU. YDS.	4′-0″ REINF. STEEL POUNDS	8′-0″ CLASS A CONC. CU. YDS.	8′-0″ REINF. STEEL POUNDS
0.58	38	0.87	72

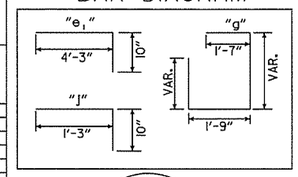
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.

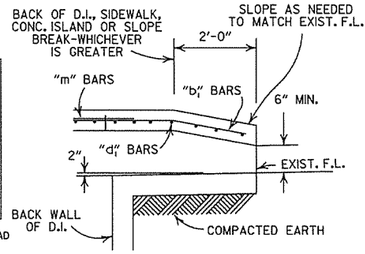
0.04	3		

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

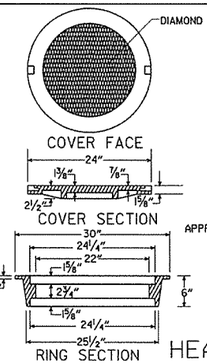
BAR DIAGRAM





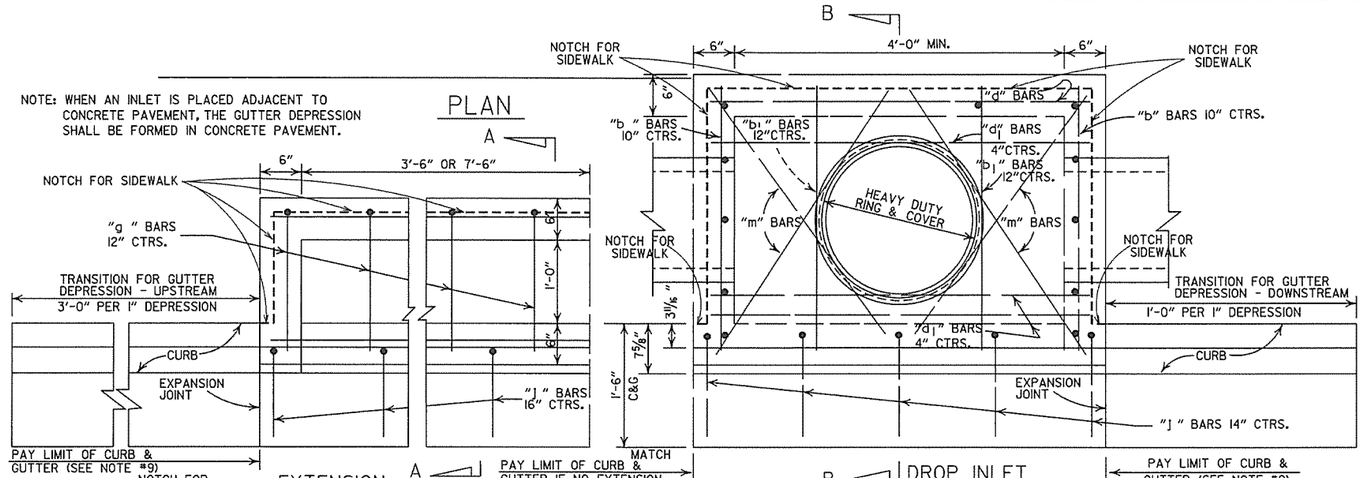
BACK OPENING

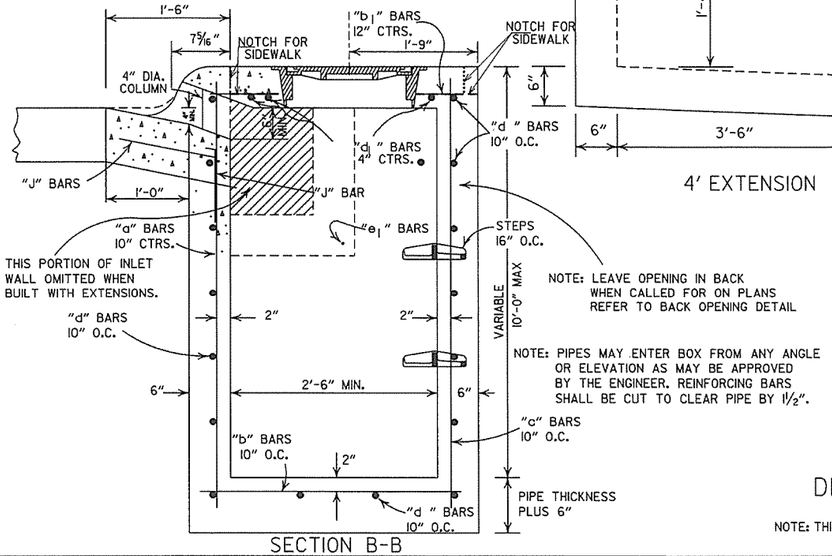
WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

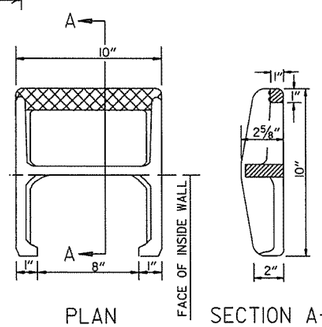


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



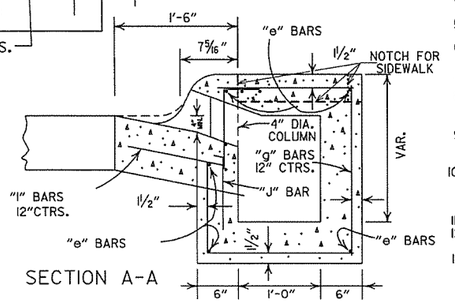




DETAIL OF STEP FOR DROP INLET

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 OF 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.

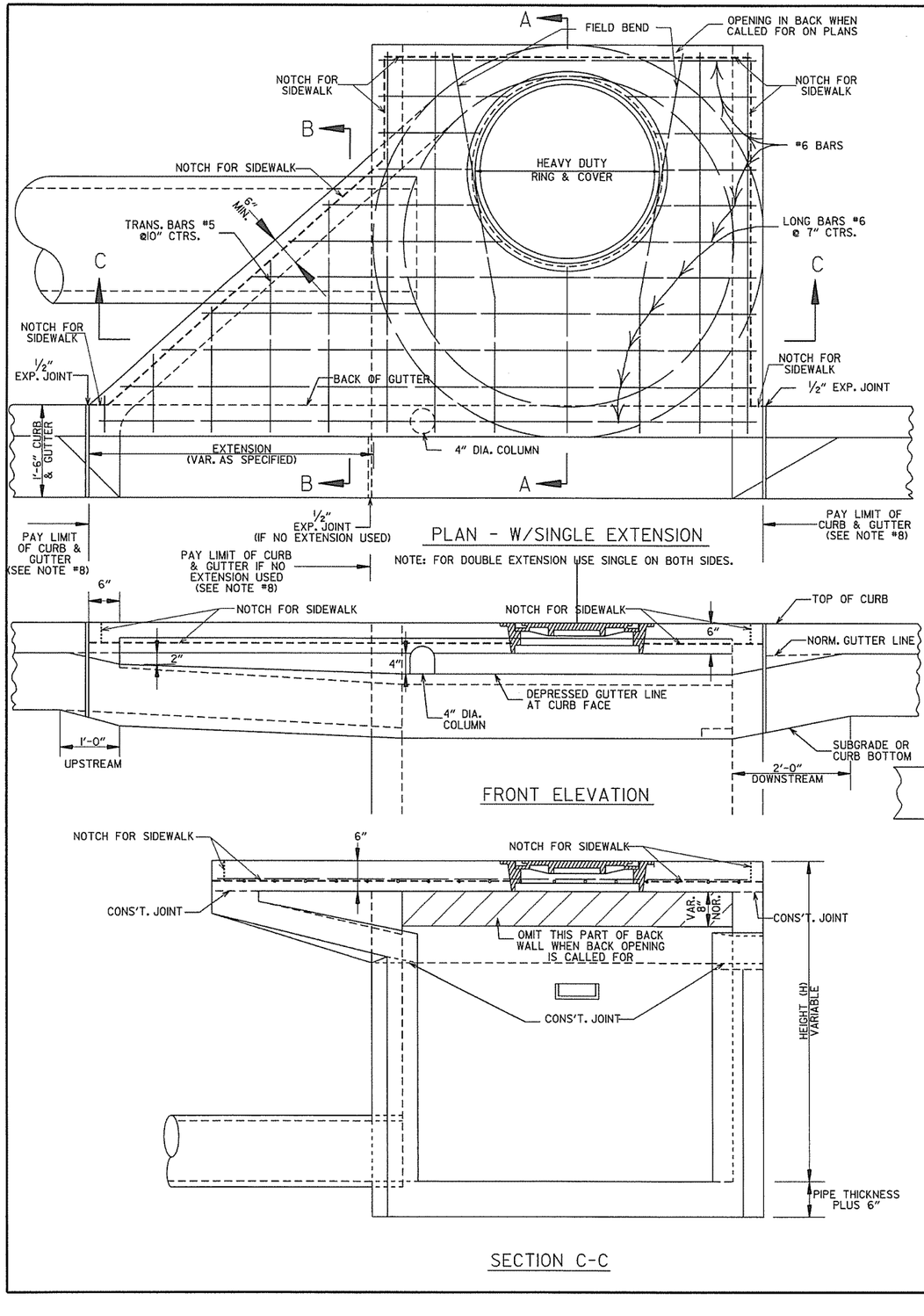
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4′)(8′) EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

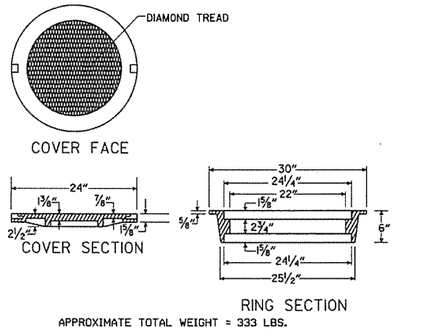
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

(TYPE C)

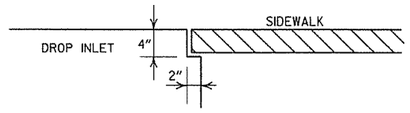
STANDARD DRAWING FPC-9E



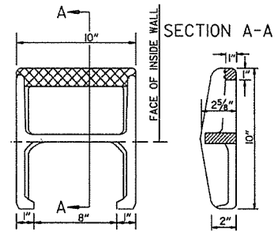


HEAVY DUTY RING & COVER

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.



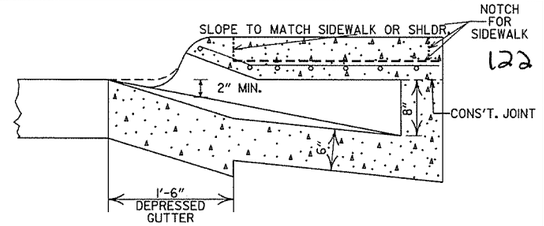
DETAIL OF NOTCH FOR SIDEWALKS

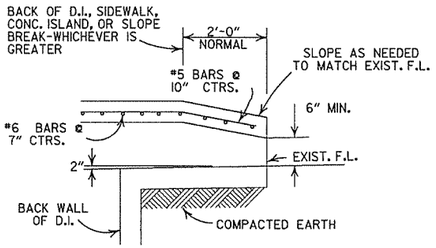


PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



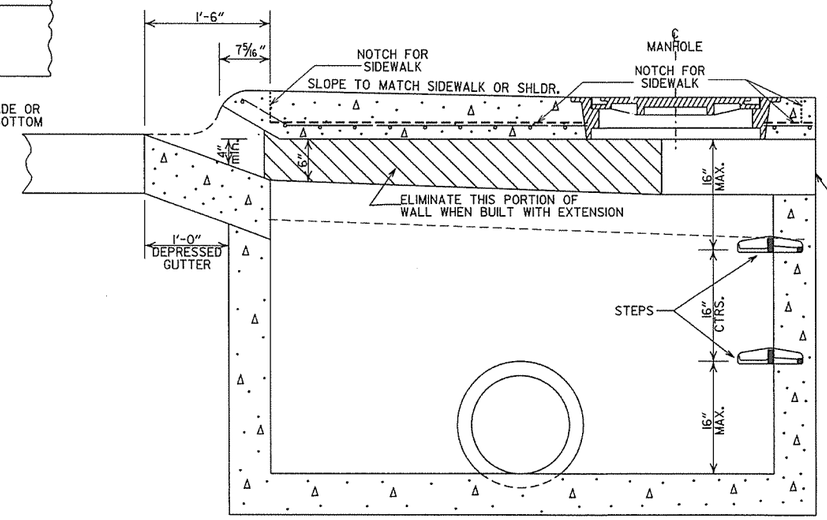


BACK OPENING

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.



SECTION A-A

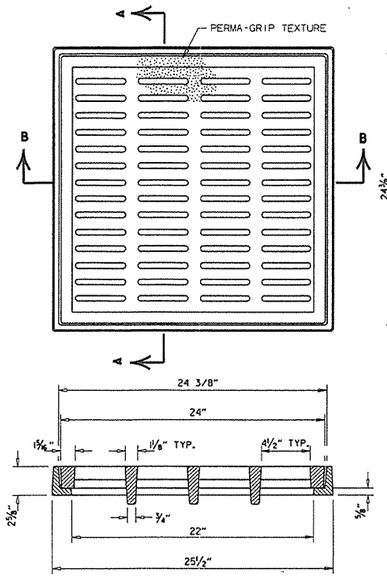
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS	
		CAST IN PLACE	PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	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	
10-12-95	CORRECTED *6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
7-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 11,12 & ADDED BK.OPEN DETAIL	8-15-91
11-30-89	ADDED NOTE NO. 12	11-30-89
5-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	513-5-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	639-7-15-88
1-14-87	MODIFIED WALL THICKNESS	783-1-14-87
6-12-87	ISSUED	4-6-12-87

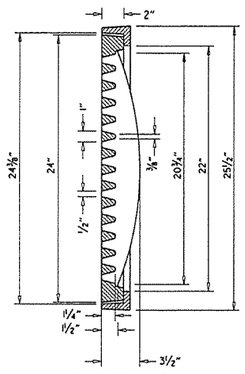
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

STANDARD DRAWING FPC-9M



SECTION B-B

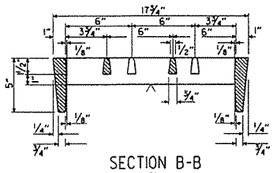


SECTION A-A

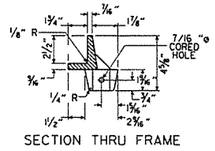
DETAILS OF PEDESTRIAN GRATE AND FRAME

GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

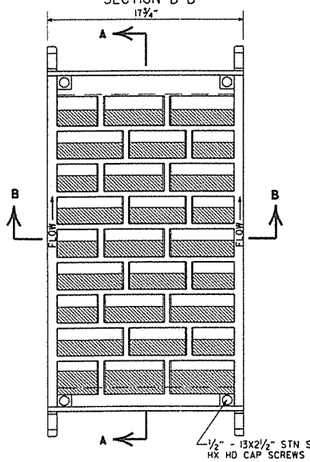
1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE ½" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS 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 211 LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

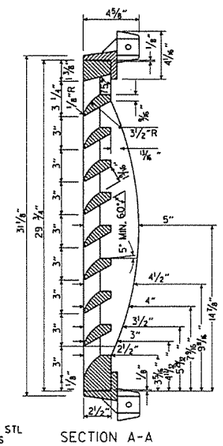


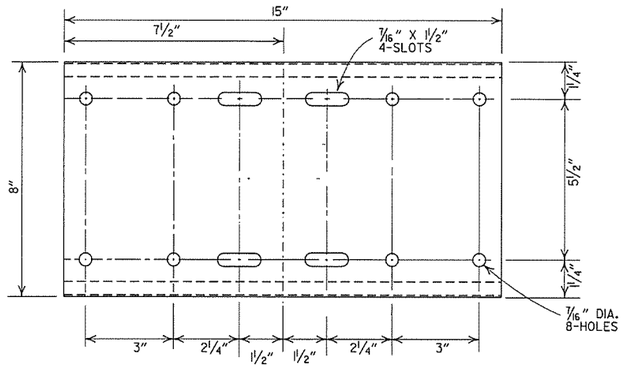
SECTION B-B



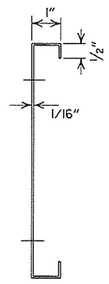
SECTION THRU FRAME

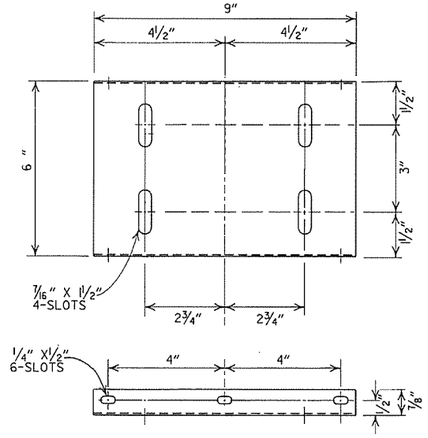



4 5/8"
1/2"
4 1/8"
3 1/16"
1/8" R
3 1/2"
29 3/4"
3"
3"
3

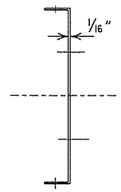


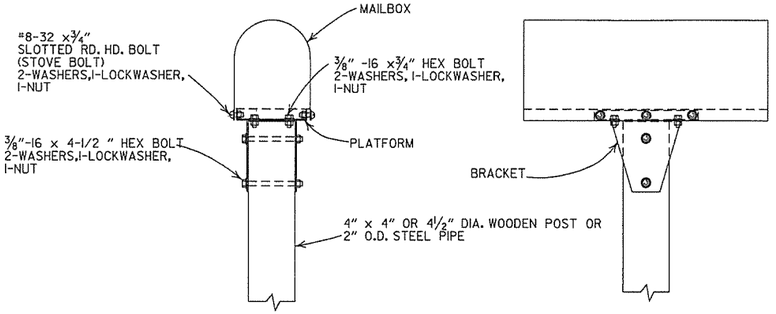
SHELF



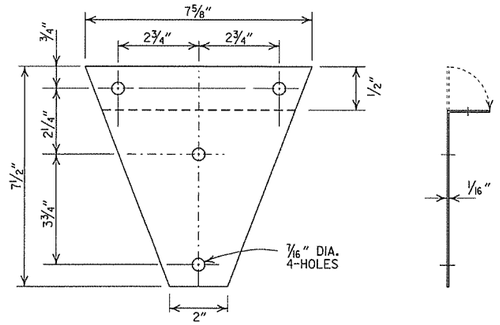


PLATFORM





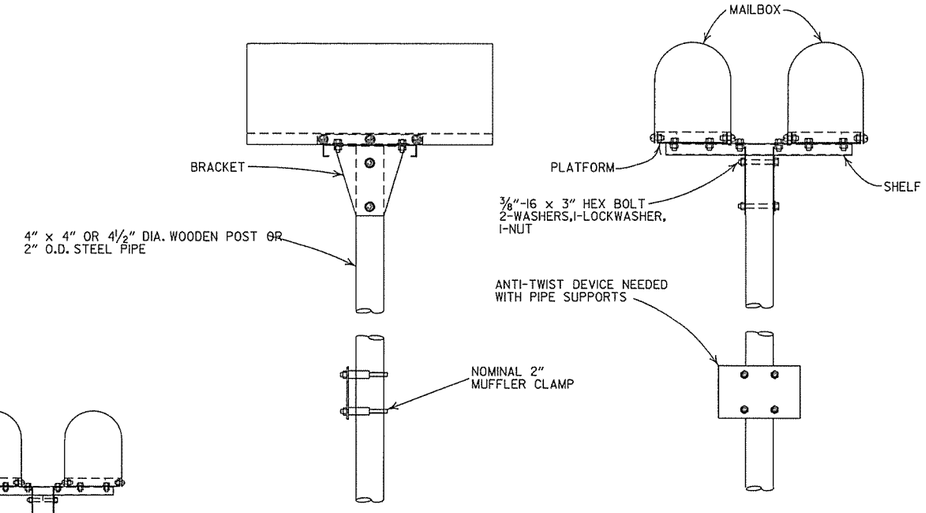
SINGLE INSTALLATION



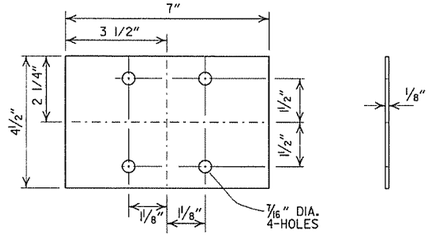
BRACKET

GENERAL NOTES

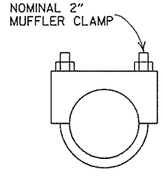
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 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.



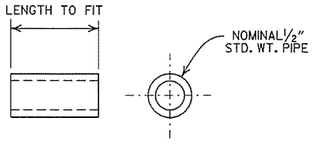
DOUBLE INSTALLATION



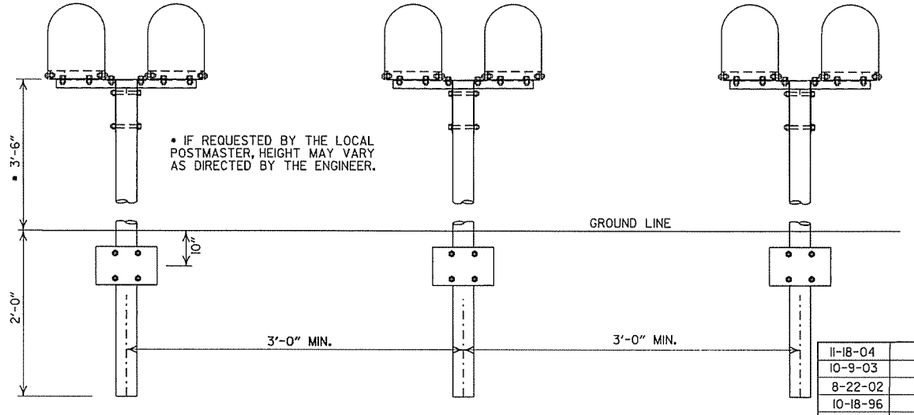
ANTI-TWIST PLATE



CLAMP



SPACER



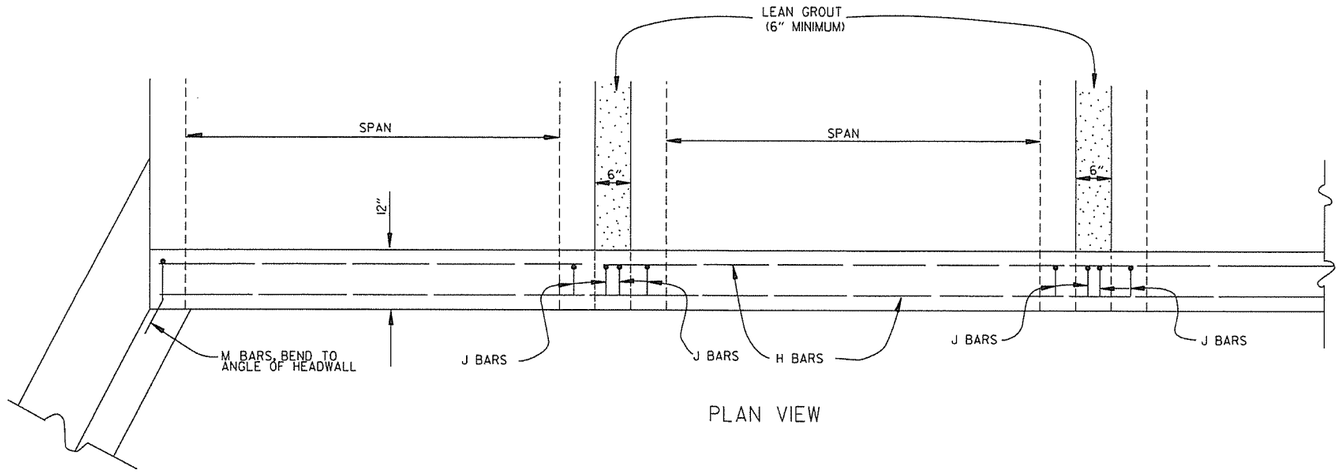
SPACING FOR MULTIPLE POST INSTALLATION

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

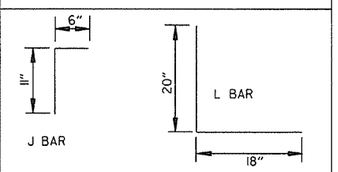
STANDARD DRAWING MB-1



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.

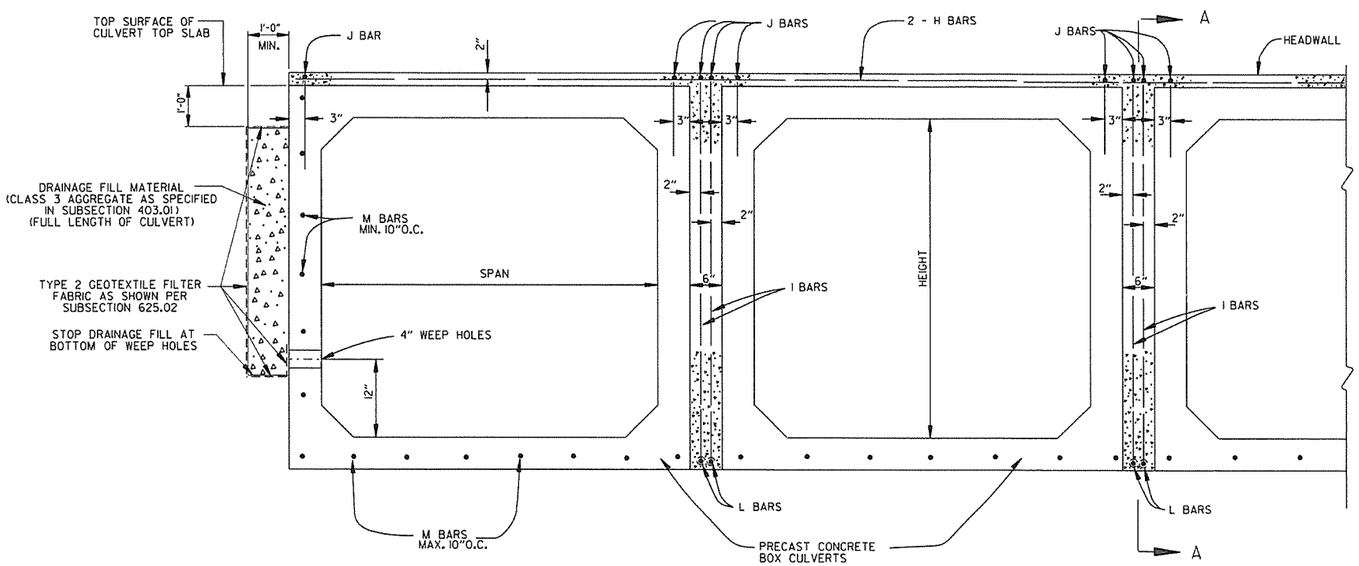
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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.

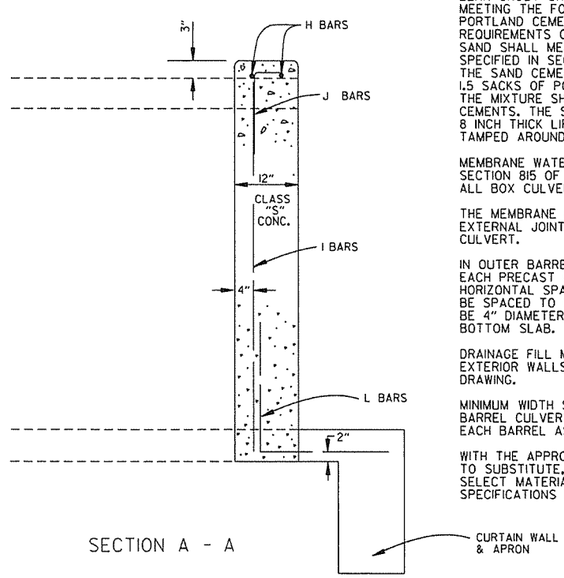
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

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	31 5/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

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

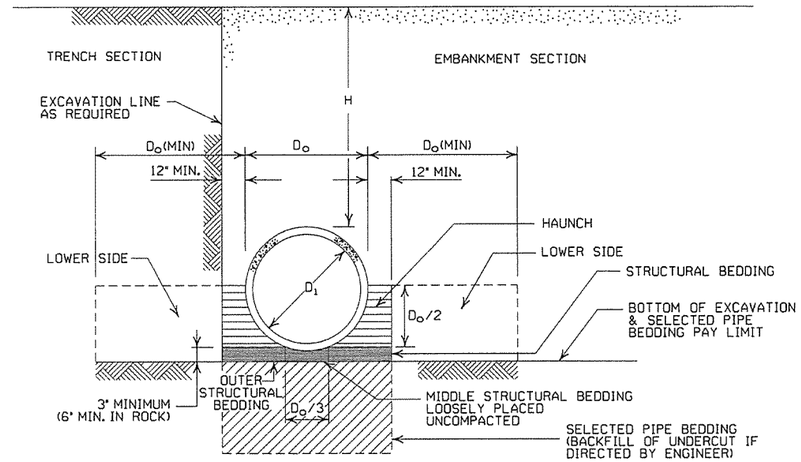
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL			ALUMINUM		
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2.25	15	0.060	2.25	15
24	28x20	3	0.064	2.5	15	0.075	2.5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3½	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM					
				INSTALLATION	INSTALLATION			
				TYPE 2 / TYPE 1	TYPE 2 / TYPE 1			
36	40x31	5	0.079	3 / 2	12 / 15			
42	46x36	6	0.079	3 / 2	13 / 15			
48	53x41	7	0.079	3 / 2	13 / 15			
54	60x46	8	0.079	3 / 2	13 / 15			
60	66x51	9	0.079	3 / 2	13 / 15			
66	73x55	12	0.079	3 / 2	15 / 15			
72	81x59	14	0.079	3 / 2	15 / 15			
78	87x63	14	0.079	3 / 2	15 / 15			
84	95x67	16	0.109	3 / 2	15 / 15			
90	103x71	16	0.109	3 / 2	15 / 15			
96	112x75	18	0.109	3 / 2	15 / 15			
102	117x79	18	0.109	3 / 2	15 / 15			
108	128x83	18	0.138	3 / 2	15 / 15			

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

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

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

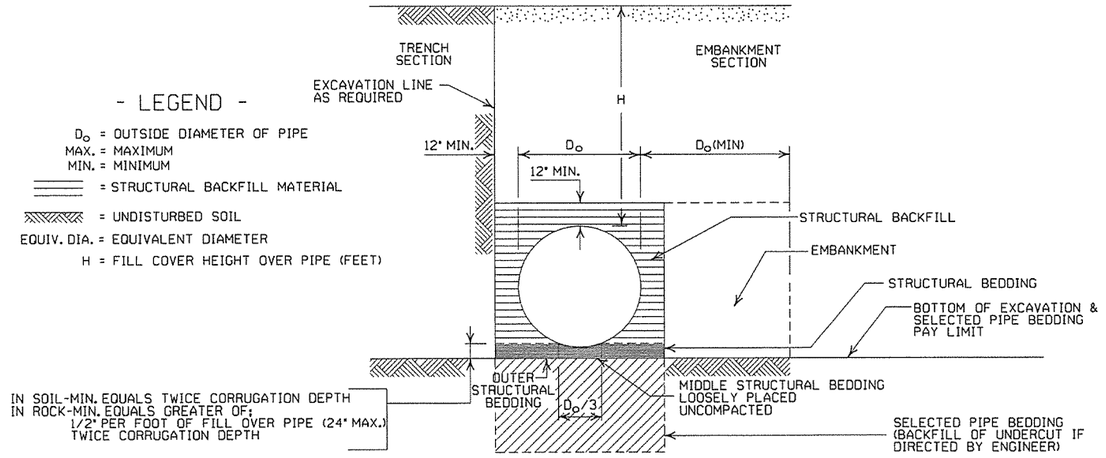
③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

- LEGEND -

D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

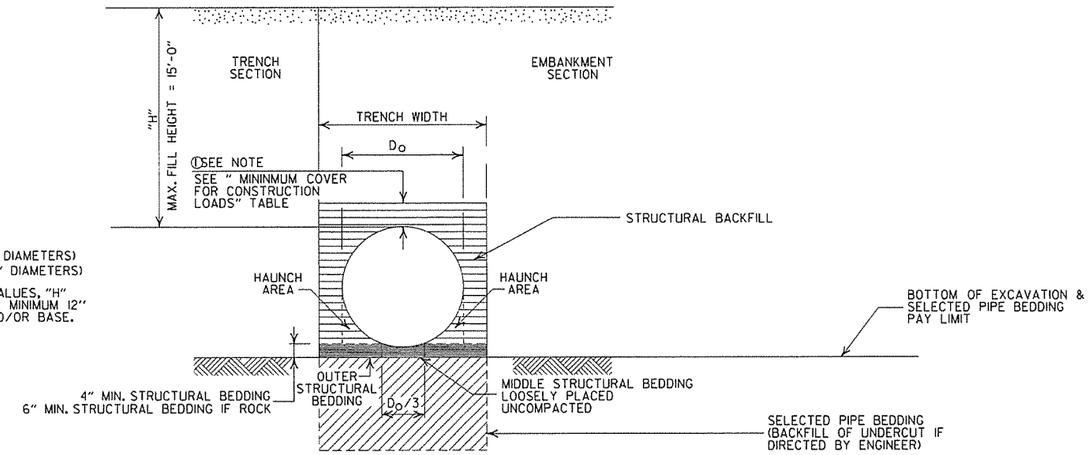
STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET) "H" < 10'-0"	TRENCH WIDTH (FEET) "H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS 18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

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

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET) "H" < 10'-0"	TRENCH WIDTH (FEET) "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

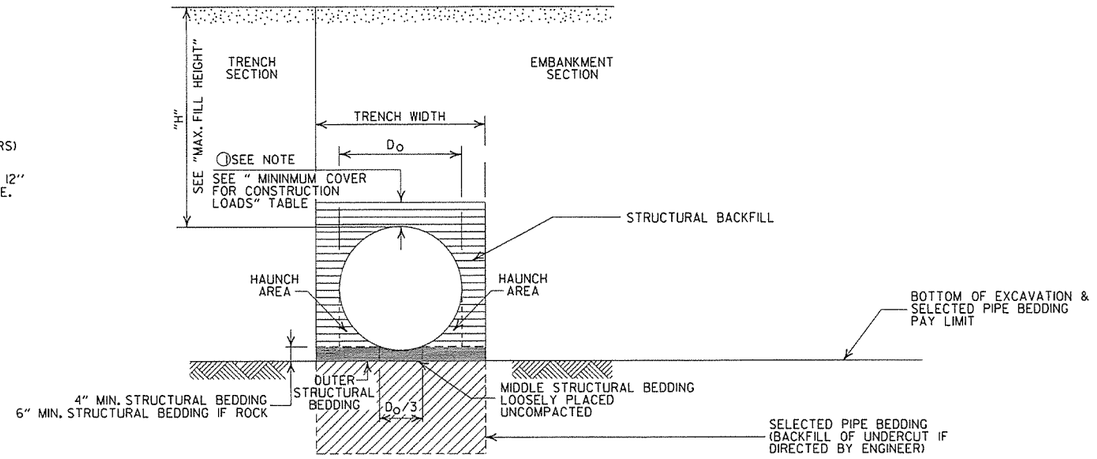
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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

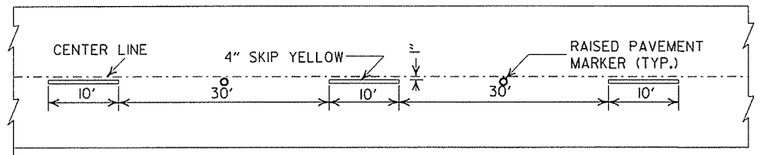
= UNDISTURBED SOIL

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	

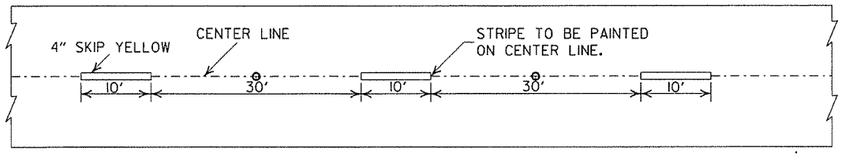
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

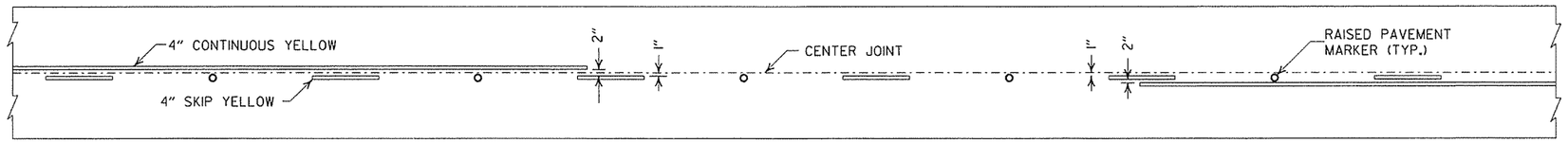


CONCRETE PAVEMENT

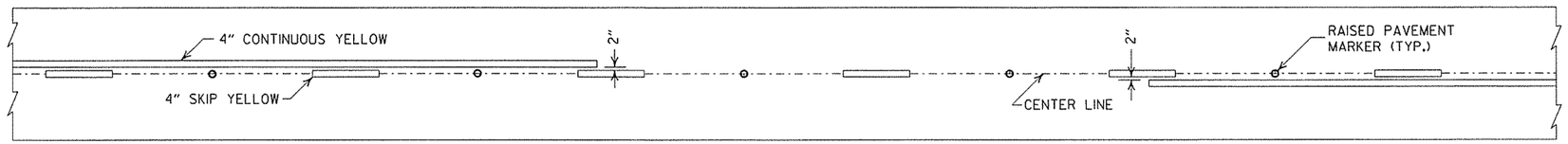


ASPHALT PAVEMENT

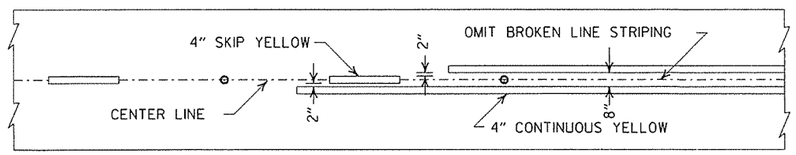
BROKEN LINE STRIPING



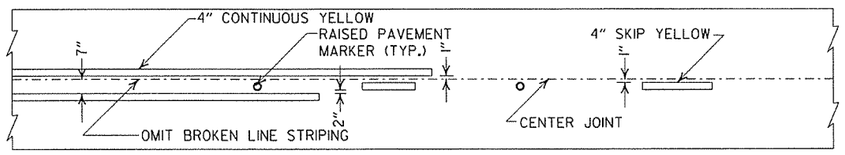
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

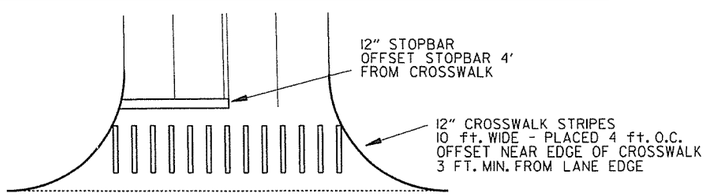


ASPHALT PAVEMENT



CONCRETE PAVEMENT

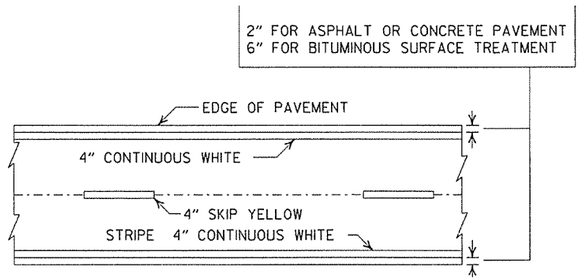
STRIPING AT ADJACENT NO PASSING LANES



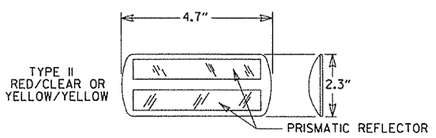
CROSSWALK AND STOPBAR DETAILS

NOTES:

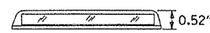
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED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



PAVEMENT EDGE LINE MARKING



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

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

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

NOTE:

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

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

ARKANSAS STATE HIGHWAY COMMISSION

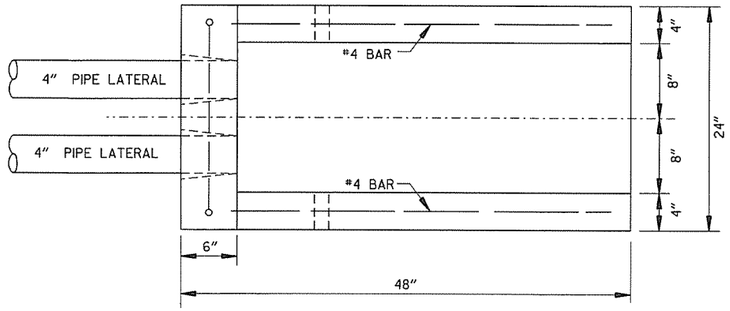
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

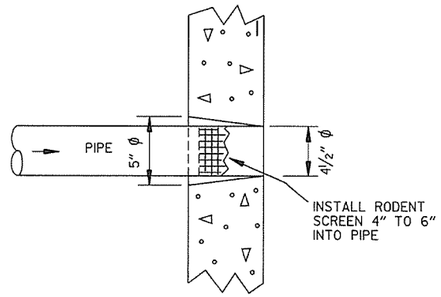
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

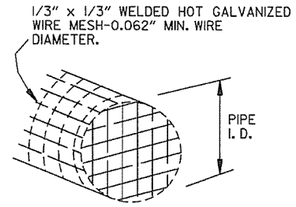
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



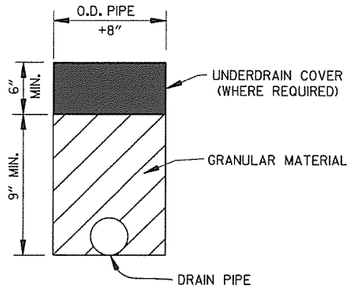
PLAN VIEW

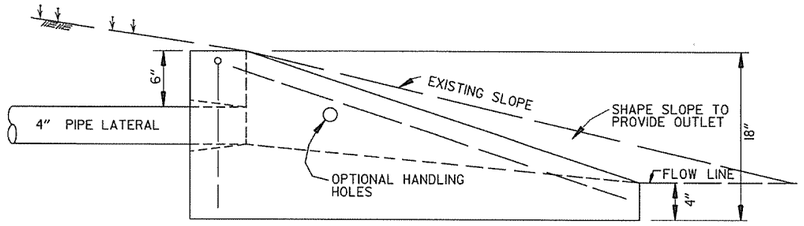


DETAIL OF HOLE FOR 4" PIPE

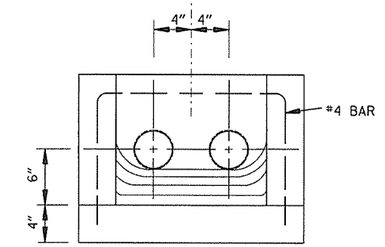


DETAIL OF RODENT SCREEN

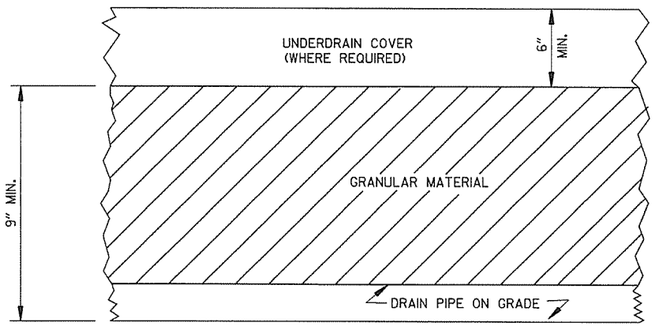




SIDE VIEW

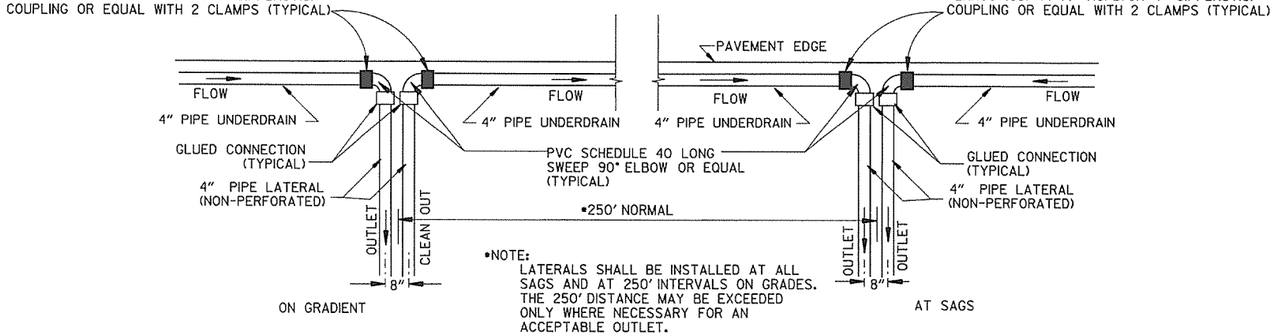


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

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DETAILS OF PIPE UNDERDRAIN

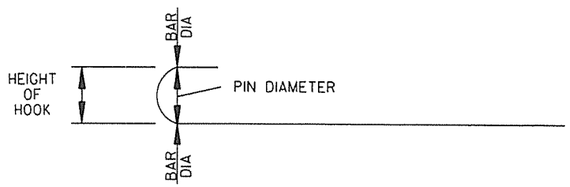
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

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

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

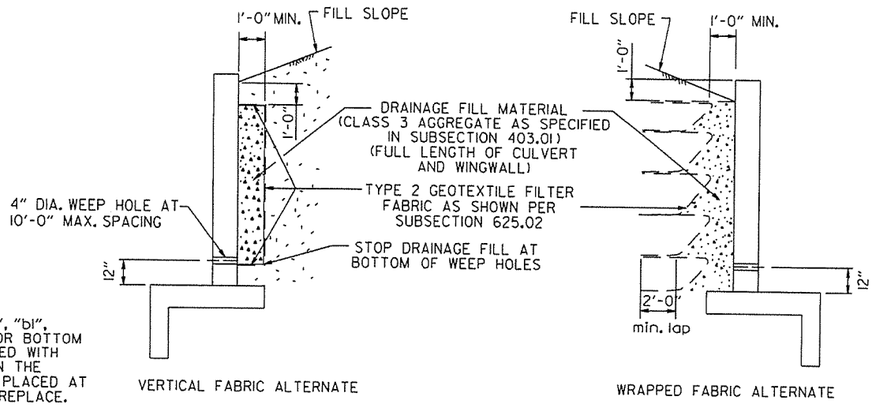
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI.

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

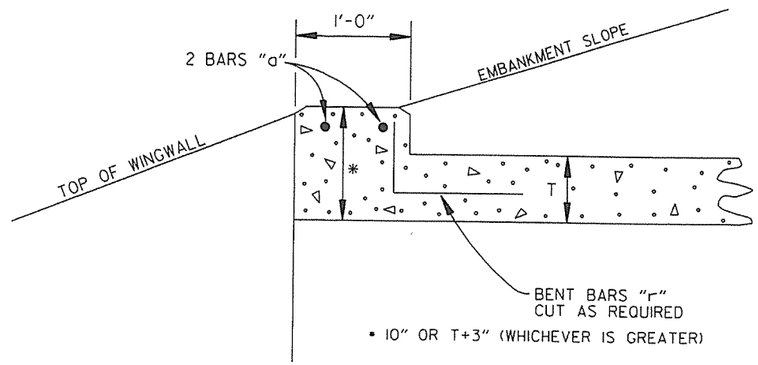
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

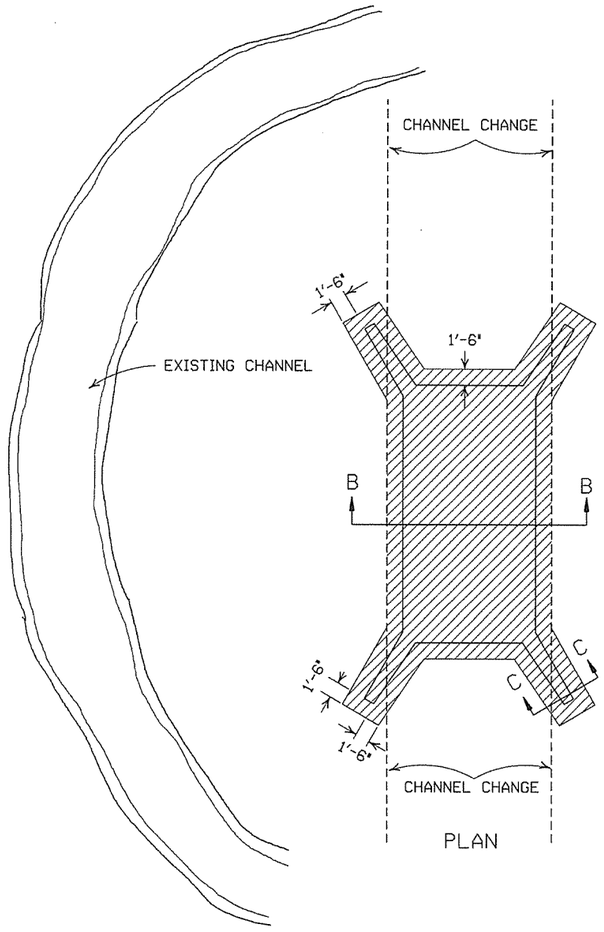
R.C. BOX CULVERT HEADWALL MODIFICATIONS

DATE	REVISION	DATE FILMED
7/26/12	REV. DRAINAGE FILL MATERIAL & DETAIL	
12/15/11	REQUIRE WEEP HOLES IN BOX CULVERT WALLS	
5-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

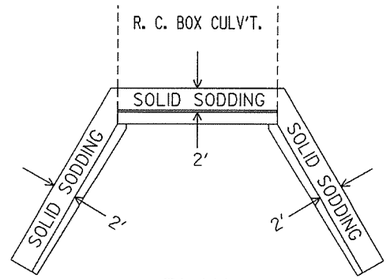
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

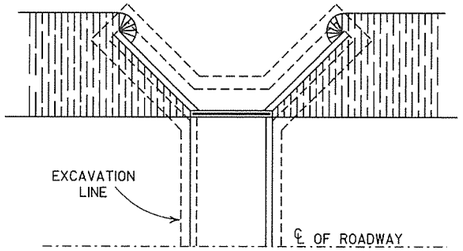
SOLID SODDING



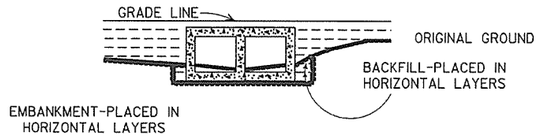
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

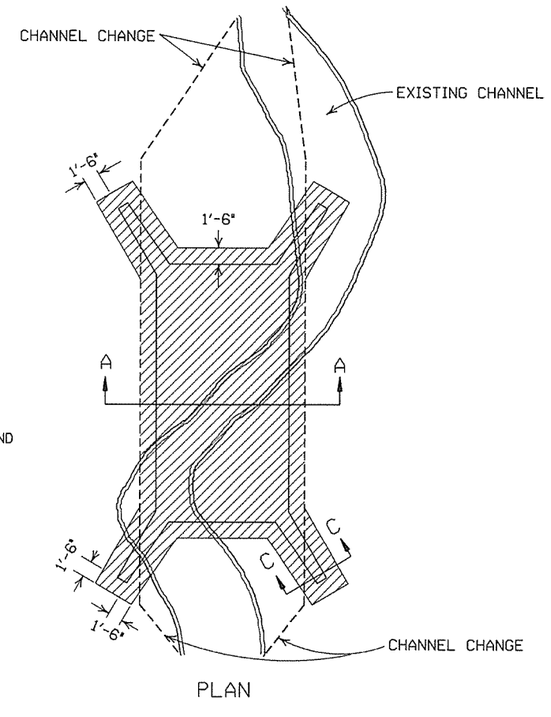


PLAN

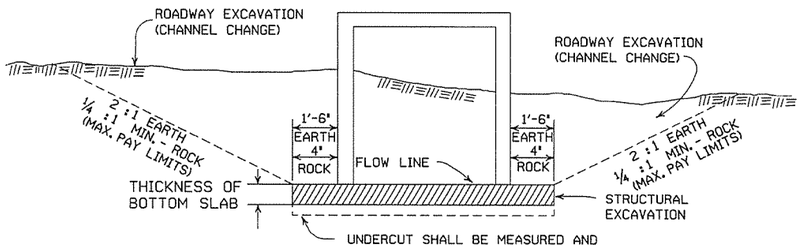


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT

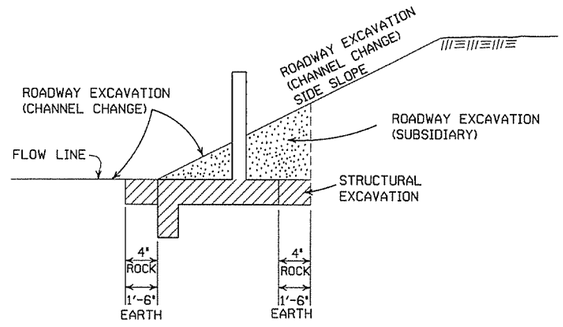


PLAN

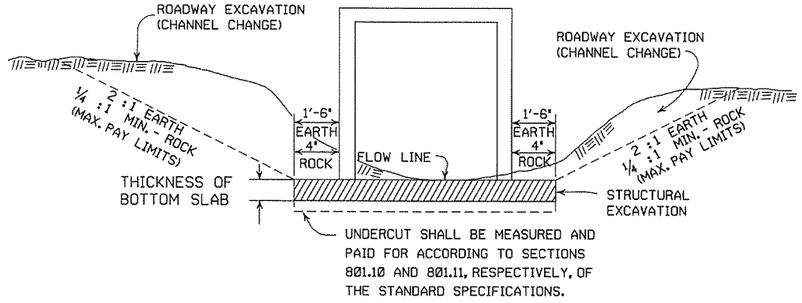


SECTION B-B

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

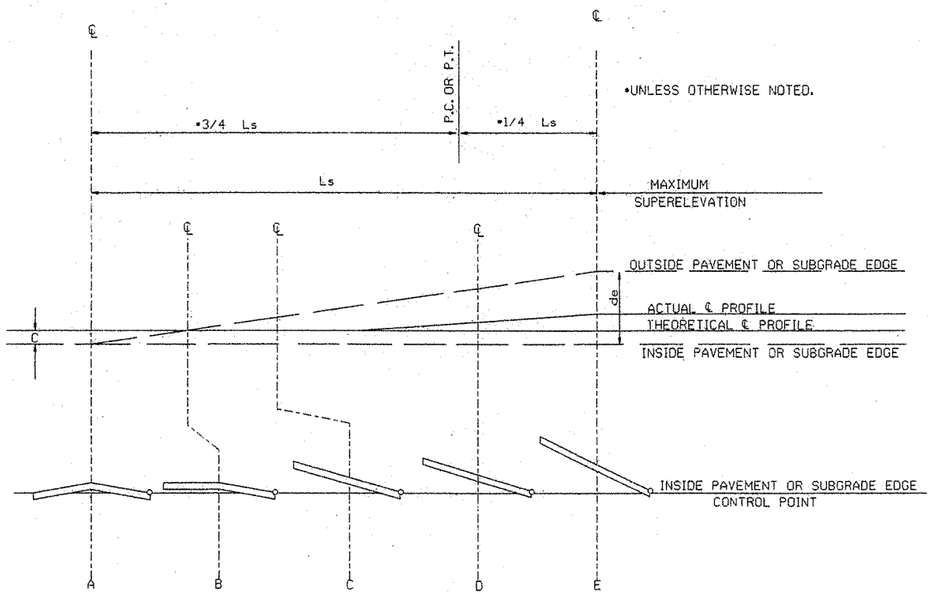
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45′	N.C.			N.C.			R.C.			0.022			0.023			0.028		
1° 00′	N.C.			N.C.			0.021			0.026			0.030			0.037	275	300
1° 15′	N.C.			R.C.			0.026			0.032			0.037			0.046		
1° 30′	N.C.			0.021			0.031			0.037			0.043			0.054		
1° 45′	N.C.			0.025	175		0.036	200		0.043	225		0.049	250		0.062		
2° 00′	R.C.			0.028			0.040			0.048			0.055			0.070		
2° 15′	R.C.			0.031			0.045			0.053			0.061			0.078	300	
2° 30′	0.021			0.034			0.049			0.058			0.067			0.085	315	350
2° 45′	0.023			0.037		200	0.053			0.063			0.072			0.091	335	
3° 00′	0.025			0.040			0.057			0.067	230		0.077	260		0.096	350	
3° 15′	0.027	150		0.043			0.061			0.072	245		0.082	275		0.098	360	400
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45′	0.031		200	0.049			0.069	215		0.080	265		0.090	295				
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305	350			
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315				
5° 00′	0.040			0.061			0.083	250		0.091	295		0.098	320				
5° 30′	0.043			0.066	185		0.088	260		0.094	300	350						
6° 00′	0.046			0.070	190		0.092	270		0.096	305							
6° 30′	0.050			0.074	200		0.095	280	300	0.100	315							
7° 00′	0.053			0.078	210		0.098	285										
7° 30′	0.056			0.081	215		0.099	290										
8° 00′	0.058			0.084	220		0.100	290										
8° 30′	0.061			0.087	225	250												
9° 00′	0.063			0.089	230													
10° 00′	0.068	160		0.094	235													
11° 00′	0.072	170		0.097	250													
12° 00′	0.076	175		0.099	250													
13° 00′	0.080	180		0.100	250													
14° 00′	0.083	190																
15° 00′	0.086	195																
16° 00′	0.089	200																
17° 00′	0.091	200																
18° 00′	0.093	205																
19° 00′	0.095	210																
20° 00′	0.097	215	250															
21° 00′	0.098	215																
22° 00′	0.099	215																
23° 00′	0.099	215																
24° 00′	0.100	220																

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 3° 30′

ABBREVIATIONS

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



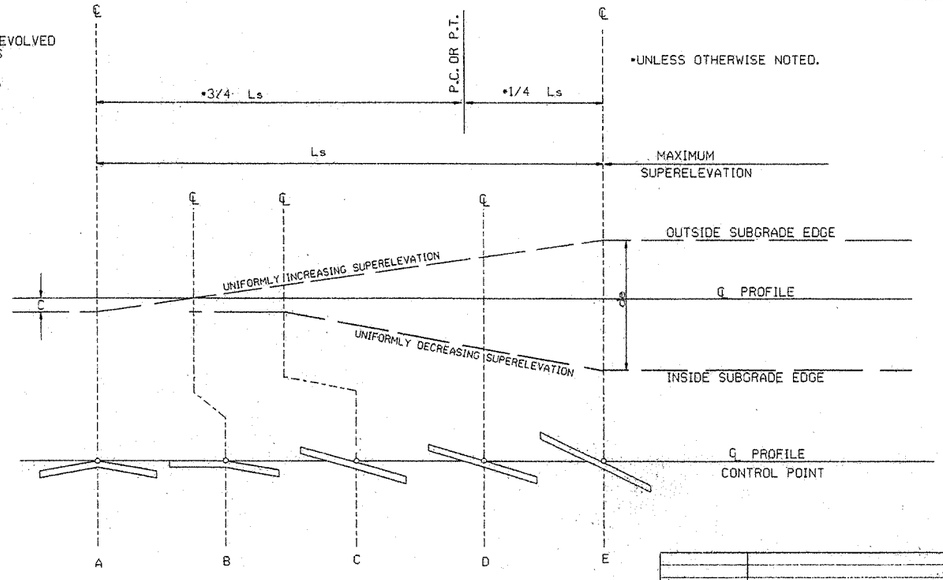
STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

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

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%



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

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 = $\frac{Lde}{Ls}$

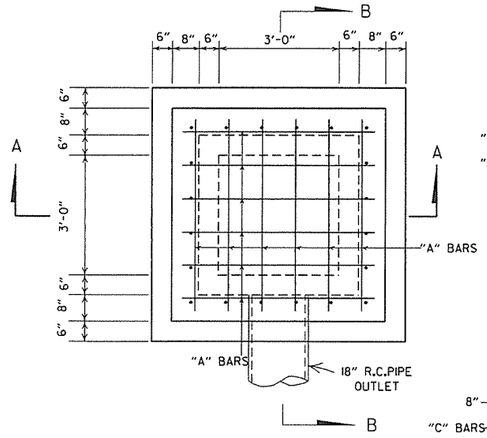
DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87

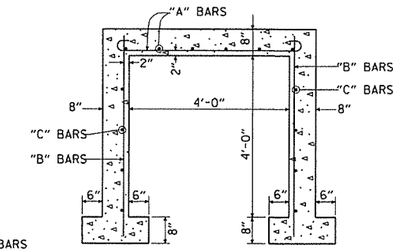
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

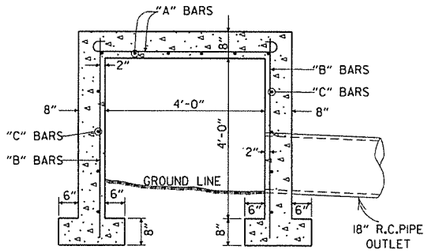
STANDARD DRAWING SE-2

FILE STDSE2.DGN



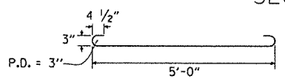


SEC A-A



SEC B-B

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"

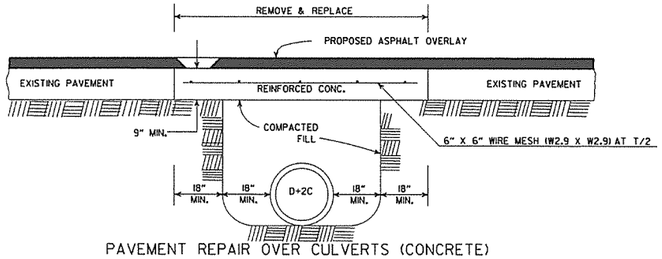
ALL STEEL TO BE #4 BARS

QUANTITIES

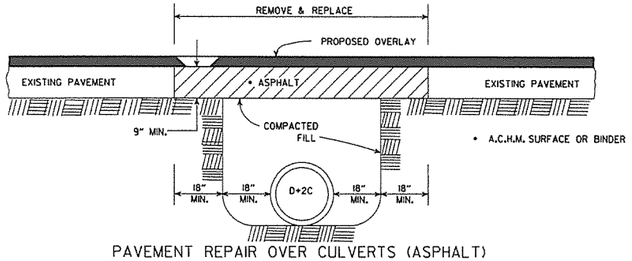
CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

GENERAL NOTE:
THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITTIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

REINFORCED CONCRETE SPRING BOX



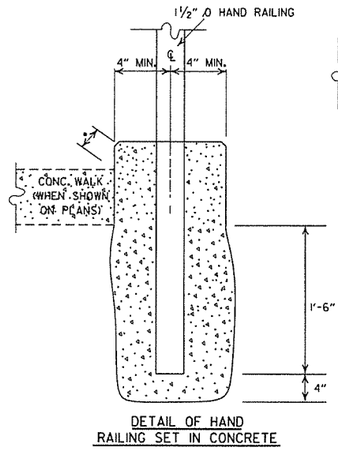
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



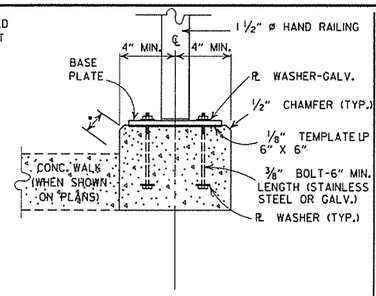
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

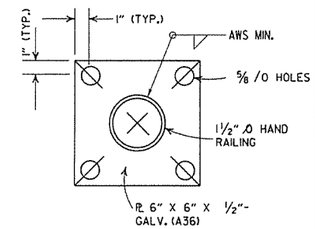
* A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

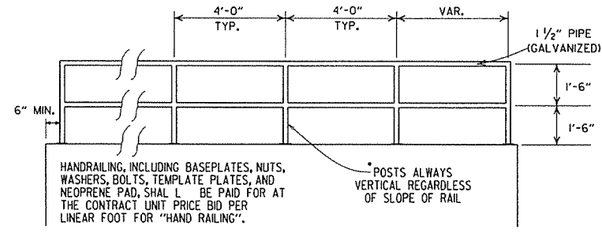


POST CONNECTION TO WALL

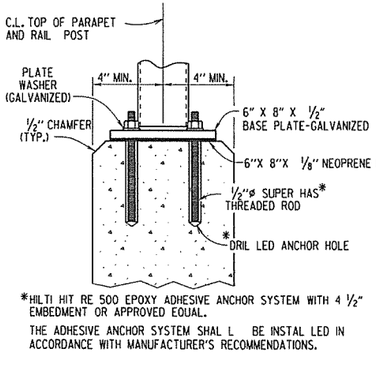


BASE PLATE

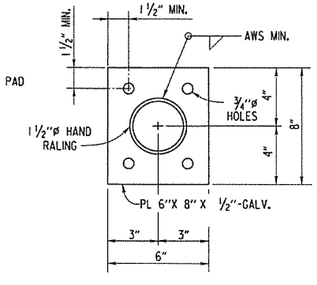
POST CONNECTION DETAILS



HAND RAILING SHAL L CONFORM TO SECTION 633.



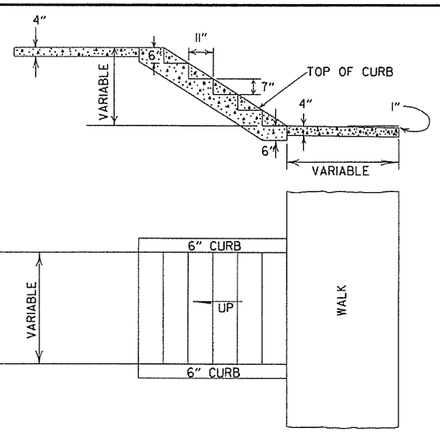
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



GENERAL NOTES

1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
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

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DETAILS OF SPECIAL ITEMS

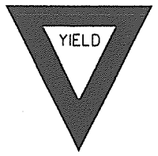
STANDARD DRAWING SI-1

R1-1



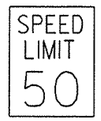
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

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



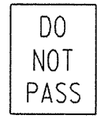
STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a



STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1



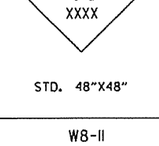
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2



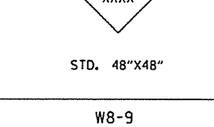
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



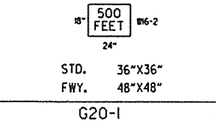
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



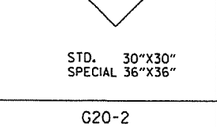
48"X30"

R11-3A



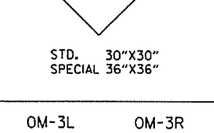
60"X30"

R11-4



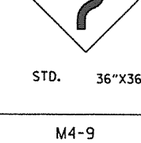
60"X30"

RSP-1



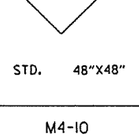
48"X30"

W1-1



STD. 36"X36"
FWY. 48"X48"

W1-2



STD. 36"X36"
FWY. 48"X48"

W1-3



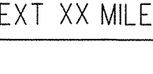
STD. 48"X48"

W1-4



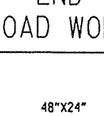
STD. 48"X48"

W1-6



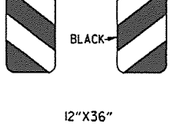
STD. 48"X24"
SPECIAL 60"X30"

W1-8



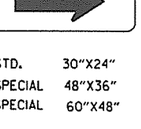
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



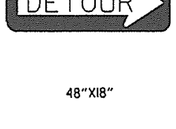
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1



STD. 36"X36"
SPECIAL 48"X48"

W6-3



EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7



EXPWY. 36"X36"
FWY. 48"X48"

W9-2



STD. 36"X36"
FWY. 48"X48"

W13-1



STD. 24"X24"

W20-1



STD. 48"X48"

W20-2



STD. 48"X48"

W20-3



STD. 48"X48"

W20-4



STD. 48"X48"

W20-5



STD. 48"X48"

W20-7a



STD. 36"X36"
FWY. 48"X48"

W21-2



STD. 30"X30"
SPECIAL 36"X36"

W21-5



STD. 30"X30"
SPECIAL 36"X36"

W24-1



STD. 36"X36"

W1-4b



STD. 48"X48"

R56-1



STD. 18"X18"

W8-11

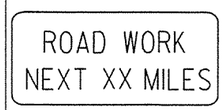
STD. 36"X36"
FWY. 48"X48"

W8-9



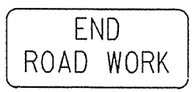
STD. 36"X36"
FWY. 48"X48"

G20-1



60"X24"

G20-2

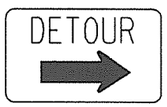


48"X24"

OM-3L OM-3R

12"X36"

M4-9



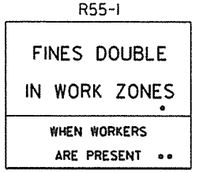
STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10



48"X18"

R55-1



36"X60"
• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT, HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

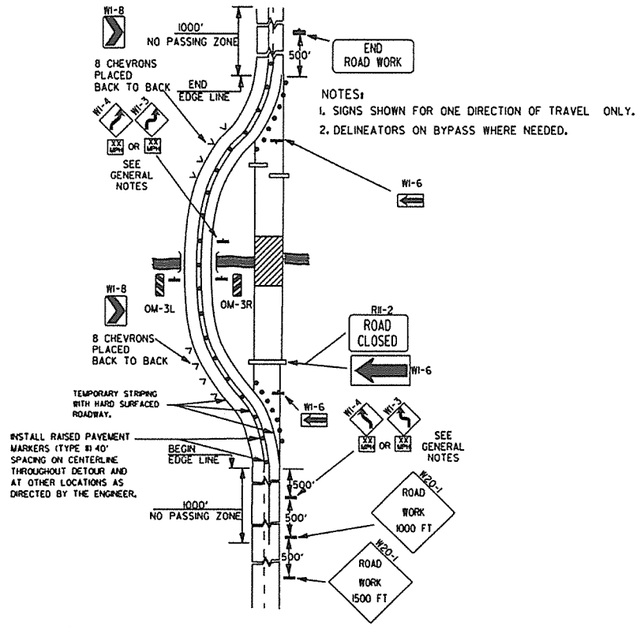
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
4-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

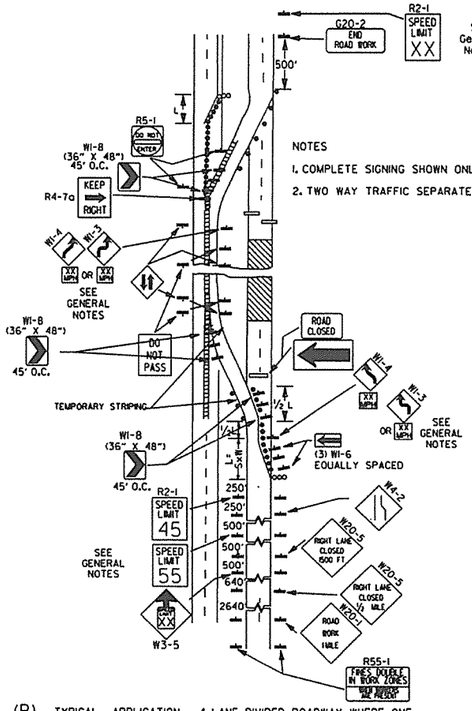
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



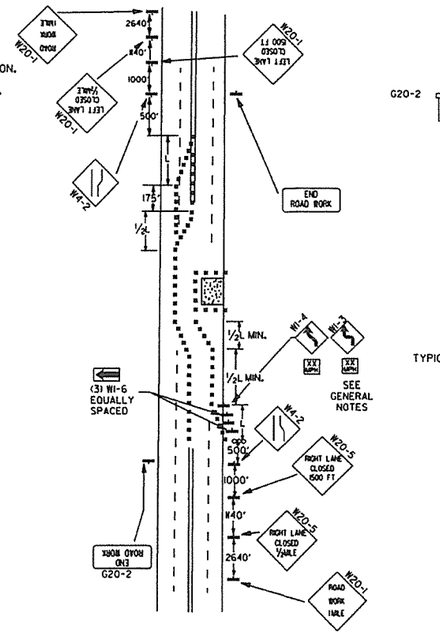
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

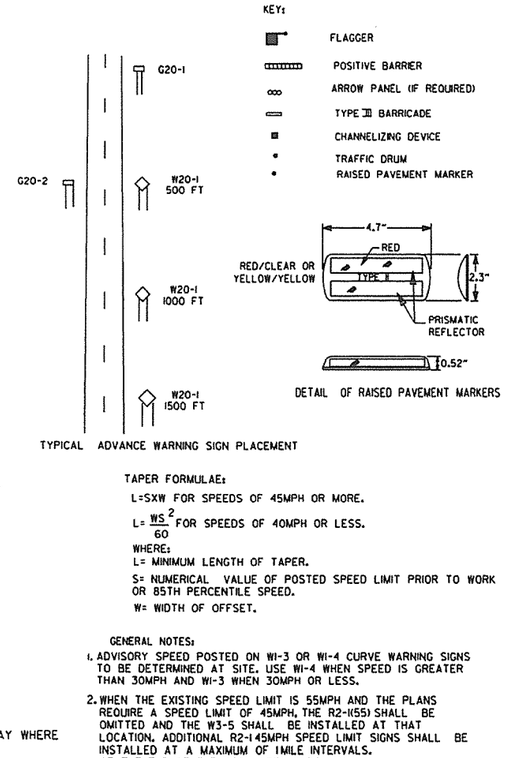


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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



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



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

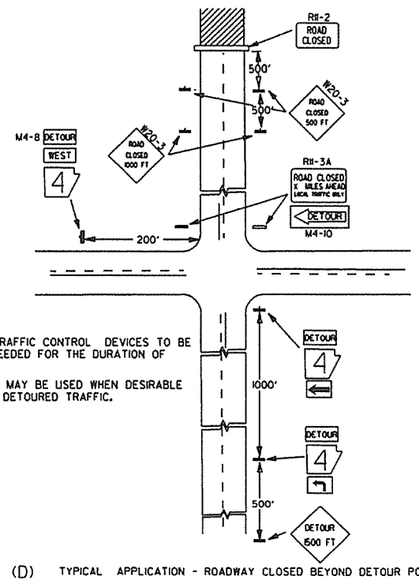
TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

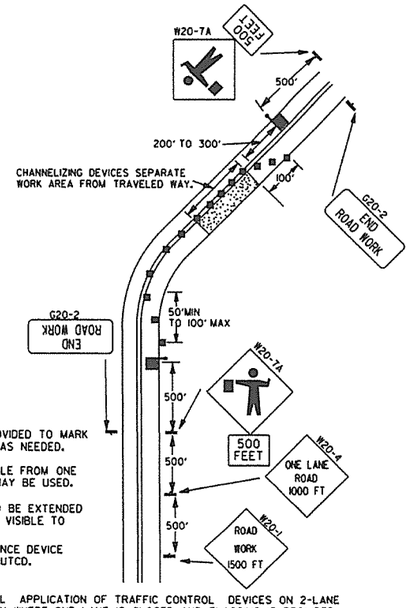
WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

GENERAL NOTES:
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.



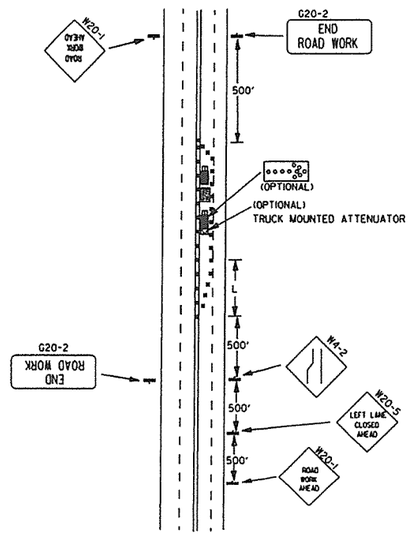
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



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

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



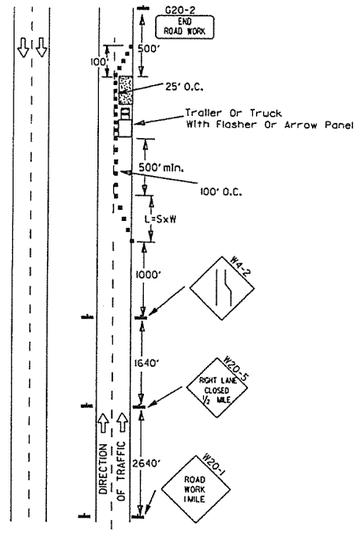
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-8-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (G) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

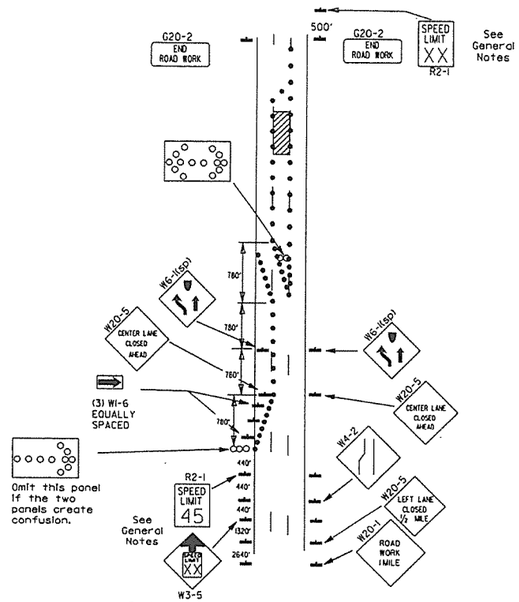
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

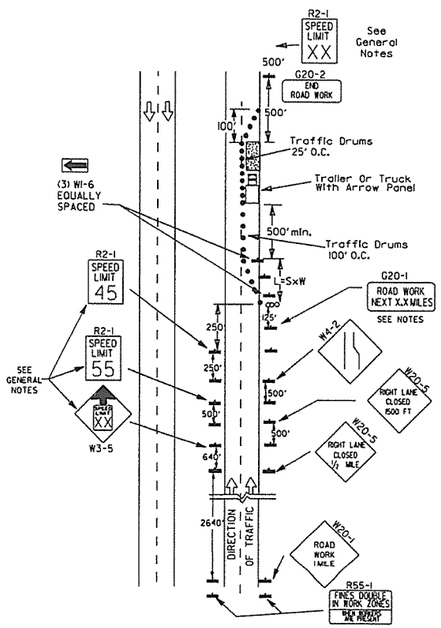
STANDARD DRAWING TC-2



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



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



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

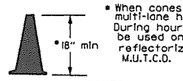
KEY:

- ○○○ Arrow Panel (If Required)
- ■ Channelizing Device
- ● Traffic drum

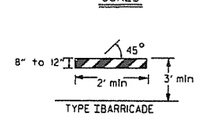
GENERAL NOTES:

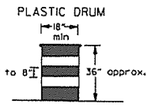
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional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

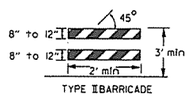
Channelizing devices

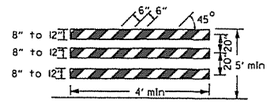


• When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

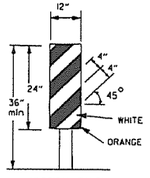








NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

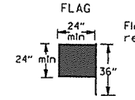


TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

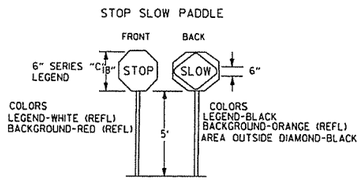
VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	•RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	•Vertical panels, drums or concrete barrier

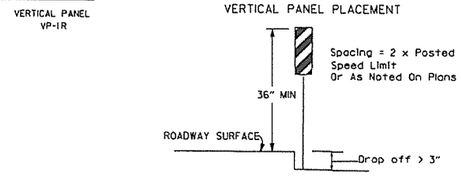
• When shown on the plans concrete barrier will be used.

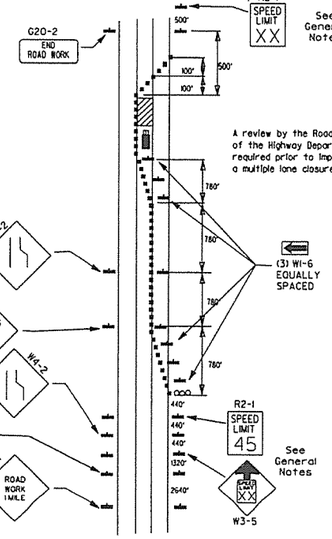
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



Flag shall be of good grade red material

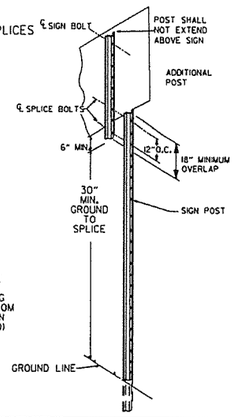






(D) Typical application - closing multiple lanes of a multilane highway.

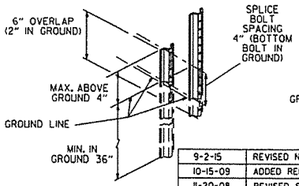
DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS, EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

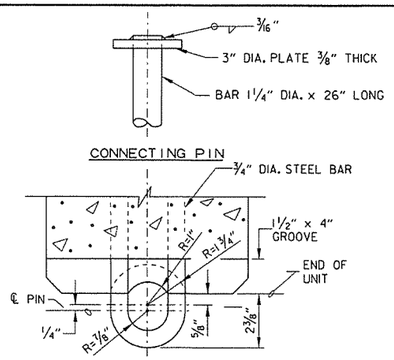
ARKANSAS STATE HIGHWAY COMMISSION

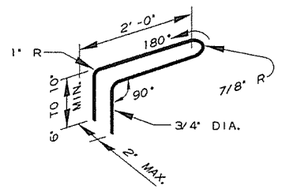
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

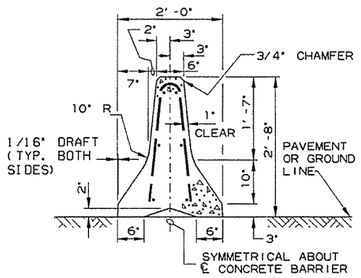
STANDARD DRAWING TC-3

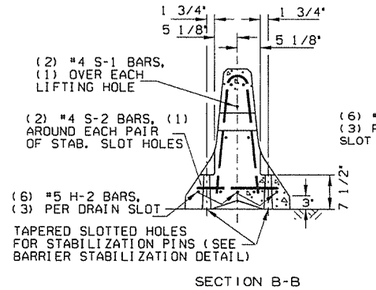
REINFORCING BAR TABLE PER BARRIER UNIT

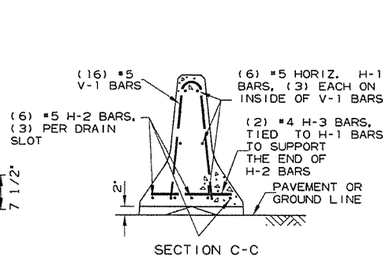
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2. TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1" MIN. CLEAR TO BAR, 1'-6", 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 4 3/8", 2'-1 3/8"

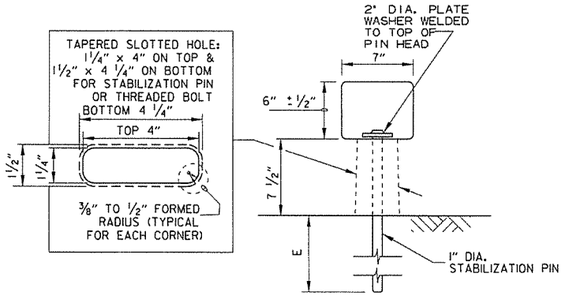


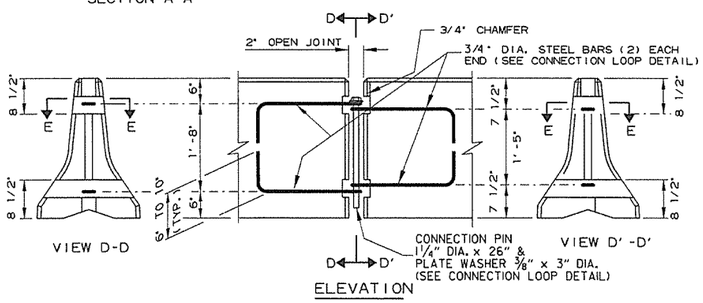


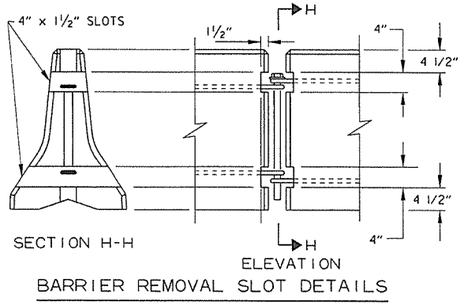


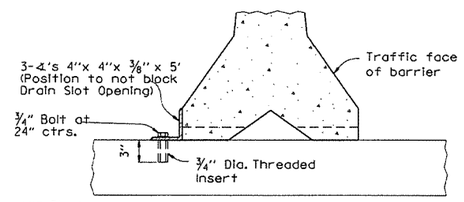






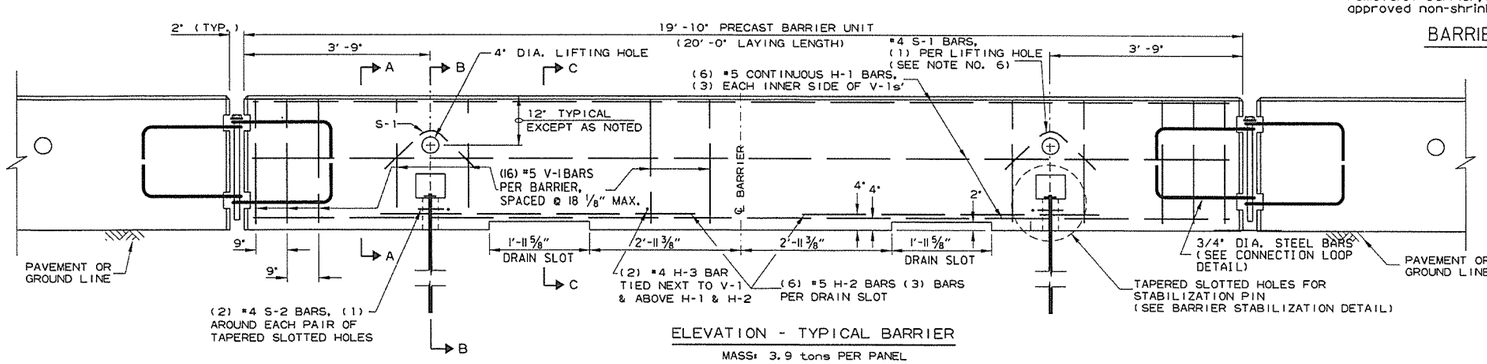






NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the Inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL
BRIDGE DECKS



General Notes

1. The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

2. Materials shall meet the following minimum requirements;
   Concrete: 2500 psi compressive strength at 28 days.
   Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
   Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
   Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

   In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
   Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
   Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

3. Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

4. Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

5. Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

6. A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

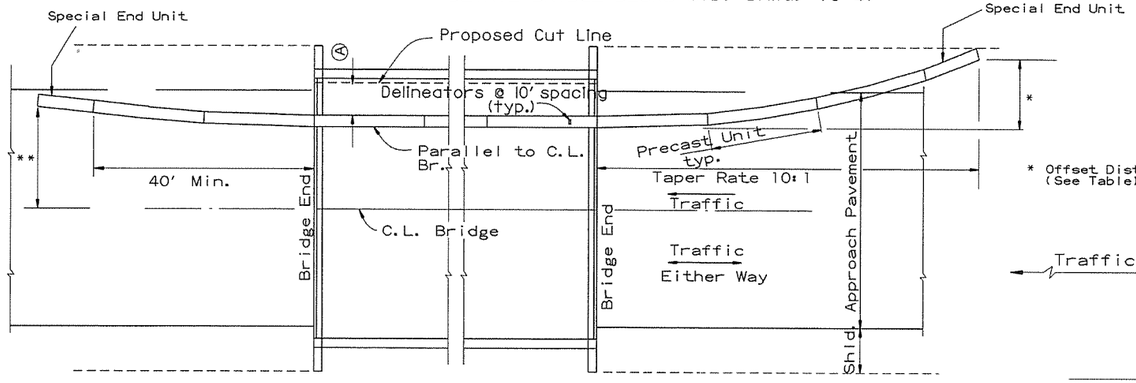
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02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

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

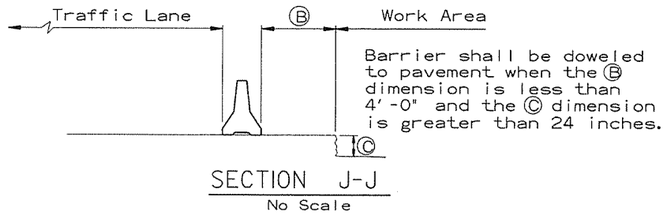
STANDARD DRAWING TC-4

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



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

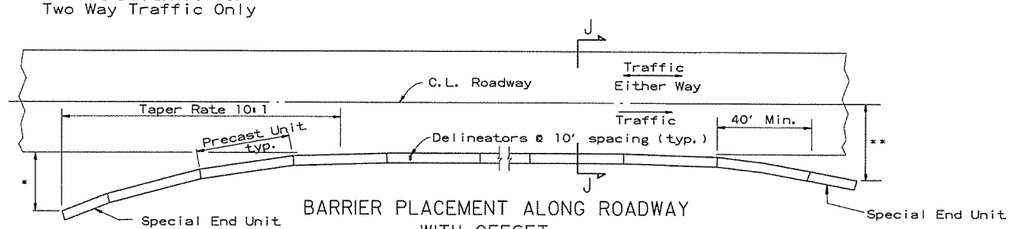


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

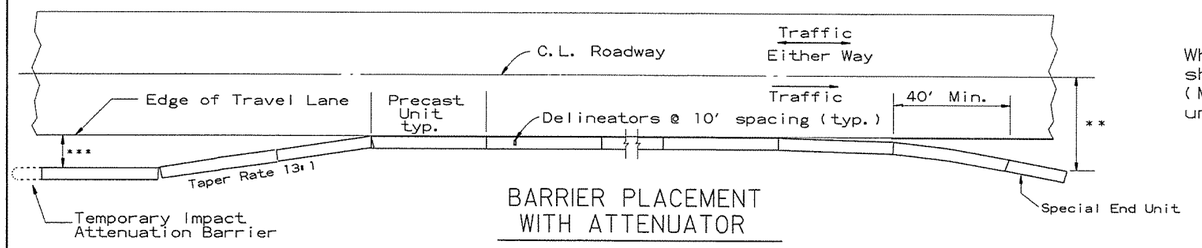
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.

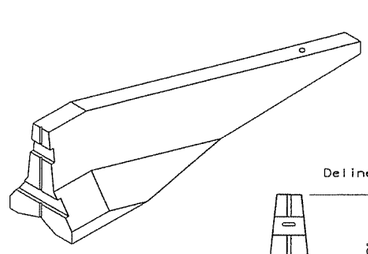


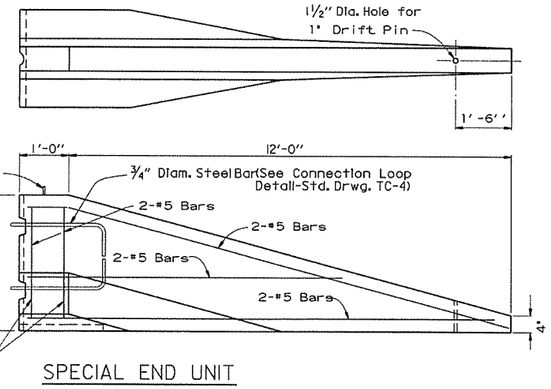
BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

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





SPECIAL END UNIT

No Scale

General Notes

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

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

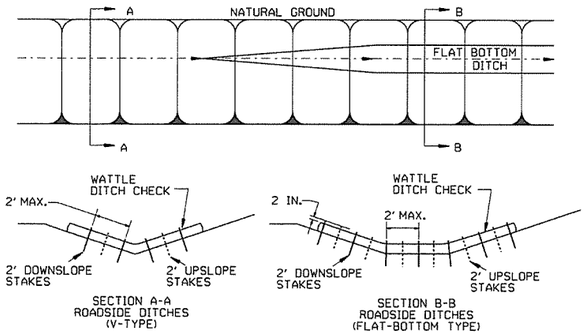
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

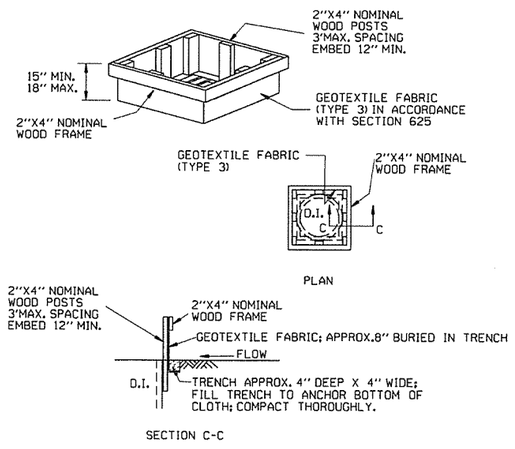
STANDARD DRAWING TC-5

GENERAL NOTES

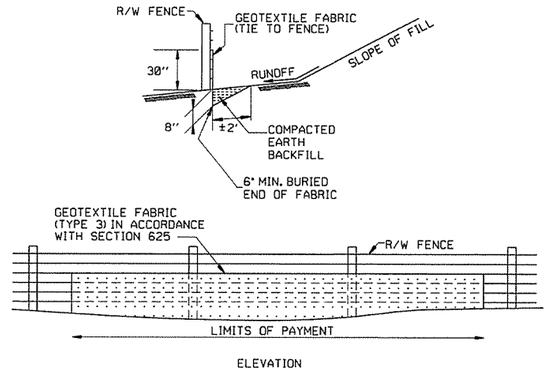
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



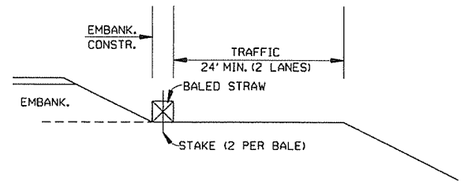
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

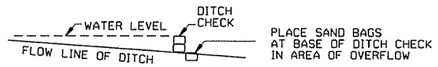
GENERAL NOTES

1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

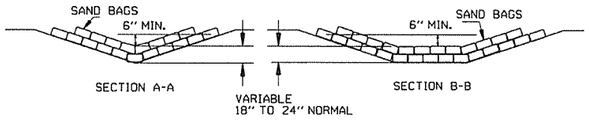


BALED STRAW FILTER BARRIER (E-2)

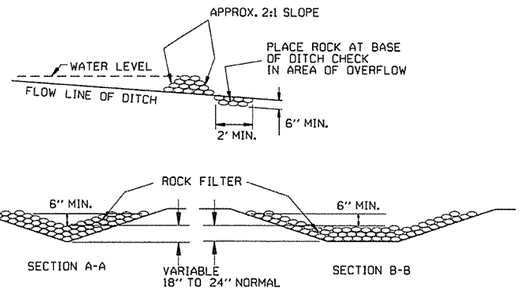
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.



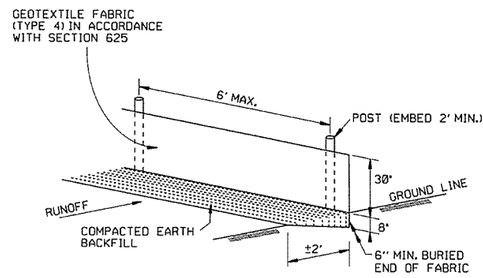
PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

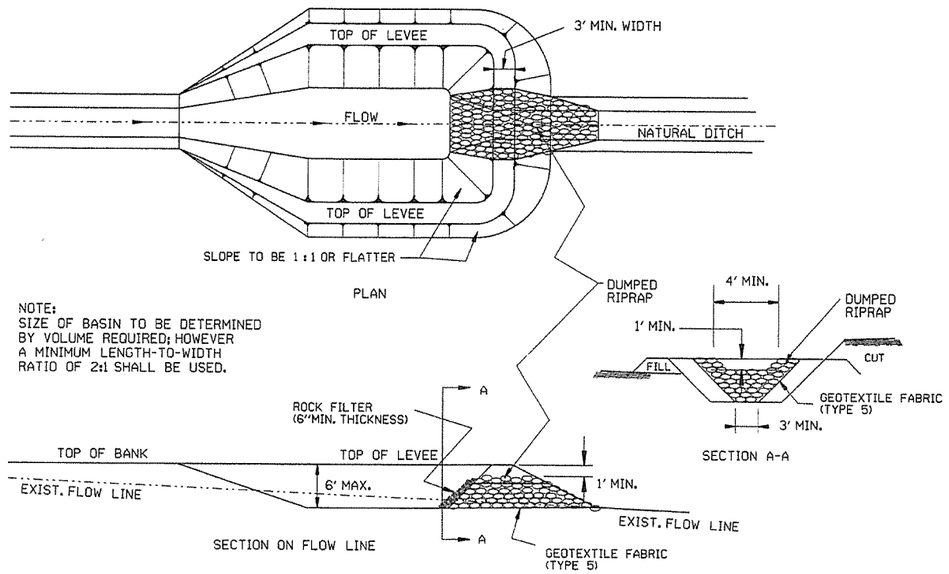
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

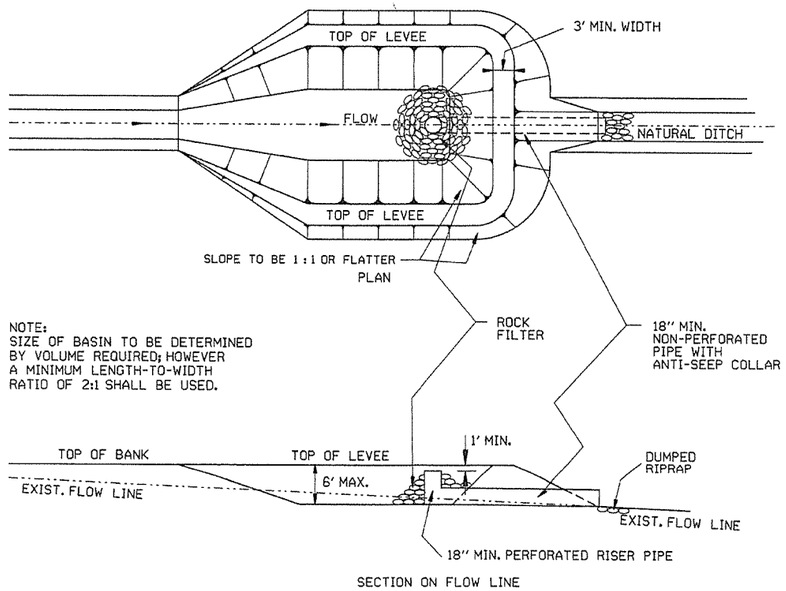
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

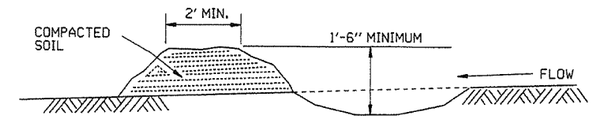
STANDARD DRAWING TEC-1



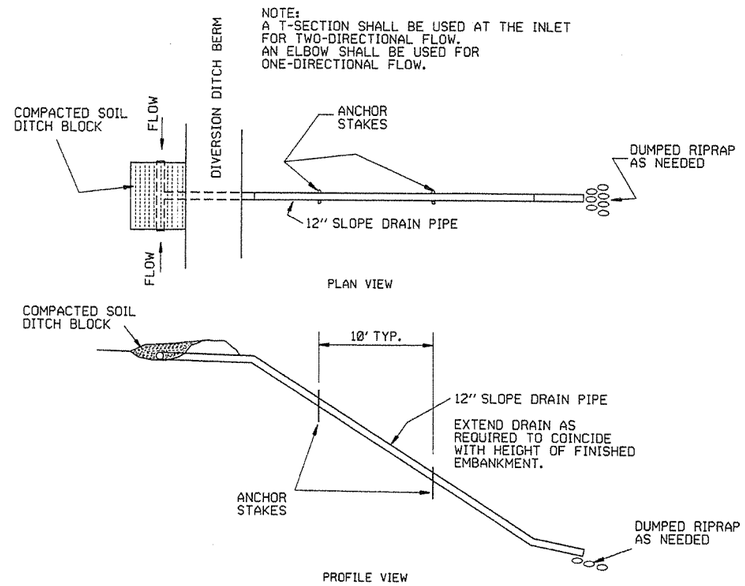
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



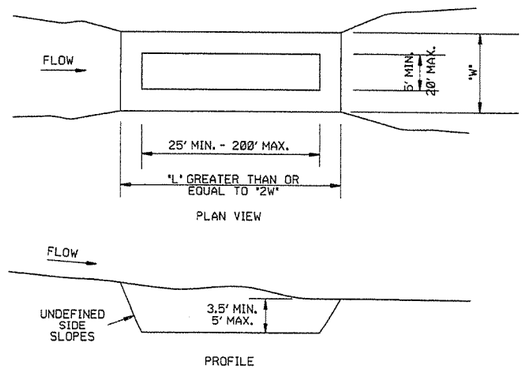
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

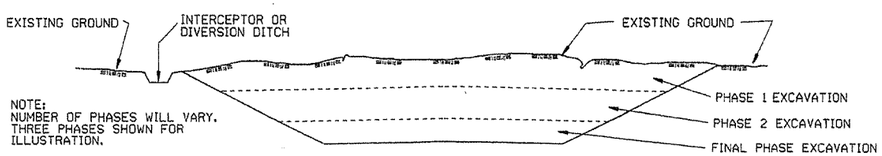
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



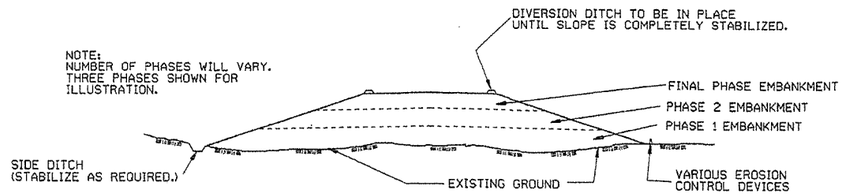
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES, CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

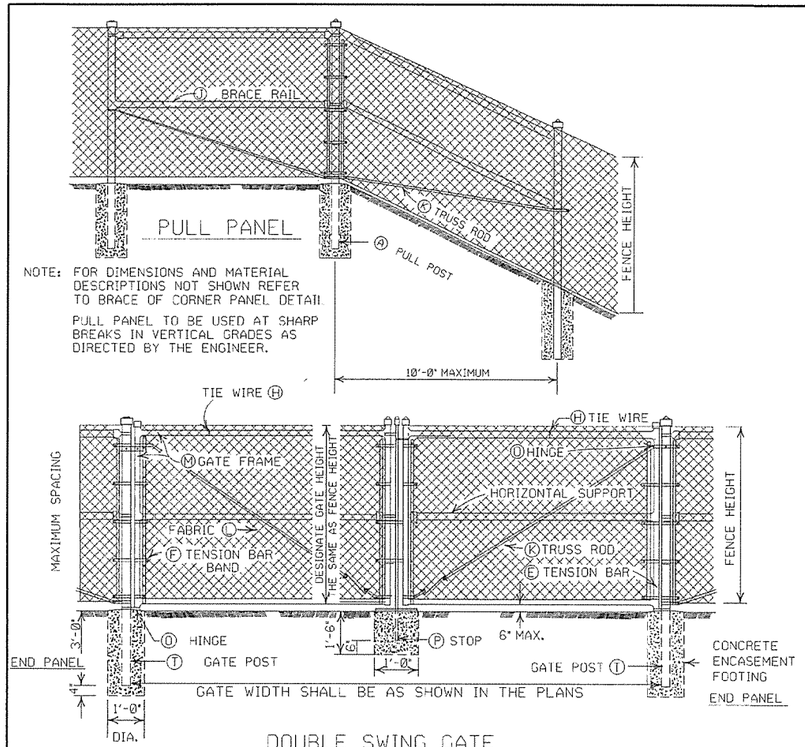
DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3

stdtec3.dgn



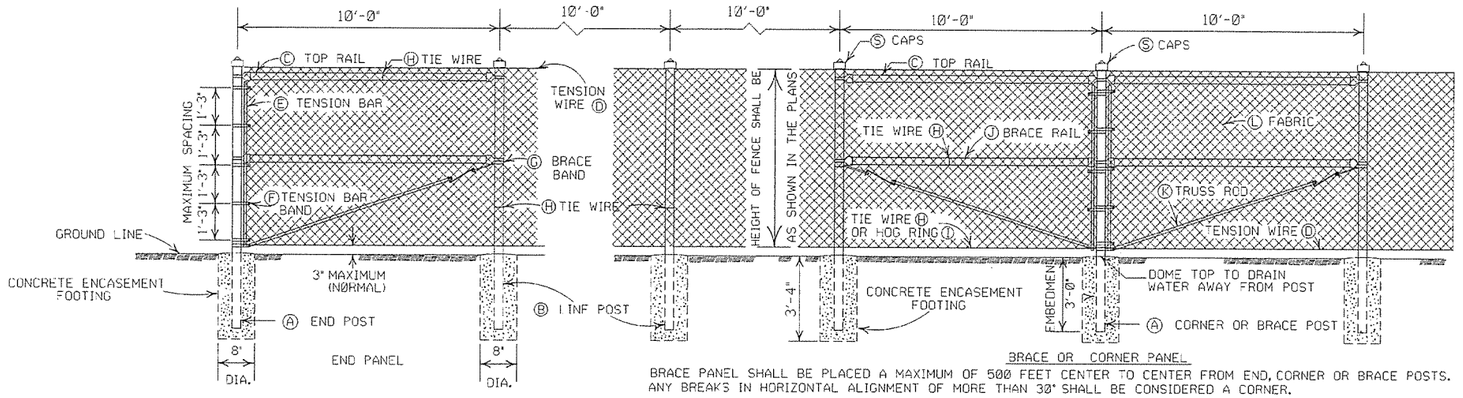
PULL PANEL

NOTE: FOR DIMENSIONS AND MATERIAL DESCRIPTIONS NOT SHOWN REFER TO BRACE OF CORNER PANEL DETAIL

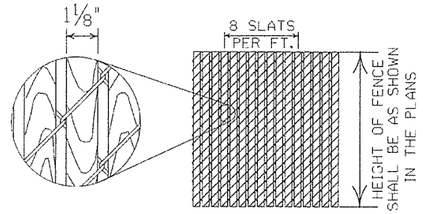
PULL PANEL TO BE USED AT SHARP BREAKS IN VERTICAL GRADES AS DIRECTED BY THE ENGINEER.

DOUBLE SWING GATE

POST SPACING DETAIL



BRACE 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
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
OVER 6' TO 12' INCL.	3 " O.D.	2½" O.D.								

HEIGHT OF FENCE FABRIC	(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	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.					

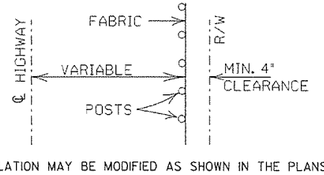
HEIGHT OF FENCE FABRIC	(H) TIE WIRE	(I) HOG RING	(J) BRACE RAIL SIZE	(J) BRACE RAIL TIE SPACING	(K) TRUSS ROD	(L) FABRIC SIZE	(L) FABRIC MESH	(L) FABRIC SELVAGE
6' AND LESS	MIN. OF 12 GA. STEEL OR 9 GA. ALUM.	SAME GAUGE AS FABRIC	1⅝" O.D.	1 TIE EVERY 2'-0"	MIN. OF ⅜" ROUND WITH TIGHTNERS AND FITTINGS	9 GA.	2"	KNUCK -ING AND/OR TWIST -ING
OVER 6' TO 12' INCL.								

HEIGHT OF FENCE FABRIC	(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	2" O.D.	1 TIE EVERY 1'-0"	2" O.D.	1 TIE EVERY 1'-0"	OFFSET	3" O.D.	4" O.D.
OVER 6' TO 12' INCL.						4" O.D.	

NOTE: POST SIZES SHOWN ARE FOR STEEL. WHERE ALUMINUM IS PROVIDED, LINE POSTS SHALL HAVE AN OUT SIDE DIAMETER OF 2½" FOR FENCE HEIGHT OF 6' AND LESS. AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' TO 12'. END, PULL, CORNER OR BRACE POSTS SHALL HAVE AN OUTSIDE DIAMETER OF 3" FOR FENCE HEIGHT OF 6' AND LESS; AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHTS OF 6' TO 12'. GATE POSTS WHERE GATE WIDTH IS 12' AND LESS SHALL HAVE AN OUTSIDE DIAMETER OF 3½" FOR FENCE HEIGHT OF 6' AND LESS. ALUMINUM TENSION WIRE SHALL BE 0.192" IN DIAMETER. MINIMUM THICKNESS OF MATERIAL FROM WHICH EXPANSION SLEEVES SHALL BE MADE WILL BE 0.078". POSTS AND RAILS MAY HAVE ANY CROSS-SECTIONAL SHAPE THAT WILL MEET THE SPECIFICATIONS.

OTHER DETAILS APPLY TO BOTH STEEL AND ALUMINUM FENCE.

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



INSTALLATION MAY BE MODIFIED AS SHOWN IN THE PLANS

TYPICAL INSTALLATION DIAGRAM

POSTS AND RAILS

SIZE O.D.	GRADE 1 AND ALUMINUM ALLOY O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT. STEEL	LBS. PER LINEAR FT. ALUMINUM	GRADE 2 O.D. INCHES	WALL THICKNESS	LBS. PER LINEAR FT.
1⅝	1.660	0.140	2.27	0.786	1.660	0.111	1.84
2	1.900	0.145	2.72	0.940	1.900	0.122	2.28
2½	2.375	0.154	3.65	1.264	2.375	0.130	3.11
3	2.875	0.203	5.79	2.004	2.875	0.160	4.64
3½	3.500	0.216	7.58	2.621	3.500	0.160	5.71
4	4.000	0.226	9.11	3.151	4.000	0.160	6.56

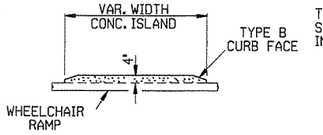
TOLERANCES ON DIMENSIONS AND WEIGHTS ACCORDING TO AASHTO M 181

DATE	REVISION	FILMED
11-17-10	REVISED TRUSS ROD	
12-10-09	REVISED POSTS & RAILS TABLE	
5-21-09	ADDED TABLE & GEN. NOTE (C)	
8-22-02	REVISED NOTES, REMOVED TABLE, & REMOVED FENCE ALTERNATE	
4-3-97	REVISED BRACE RAIL NOTE	
10-18-96	REVISED AASHTO & ASTM REF.	
11-3-94	REVISED NOTE (L)	
10-1-92	DELETED ALTERNATE POST	10-1-92
8-15-91	DELETED ROLL FORMED POST DETAIL & ADDED NOTE	8-15-91 8-15-91
11-30-89	DELETED CLASS CONCRETE	11 30 89
11-17-88	REVISED O.D. SIZES	668-11-17-88
10-30-87	GENERAL REVISIONS	548-10-30-87
4-20-79	REVISED TOP RAIL & TENSION WIRE	695-4-20-79
10-2-72	REVISED AND REDRAWN	530-10-2-72

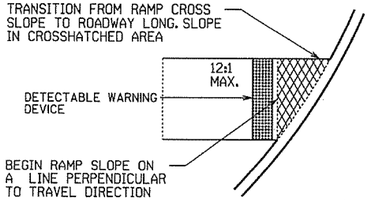
ARKANSAS STATE HIGHWAY COMMISSION

CHAIN LINK FENCE

STANDARD DRAWING WF-3



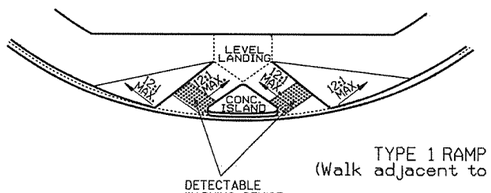
CONCRETE ISLAND DETAIL



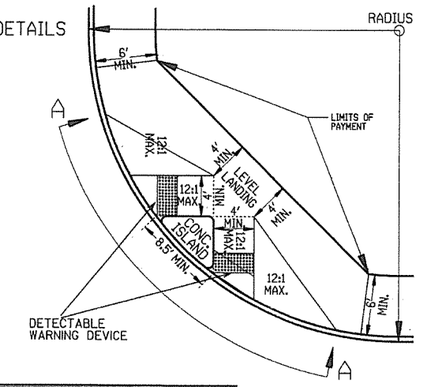
SLOPE TRANSITION DETAILS

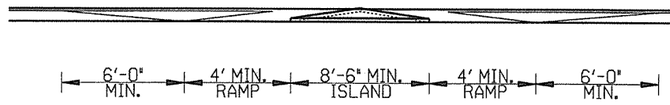
TYPE 1 RAMP DIMENSIONS AND QUANTITIES

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

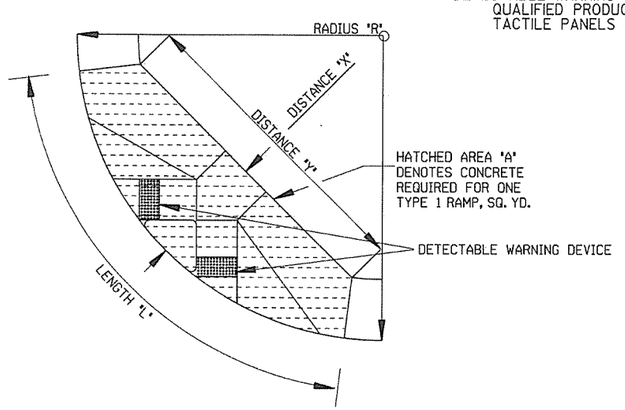


TYPE 1 RAMP
(Walk adjacent to curb)



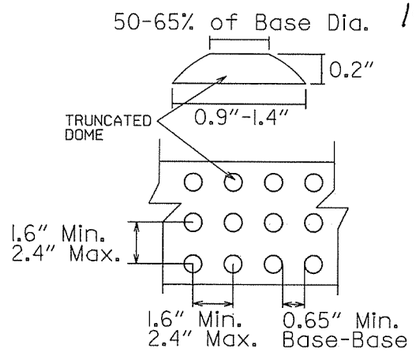


SECTION A-A



GENERAL NOTES FOR DETECTABLE WARNING DEVICES

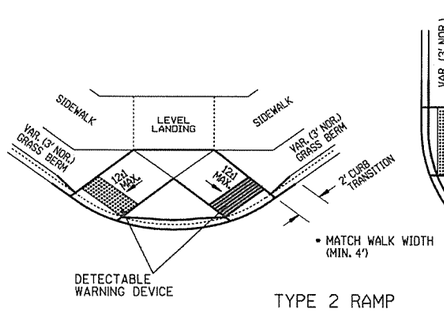
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT 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).



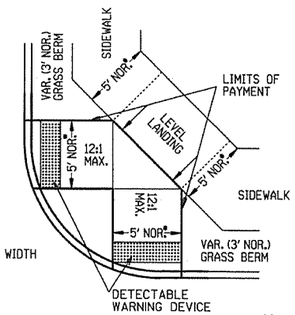
DETECTABLE WARNING DEVICE DETAIL

GENERAL NOTES:

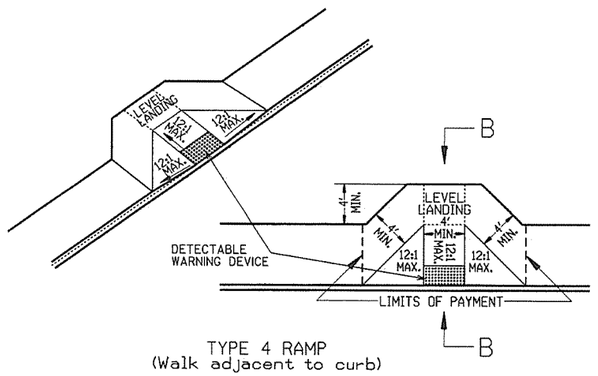
IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK 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.



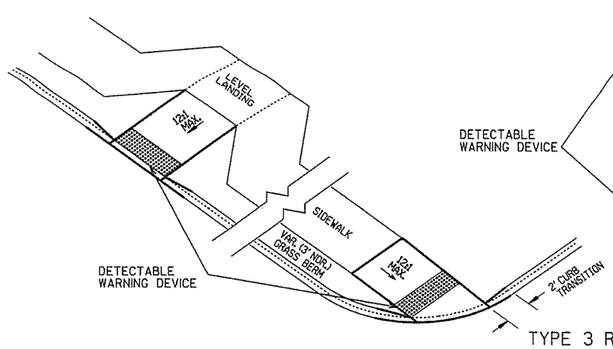
TYPE 2 RAMP

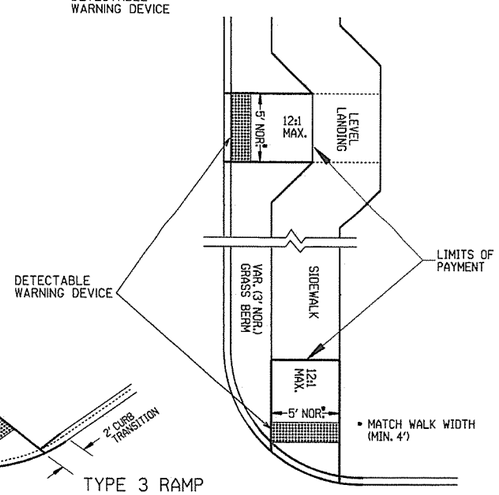


NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.

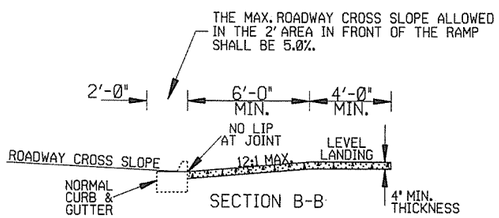


TYPE 4 RAMP
(Walk adjacent to curb)





TYPE 3 RAMP



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
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD.SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM8:1TO12:1MAX.SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD."CONC. ISLD."IN PAY ITEM	------
6-02-76	ISSUED-P.H.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS
NEW CONSTRUCTION
AND ALTERATIONS

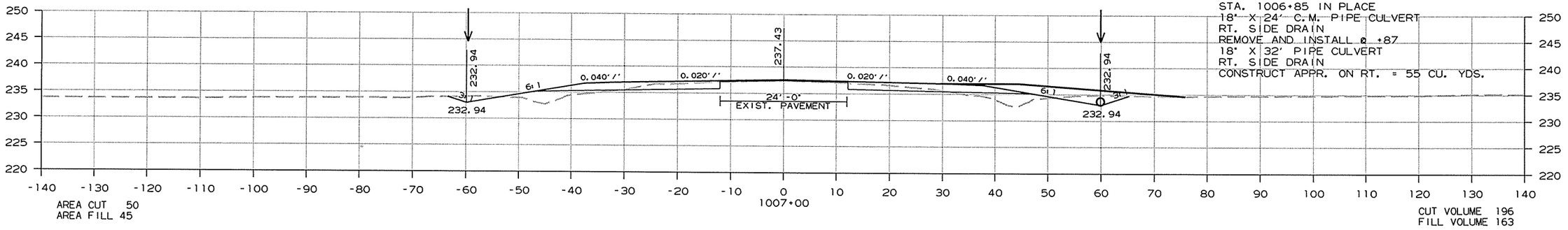
STANDARD DRAWING WR-1

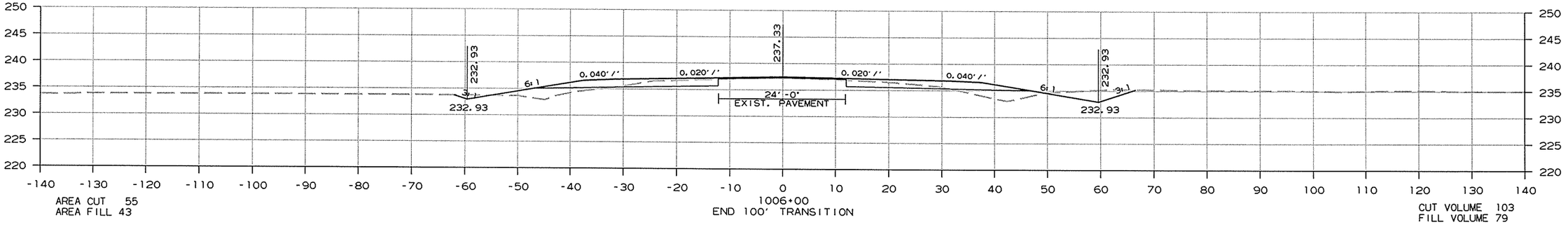
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	146	235

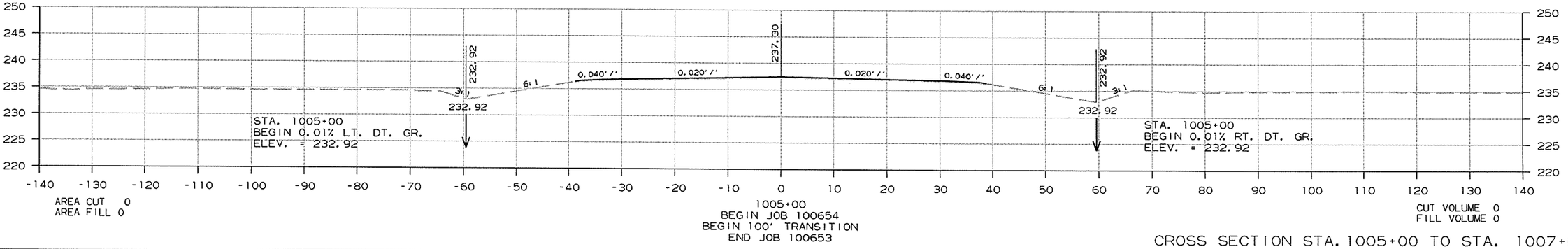
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1005+00 TO STA. 1007+00

1/26/2015

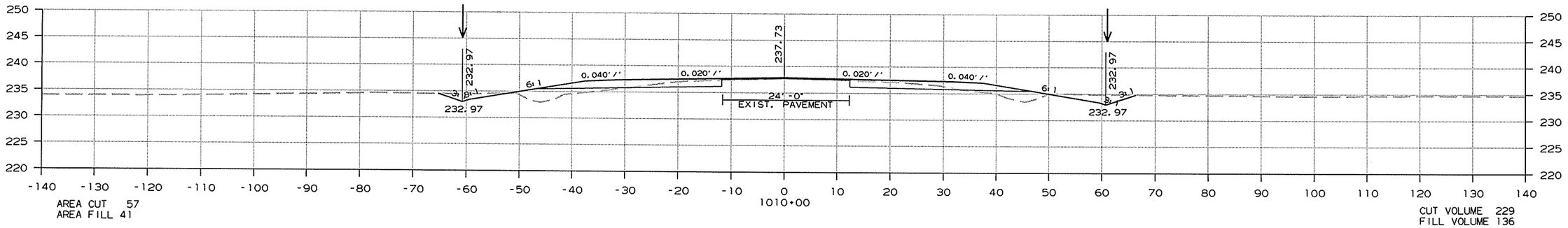
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	147	235

(2) CROSS SECTIONS

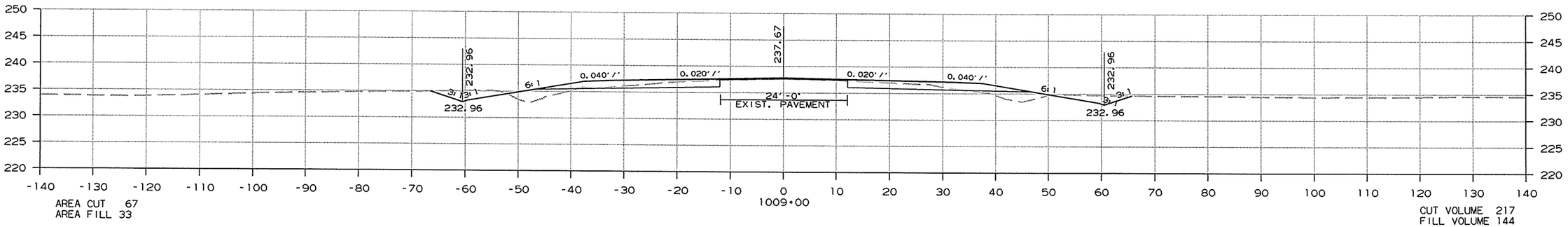
AREA

VOLUME



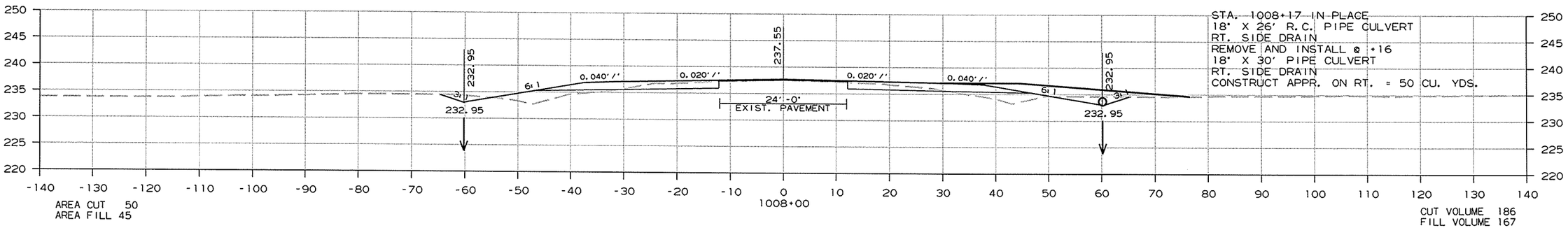
AREA CUT 57
AREA FILL 41

CUT VOLUME 229
FILL VOLUME 136



AREA CUT 67
AREA FILL 33

CUT VOLUME 217
FILL VOLUME 144



AREA CUT 50
AREA FILL 45

STA. 1008+17 IN PLACE
18" X 26' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +16
18" X 30' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 50 CU. YDS.

CUT VOLUME 186
FILL VOLUME 167

CROSS SECTION STA. 1008+00 TO STA. 1010+00

1/26/2015

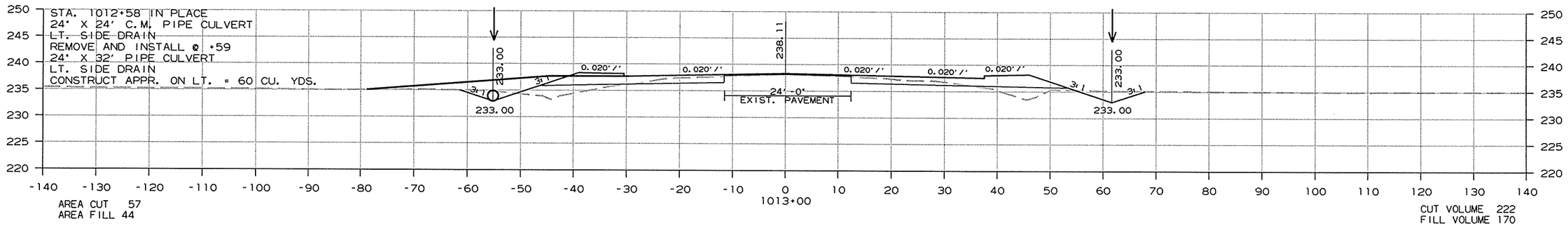
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	148	235

(2) CROSS SECTIONS

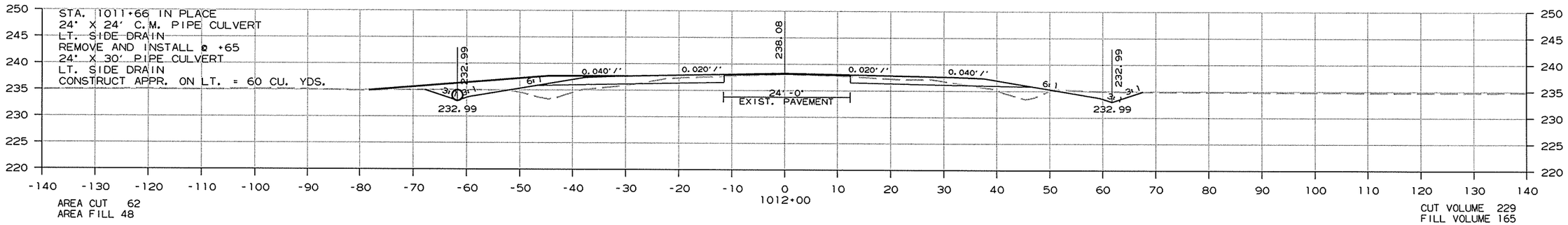
AREA

VOLUME



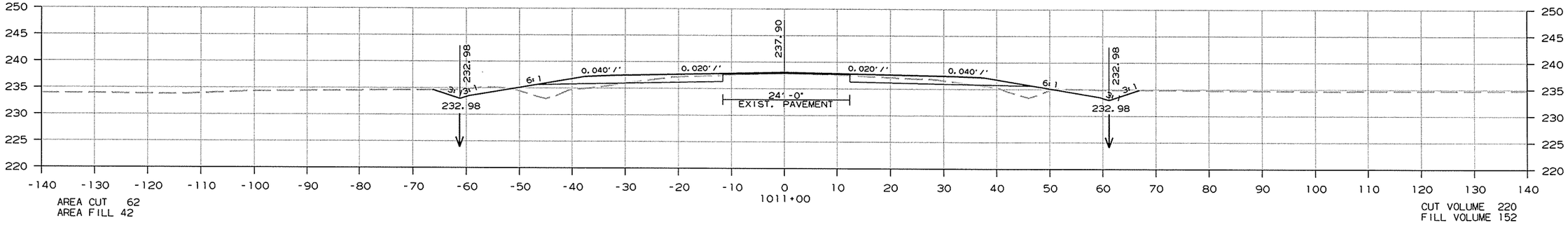
AREA CUT 57
AREA FILL 44

CUT VOLUME 222
FILL VOLUME 170



AREA CUT 62
AREA FILL 48

CUT VOLUME 229
FILL VOLUME 165



AREA CUT 62
AREA FILL 42

CUT VOLUME 220
FILL VOLUME 152

CROSS SECTION STA. 1011+00 TO STA. 1013+00

1/26/2015

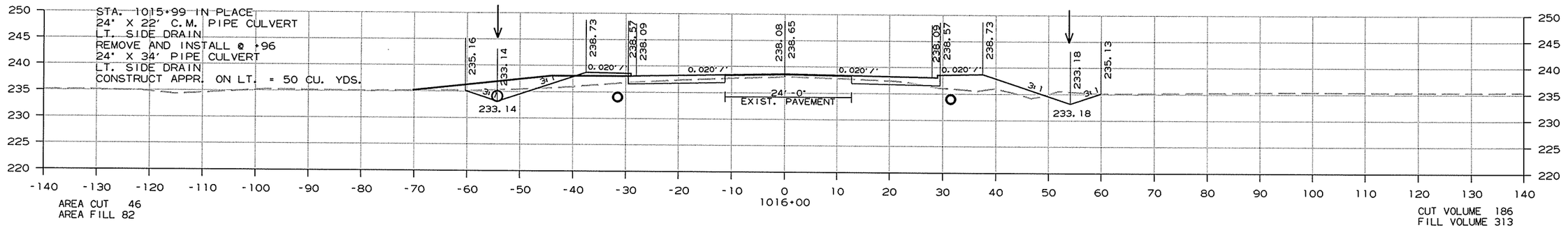
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	149	235

(2) CROSS SECTIONS

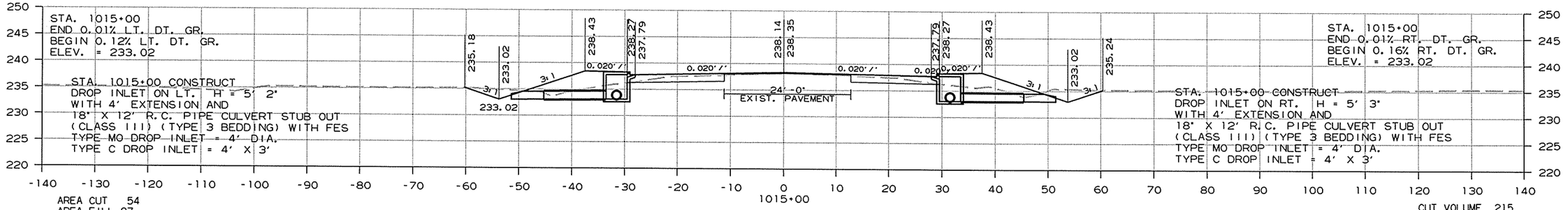
AREA

VOLUME



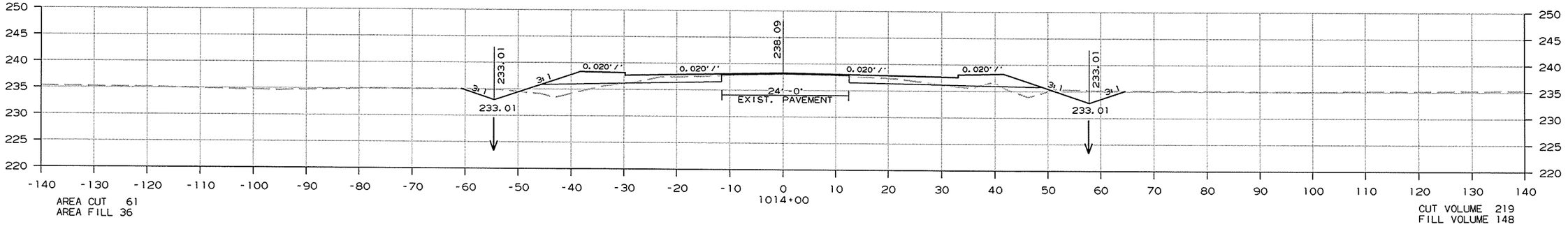
AREA CUT 46
AREA FILL 82

CUT VOLUME 186
FILL VOLUME 313



AREA CUT 54
AREA FILL 87

CUT VOLUME 215
FILL VOLUME 230



AREA CUT 61
AREA FILL 36

CUT VOLUME 219
FILL VOLUME 148

CROSS SECTION STA. 1014+00 TO STA. 1016+00

1/26/2015

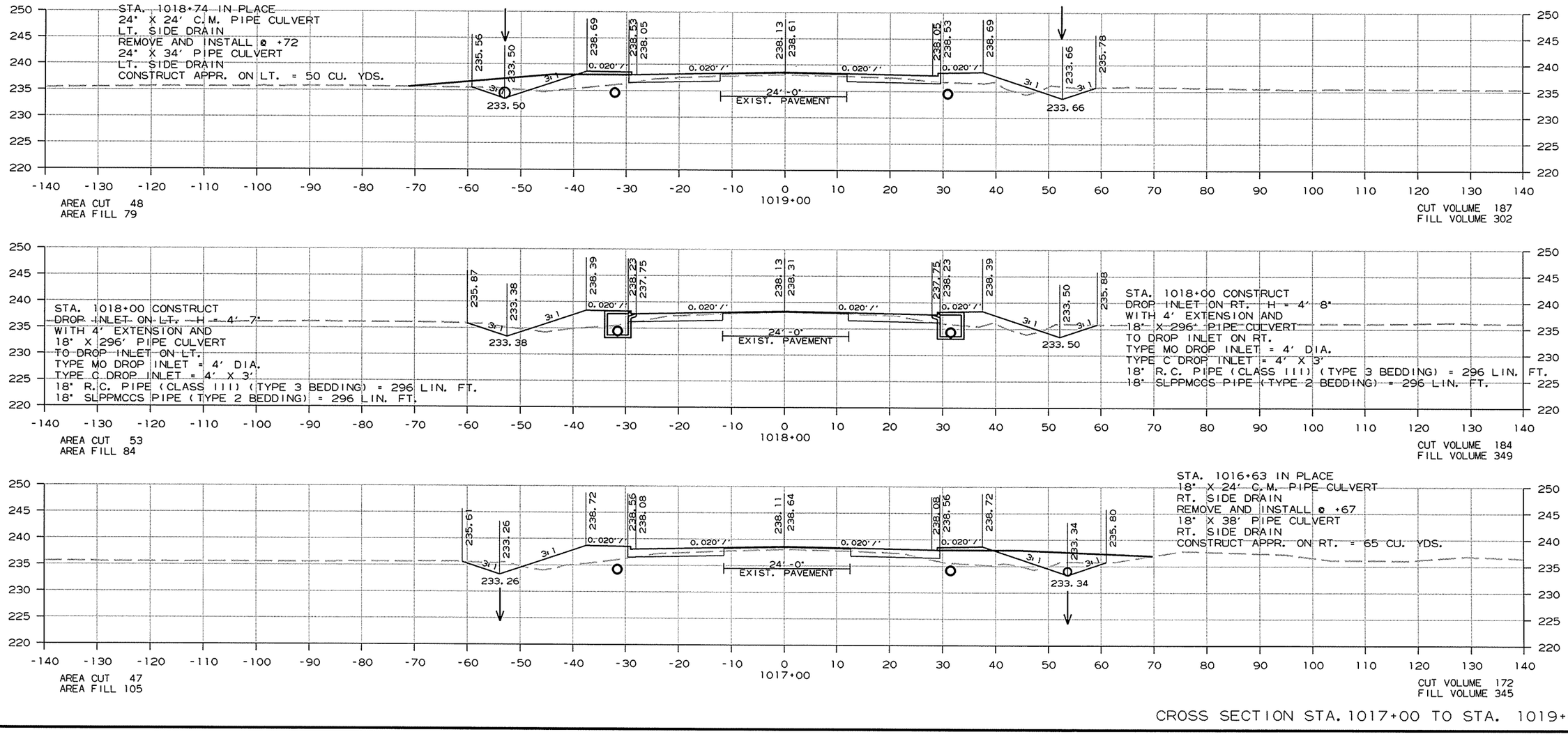
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	150	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1017+00 TO STA. 1019+00

1/26/2015

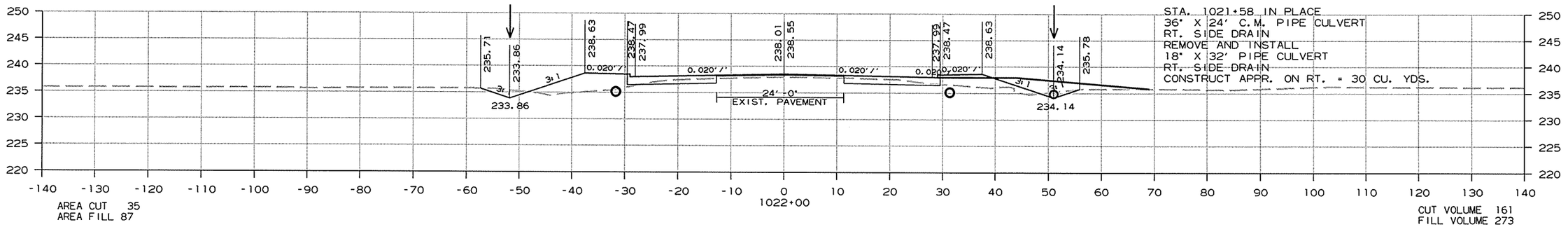
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	151	235

(2) CROSS SECTIONS

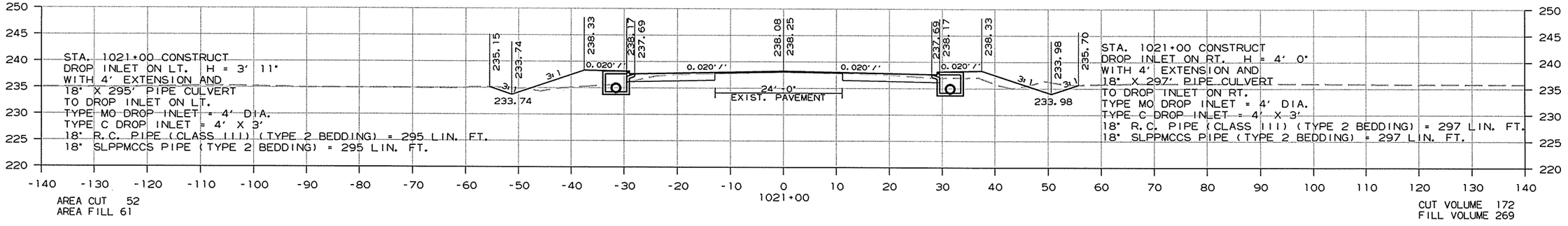
AREA

VOLUME



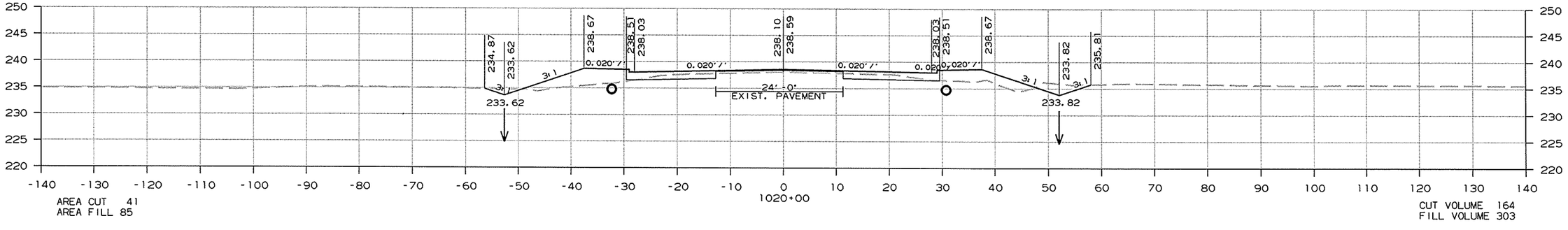
AREA CUT 35
AREA FILL 87

CUT VOLUME 161
FILL VOLUME 273



AREA CUT 52
AREA FILL 61

CUT VOLUME 172
FILL VOLUME 269



AREA CUT 41
AREA FILL 85

CUT VOLUME 164
FILL VOLUME 303

CROSS SECTION STA. 1020+00 TO STA. 1022+00

1/26/2015

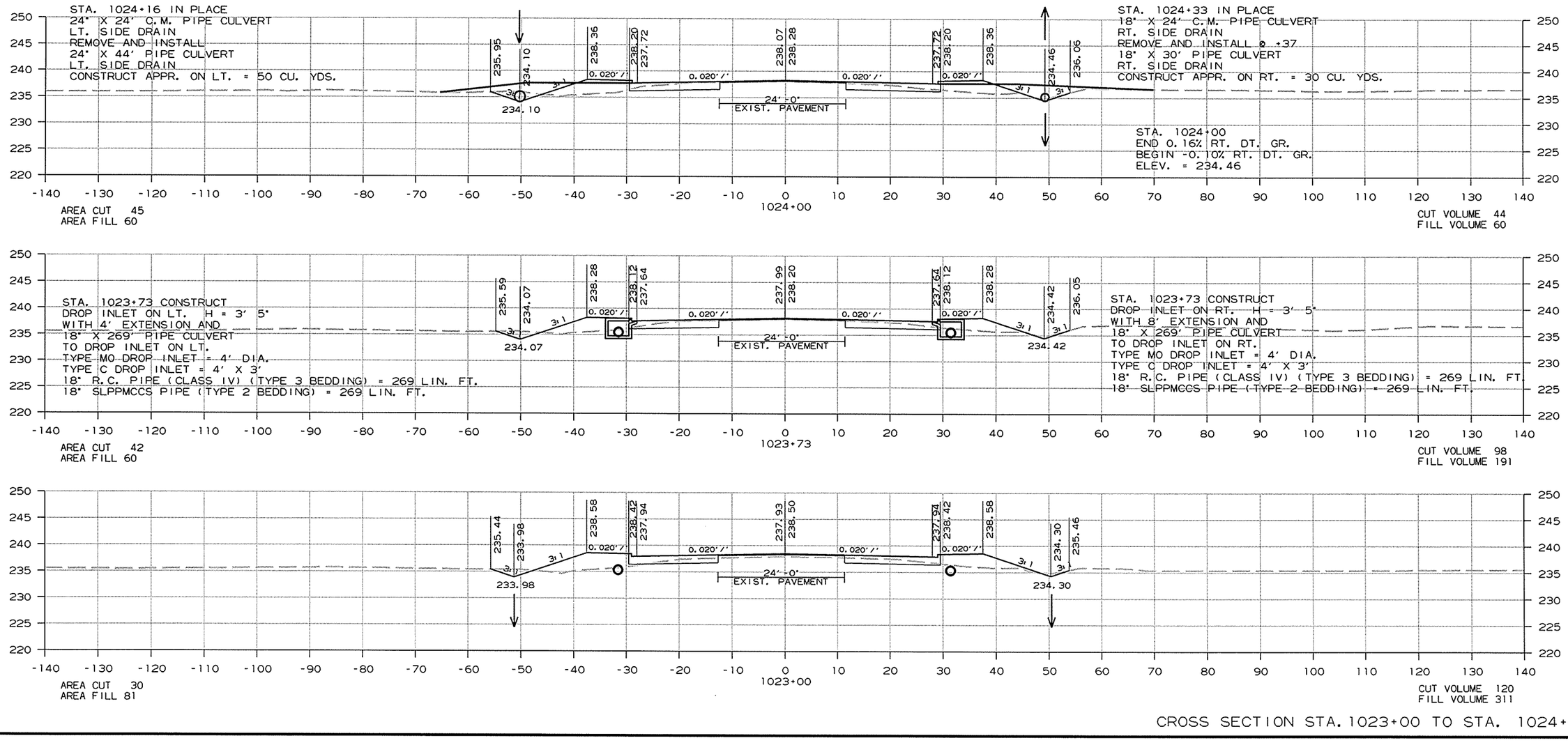
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	152	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1023+00 TO STA. 1024+00

1/26/2015

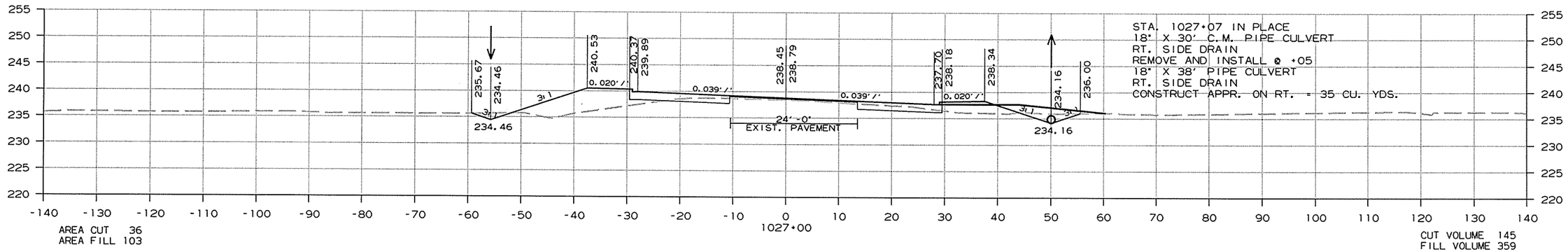
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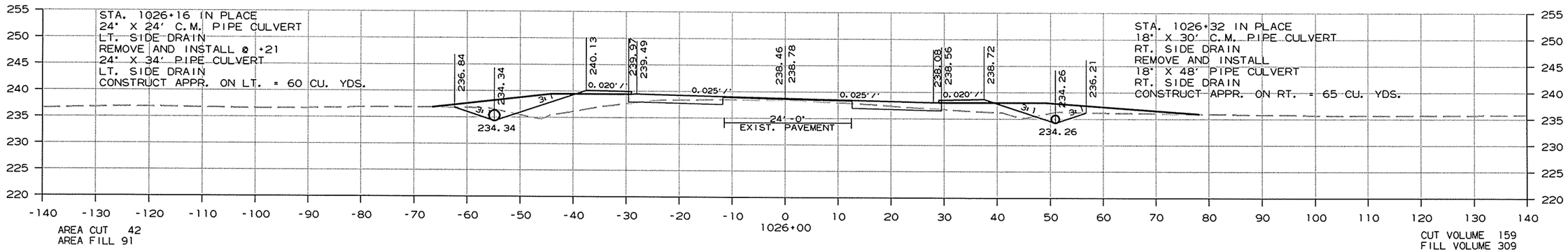
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	153	235

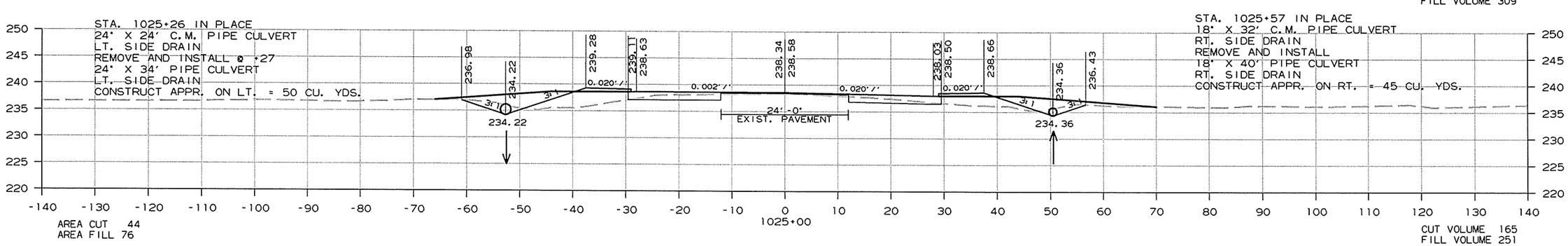
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1025+00 TO STA. 1027+00

1/26/2015

R100654.DGN

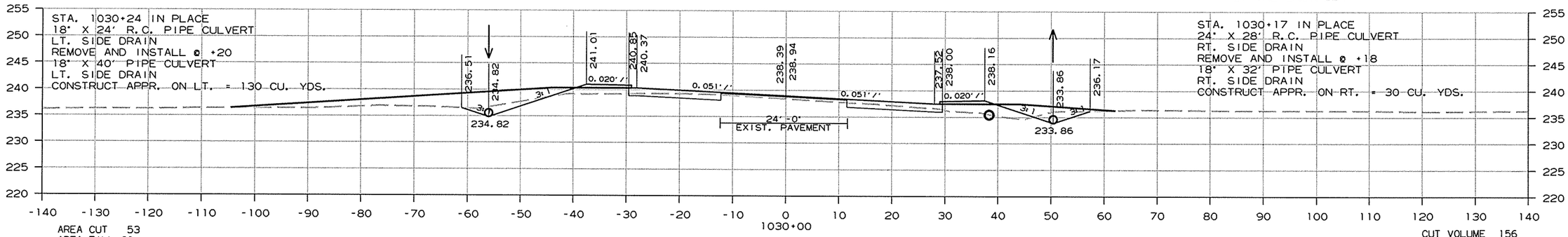
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	154	235

(2) CROSS SECTIONS

AREA

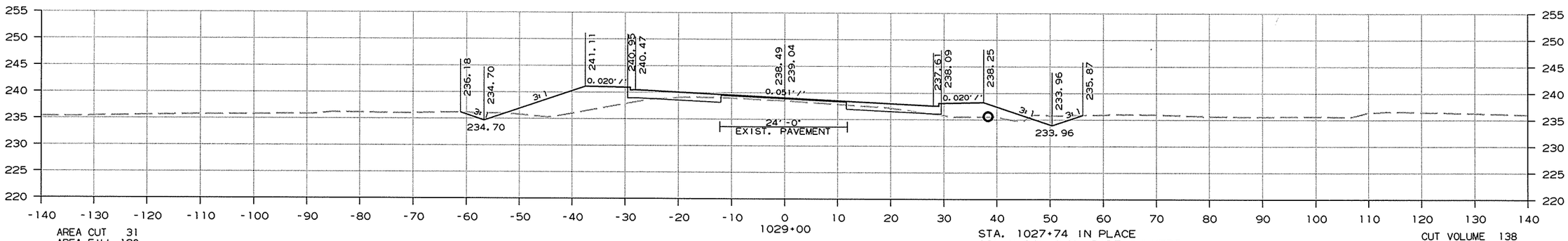
VOLUME

STA. 1030+01 IN PLACE
6' X 56' R.C. PIPE CULVERT
RT. DRAIN
REMOVE 10' AS DIRECTED
BY THE ENGINEER



AREA CUT 53
AREA FILL 60

CUT VOLUME 156
FILL VOLUME 334

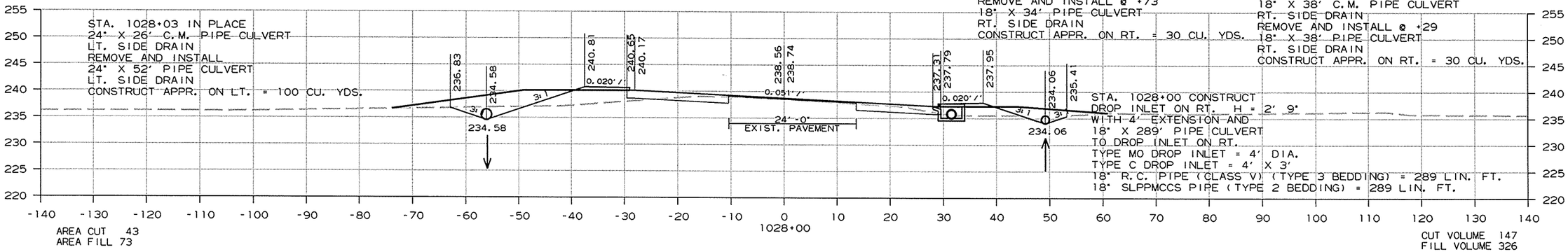


AREA CUT 31
AREA FILL 120

CUT VOLUME 138
FILL VOLUME 358

STA. 1027+74 IN PLACE
18" X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +73
18" X 34' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.

STA. 1028+31 IN PLACE
18" X 38' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +29
18" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.



AREA CUT 43
AREA FILL 73

CUT VOLUME 147
FILL VOLUME 326

CROSS SECTION STA. 1028+00 TO STA. 1030+00

1/26/2015

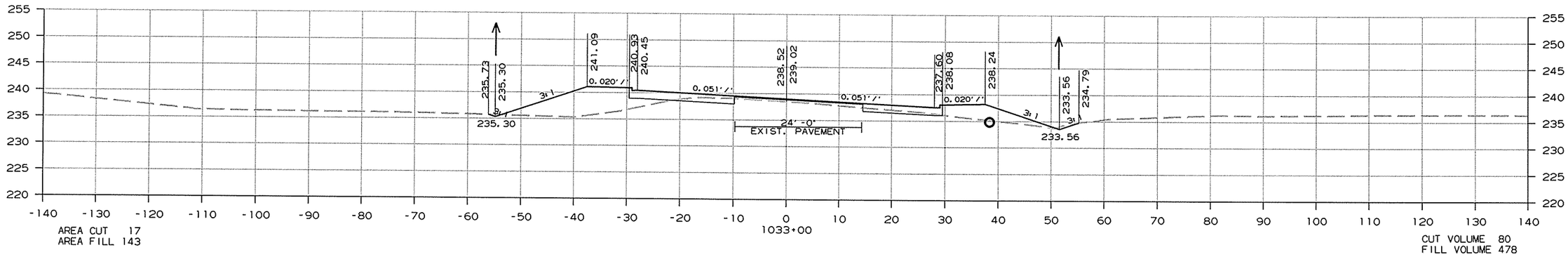
R100654.DGN

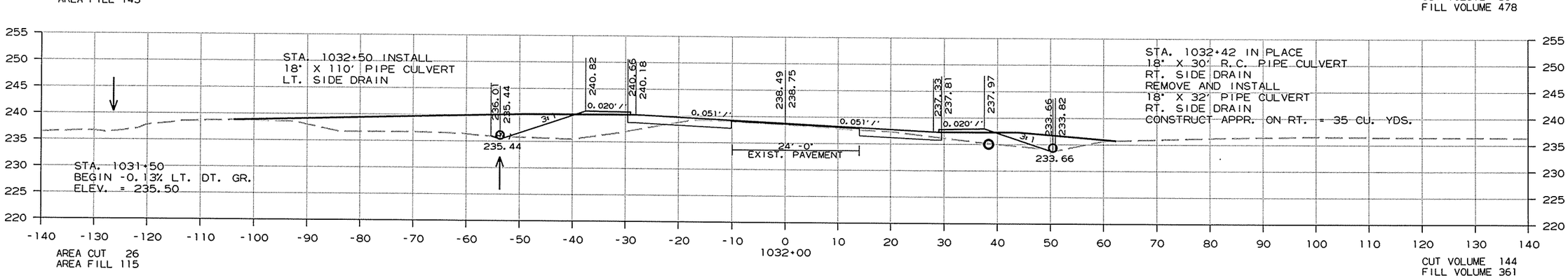
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	155	235

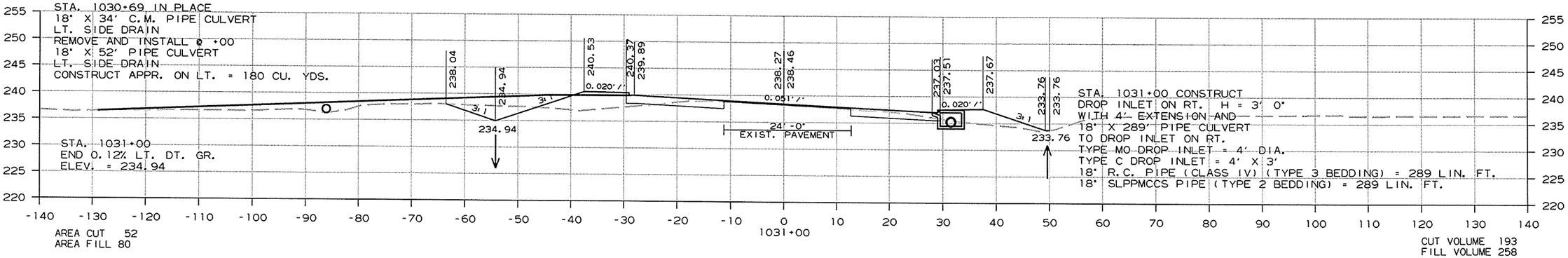
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1031+00 TO STA. 1033+00

1/26/2015

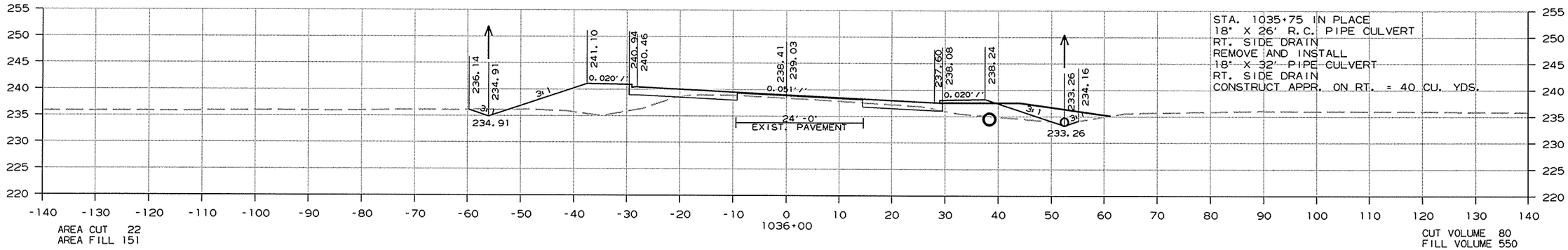
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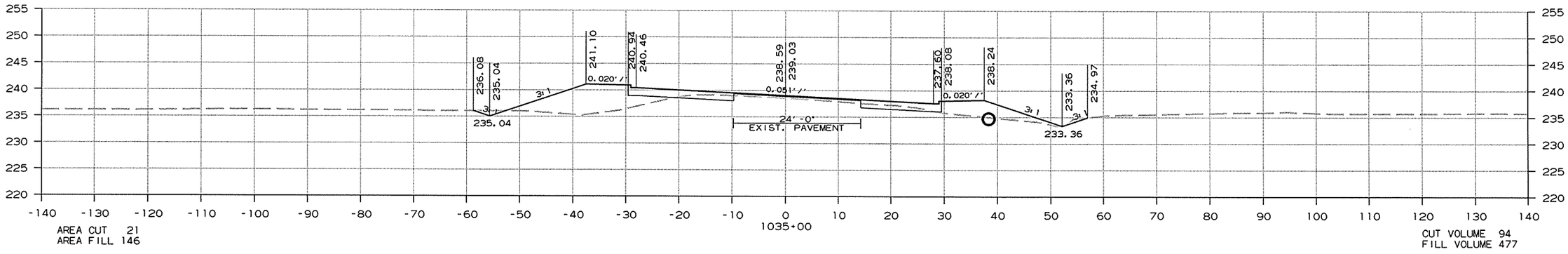
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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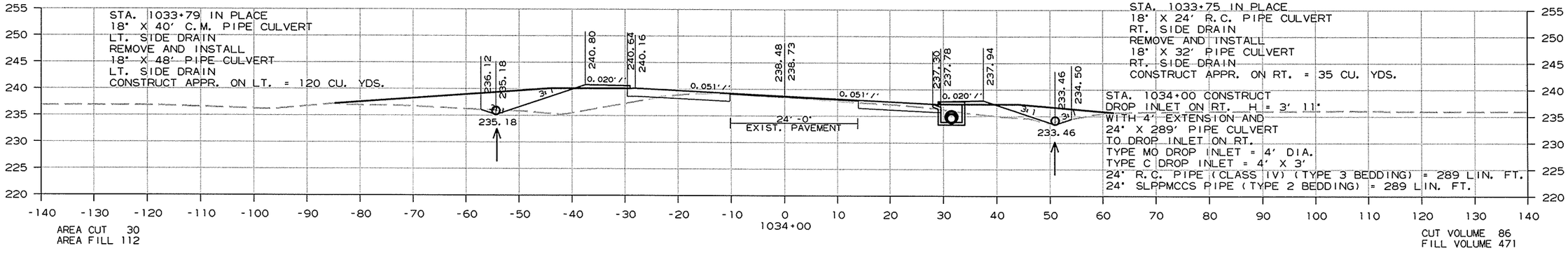
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1034+00 TO STA. 1036+00

1/26/2015

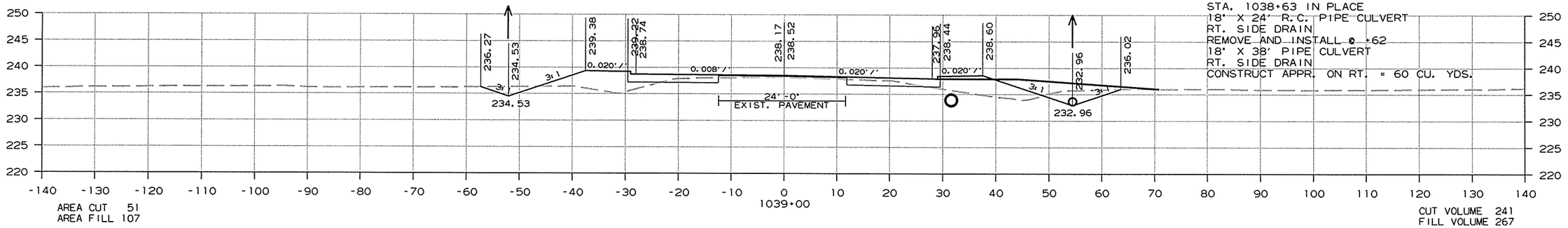
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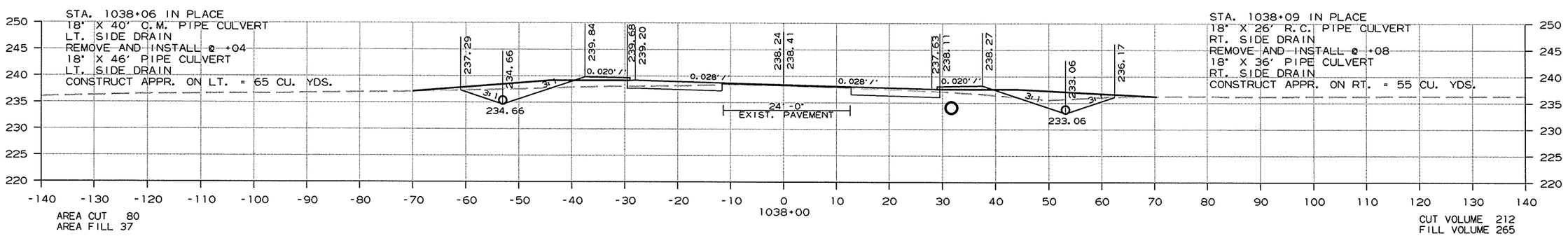
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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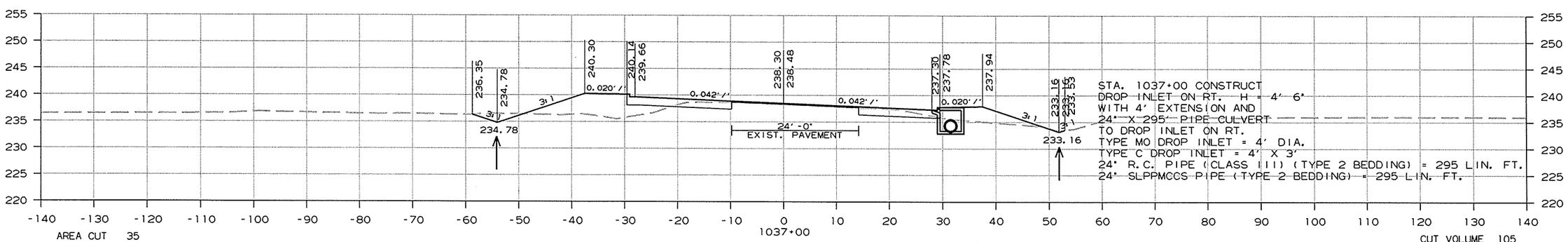
(2) CROSS SECTIONS

AREA

VOLUME







1/26/2015

R100654.DGN

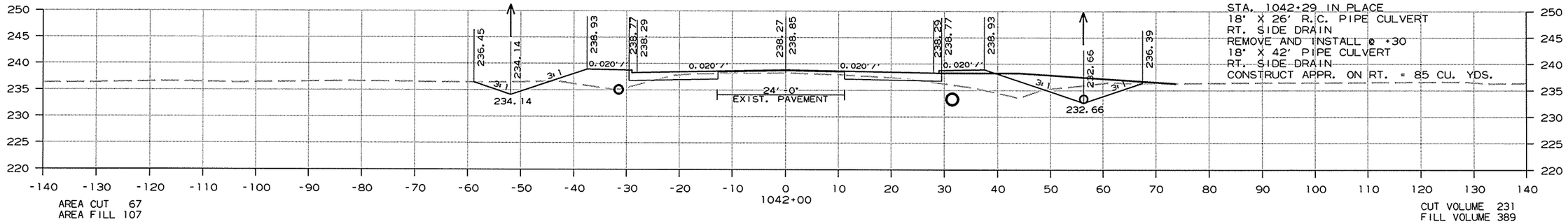
CROSS SECTION STA. 1037+00 TO STA. 1039+00

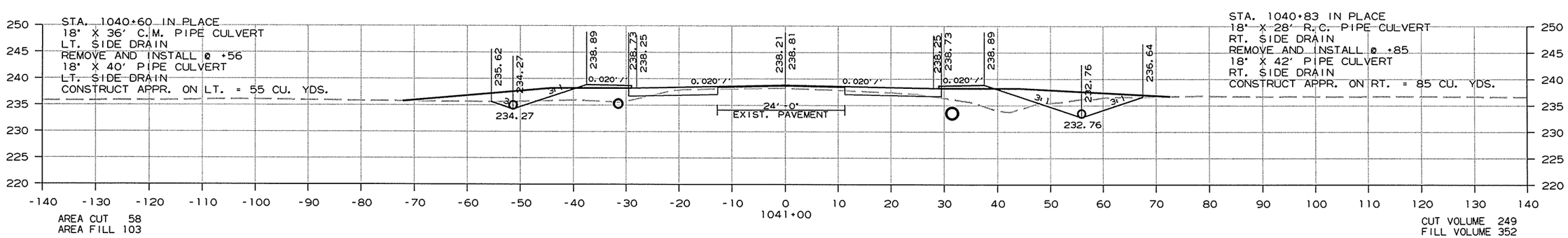
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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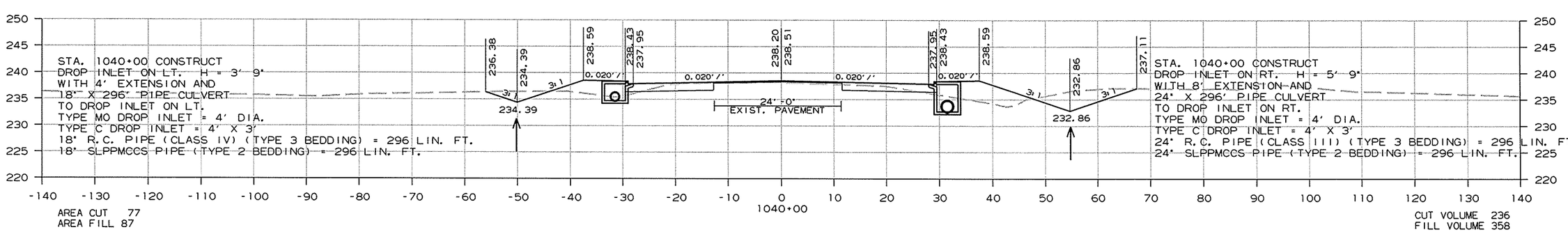
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1040+00 TO STA. 1042+00

1/26/2015

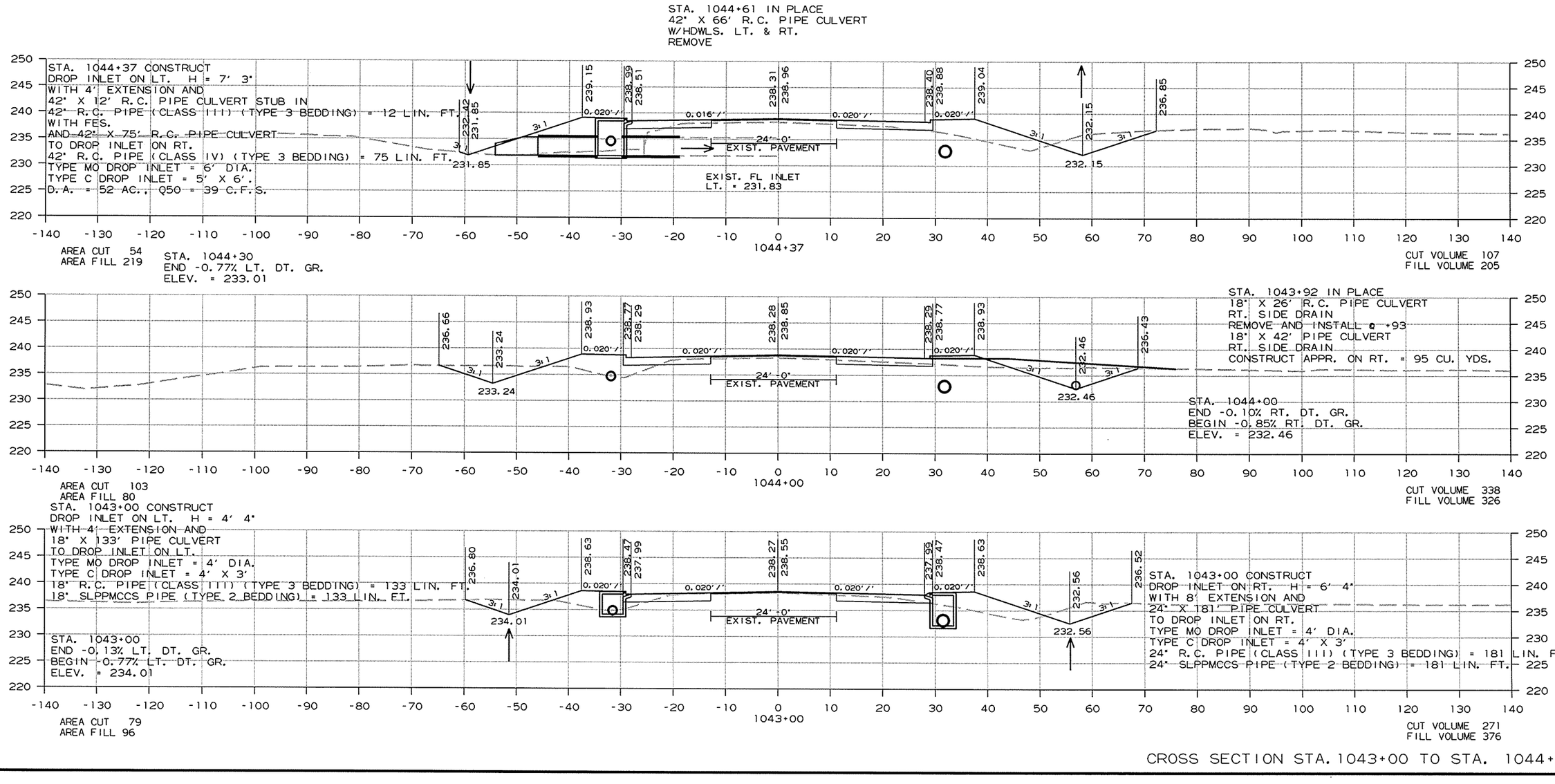
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	159	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1043+00 TO STA. 1044+37

1/26/2015

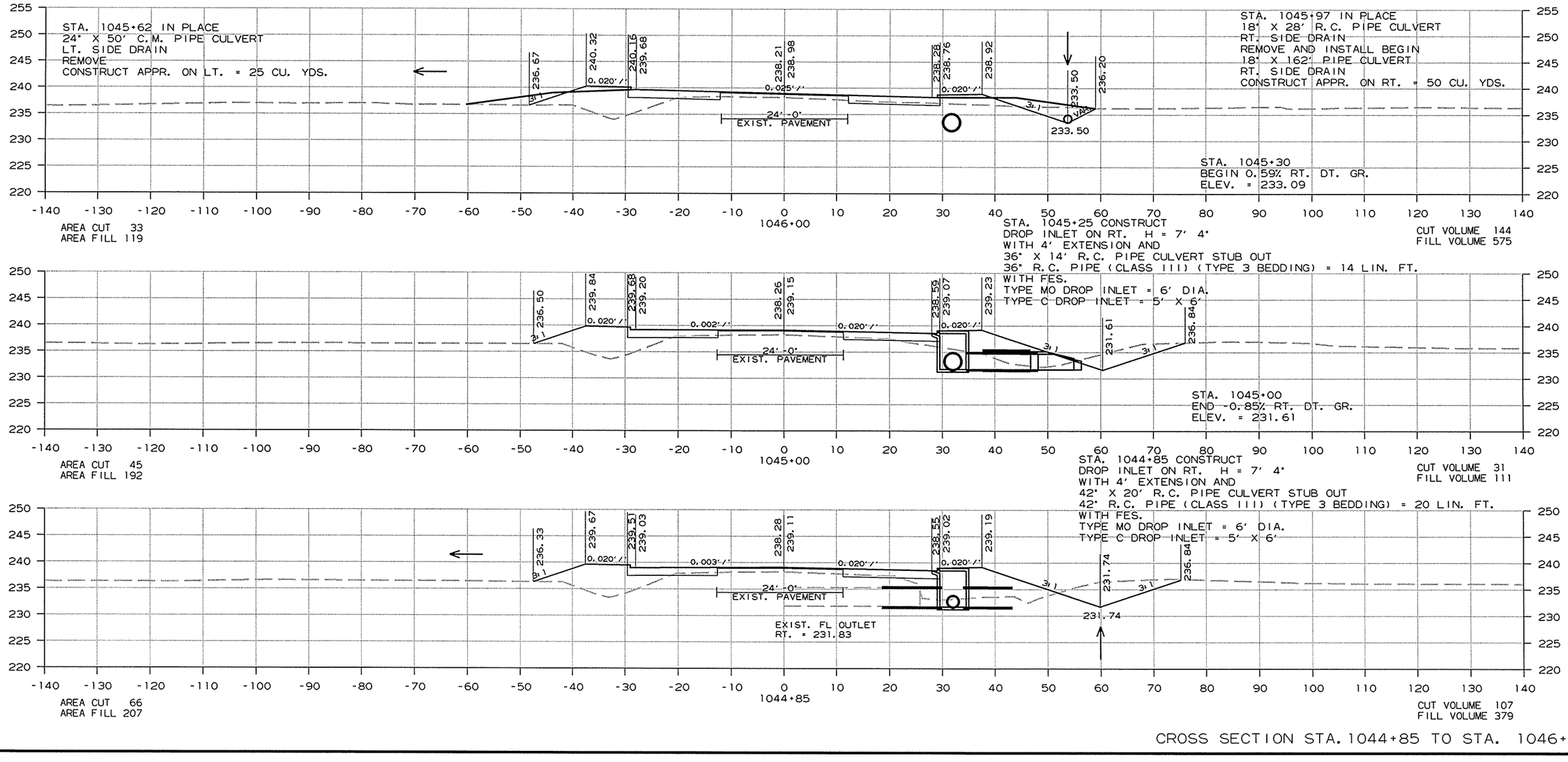
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1044+85 TO STA. 1046+00

1/26/2015

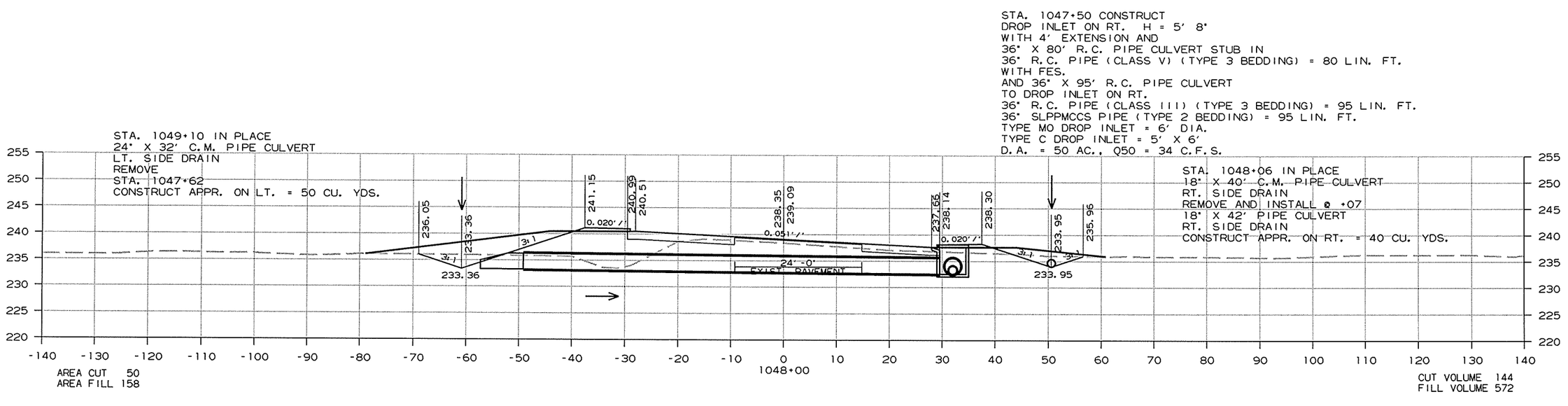
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	161	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1046+50 TO STA. 1048+00

1/26/2015

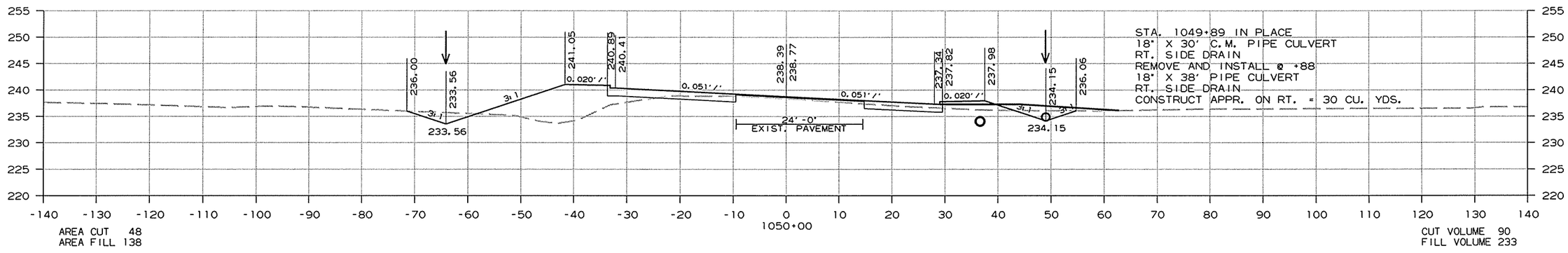
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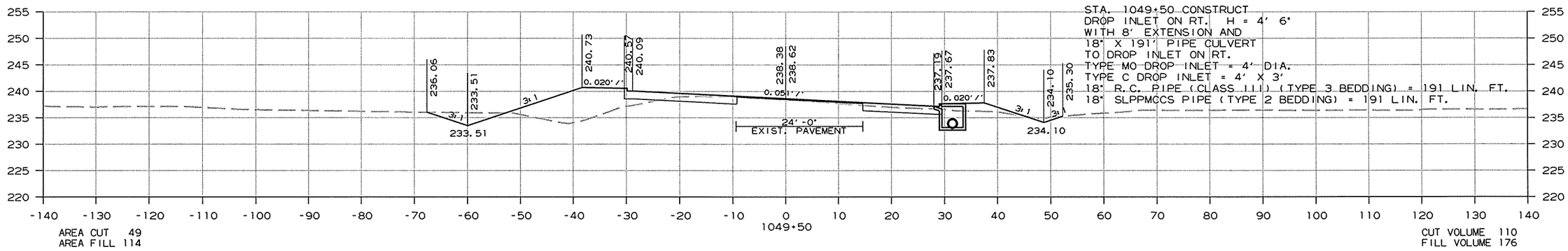
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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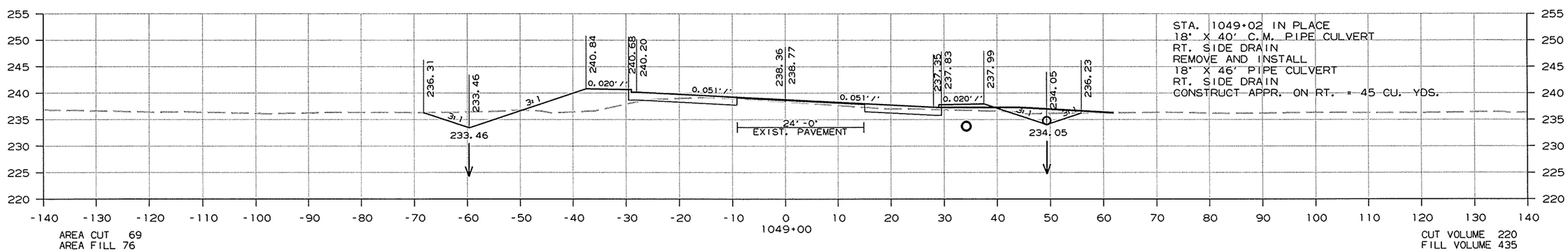
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1049+00 TO STA. 1050+00

1/26/2015

R100654.DGN

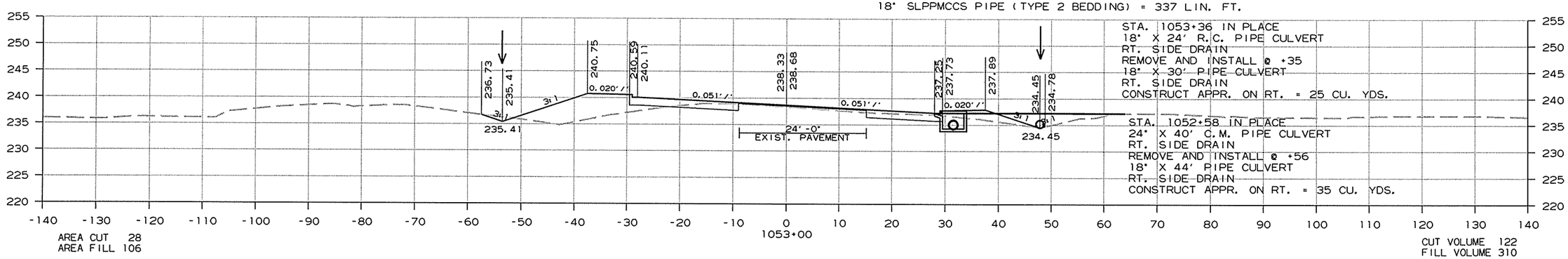
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	163	235

(2) CROSS SECTIONS

AREA

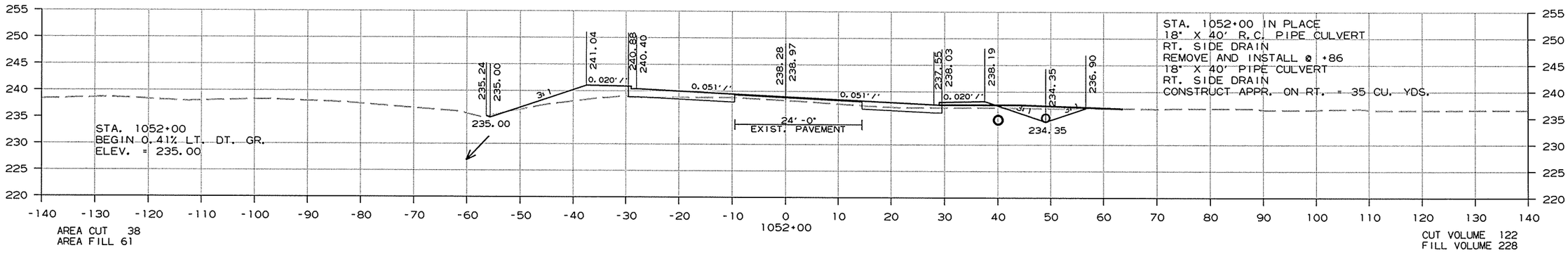
VOLUME

STA. 1053+00 CONSTRUCT
DROP INLET ON RT. H = 3' 6"
WITH 4' EXTENSION AND
18" X 337' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 337 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 337 LIN. FT.



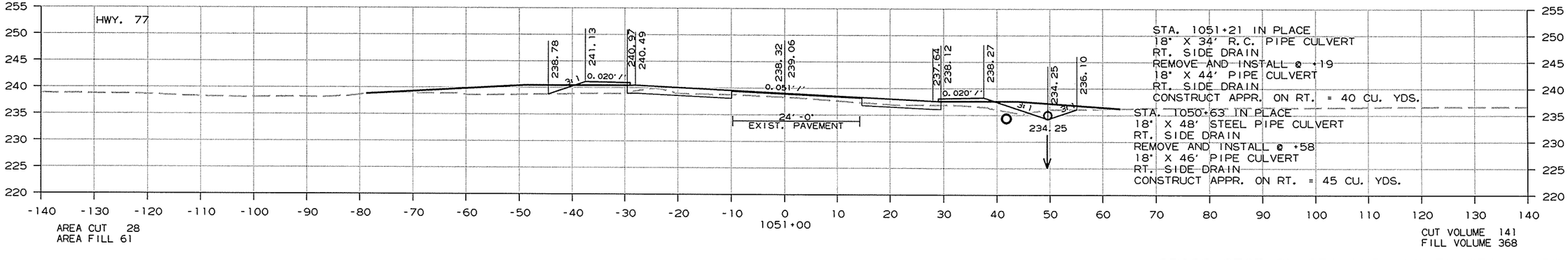
AREA CUT 28
AREA FILL 106

CUT VOLUME 122
FILL VOLUME 310



AREA CUT 38
AREA FILL 61

CUT VOLUME 122
FILL VOLUME 228



AREA CUT 28
AREA FILL 61

CUT VOLUME 141
FILL VOLUME 368

CROSS SECTION STA. 1051+00 TO STA. 1053+00

1/26/2015

RI00654.DGN

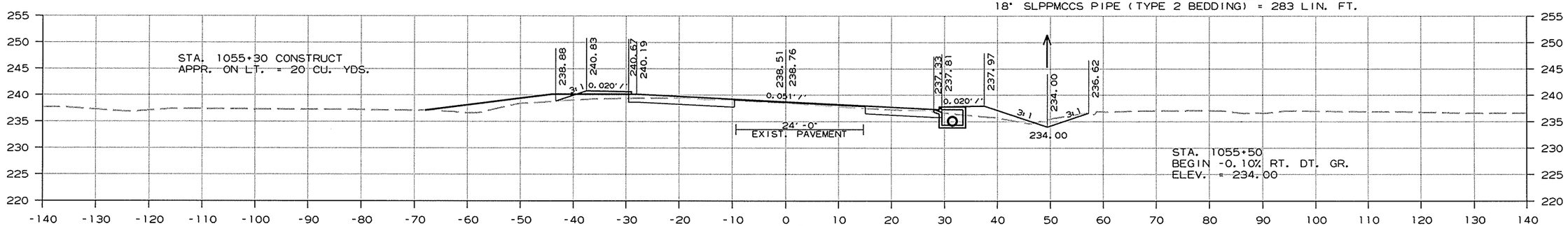
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				6	ARK.			
				JOB NO.		100654	164	235

(2) CROSS SECTIONS

AREA

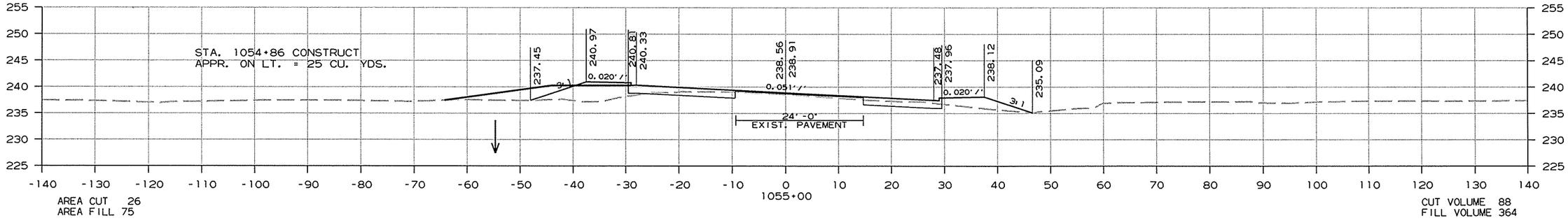
VOLUME

STA. 1055+50 CONSTRUCT
DROP INLET ON RT. H = 3' 6"
WITH 4' EXTENSION AND
18" X 283' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 283 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 283 LIN. FT.



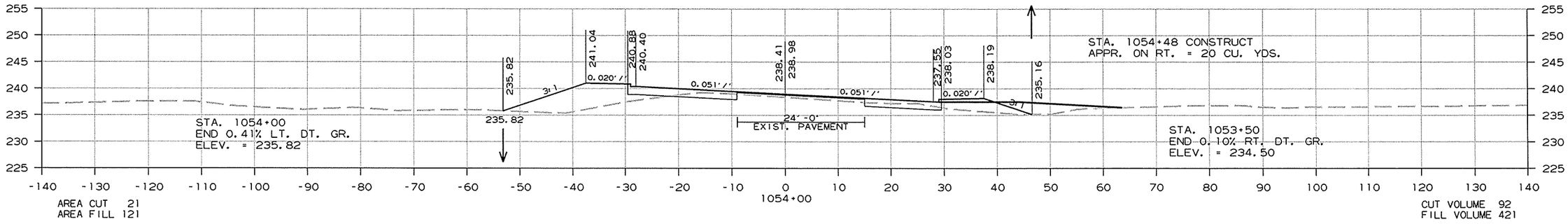
AREA CUT 45
AREA FILL 43

CUT VOLUME 66
FILL VOLUME 109



AREA CUT 26
AREA FILL 75

CUT VOLUME 88
FILL VOLUME 364



AREA CUT 21
AREA FILL 121

CUT VOLUME 92
FILL VOLUME 421

CROSS SECTION STA. 1054+00 TO STA. 1055+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.		100654	165	235

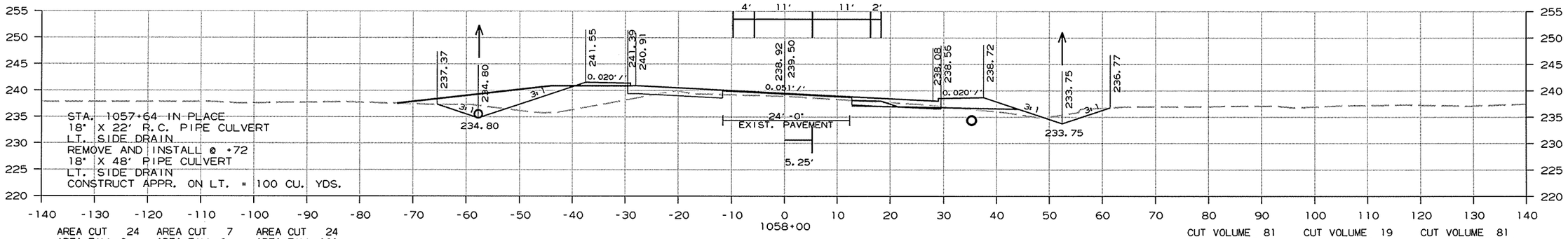
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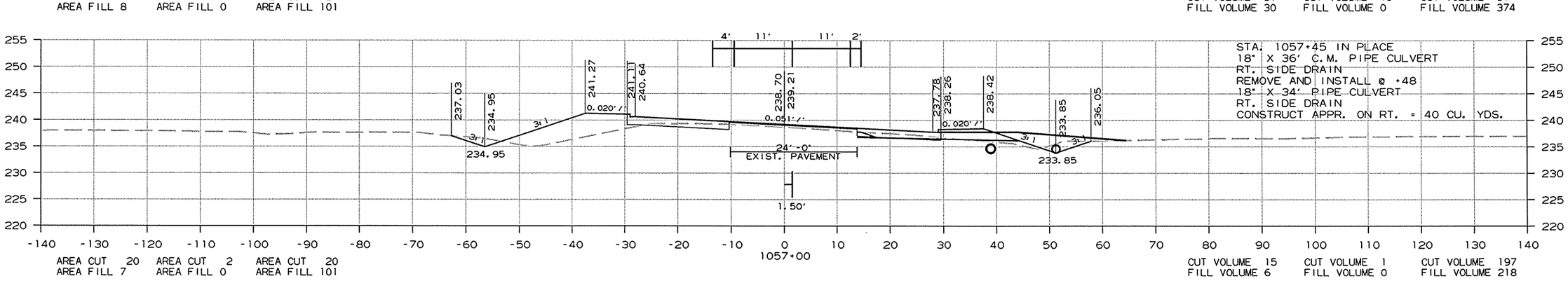
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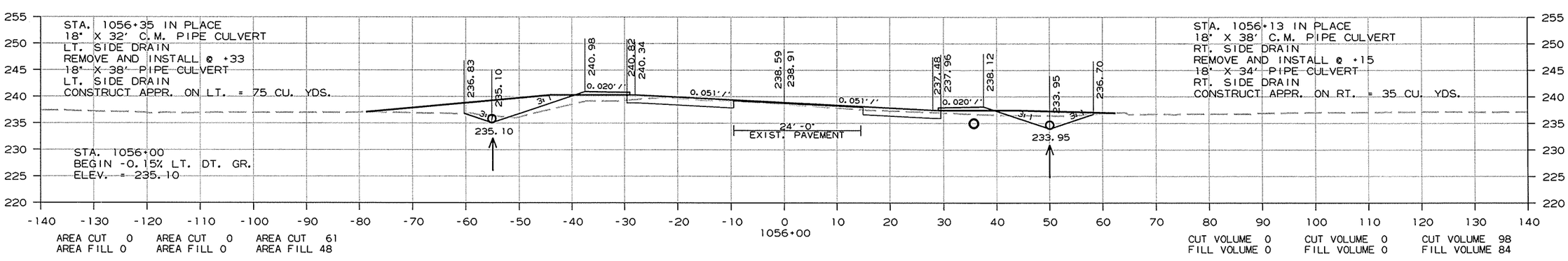
DETOUR | DETOUR OBLITERATION | MAIN LANES

VOLUME

DETOUR | DETOUR OBLITERATION | MAIN LANES







CROSS SECTION STA. 1056+00 TO STA. 1058+00

1/26/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	166	235

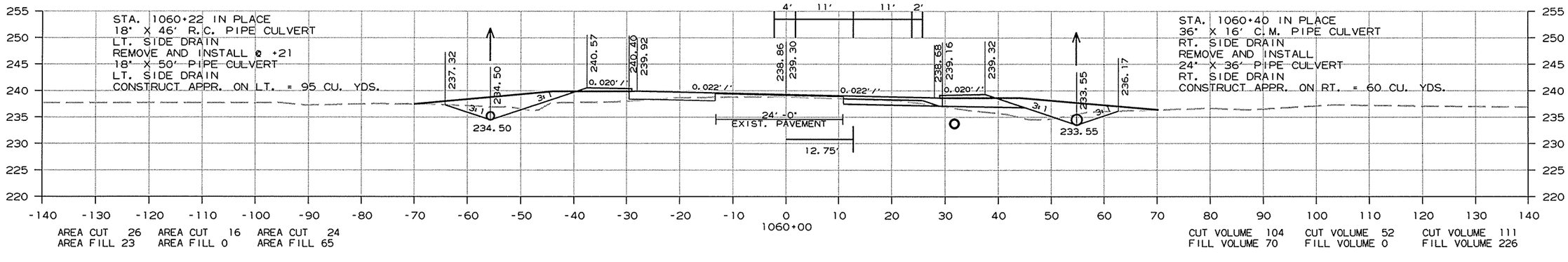
(2) CROSS SECTIONS

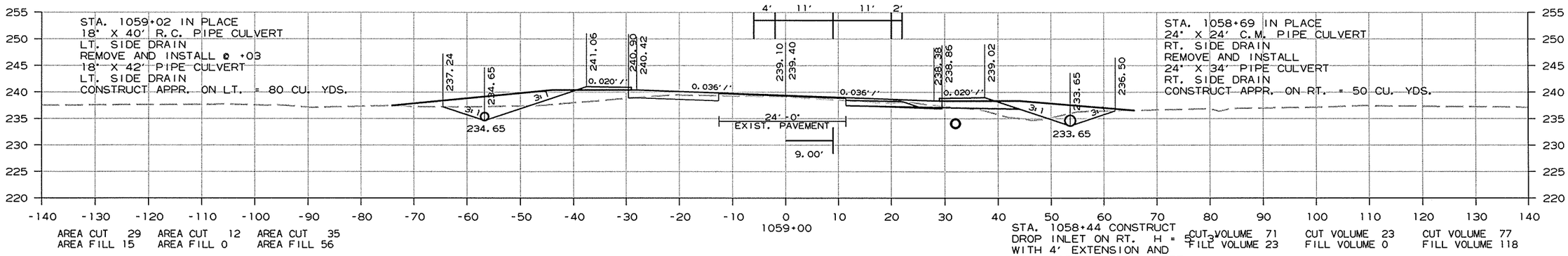
AREA

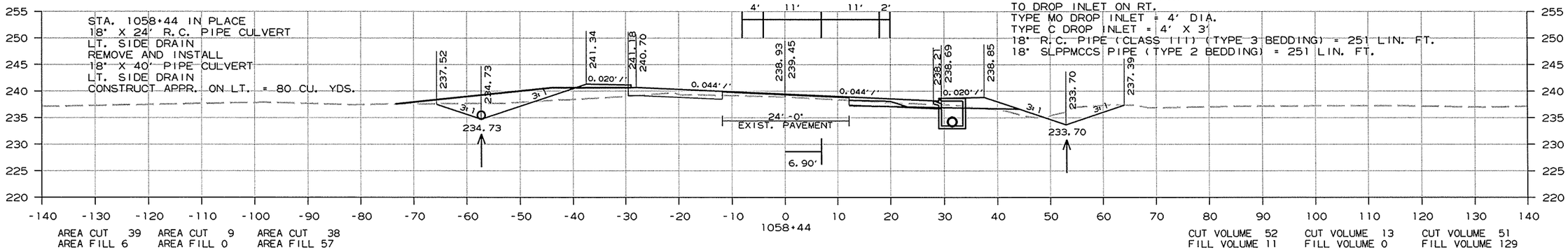
DETOUR | DETOUR OBLITERATION | MAIN LANES

VOLUME

DETOUR | DETOUR OBLITERATION | MAIN LANES







CROSS SECTION STA. 1058+44 TO STA. 1060+00

1/26/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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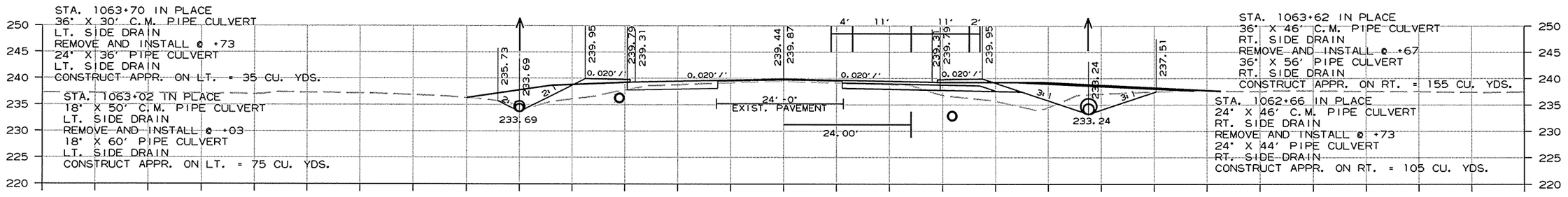
(2) CROSS SECTIONS

AREA

DETOUR | DETOUR OBLITERATION | MAIN LANES

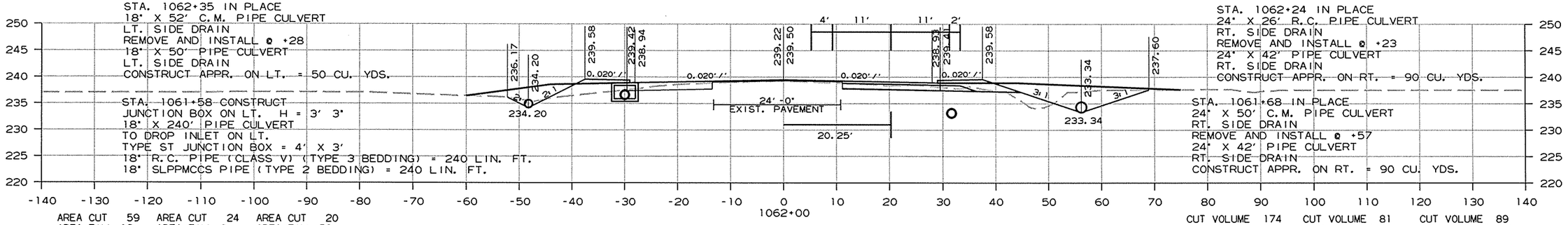
VOLUME

DETOUR | DETOUR OBLITERATION | MAIN LANES



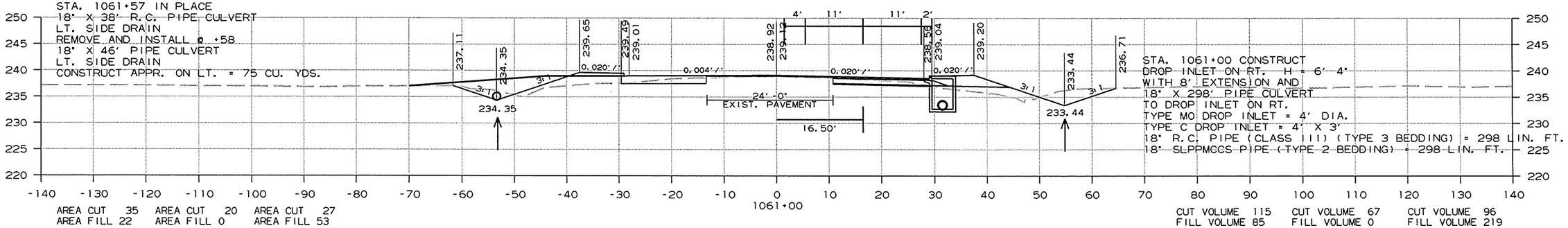
AREA CUT 50 AREA CUT 28 AREA CUT 17
AREA FILL 41 AREA FILL 0 AREA FILL 66

CUT VOLUME 204 CUT VOLUME 96 CUT VOLUME 70
FILL VOLUME 100 FILL VOLUME 0 FILL VOLUME 222



AREA CUT 59 AREA CUT 24 AREA CUT 20
AREA FILL 13 AREA FILL 0 AREA FILL 53

CUT VOLUME 174 CUT VOLUME 81 CUT VOLUME 89
FILL VOLUME 67 FILL VOLUME 0 FILL VOLUME 196



AREA CUT 35 AREA CUT 20 AREA CUT 27
AREA FILL 22 AREA FILL 0 AREA FILL 53

CUT VOLUME 115 CUT VOLUME 67 CUT VOLUME 96
FILL VOLUME 85 FILL VOLUME 0 FILL VOLUME 219

CROSS SECTION STA. 1061+00 TO STA. 1063+00

1/26/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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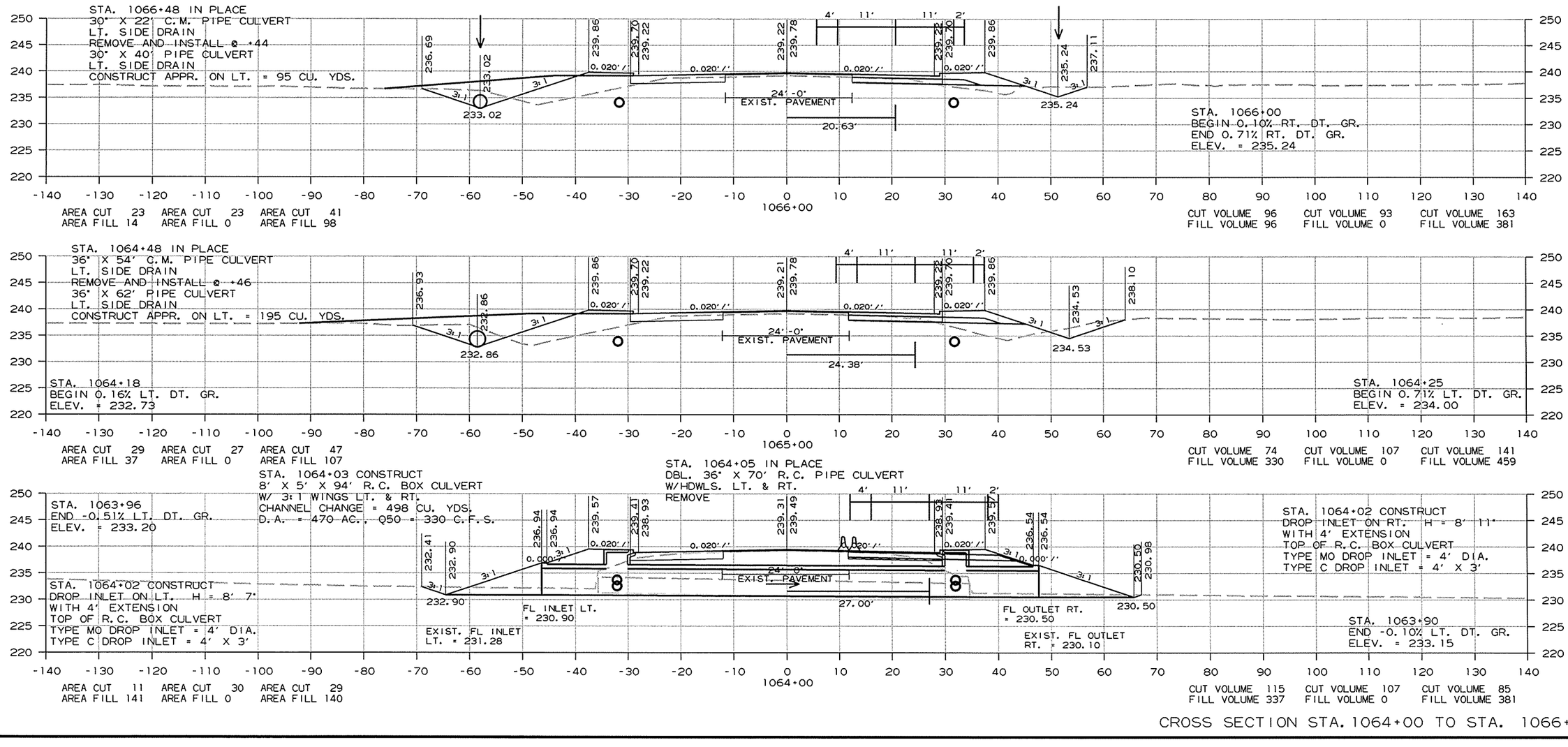
(2) CROSS SECTIONS

AREA

DETOUR | DETOUR OBLITERATION | MAIN LANES

VOLUME

DETOUR | DETOUR OBLITERATION | MAIN LANES



CROSS SECTION STA. 1064+00 TO STA. 1066+00

1/26/2015

R100654.DGN

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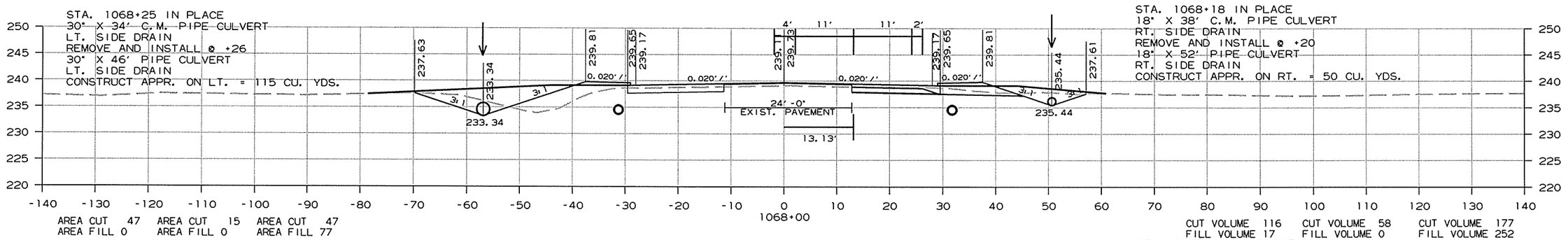
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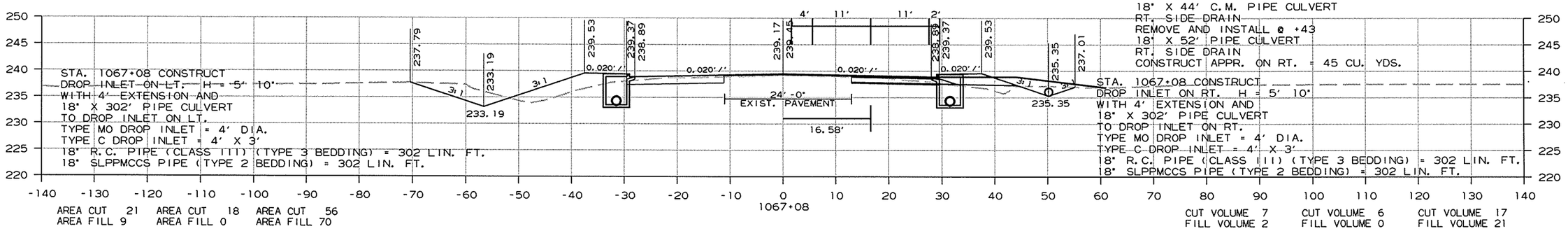
AREA

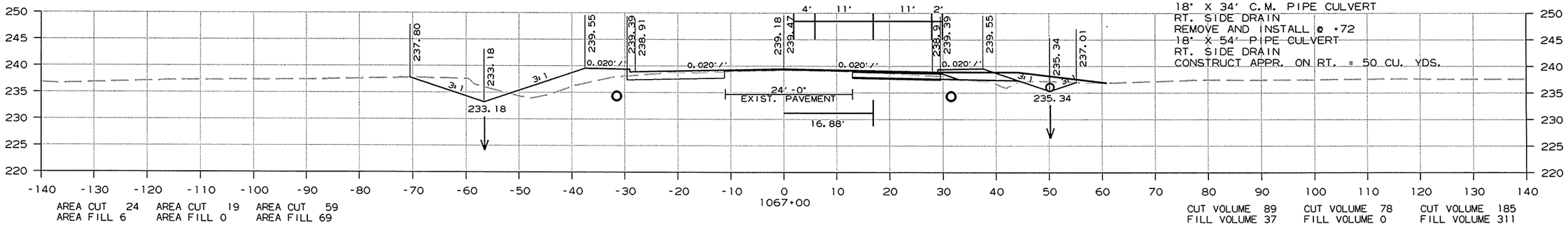
DETOUR | DETOUR OBLITERATION | MAIN LANES

VOLUME

DETOUR | DETOUR OBLITERATION | MAIN LANES







CROSS SECTION STA. 1067+00 TO STA. 1068+00

1/26/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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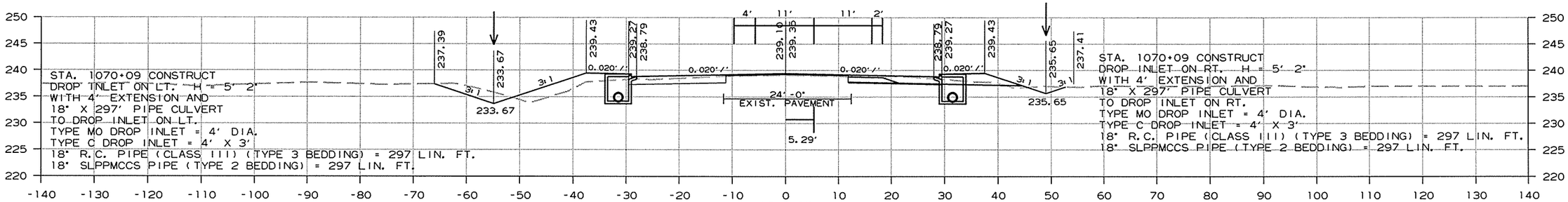
(2) CROSS SECTIONS

AREA

DETOUR | DETOUR OBLITERATION | MAIN LANES

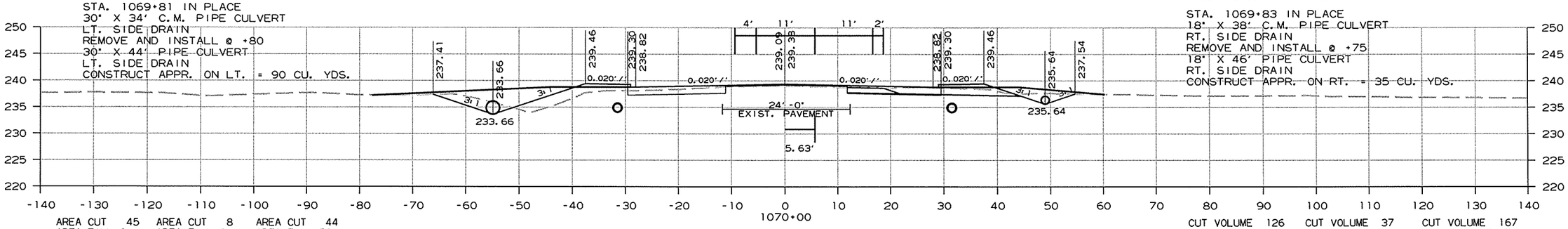
VOLUME

DETOUR | DETOUR OBLITERATION | MAIN LANES



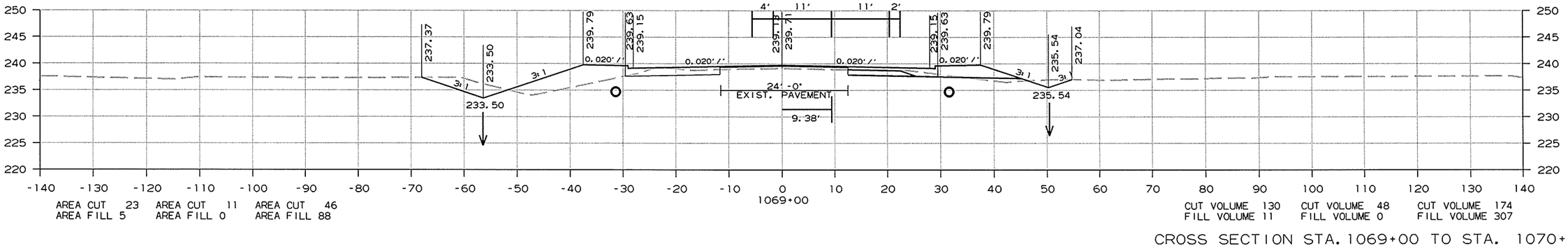
AREA CUT 30 AREA CUT 8 AREA CUT 42
AREA FILL 1 AREA FILL 0 AREA FILL 60

CUT VOLUME 13 CUT VOLUME 3 CUT VOLUME 14
FILL VOLUME 0 FILL VOLUME 0 FILL VOLUME 20



AREA CUT 45 AREA CUT 8 AREA CUT 44
AREA FILL 0 AREA FILL 0 AREA FILL 58

CUT VOLUME 126 CUT VOLUME 37 CUT VOLUME 167
FILL VOLUME 11 FILL VOLUME 0 FILL VOLUME 270



AREA CUT 23 AREA CUT 11 AREA CUT 46
AREA FILL 5 AREA FILL 0 AREA FILL 88

CUT VOLUME 130 CUT VOLUME 48 CUT VOLUME 174
FILL VOLUME 11 FILL VOLUME 0 FILL VOLUME 307

CROSS SECTION STA. 1069+00 TO STA. 1070+09

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R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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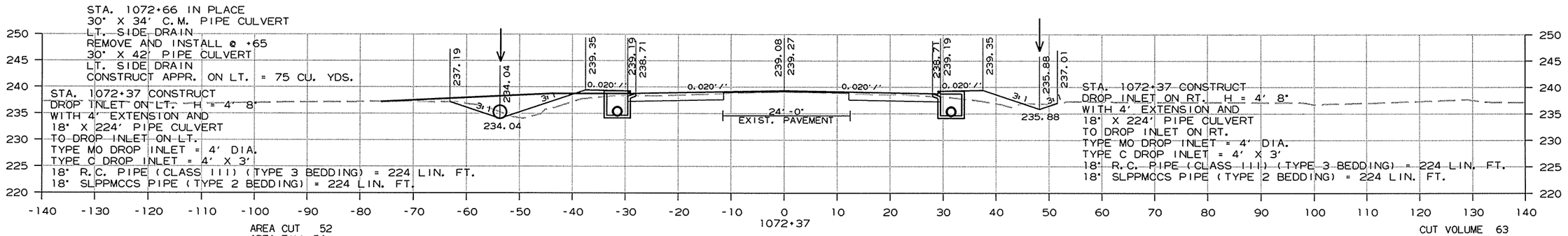
(2) CROSS SECTIONS

AREA

DETOUR | DETOUR OBLITERATION | MAIN LANES

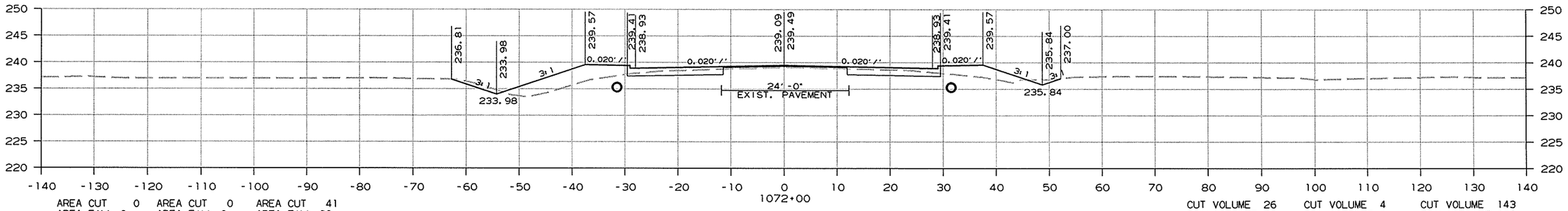
VOLUME

DETOUR | DETOUR OBLITERATION | MAIN LANES



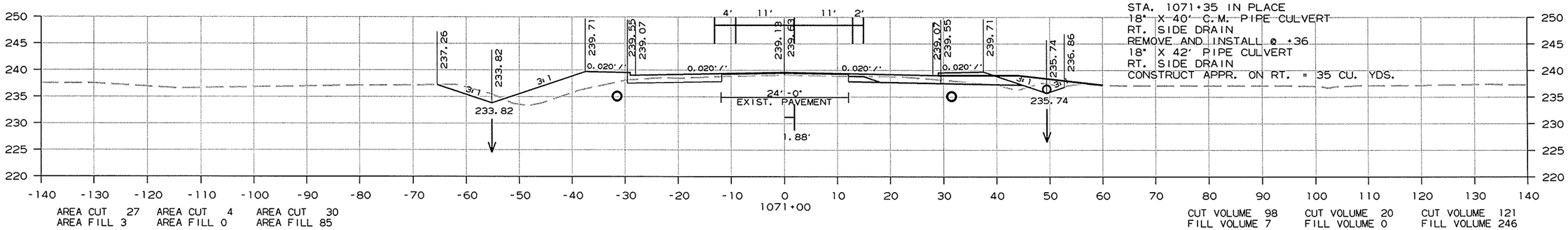
AREA CUT 52
AREA FILL 54

CUT VOLUME 63
FILL VOLUME 98



AREA CUT 0 AREA CUT 0 AREA CUT 41
AREA FILL 0 AREA FILL 0 AREA FILL 89

CUT VOLUME 26 CUT VOLUME 4 CUT VOLUME 143
FILL VOLUME 4 FILL VOLUME 0 FILL VOLUME 326



AREA CUT 27 AREA CUT 4 AREA CUT 30
AREA FILL 3 AREA FILL 0 AREA FILL 85

CUT VOLUME 98 CUT VOLUME 20 CUT VOLUME 121
FILL VOLUME 7 FILL VOLUME 0 FILL VOLUME 246

CROSS SECTION STA. 1071+00 TO STA. 1072+37

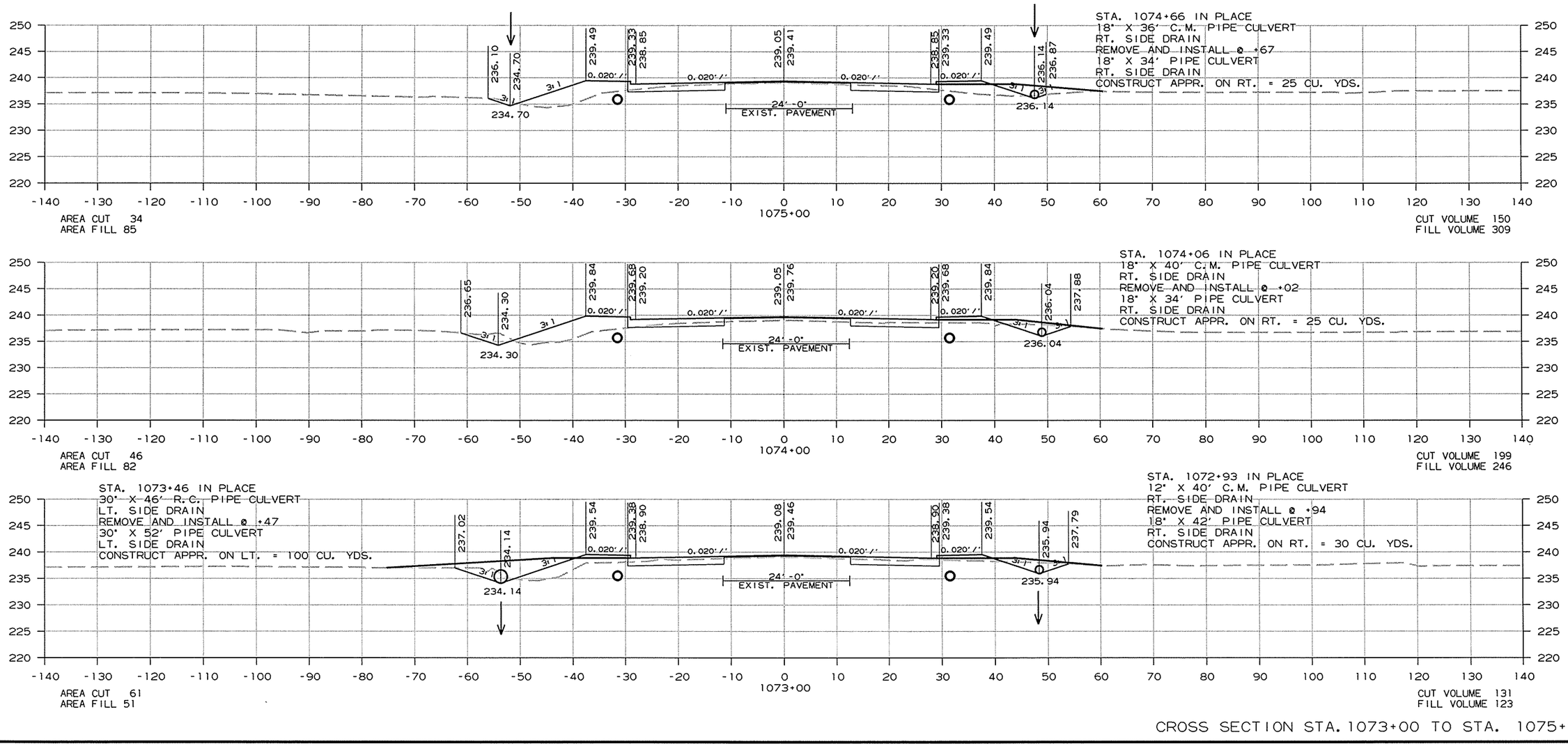
1/26/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	172	235

(2) CROSS SECTIONS

AREA VOLUME



CROSS SECTION STA. 1073+00 TO STA. 1075+00

1/26/2015

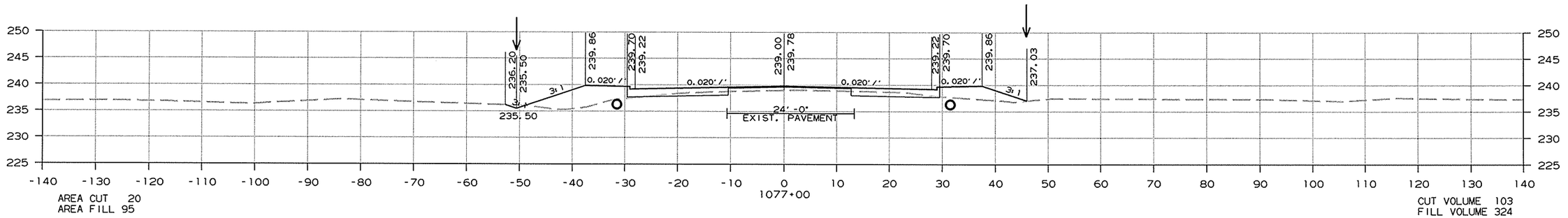
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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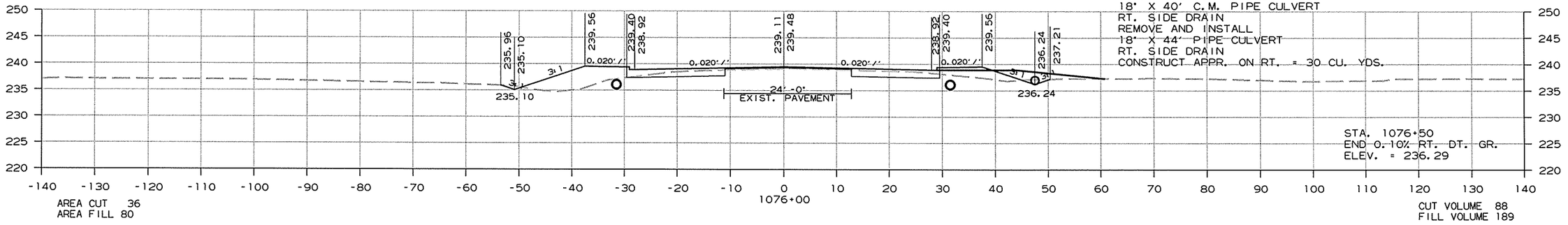
(2) CROSS SECTIONS

AREA

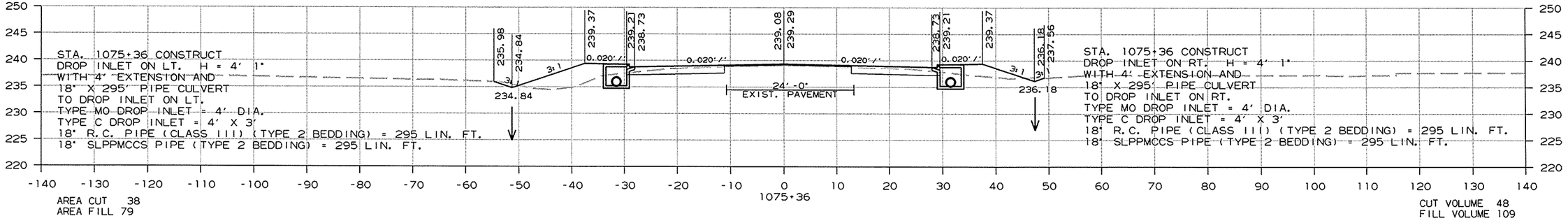
VOLUME



STA. 1075+70 IN PLACE
18" X 40' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 30 CU. YDS.



STA. 1076+50
END 0.10% RT. DT. GR.
ELEV. = 236.29



STA. 1075+36 CONSTRUCT
DROP INLET ON LT. H = 4' 1"
WITH 4' EXTENSION AND
18" X 295' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 2 BEDDING) = 295 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 295 LIN. FT.

STA. 1075+36 CONSTRUCT
DROP INLET ON RT. H = 4' 1"
WITH 4' EXTENSION AND
18" X 295' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS III) (TYPE 2 BEDDING) = 295 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 295 LIN. FT.

CROSS SECTION STA. 1075+36 TO STA. 1077+00

1/26/2015

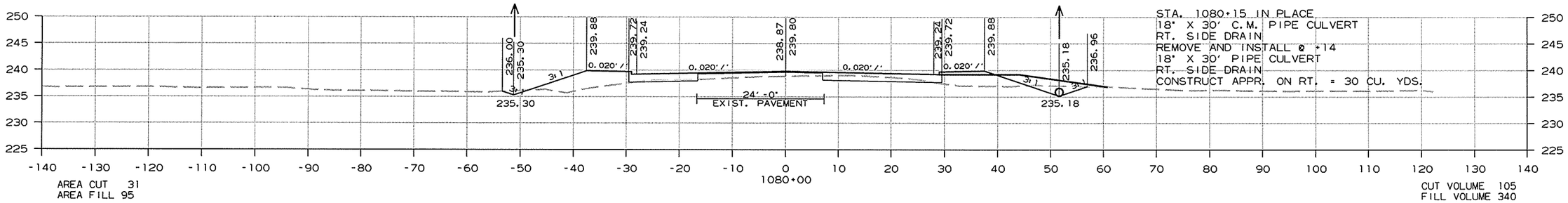
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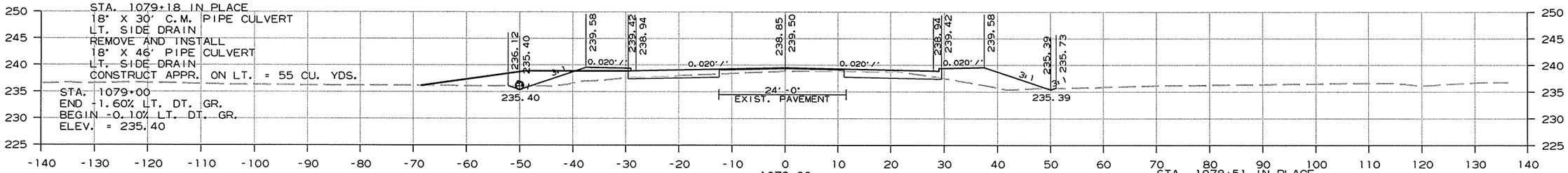
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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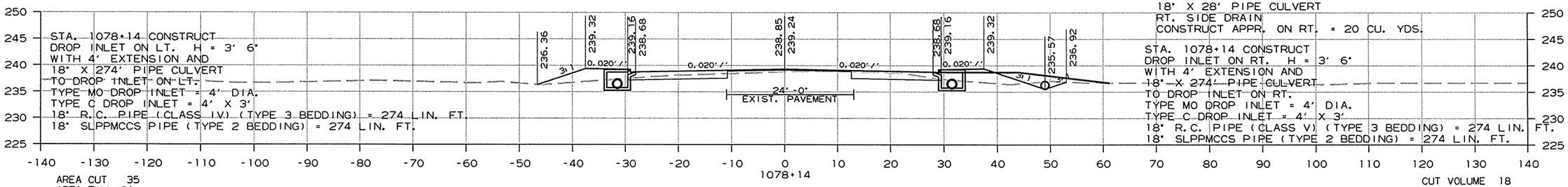
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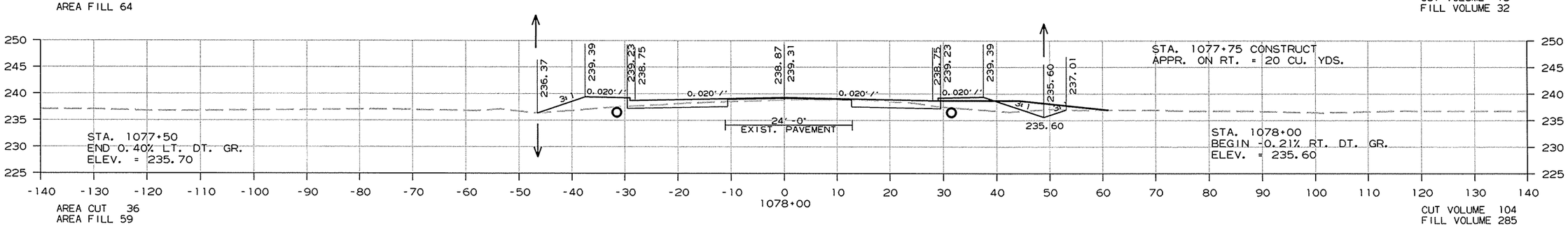
AREA

VOLUME









CROSS SECTION STA. 1078+00 TO STA. 1080+00

1/26/2015

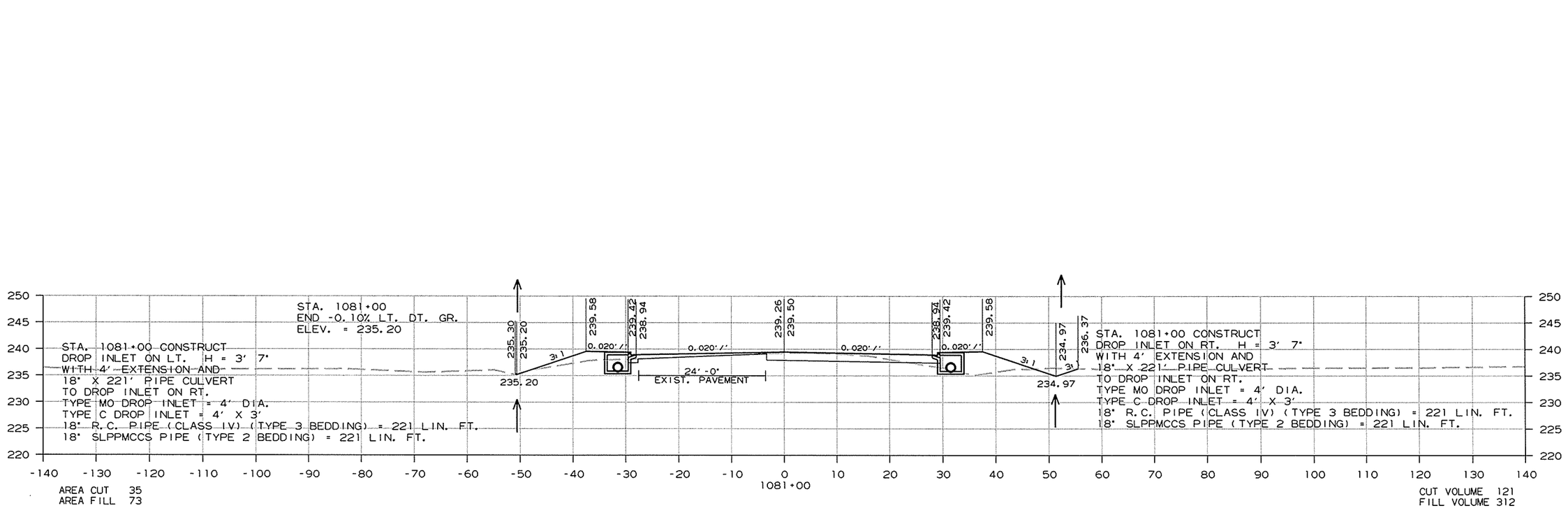
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	175	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1081+00 TO STA. 1081+00

1/26/2015

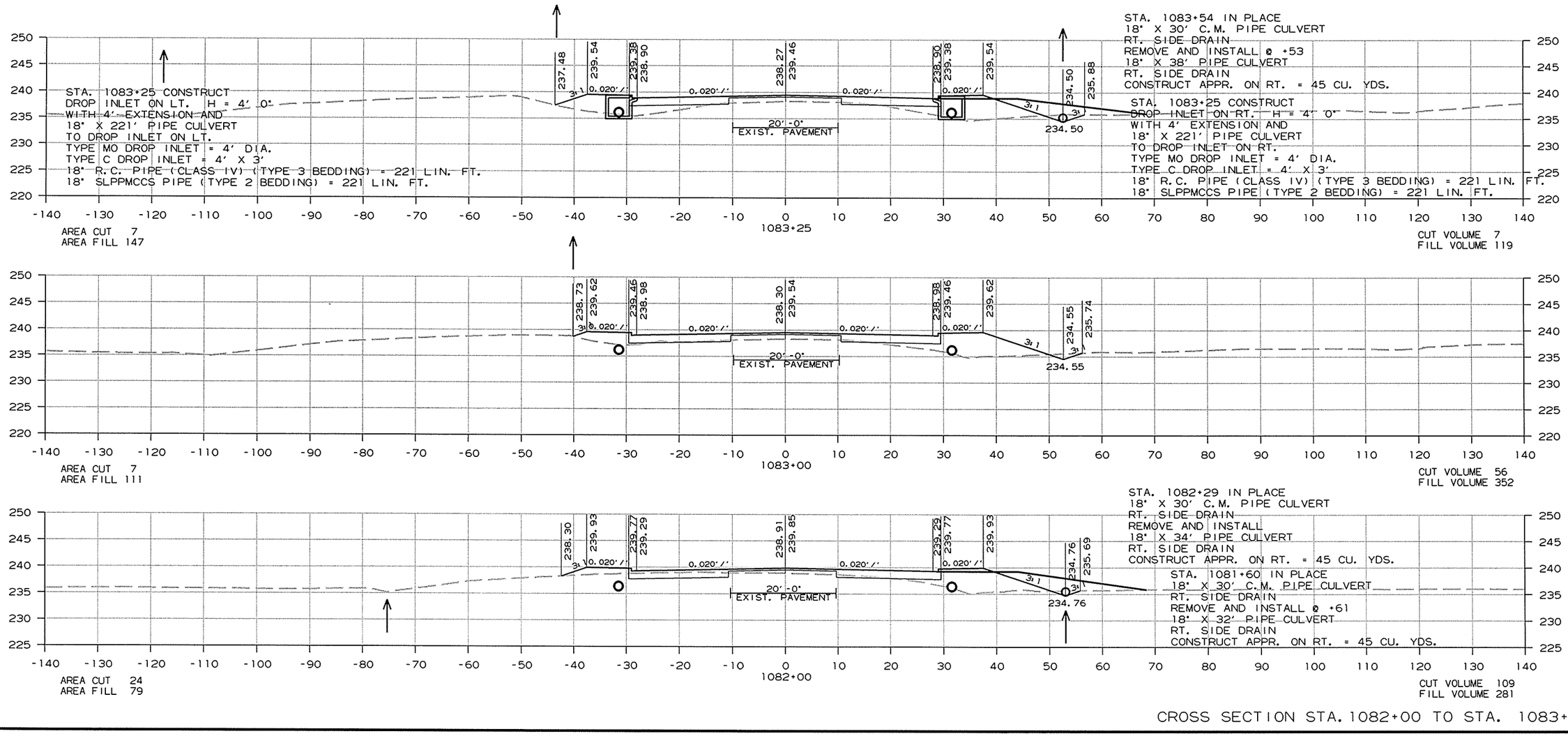
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	176	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1082+00 TO STA. 1083+25

1/26/2015

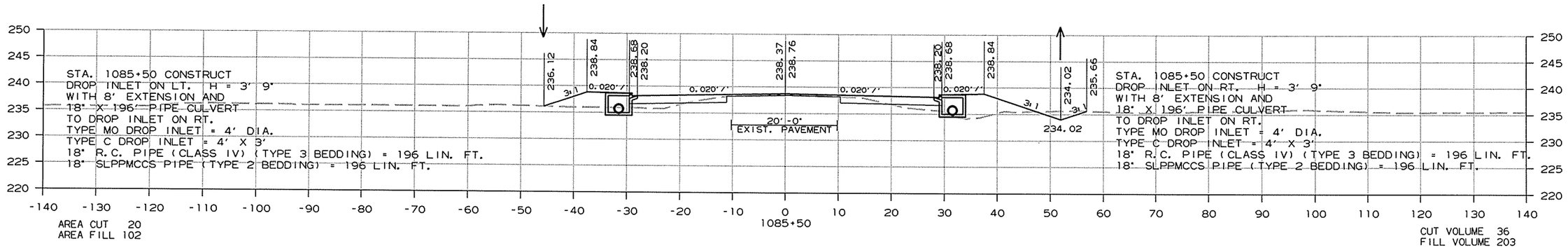
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	177	235

(2) CROSS SECTIONS

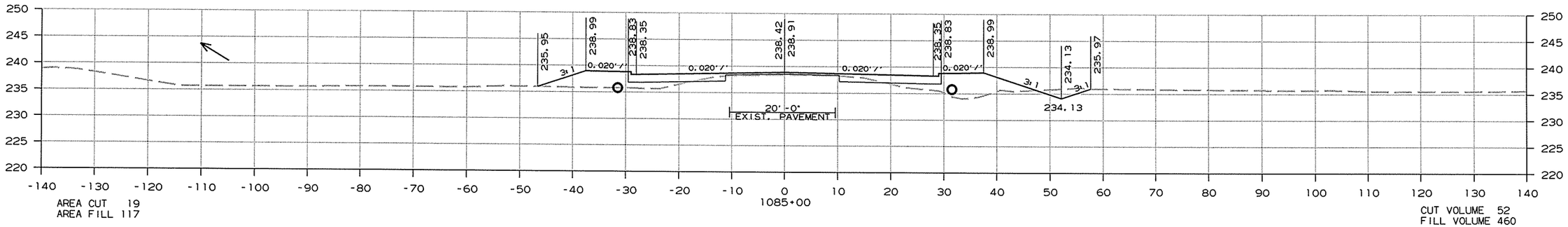
AREA

VOLUME



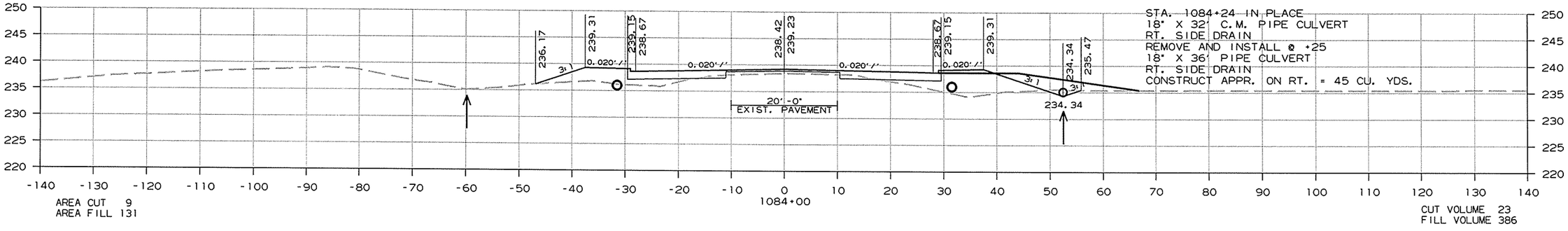
AREA CUT 20
AREA FILL 102

CUT VOLUME 36
FILL VOLUME 203



AREA CUT 19
AREA FILL 117

CUT VOLUME 52
FILL VOLUME 460



AREA CUT 9
AREA FILL 131

CUT VOLUME 23
FILL VOLUME 386

CROSS SECTION STA. 1084+00 TO STA. 1085+50

1/26/2015

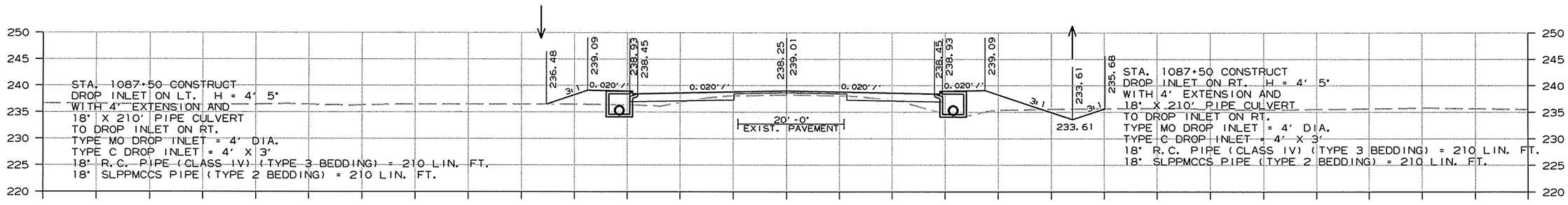
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	178	235

(2) CROSS SECTIONS

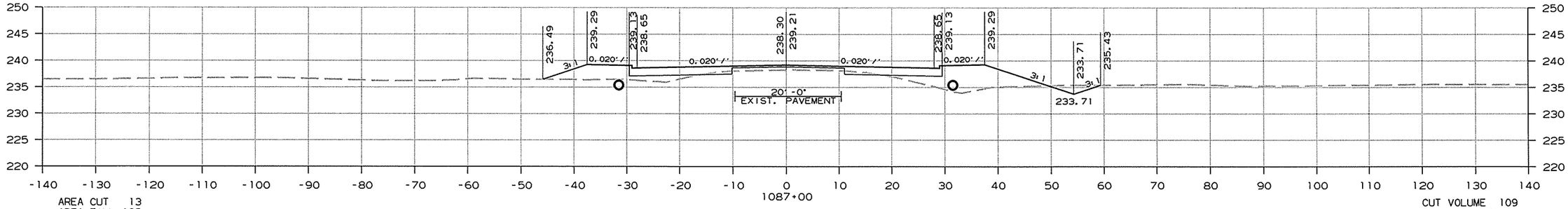
AREA

VOLUME



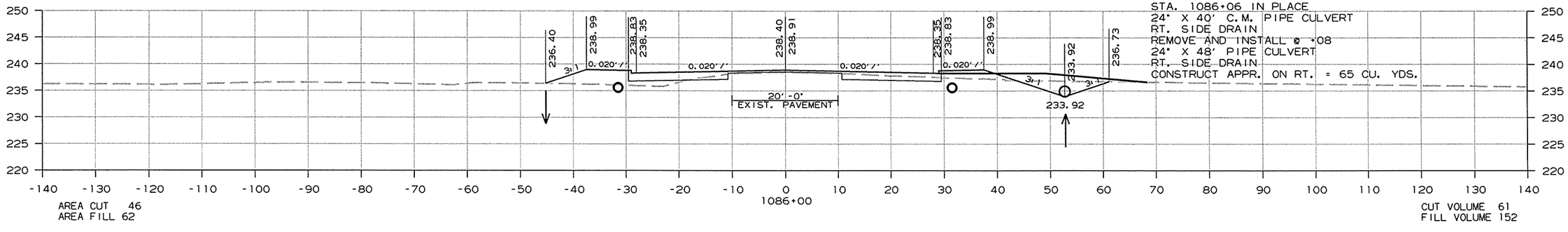
AREA CUT 21
AREA FILL 112

CUT VOLUME 31
FILL VOLUME 229



AREA CUT 13
AREA FILL 135

CUT VOLUME 109
FILL VOLUME 364



AREA CUT 46
AREA FILL 62

CUT VOLUME 61
FILL VOLUME 152

CROSS SECTION STA. 1086+00 TO STA. 1087+50

1/26/2015

R100654.DGN

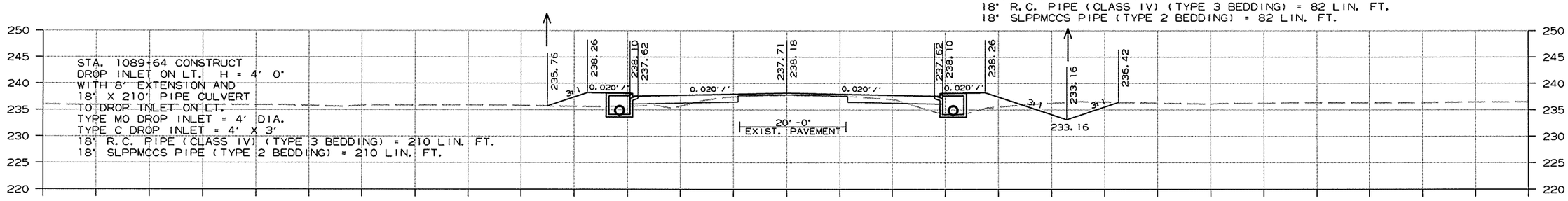
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	179	235

(2) CROSS SECTIONS

AREA

VOLUME

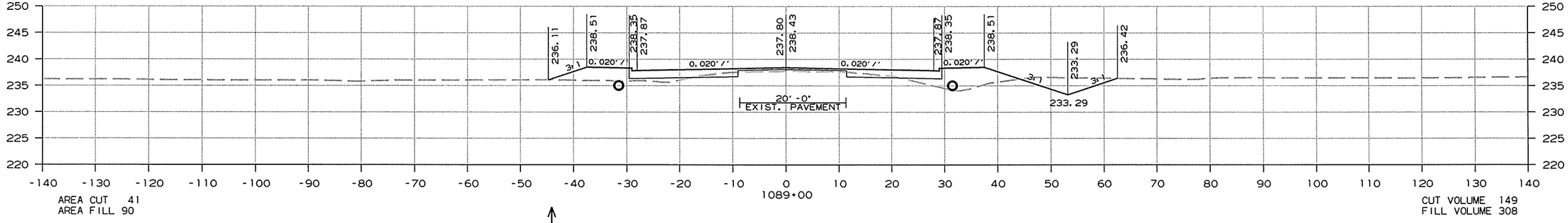
STA. 1089+64 CONSTRUCT
DROP INLET ON LT. H = 4' 0"
WITH 8' EXTENSION AND
18" X 210' PIPE CULVERT
TO DROP INLET ON LT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 210 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 210 LIN. FT.



AREA CUT 45
AREA FILL 84

CUT VOLUME 102
FILL VOLUME 206

STA. 1089+64 CONSTRUCT
DROP INLET ON RT. H = 4' 0"
WITH 8' EXTENSION AND
18" X 82' PIPE CULVERT
TO DROP INLET ON RT.
TYPE MO DROP INLET = 4' DIA.
TYPE C DROP INLET = 4' X 3'
18" R.C. PIPE (CLASS IV) (TYPE 3 BEDDING) = 82 LIN. FT.
18" SLPPMCCS PIPE (TYPE 2 BEDDING) = 82 LIN. FT.

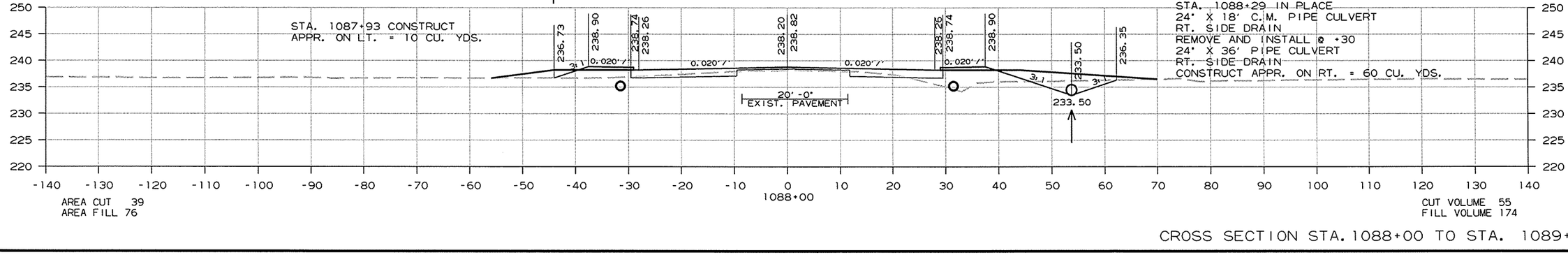


AREA CUT 41
AREA FILL 90

CUT VOLUME 149
FILL VOLUME 308

STA. 1087+93 CONSTRUCT
APPR. ON LT. = 10 CU. YDS.

STA. 1088+29 IN PLACE
24" X 18' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL @ +30
24" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPR. ON RT. = 60 CU. YDS.



AREA CUT 39
AREA FILL 76

CUT VOLUME 55
FILL VOLUME 174

CROSS SECTION STA. 1088+00 TO STA. 1089+64

1/26/2015

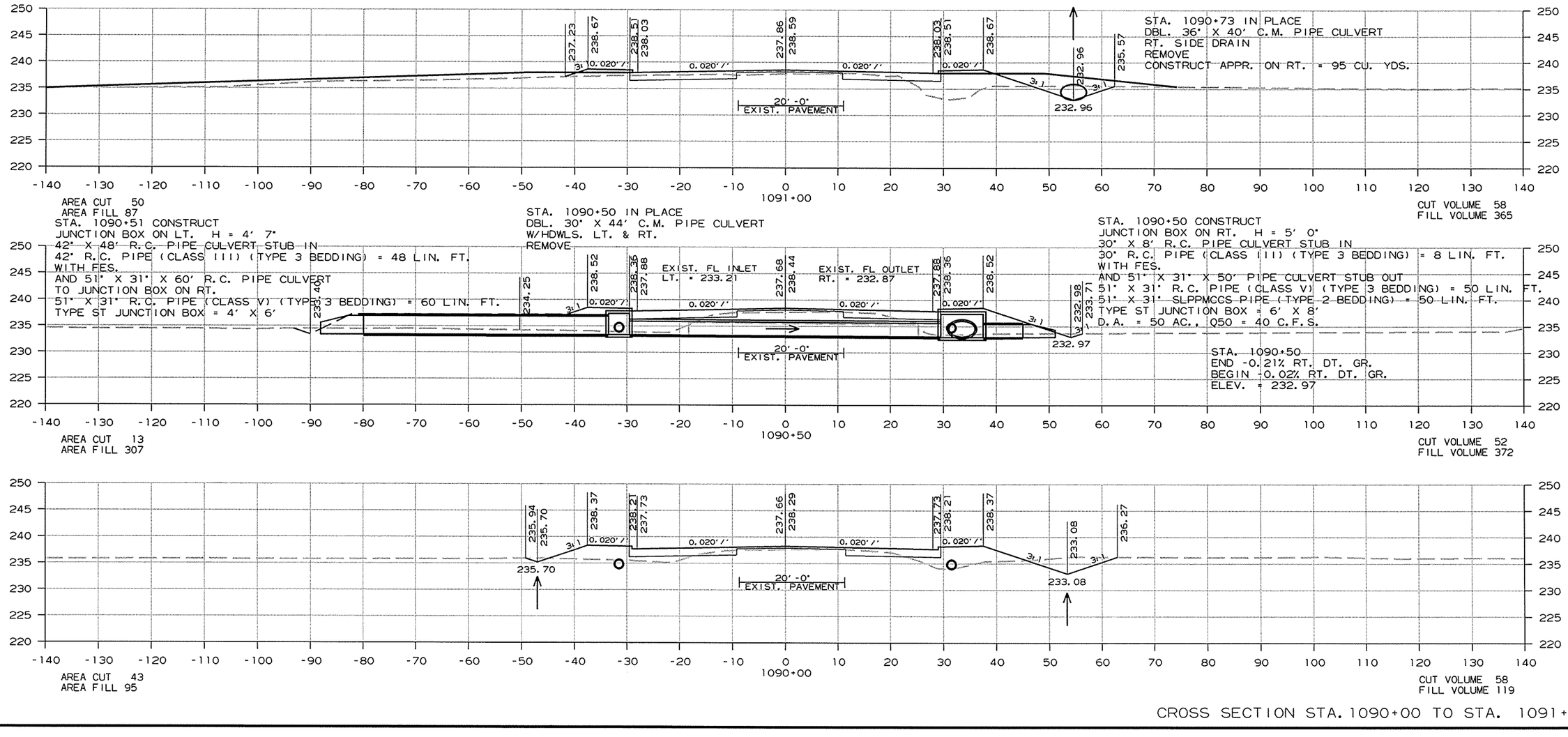
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	180	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1090+00 TO STA. 1091+00

1/26/2015

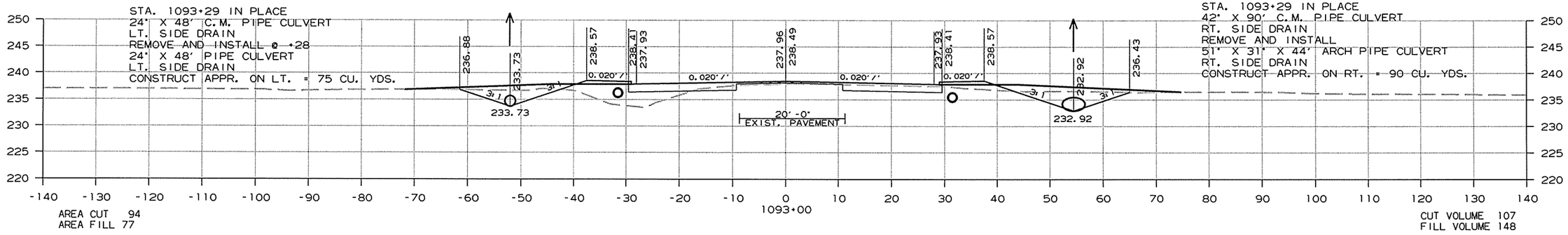
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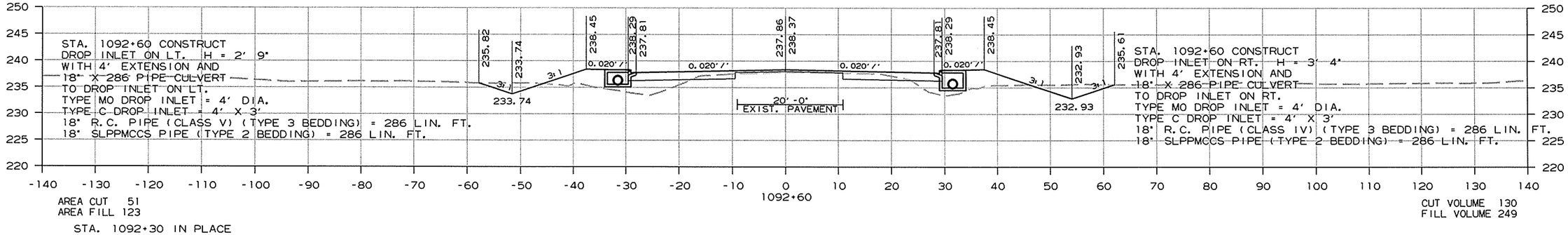
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	181	235

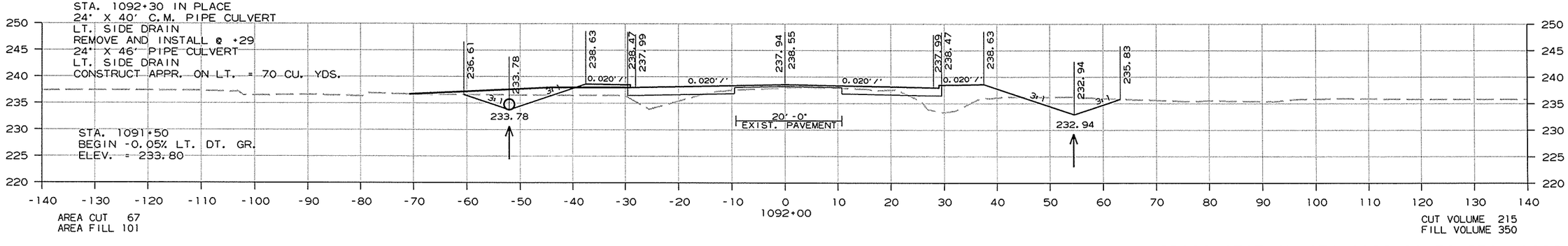
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1092+00 TO STA. 1093+00

1/26/2015

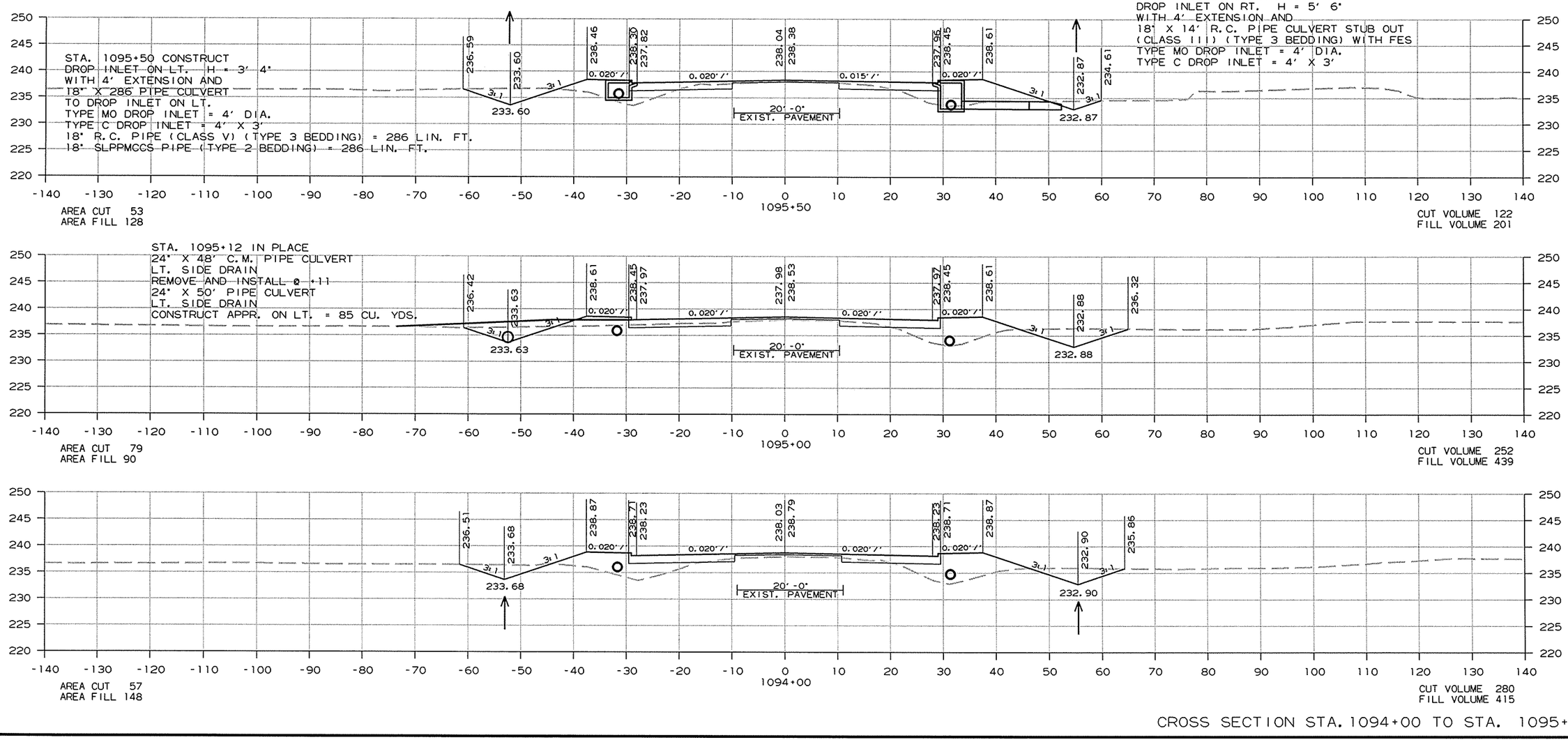
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	182	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1094+00 TO STA. 1095+50

1/26/2015

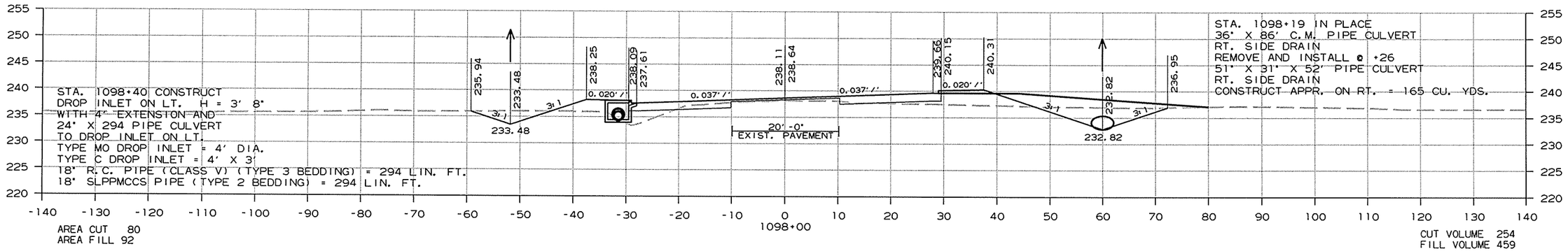
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	183	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1096+00 TO STA. 1098+00

1/26/2015

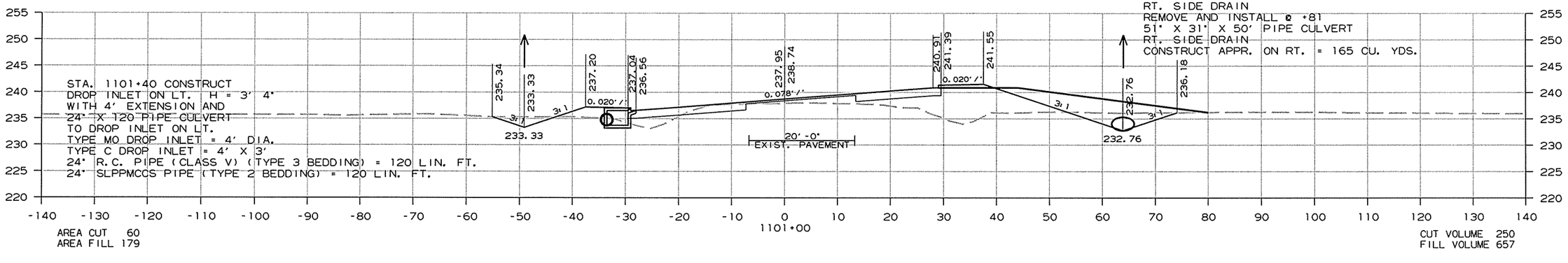
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	184	235

(2) CROSS SECTIONS

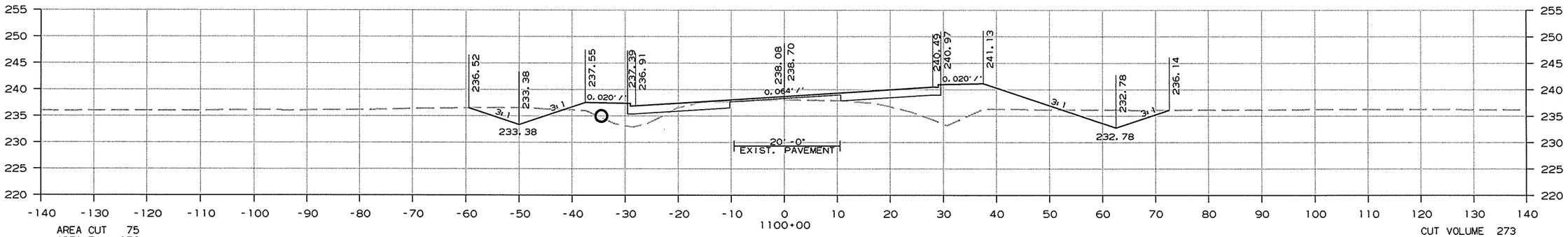
AREA

VOLUME



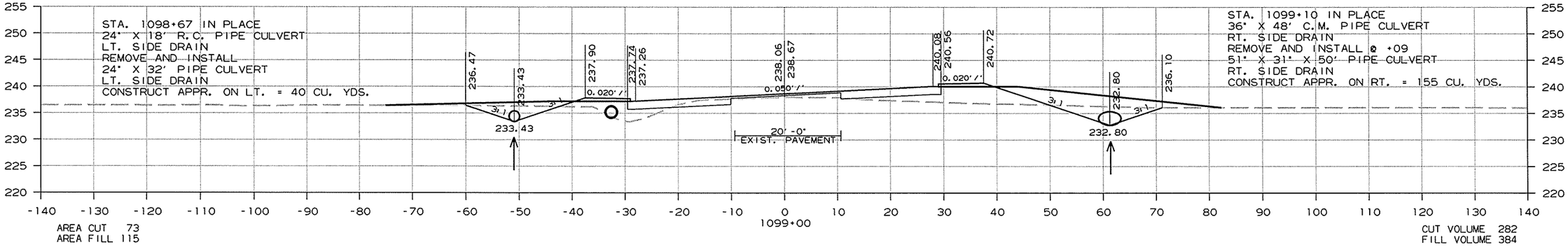
AREA CUT 60
AREA FILL 179

CUT VOLUME 250
FILL VOLUME 657



AREA CUT 75
AREA FILL 176

CUT VOLUME 273
FILL VOLUME 539



AREA CUT 73
AREA FILL 115

CUT VOLUME 282
FILL VOLUME 384

CROSS SECTION STA. 1099+00 TO STA. 1101+00

1/26/2015

R100654.DGN

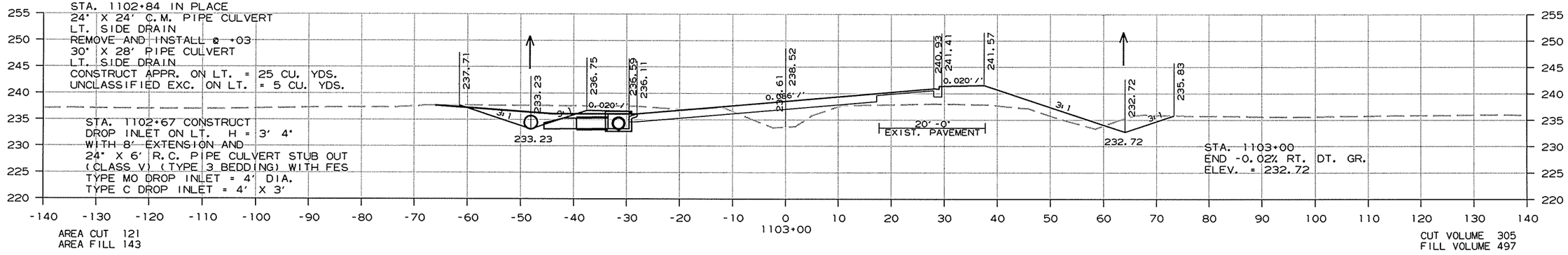
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	185	235

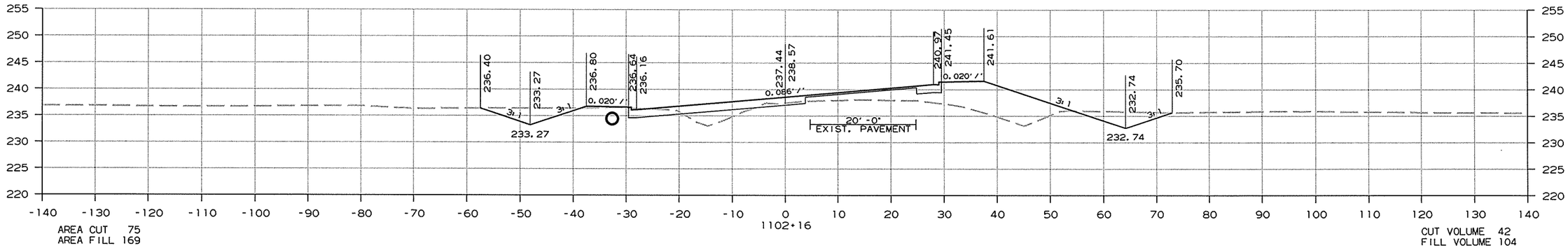
(2) CROSS SECTIONS

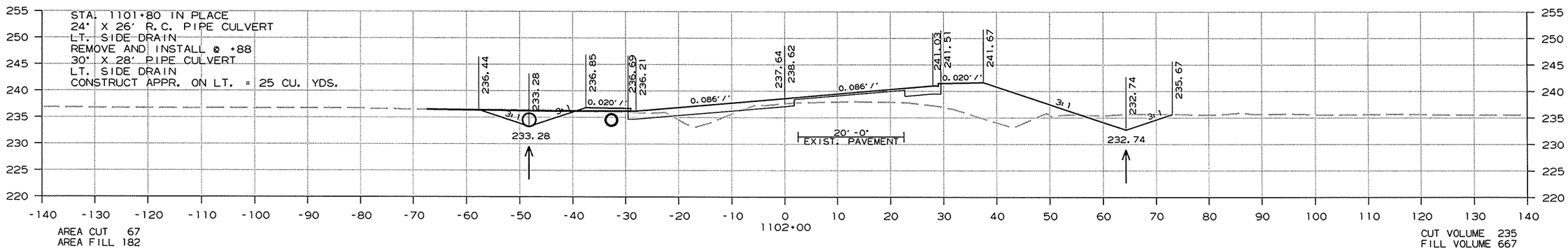
AREA

VOLUME

STA. 1103+00
BEGIN -0.01% RT. DT. GR.
ELEV. = 232.72
STA. 1108+00
END -.01% RT. DT. GR.
ELEV. 232.67
ALONG HWY. 77 RT. DITCH
TO EXISTING BRIDGE







CROSS SECTION STA. 1102+00 TO STA. 1103+00

1/26/2015

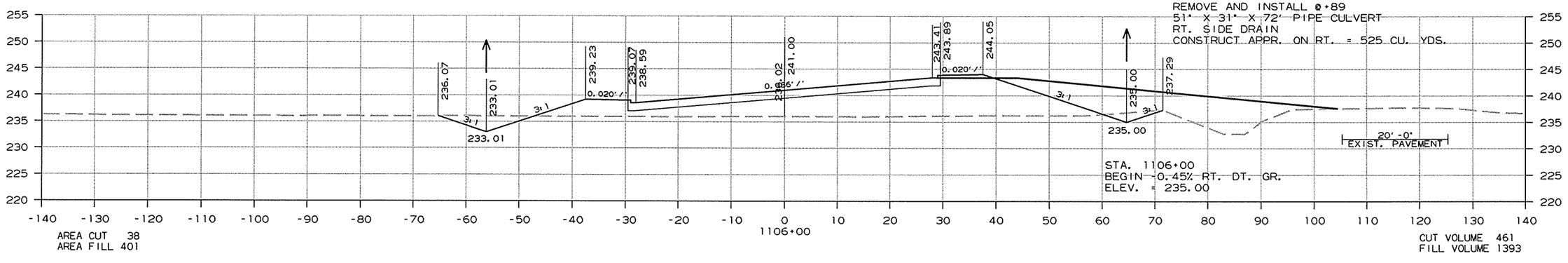
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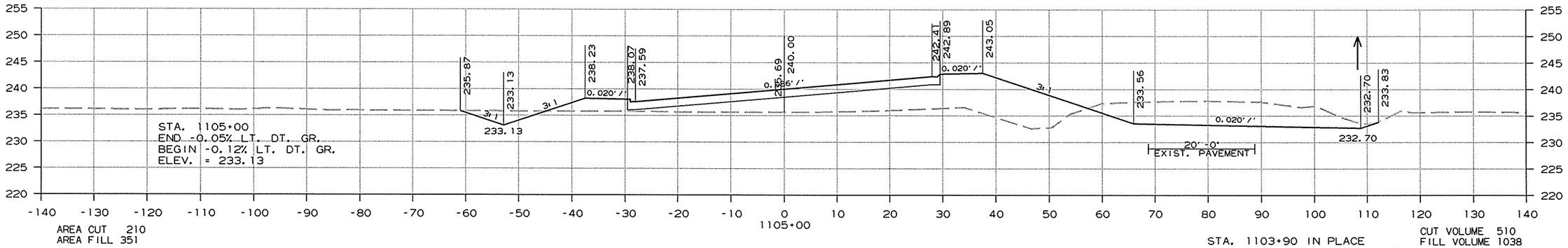
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	186	235

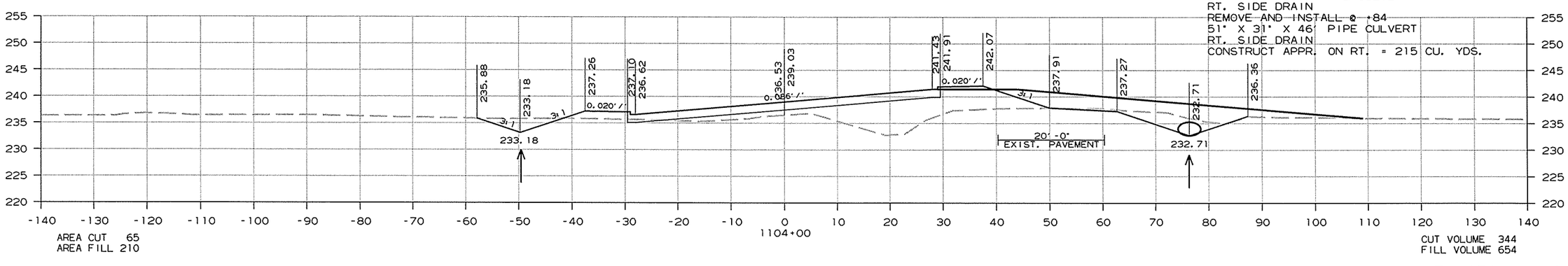
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1104+00 TO STA. 1106+00

1/26/2015

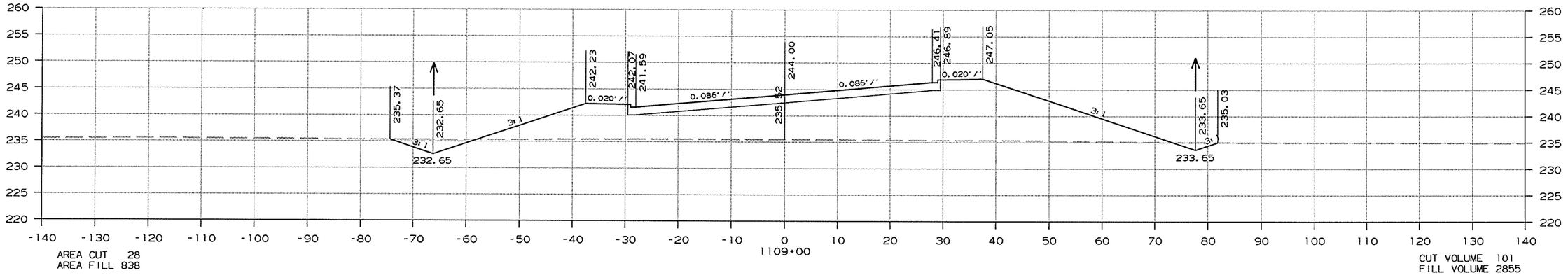
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	187	235

(2) CROSS SECTIONS

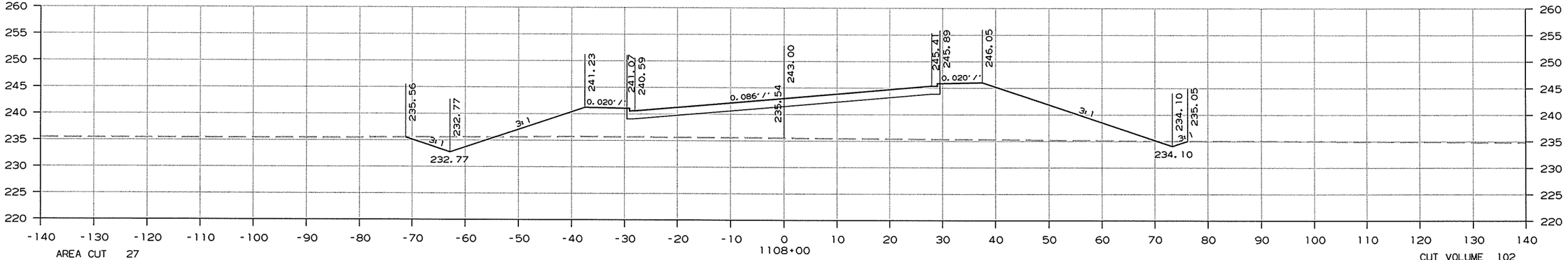
AREA

VOLUME



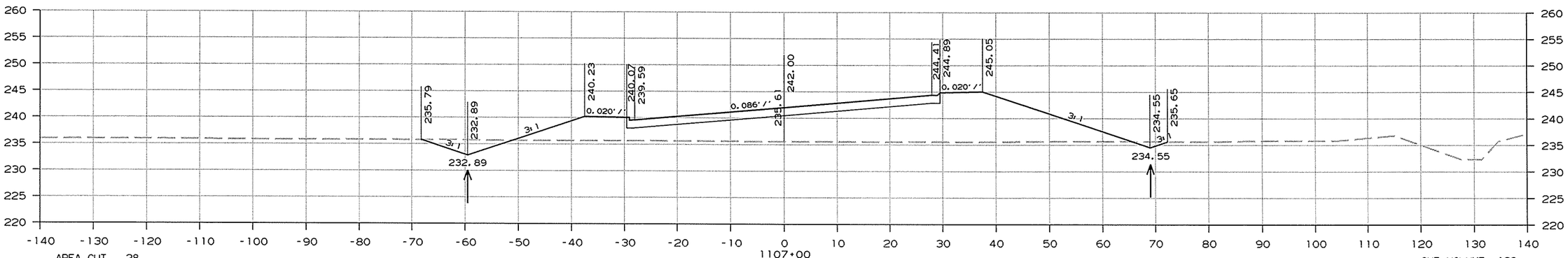
AREA CUT 28
AREA FILL 838

CUT VOLUME 101
FILL VOLUME 2855



AREA CUT 27
AREA FILL 703

CUT VOLUME 102
FILL VOLUME 2344



AREA CUT 28
AREA FILL 563

CUT VOLUME 123
FILL VOLUME 1785

CROSS SECTION STA. 1107+00 TO STA. 1109+00

1/26/2015

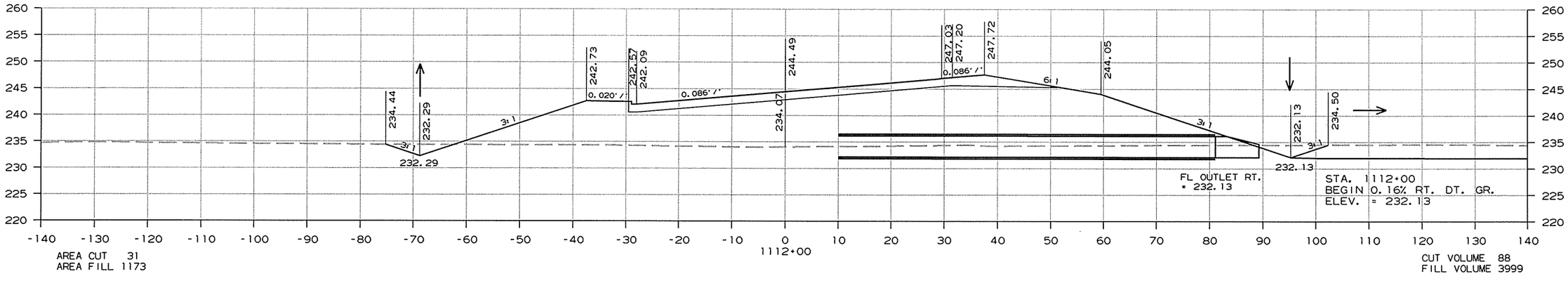
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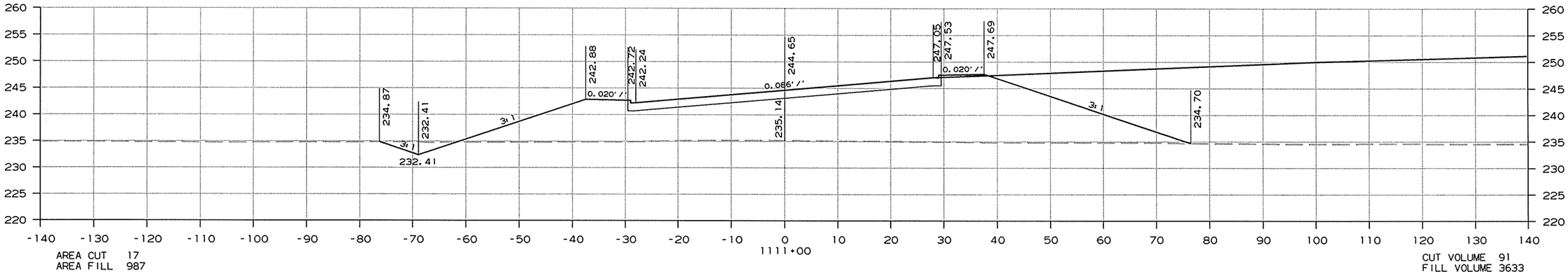
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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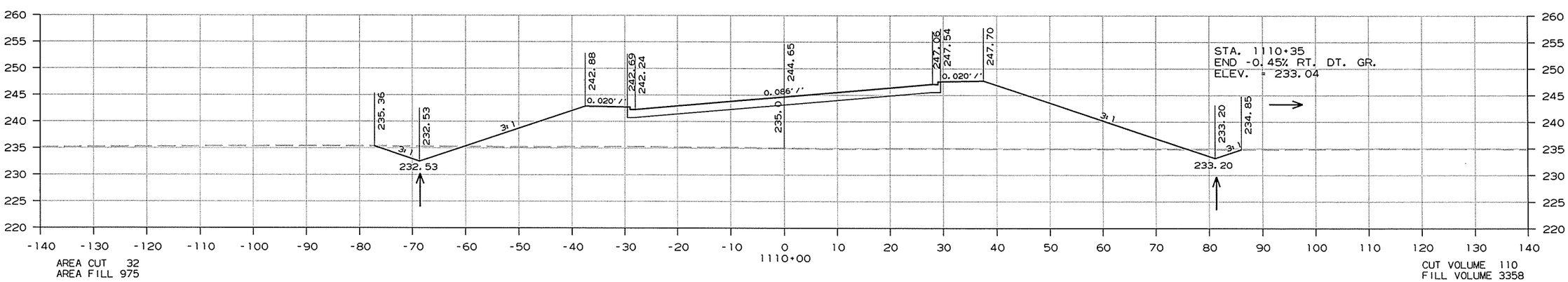
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1110+00 TO STA. 1112+00

1/26/2015

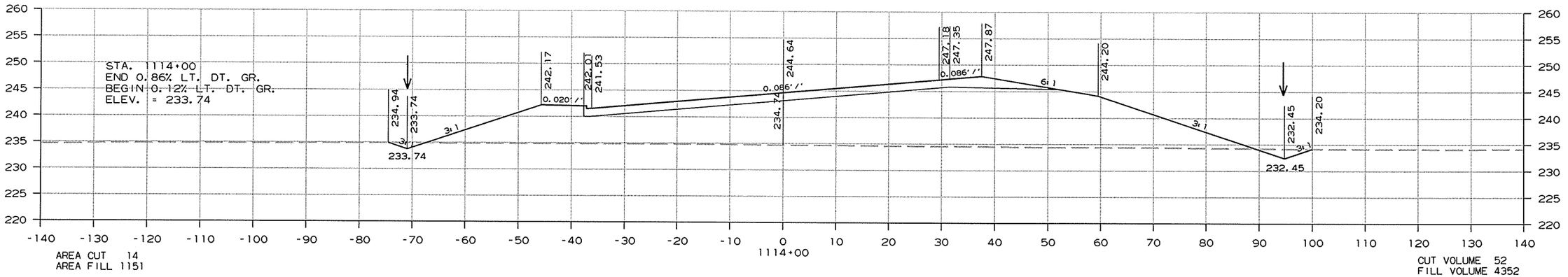
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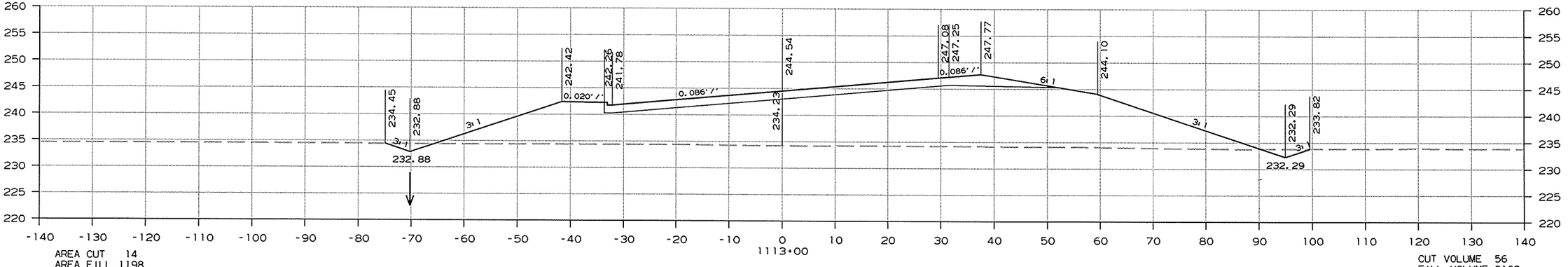
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	189	235

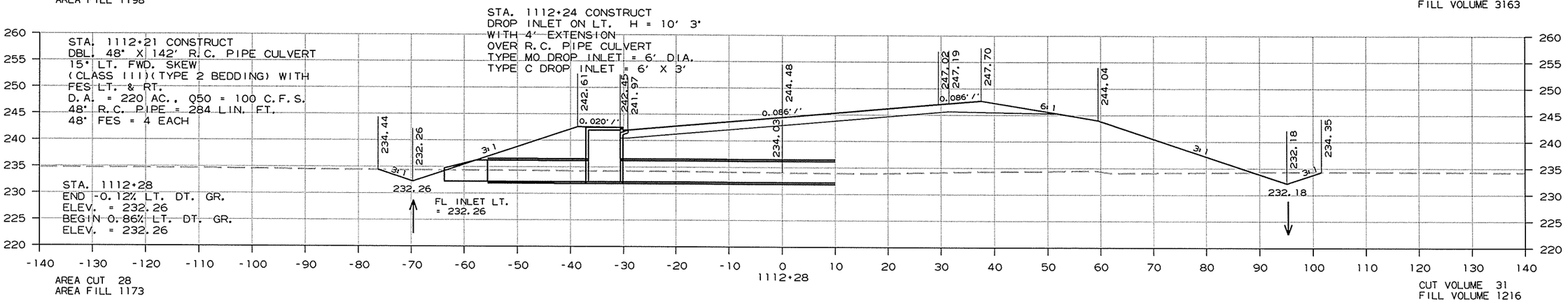
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1112+28 TO STA. 1114+00

1/26/2015

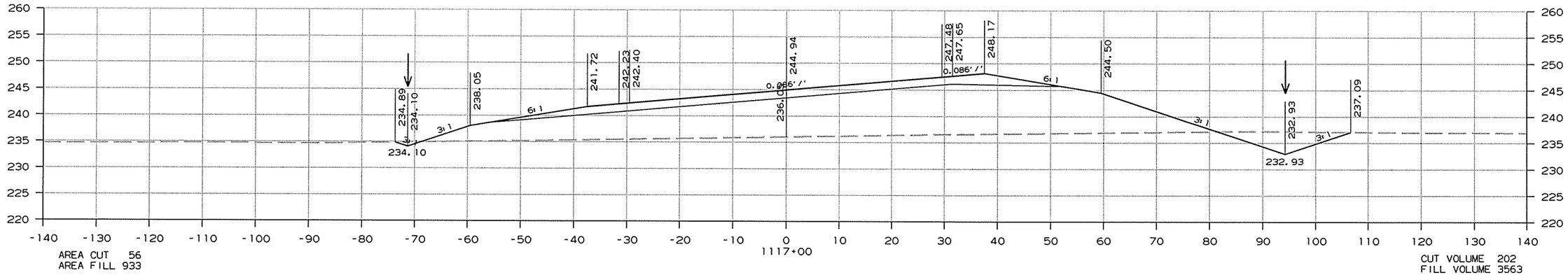
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	190	235

(2) CROSS SECTIONS

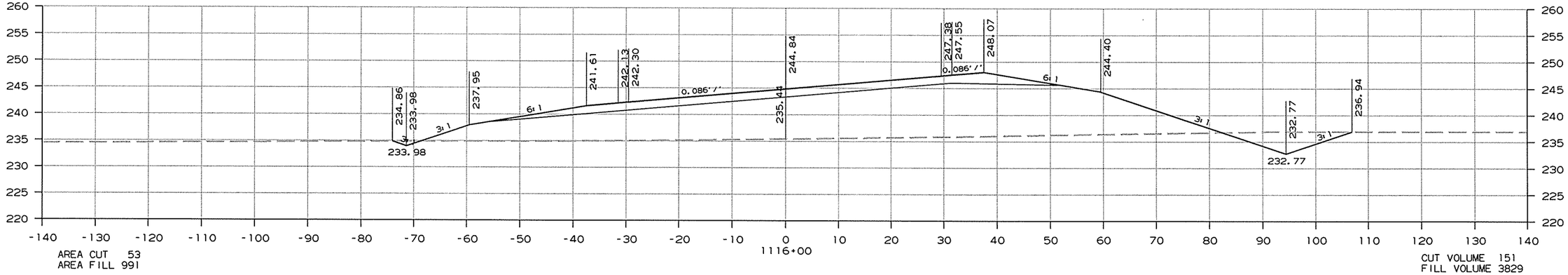
AREA

VOLUME



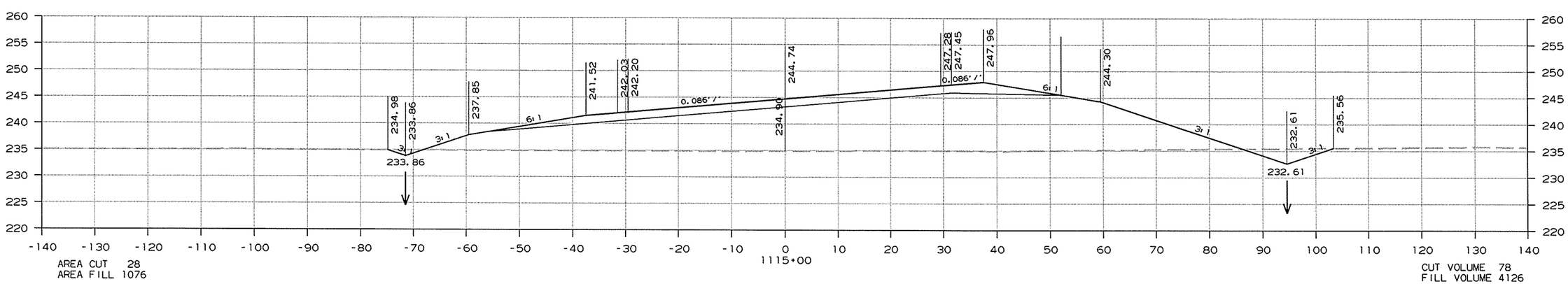
AREA CUT 56
AREA FILL 933

CUT VOLUME 202
FILL VOLUME 3563



AREA CUT 53
AREA FILL 991

CUT VOLUME 151
FILL VOLUME 3829



AREA CUT 28
AREA FILL 1076

CUT VOLUME 78
FILL VOLUME 4126

CROSS SECTION STA. 1115+00 TO STA. 1117+00

1/26/2015

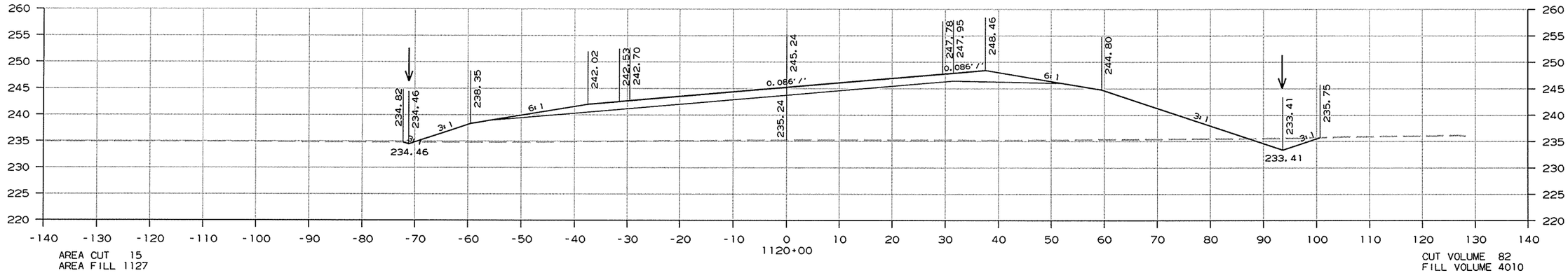
R100654.DGN

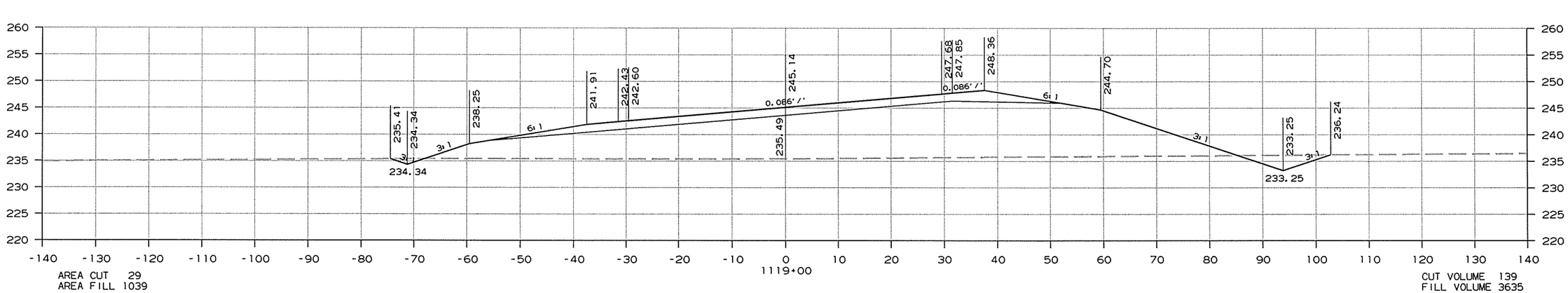
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	191	235

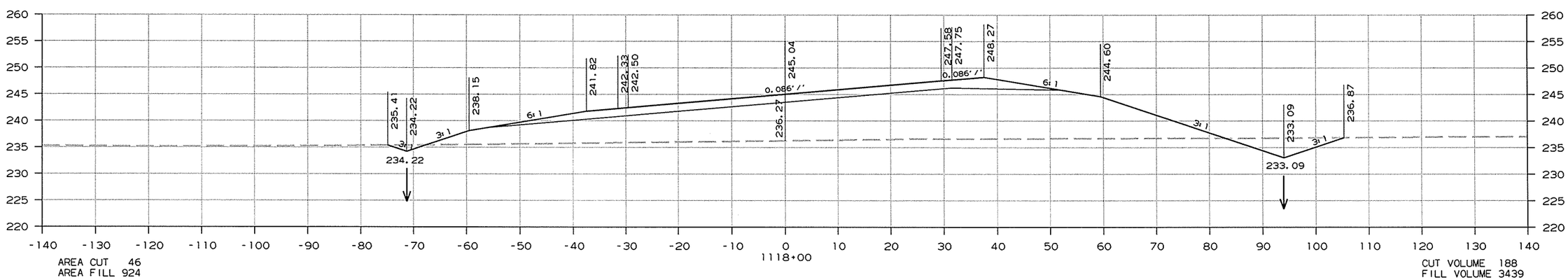
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1118+00 TO STA. 1120+00

1/26/2015

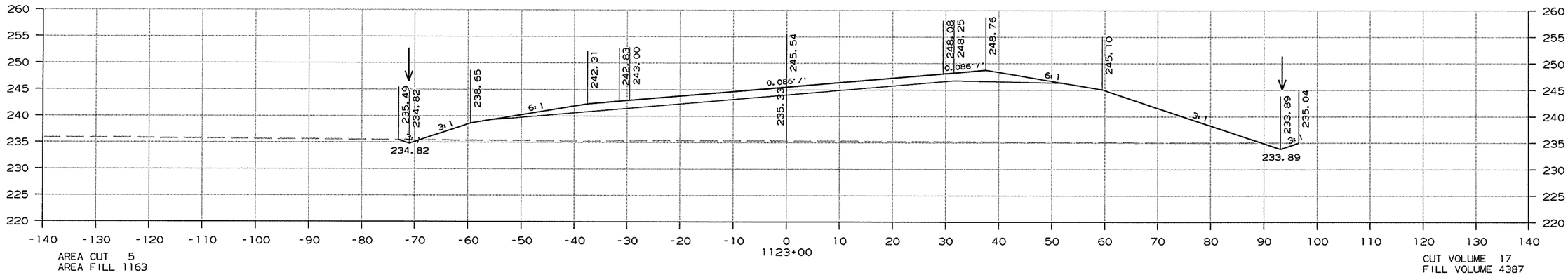
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	192	235

(2) CROSS SECTIONS

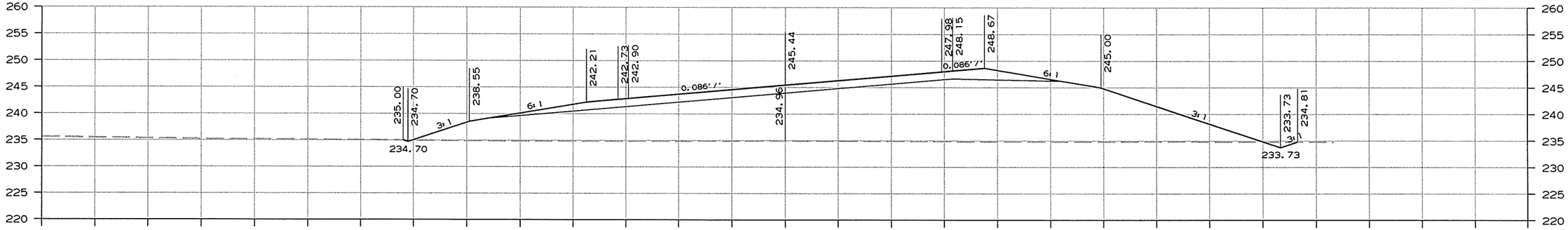
AREA

VOLUME



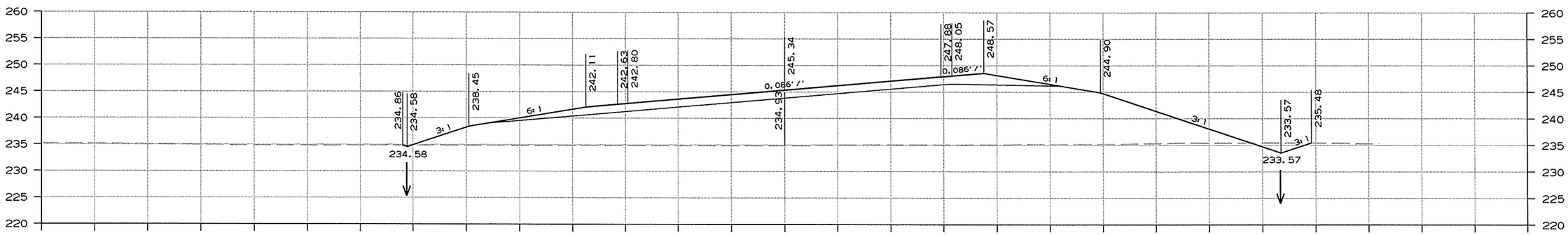
AREA CUT 5
AREA FILL 1163

CUT VOLUME 17
FILL VOLUME 4387



AREA CUT 4
AREA FILL 1206

CUT VOLUME 28
FILL VOLUME 4392



AREA CUT 11
AREA FILL 1166

CUT VOLUME 48
FILL VOLUME 4246

CROSS SECTION STA. 1121+00 TO STA. 1123+00

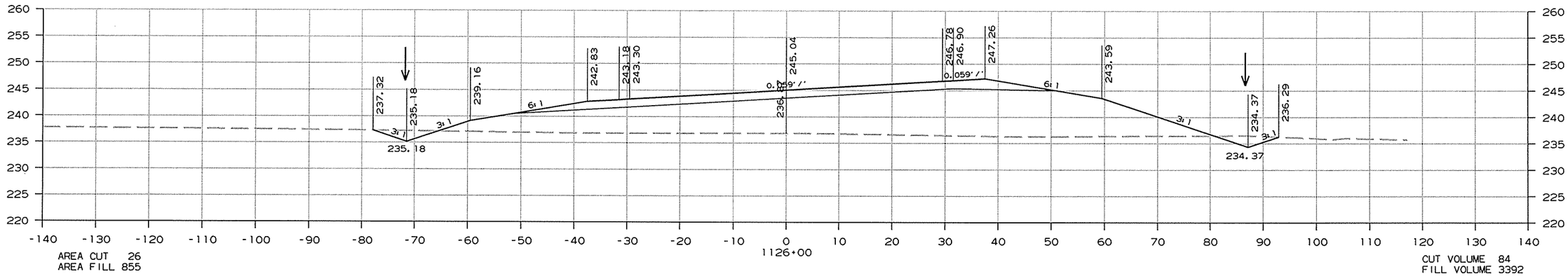
1/26/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	193	235

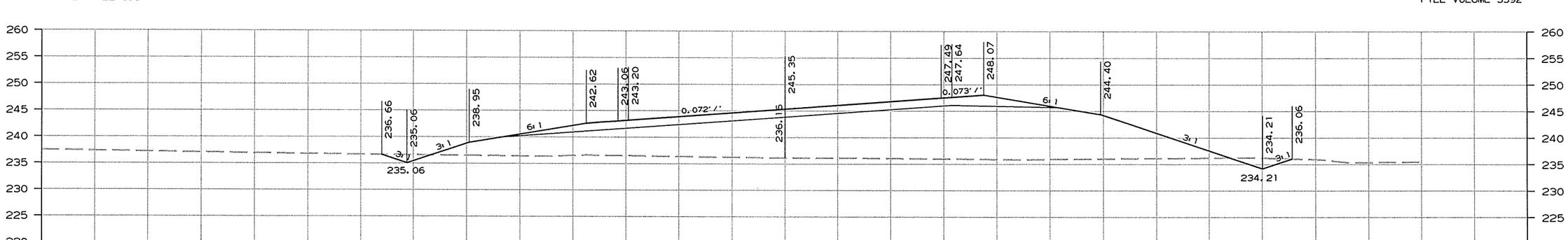
(2) CROSS SECTIONS

AREA VOLUME



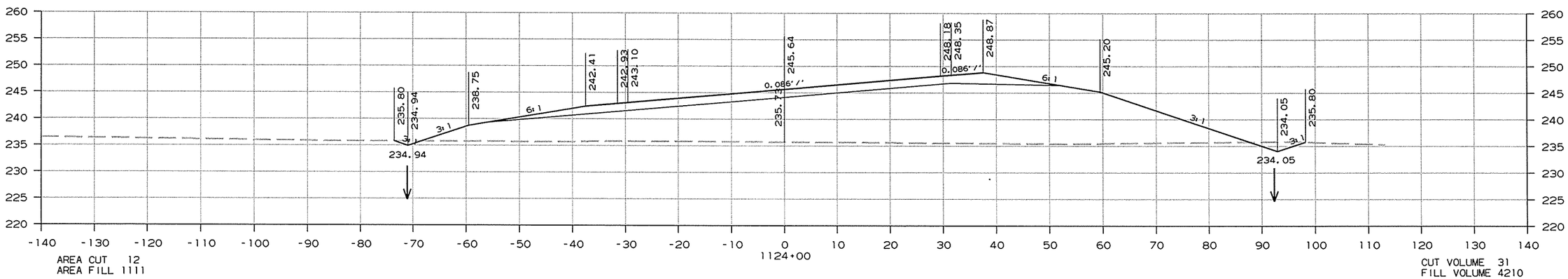
AREA CUT 26
AREA FILL 855

CUT VOLUME 84
FILL VOLUME 3392



AREA CUT 19
AREA FILL 977

CUT VOLUME 57
FILL VOLUME 3866



AREA CUT 12
AREA FILL 1111

CUT VOLUME 31
FILL VOLUME 4210

CROSS SECTION STA. 1124+00 TO STA. 1126+00

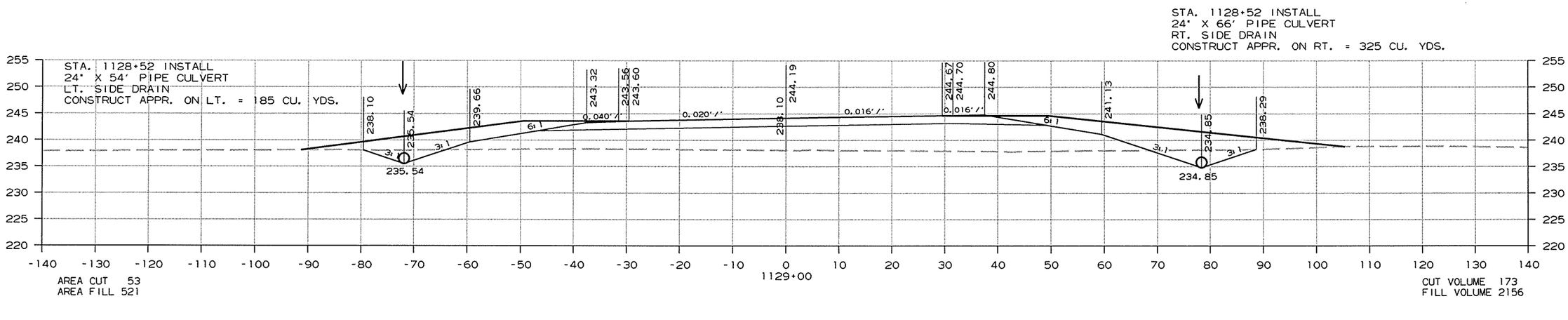
1/26/2015

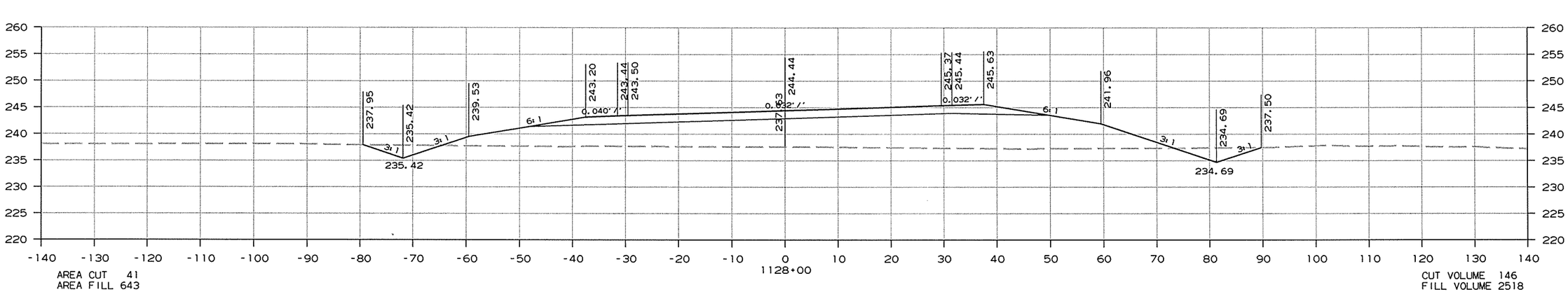
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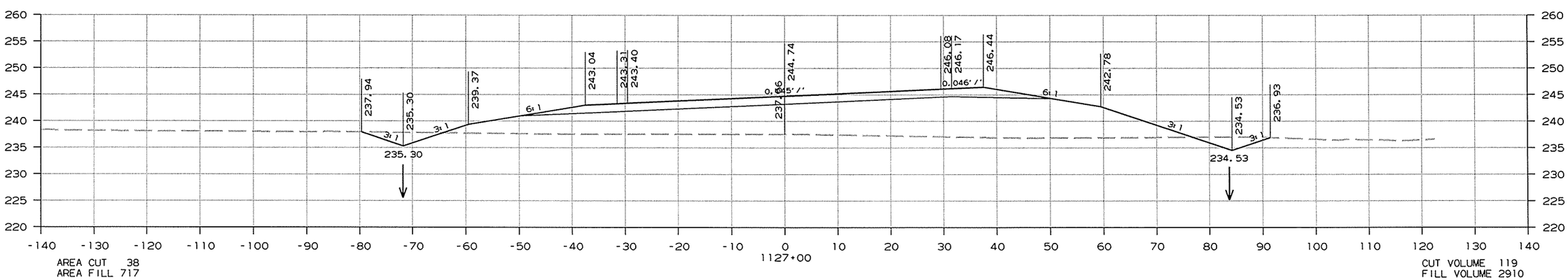
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	194	235

(2) CROSS SECTIONS

AREA VOLUME







CROSS SECTION STA. 1127+00 TO STA. 1129+00

1/26/2015

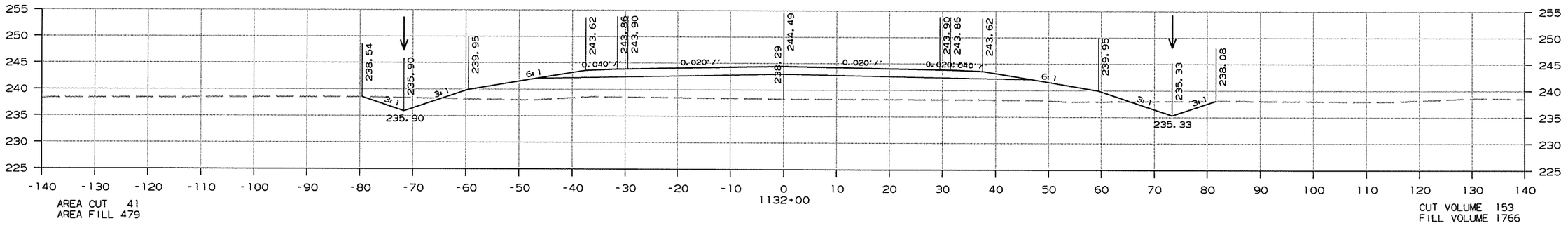
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	195	235

(2) CROSS SECTIONS

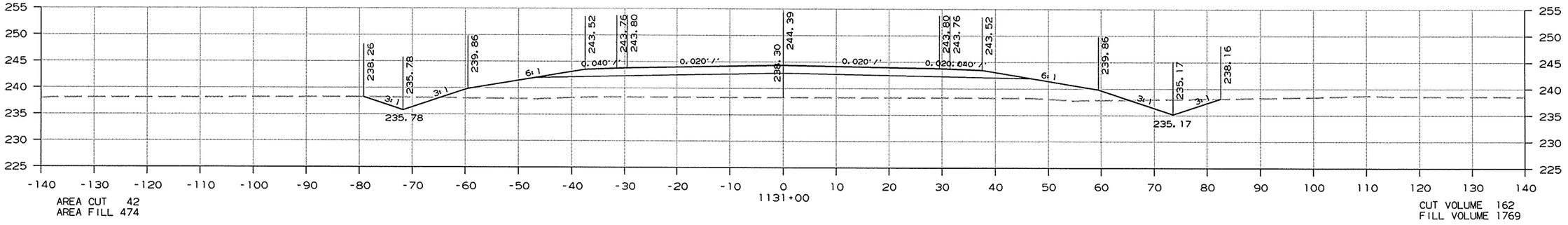
AREA

VOLUME



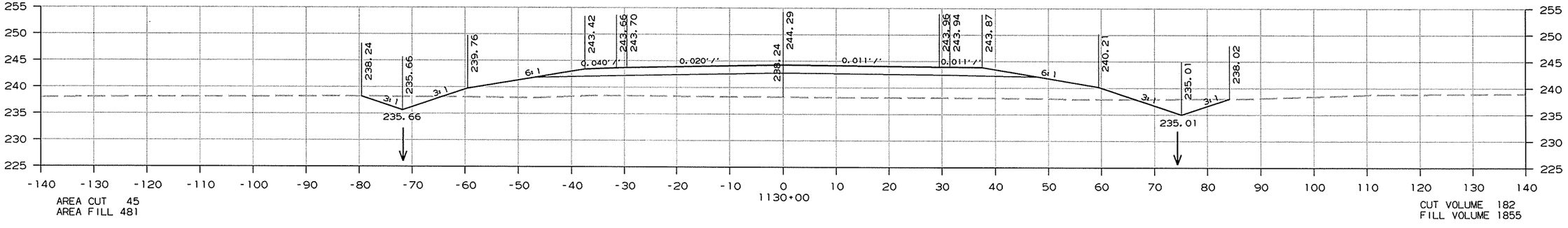
AREA CUT 41
AREA FILL 479

CUT VOLUME 153
FILL VOLUME 1766



AREA CUT 42
AREA FILL 474

CUT VOLUME 162
FILL VOLUME 1769



AREA CUT 45
AREA FILL 481

CUT VOLUME 182
FILL VOLUME 1855

CROSS SECTION STA. 1130+00 TO STA. 1132+00

1/26/2015

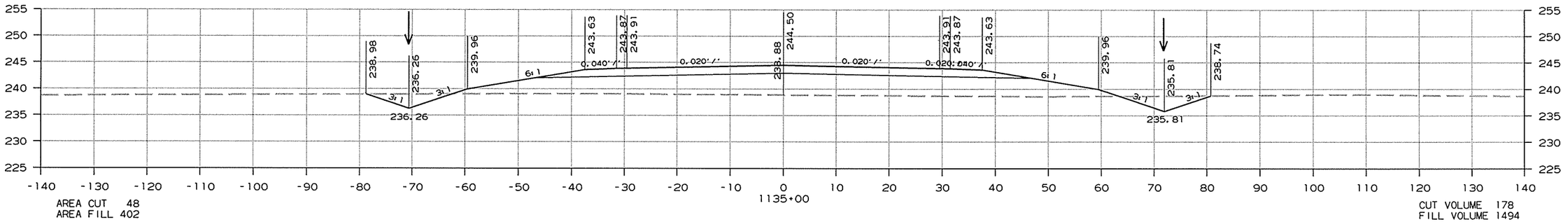
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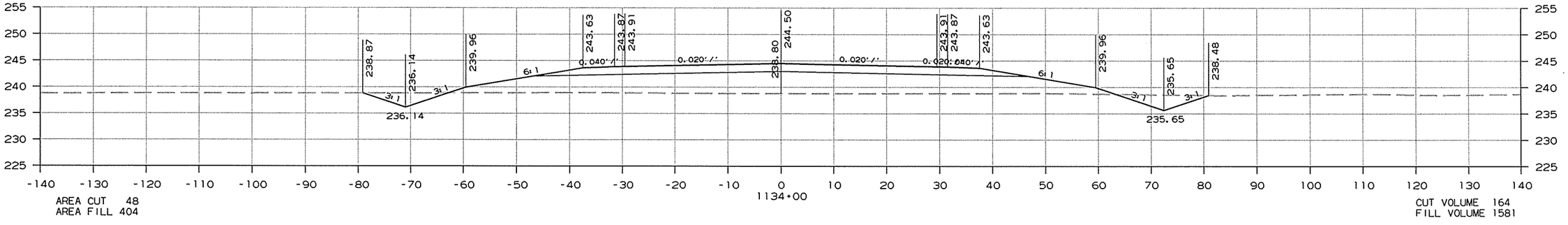
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	196	235

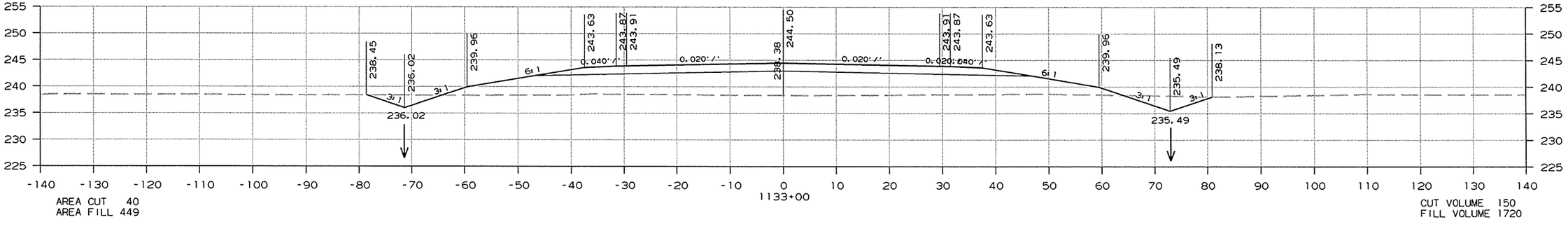
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1133+00 TO STA. 1135+00

1/26/2015

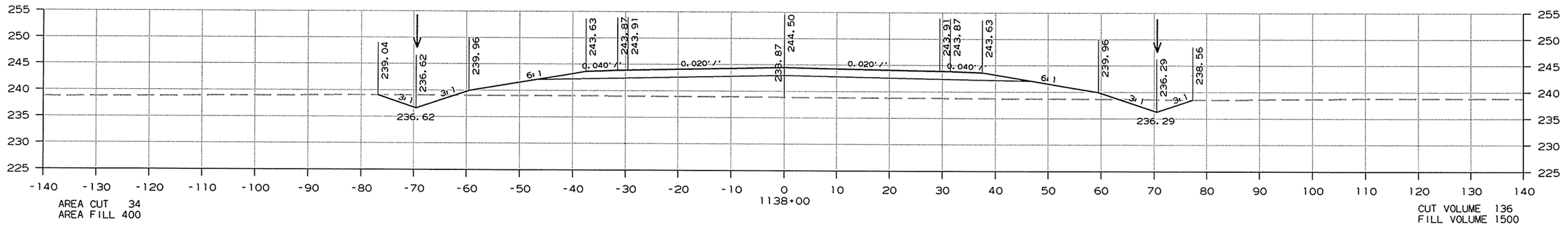
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	197	235

(2) CROSS SECTIONS

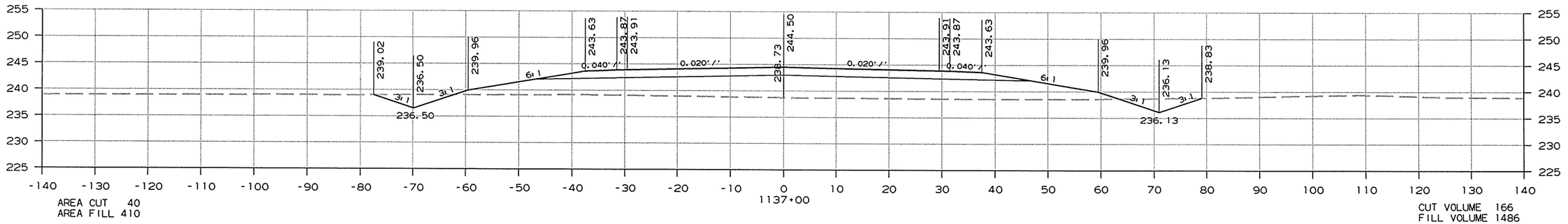
AREA

VOLUME



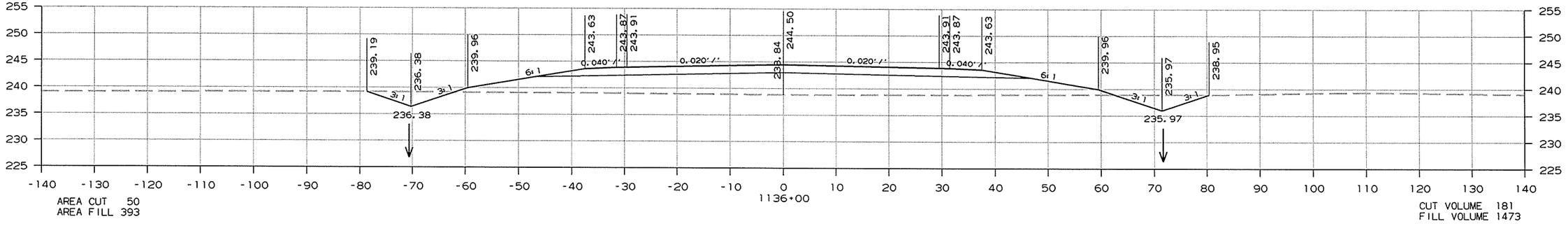
AREA CUT 34
AREA FILL 400

CUT VOLUME 136
FILL VOLUME 1500



AREA CUT 40
AREA FILL 410

CUT VOLUME 166
FILL VOLUME 1486



AREA CUT 50
AREA FILL 393

CUT VOLUME 181
FILL VOLUME 1473

CROSS SECTION STA. 1136+00 TO STA. 1138+00

1/26/2015

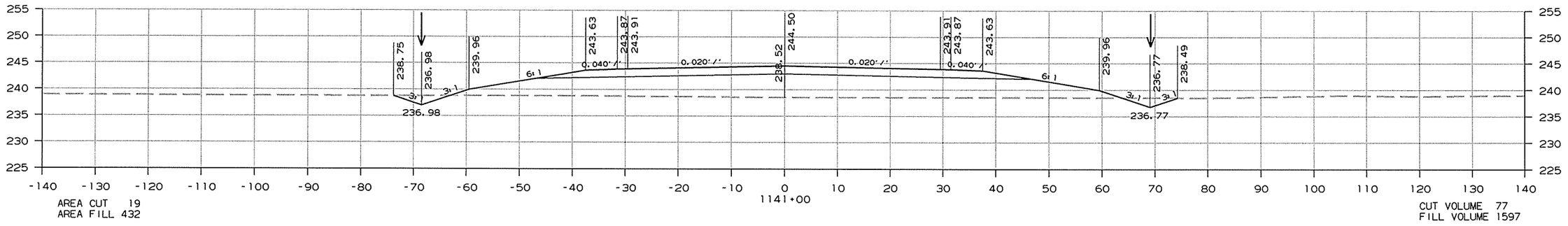
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	198	235

(2) CROSS SECTIONS

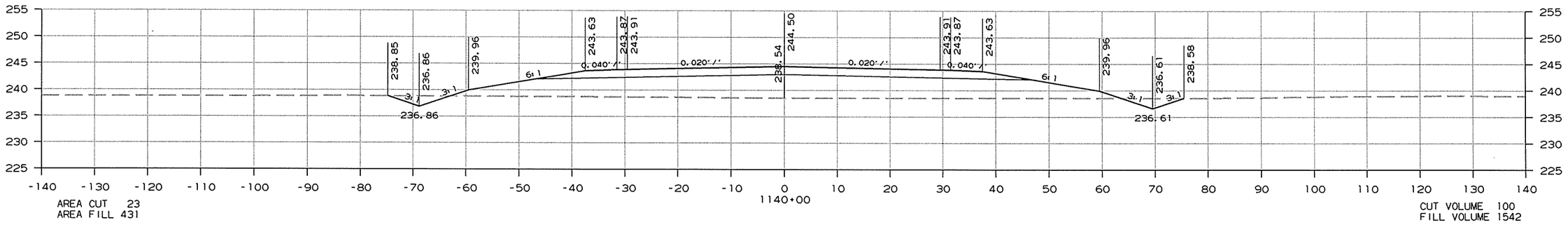
AREA

VOLUME



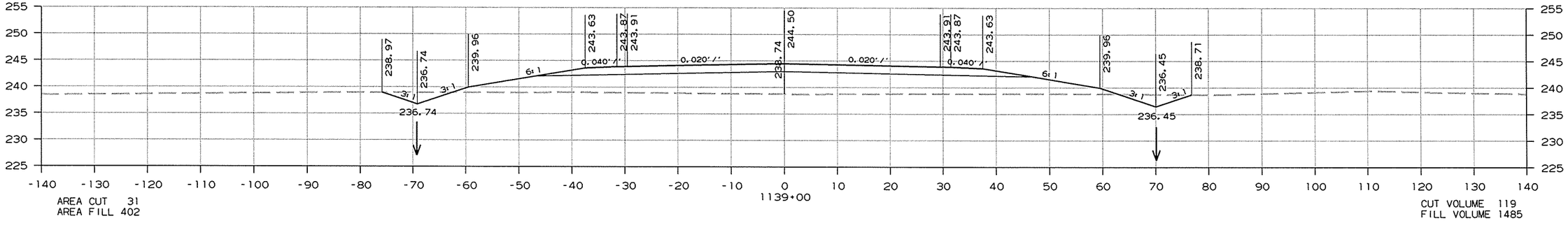
AREA CUT 19
AREA FILL 432

CUT VOLUME 77
FILL VOLUME 1597



AREA CUT 23
AREA FILL 431

CUT VOLUME 100
FILL VOLUME 1542



AREA CUT 31
AREA FILL 402

CUT VOLUME 119
FILL VOLUME 1485

CROSS SECTION STA. 1139+00 TO STA. 1141+00

1/26/2015

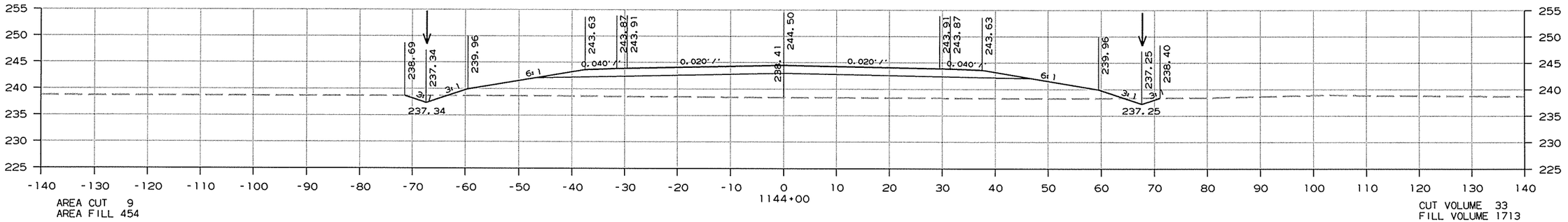
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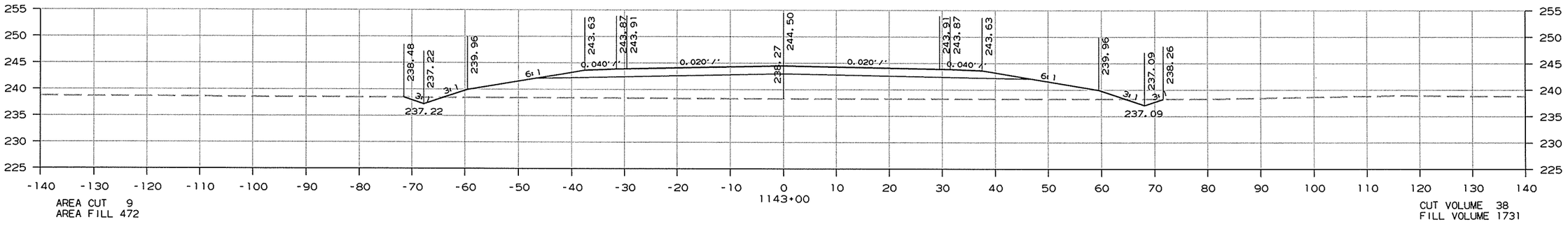
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				6	ARK.			
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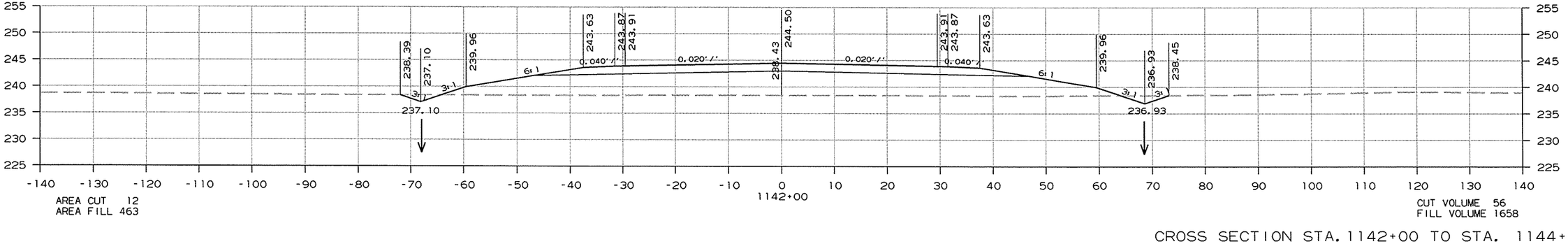
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1142+00 TO STA. 1144+00

1/26/2015

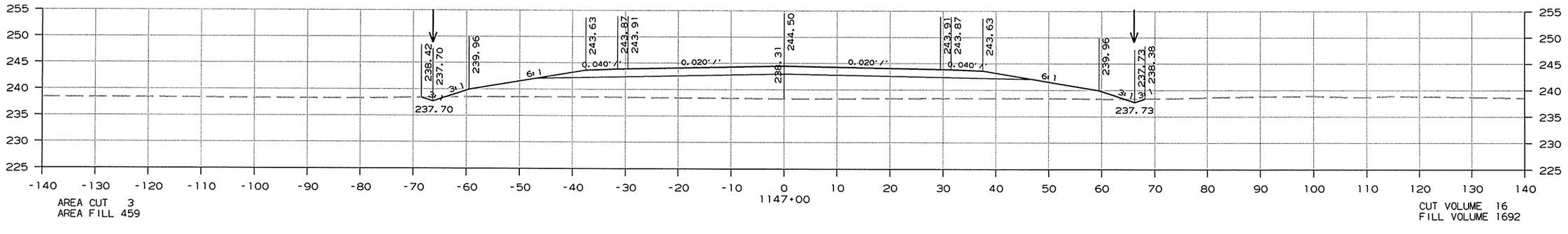
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	200	235

(2) CROSS SECTIONS

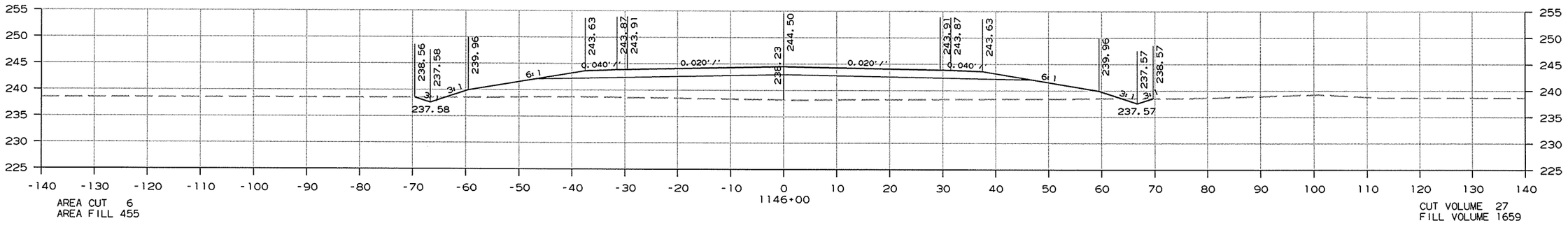
AREA

VOLUME



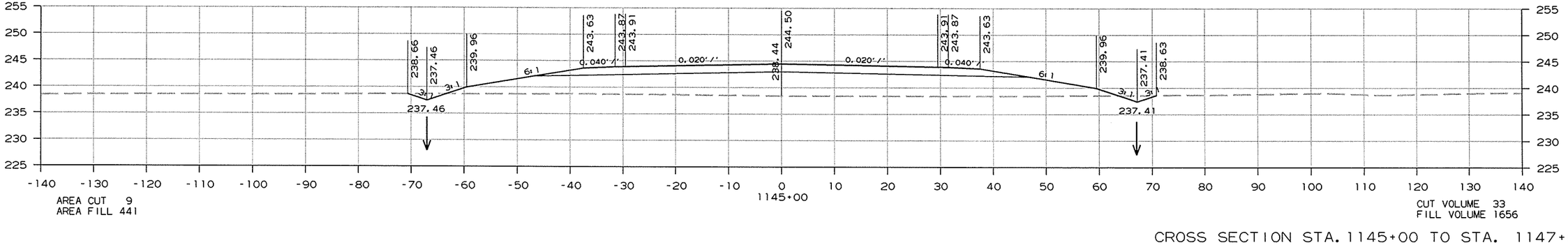
AREA CUT 3
AREA FILL 459

CUT VOLUME 16
FILL VOLUME 1692



AREA CUT 6
AREA FILL 455

CUT VOLUME 27
FILL VOLUME 1659



AREA CUT 9
AREA FILL 441

CUT VOLUME 33
FILL VOLUME 1656

CROSS SECTION STA. 1145+00 TO STA. 1147+00

1/26/2015

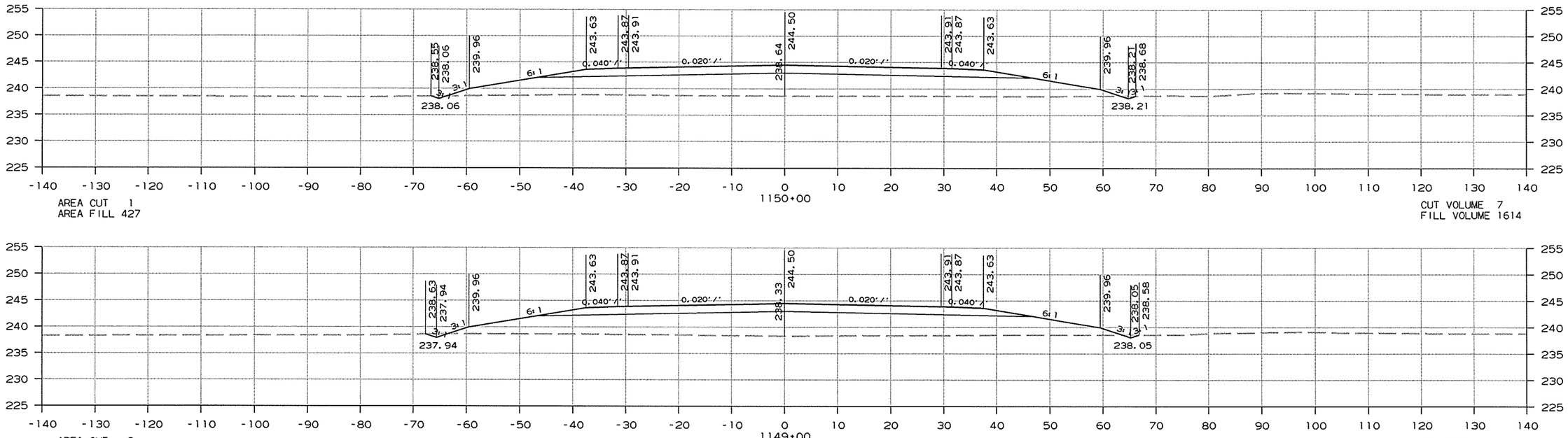
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	201	235

(2) CROSS SECTIONS

AREA

VOLUME

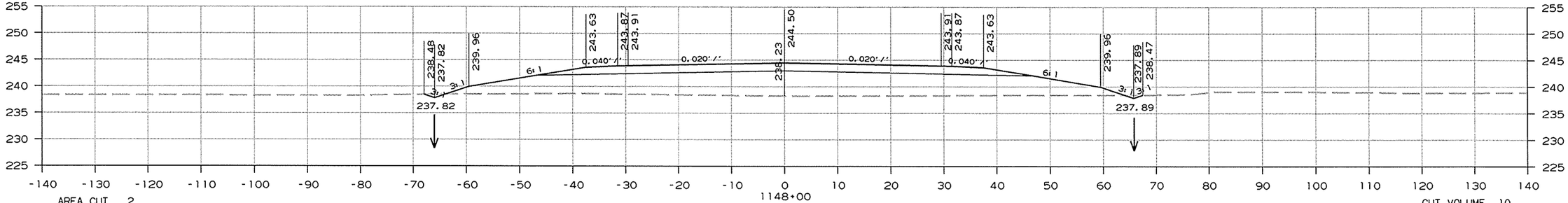


AREA CUT 1
AREA FILL 427

CUT VOLUME 7
FILL VOLUME 1614

AREA CUT 2
AREA FILL 445

CUT VOLUME 9
FILL VOLUME 1672



AREA CUT 2
AREA FILL 458

CUT VOLUME 10
FILL VOLUME 1698

CROSS SECTION STA. 1148+00 TO STA. 1150+00

1/26/2015

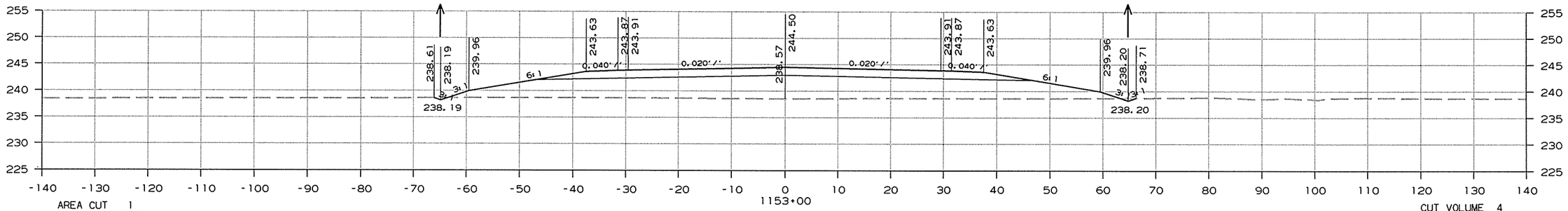
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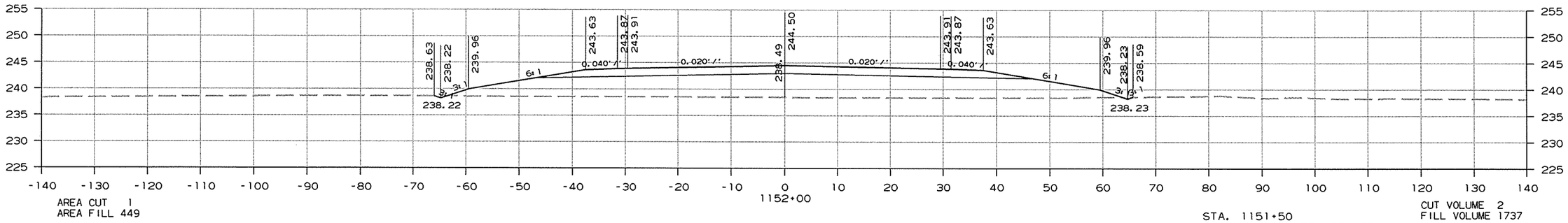
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	202	235

(2) CROSS SECTIONS

AREA

VOLUME



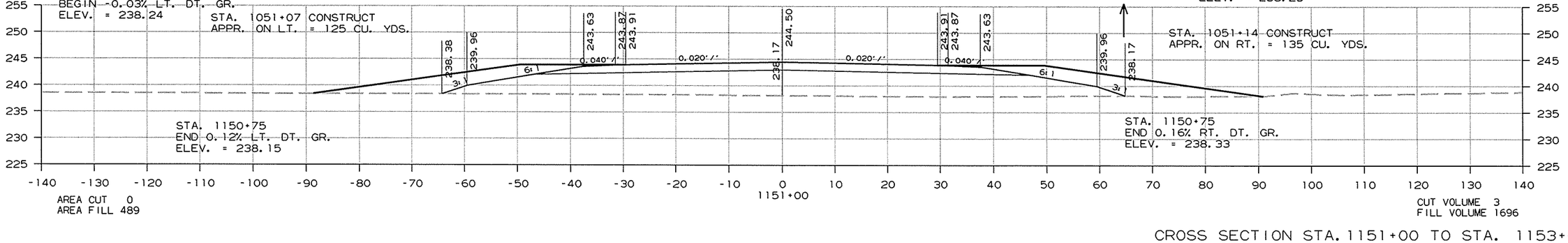


STA. 1151+50
BEGIN -0.03% LT. DT. GR.
ELEV. = 238.24

STA. 1051+07 CONSTRUCT
APPR. ON LT. = 125 CU. YDS.

STA. 1151+50
BEGIN -0.03% RT. DT. GR.
ELEV. = 238.25

STA. 1051+14 CONSTRUCT
APPR. ON RT. = 135 CU. YDS.



STA. 1150+75
END 0.12% LT. DT. GR.
ELEV. = 238.15

STA. 1150+75
END 0.16% RT. DT. GR.
ELEV. = 238.33

CROSS SECTION STA. 1151+00 TO STA. 1153+00

1/26/2015

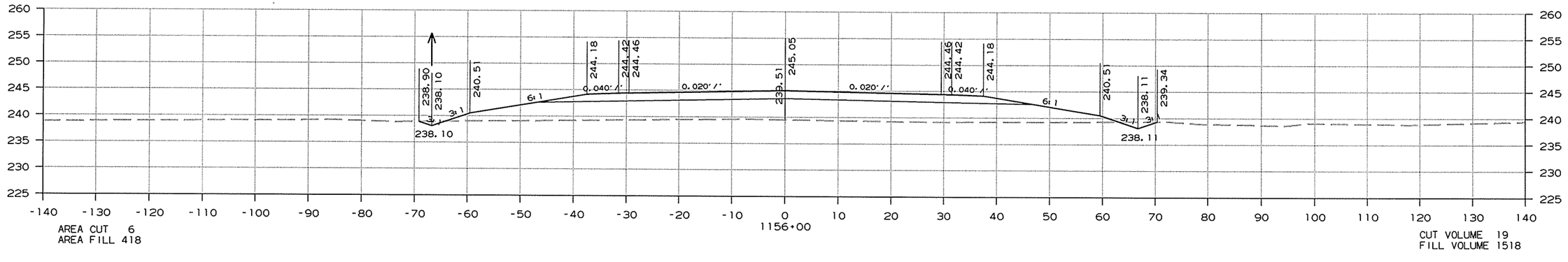
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	203	235

(2) CROSS SECTIONS

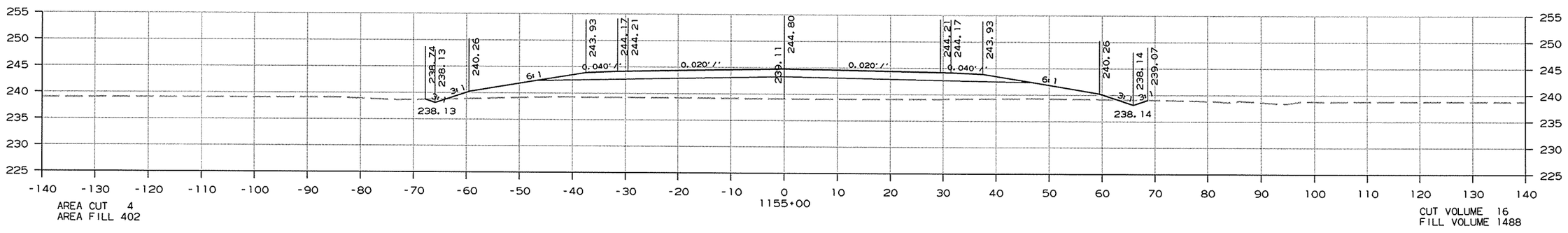
AREA

VOLUME



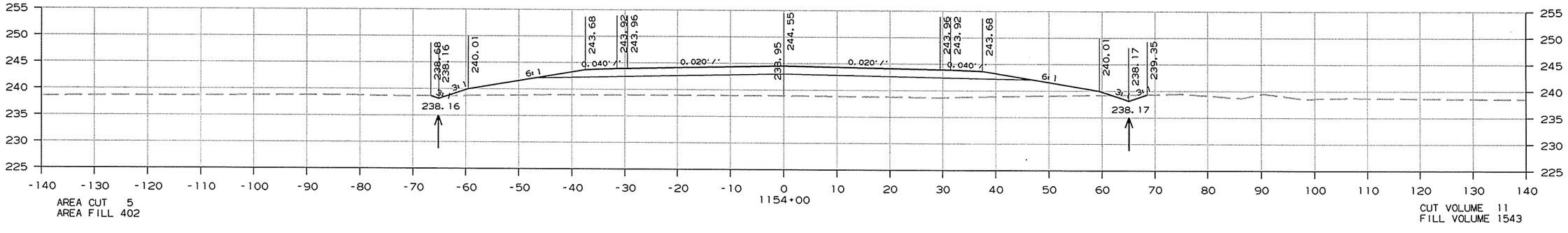
AREA CUT 6
AREA FILL 418

CUT VOLUME 19
FILL VOLUME 1518



AREA CUT 4
AREA FILL 402

CUT VOLUME 16
FILL VOLUME 1488



AREA CUT 5
AREA FILL 402

CUT VOLUME 11
FILL VOLUME 1543

CROSS SECTION STA. 1154+00 TO STA. 1156+00

1/26/2015

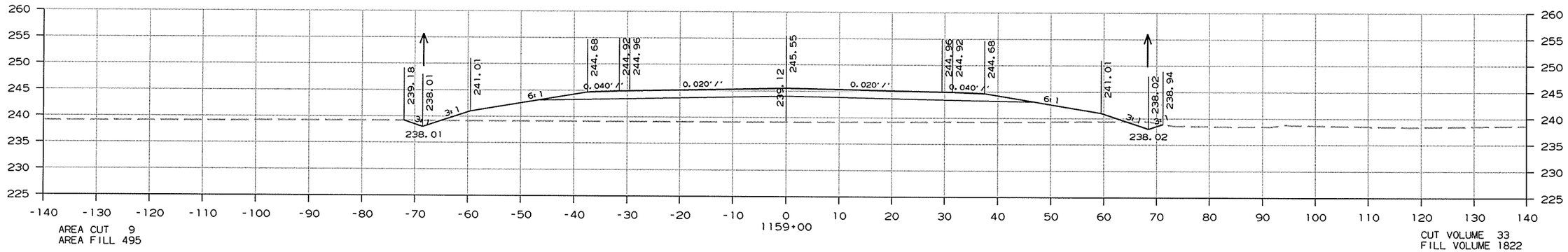
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	204	235

(2) CROSS SECTIONS

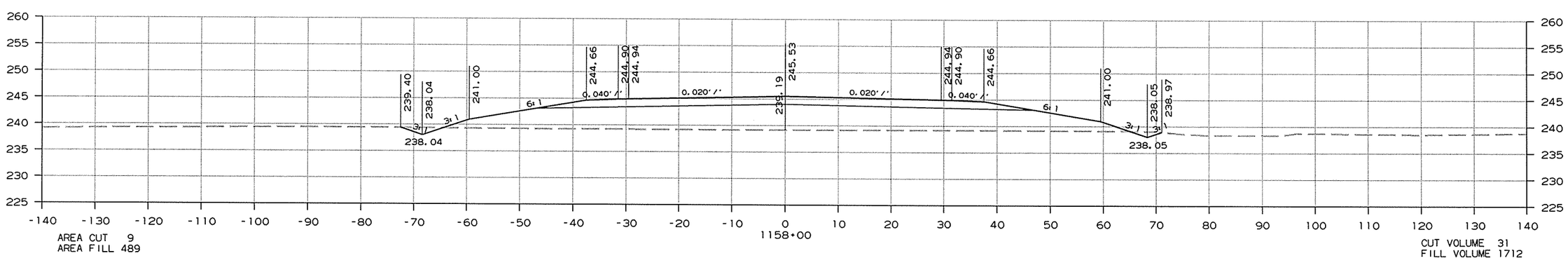
AREA

VOLUME



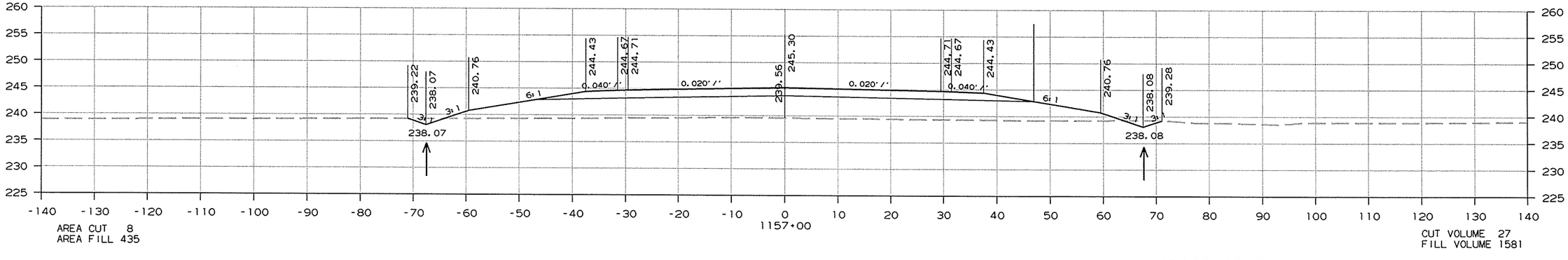
AREA CUT 9
AREA FILL 495

CUT VOLUME 33
FILL VOLUME 1822



AREA CUT 9
AREA FILL 489

CUT VOLUME 31
FILL VOLUME 1712



AREA CUT 8
AREA FILL 435

CUT VOLUME 27
FILL VOLUME 1581

CROSS SECTION STA. 1157+00 TO STA. 1159+00

1/26/2015

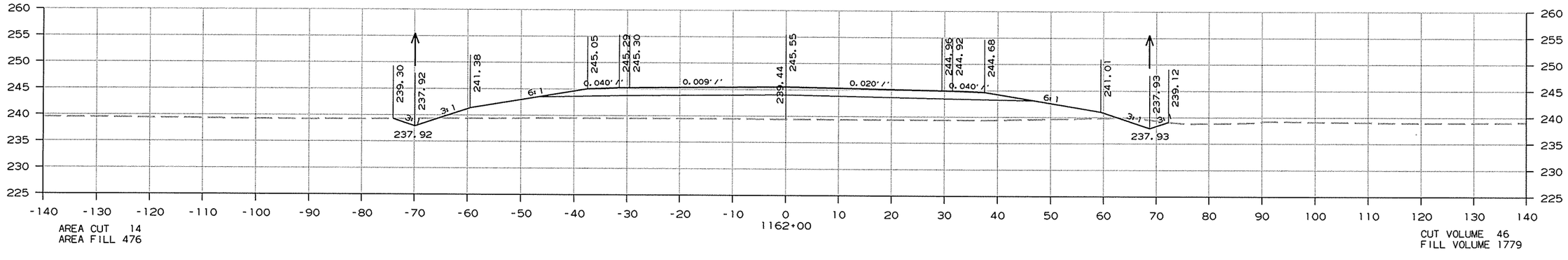
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	205	235

(2) CROSS SECTIONS

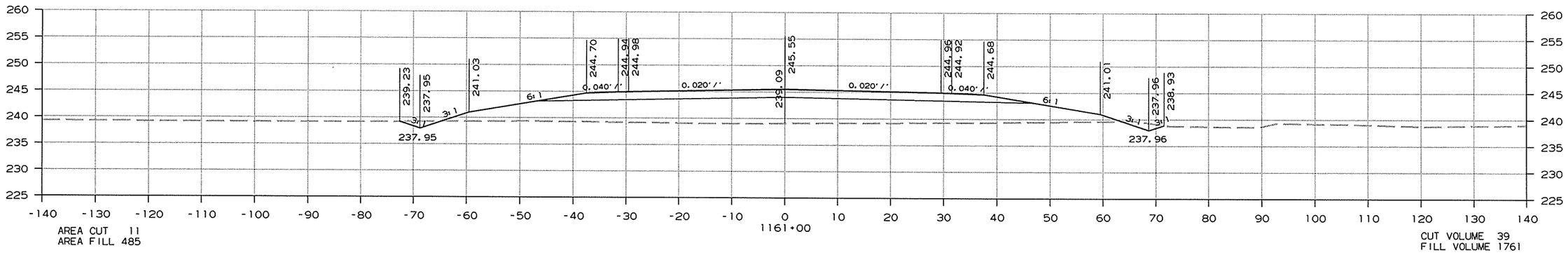
AREA

VOLUME



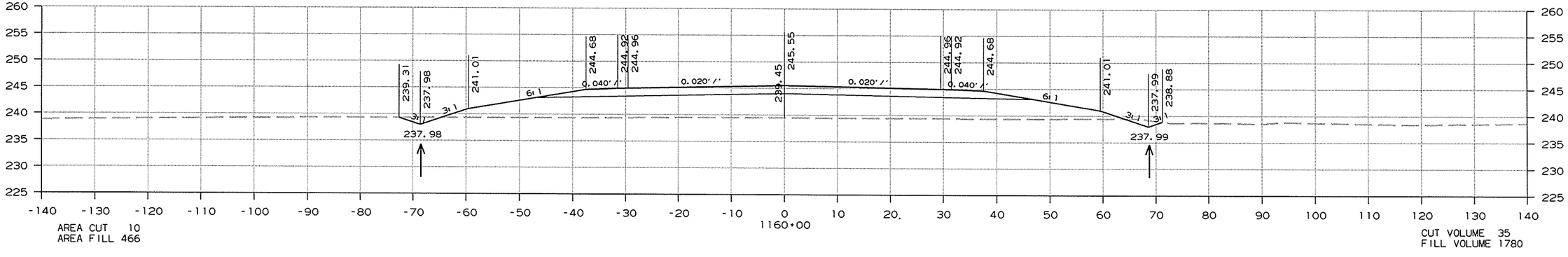
AREA CUT 14
AREA FILL 476

CUT VOLUME 46
FILL VOLUME 1779



AREA CUT 11
AREA FILL 485

CUT VOLUME 39
FILL VOLUME 1761



AREA CUT 10
AREA FILL 466

CUT VOLUME 35
FILL VOLUME 1780

CROSS SECTION STA. 1160+00 TO STA. 1162+00

1/26/2015

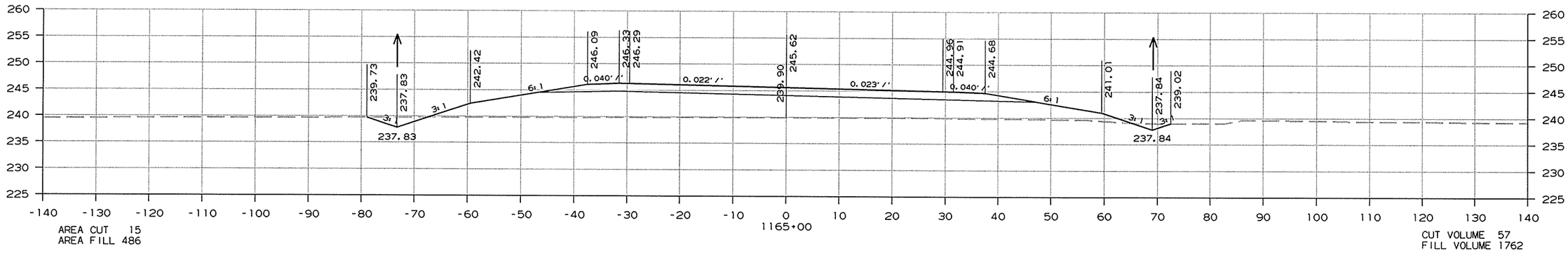
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	206	235

(2) CROSS SECTIONS

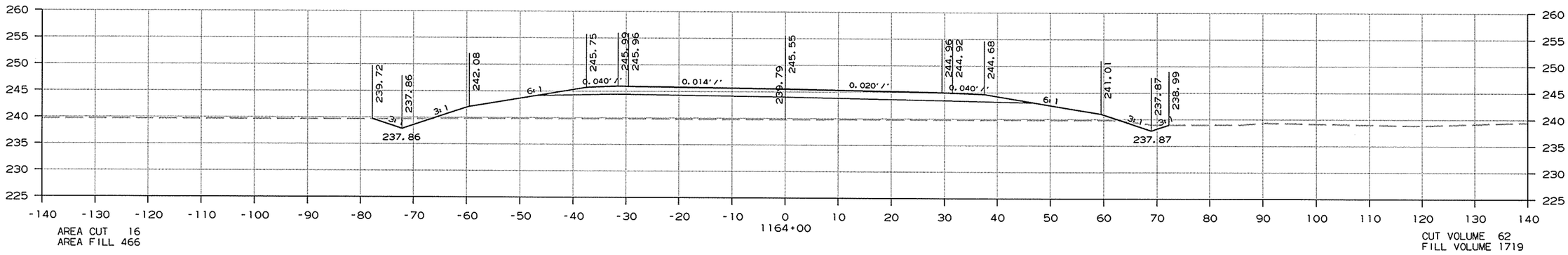
AREA

VOLUME



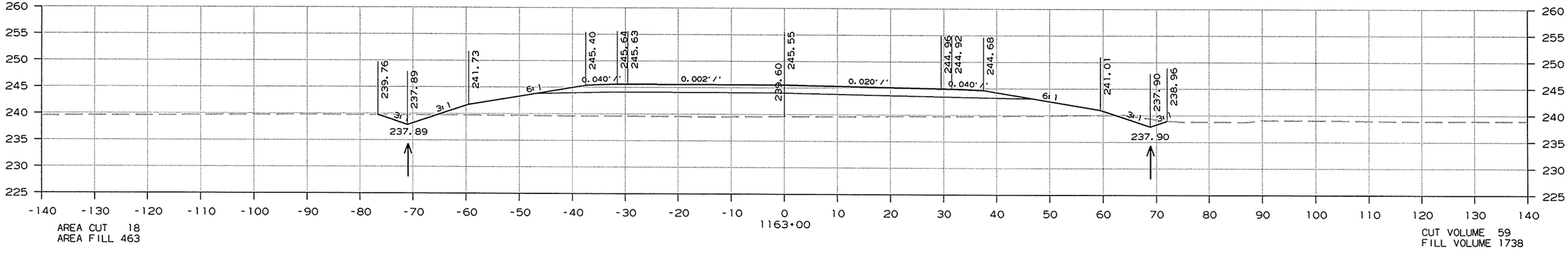
AREA CUT 15
AREA FILL 486

CUT VOLUME 57
FILL VOLUME 1762



AREA CUT 16
AREA FILL 466

CUT VOLUME 62
FILL VOLUME 1719



AREA CUT 18
AREA FILL 463

CUT VOLUME 59
FILL VOLUME 1738

CROSS SECTION STA. 1163+00 TO STA. 1165+00

1/26/2015

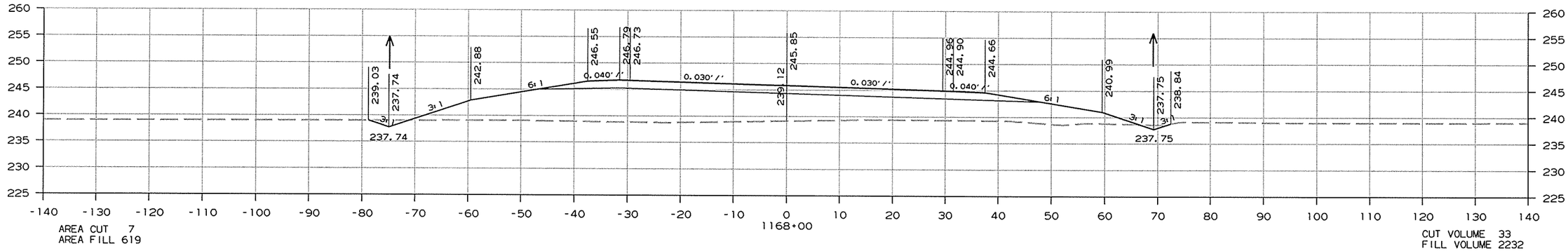
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	207	235

(2) CROSS SECTIONS

AREA

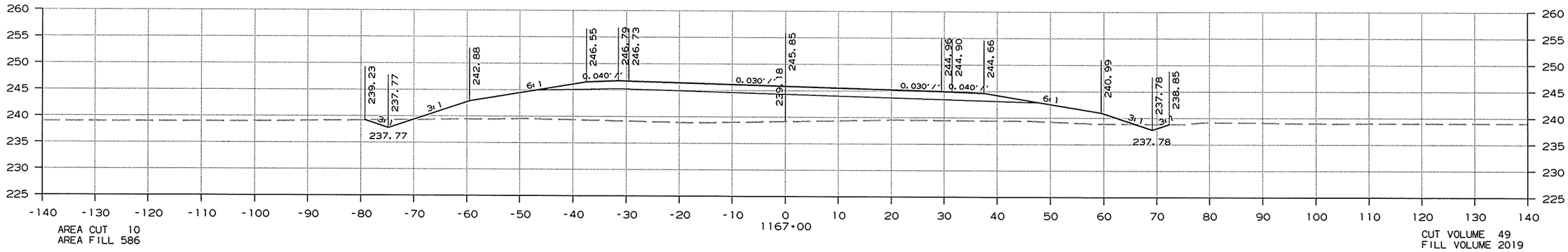
VOLUME



1168+00

AREA CUT 7
AREA FILL 619

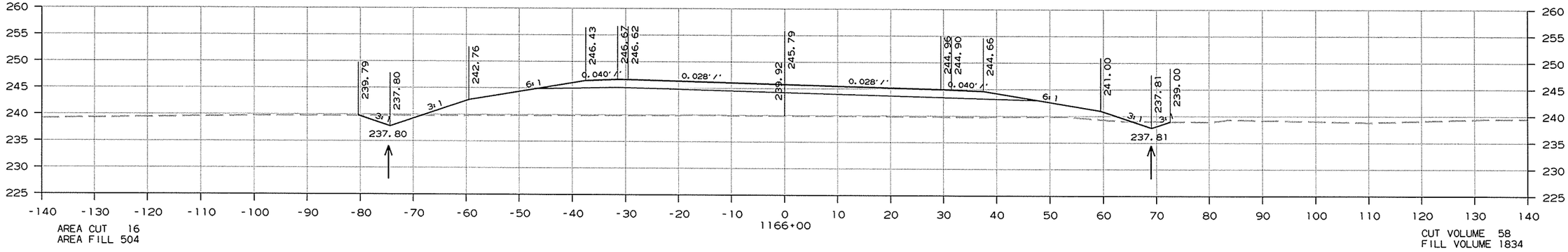
CUT VOLUME 33
FILL VOLUME 2232



1167+00

AREA CUT 10
AREA FILL 586

CUT VOLUME 49
FILL VOLUME 2019



1166+00

AREA CUT 16
AREA FILL 504

CUT VOLUME 58
FILL VOLUME 1834

CROSS SECTION STA. 1166+00 TO STA. 1168+00

1/26/2015

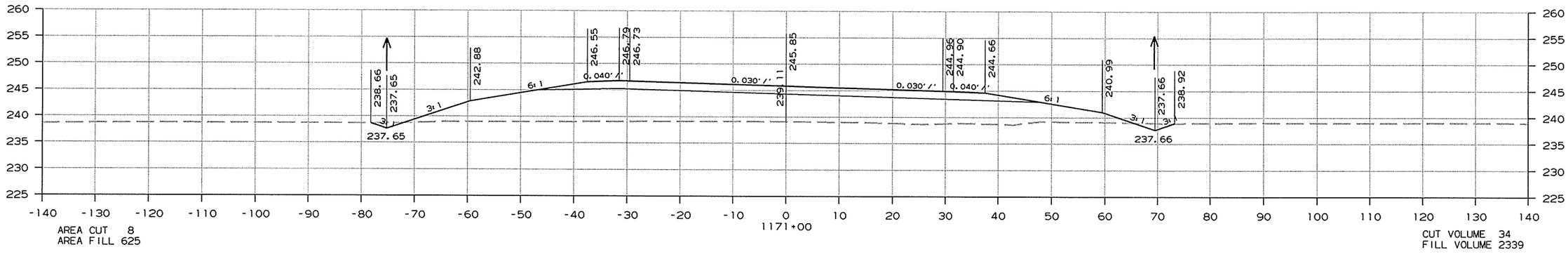
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS

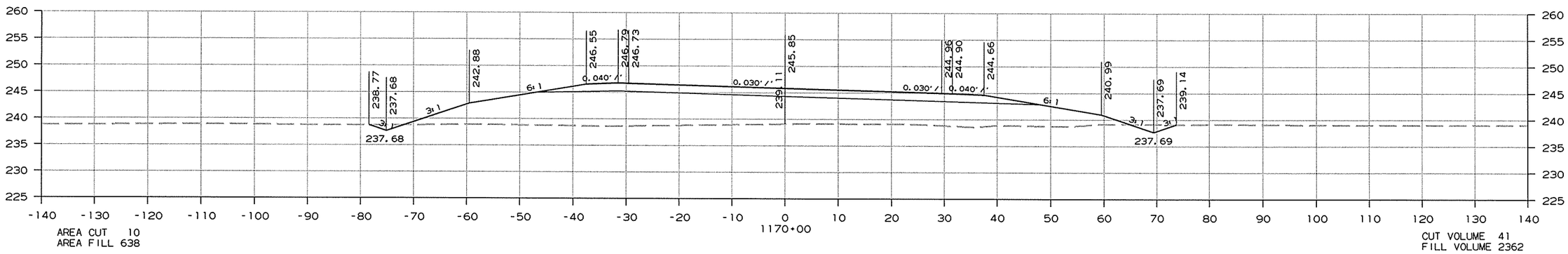
AREA

VOLUME



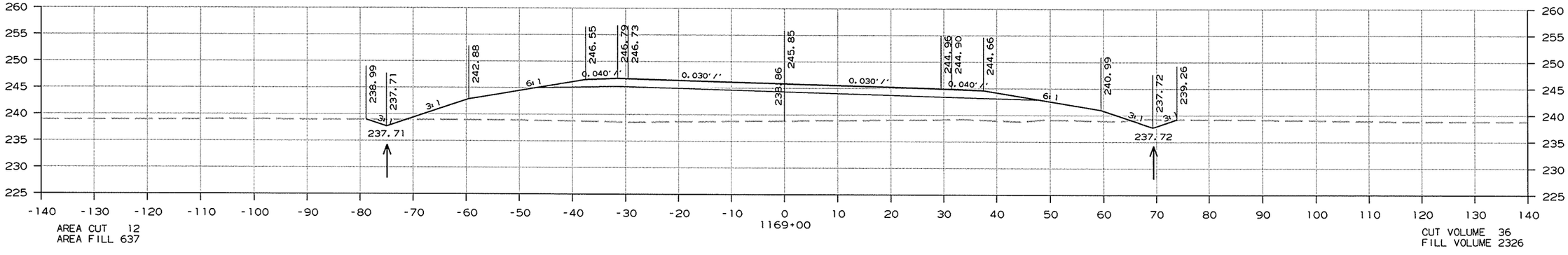
AREA CUT 8
AREA FILL 625

CUT VOLUME 34
FILL VOLUME 2339



AREA CUT 10
AREA FILL 638

CUT VOLUME 41
FILL VOLUME 2362



AREA CUT 12
AREA FILL 637

CUT VOLUME 36
FILL VOLUME 2326

CROSS SECTION STA. 1169+00 TO STA. 1171+00

1/26/2015

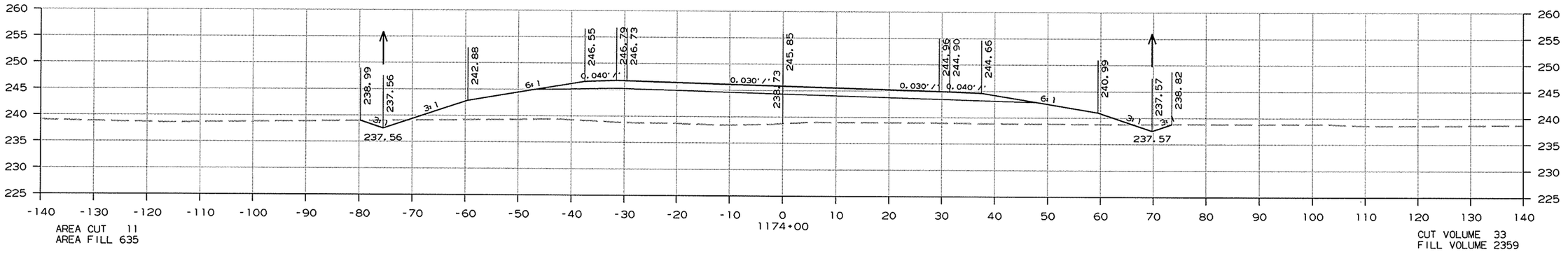
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	209	235

(2) CROSS SECTIONS

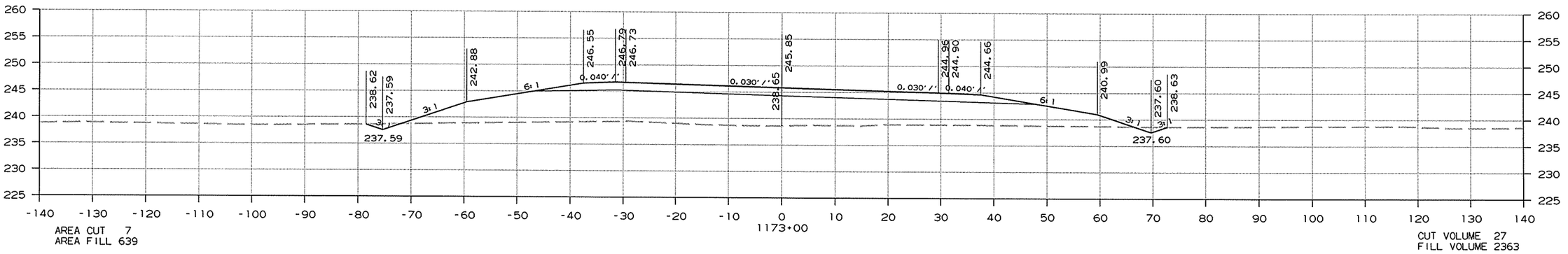
AREA

VOLUME



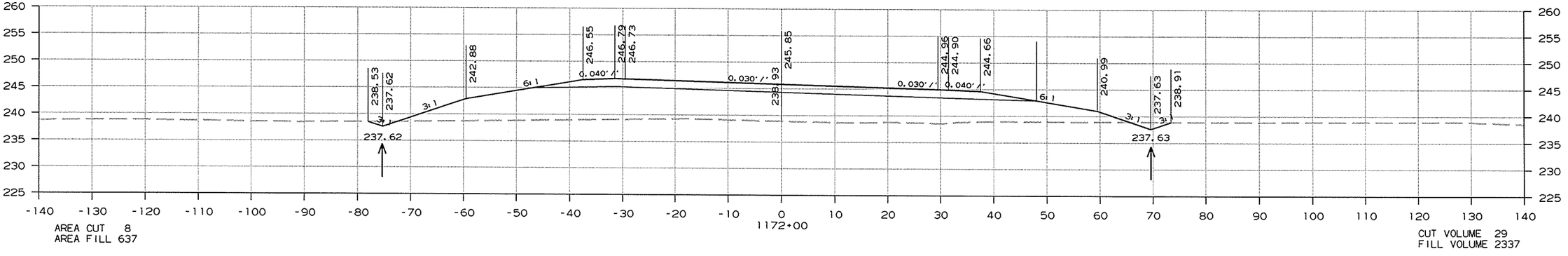
AREA CUT 11
AREA FILL 635

CUT VOLUME 33
FILL VOLUME 2359



AREA CUT 7
AREA FILL 639

CUT VOLUME 27
FILL VOLUME 2363



AREA CUT 8
AREA FILL 637

CUT VOLUME 29
FILL VOLUME 2337

CROSS SECTION STA. 1172+00 TO STA. 1174+00

1/26/2015

R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	210	235

(2) CROSS SECTIONS

AREA

VOLUME

CROSS SECTION STA. 1175+00 TO STA. 1177+00

1/26/2015

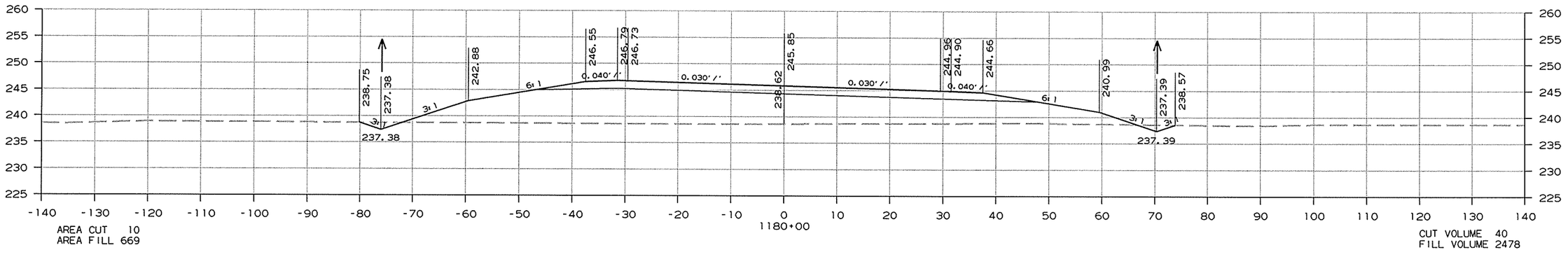
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS

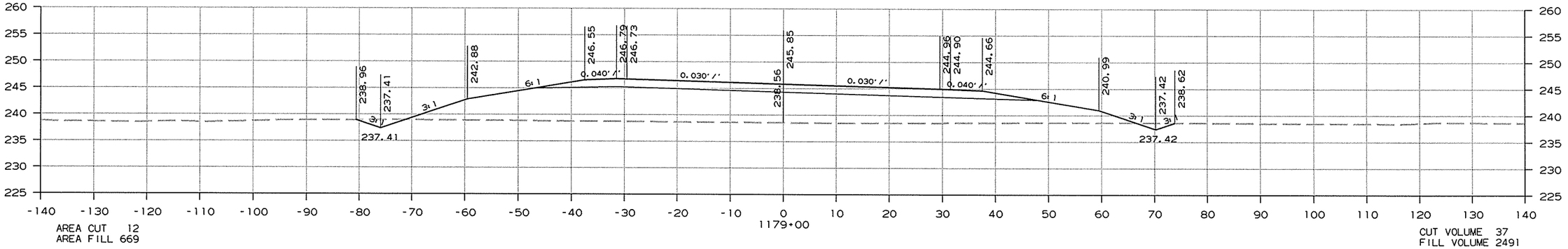
AREA

VOLUME



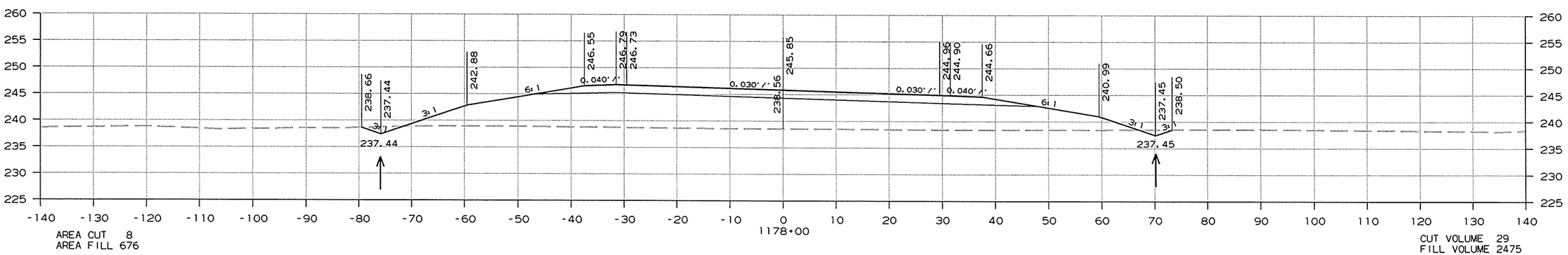
AREA CUT 10
AREA FILL 669

CUT VOLUME 40
FILL VOLUME 2478



AREA CUT 12
AREA FILL 669

CUT VOLUME 37
FILL VOLUME 2491



AREA CUT 8
AREA FILL 676

CUT VOLUME 29
FILL VOLUME 2475

CROSS SECTION STA. 1178+00 TO STA. 1180+00

1/26/2015

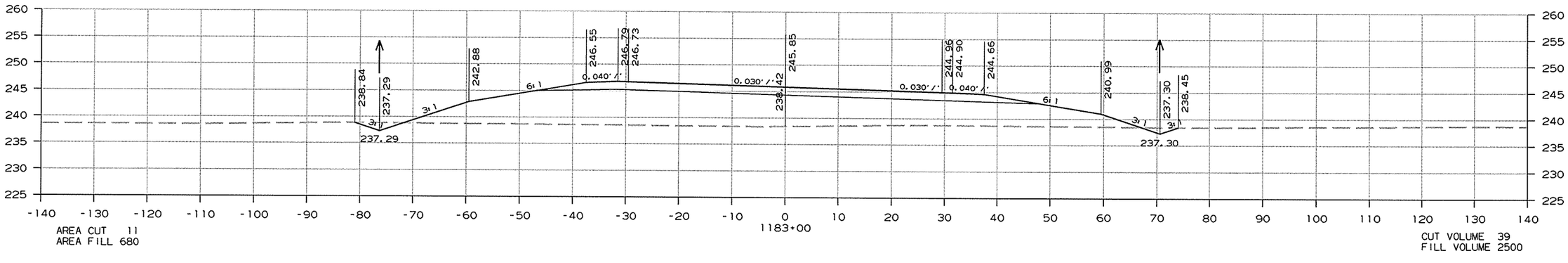
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	212	235

(2) CROSS SECTIONS

AREA

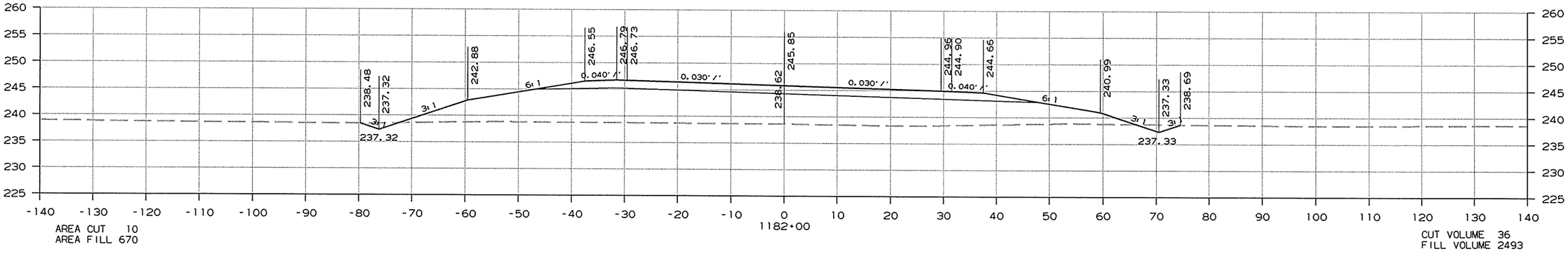
VOLUME



AREA CUT 11
AREA FILL 680

1183+00

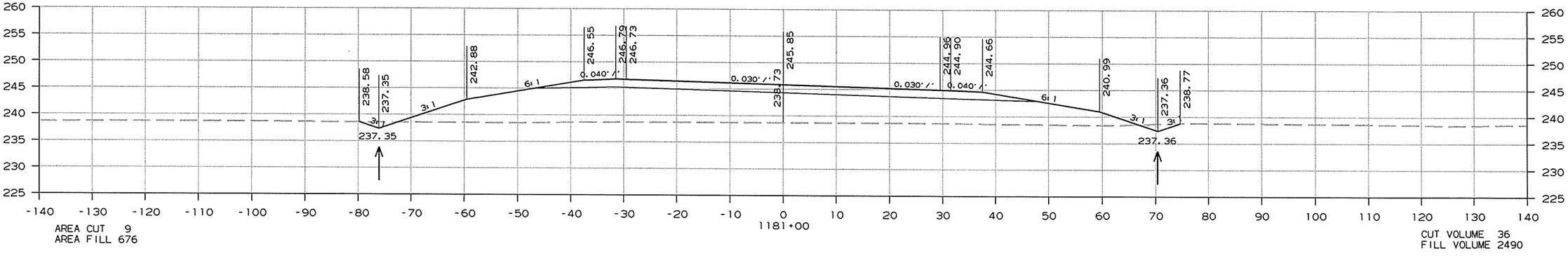
CUT VOLUME 39
FILL VOLUME 2500



AREA CUT 10
AREA FILL 670

1182+00

CUT VOLUME 36
FILL VOLUME 2493



AREA CUT 9
AREA FILL 676

1181+00

CUT VOLUME 36
FILL VOLUME 2490

CROSS SECTION STA. 1181+00 TO STA. 1183+00

1/26/2015

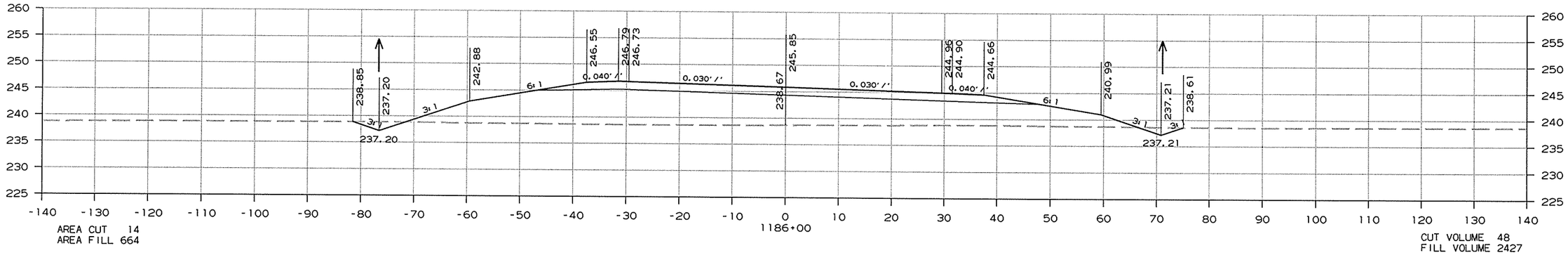
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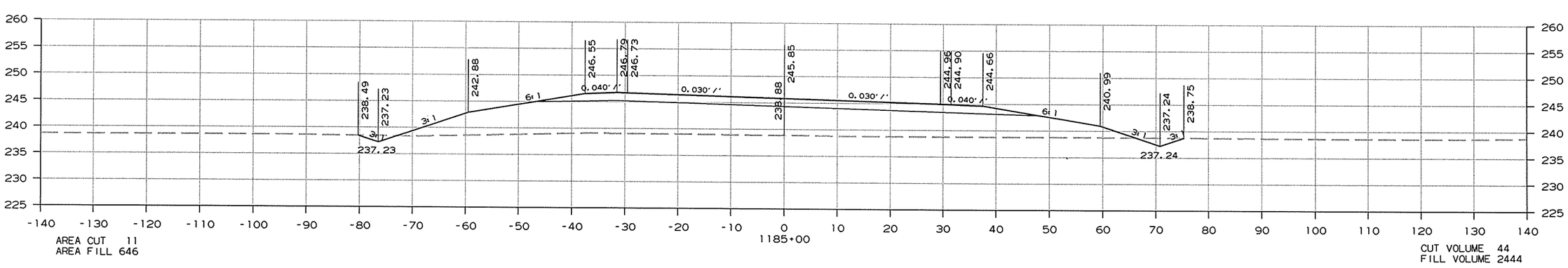
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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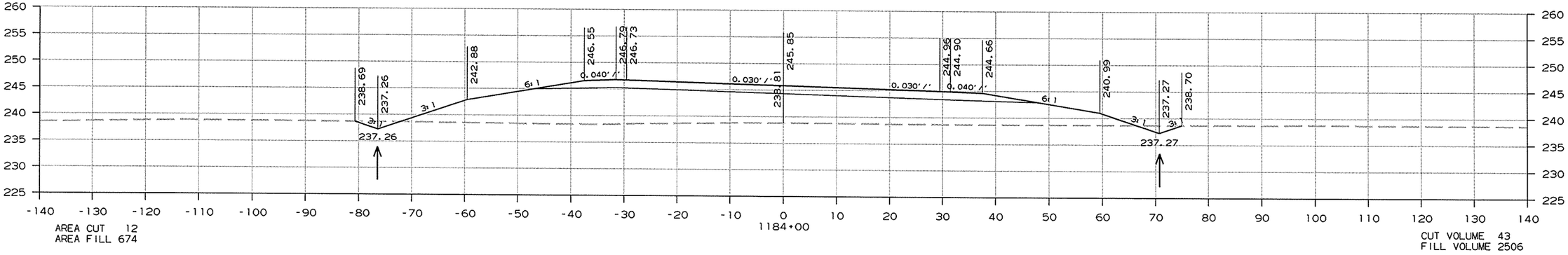
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1184+00 TO STA. 1186+00

1/26/2015

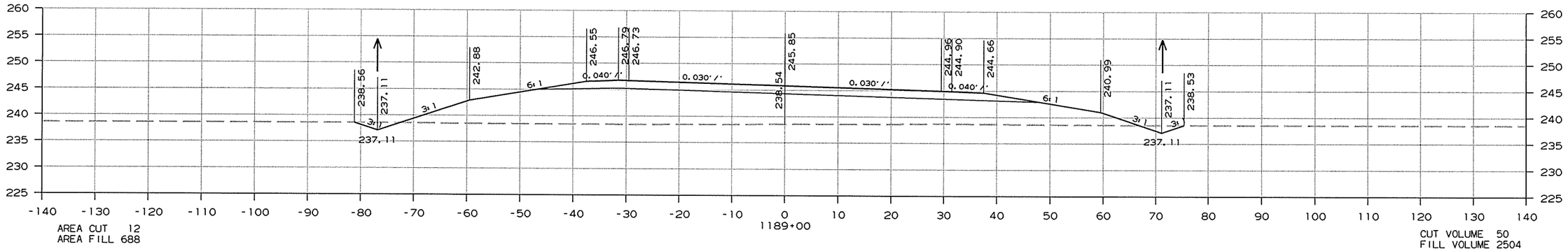
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	214	235

(2) CROSS SECTIONS

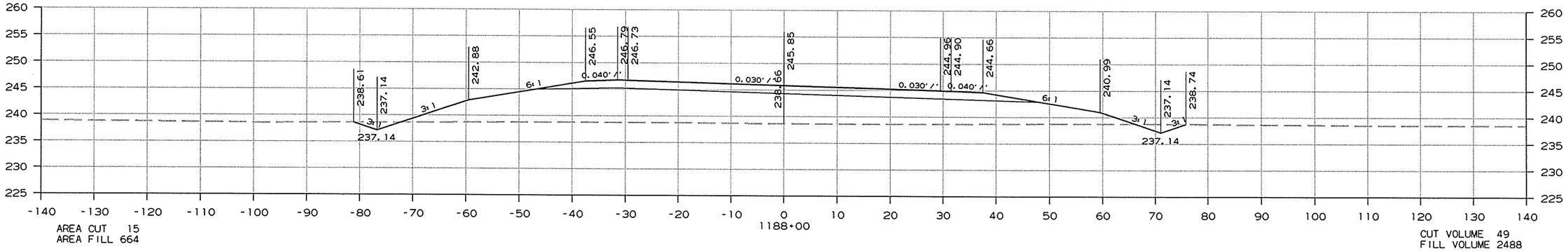
AREA

VOLUME



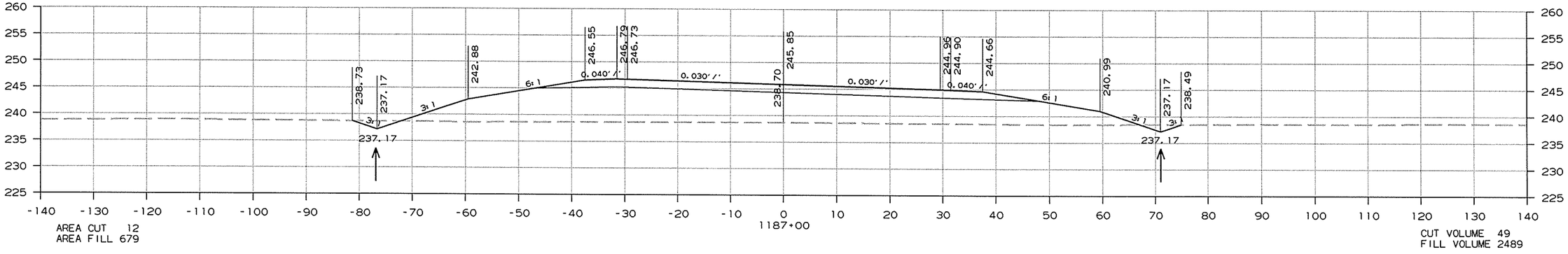
AREA CUT 12
AREA FILL 688

CUT VOLUME 50
FILL VOLUME 2504



AREA CUT 15
AREA FILL 664

CUT VOLUME 49
FILL VOLUME 2488



AREA CUT 12
AREA FILL 679

CUT VOLUME 49
FILL VOLUME 2489

CROSS SECTION STA. 1187+00 TO STA. 1189+00

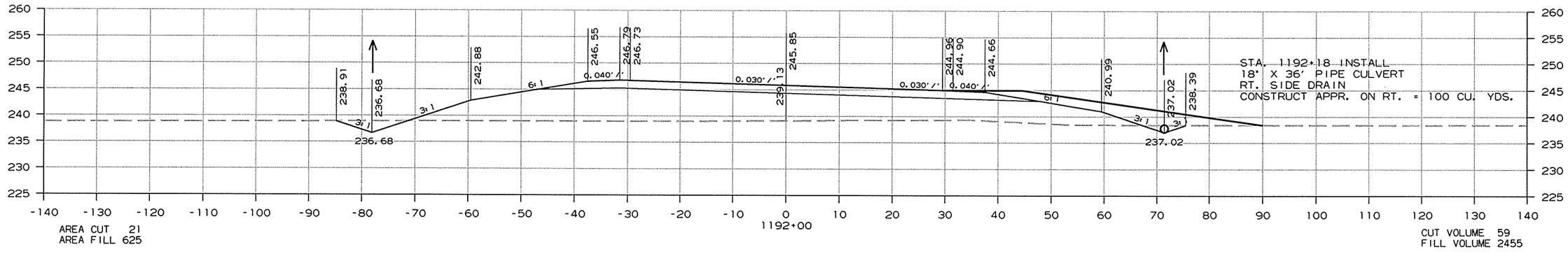
1/26/2015

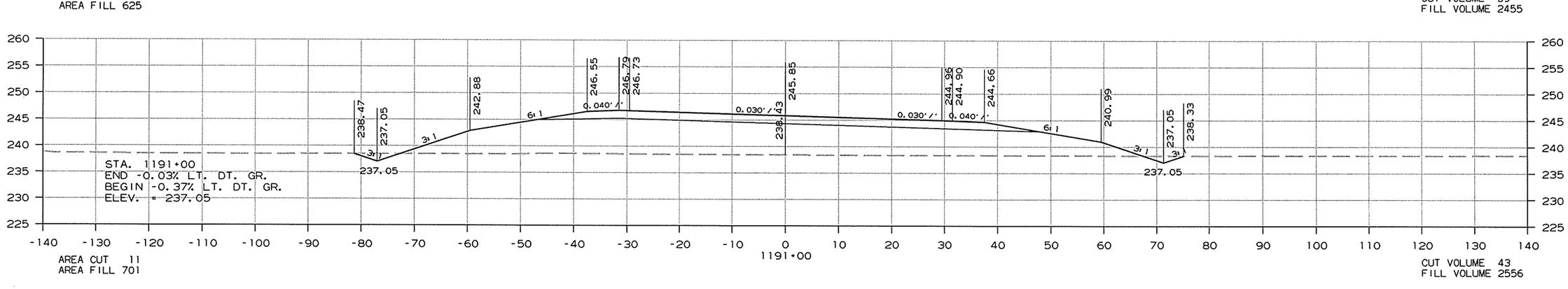
R100654.DGN

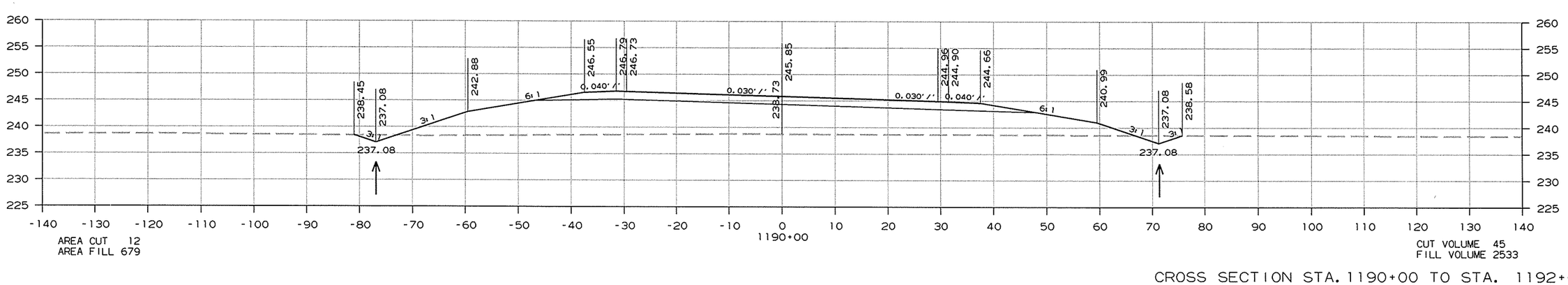
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	215	235

(2) CROSS SECTIONS

AREA VOLUME







CROSS SECTION STA. 1190+00 TO STA. 1192+00

1/26/2015

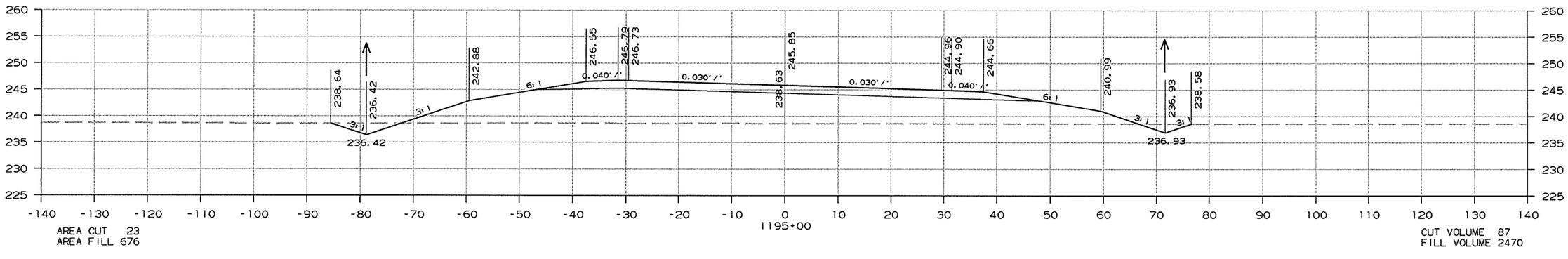
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS

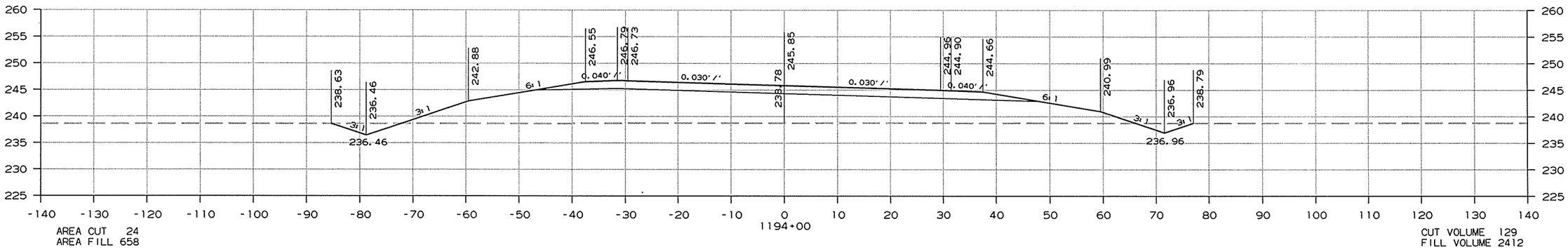
AREA

VOLUME



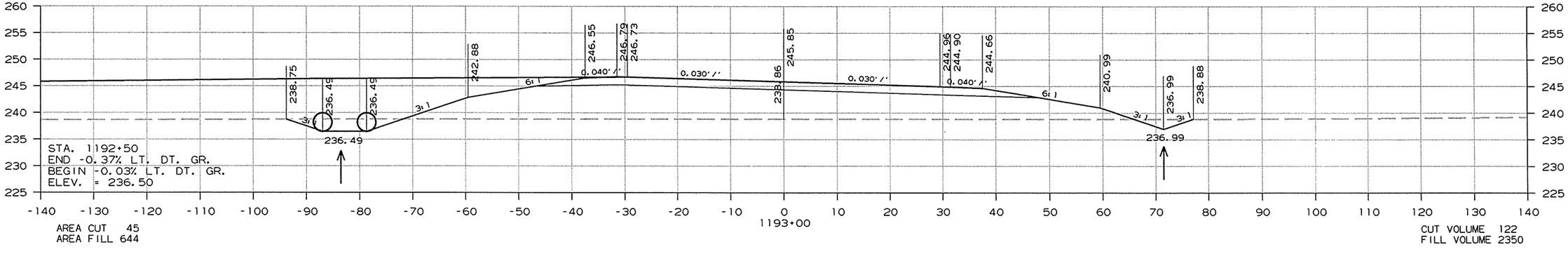
AREA CUT 23
AREA FILL 676

CUT VOLUME 87
FILL VOLUME 2470



AREA CUT 24
AREA FILL 658

CUT VOLUME 129
FILL VOLUME 2412



AREA CUT 45
AREA FILL 644

CUT VOLUME 122
FILL VOLUME 2350

CROSS SECTION STA. 1193+00 TO STA. 1195+00

1/26/2015

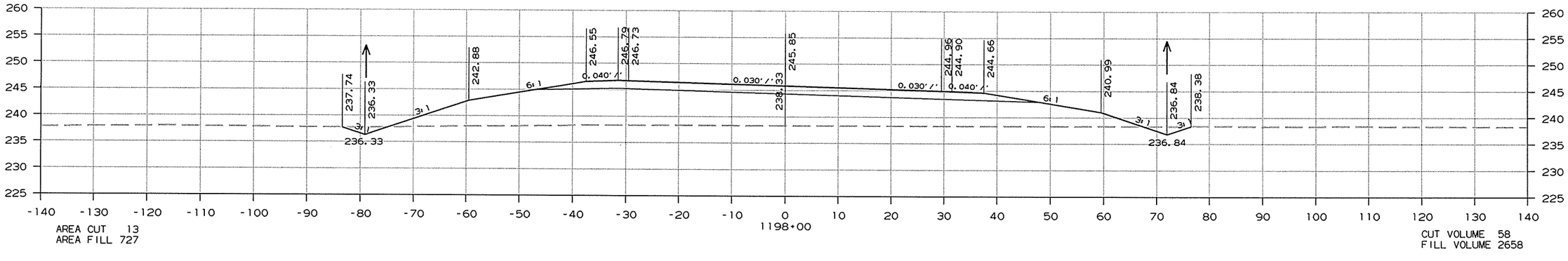
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS

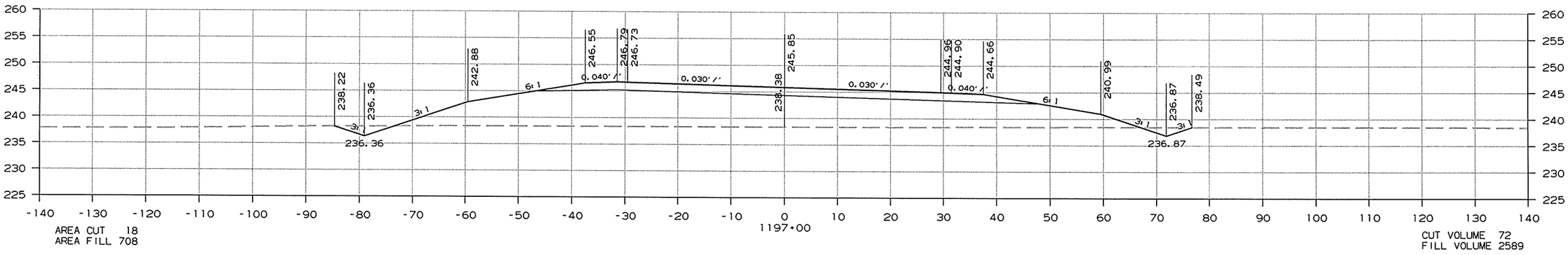
AREA

VOLUME



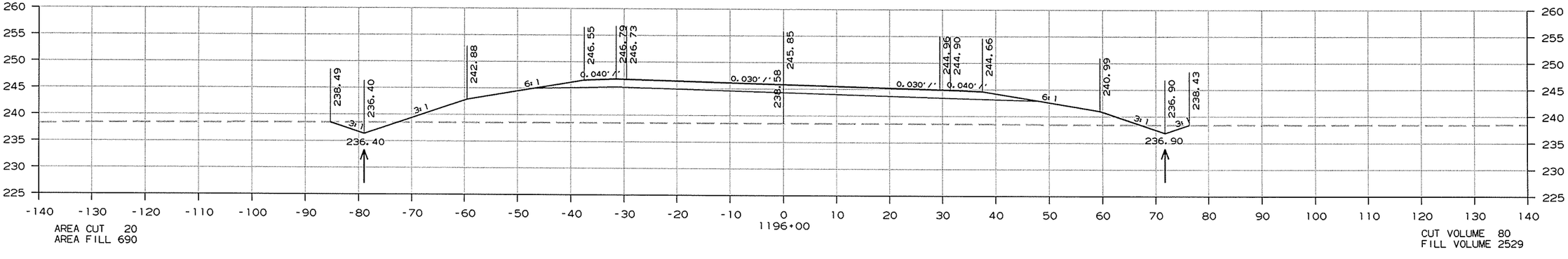
AREA CUT 13
AREA FILL 727

CUT VOLUME 58
FILL VOLUME 2658



AREA CUT 18
AREA FILL 708

CUT VOLUME 72
FILL VOLUME 2589



AREA CUT 20
AREA FILL 690

CUT VOLUME 80
FILL VOLUME 2529

CROSS SECTION STA. 1196+00 TO STA. 1198+00

1/26/2015

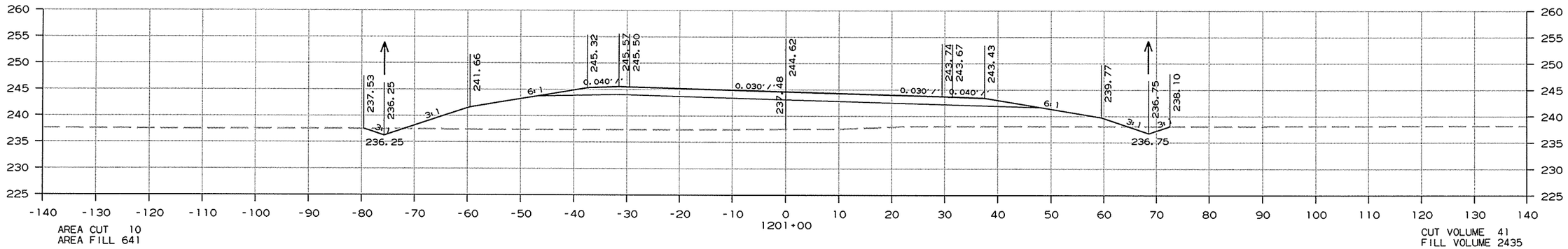
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	218	235

(2) CROSS SECTIONS

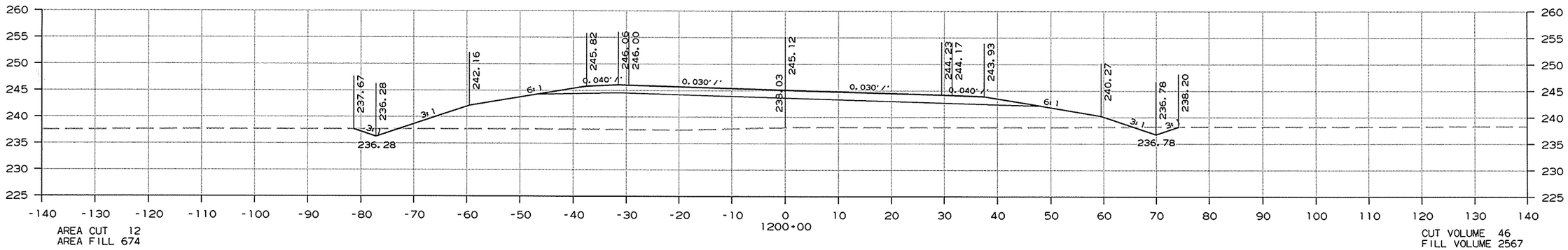
AREA

VOLUME



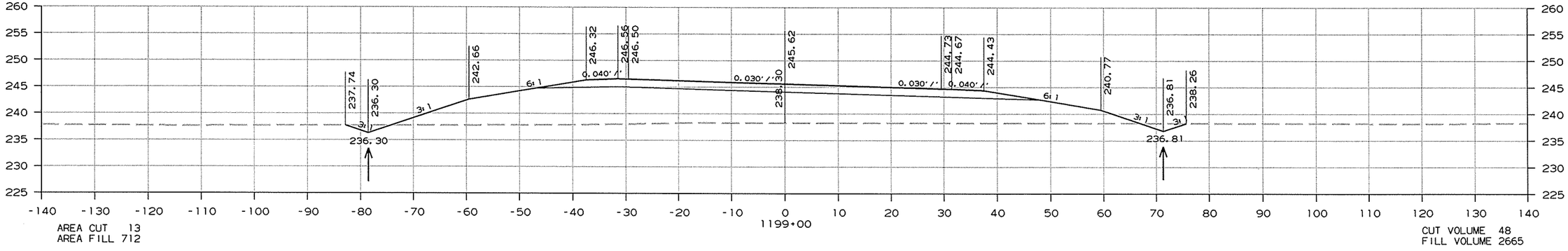
AREA CUT 10
AREA FILL 641

CUT VOLUME 41
FILL VOLUME 2435



AREA CUT 12
AREA FILL 674

CUT VOLUME 46
FILL VOLUME 2567



AREA CUT 13
AREA FILL 712

CUT VOLUME 48
FILL VOLUME 2665

CROSS SECTION STA. 1199+00 TO STA. 1201+00

1/26/2015

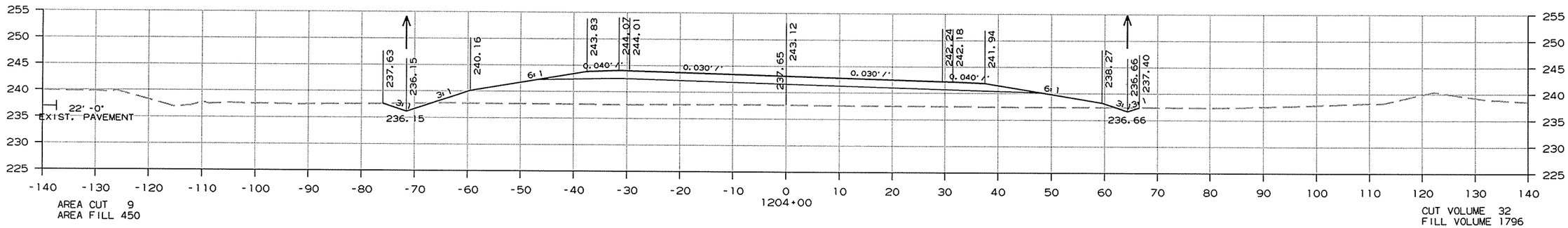
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	219	235

(2) CROSS SECTIONS

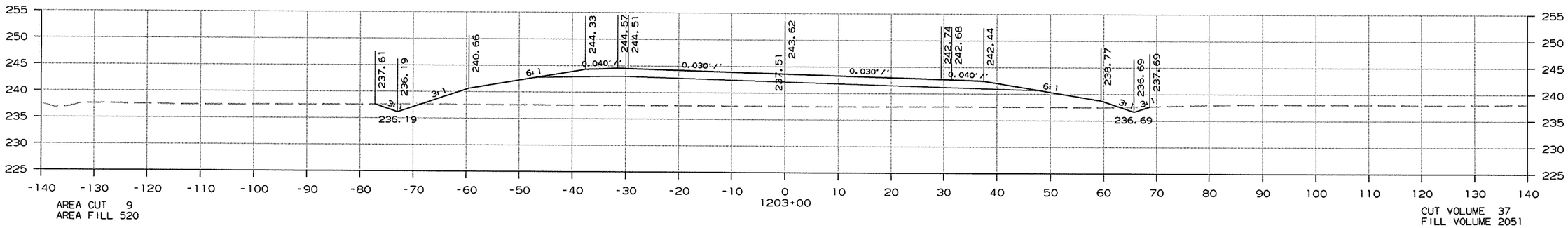
AREA

VOLUME



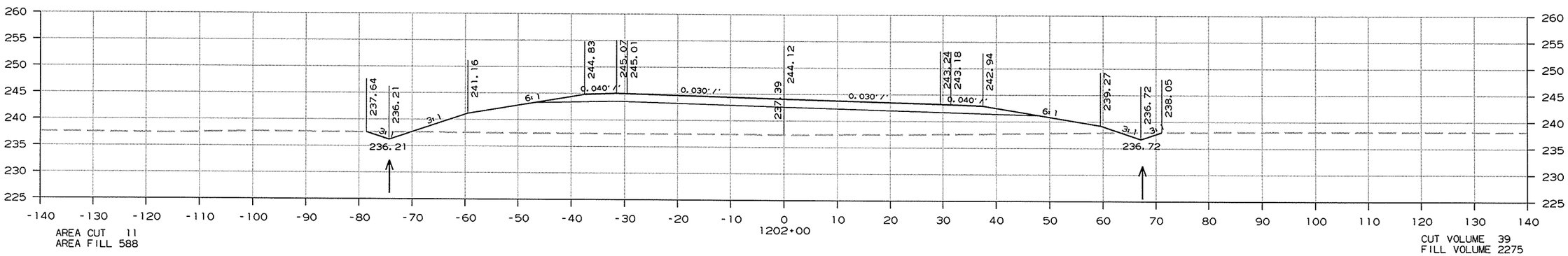
AREA CUT 9
AREA FILL 450

CUT VOLUME 32
FILL VOLUME 1796



AREA CUT 9
AREA FILL 520

CUT VOLUME 37
FILL VOLUME 2051



AREA CUT 11
AREA FILL 588

CUT VOLUME 39
FILL VOLUME 2275

CROSS SECTION STA. 1202+00 TO STA. 1204+00

1/26/2015

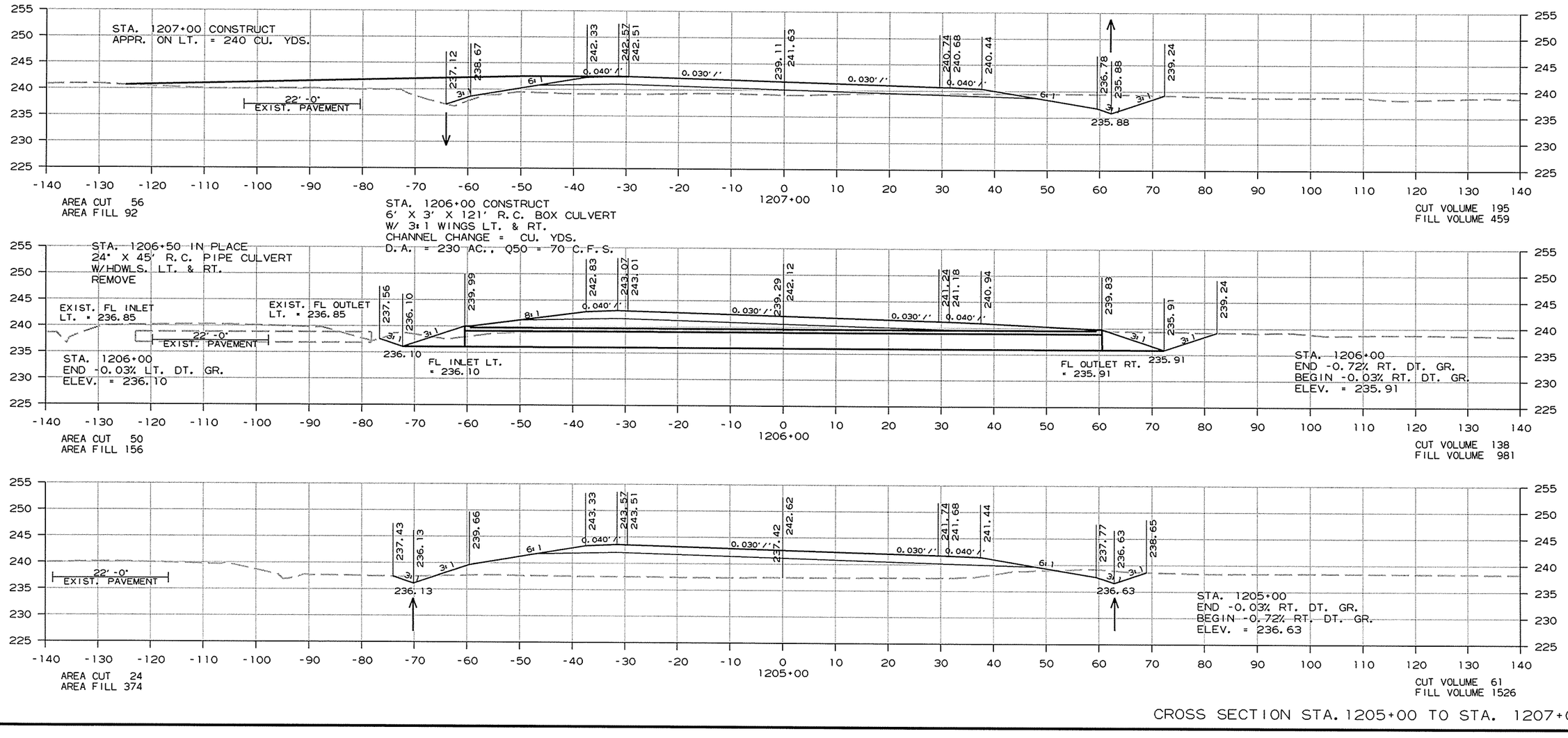
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	220	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1205+00 TO STA. 1207+00

1/26/2015

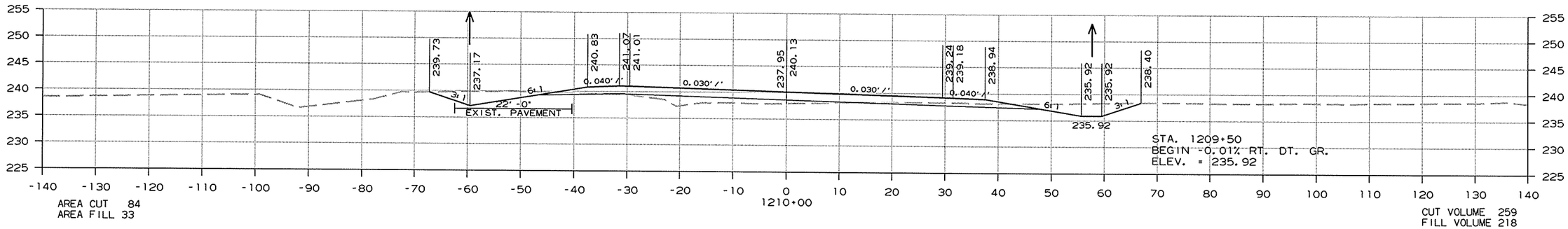
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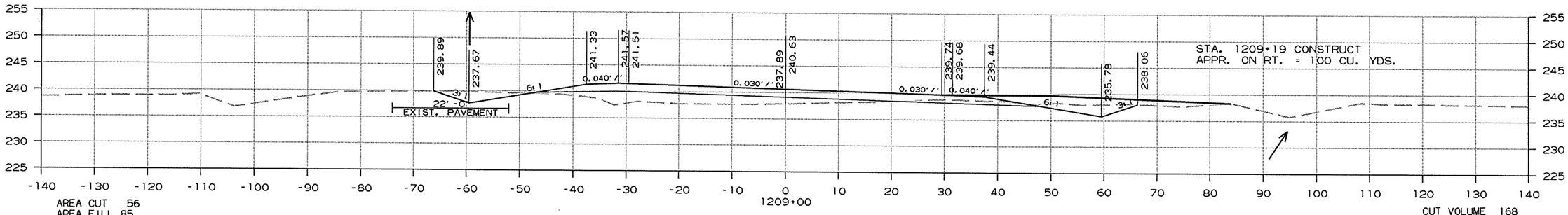
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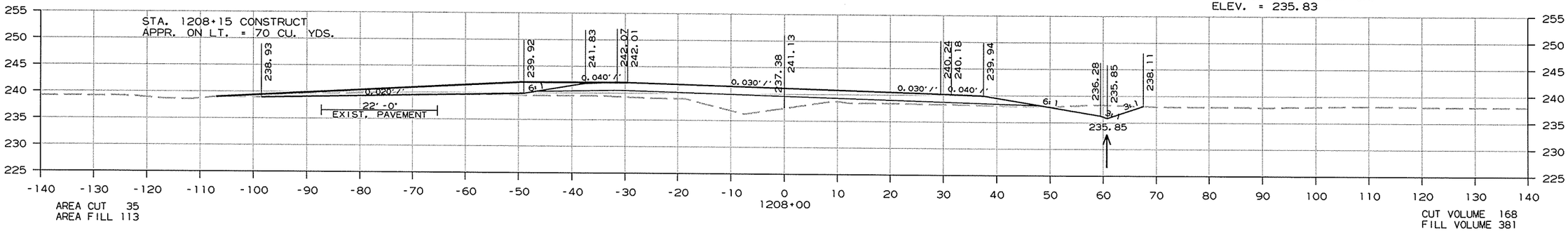
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1208+00 TO STA. 1210+00

1/26/2015

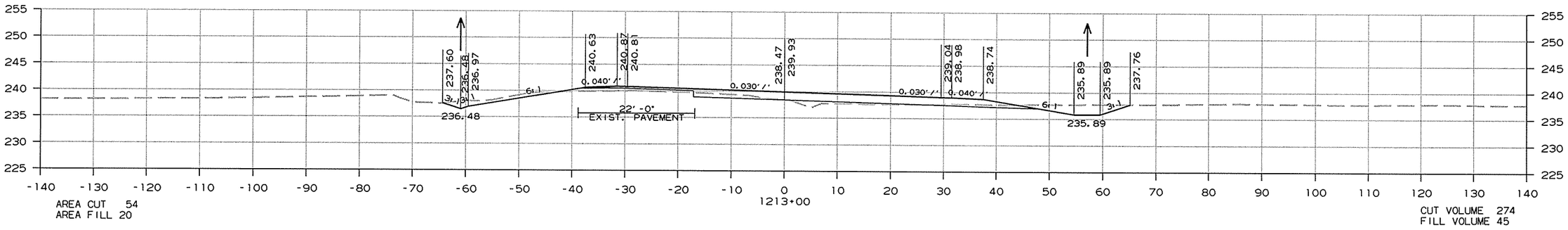
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) CROSS SECTIONS

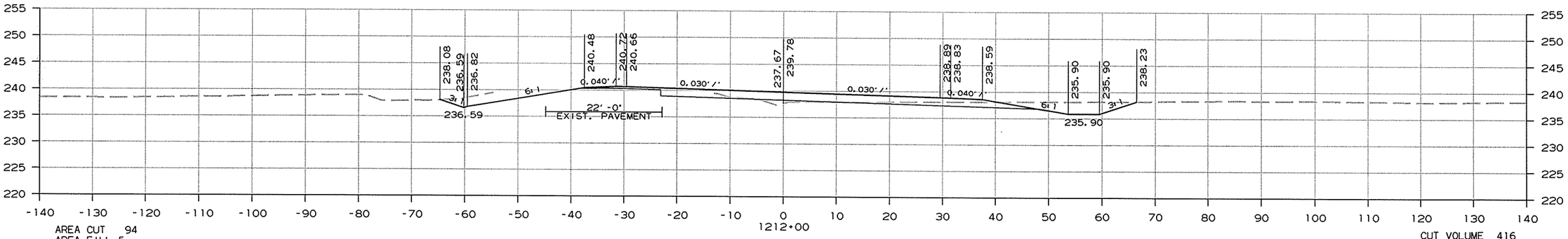
AREA

VOLUME



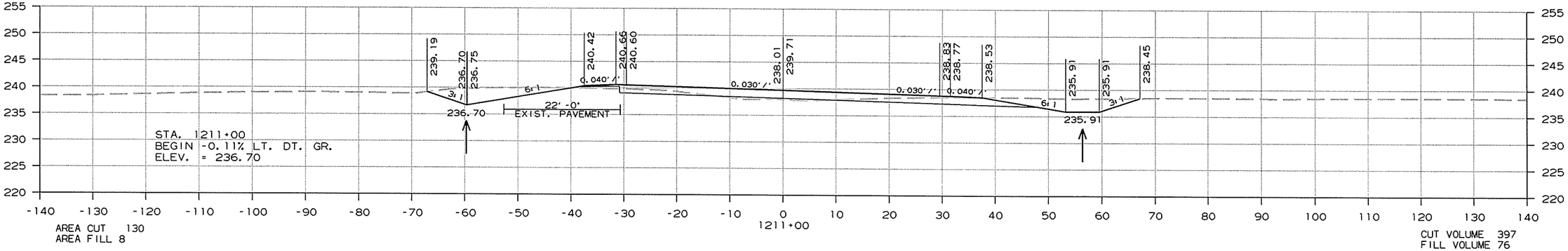
AREA CUT 54
AREA FILL 20

CUT VOLUME 274
FILL VOLUME 45



AREA CUT 94
AREA FILL 5

CUT VOLUME 416
FILL VOLUME 24



AREA CUT 130
AREA FILL 8

CUT VOLUME 397
FILL VOLUME 76

CROSS SECTION STA. 1211+00 TO STA. 1213+00

1/26/2015

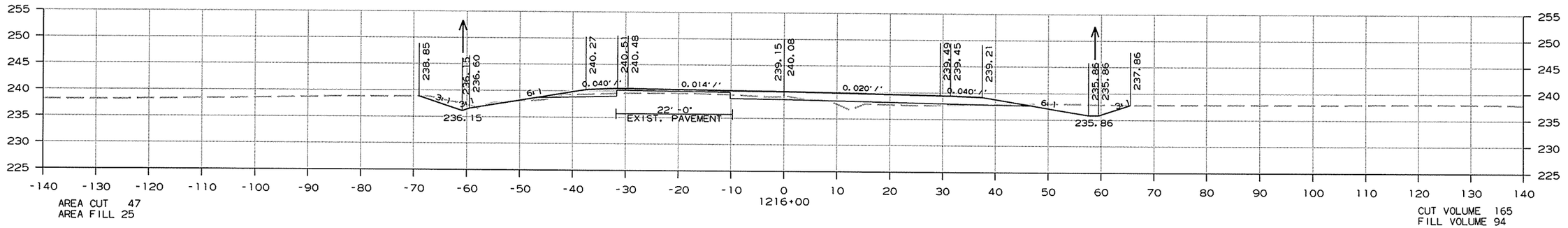
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	223	235

(2) CROSS SECTIONS

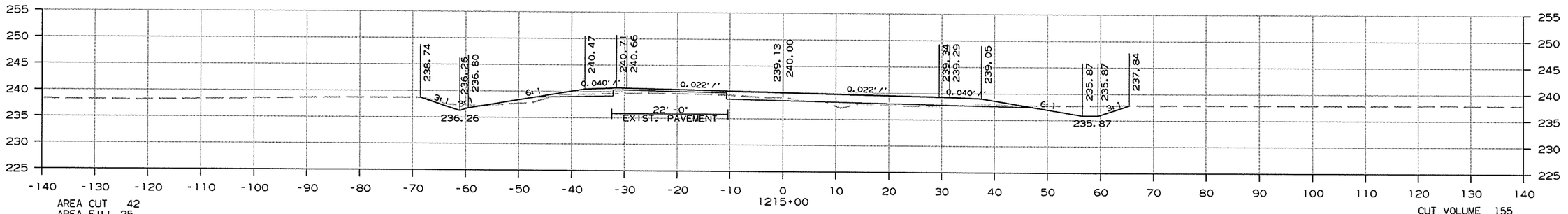
AREA

VOLUME



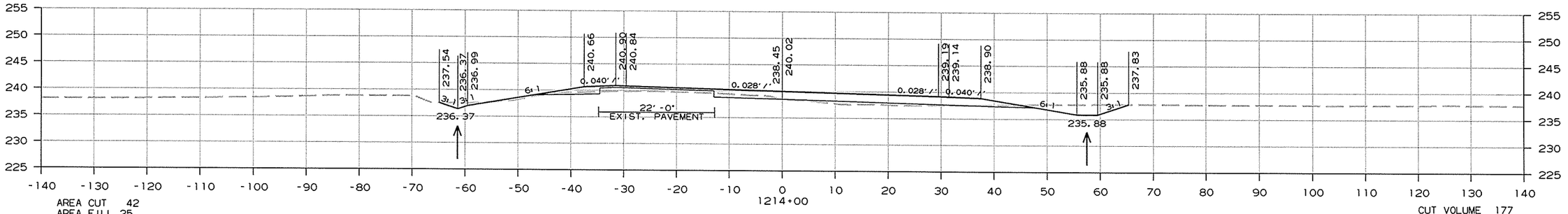
AREA CUT 47
AREA FILL 25

CUT VOLUME 165
FILL VOLUME 94



AREA CUT 42
AREA FILL 25

CUT VOLUME 155
FILL VOLUME 92



AREA CUT 42
AREA FILL 25

CUT VOLUME 177
FILL VOLUME 82

CROSS SECTION STA. 1214+00 TO STA. 1216+00

1/26/2015

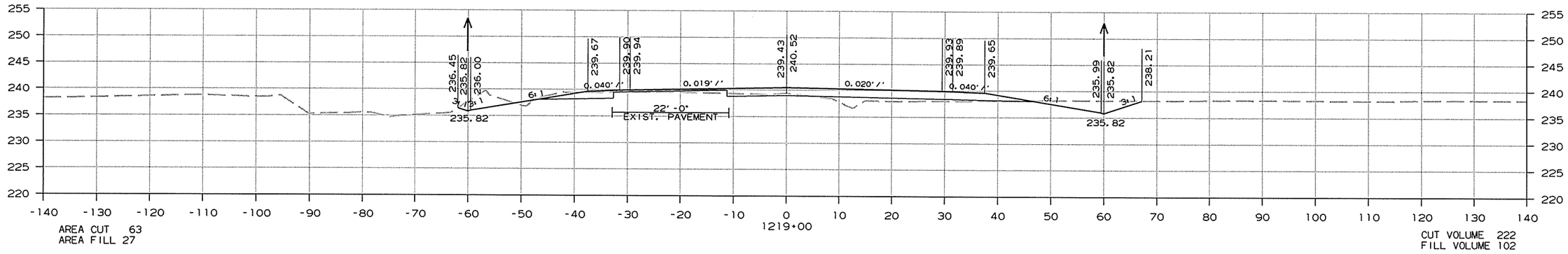
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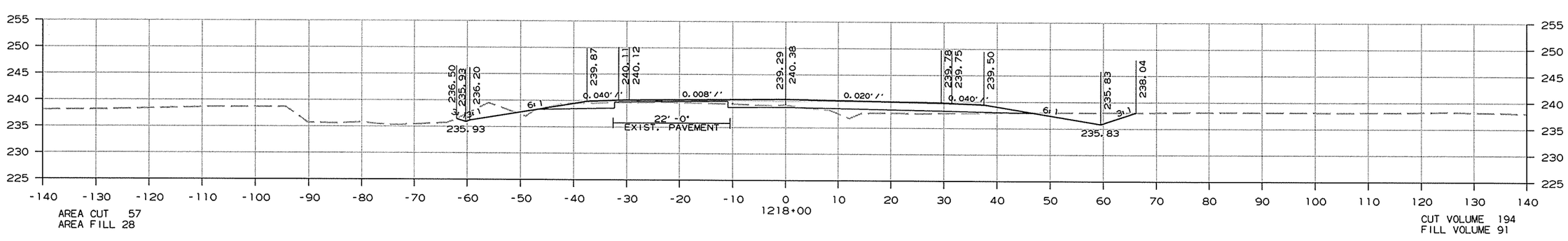
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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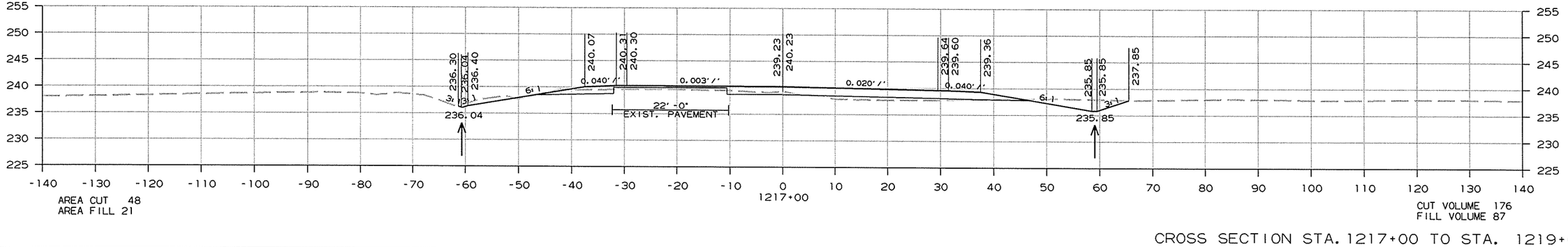
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 1217+00 TO STA. 1219+00

1/26/2015

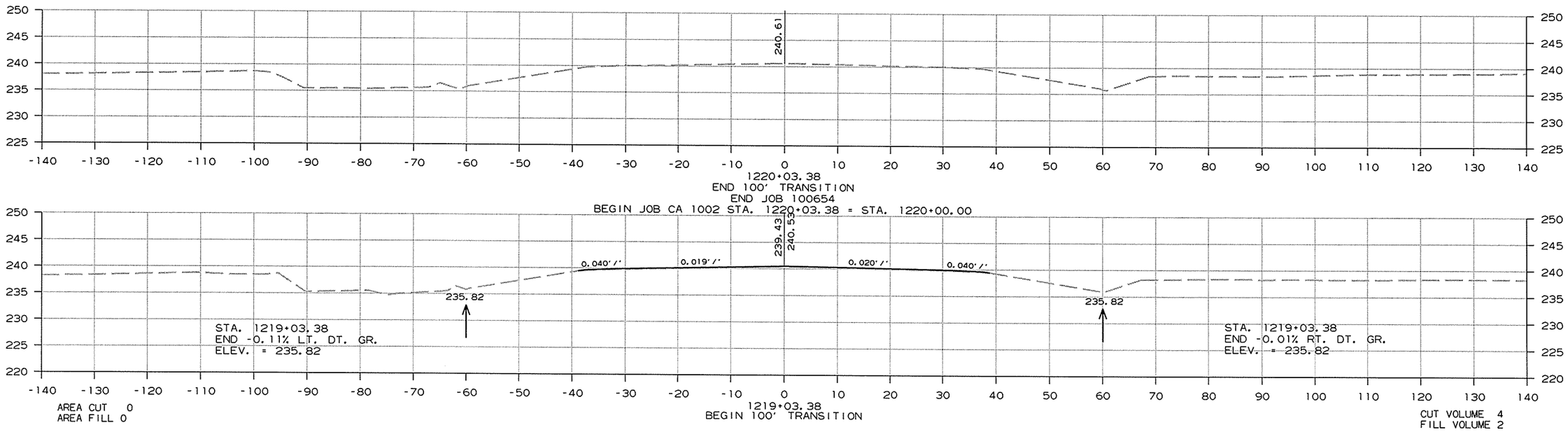
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	225	235

(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 1219+03 TO STA. 1219+03

1/26/2015

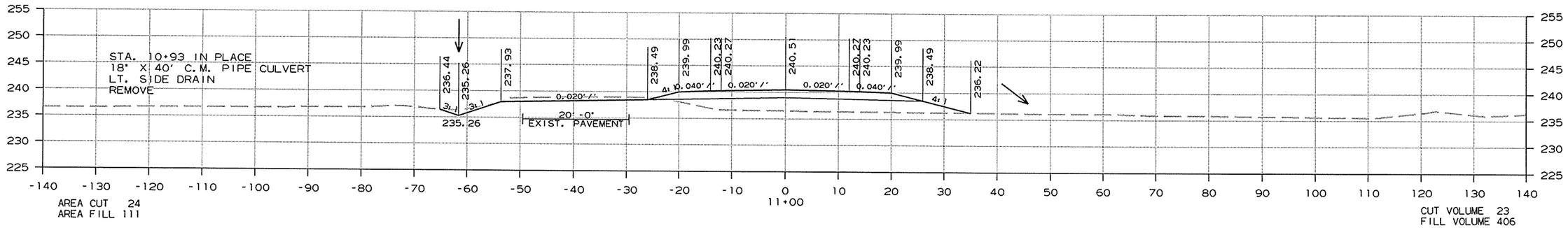
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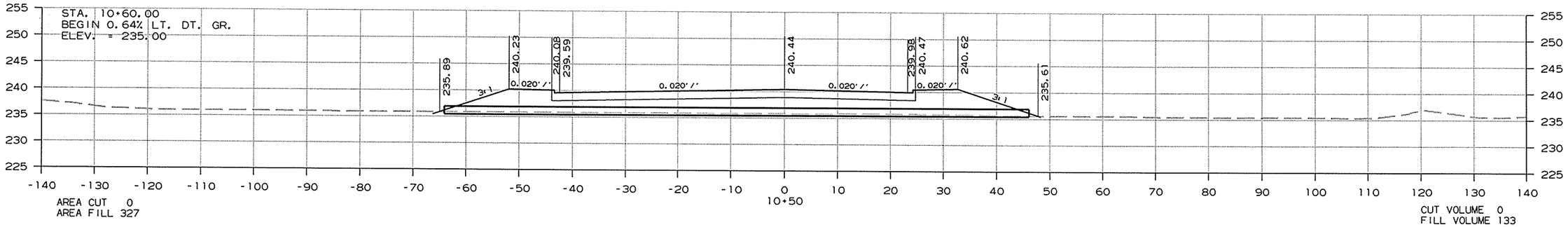
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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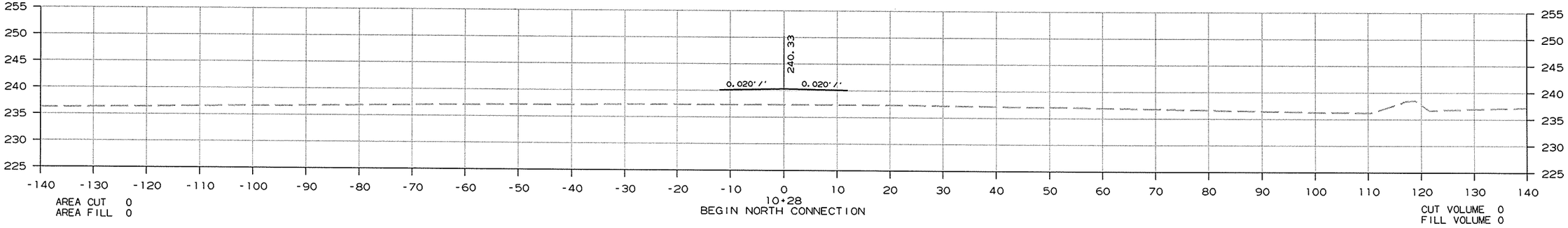
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 10+28 TO STA. 11+00

1/26/2015

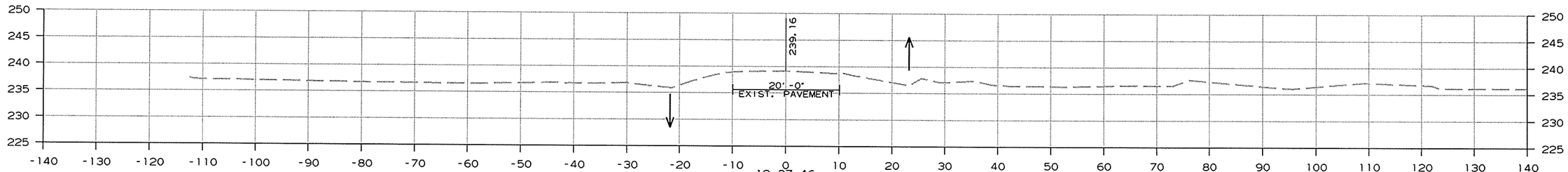
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	227	235

(2) CROSS SECTIONS

AREA

VOLUME

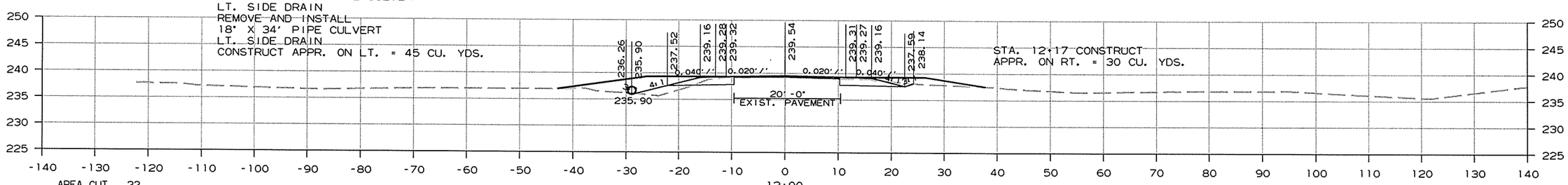


AREA CUT 0
AREA FILL 0

12+37.46
END NORTH CONNECTION
END 61.69' TRANSITION

CUT VOLUME 15
FILL VOLUME 7

STA. 11+77 IN PLACE
18" X 30' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 45 CU. YDS.

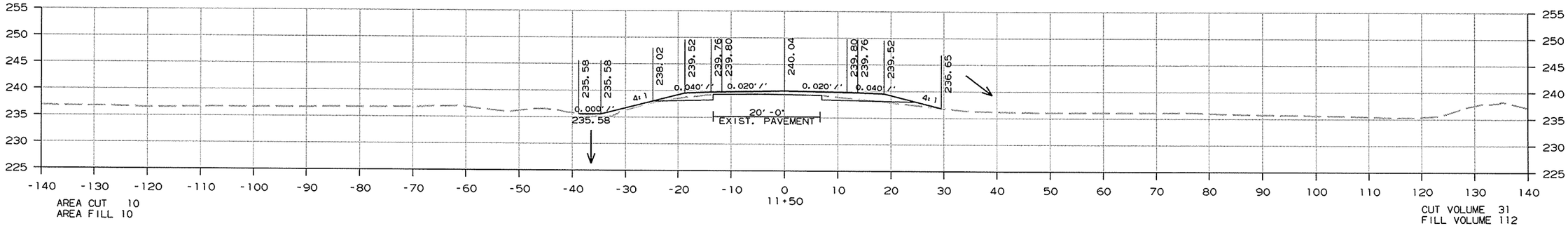


STA. 12+17 CONSTRUCT
APPR. ON RT. = 30 CU. YDS.

AREA CUT 22
AREA FILL 10

12+00
11+75.77 BEGIN 61.69' TRANSITION

CUT VOLUME 29
FILL VOLUME 18



AREA CUT 10
AREA FILL 10

11+50

CUT VOLUME 31
FILL VOLUME 112

CROSS SECTION STA. 11+50 TO STA. 12+37

1/26/2015

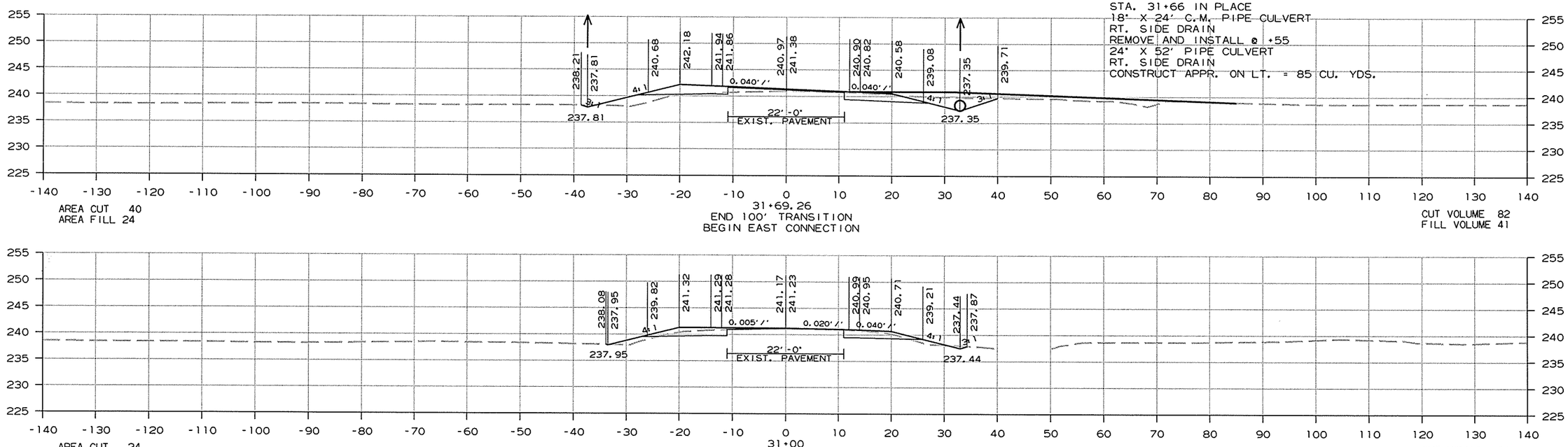
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
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(2) CROSS SECTIONS

AREA

VOLUME



CROSS SECTION STA. 30+69 TO STA. 31+69

1/26/2015

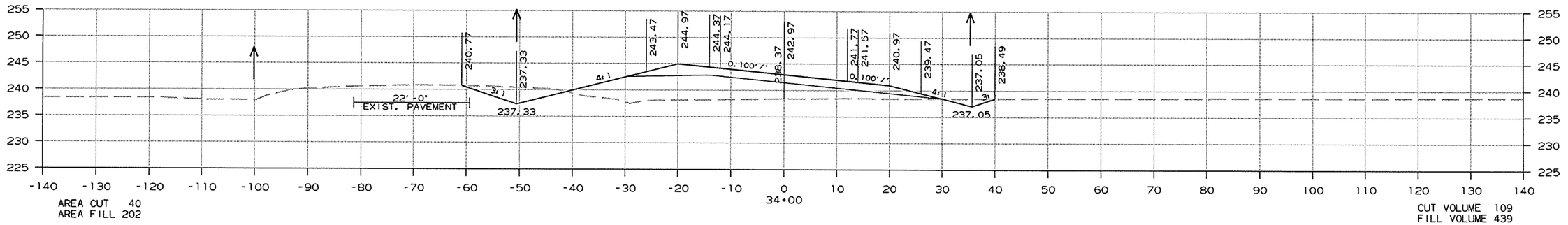
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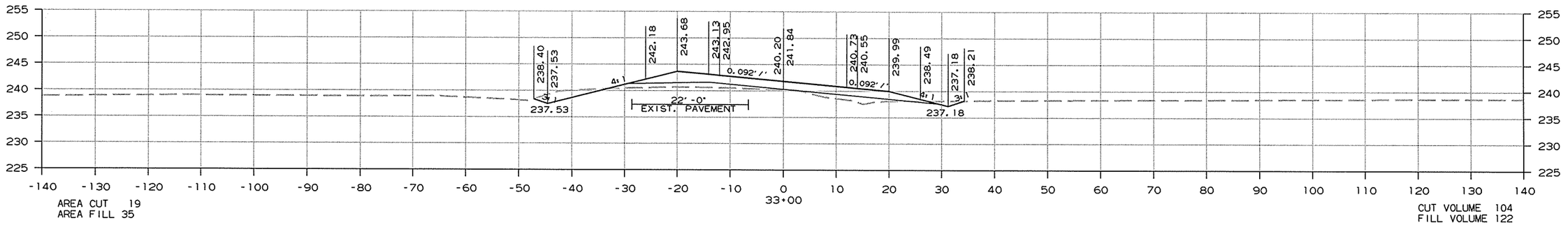
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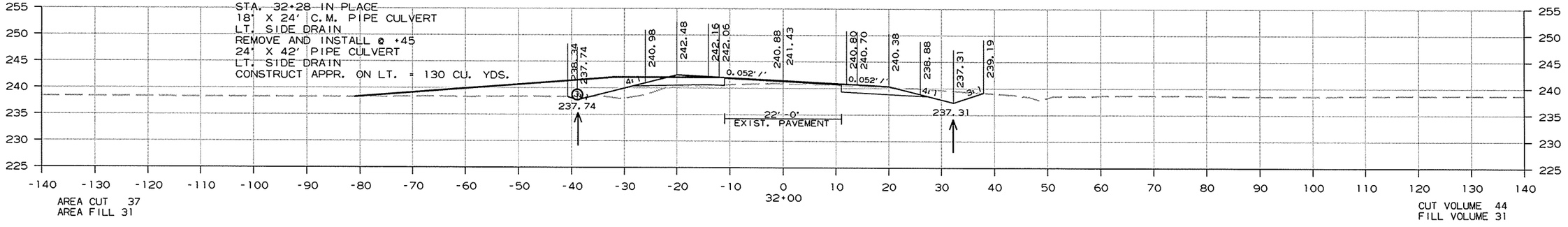
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 32+00 TO STA. 34+00

1/26/2015

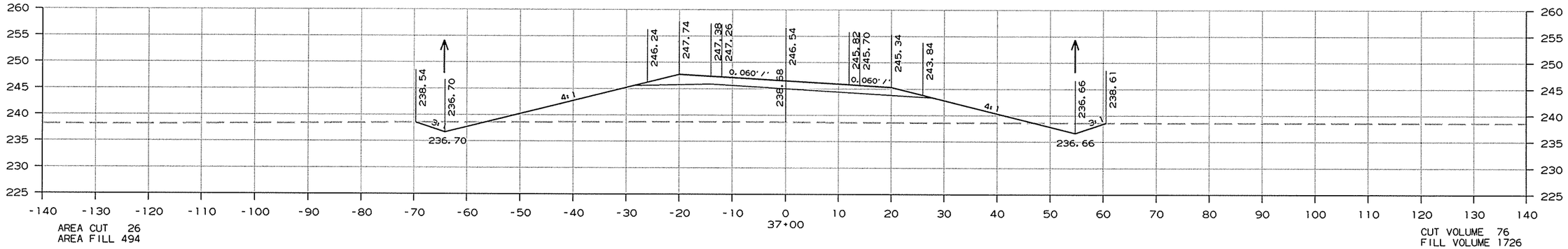
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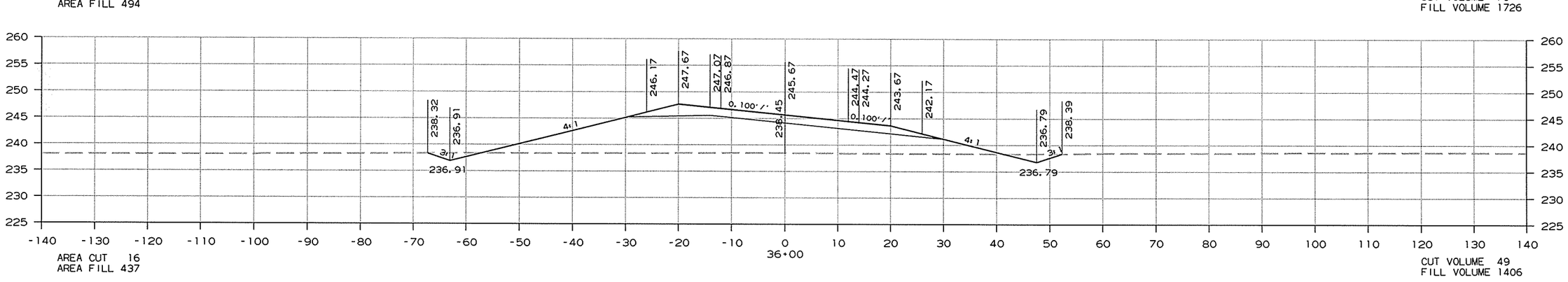
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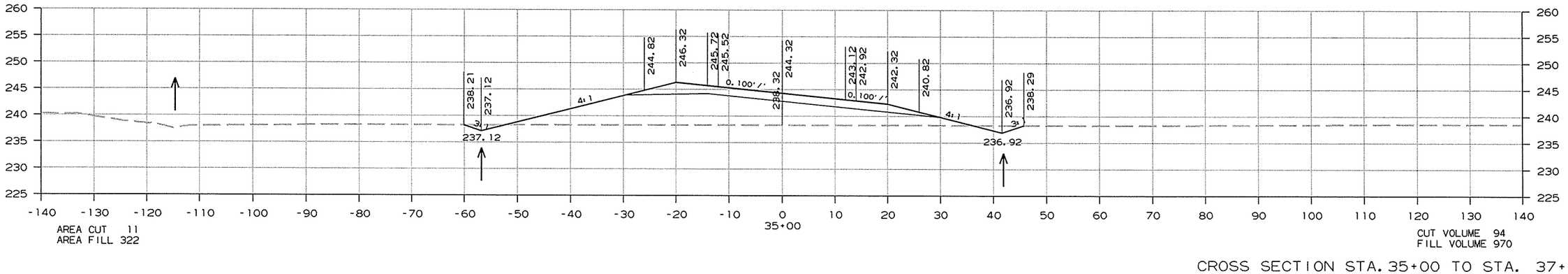
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 35+00 TO STA. 37+00

1/26/2015

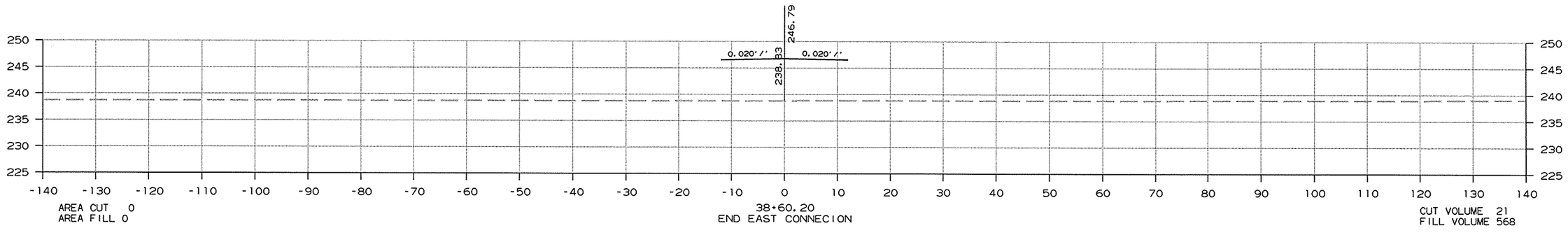
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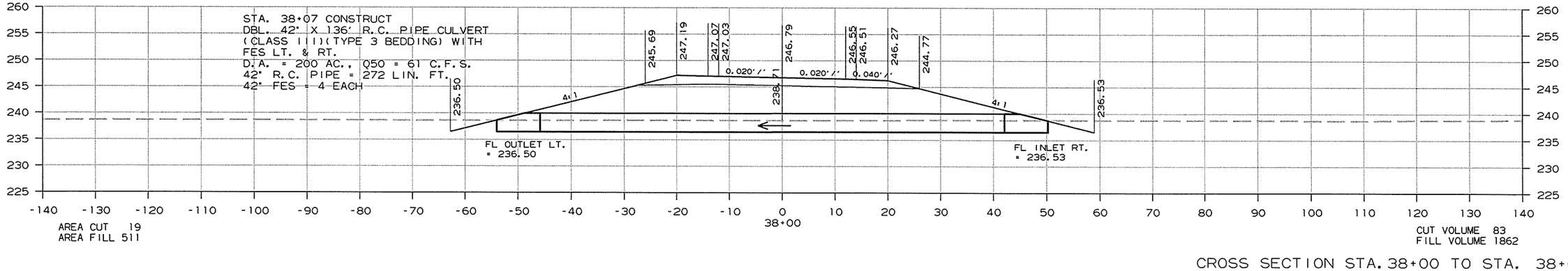
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		100654	231	235

(2) CROSS SECTIONS

AREA

VOLUME





CROSS SECTION STA. 38+00 TO STA. 38+60

1/26/2015

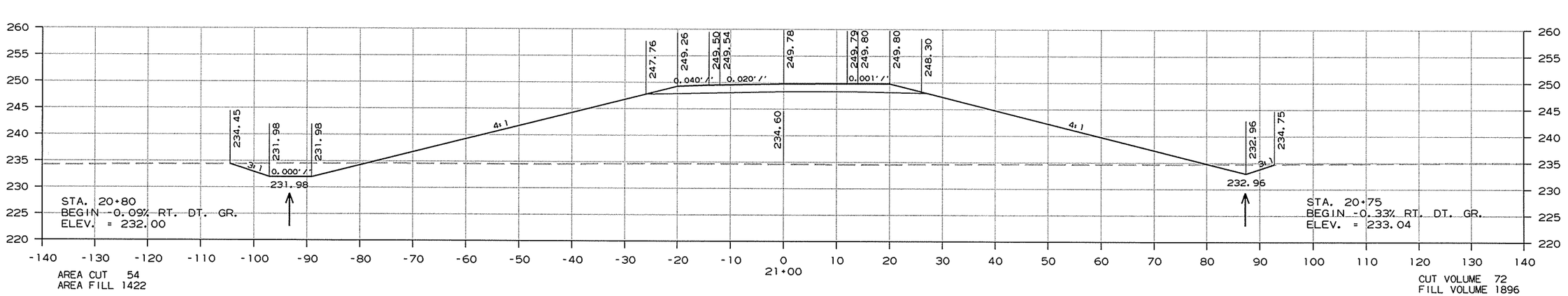
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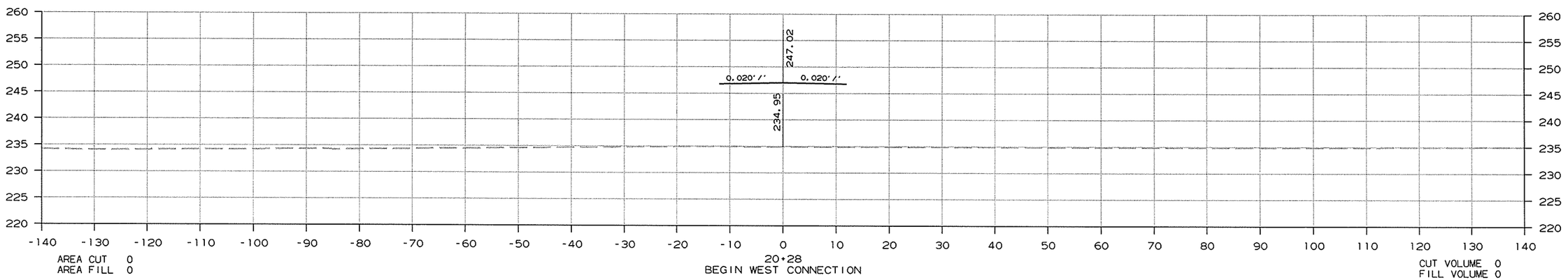
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				6	ARK.			
				JOB NO.		100654	232	235

(2) CROSS SECTIONS

AREA

VOLUME





CROSS SECTION STA. 20+28 TO STA. 21+00

1/26/2015

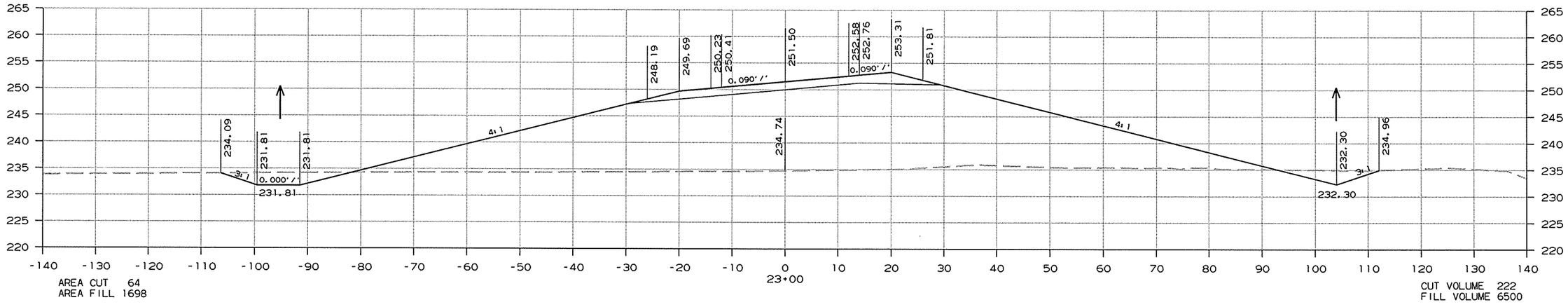
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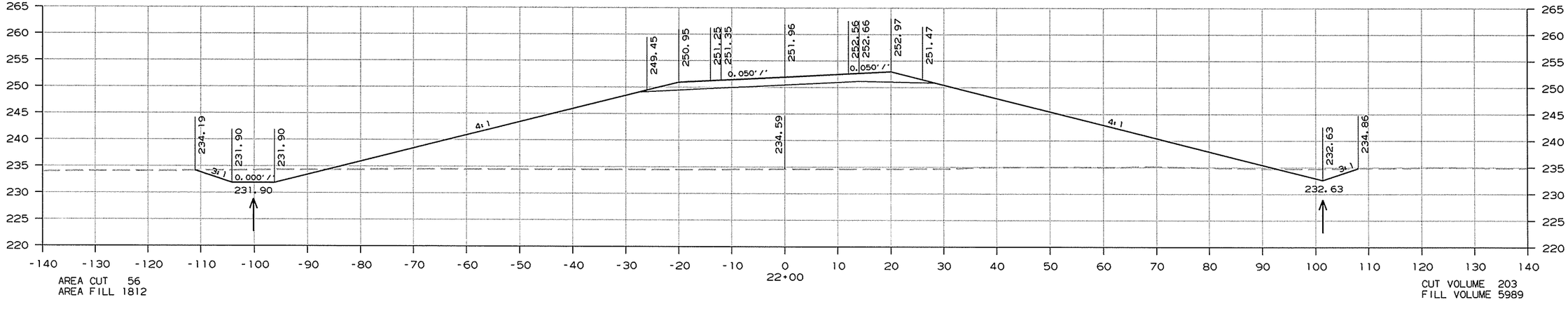
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				JOB NO.		100654	233	235

(2) CROSS SECTIONS

AREA

VOLUME





CROSS SECTION STA. 22+00 TO STA. 23+00

1/26/2015

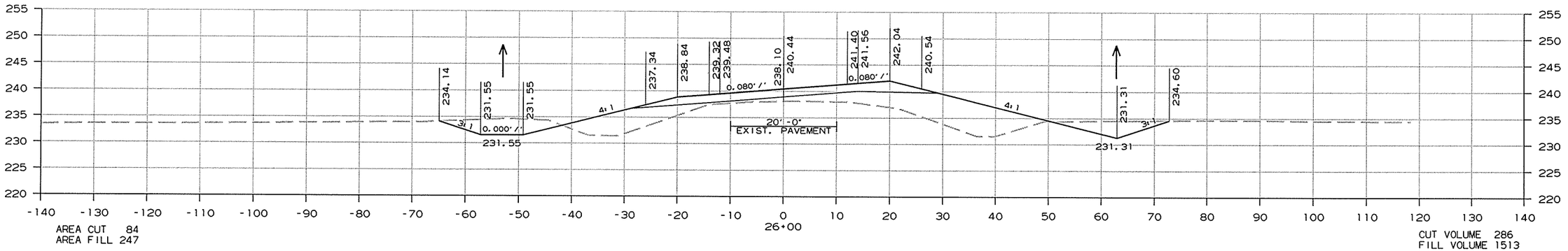
R100654.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	234	235

(2) CROSS SECTIONS

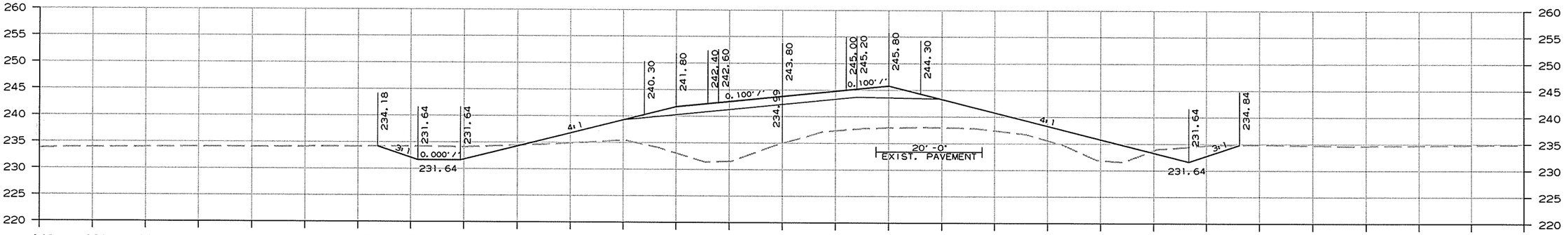
AREA

VOLUME



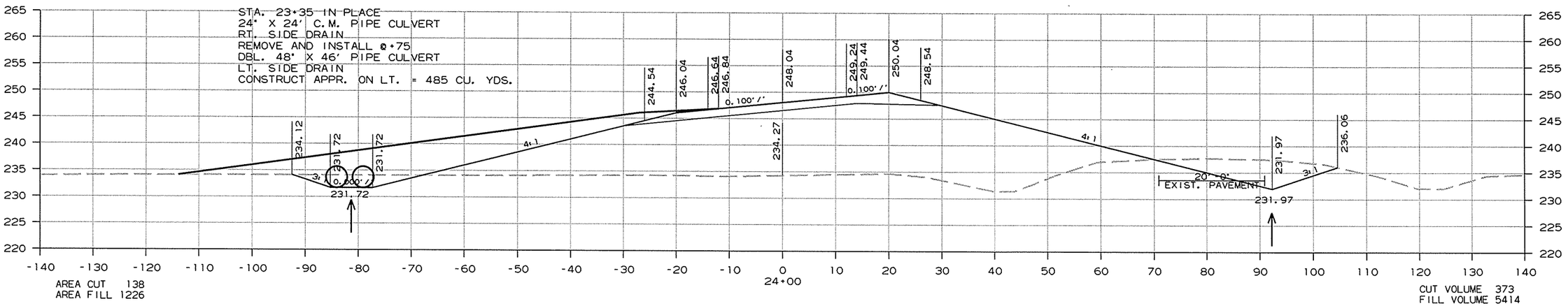
AREA CUT 84
AREA FILL 247

CUT VOLUME 286
FILL VOLUME 1513



AREA CUT 70
AREA FILL 570

CUT VOLUME 384
FILL VOLUME 3326



AREA CUT 138
AREA FILL 1226

CUT VOLUME 373
FILL VOLUME 5414

CROSS SECTION STA. 24+00 TO STA. 26+00

1/26/2015

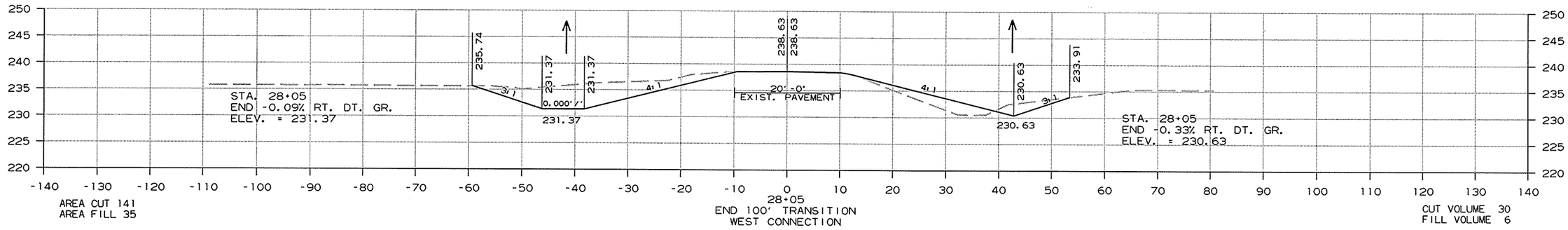
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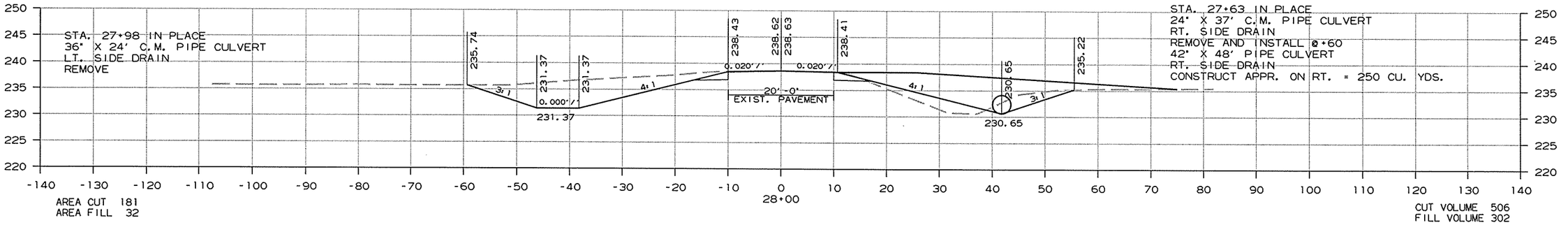
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		100654	235	235

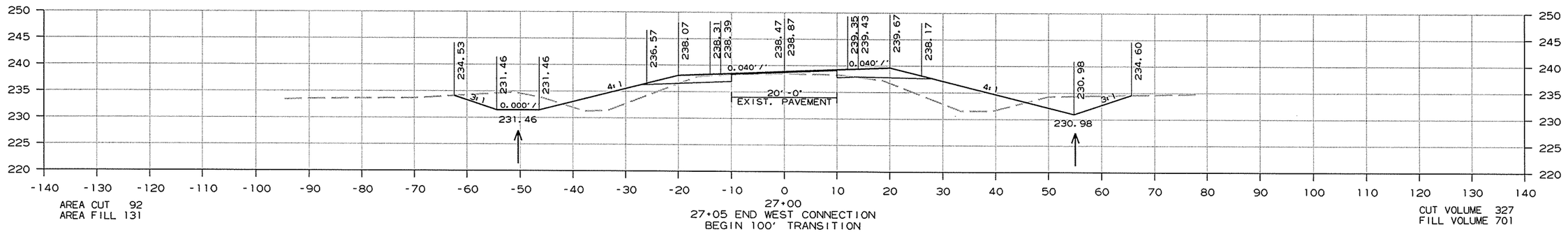
(2) CROSS SECTIONS

AREA

VOLUME







CROSS SECTION STA. 27+00 TO STA. 28+05

1/26/2015

R100654.DGN