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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	1	81
SULPHUR SPRINGS-DECATUR (PASSING LANE) (S)						

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

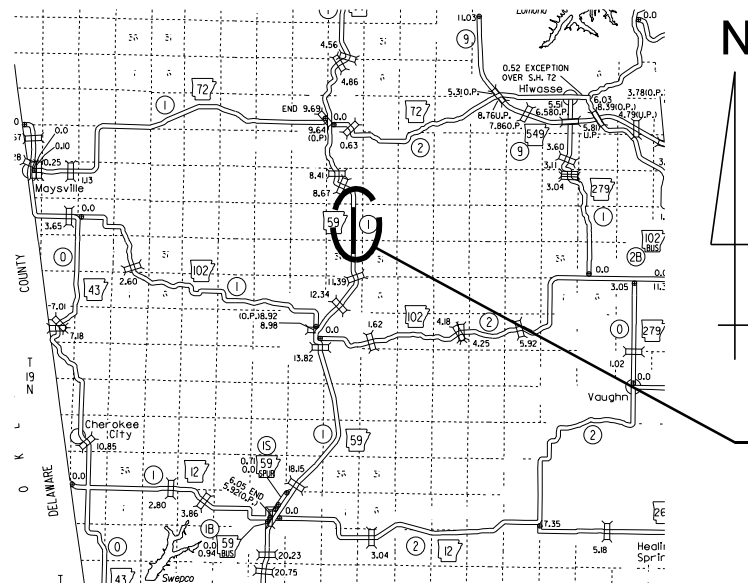
SULPHUR SPRINGS - DECATUR
(PASSING LANE) (S)

BENTON COUNTY

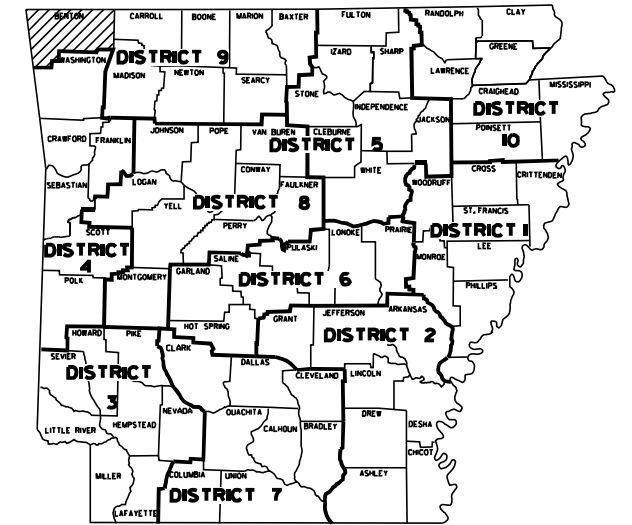
ROUTE 59 SECTION 1

JOB 090558

FED. AID PROJ. STPF-0004(85)



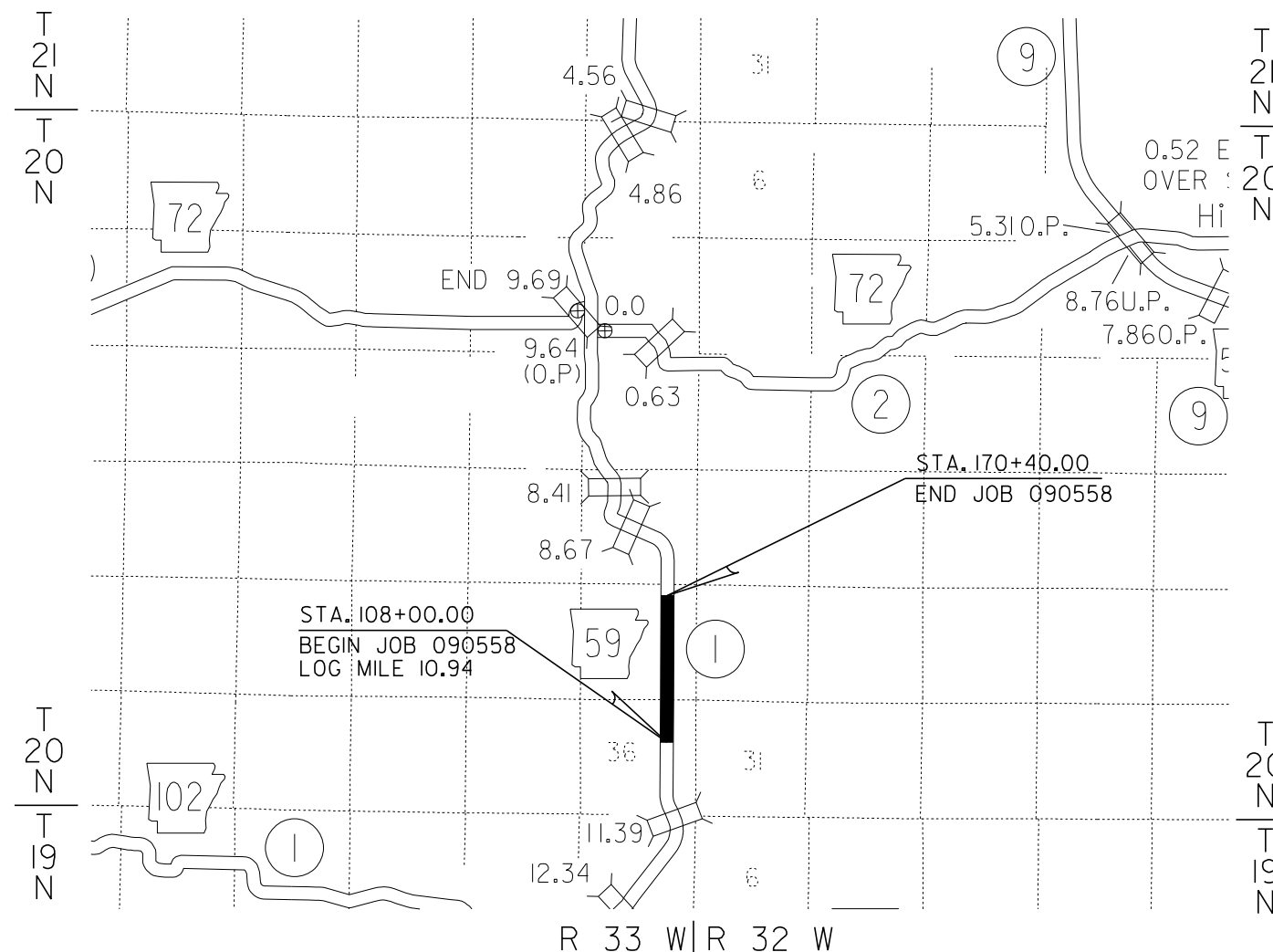
VICINITY MAP



ARK. HWY. DIST. NO. 9

NOT TO SCALE

R 33 W | R 32 W



DESIGN TRAFFIC DATA

DESIGN YEAR-----	2044
2024 ADT-----	6,800
2044 ADT-----	8,400
2044 DHV-----	924
DIRECTIONAL DISTRIBUTION-----	0.60
TRUCKS-----	19%
AVG. RUNNING SPEED-----	55 MPH

	BEGIN JOB	MID-POINT OF JOB	END JOB
LATITUDE	36°21'55" N	36°22'26" N	36°22'59" N
LONGITUDE	94°26'31" W	94°26'31" W	94°26'30" W

PROJECT LENGTH COMPUTED ALONG C.L. CONSTRUCTION

GROSS LENGTH OF PROJECT	6,240.00 FEET OR	1.182 MILES
NET LENGTH OF ROADWAY	6,240.00 FEET OR	1.182 MILES
NET LENGTH OF BRIDGES	0.00 FEET OR	0.000 MILES
NET LENGTH OF PROJECT	6,240.00 FEET OR	1.182 MILES



P.E. JOB 090558

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8/11/2024

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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
2024-09-11		6	ARK.	090558	2	81
INDEX OF SHEETS, STANDARD DRAWINGS GOVERNING SPECS, AND GENERAL NOTES						

INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS, STANDARD DRAWINGS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES
3	TYPICAL SECTIONS OF IMPROVEMENT
4 - 5, 5A	SPECIAL DETAILS
6 - 20	TEMPORARY EROSION CONTROL DETAILS
21 - 31	MAINTENANCE OF TRAFFIC DETAILS
32 - 36	PERMANENT PAVEMENT MARKING DETAILS
37 - 40	QUANTITIES
41	SUMMARY OF QUANTITIES AND REVISIONS
42 - 45	SURVEY CONTROL DETAILS
46 - 50, 50A	PLAN AND PROFILE SHEETS
51 - 80, 80A-80C, 81	CROSS SECTIONS

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
DR-1	DETAILS OF DRIVEWAYS & ISLANDS	05-19-22
DR-2	DETAILS OF DRIVEWAYS & STREET TURNOUTS	05-19-22
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
MB-1	MAILBOX DETAILS	11-18-04
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PCP-3	PLASTIC PIPE CULVERT (POLYPROPYLENE)	02-27-20
PM-1	PAVEMENT MARKING DETAILS	02-27-20
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-12-21
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
TEC-4	TEMPORARY EROSION CONTROL DEVICES	07-26-12
WF-2	WIRE FENCE WATER GAPS	04-20-79
WF-4	WIRE FENCE TYPE C AND D	08-22-02

GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- THIS PROJECT IS COVERED UNDER A NATIONWIDE 14 SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENT MATERIALS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- THE EXISTING PAVEMENT TO BE REMOVED 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 PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
100-4	DEPARTMENT NAME CHANGE
102-2	ISSUANCE OF PROPOSALS
102-3	PREQUALIFICATION OF BIDDERS
103-2	CONTACT INFORMATION FOR MOTORIST DAMAGE CLAIMS
105-4	MAINTENANCE DURING CONSTRUCTION
107-2	RESTRAINING CONDITIONS
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
210-1	UNCLASSIFIED EXCAVATION
303-1	AGGREGATE BASE COURSE
306-1	QUALITY CONTROL AND ACCEPTANCE
400-1	TACK COATS
400-4	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6	LIQUID ANTI-STRIP ADDITIVE
400-7	TRACKLESS TACK
404-3	DESIGN OF ASPHALT MIXTURES
409-2	ASPHALT LABORATORY FACILITY
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
410-4	EVALUATION OF ACHM SUBLOT REPLACEMENT MATERIAL
416-1	RECYCLED ASPHALT PAVEMENT
501-3	PORTLAND CEMENT CONCRETE PAVEMENT
505-1	PORTLAND CEMENT CONCRETE DRIVEWAY
603-1	LANE CLOSURE NOTIFICATION
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
605-1	CONCRETE DITCH PAVING
606-1	PIPE CULVERTS FOR SIDE DRAINS
619-1	FENCES
620-1	MULCH COVER
621-1	FILTER SOCKS
637-1	MAILBOXES
802-5	CONCRETE FOR STRUCTURES
JOB 090558	BIDDING REQUIREMENTS AND CONDITIONS
JOB 090558	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 090558	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 090558	BUY AMERICA - CONSTRUCTION MATERIALS
JOB 090558	CARGO PREFERENCE ACT REQUIREMENTS
JOB 090558	COLD MILLING - MILL AND INLAY
JOB 090558	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
JOB 090558	DESIGN OF ASPHALT MIXTURES - AGGREGATES
JOB 090558	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 090558	FLEXIBLE BEGINNING OF WORK - CALENDAR DAY CONTRACT
JOB 090558	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 090558	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB 090558	LONGITUDINAL JOINT DENSITIES FOR ACHM SURFACE COURSES
JOB 090558	MANDATORY ELECTRONIC CONTRACT
JOB 090558	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 090558	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB 090558	PARTNERING REQUIREMENTS
JOB 090558	PERCENT AIR VOIDS AND NDESIGN FOR ACHM SURFACE MIX DESIGNS
JOB 090558	PLASTIC PIPE
JOB 090558	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 090558	PRICE ADJUSTMENT FOR FUEL
JOB 090558	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 090558	RUMBLE STRIPS
JOB 090558	SHORING FOR CULVERTS
JOB 090558	SOIL STABILIZATION
JOB 090558	SPECIAL CLEARING PUP SEASON REQUIREMENTS
JOB 090558	STORM WATER POLLUTION PREVENTION PLAN
JOB 090558	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 090558	UTILITY ADJUSTMENTS
JOB 090558	VALUE ENGINEERING
JOB 090558	WARM MIX ASPHALT
JOB 090558	WATER POLLUTION CONTROL
JOB 090558	WELLHEAD PROTECTION

INDEX OF SHEETS, STANDARD DRAWINGS
GOVERNING SPECIFICATIONS AND GENERAL NOTES

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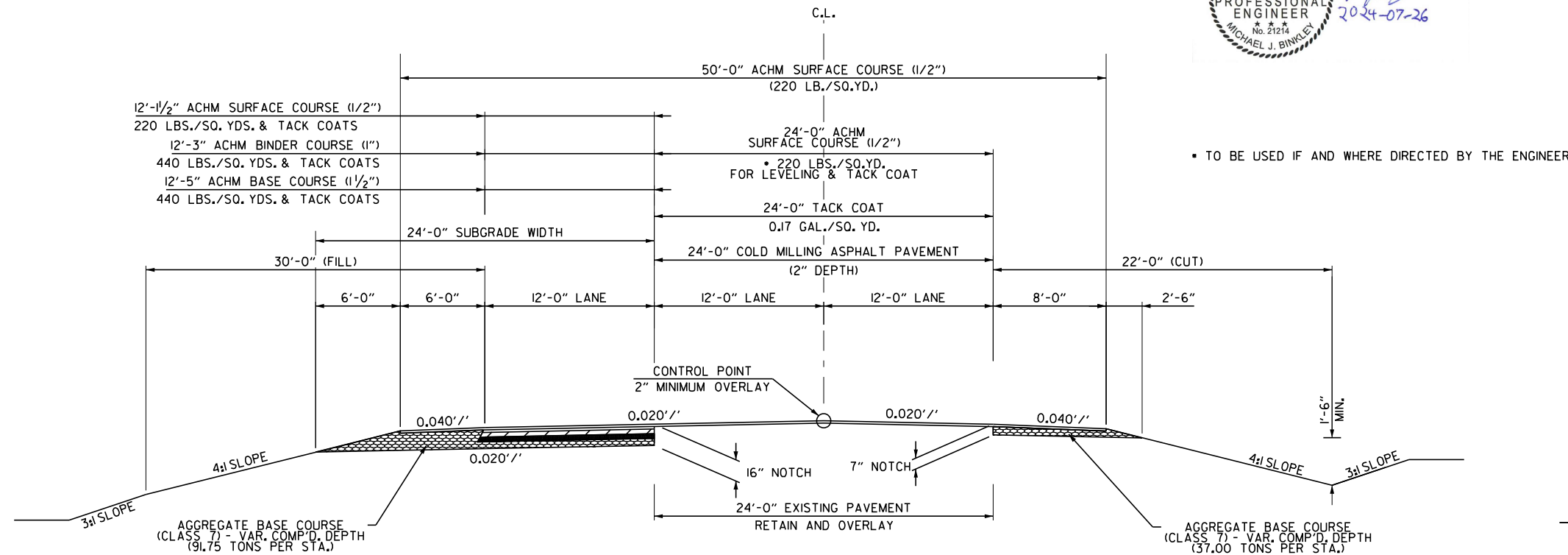
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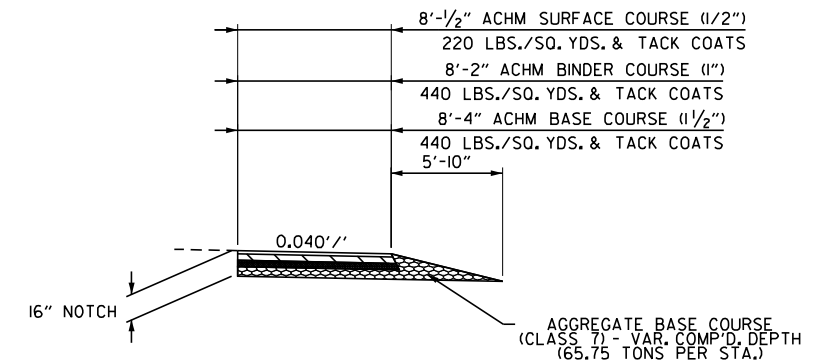
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TYPICAL SECTIONS OF IMPROVEMENT						



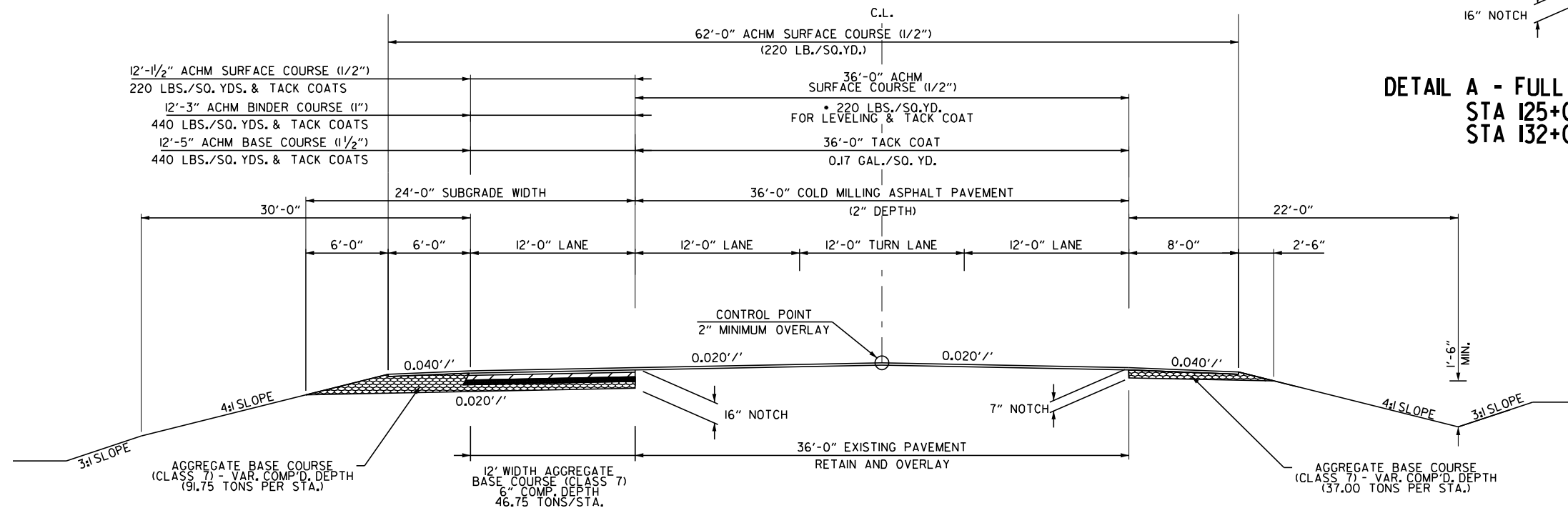
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STA 114+60.00 - STA 154+00.00
STA 156+39.12 - STA 167+40.00

NOTES:

1. 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.
2. 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 DOESN'T MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTION OF NOTCH AND WIDENING. CALCULATION WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.
4. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.



DETAIL A - FULL DEPTH WIDENING FOR CULVERT CONSTRUCTION
STA 125+00.00 - STA 129+00.00 (MOT STAGE I)
STA 132+00.00 - STA 137+00.00 (MOT STAGE I)



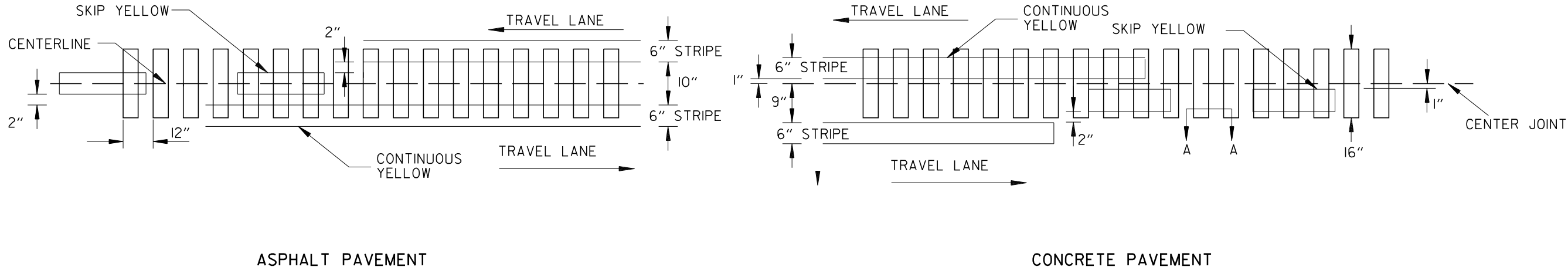
TYPICAL SECTION OF IMPROVEMENT - HWY.59 - TURN LANE
STA 154+00.00 - STA 156+39.12

TYPICAL SECTIONS OF IMPROVEMENT

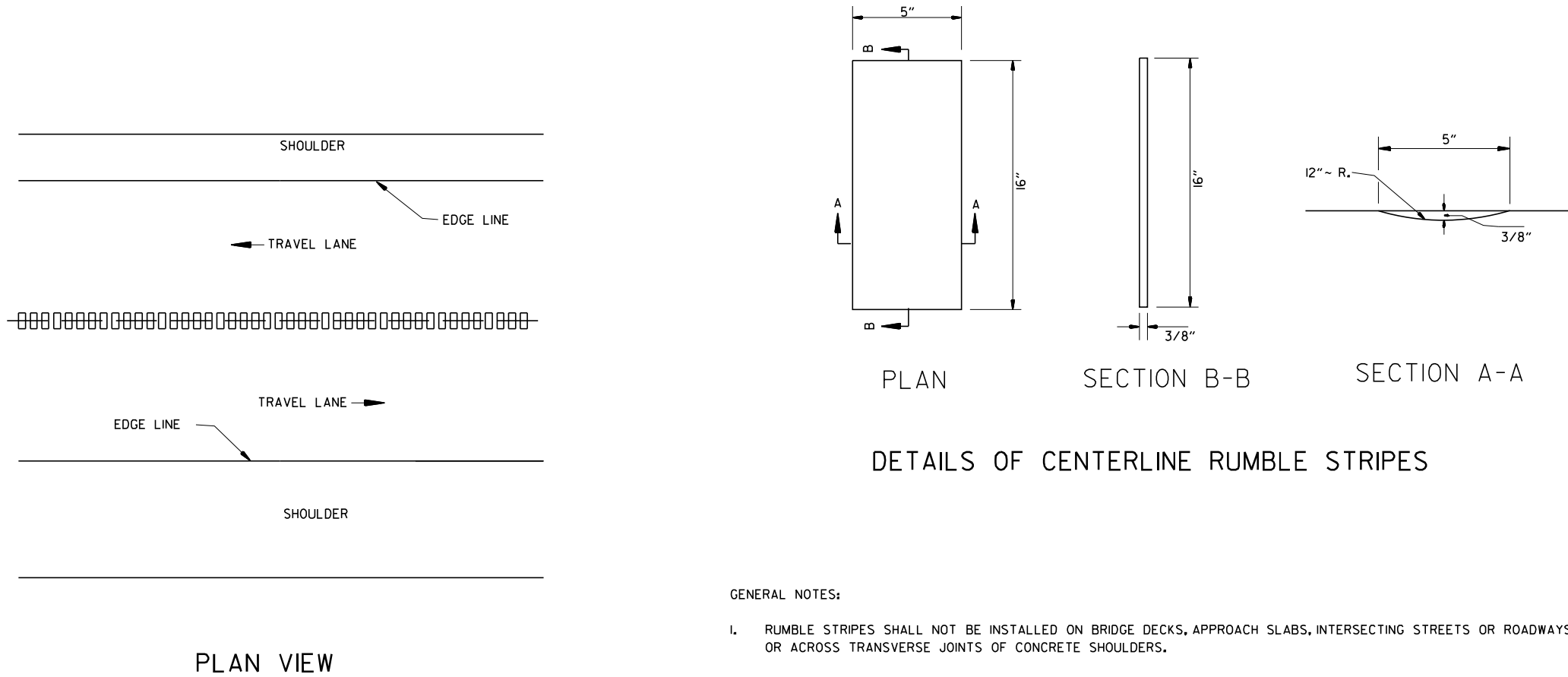
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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	5A	81
SPECIAL DETAILS						



LOCATION PLAN OF CENTERLINE RUMBLE STRIPES



- GENERAL NOTES:
- RUMBLE STRIPES SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
 - RUMBLE STRIPES SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE CENTERLINE.
 - THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SLOPE BREAKS MAY BE NECESSARY.

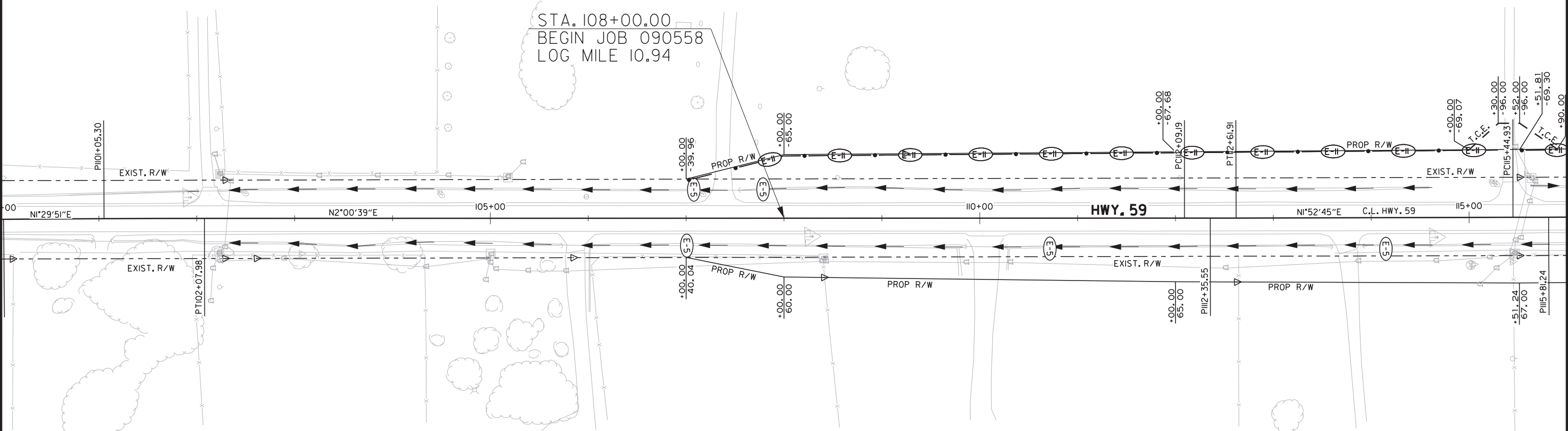
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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	6	81
TEMPORARY EROSION CONTROL DETAILS						



STA. 108+00.00
BEGIN JOB 090558
LOG MILE 10.94



LEGEND

	SAND BAG DITCH CHECKS
	SILT FENCE
	SEDIMENT BASINS

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

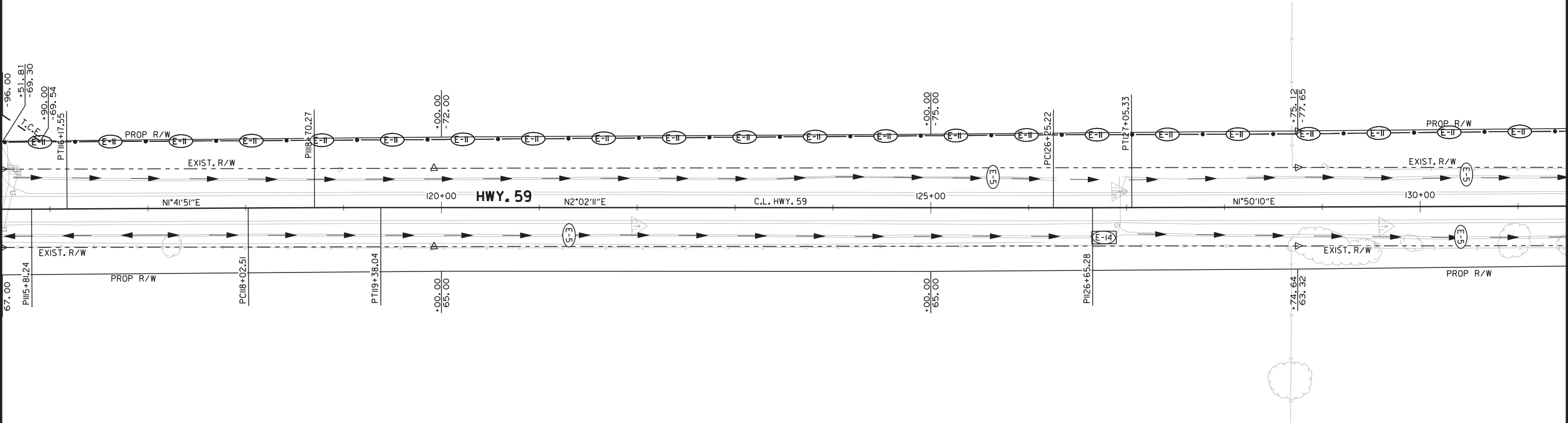
CLEARING AND GRUBBING STAGE
TEMPORARY EROSION CONTROL DETAILS

REVISIONS	
DATE OF REVISION	REVISION



Shahriar Azad
2023-03-23

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	7	81
TEMPORARY EROSION CONTROL DETAILS						



LEGEND

	SAND BAG DITCH CHECKS
	SILT FENCE
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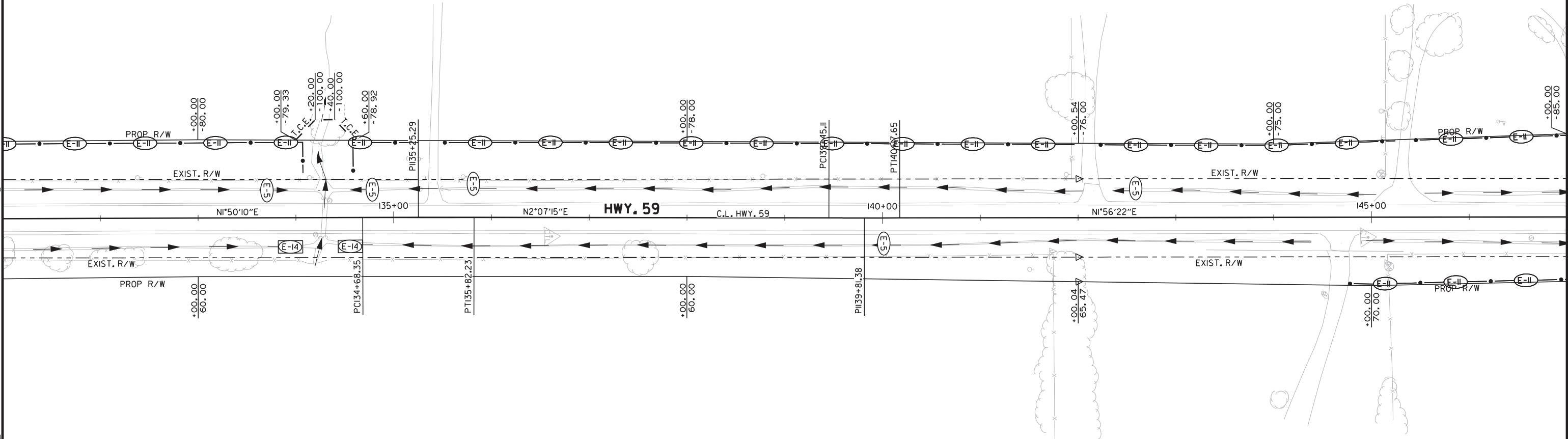
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REVISIONS	
DATE OF REVISION	REVISION



Shahriar Azad
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TEMPORARY EROSION CONTROL DETAILS						



LEGEND

	SAND BAG DITCH CHECKS
	SILT FENCE
	SEDIMENT BASINS

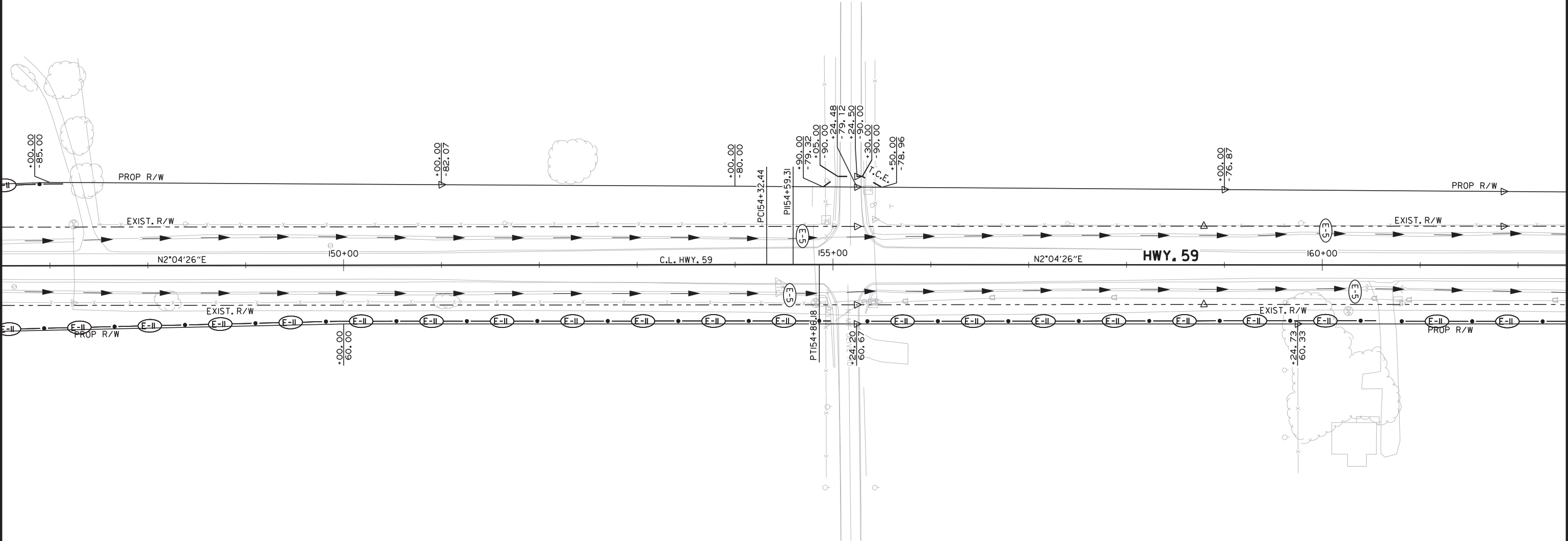
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CLEARING AND GRUBBING STAGE
TEMPORARY EROSION CONTROL DETAILS

REVISIONS	
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LEGEND

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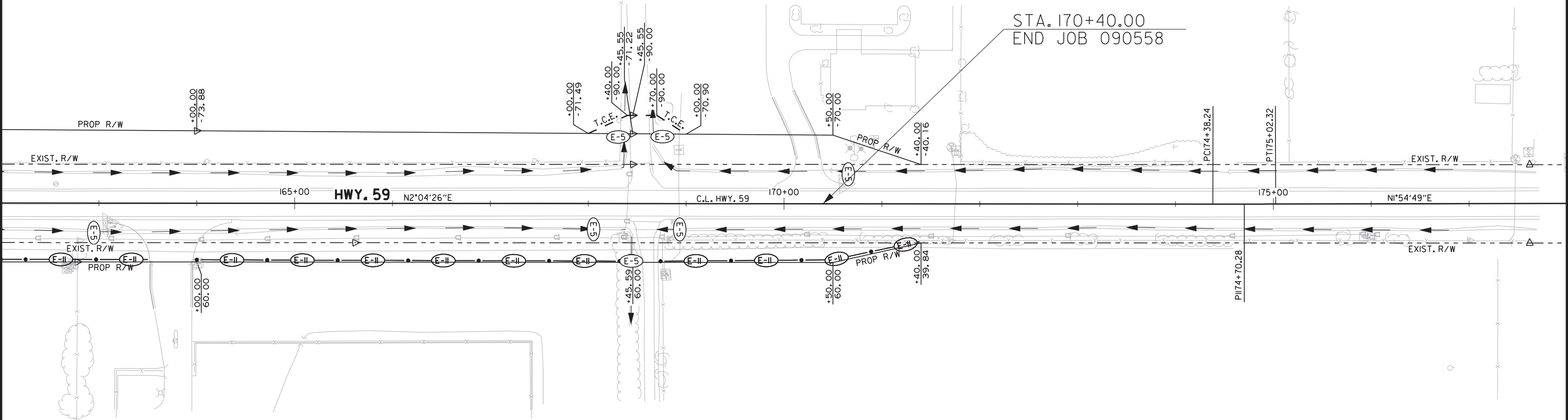
CLEARING AND GRUBBING STAGE
TEMPORARY EROSION CONTROL DETAILS

REVISIONS	
DATE OF REVISION	REVISION



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CLEARING AND GRUBBING STAGE
TEMPORARY EROSION CONTROL DETAILS

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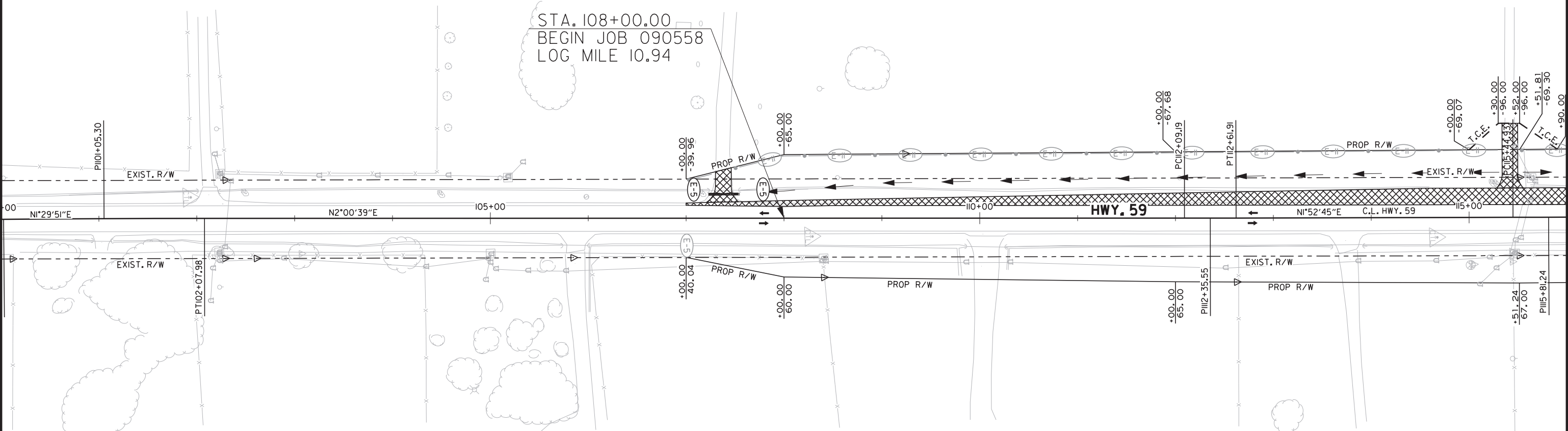


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TEMPORARY EROSION CONTROL DETAILS						



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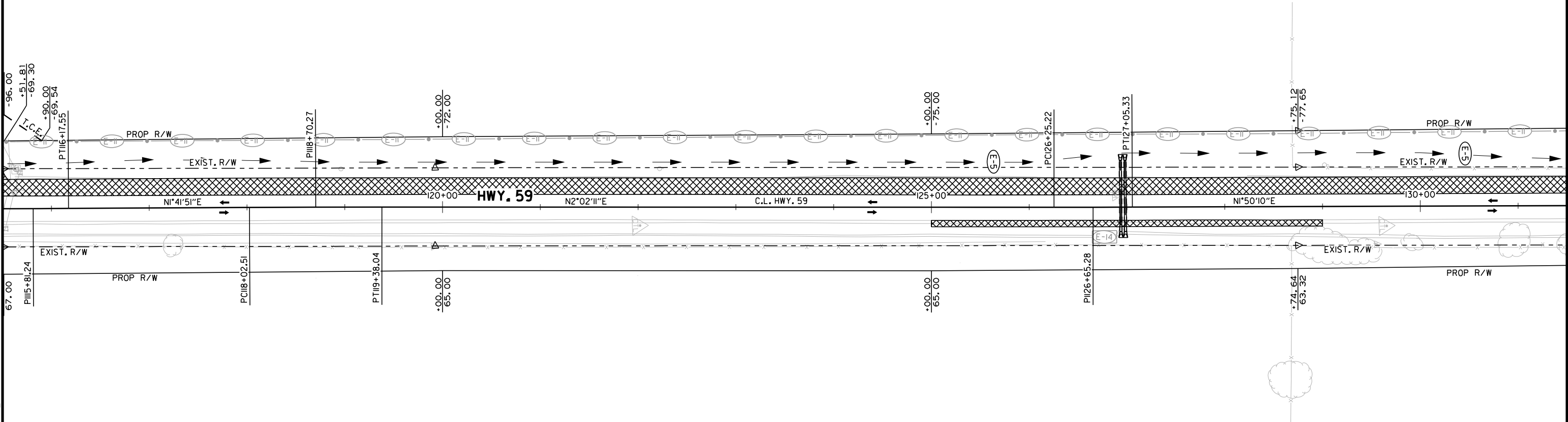
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	SILT FENCE
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STAGE I
TEMPORARY EROSION CONTROL DETAILS

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	SEDIMENT BASINS

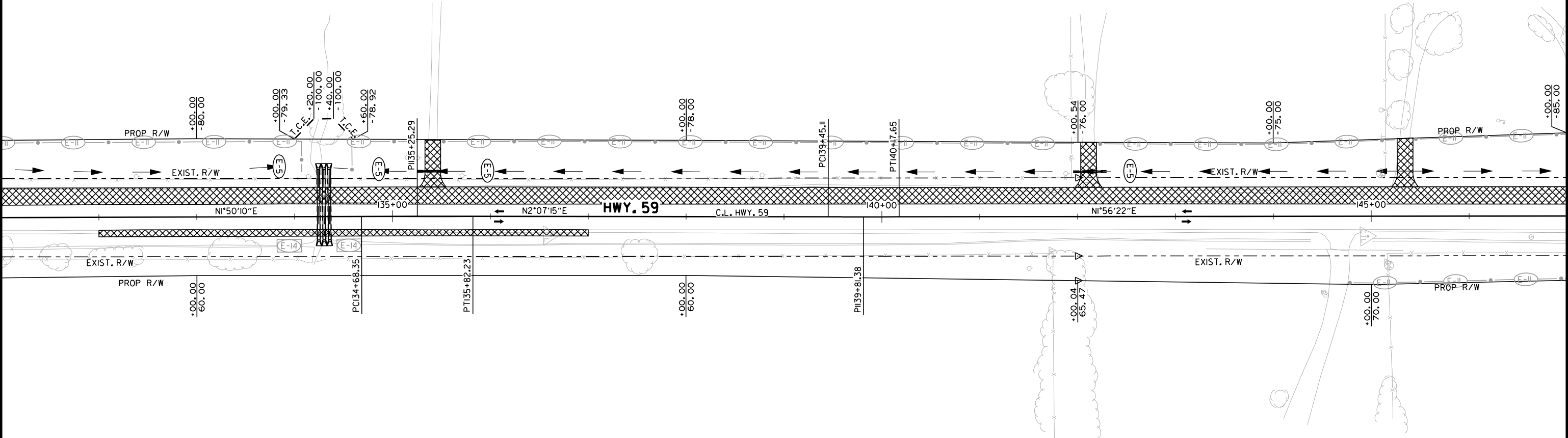
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TEMPORARY EROSION CONTROL DETAILS

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REVISIONS	
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TEMPORARY EROSION CONTROL DETAILS						



LEGEND

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	SILT FENCE
	SEDIMENT BASINS

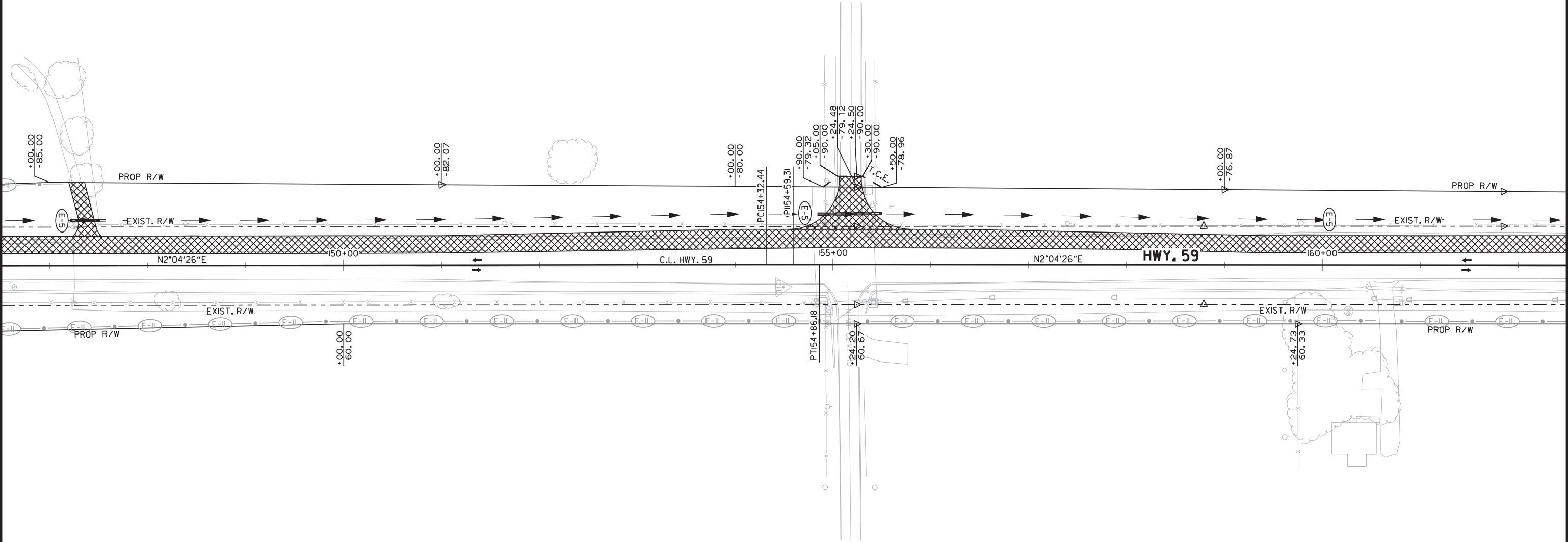
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TEMPORARY EROSION CONTROL DETAILS

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TEMPORARY EROSION CONTROL DETAILS						



LEGEND

	SAND BAG DITCH CHECKS
	SILT FENCE
	SEDIMENT BASINS

STAGE I
TEMPORARY EROSION CONTROL DETAILS

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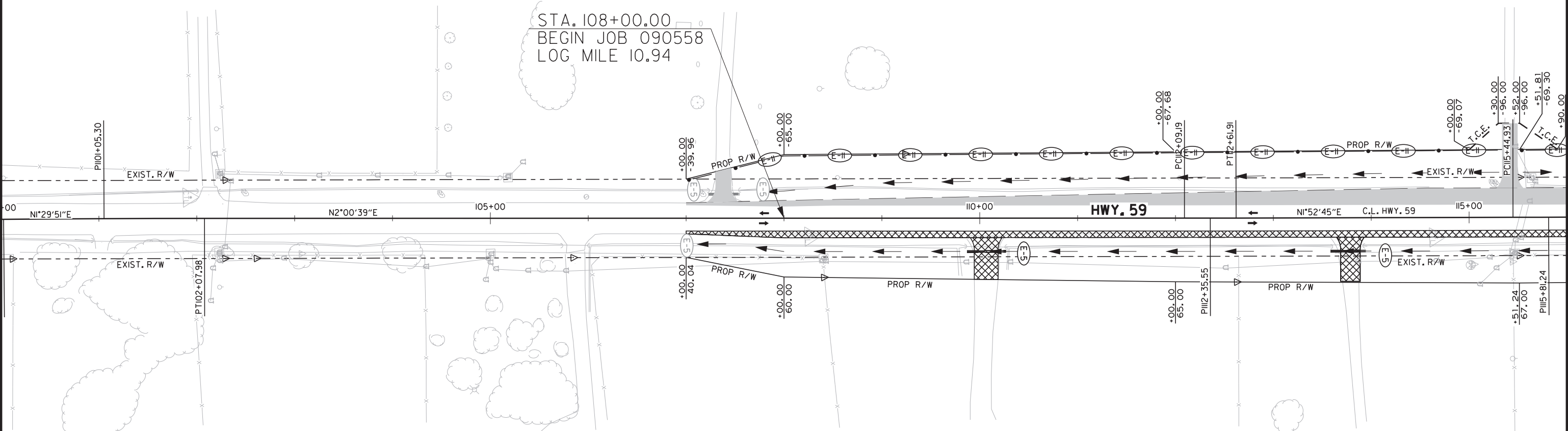


Shahriar Azad
2023-03-23

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TEMPORARY EROSION CONTROL DETAILS						



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LOG MILE 10.94



LEGEND

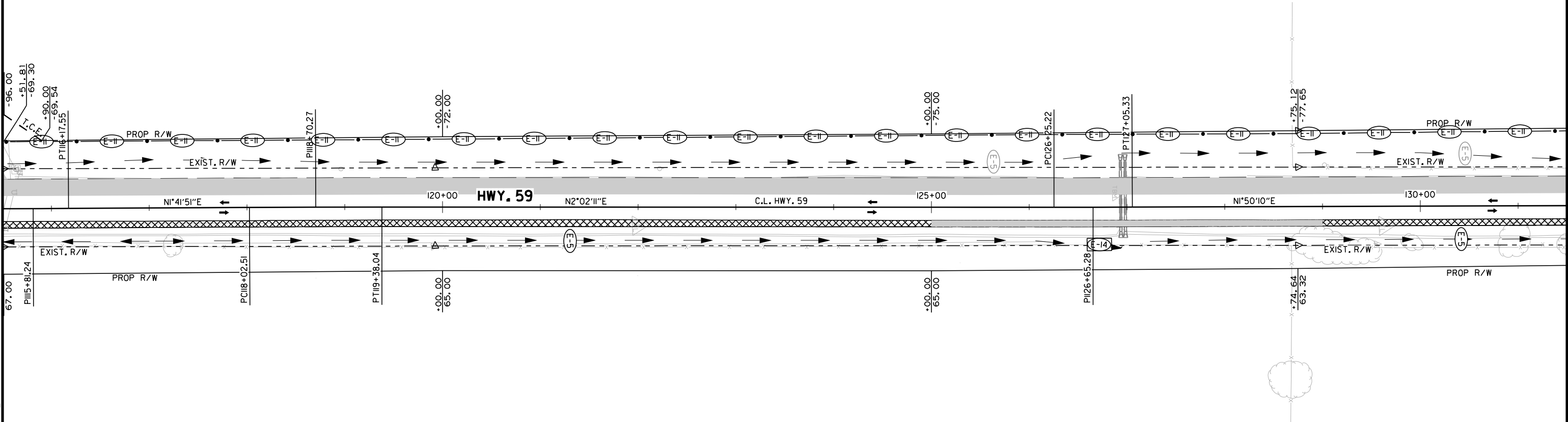
	SAND BAG DITCH CHECKS
	SILTS FENCES
	SEDIMENT BASINS

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

REVISIONS	
DATE OF REVISION	REVISION



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	17	81
TEMPORARY EROSION CONTROL DETAILS						



LEGEND

	SAND BAG DITCH CHECKS
	SILT FENCE
	SEDIMENT BASINS

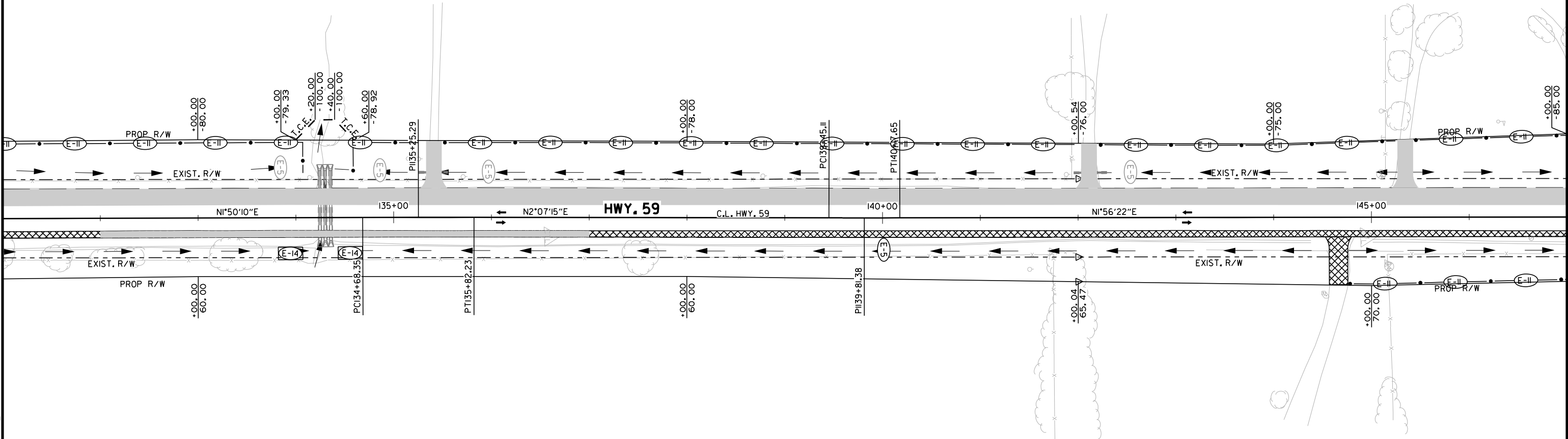
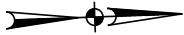
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

3:15:50 PM
7/26/2024
mBinkley
c:\msd\bridge\amer-p\win\michael.binkley\dms17258\090558_Site 1_Erosion Control_S2_02.dgn

REVISIONS	
DATE OF REVISION	REVISION



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	18	81
TEMPORARY EROSION CONTROL DETAILS						



LEGEND

	SAND BAG DITCH CHECKS
	SILT FENCE
	SEDIMENT BASINS

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

3:16:36 PM

7/26/2024

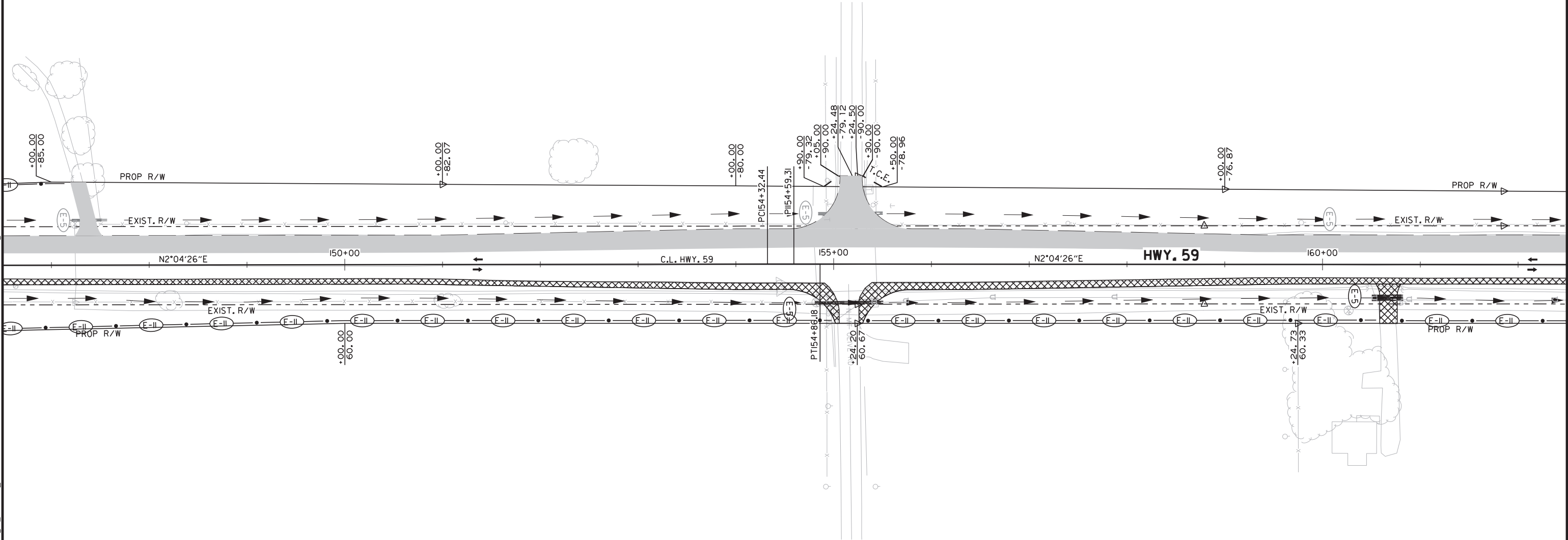
mBinkley

c:\msb\bridge\amer-p\michael.binkley\dms17258\090558_Site 1_Erosion Control_S2_03.dgn

REVISIONS	
DATE OF REVISION	REVISION



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	19	81
TEMPORARY EROSION CONTROL DETAILS						



LEGEND

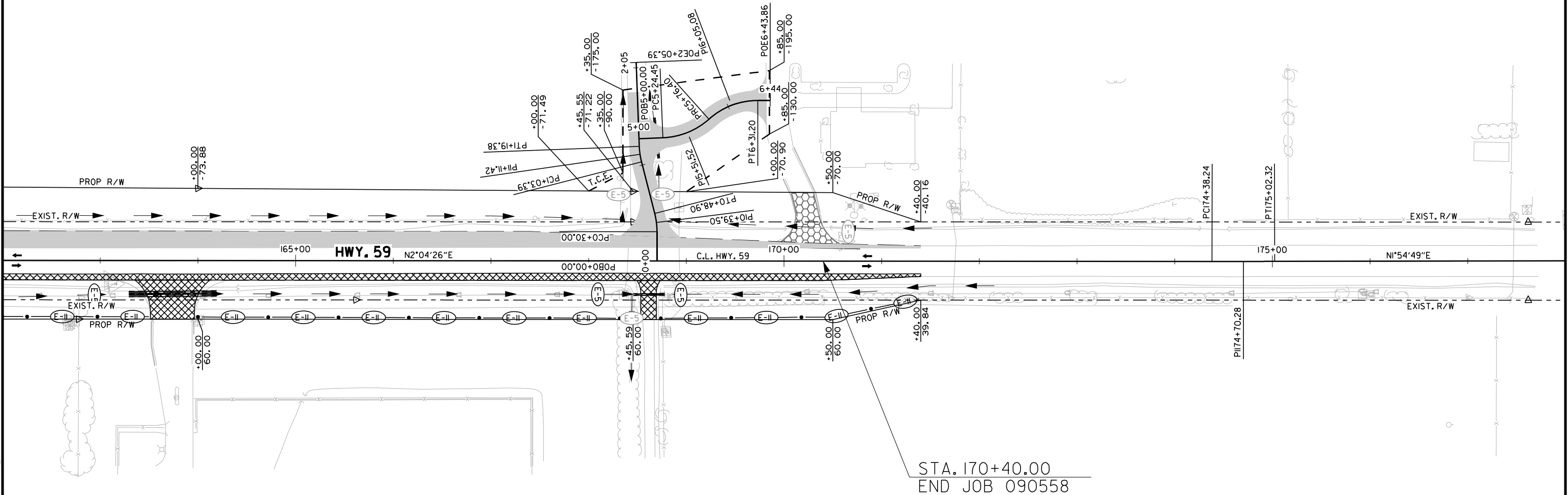
	SAND BAG DITCH CHECKS
	SILT FENCE
	SEDIMENT BASINS

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

REVISIONS	
DATE OF REVISION	REVISION



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	20	81
TEMPORARY EROSION CONTROL DETAILS						



LEGEND

	SAND BAG DITCH CHECKS
	SILT FENCE
	SEDIMENT BASINS

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

4:53:14 PM

7/3/2024

mBinkley

c:\msb\bridge\amer-p\win\michael.binkley\dms17258\090558_Site 1_Erosion Control_S2_05.dgn

4:23:28 PM

7/3/2024

mBinkley

c:\msb\bridge\amer-pw\michael.binkley\dms17217\090558_Site_1_MOTI_ADV_Signs.dgn

SEQUENCE OF CONSTRUCTION

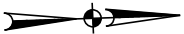
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT CROSS CULVERT.
CONSTRUCT LT. SIDE OF PROPOSED HWY. 59.
CONSTRUCT PIPE CULVERTS LT.

STAGE 2:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT RT. SIDE OF PROPOSED HWY. 59
CONSTRUCT PIPE CULVERTS RT.

END OF JOB:
FINAL SURFACE COURSE AND FINAL STRIPING.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	21	81
MAINTENANCE OF TRAFFIC DETAILS						

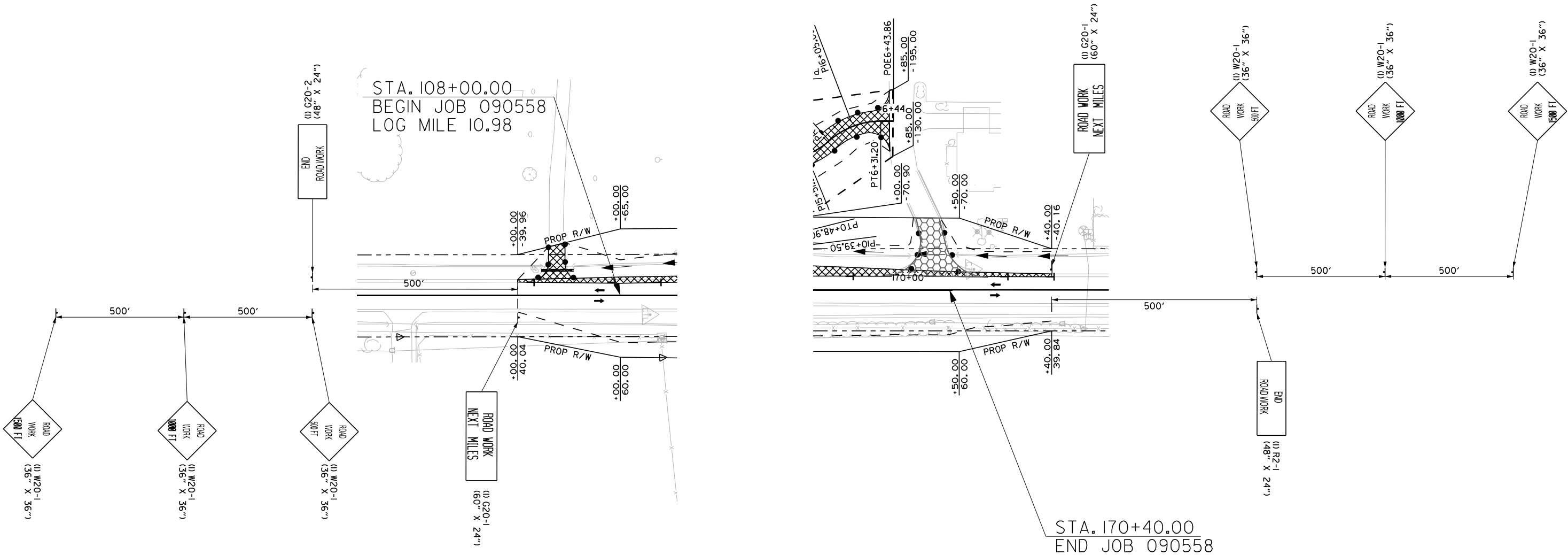


DO
NOT
PASS

(4) R4-1
(24" X 30")
•TO BE USED IF AND WHERE
DIRECTED BY THE ENGINEER

RIGHT
SHOULDER
CLOSED

(4) W21-5a
(36" X 36")
•TO BE USED IF AND WHERE
DIRECTED BY THE ENGINEER



STA. 170+40.00
END JOB 090558

ADVANCED WARNING SIGNS
MAINTENANCE OF TRAFFIC DETAILS

12:31:03 PM
7/26/2024
mBinkley
c:\msb\bridge\amer-p\michael.binkley\dms7217\090558_Site_1_MOT_51_02.dgn

SEQUENCE OF CONSTRUCTION

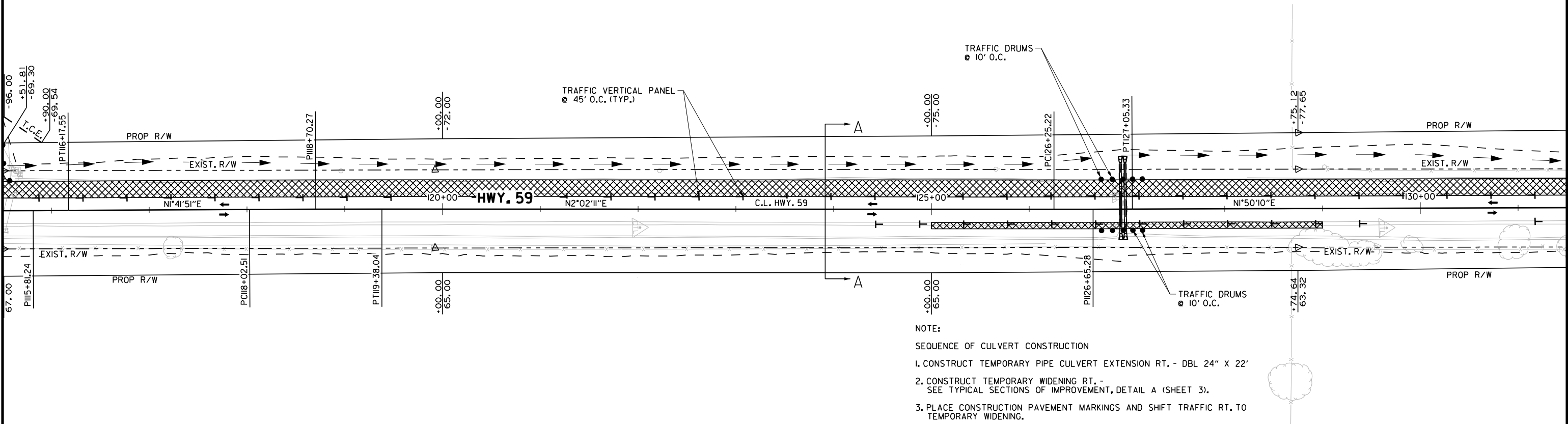
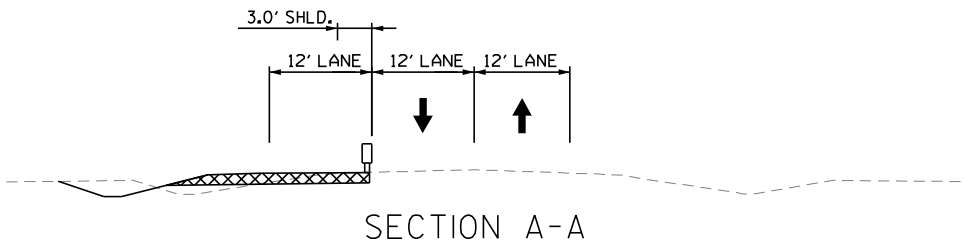
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT CROSS CULVERT.
CONSTRUCT LT. SIDE OF PROPOSED HWY. 59.
CONSTRUCT PIPE CULVERTS LT.

STAGE 2:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT RT. SIDE OF PROPOSED HWY. 59
CONSTRUCT PIPE CULVERTS RT.

END OF JOB:
FINAL SURFACE COURSE AND FINAL STRIPING.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	23	81
MAINTENANCE OF TRAFFIC DETAILS						



- NOTE:
- SEQUENCE OF CULVERT CONSTRUCTION
1. CONSTRUCT TEMPORARY PIPE CULVERT EXTENSION RT. - DBL 24" X 22'
 2. CONSTRUCT TEMPORARY WIDENING RT. - SEE TYPICAL SECTIONS OF IMPROVEMENT, DETAIL A (SHEET 3).
 3. PLACE CONSTRUCTION PAVEMENT MARKINGS AND SHIFT TRAFFIC RT. TO TEMPORARY WIDENING.
 4. CONSTRUCT CULVERT AND PERMANENT PAVEMENT LT.
 5. PLACE CONSTRUCTION PAVEMENT MARKINGS AND SHIFT TRAFFIC LT. TO PROPOSED PAVEMENT.
 6. CONSTRUCT PROPOSED CULVERT RT.

LEGEND

- | | | | |
|------------------------------|------------------|-----------------------|--------------------|
| CONSTRUCT PERMANENT PAVEMENT | OBLITERATE | TRAFFIC FLOW | TYPE III BARRICADE |
| PERMANENT PAVEMENT | REMOVED DRIVEWAY | CHANNELIZATION DEVICE | CONSTRUCTION SIGN |
| | | VERTICAL PANEL | |

STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

12:32:47 PM
7/26/2024
mBinkley
c:\msb\bridge\amer-p\michael.binkley\dms17217\090558_Site_1_MOT_S1_03.dgn

SEQUENCE OF CONSTRUCTION

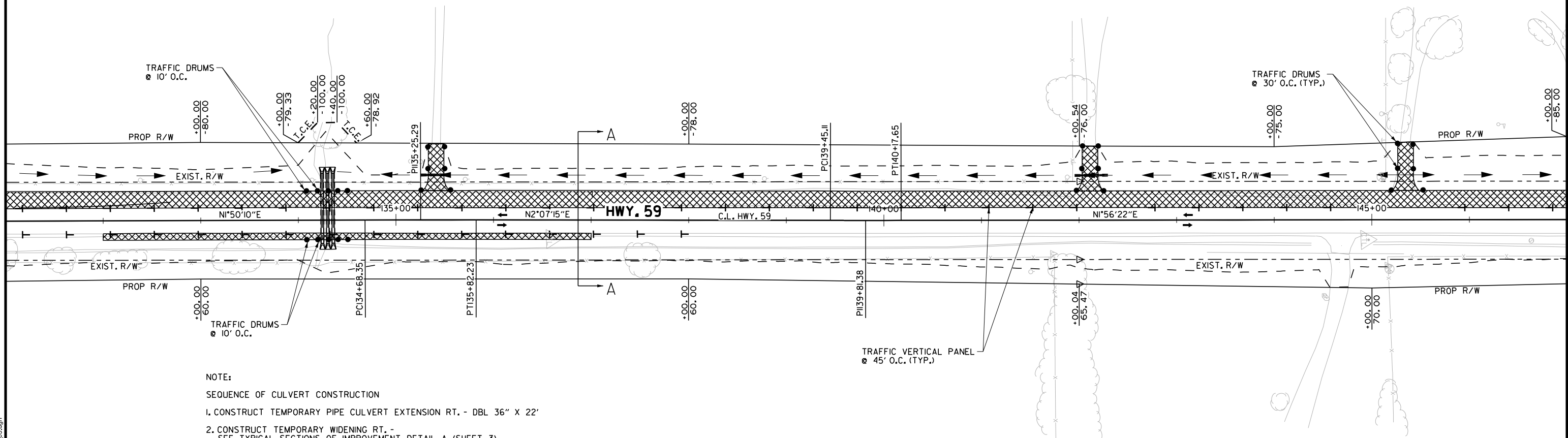
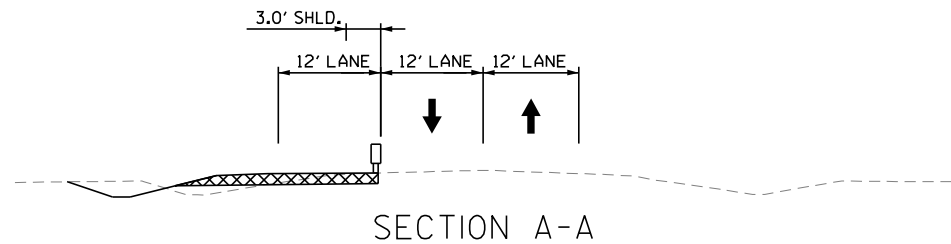
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT CROSS CULVERT.
CONSTRUCT LT. SIDE OF PROPOSED HWY. 59.
CONSTRUCT PIPE CULVERTS LT.

STAGE 2:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT RT. SIDE OF PROPOSED HWY. 59
CONSTRUCT PIPE CULVERTS RT.

END OF JOB:
FINAL SURFACE COURSE AND FINAL STRIPING.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	24	81
MAINTENANCE OF TRAFFIC DETAILS						



NOTE:

SEQUENCE OF CULVERT CONSTRUCTION

1. CONSTRUCT TEMPORARY PIPE CULVERT EXTENSION RT. - DBL 36" X 22'
2. CONSTRUCT TEMPORARY WIDENING RT. - SEE TYPICAL SECTIONS OF IMPROVEMENT, DETAIL A (SHEET 3).
3. PLACE CONSTRUCTION PAVEMENT MARKINGS AND SHIFT TRAFFIC RT. TO TEMPORARY WIDENING.
4. CONSTRUCT CULVERT AND PERMANENT PAVEMENT LT.
5. PLACE CONSTRUCTION PAVEMENT MARKINGS AND SHIFT TRAFFIC LT. TO PROPOSED PAVEMENT.
6. CONSTRUCT PROPOSED CULVERT RT.

LEGEND

	CONSTRUCT PERMANENT PAVEMENT		OBLITERATE		TRAFFIC FLOW		TYPE III BARRICADE
	PERMANENT PAVEMENT		REMOVED DRIVEWAY		CHANNELIZATION DEVICE		CONSTRUCTION SIGN
					VERTICAL PANEL		

STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

2:26:24 PM

3/23/2023

Toman2 Ch1

Q:\Bm\Brogel\Armer-R2\toman2 Ch1\Brogel\Armer-R2\090558_Sheet 1_MOT_S1_04.dwg

SEQUENCE OF CONSTRUCTION

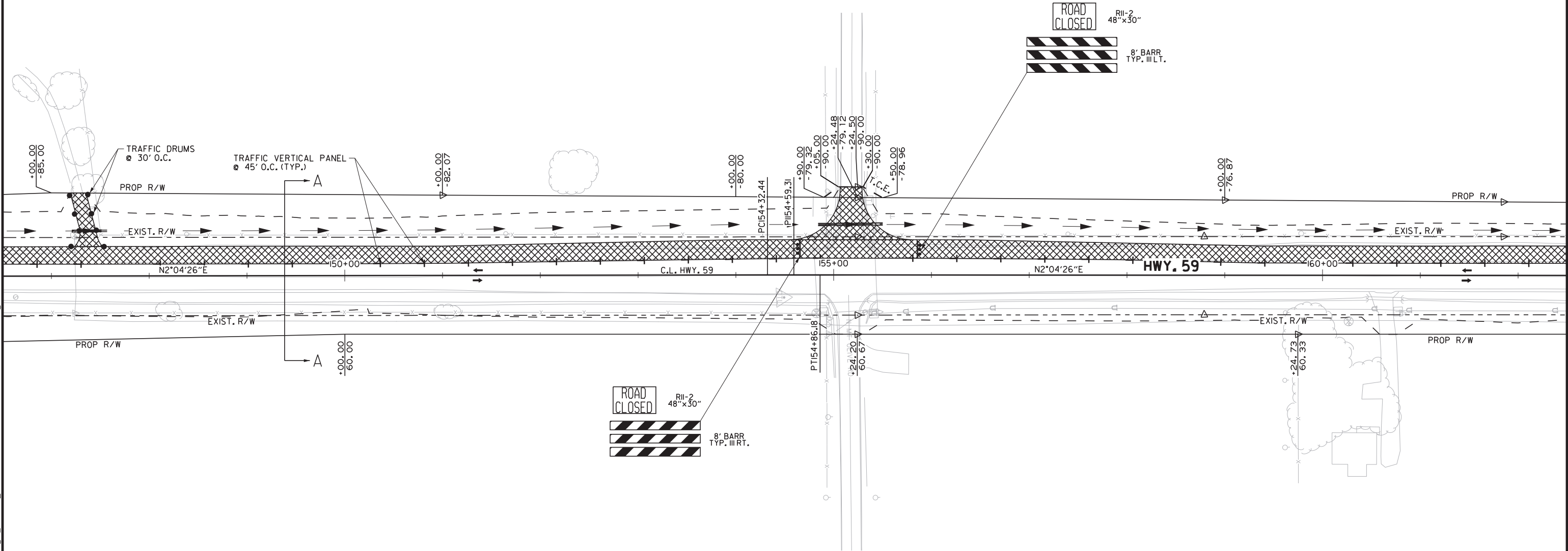
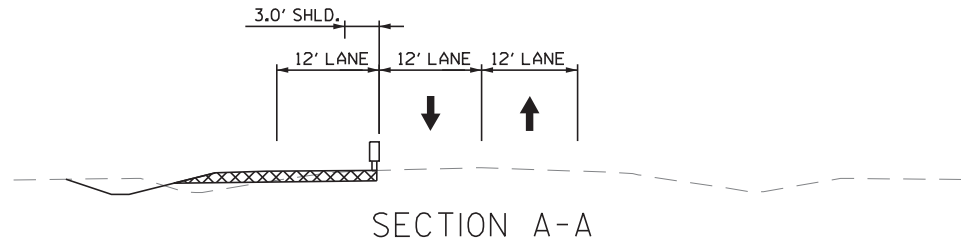
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT CROSS CULVERT.
CONSTRUCT LT. SIDE OF PROPOSED HWY. 59.
CONSTRUCT PIPE CULVERTS LT.

STAGE 2:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT RT. SIDE OF PROPOSED HWY. 59
CONSTRUCT PIPE CULVERTS RT.

END OF JOB:
FINAL SURFACE COURSE AND FINAL STRIPING.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	25	81
MAINTENANCE OF TRAFFIC DETAILS						



LEGEND

- | | | | | | |
|--|------------------------------|--|-----------------------|--|--------------------|
| | CONSTRUCT PERMANENT PAVEMENT | | TRAFFIC FLOW | | TYPE III BARRICADE |
| | PERMANENT PAVEMENT | | CHANNELIZATION DEVICE | | CONSTRUCTION SIGN |
| | | | VERTICAL PANEL | | |

STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

10:58:30 AM

7/16/2024

mBinkley

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SEQUENCE OF CONSTRUCTION

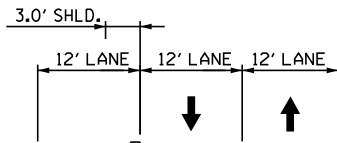
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT CROSS CULVERT.
CONSTRUCT LT. SIDE OF PROPOSED HWY. 59.
CONSTRUCT PIPE CULVERTS LT.

STAGE 2:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT RT. SIDE OF PROPOSED HWY. 59
CONSTRUCT PIPE CULVERTS RT.

END OF JOB:
FINAL SURFACE COURSE AND FINAL STRIPING.

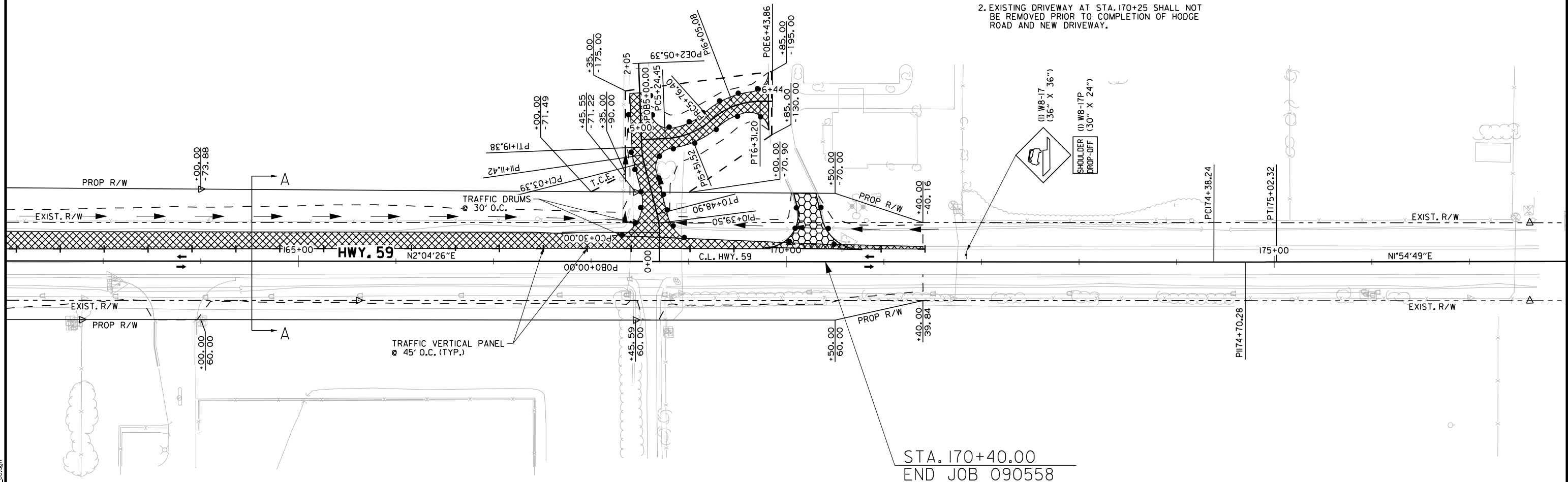


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	26	81
MAINTENANCE OF TRAFFIC DETAILS						



SECTION A-A

- NOTES:
1. ACCESS TO HODGE ROAD SHALL BE MAINTAINED AT ALL TIMES.
 2. EXISTING DRIVEWAY AT STA. 170+25 SHALL NOT BE REMOVED PRIOR TO COMPLETION OF HODGE ROAD AND NEW DRIVEWAY.



STA. 170+40.00
END JOB 090558

LEGEND

- | | | | |
|------------------------------|------------------|-----------------------|--------------------|
| CONSTRUCT PERMANENT PAVEMENT | OBLITERATE | TRAFFIC FLOW | TYPE III BARRICADE |
| PERMANENT PAVEMENT | REMOVED DRIVEWAY | CHANNELIZATION DEVICE | CONSTRUCTION SIGN |
| | | VERTICAL PANEL | |

STAGE I
MAINTENANCE OF TRAFFIC DETAILS

3/23/2023 2:26:30 PM T:\man2\Ch1

SEQUENCE OF CONSTRUCTION

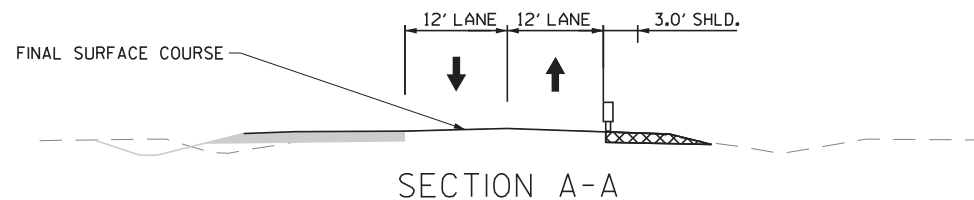
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT CROSS CULVERT.
CONSTRUCT LT. SIDE OF PROPOSED HWY. 59.
CONSTRUCT PIPE CULVERTS LT.

STAGE 2:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT RT. SIDE OF PROPOSED HWY. 59
CONSTRUCT PIPE CULVERTS RT.

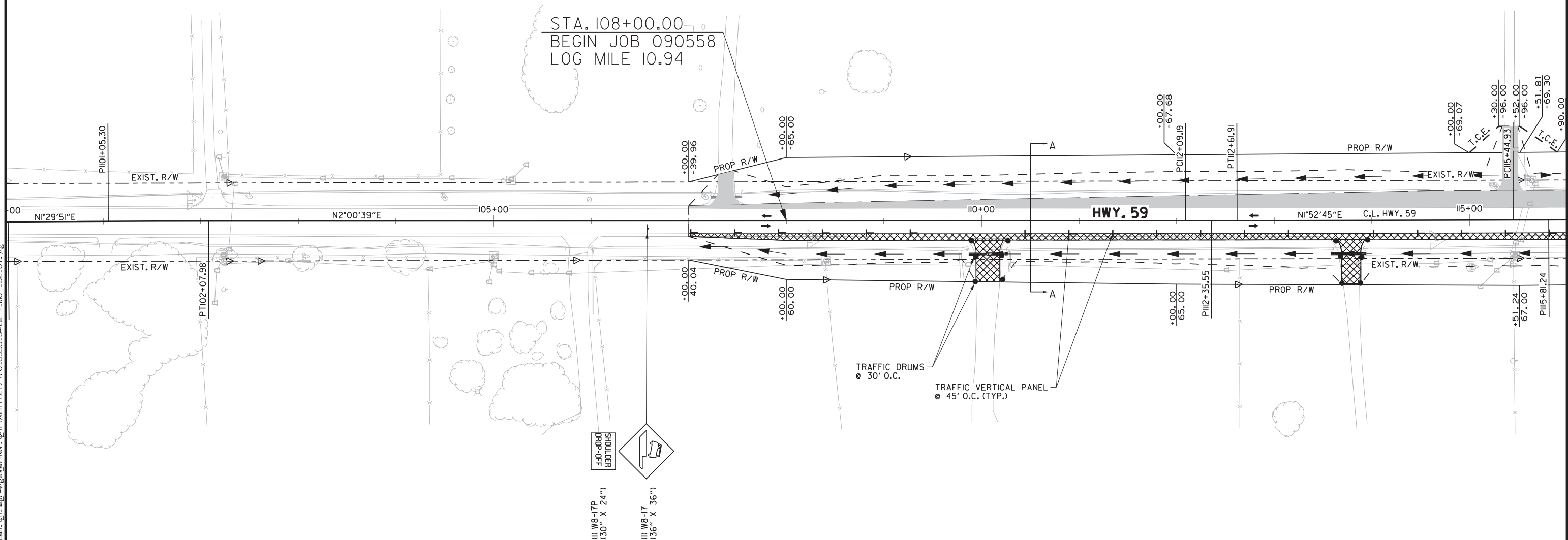
END OF JOB:
FINAL SURFACE COURSE AND FINAL STRIPING.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	27	81
MAINTENANCE OF TRAFFIC DETAILS						



STA. 108+00.00
BEGIN JOB 090558
LOG MILE 10.94



LEGEND

- | | | | | | |
|--|------------------------------|--|-----------------------|--|--------------------|
| | CONSTRUCT PERMANENT PAVEMENT | | TRAFFIC FLOW | | TYPE III BARRICADE |
| | PERMANENT PAVEMENT | | CHANNELIZATION DEVICE | | CONSTRUCTION SIGN |
| | | | | | VERTICAL PANEL |

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

12:35:05 PM

7/26/2024

mBinkley

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SEQUENCE OF CONSTRUCTION

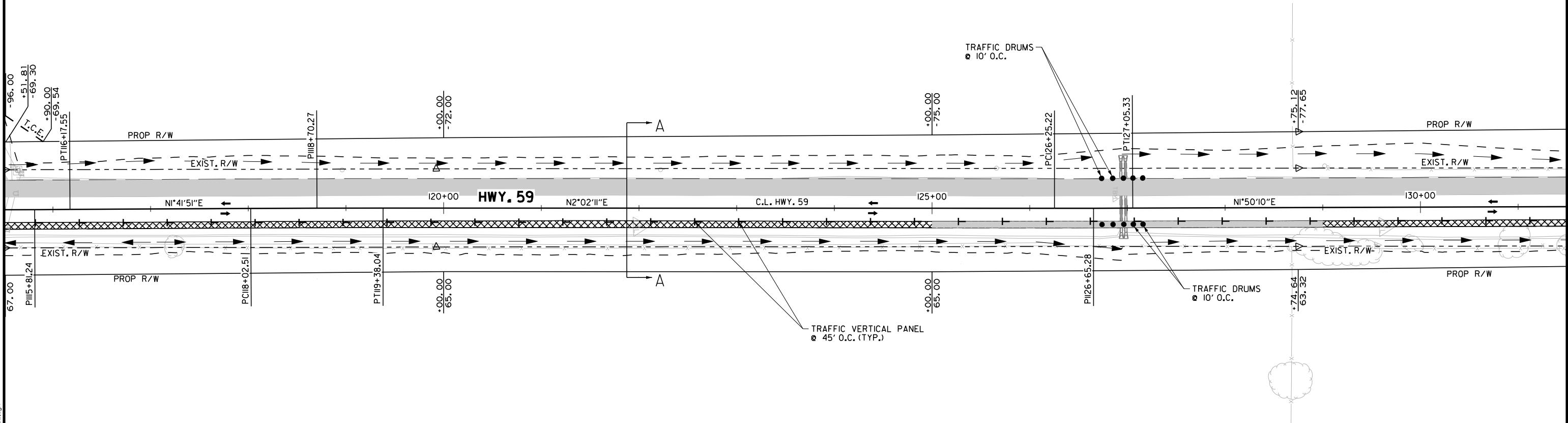
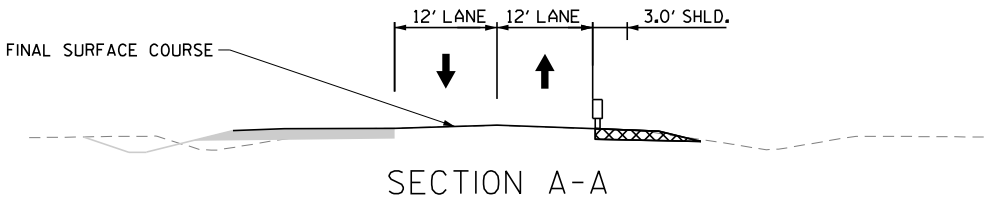
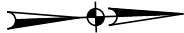
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT CROSS CULVERT.
CONSTRUCT LT. SIDE OF PROPOSED HWY. 59.
CONSTRUCT PIPE CULVERTS LT.

STAGE 2:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT RT. SIDE OF PROPOSED HWY. 59
CONSTRUCT PIPE CULVERTS RT.

END OF JOB:
FINAL SURFACE COURSE AND FINAL STRIPING.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	28	81
MAINTENANCE OF TRAFFIC DETAILS						



LEGEND

- CONSTRUCT PERMANENT PAVEMENT
- PERMANENT PAVEMENT
- OBLITERATE
- REMOVED DRIVEWAY
- TRAFFIC FLOW
- CHANNELIZATION DEVICE
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- VERTICAL PANEL

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

12:38:11 PM

7/26/2024

mBinkley

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SEQUENCE OF CONSTRUCTION

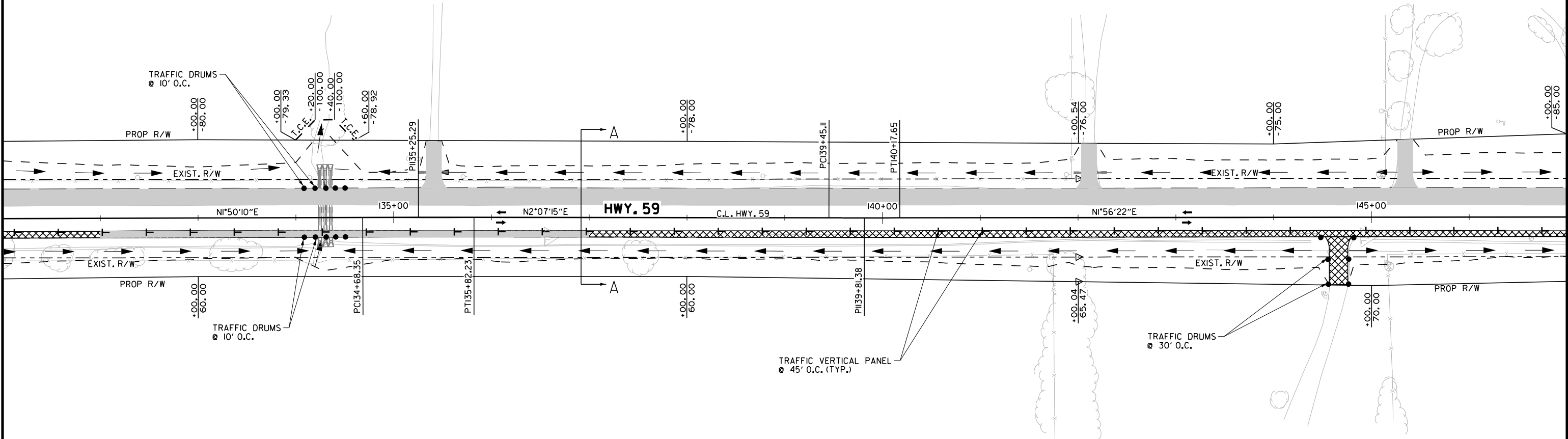
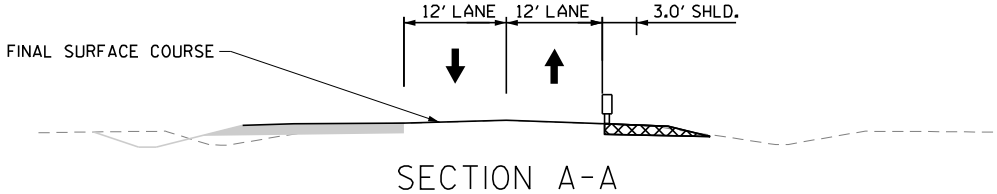
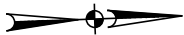
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT CROSS CULVERT.
CONSTRUCT LT. SIDE OF PROPOSED HWY. 59.
CONSTRUCT PIPE CULVERTS LT.

STAGE 2:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT RT. SIDE OF PROPOSED HWY. 59
CONSTRUCT PIPE CULVERTS RT.

END OF JOB:
FINAL SURFACE COURSE AND FINAL STRIPING.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	29	81
MAINTENANCE OF TRAFFIC DETAILS						



LEGEND

- CONSTRUCT PERMANENT PAVEMENT
- PERMANENT PAVEMENT
- OBLITERATE
- REMOVED DRIVEWAY
- TRAFFIC FLOW
- CHANNELIZATION DEVICE
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- VERTICAL PANEL

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

2:26:38 PM

3/23/2023

T:\man2\Chit

G:\Bim\Brogel\Armer-R2\taman2\Chit\090558\Armer\Qam\0mm\7217\090558_Sheet 1_MOT_S2_04.dwg

SEQUENCE OF CONSTRUCTION

STAGE 1:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT CROSS CULVERT.
CONSTRUCT LT. SIDE OF PROPOSED HWY. 59.
CONSTRUCT PIPE CULVERTS LT.

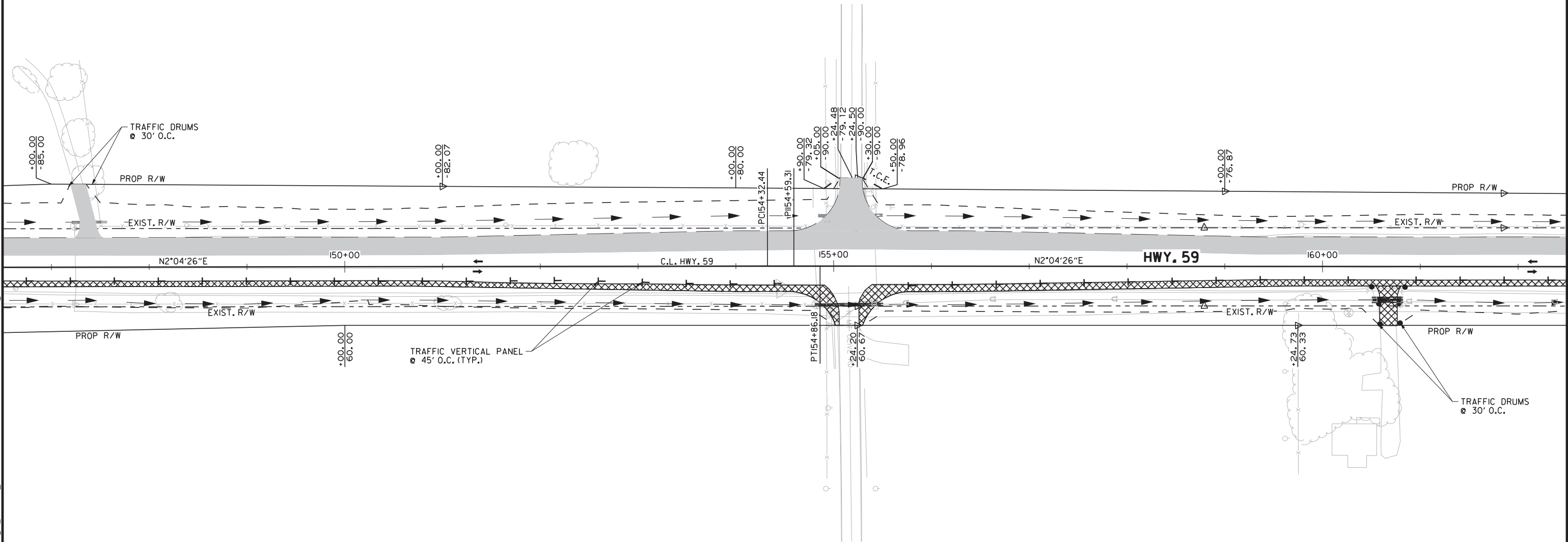
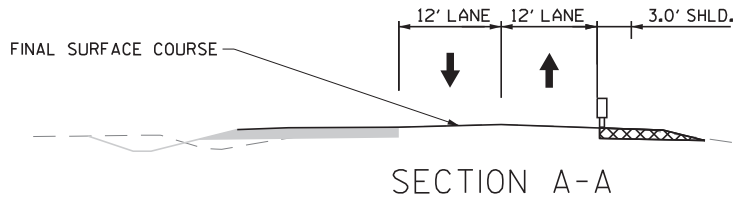
STAGE 2:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT RT. SIDE OF PROPOSED HWY. 59
CONSTRUCT PIPE CULVERTS RT.

END OF JOB:
FINAL SURFACE COURSE AND FINAL STRIPING.



Shahriar Azad
2023-03-23

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	30	81
MAINTENANCE OF TRAFFIC DETAILS						



LEGEND

- | | | | |
|------------------------------|-----------------------|--------------------|----------------|
| CONSTRUCT PERMANENT PAVEMENT | TRAFFIC FLOW | TYPE III BARRICADE | VERTICAL PANEL |
| PERMANENT PAVEMENT | CHANNELIZATION DEVICE | CONSTRUCTION SIGN | |

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

4:28:27 PM

7/3/2024

mBinkley

c:\msb\bridge\amer-p\michael.binkley\dms17217\090558_Site_1_MOT_S2_05.dgn

SEQUENCE OF CONSTRUCTION

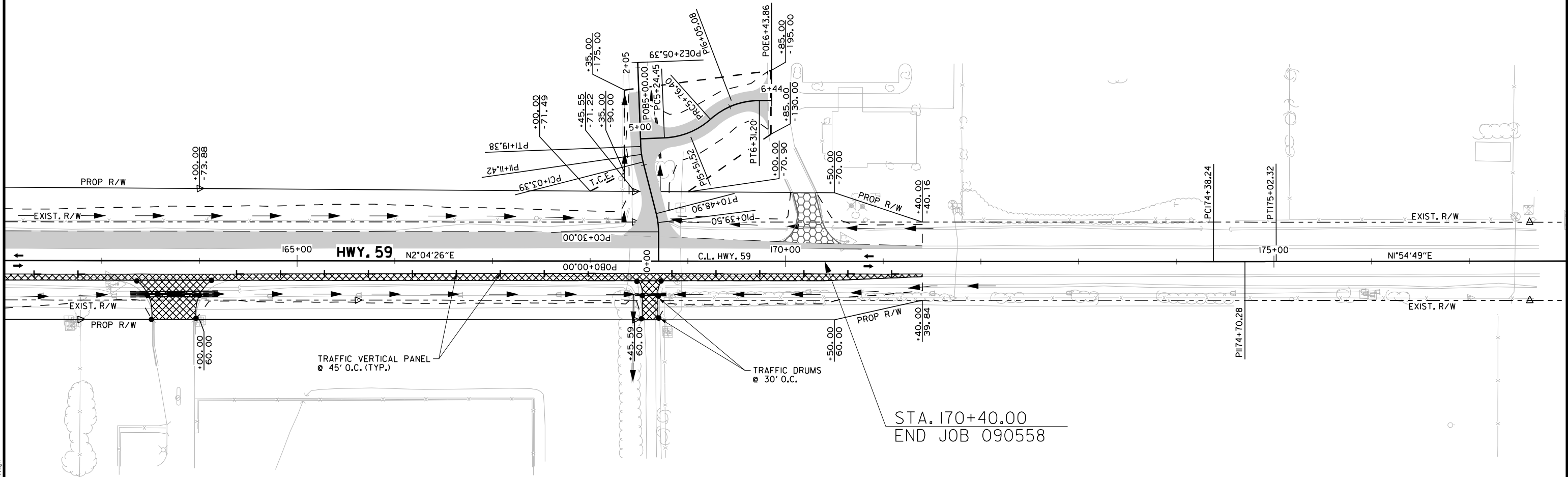
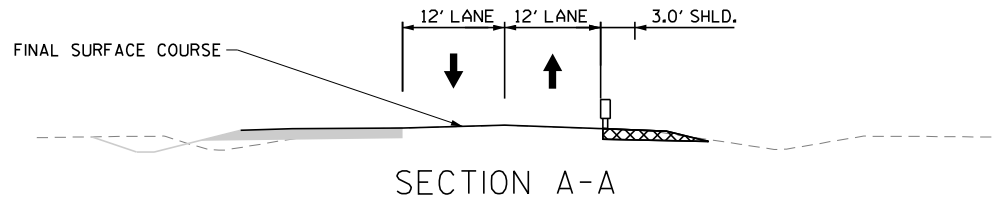
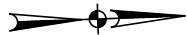
STAGE 1:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT CROSS CULVERT.
CONSTRUCT LT. SIDE OF PROPOSED HWY. 59.
CONSTRUCT PIPE CULVERTS LT.

STAGE 2:
MAINTAIN TRAFFIC ON EXISTING ROADWAY.
IMPLEMENT ADVANCE WARNING SIGNS AND
DEVICES AND UTILIZE VERTICAL PANELS
AT 45' O.C. SPACING AS SHOWN IN THE
MOT DETAILS.
CONSTRUCT RT. SIDE OF PROPOSED HWY. 59
CONSTRUCT PIPE CULVERTS RT.

END OF JOB:
FINAL SURFACE COURSE AND FINAL STRIPING.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	31	81
MAINTENANCE OF TRAFFIC DETAILS						



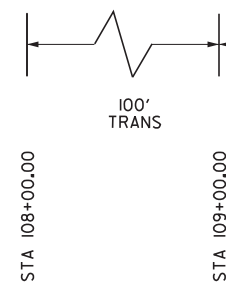
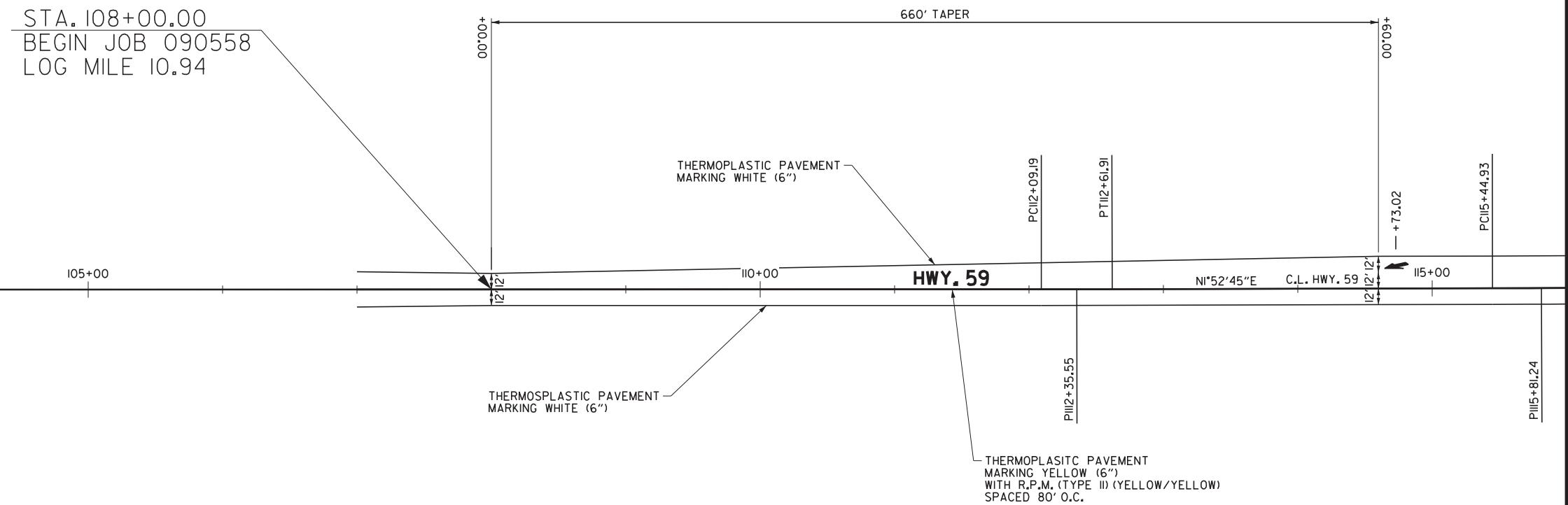
LEGEND

- | | | | |
|------------------------------|------------------|-----------------------|--------------------|
| CONSTRUCT PERMANENT PAVEMENT | OBLITERATE | TRAFFIC FLOW | TYPE III BARRICADE |
| PERMANENT PAVEMENT | REMOVED DRIVEWAY | CHANNELIZATION DEVICE | CONSTRUCTION SIGN |
| | | VERTICAL PANEL | |

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	32	81
PERMANENT PAVEMENT MARKING DETAILS						



NOTE
THE 6" YELLOW STRIPING QUANTITY HAS BEEN
ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE
STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST
BE MARKED FOR PASSING/NO PASSING ZONES PRIOR
TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT
THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF
SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE
ZONING OF THE PROJECT.

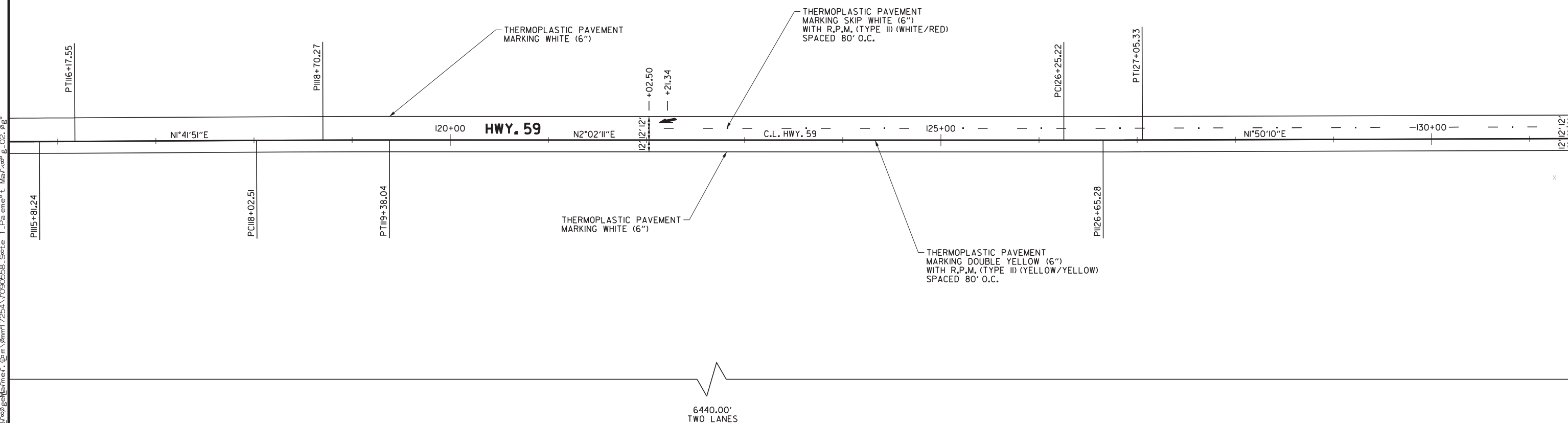
PERMANENT PAVEMENT MARKING DETAILS:

THERMOPLASTIC PAVEMENT MARKINGS:
RT. AND LT. EDGE LINES = 13,140 LIN. FT. 6" WHITE
DBL. CENTERLINE = 14,138 LIN. FT. 6" YELLOW
SKIP LINE = 1139 LIN. FT. WHITE.

RAISED PAVEMENT MARKERS 80' O.C.
TYPE II(YEL/YEL) ON DBL YELLOW LINES = 89 EACH
TYPE II(WHITE/RED) ON SKIP LINES = 57 EACH

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	33	81
		PERMANENT PAVEMENT MARKING DETAILS				



NOTE
THE 6" YELLOW STRIPING QUANTITY HAS BEEN
ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE
STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST
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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:

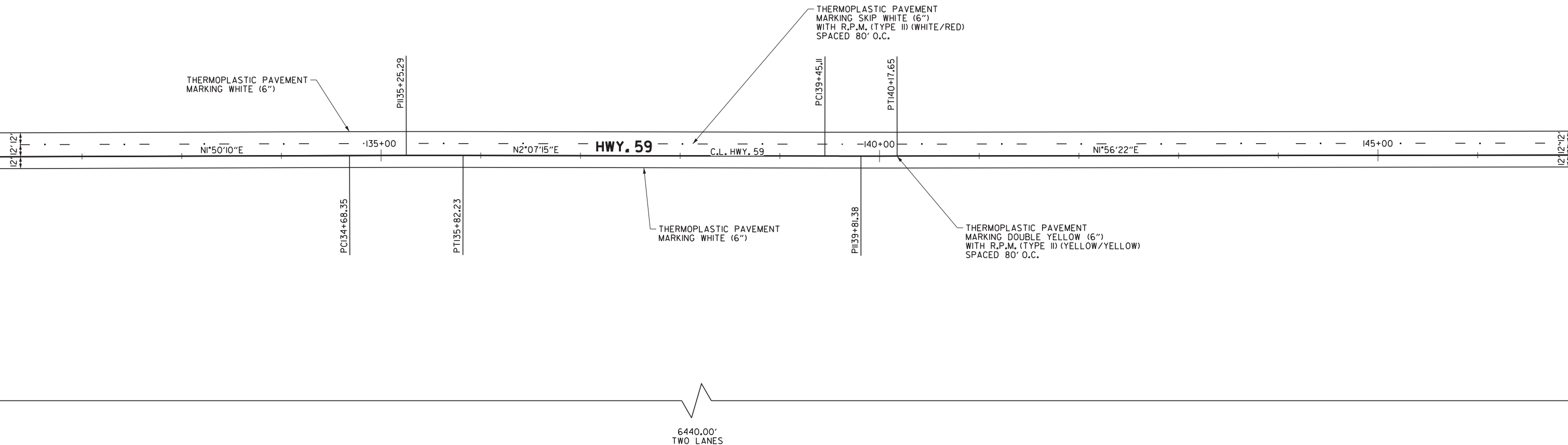
THERMOPLASTIC PAVEMENT MARKINGS:
RT. AND LT. EDGE LINES = 13,140 LIN. FT. 6" WHITE
DBL. CENTERLINE = 14,138 LIN. FT. 6" YELLOW
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RAISED PAVEMENT MARKERS 80' O.C.
TYPE II(YEL/YEL) ON DBL YELLOW LINES = 89 EACH
TYPE II(WHITE/RED) ON SKIP LINES = 57 EACH

PERMANENT PAVEMENT MARKING DETAILS



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	34	81
PERMANENT PAVEMENT MARKING DETAILS						



NOTE
THE 6" YELLOW STRIPING QUANTITY HAS BEEN
ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE
STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST
BE MARKED FOR PASSING/NO PASSING ZONES PRIOR
TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT
THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF
SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE
ZONING OF THE PROJECT.

PERMANENT PAVEMENT MARKING DETAILS:

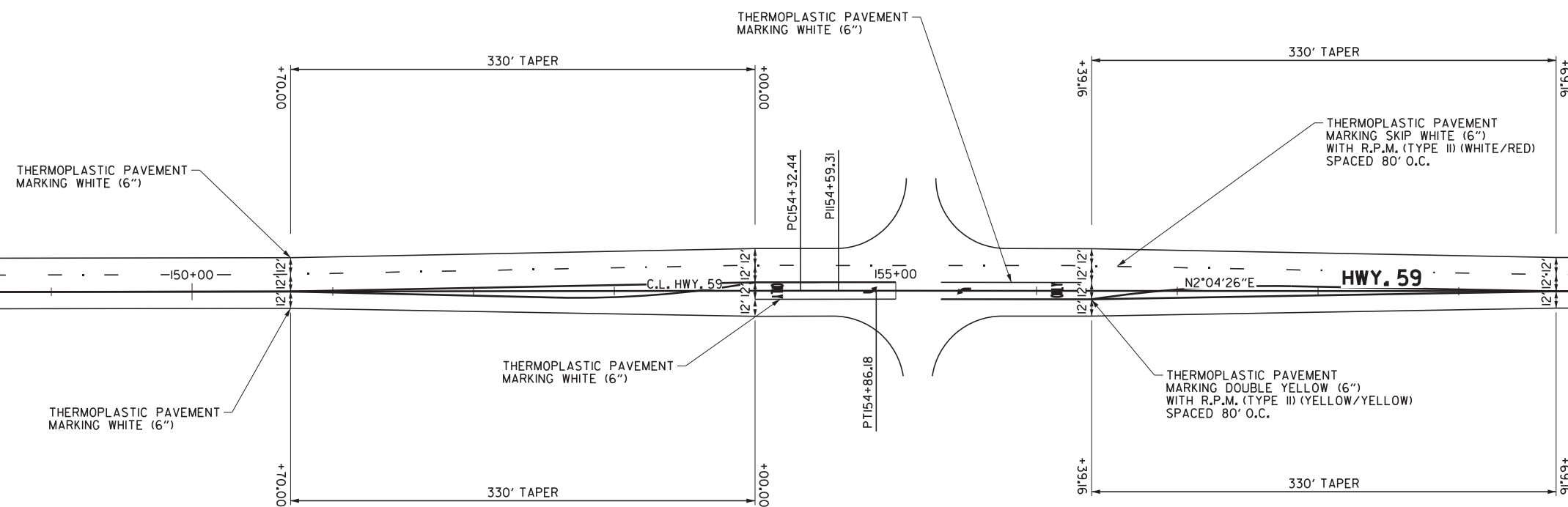
THERMOPLASTIC PAVEMENT MARKINGS:
RT. AND LT. EDGE LINES = 13,140 LIN. FT. 6" WHITE
DBL. CENTERLINE = 14,138 LIN. FT. 6" YELLOW
SKIP LINE = 1139 LIN. FT. WHITE.

RAISED PAVEMENT MARKERS 80' O.C.
TYPE III(YEL/YEL) ON DBL YELLOW LINES = 89 EACH
TYPE III(WHITE/RED) ON SKIP LINES = 57 EACH

PERMANENT PAVEMENT MARKING DETAILS



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	35	81
PERMANENT PAVEMENT MARKING DETAILS						



6440.00'
TWO LANES

NOTE
THE 6" YELLOW STRIPING QUANTITY HAS BEEN
ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE
STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST
BE MARKED FOR PASSING/NO PASSING ZONES PRIOR
TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT
THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF
SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE
ZONING OF THE PROJECT.

PERMANENT PAVEMENT MARKING DETAILS:

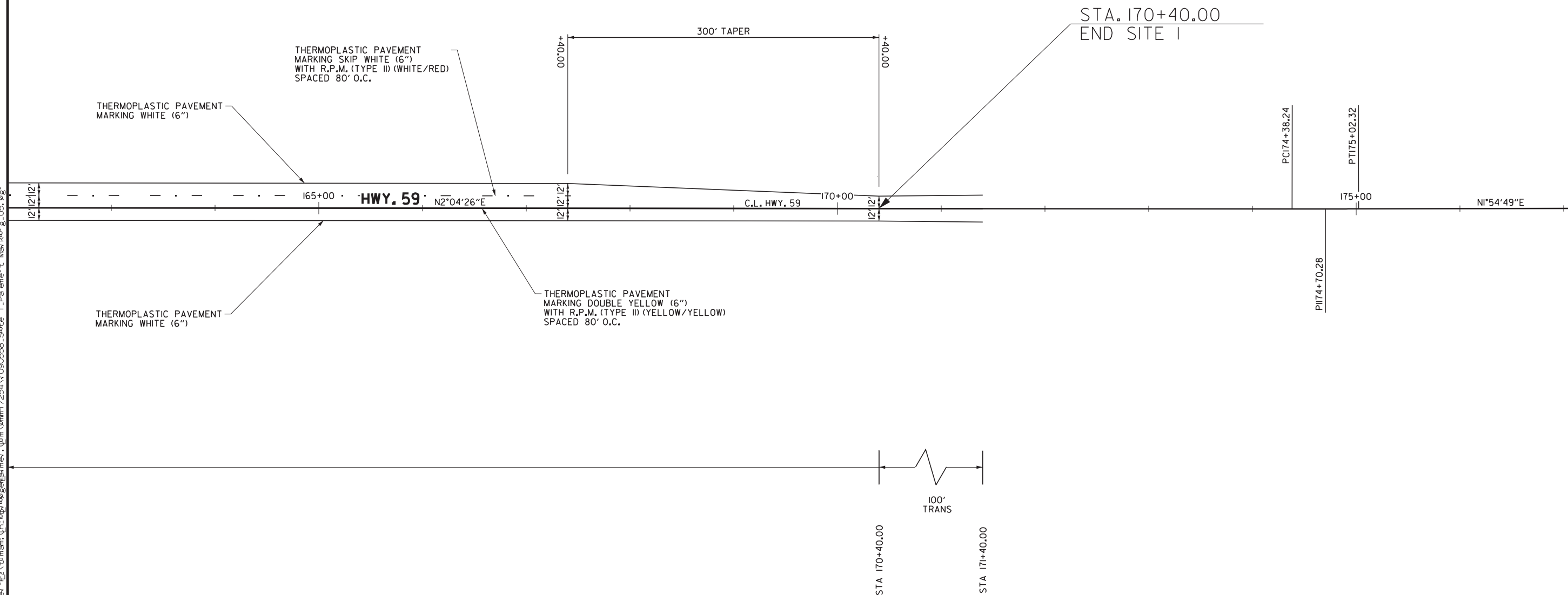
THERMOPLASTIC PAVEMENT MARKINGS:
RT. AND LT. EDGE LINES = 13,140 LIN. FT. 6" WHITE
DBL. CENTERLINE = 14,138 LIN. FT. 6" YELLOW
SKIP LINE = 1139 LIN. FT. WHITE.

RAISED PAVEMENT MARKERS 80' O.C.
TYPE III(YEL/YEL) ON DBL YELLOW LINES = 89 EACH
TYPE III(WHITE/RED) ON SKIP LINES = 57 EACH

PERMANENT PAVEMENT MARKING DETAILS



DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	36	81
		PERMANENT PAVEMENT MARKING DETAILS				



NOTE
THE 6" YELLOW STRIPING QUANTITY HAS BEEN
ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE
STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST
BE MARKED FOR PASSING/NO PASSING ZONES PRIOR
TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT
THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF
SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE
ZONING OF THE PROJECT.

PERMANENT PAVEMENT MARKING DETAILS:

THERMOPLASTIC PAVEMENT MARKINGS:
RT. AND LT. EDGE LINES = 13,140 LIN. FT. 6" WHITE
DBL. CENTERLINE = 14,138 LIN. FT. 6" YELLOW
SKIP LINE = 1139 LIN. FT. WHITE.

RAISED PAVEMENT MARKERS 80' O.C.
TYPE III(YEL/YEL) ON DBL YELLOW LINES = 89 EACH
TYPE III(WHITE/RED) ON SKIP LINES = 57 EACH

PERMANENT PAVEMENT MARKING DETAILS



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	37	81
QUANTITIES						

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		
			LIN. FT. - EACH				NO.			SQ. FT.	EACH	LIN. FT.
W20-1	ROAD WORK 1500 FT.	36"x36"	2	2	2	2	18.0					
W20-1	ROAD WORK 1000 FT.	36"x36"	2	2	2	2	18.0					
W20-1	ROAD WORK 500 FT.	36"x36"	2	2	2	2	18.0					
G20-2	END ROAD WORK	48"x24"	2	2	2	2	16.0					
G20-1	ROAD WORK NEXT xx MILES	60"x24"	2	2	2	2	20.0					
R11-2	ROAD CLOSED	48"x30"	2		2	2	20.0					
R4-1	DO NOT PASS	24"x30"	4		4	4	20.0					
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	4		4	4	36.0					
W8-17	SHOULDER DROP-OFF (SYMBOL)	36"x36"	1	1	1	1	9.0					
W8-17P	SHOULD DROP-OFF (PLAQUE)	30"x24"	1	1	1	1	5.0					
	VERTICAL PANELS		163	134	163			163				
	TRAFFIC DRUMS		91	55	91				91			
	TYPE III BARRICADE-RT. (8')		1		1					8		
	TYPE III BARRICADE-LT. (8')		1		1						8	
TOTALS:							180.0	163	91	8	8	

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS		REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING			
	LIN. FT. - EACH			LIN. FT.	WORDS	ARROWS	LIN. FT.	TYPE II (WHITE/RED)	TYPE II (YELLOW/YELLOW)	6"		WORDS	ARROWS
										WHITE	YELLOW		
REMOVAL OF PERMANENT PAVEMENT MARKINGS	24235	28417	24235	38417									
CONSTRUCTION PAVEMENT MARKINGS	10000	2			2								
CONSTRUCTION PAVEMENT MARKINGS (WORDS)		4				4							
CONSTRUCTION PAVEMENT MARKINGS (ARROWS)													
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	10000						10000						
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)		57						57					
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)		89							89				
THERMOPLASTIC PAVEMENT MARKING WHITE (6")		14279								14279			
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")		14138									14138		
THERMOPLASTIC PAVEMENT MARKING (WORDS)		2										2	
THERMOPLASTIC PAVEMENT MARKING (ARROWS)		4											4
TOTALS:			24235	38417	2	4	10000	57	89	14279	14138	2	4

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



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	38	81
QUANTITIES						

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
I07+00	I71+40	LT. OF HWY. 59	65	65
I07+00	I71+40	RT. OF HWY. 59	65	65
TOTALS:			I30	I30

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS	
		(SINGLE) EACH	(DOUBLE)
ENTIRE PROJECT	8	6	I
TOTALS:	8	6	I

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
I07+38	I8"X30' CMP SIDE DRAIN LT.	I
I10+07	I8"X40' CMP SIDE DRAIN RT.	I
I13+76	I8"X30' CMP SIDE DRAIN RT	I
I26+94	24"X38' CMP CROSS CULVERT	I
I34+28	36"X40' CMP CROSS CULVERT	2
I35+41	I2"X20"X20' CMP SIDE DRAIN LT.	I
I55+18	24"X45' CMP SIDE DRAIN LT.	I
I55+18	24"X40' CMP SIDE DRAIN RT.	I
I60+65	29"X18"X34' RC ARCH SIDE DRAIN RT.	2
I63+74	29"X18"X32' RC ARCH SIDE DRAIN RT.	2
I68+59	I8"X26' CMP SIDE DRAIN RT.	I
I70+25	I8"X46' RCP SIDE DRAIN LT.	I
TOTALS:		I5

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

FENCING

STATION	STATION	LOCATION	WIRE FENCE		• 16'-0" GATES
			(TYPE C)	(TYPE D-2)	
			LIN. FT.		
I06+96	I08+41	RT. OF HWY. 59	175		EACH
I15+45	I41+75	RT. OF HWY. 59		2650	
I28+69	I41+94	LT. OF HWY. 59		1328	I
I45+18	I54+93	RT. OF HWY. 59		995	
I45+14	I45+15	LT. OF HWY. 59		10	
I55+43	I68+33	LT. OF HWY. 59		1310	
I62+78	I62+79	RT. OF HWY. 59		10	
I68+76	I71+51	RT. OF HWY. 59	298		I
TOTALS:			473	6303	2

• DENOTES ALTERNATE BID ITEM.

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE	GATES
			LIN. FT.	EACH
I06+96	I08+41	RT. OF HWY. 59	I75	
I12+64	I12+64	RT. OF HWY. 59	40	
I15+45	I41+75	RT. OF HWY. 59	2680	
I28+69	I41+94	LT. OF HWY. 59	I375	I
I45+14	I45+15	LT. OF HWY. 59	35	
I45+17	I54+93	RT. OF HWY. 59	I360	
I47+45	I54+92	LT. OF HWY. 59	820	
I55+43	I68+33	LT. OF HWY. 59	I290	
I62+78	I62+79	RT. OF HWY. 59	25	
I68+76	I71+51	RT. OF HWY. 59	300	I
TOTALS:			8100	2

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	
ENTIRE	PROJECT	STAGE I-MAIN LANES	I1019	2396
ENTIRE	PROJECT	STAGE 2-MAIN LANES	6757	I336
ENTIRE	PROJECT	APPROACHES	440	380
TOTALS:			I8216	4112

NOTE: EARTHWORK QUANTITIES SHALL BE PAID AS PLAN QUANTITY.

SOIL STABILIZATION

STATION	STATION	LOCATION / DESCRIPTION	SOIL STABILIZATION TON
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	75
TOTAL:			75

QUANTITY ESTIMATED.
SEE SECTION I04.03 OF THE STD. SPECS.

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH LIN. FT.	"W" FEET	CONC. DITCH PAVING	SOLID SODDING	WATER
					(TYPE B) SQ. YD.	SO. YD.	M. GAL.
I26+00.00	I27+00.00	LT. OF HWY. 59	100.00	7.22	80.22	44.44	0.56
I31+00.00	I35+00.00	RT. OF HWY. 59	400.00	7.22	320.89	I77.78	2.24
I33+00.00	I35+00.00	LT. OF HWY. 59	200.00	7.22	I60.44	88.89	I.12
I39+00.00	I44+00.00	LT. OF HWY. 59	500.00	7.22	401.11	222.22	2.80
I39+00.00	I43+00.00	RT. OF HWY. 59	400.00	7.22	320.89	I77.78	2.24
I46+00.00	I51+00.00	LT. OF HWY. 59	500.00	7.22	401.11	222.22	2.80
I46+00.00	I49+00.00	RT. OF HWY. 59	300.00	7.22	240.67	I33.33	I.68
I70+40.00	I71+40.00	LT. OF HWY. 59	100.00	7.22	80.22	44.44	0.56
I70+40.00	I71+40.00	RT. OF HWY. 59	100.00	7.22	80.22	44.44	0.56
TOTALS:					2085.77	I155.54	I4.56

BASIS OF ESTIMATE:
WATER.....I2.6 GAL. / SQ. YD. OF SOLID SODDING.

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	FILTER SOCK (I8")	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	•SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	(E-5) BAG	(E-6) CU.YD.	(E-I1) LIN. FT.	(E-I3) LIN. FT.	(E-I4) CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING						8.27	8.27	I68.7	550		6446		3		267
ENTIRE	PROJECT	STAGE I									264				3		I2
ENTIRE	PROJECT	STAGE 2	7.25	I4.50	7.25	739.5	7.25				220				3	3	I3
•ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			I.77	3.54	I.77	I80.5	I.77	2.07	2.07	42.2	259	I5	I612	200	2	2	67
TOTALS:			9.02	I8.04	9.02	920.0	9.02	10.34	10.34	210.9	I293	I5	8058	200	8	8	359

BASIS OF ESTIMATE:
LIME 2 TONS / ACRE OF SEEDING
WATER.....I02.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
WATER.....I2.6 GAL. / SQ. YD. OF SOLID SODDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

•QUANTITIES ESTIMATED.
SEE SECTION I04.03 OF THE STD. SPECS.

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.

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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	39	81
QUANTITIES						

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH FEET	PORTLAND CEMENT CONCRETE DRIVEWAY SQ. YD.	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)			AGGREGATE BASE COURSE (CLASS 7) TON	SIDE DRAINS LIN. FT.			STANDARD DRAWINGS
					SO. YD.	TON	TON		18"	24"	21"x15"	
I07+38	LT	HWY.59	16		69.37	7.63	28.33	39				PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I10+07	RT	HWY.59	24		116.95	12.86	47.75	46				PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I13+76	RT	HWY.59	20		103.34	11.37	42.20	40				PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I15+43	LT	HWY.59	16		122.87	13.52	50.17					
I35+41	LT	HWY.59	16		90.59	9.96	36.99	36				PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I42+13	LT	HWY.59	16		87.18	9.59	35.60	40				PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I44+67	RT	HWY.59	19		106.63	11.73	43.54					
I45+32	LT	HWY.59	16		93.52	10.29	38.19					
I47+39	LT	HWY.59	16		105.35	11.59	43.02	43				PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I55+18	LT	HWY.59	21		200.84	22.09	82.01		75			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I55+18	RT	HWY.59	20		156.37	17.20	63.85		70			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I60+65	RT	HWY.59	18		84.00	9.24	34.30		84			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I63+74	RT	HWY.59	45	194.26					180			PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I68+59	LT	HWY.59	20	346.49								
I68+59	RT	HWY.59	16		74.54	8.20	30.44	38				PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
I+27	RT	HODGE RD	26	319.55							42	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
ENTIRE PROJECT TEMPORARY DRIVES							232.50					
TOTALS:				860.30	1411.55	155.27	808.89	282	409	42		

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.2% MIN. AGGR.....5.8% ASPHALT BINDER

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.

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH FEET	COLD MILLING ASPHALT PAVEMENT SQ. YD.
I07+00.00	I50+70.00	MAIN LANES	24.00	11653.33
I50+70.00	I54+00.00	MAIN LANES	30.00	1100.00
I54+00.00	I56+39.16	MAIN LANES	36.00	956.64
I56+39.16	I59+69.16	MAIN LANES	30.00	1100.00
I59+69.16	I71+40.00	MAIN LANES	24.00	3122.24
TOTAL:				17932.21

NOTE: COORDINATE COLD MILLING STOCKPILE LOCATIONS WITH DISTRICT ENGINEER.
STOCKPILE LOCATIONS SHALL BE NO FURTHER THAN FIVE MILES FROM EACH SITE.

RUMBLE STRIPS IN ASPHALT SHOULDERS

STATION	STATION	LOCATION	• RUMBLE STRIPS IN ASPHALT SHOULDERS LIN. FT.
I08+00.00	I70+40.00	LT. OF HWY. 59	4992.00
I08+00.00	I70+40.00	RT. OF HWY. 59	4992.00
TOTAL:			9984

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

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE BOX CULVERT		FLARED END SECTIONS FOR R.C. PIPE CULVERTS		TEMPORARY CULVERTS		SOLID SODDING	WATER	STD. DWG. NOS.
		(CLASS IV)								
		24"	30"	24"	30"	24"	36"			
		LIN. FT.		EACH		LIN. FT.				
I26+94	DBL. 24" X 75' R.C. PIPE CULVERT	150		4				26	0.33	FES-1, FES-2, PCC-1
I34+28	TRPL. 30" X 77' R.C. PIPE CULVERT		231		6			40	0.50	FES-1, FES-2, PCC-1
I26+94	DBL. 24" X 22' TEMP. PIPE CULVERT EXTENSION					44				PCC-1, PCM-1
I34+28	DBL. 36" X 22' TEMP. PIPE CULVERT EXTENSION						44			PCC-1, PCM-1
TOTALS:		150	231	4	6	44	44	66	0.83	

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.

CENTERLINE RUMBLE STRIPES IN ASPHALT ROADWAYS

STATION	STATION	LOCATION	• CENTERLINE RUMBLE STRIPES IN ASPHALT ROADWAYS LIN. FT.
I07+00	I55+00	CENTERLINE	4800
I55+32	I71+40	CENTERLINE	1608
TOTAL:			6408

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING CU. YD.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	100
TOTAL:	100

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

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

STATION	LOCATION	WIDTH FEET	LENGTH	TON
I26+94	DBL. 24" X 75' R.C. PIPE CULVERT	22.25	32	70
I34+28	TRPL. 30" X 77' R.C. PIPE CULVERT	14.00	32	44
TOTAL:				114

AVG. DEPTH = 16"

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB LIN. FT.	CONCRETE DRIVEWAYS SQ. YD.	SIGN FOUNDATIONS EACH	SIGNS EACH	MAILBOXES EACH
I54+80	I54+80	LT. OF HWY. 59			1	1	
I70+25	I70+25	LT. OF HWY. 59	59	212	2	1	
I63+74	I63+74	RT. OF HWY 59		275			
		ENTIRE PROJECT					8
TOTALS:			59	487	3	2	8

QUANTITIES



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	40	81
QUANTITIES						

BASE AND SURFACING																															
STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT						ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")											
				TON / STATION	TON	(0.05 GAL.PER SQ.YD.)			(0.17 GAL.PER SQ.YD.)			TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 70-22	TOTAL		
						TOTAL WID FEET	SQ.YD.	GALLON	TOTAL WID FEET	SQ.YD.	GALLON																			FEET	TON
MAIN LANES																															
107+00.00	108+00.00	TRANSITION	100.00	64.38	64.38				24.00	266.67	45.33	45.33		6.21	455.40	440.00	100.19	6.13	449.53	440.00	98.90	6.06	444.40	220.00	48.88	34.00	377.78	220.00	41.56	41.56	
108+00.00	114+60.00	TAPER	660.00	152.13	1004.06	18.40	1349.33	67.47	24.00	1760.00	299.20	366.67		12.42	1435.20	440.00	315.74	12.25	1415.56	440.00	311.42	12.13	1401.69	220.00	154.19	45.00	3300.00	220.00	363.00	411.88	
114+60.00	125+00.00	MAIN LANES	1040.00	175.50	1825.20	36.79	4251.29	212.56	24.00	2773.33	471.47	684.03		12.42	552.00	440.00	121.44	12.25	544.44	440.00	119.78	12.13	539.11	220.00	59.30	50.00	2222.22	220.00	244.44	303.74	
125+00.00	129+00.00	MAIN LANES	400.00	138.50	554.00	36.79	1635.11	81.76	24.00	1066.67	181.33	263.09		12.42	414.00	440.00	91.08	12.25	408.33	440.00	89.83	12.13	404.33	220.00	44.48	50.00	1666.67	220.00	183.33	227.81	
129+00.00	132+00.00	MAIN LANES	300.00	175.50	526.50	36.79	1226.33	61.32	24.00	800.00	136.00	197.32		12.42	690.00	440.00	151.80	12.25	680.56	440.00	149.72	12.13	673.89	220.00	74.13	50.00	2777.78	220.00	305.56	379.69	
132+00.00	137+00.00	MAIN LANES	500.00	138.50	692.50	36.79	2043.89	102.19	24.00	1333.33	226.67	328.86		12.42	1890.60	440.00	415.93	12.25	1864.72	440.00	410.24	12.13	1846.46	220.00	203.11	50.00	7611.11	220.00	837.22	1040.33	
137+00.00	150+70.00	MAIN LANES	1370.00	175.50	2404.35	36.79	5600.26	280.01	24.00	3653.33	621.07	901.08		12.42	455.40	440.00	100.19	12.25	449.17	440.00	98.82	12.13	444.77	220.00	48.92	56.00	2053.33	220.00	225.87	274.79	
150+70.00	154+00.00	TAPER	330.00	175.50	579.15	36.79	1348.97	67.45	30.00	1100.00	187.00	254.45		12.42	330.04	440.00	72.61	12.25	325.52	440.00	71.61	12.13	322.33	220.00	35.46	62.00	1647.55	220.00	181.23	216.69	
154+00.00	156+39.16	MAIN LANES	239.16	175.50	419.73	36.79	977.63	48.88	36.00	956.64	162.63	211.51		12.42	455.40	440.00	100.19	12.25	449.17	440.00	98.82	12.13	444.77	220.00	48.92	56.00	2053.33	220.00	225.87	274.79	
156+39.16	159+69.16	TAPER	330.00	175.50	579.15	36.79	1348.97	67.45	30.00	1100.00	187.00	254.45		12.42	1063.76	440.00	234.03	12.25	1049.20	440.00	230.82	12.13	1038.92	220.00	114.28	50.00	4282.44	220.00	471.07	585.35	
159+69.16	167+40.00	MAIN LANES	770.84	175.50	1352.82	36.79	3151.02	157.55	24.00	2055.57	349.45	507.00		12.42	136.00	440.00	166.67	6.21	207.00	440.00	45.54	6.13	204.33	440.00	44.95	6.06	202.00	220.00	165.00	187.22	
167+40.00	170+40.00	TAPER	300.00	152.13	456.39	18.40	613.33	30.67	24.00	800.00	136.00	166.67		6.21																	
170+40.00	171+40.00	TRANSITION	100.00	64.38	64.38				24.00	266.67	45.33	45.33																			
ADDITIONAL FOR LEVELING																															
108+00.00	114+60.00	TAPER	660.00			24.00	1760.00	88.00				88.00									24.00	1760.00	VAR.	90.74					90.74		
114+60.00	150+70.00	MAIN LANES	3610.00			24.00	9626.67	481.33				481.33									24.00	9626.67	VAR.	758.62					758.62		
150+70.00	154+00.00	TAPER	330.00			30.00	1100.00	55.00				55.00									30.00	1100.00	VAR.	57.55					57.55		
154+00.00	156+39.16	MAIN LANES	239.16			36.00	956.64	47.83				47.83									36.00	956.64	VAR.	33.50					33.50		
156+39.16	159+69.16	TAPER	330.00			30.00	1100.00	55.00				55.00									30.00	1100.00	VAR.	60.38					60.38		
159+69.16	167+40.00	MAIN LANES	770.84			24.00	2055.57	102.78				102.78									24.00	2055.57	VAR.	119.95					119.95		
167+40.00	170+40.00	TAPER	300.00			24.00	800.00	40.00				40.00									24.00	800.00	VAR.	55.31					55.31		
ADDITIONAL FOR CULVERT CONSTRUCTION																															
125+00.00	129+00.00	WIDEN - RT.	400.00	65.75	263.00	25.00	1111.11	55.56				55.56	8.33	370.22	440.00	81.45	8.17	363.11	440.00	79.88	8.04	357.33	220.00	39.31					39.31		
132+00.00	137+00.00	WIDEN - RT.	500.00	65.75	328.75	25.00	1388.89	69.44				69.44	8.33	462.78	400.00	92.56	8.17	453.89	440.00	99.86	8.04	446.67	220.00	49.13					49.13		
TOTALS:					1114.36		43445.01	2172.25				17932.21	3048.48	5220.73		8781.80		1922.75		8657.53		1904.65		25965.55		2118.38		35647.77		3921.27	6039.65

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.2% MIN. AGGR.....5.8% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.0% MIN. AGGR.....4.0% ASPHALT BINDER
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

SURVEY CONTROL COORDINATES

Project Name: s090558_location1
Date: 11/14/2019
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
13	748106.3123	593352.1204	1194.976	CTL	ARDOT STD. MON. STAMPED PN: 13
14	748739.7807	593414.4662	1205.793	CTL	ARDOT STD. MON. STAMPED PN: 14
15	749377.7577	593437.8715	1213.480	CTL	ARDOT STD. MON. STAMPED PN: 15
16	750111.9173	593460.6596	1206.935	CTL	ARDOT STD. MON. STAMPED PN: 16
17	750875.0564	593487.9810	1197.743	CTL	ARDOT STD. MON. STAMPED PN: 17
18	751571.0014	593510.2726	1191.219	CTL	ARDOT STD. MON. STAMPED PN: 18
19	752405.2070	593540.6852	1221.065	CTL	ARDOT STD. MON. STAMPED PN: 19
20	753357.1681	593575.4384	1192.071	CTL	ARDOT STD. MON. STAMPED PN: 20
21	754223.7504	593607.8585	1184.161	CTL	ARDOT STD. MON. STAMPED PN: 21
22	754972.5039	593590.5846	1181.209	CTL	ARDOT STD. MON. STAMPED PN: 22
23	756503.2479	593686.2281	1163.571	CTL	ARDOT STD. MON. STAMPED PN: 23
39	747667.8903	593343.6318	1172.672	CTL	ARDOT STD. MON. STAMPED PN: 39
40	747128.3202	593469.5608	1142.694	CTL	ARDOT STD. MON. STAMPED PN: 40
41	746820.2292	593658.6446	1131.513	CTL	ARDOT STD. MON. STAMPED PN: 41
42	746182.2529	593789.4436	1164.474	CTL	ARDOT STD. MON. STAMPED PN: 42
43	745583.9337	593646.6613	1186.726	CTL	ARDOT STD. MON. STAMPED PN: 43
44	745067.8696	593266.5822	1188.573	CTL	ARDOT STD. MON. STAMPED PN: 44
45	744601.9360	592882.6635	1183.639	CTL	ARDOT STD. MON. STAMPED PN: 45
104	746791.0342	594822.3944	1166.243	GPS	ARDOT GPS #040127
105	746662.3679	596701.1081	1181.564	GPS	ARDOT GPS #040014A
106	755713.8740	593594.7288	1190.330	GPS	ARDOT GPS #040128
107	757339.0651	593715.3041	1160.542	GPS	ARDOT GPS #040128A
110	745263.1518	593434.7337	1188.738	GPS	ARDOT GPS #040115A
904	750603.5511	593442.8220	1198.119	TBM	CHSQ IN W HW
905	754219.3195	593603.5444	1184.640	TBM	CH SQ S. END OF CONC DW
909	744604.1156	592811.0379	1183.498	TBM	CHSQ IN SW END OF CB

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.999977714965 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME s090558_LOC1.cti
HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE or 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 040127 - 040014A, 040128 - 040128A
CONVERGENCE ANGLE: 01 25 15.18 LEFT AT LT: N 36-22-17.96 LG: W094-26-30.49
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	42	81
SURVEY CONTROL DETAILS						

C.L. HWY. 59 SITE 1

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	P.O.B.	100+00.00	747911.8115	593367.6669
8001	P.C.	100+02.61	747914.4222	593367.7352
8003	P.T.	102+07.98	748119.6941	593374.0223
8004	P.C.	112+09.19	749120.2917	593409.1568
8006	P.T.	112+61.91	749172.9784	593410.9462
8007	P.C.	115+44.93	749455.8479	593420.2273
8009	P.T.	116+17.55	749528.4311	593422.4937
8010	P.C.	118+02.51	749713.3079	593427.9733
8012	P.T.	119+38.04	749848.7607	593432.3888
8013	P.C.	126+25.22	750535.5141	593456.8089
8015	P.T.	127+05.33	750615.5801	593459.5158
8016	P.C.	134+68.35	751378.2060	593483.9650
8018	P.T.	135+82.23	751492.0177	593487.8967
8019	P.C.	139+45.11	751854.6425	593501.3262
8021	P.T.	140+17.65	751927.1383	593503.8961
8022	P.C.	154+32.44	753341.1250	593551.7806
8024	P.T.	154+86.18	753394.8239	593553.6621
8025	P.C.	174+38.24	755345.6056	593624.3042
8027	P.T.	175+02.32	755409.6501	593626.5338
8028	P.O.E.	178+11.76	755718.9188	593636.8672

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	43	81
		SURVEY CONTROL DETAILS				

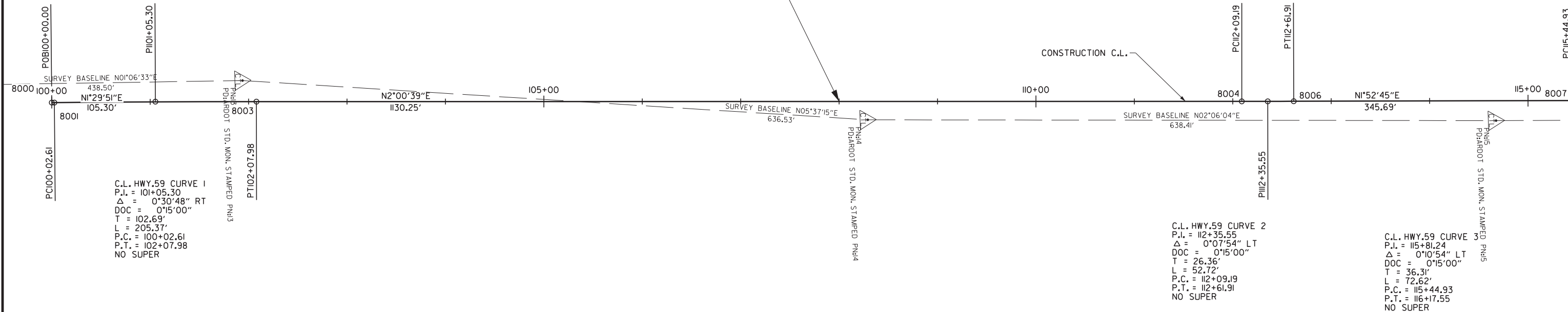


STATE OF
ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
No. 12404
SHAHRIAR AZAD
2023-03-23

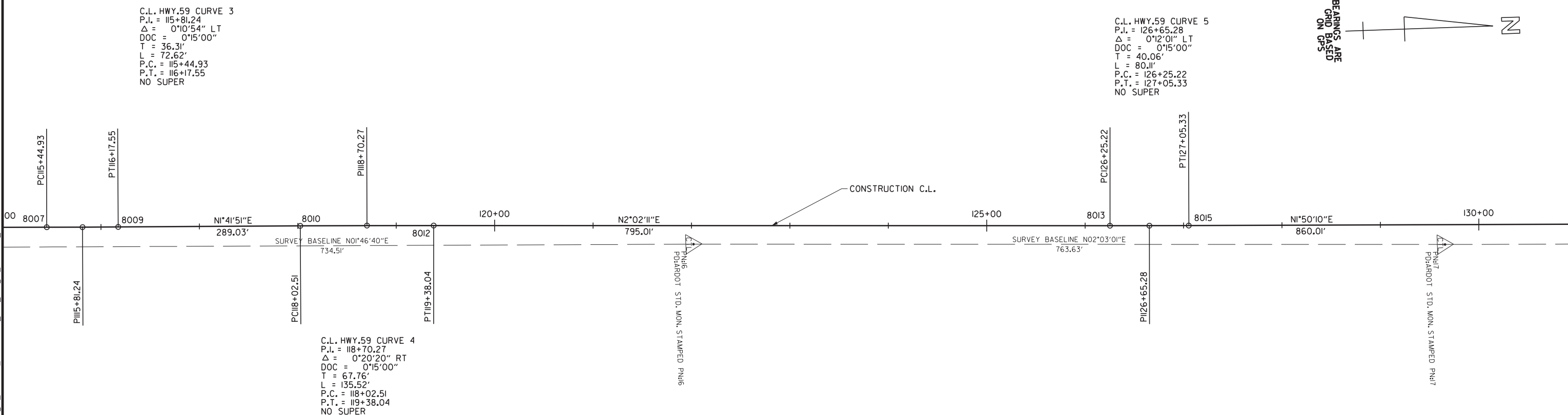
BEARINGS ARE GRID BASED ON GPS



STA. 108+00.00
BEGIN JOB 090558
LOG MILE 10.94



BEARINGS ARE GRID BASED ON GPS

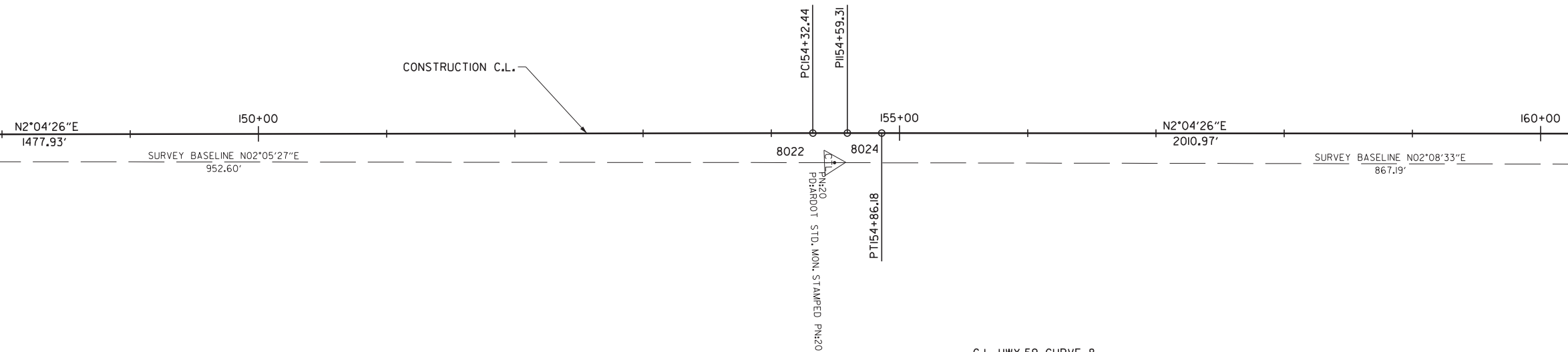
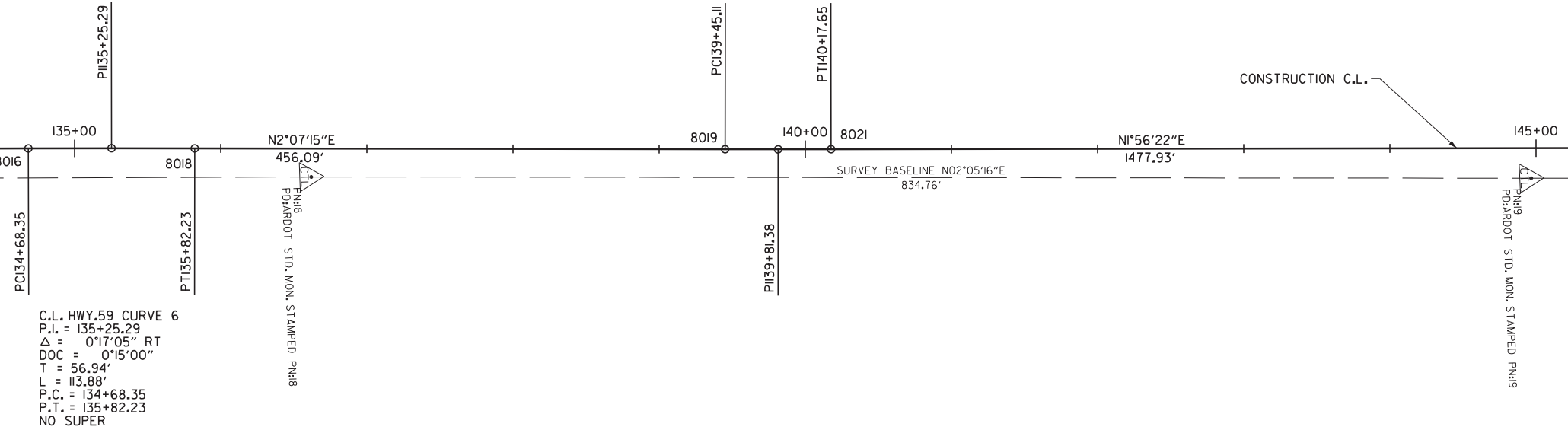


SURVEY CONTROL DETAILS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	44	81
		SURVEY CONTROL DETAILS				



STATE OF
ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
No. 12404
SHAHRIAR AZAD
2023-03-23

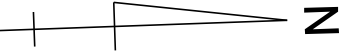


SURVEY CONTROL DETAILS

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	45	81
SURVEY CONTROL DETAILS						

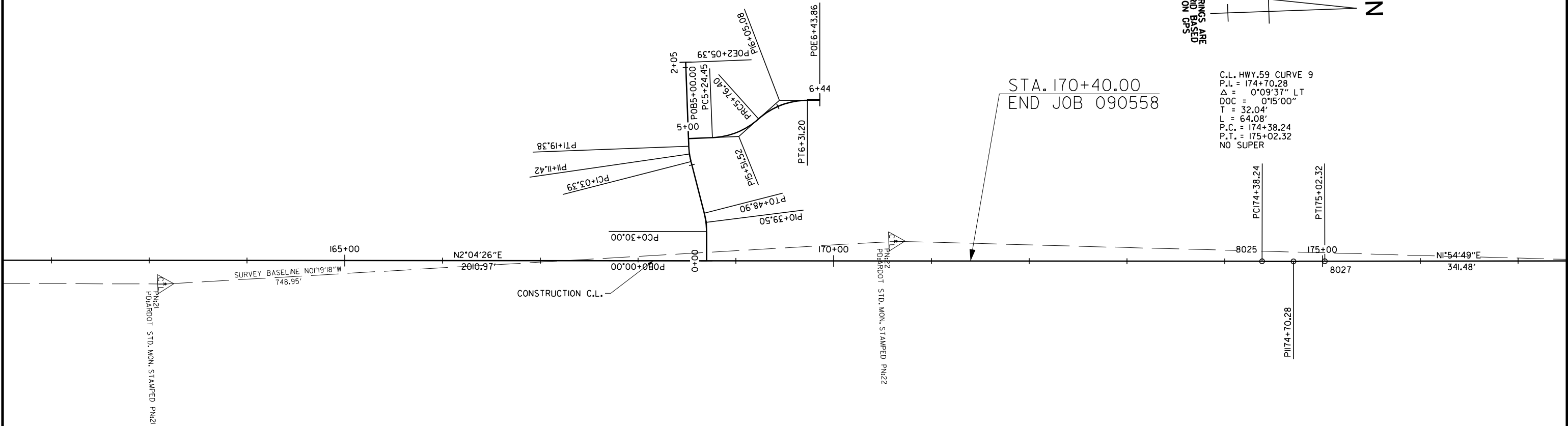


BEARINGS ARE
GRID BASED
ON GPS

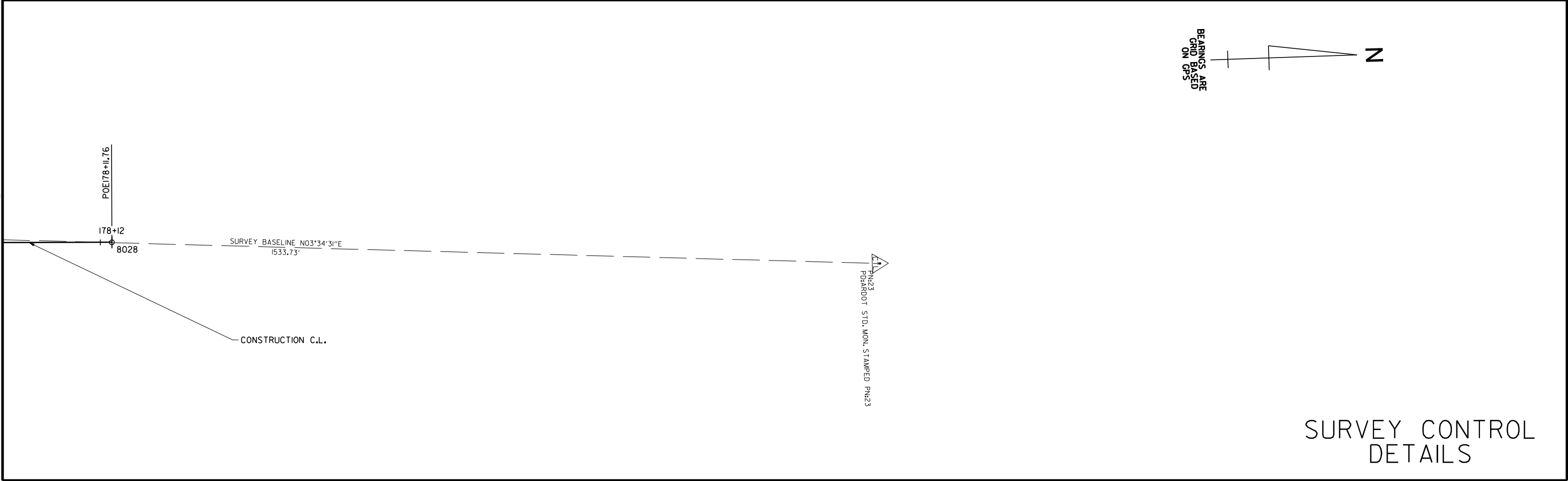
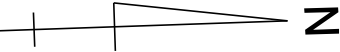


C.L. HWY. 59 CURVE 9
P.I. = 174+70.28
 Δ = 0°09'37" LT
DOC = 0°15'00"
T = 32.04'
L = 64.08'
P.C. = 174+38.24
P.T. = 175+02.32
NO SUPER

STA. 170+40.00
END JOB 090558



BEARINGS ARE
GRID BASED
ON GPS



3/23/2023 2:27:36 PM

Tomaz Chit

G:\Binn\Brogel\Armer-R2\Tomaz\CH10\Brogel\Armer\Qm\7226\090558_Sheet 1_PP_01.dwg

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
Shahriar Azad
2023-03-23

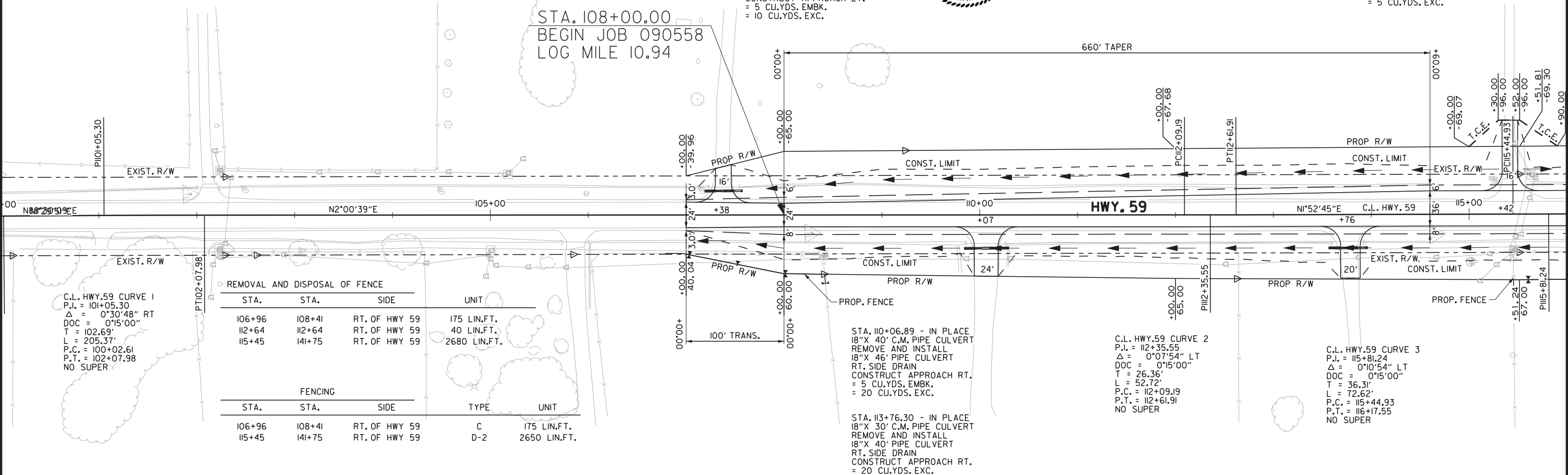
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	46	81
PLAN & PROFILE SHEETS						



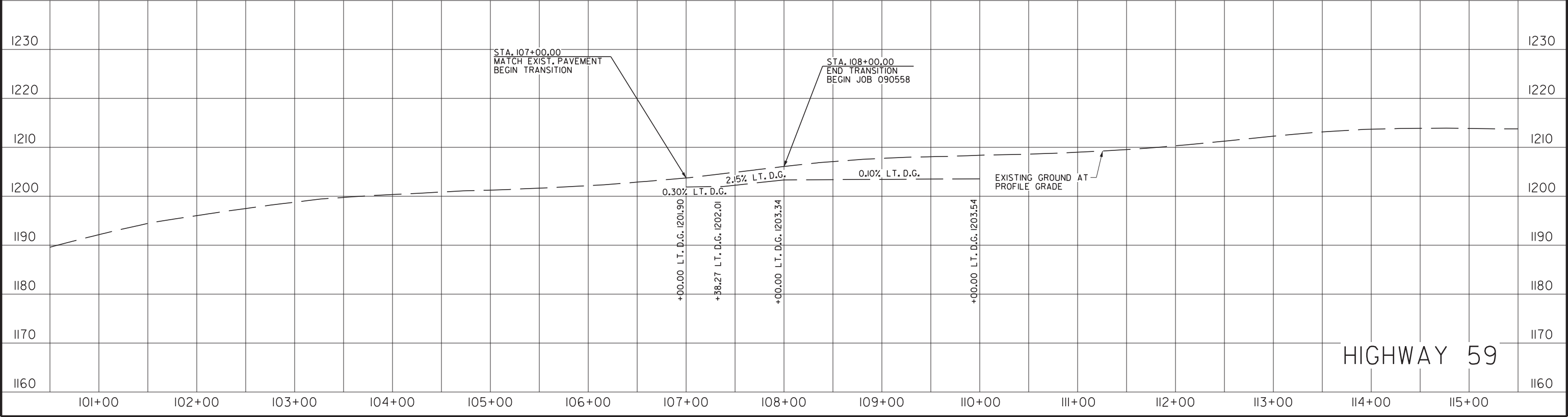
STA. 115+42.73 - CONSTRUCT
APPROACH LT.
= 95 CU.YDS. EMBK.
= 5 CU.YDS. EXC.

STA. 107+38.27 - IN PLACE
18"X 30' C.M. PIPE CULVERT
REMOVE AND INSTALL
18"X 39' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH LT.
= 5 CU.YDS. EMBK.
= 10 CU.YDS. EXC.

STA. 108+00.00
BEGIN JOB 090558
LOG MILE 10.94



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



3/23/2023 2:27:42 PM

G:\Bm\Brog\gellarmer-r2\taman? Q1-0Brog\gellarmer-Qm\9mm\7226\090558_Sheet 1_PP_02.dwg

STA. 126+93.62 - IN PLACE
24" X 38' C.M. PIPE CULVERT
REMOVE AND INSTALL
DBL 24" X 75' R.C. PIPE CULVERT
(CLASS IV)(TYPE 3 BEDDING)
WITH F.E.S. LT. AND RT.
050 = 21.10 C.F.S. D.A. = 12.56 ACRES



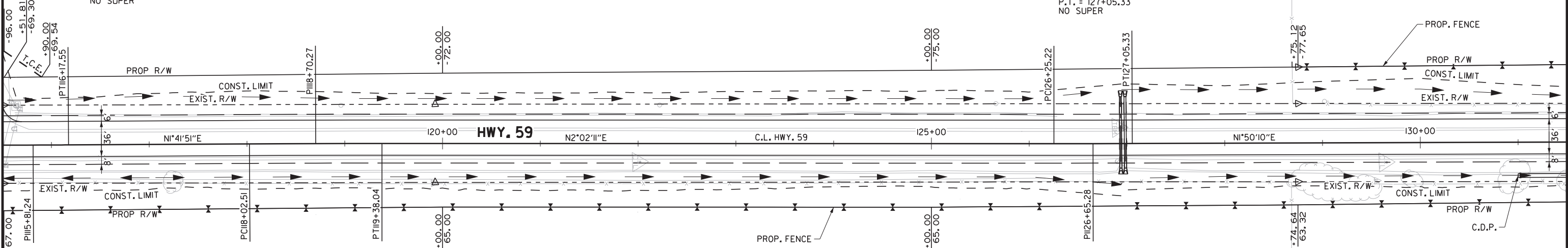
Shahriar Azad
2023-03-23

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	47	81
PLAN & PROFILE SHEETS						



C.L. HWY. 59 CURVE 3
P.I. = 115+81.24
 Δ = 0°10'54" LT
DOC = 0°15'00"
T = 36.31'
L = 72.62'
P.C. = 115+44.93
P.T. = 116+17.55
NO SUPER

C.L. HWY. 59 CURVE 5
P.I. = 126+65.28
 Δ = 0°12'01" LT
DOC = 0°15'00"
T = 40.06'
L = 80.11'
P.C. = 126+25.22
P.T. = 127+05.33
NO SUPER



C.L. HWY. 59 CURVE 4
P.I. = 118+70.27
 Δ = 0°20'20" RT
DOC = 0°15'00"
T = 67.76'
L = 135.52'
P.C. = 118+02.51
P.T. = 119+38.04
NO SUPER

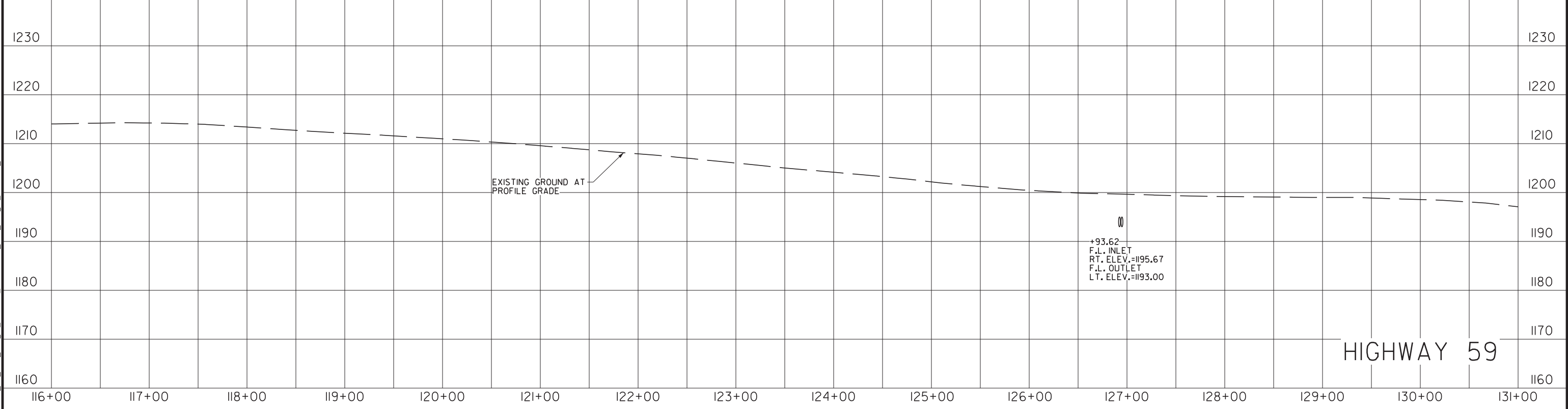
REMOVAL AND DISPOSAL OF FENCE

STA.	STA.	SIDE	UNIT
115+45	141+75	RT. OF HWY 59	2680 LIN.FT.
128+69	141+94	LT. OF HWY 59	1375 LIN.FT.

FENCING

STA.	STA.	SIDE	TYPE	UNIT	16'-0" GATES
115+45	141+75	RT. OF HWY 59	D-2	2650 LIN.FT.	
128+69	141+94	LT. OF HWY 59	D-2	1328 LIN.FT.	1 EA.

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



0
+93.62
F.L. INLET
RT. ELEV. = 1195.67
F.L. OUTLET
LT. ELEV. = 1193.00

HIGHWAY 59

STA. 145+31.93 - CONSTRUCT
APPROACH LT.
= 25 CU.YDS. EXC.

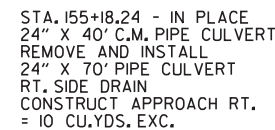
STA. 144+67.14 - CONSTRUCT
APPROACH RT.
= 25 CU.YDS. EXC.

1160

+28.30
F.L. INLET
RT. ELEV.=1183.14
F.L. OUTLET
LT. ELEV.=1181.81

HIGHWAY 59

STA. 155+18.24 - IN PLACE
24" X 45' C.M. PIPE CULVERT
REMOVE AND INSTALL
24" X 75' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH LT.
= 30 CU.YDS. EMBK.
= 30 CU.YDS. EXC.

PLAN & PROFILE SHEETS

C.L. HWY. 59 CURVE 8
P.I. = 154+59.31
 Δ = 0°08'04" RT
DOC = 0°15'00"
T = 26.87'
L = 53.73'
P.C. = 154+32.44
P.T. = 154+86.18
NO SUPER

STA. 160+64.94 - IN PLACE
DBL-29"X 18"X 34' R.C. ARCH PIPE CULVERT
REMOVE AND INSTALL
DBL-24" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH RT.
= 5 CU.YDS. EMBK.
= 15 CU.YDS. EXC

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



HIGHWAY 59

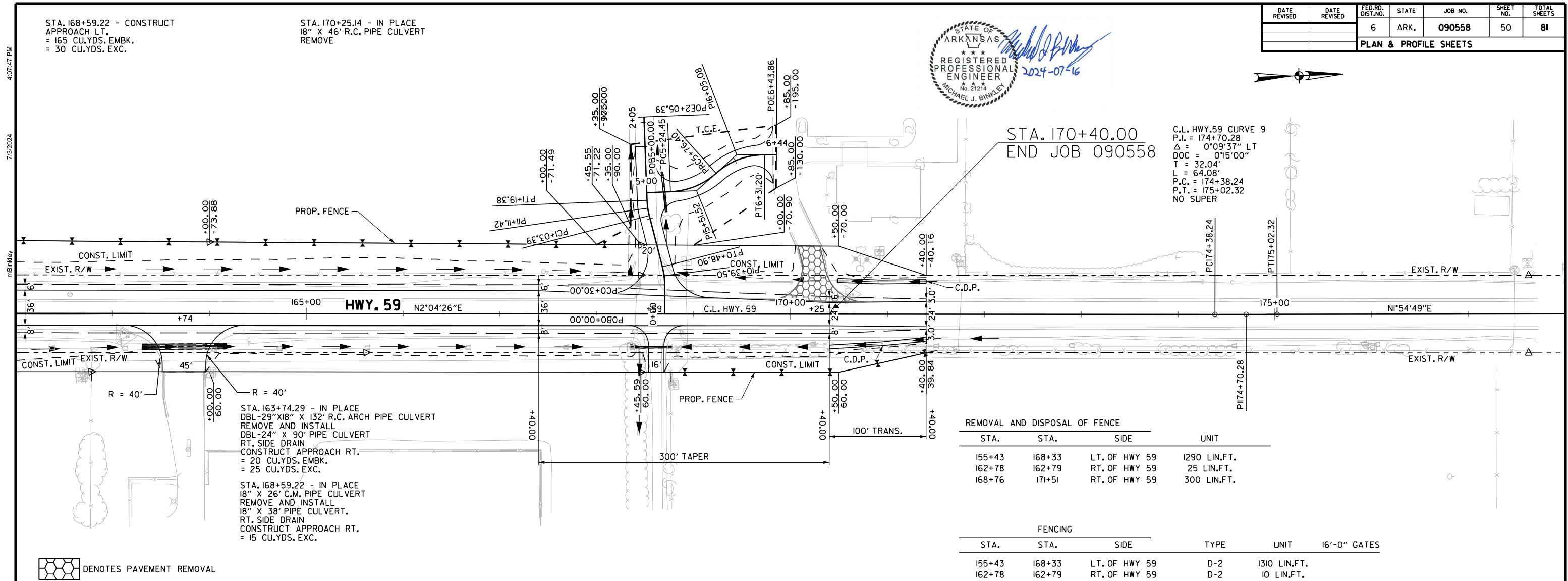
STA. 170+25.14 - IN PLACE
18" X 46' R.C. PIPE CULVERT
REMOVE

STATE OF
ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
No. 21214
MICHAEL J. BINKLEY

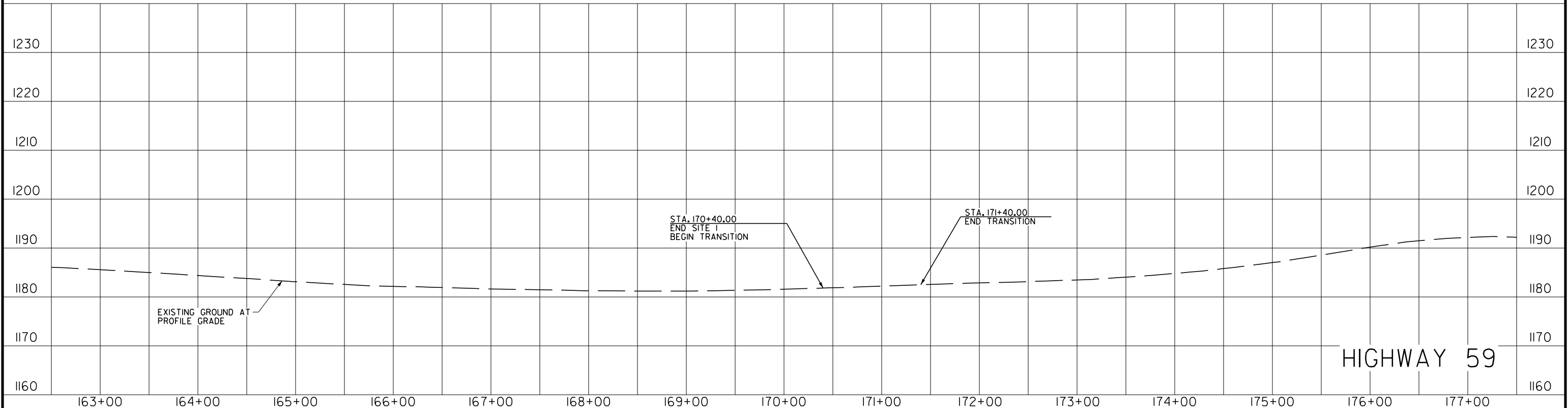
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	50	81
PLAN & PROFILE SHEETS						



C.L. HWY.59 CURVE 9
P.I. = 174+70.28
 $\Delta = 0^{\circ}09'37''$ LT
DOC = $0^{\circ}15'00''$
T = 32.04'
L = 64.08'
P.C. = 174+38.24
P.T. = 175+02.32
NO SUPER



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



HIGHWAY 59

6:31:08 PM

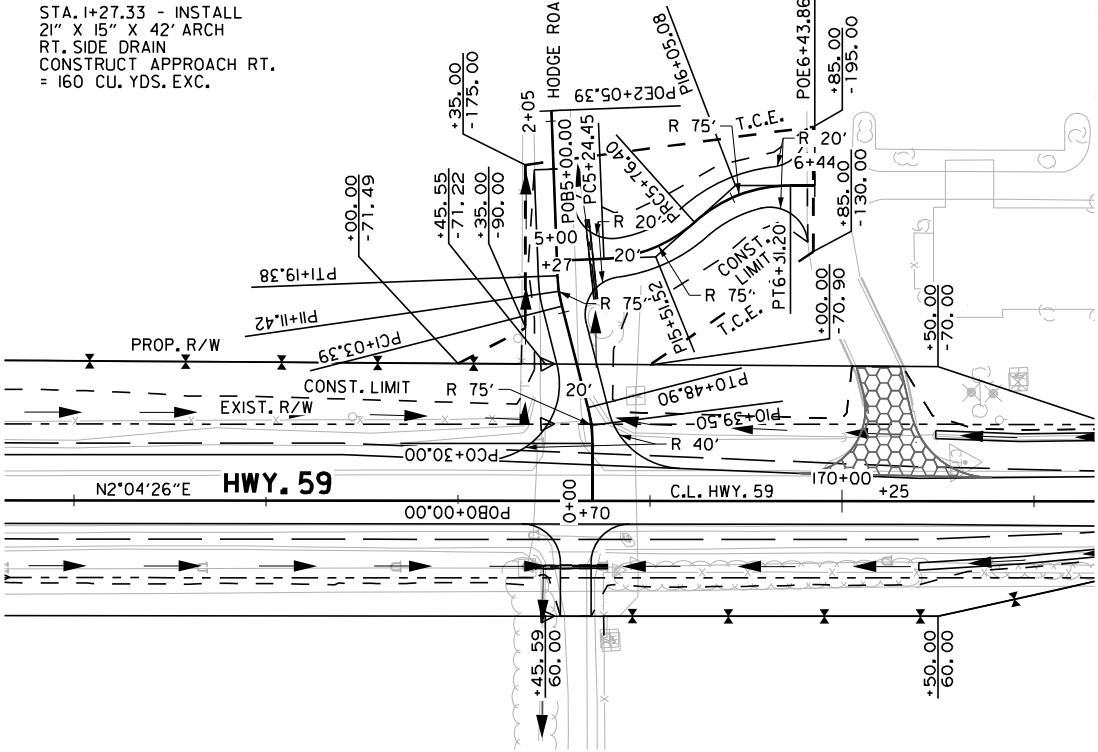
7/16/2024

mBinkley

c:\msb\bridge\amer-p\michael.binkley\dms17226\090558_Site_1_PP_05_Hodge RD & DRIVEY.dgn

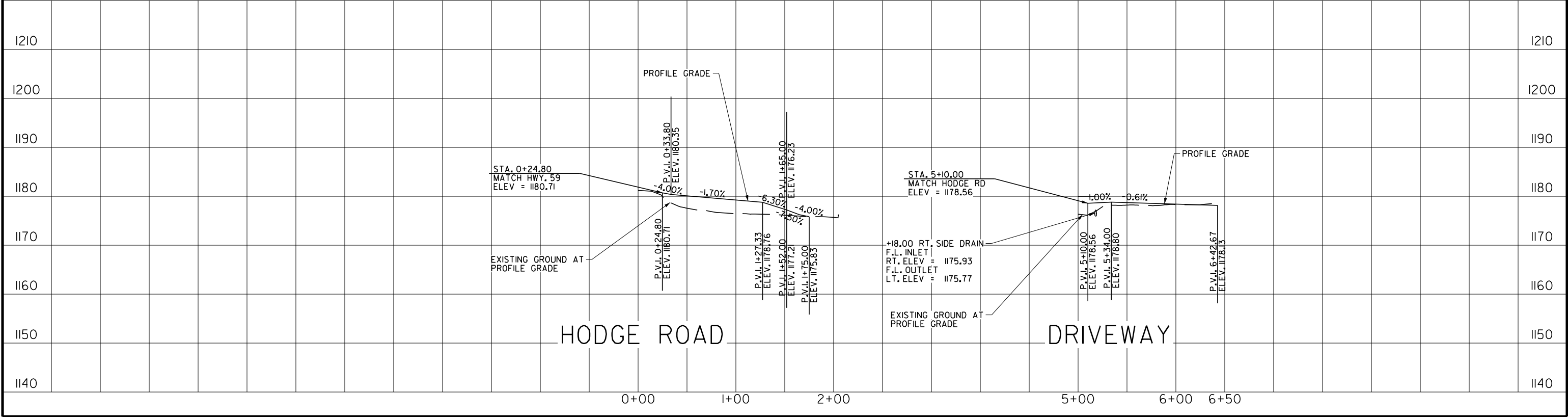


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	50A	81
PLAN & PROFILE SHEETS						

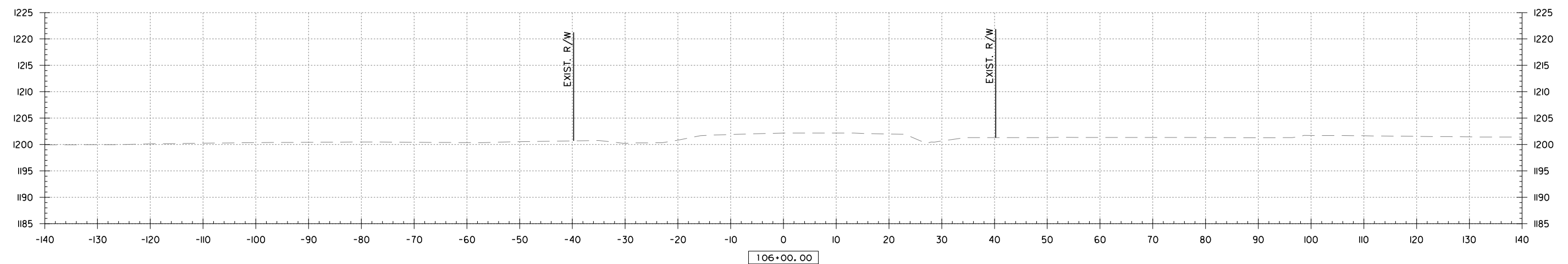


DENOTES PAVEMENT REMOVAL

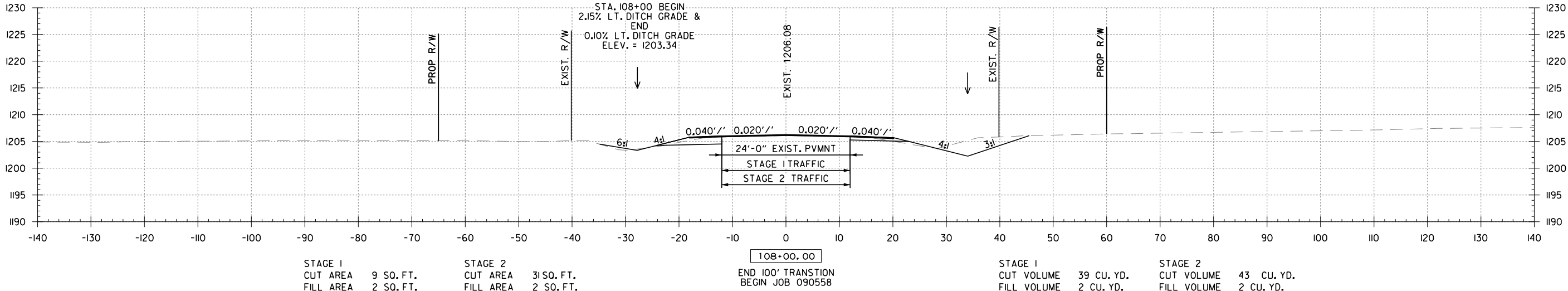
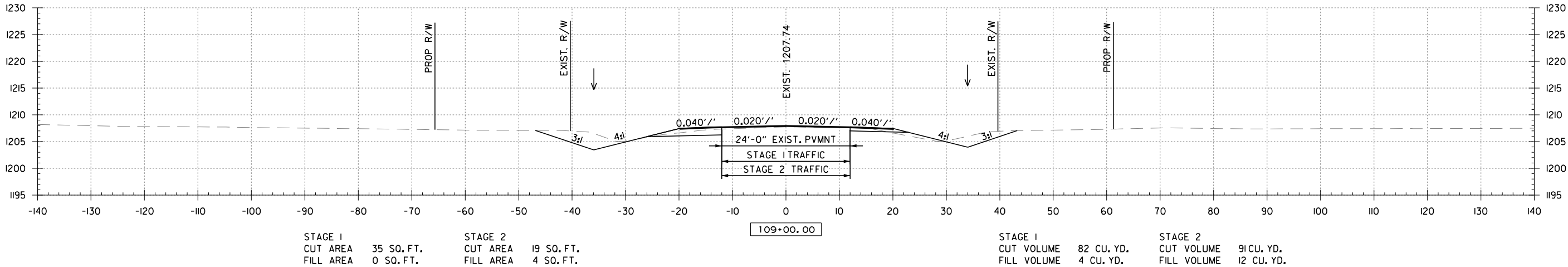
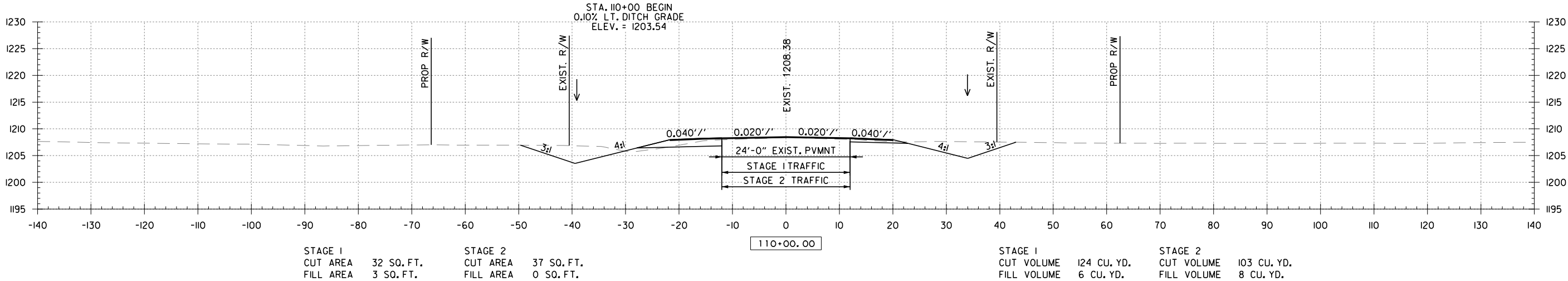
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA



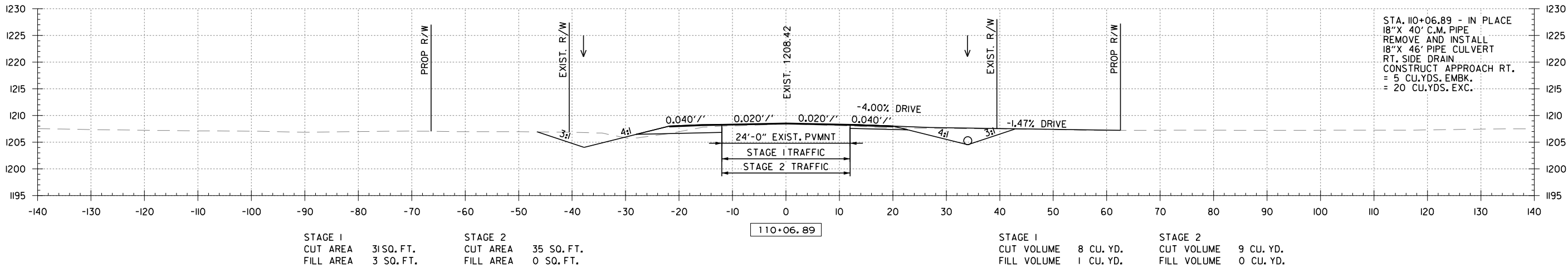
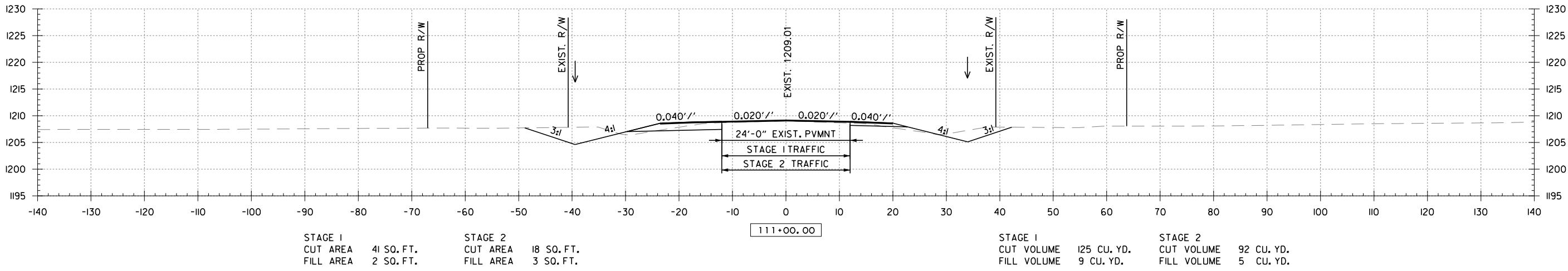
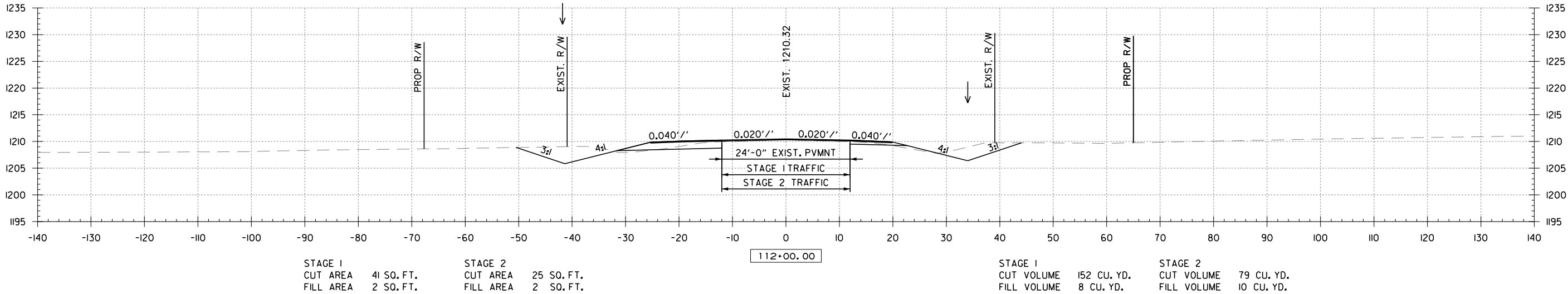
CROSS SECTION STA. 106+00 TO STA. 107+38 HWY. 59



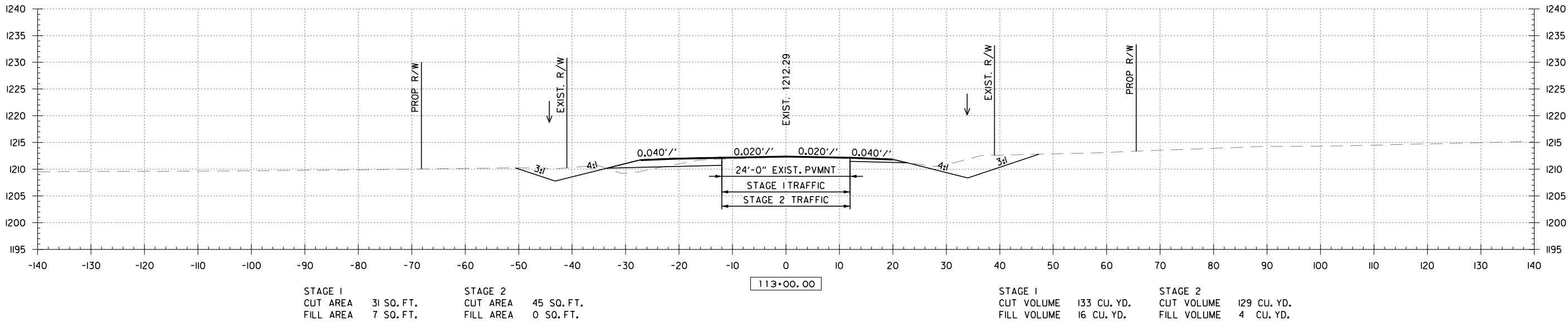
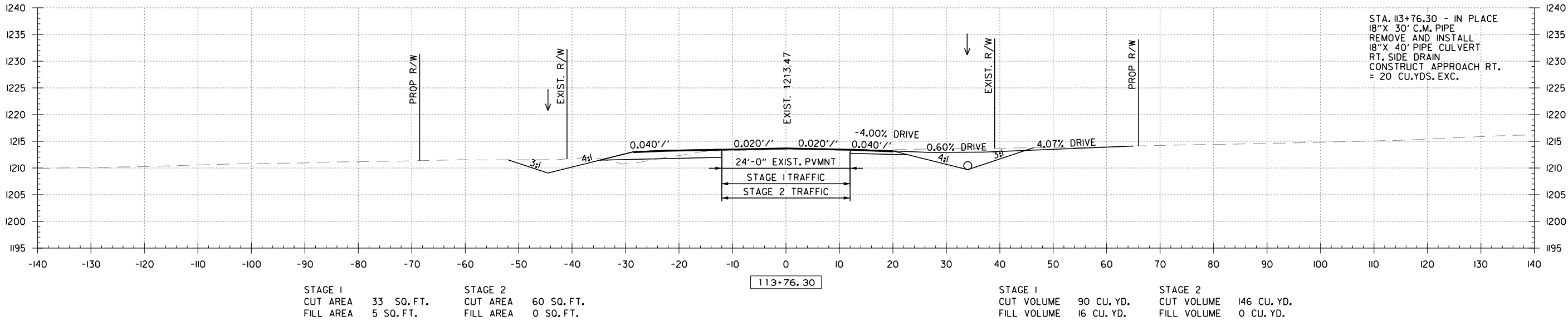
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	52	81
CROSS SECTIONS						



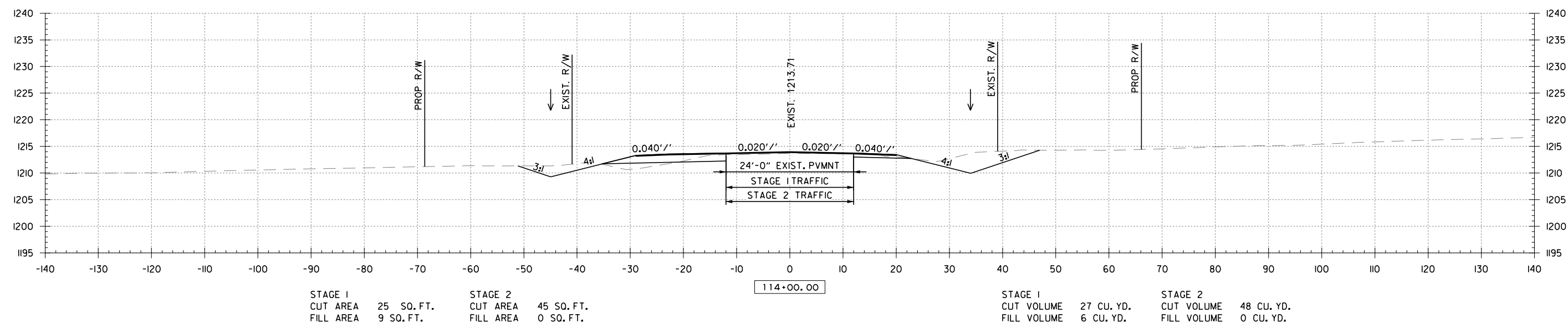
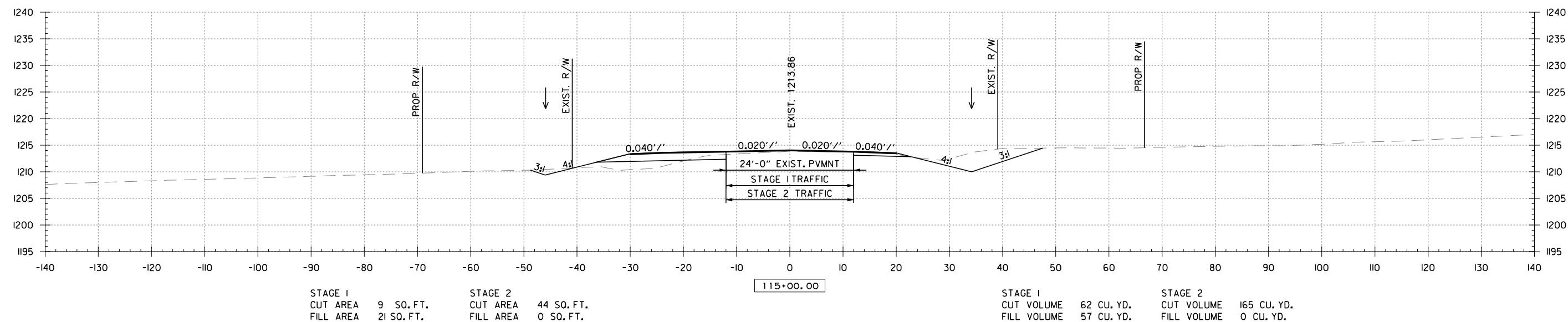
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	53	81
CROSS SECTIONS						



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	54	81
CROSS SECTIONS						

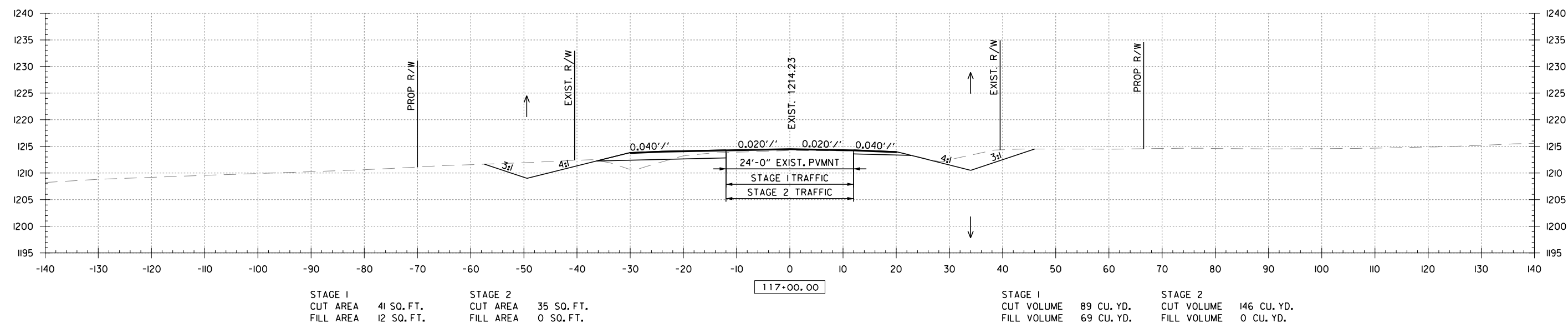
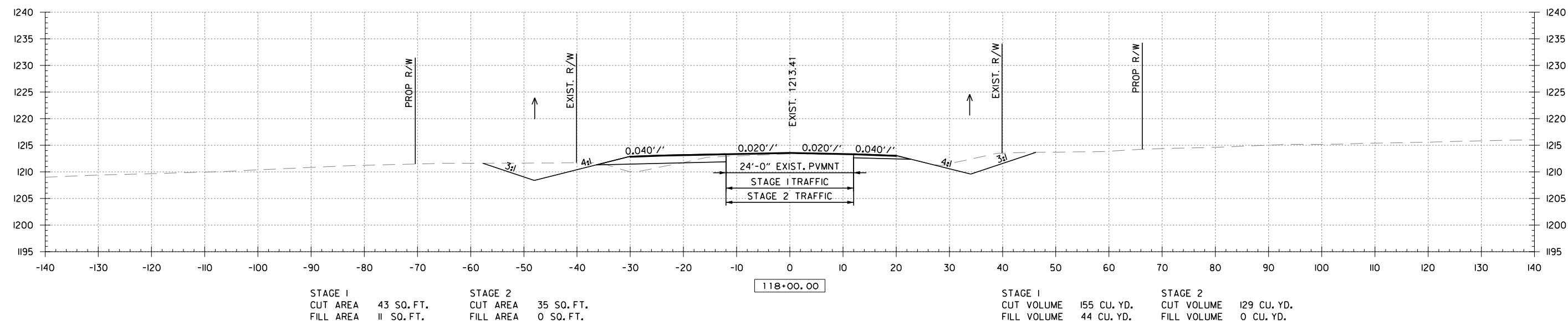


	DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
			6	ARK.	090558	55	81
			CROSS SECTIONS				



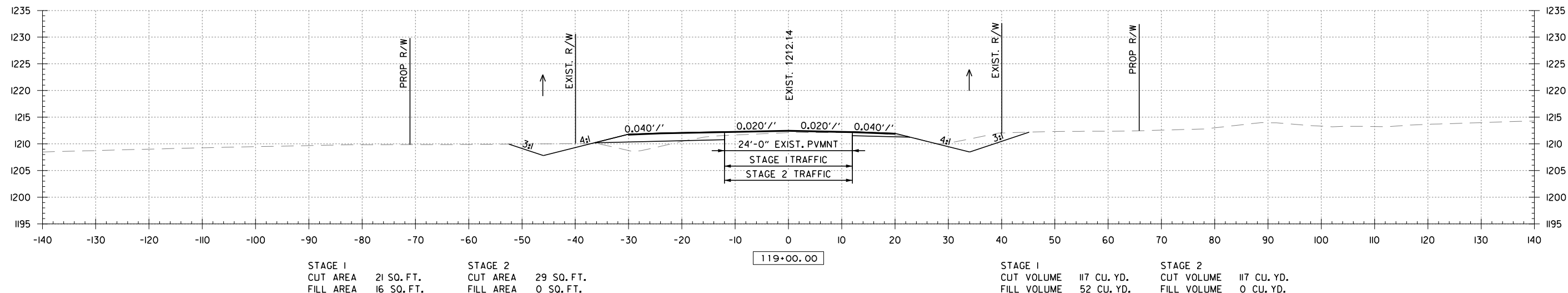
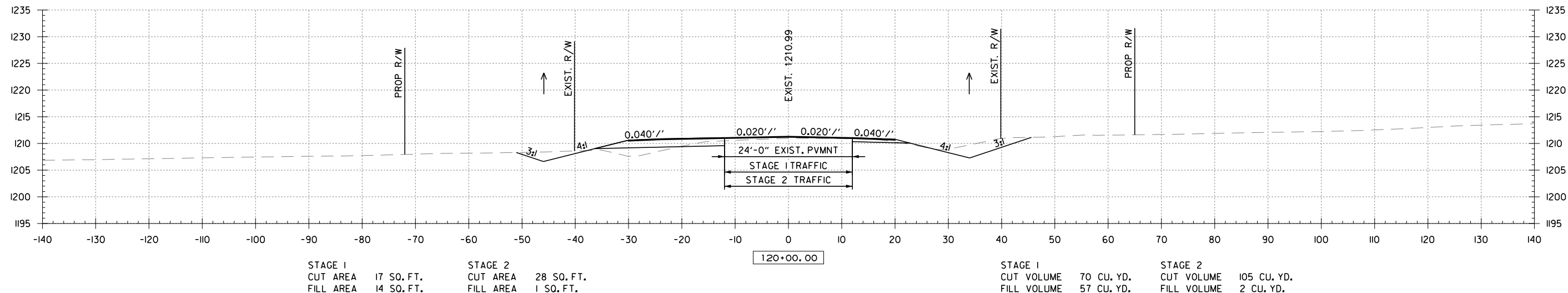
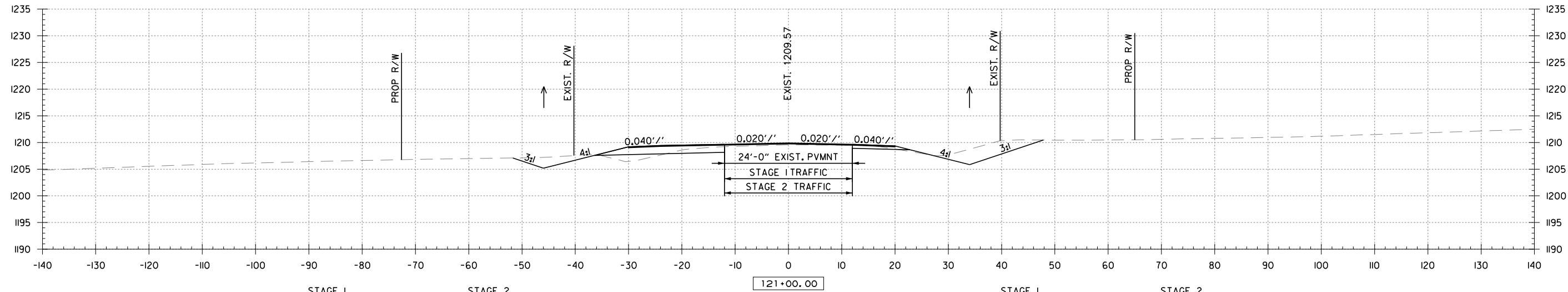
CROSS SECTION STA. 114+00 TO STA. 115+00 HWY. 59

	DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
			6	ARK.	090558	57	81
			CROSS SECTIONS				

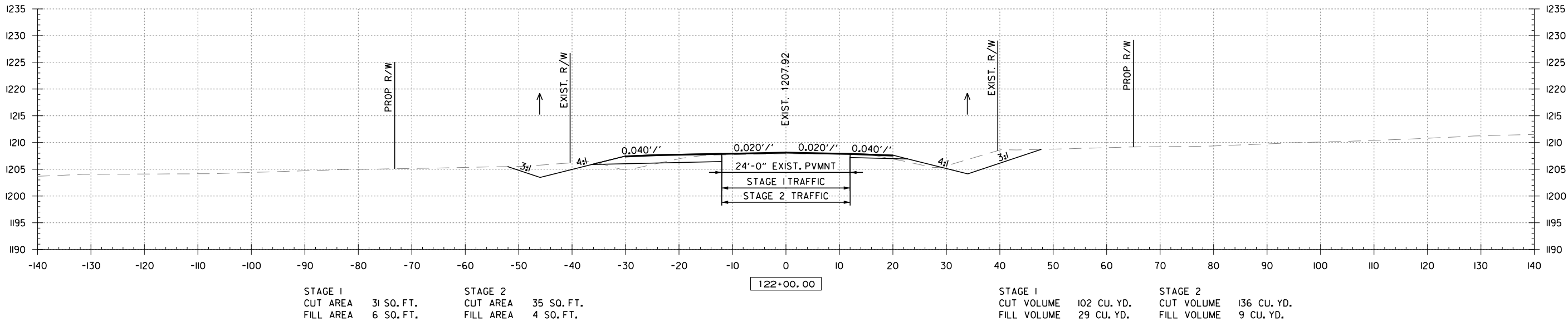
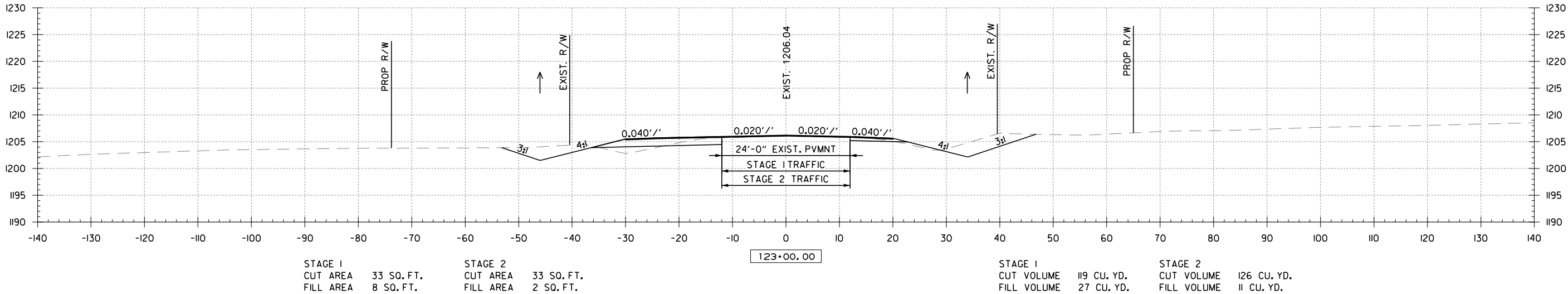
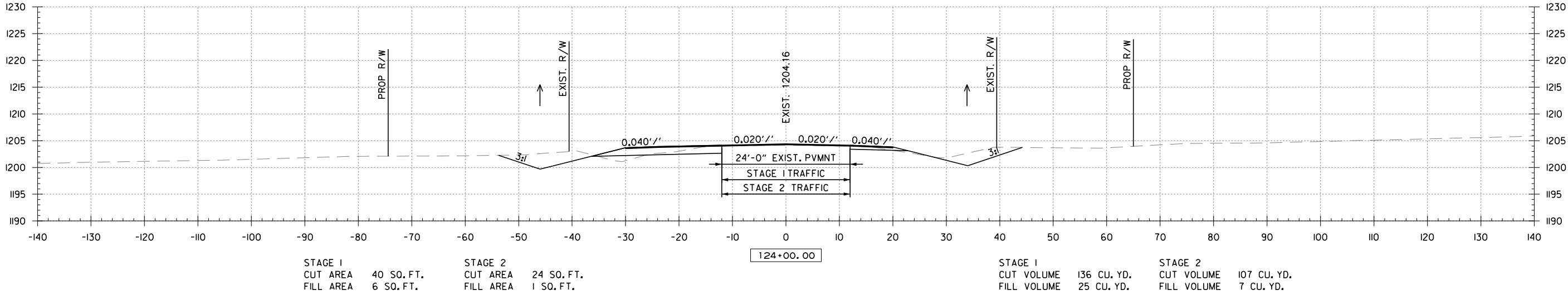


CROSS SECTION STA. 117+00 TO STA. 118+00 HWY. 59

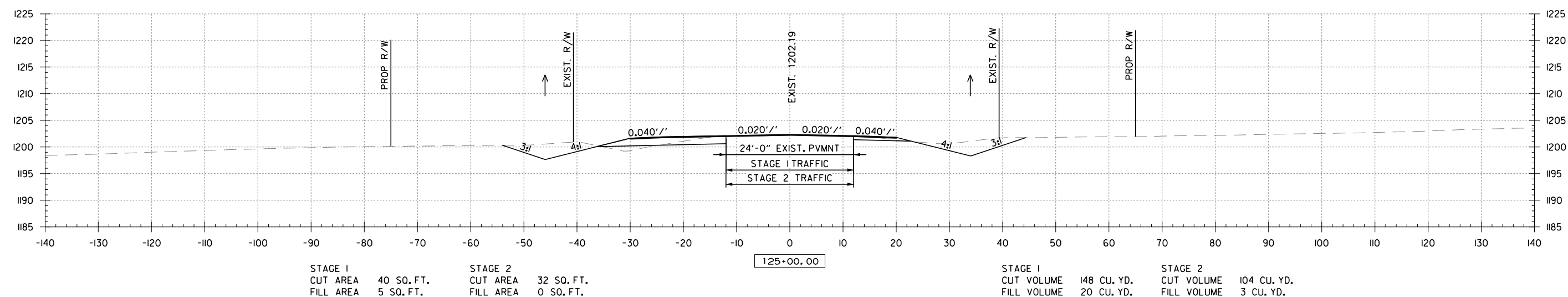
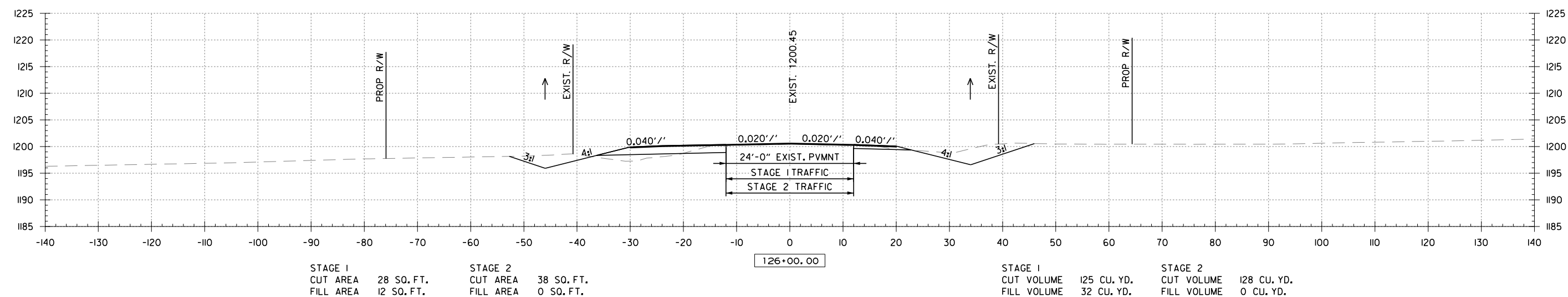
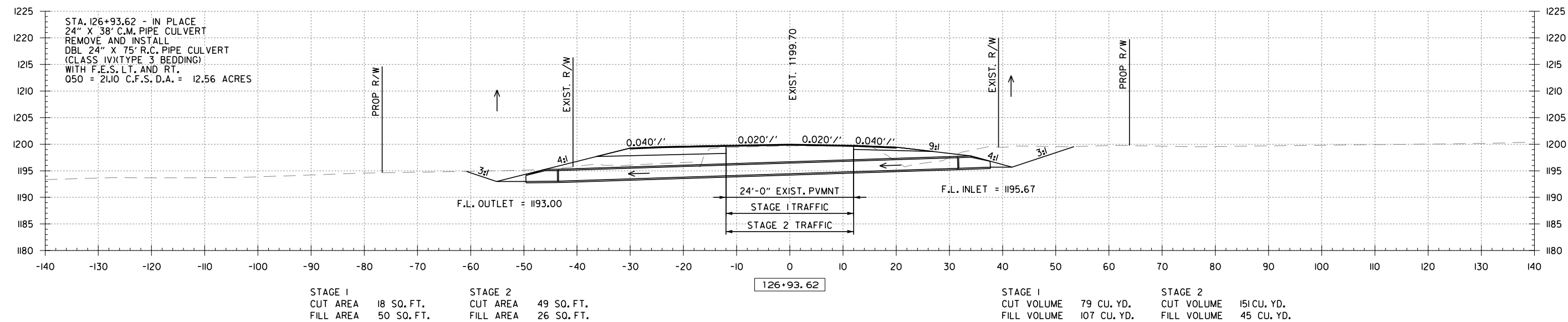
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	58	81
CROSS SECTIONS						



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	59	81
CROSS SECTIONS						

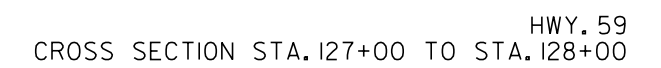


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	60	81
CROSS SECTIONS						

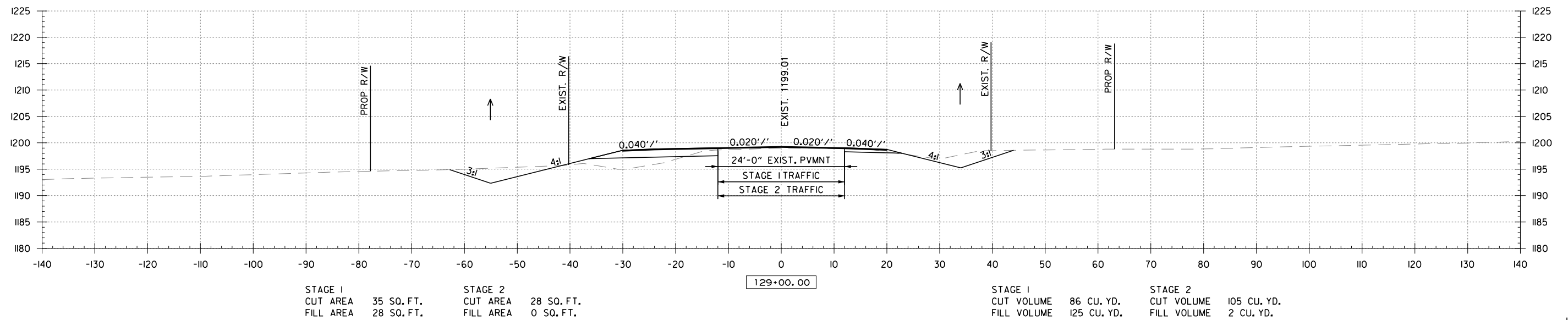
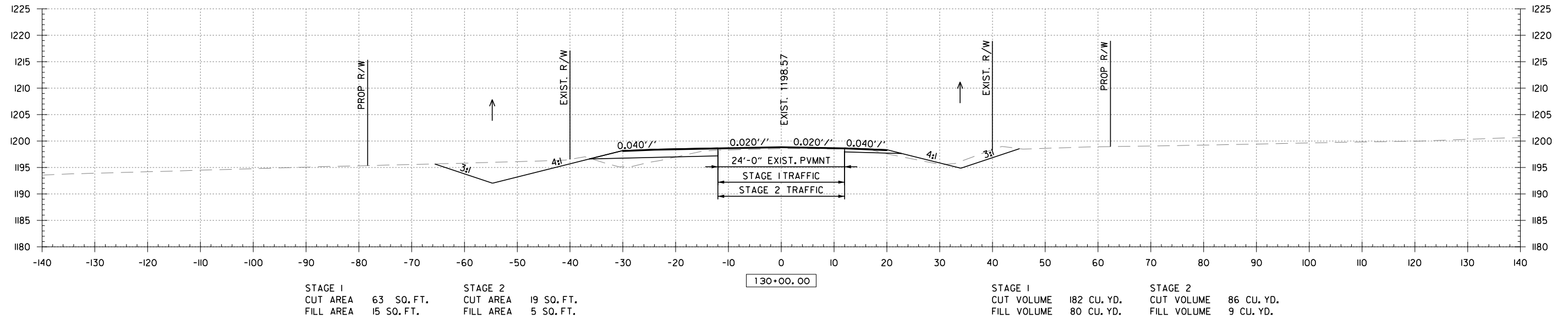


CROSS SECTION STA. 125+00 TO STA. 126+94 HWY. 59

CROSS SECTIONS



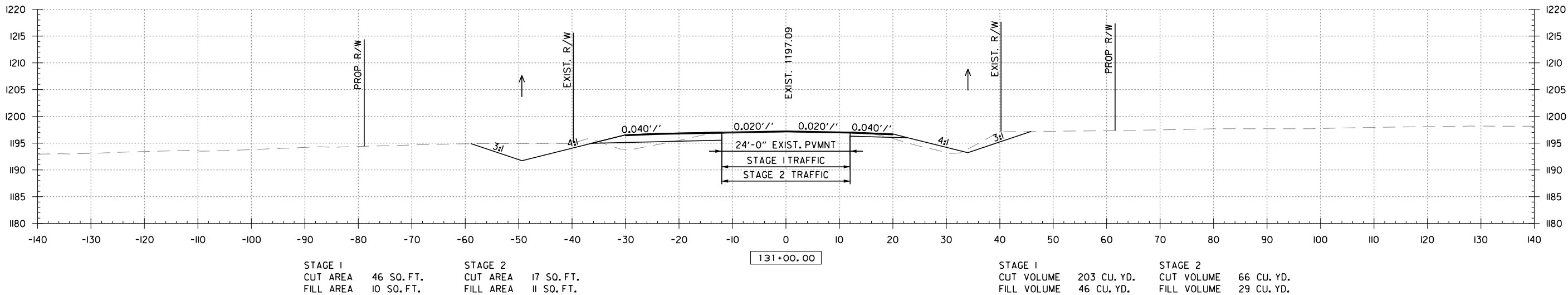
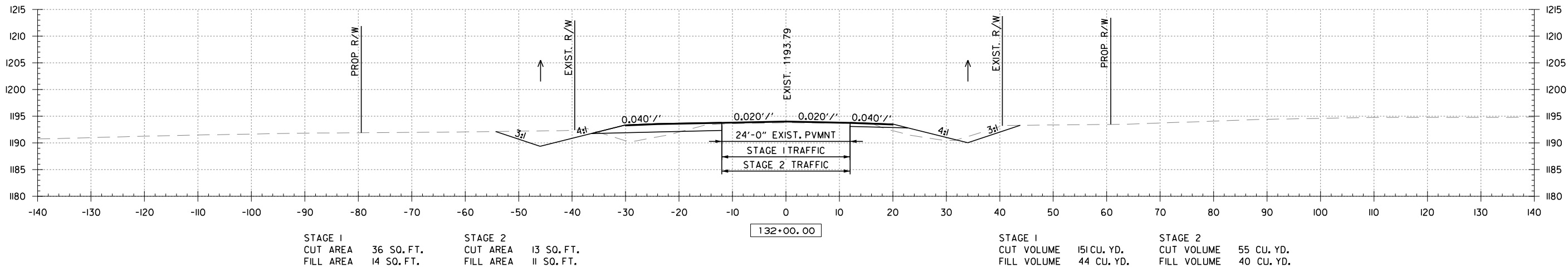
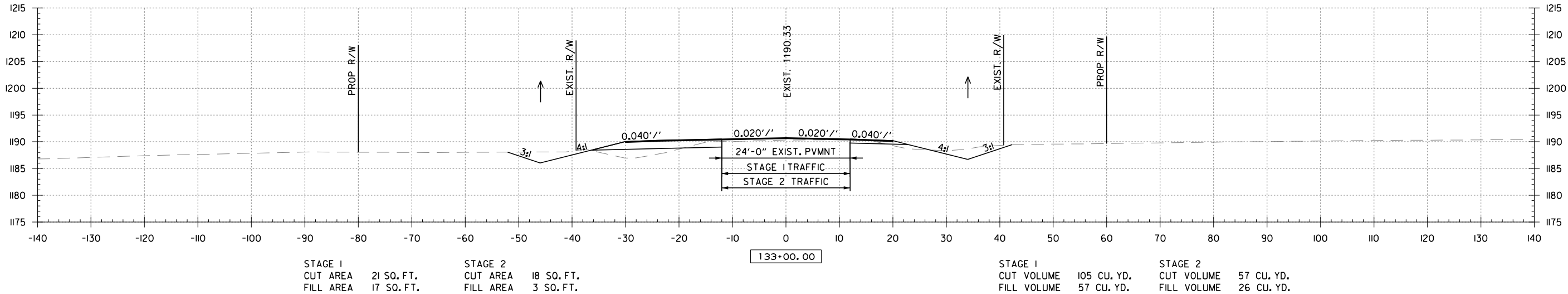
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	62	81
		CROSS SECTIONS				



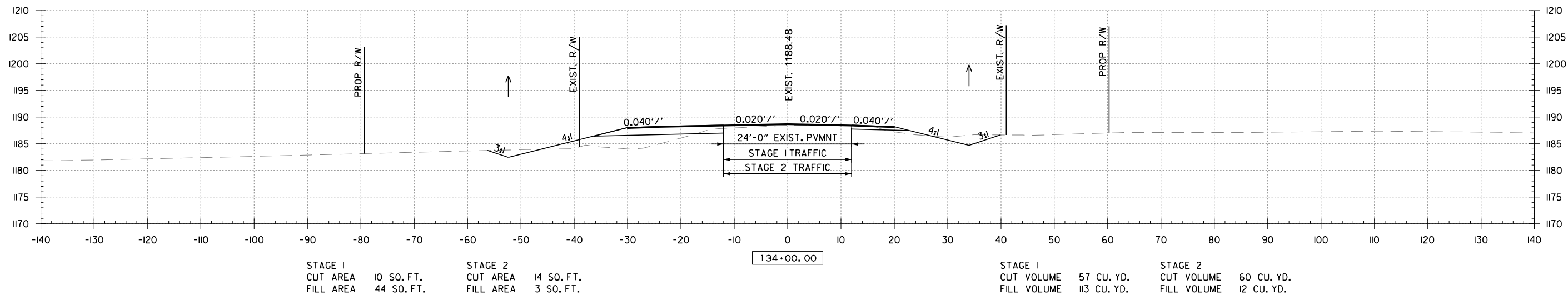
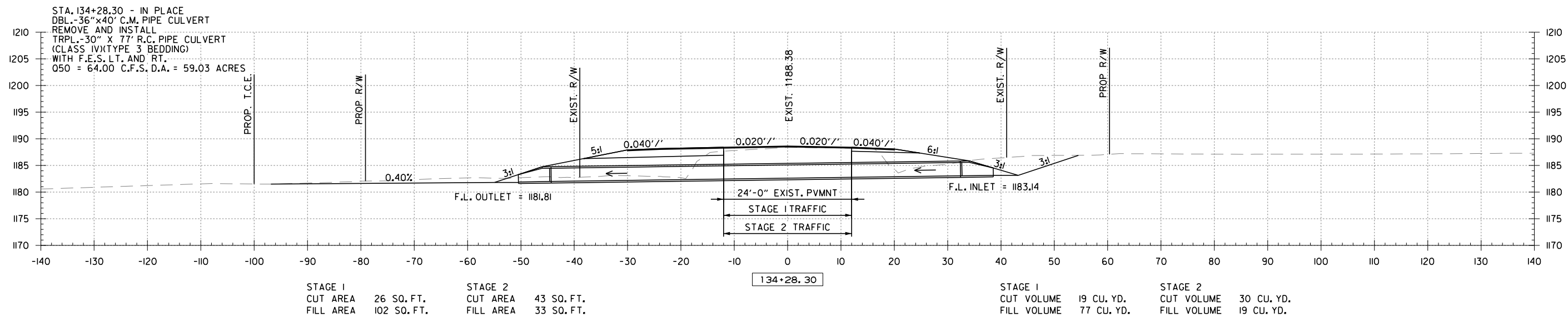
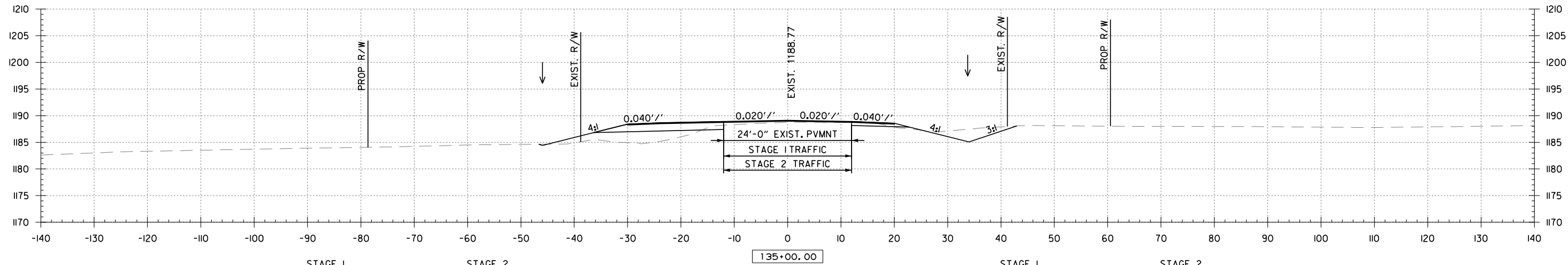
CROSS SECTION STA. 129+00 TO STA. 130+00 HWY. 59

Q:\Bm\Brogell\Armer-R2\taman2\CH10\Brogell\Armer-Qam\2000\090558.XS_Sortel1.dwg 3/23/2023 2:28:18 PM Toman2 Ch1

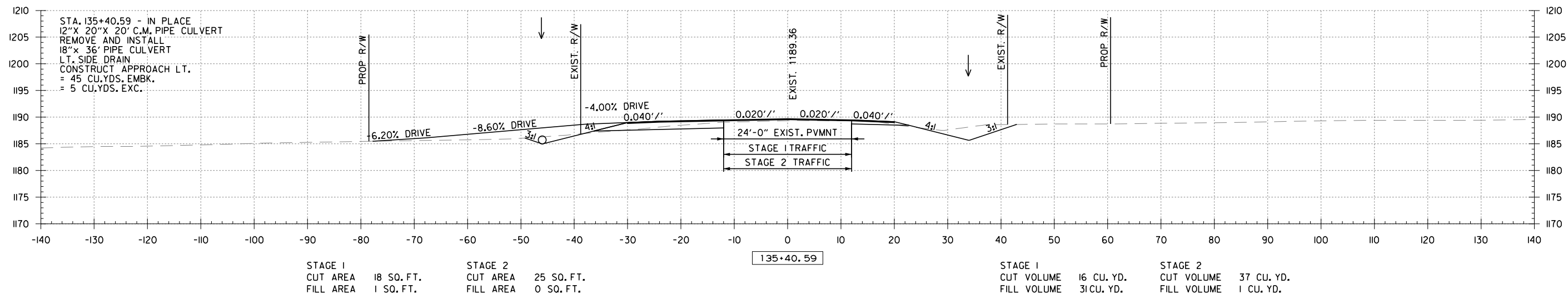
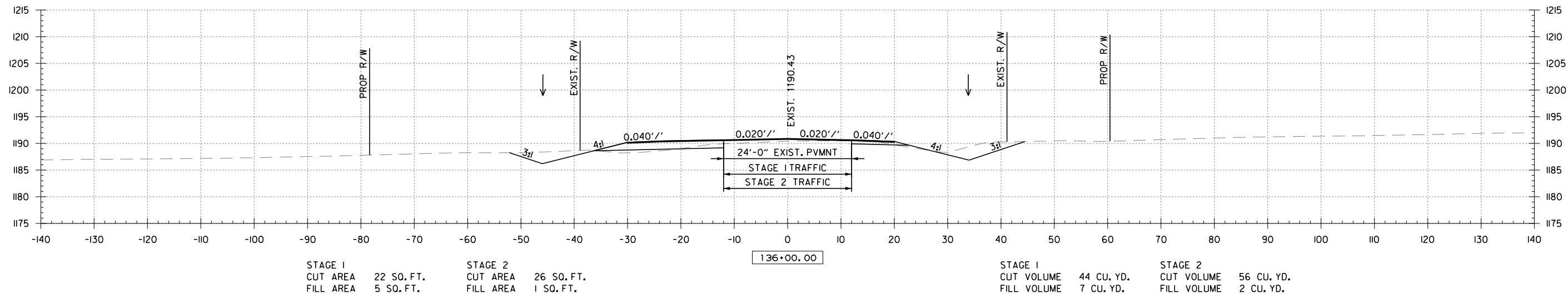
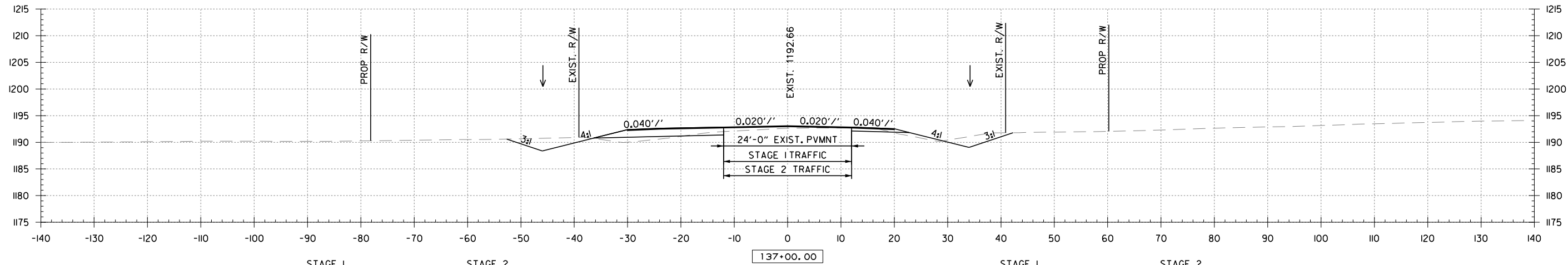
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	63	81
CROSS SECTIONS						



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	64	81
CROSS SECTIONS						

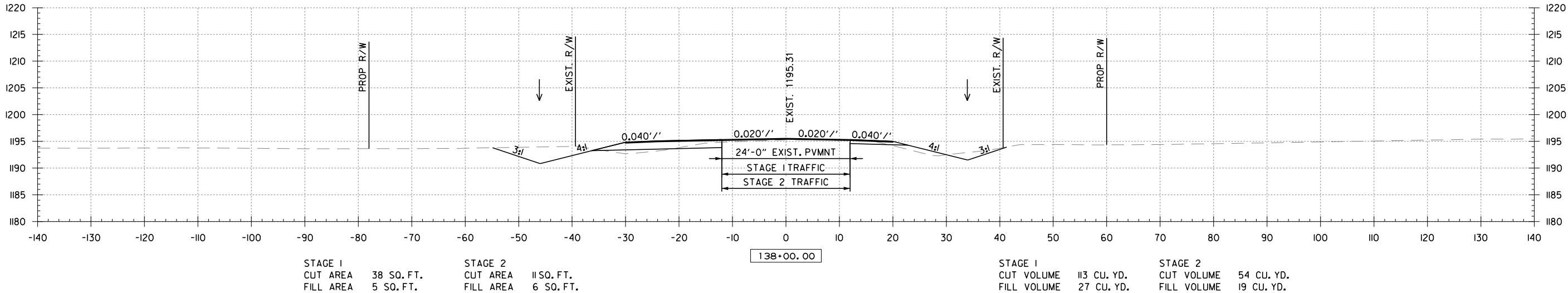
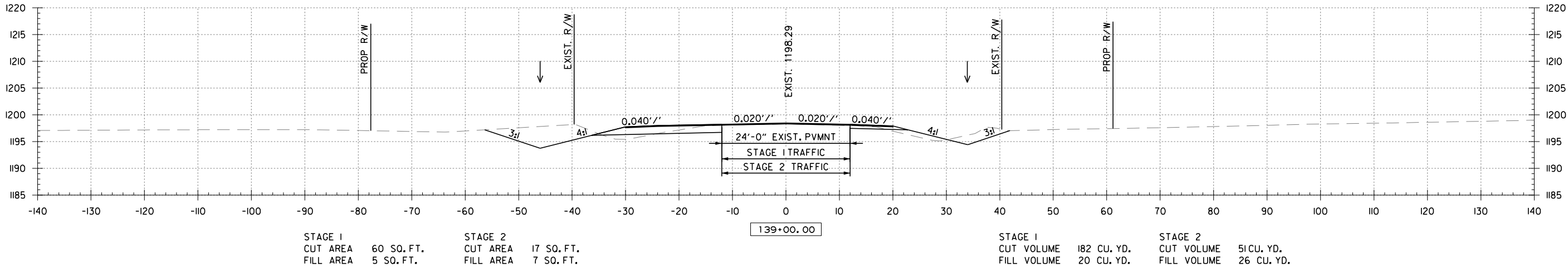
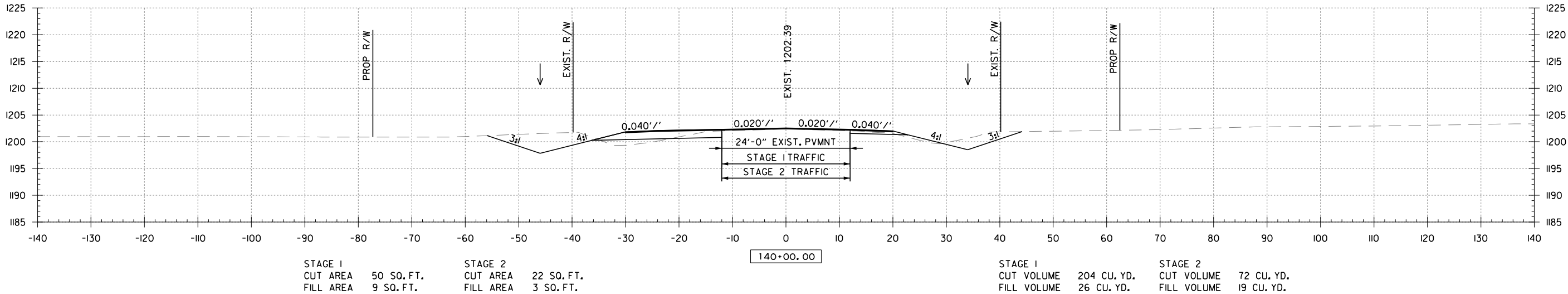


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	65	81
CROSS SECTIONS						

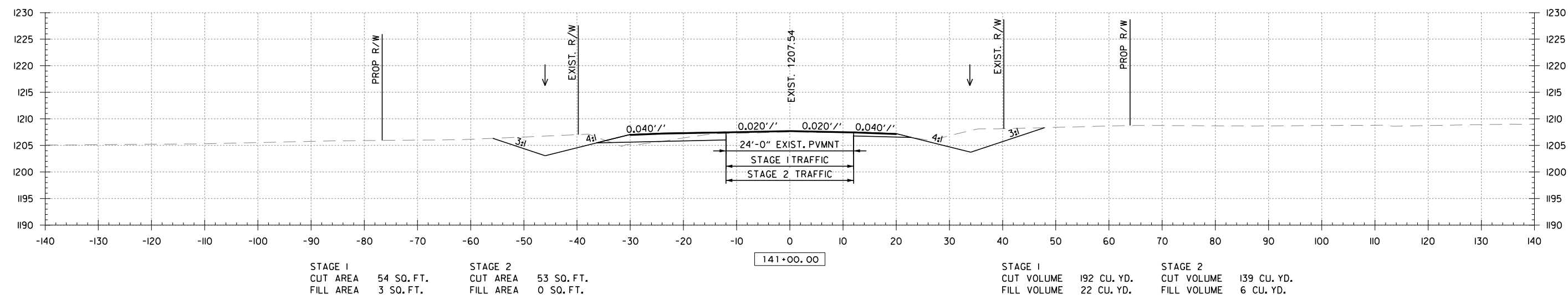
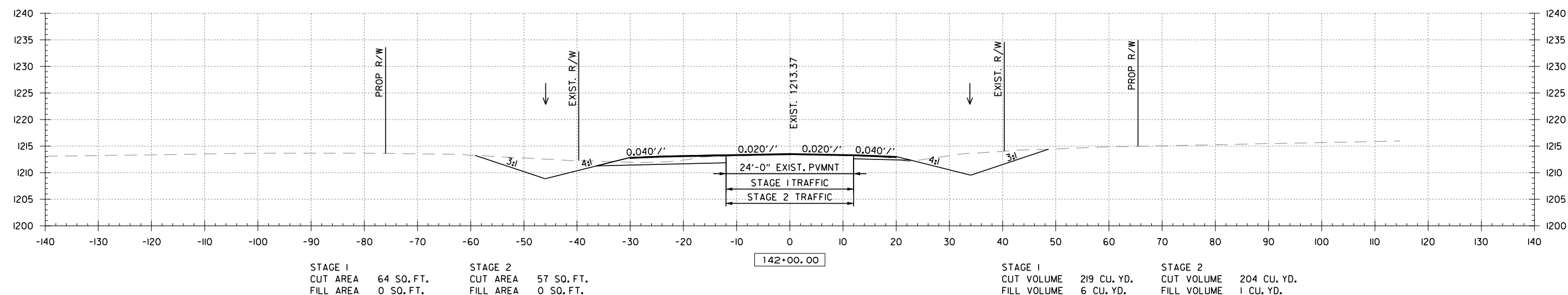
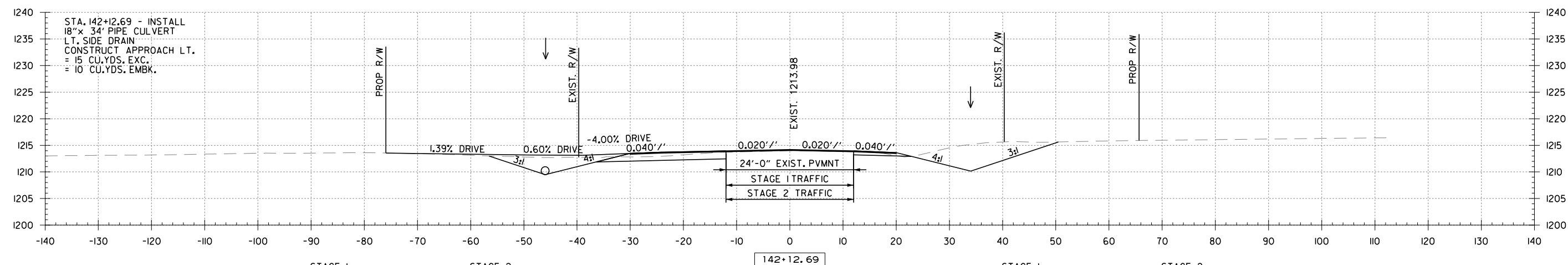


Q:\Bm\Brogell\Armer-R2\taman2\CH10\Brogell\Armer-Qam\2mm\7200\090558.XS_Sort1.0.g 3/23/2023 2:28:19 PM Taman2 Ch10

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	66	81
CROSS SECTIONS						

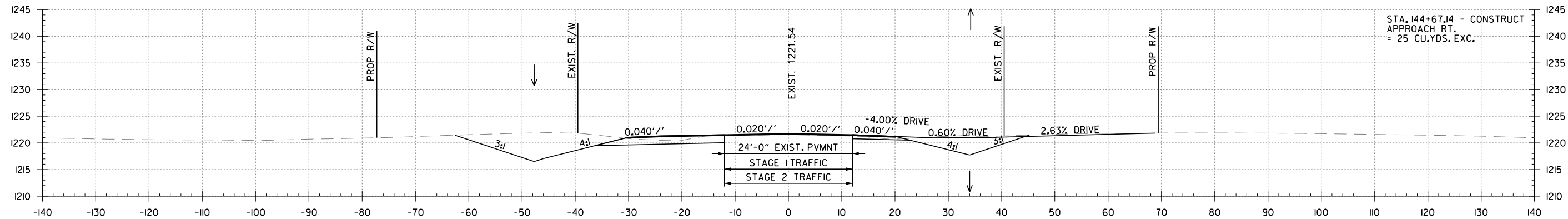


DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	67	81
CROSS SECTIONS						



Q:\Bm\Brogell\Armer-R2\taman2\CH1\Brogell\Armer-Qam\Armer\7200\090558.XS_Sort.e1.dwg 3/23/2023 2:28:19 PM

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	68	81
CROSS SECTIONS						



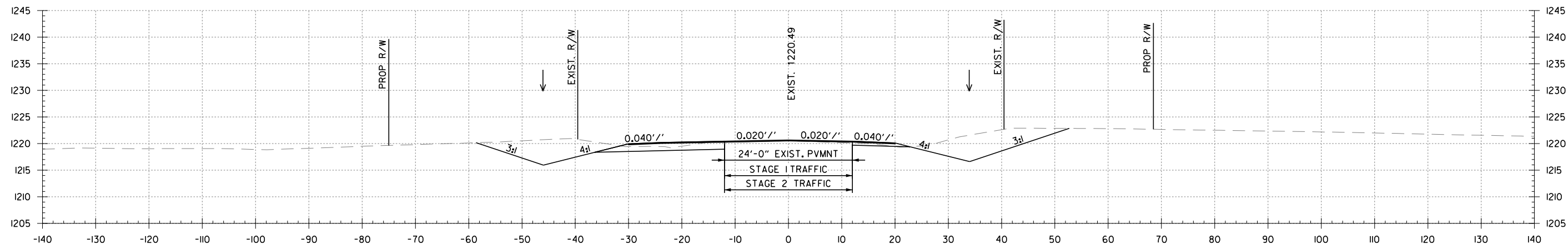
STAGE 1
CUT AREA 95 SQ. FT.
FILL AREA 0 SQ. FT.

STAGE 2
CUT AREA 45 SQ. FT.
FILL AREA 0 SQ. FT.

STAGE 1
CUT VOLUME 230 CU. YD.
FILL VOLUME 0 CU. YD.

STAGE 2
CUT VOLUME 158 CU. YD.
FILL VOLUME 0 CU. YD.

STA. 144+67.14 - CONSTRUCT
APPROACH RT.
= 25 CU. YDS. EXC.

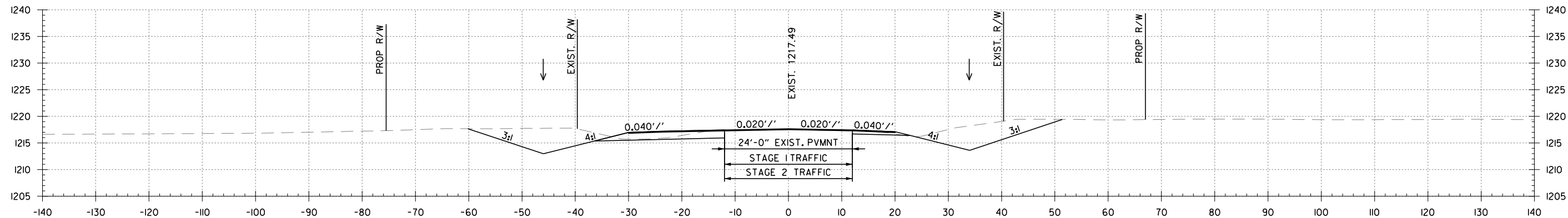


STAGE 1
CUT AREA 90 SQ. FT.
FILL AREA 0 SQ. FT.

STAGE 2
CUT AREA 82 SQ. FT.
FILL AREA 0 SQ. FT.

STAGE 1
CUT VOLUME 322 CU. YD.
FILL VOLUME 0 CU. YD.

STAGE 2
CUT VOLUME 287 CU. YD.
FILL VOLUME 1 CU. YD.



STAGE 1
CUT AREA 84 SQ. FT.
FILL AREA 0 SQ. FT.

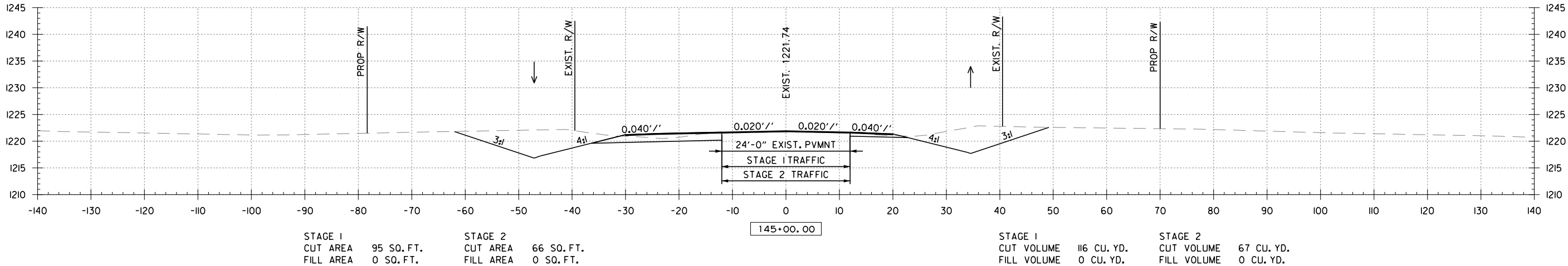
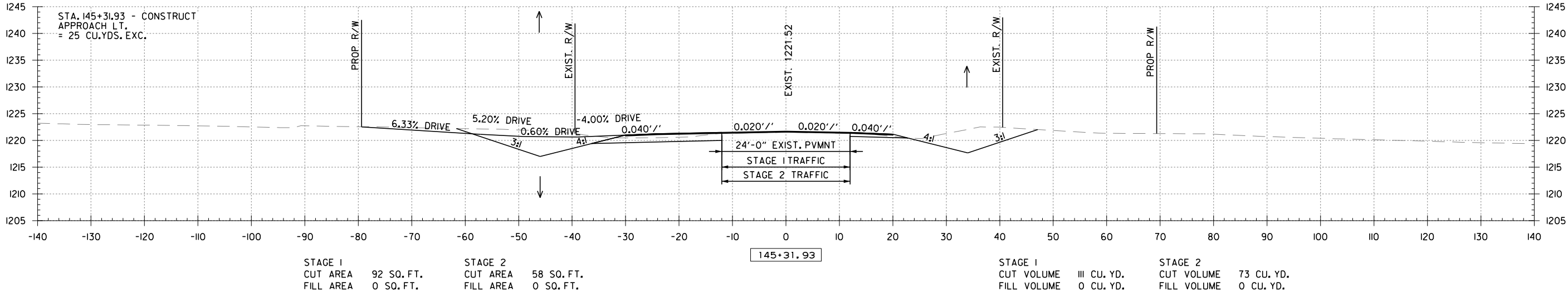
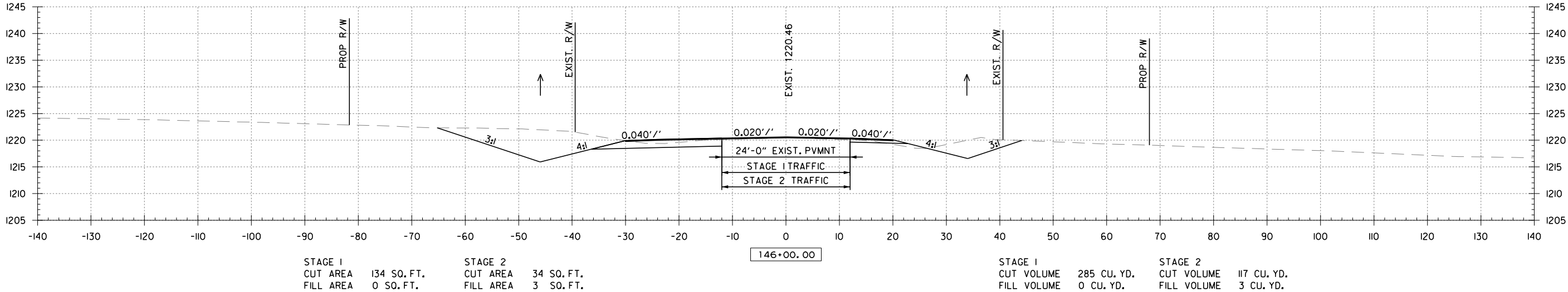
STAGE 2
CUT AREA 73 SQ. FT.
FILL AREA 0 SQ. FT.

STAGE 1
CUT VOLUME 231 CU. YD.
FILL VOLUME 0 CU. YD.

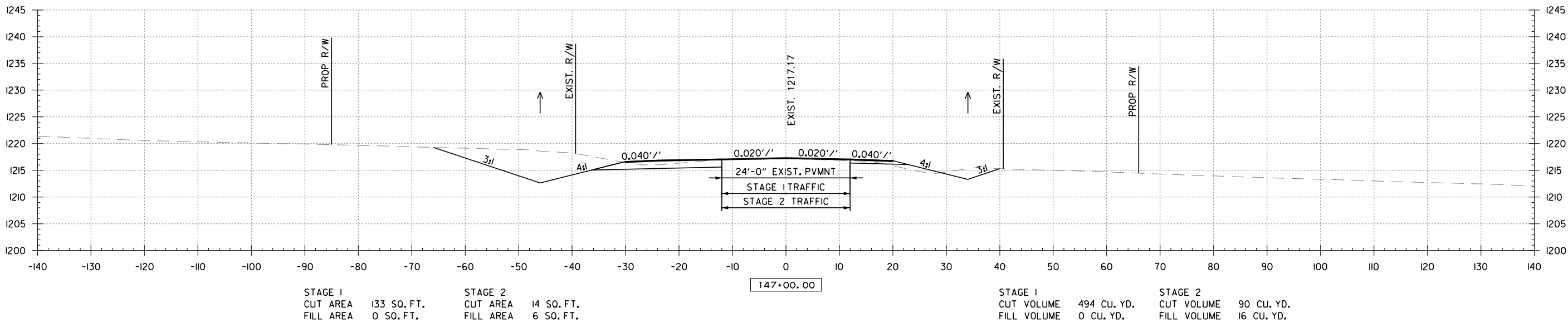
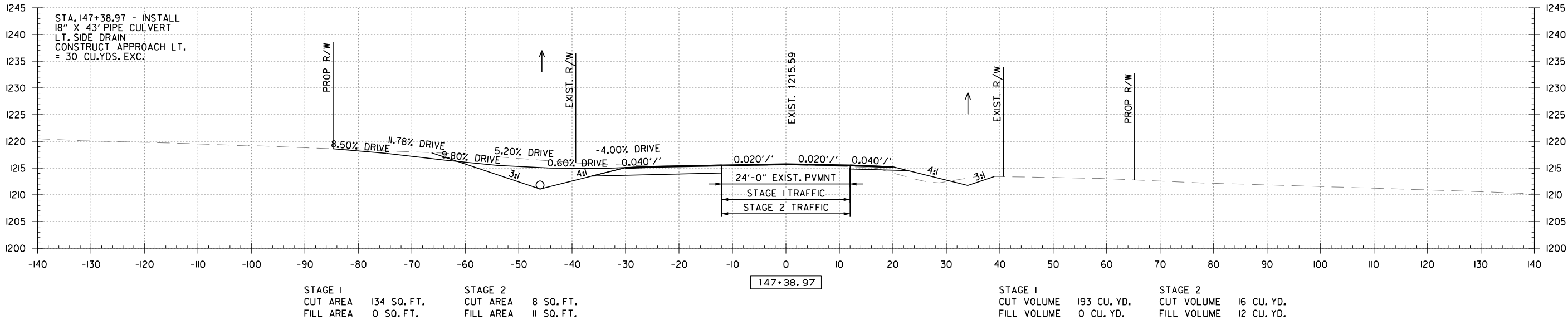
STAGE 2
CUT VOLUME 242 CU. YD.
FILL VOLUME 1 CU. YD.

HWY. 59
CROSS SECTION STA. 143+00 TO STA. 144+67

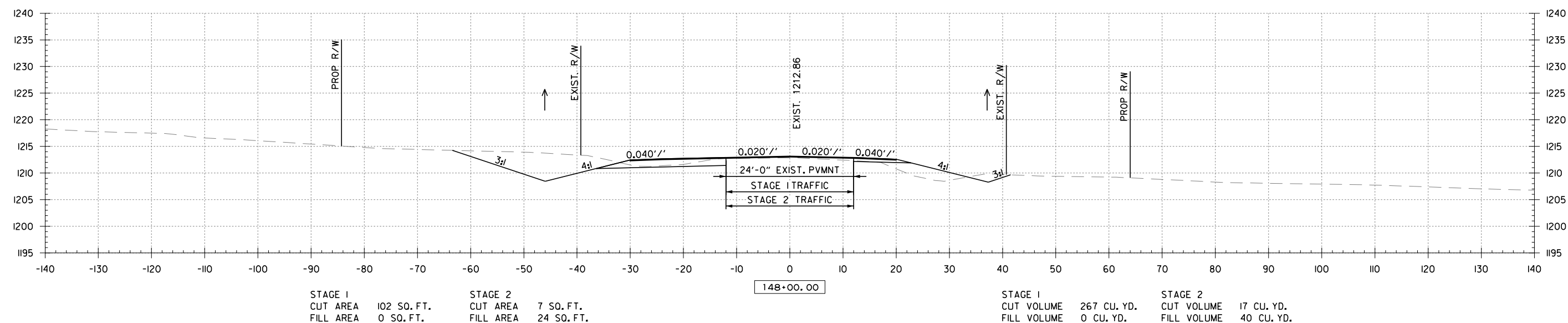
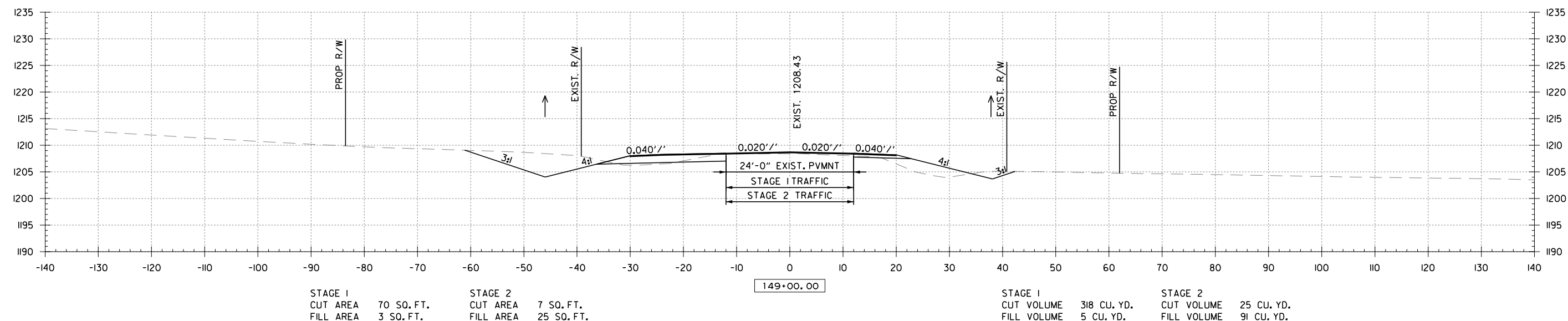
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	69	81
CROSS SECTIONS						



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	70	81
CROSS SECTIONS						

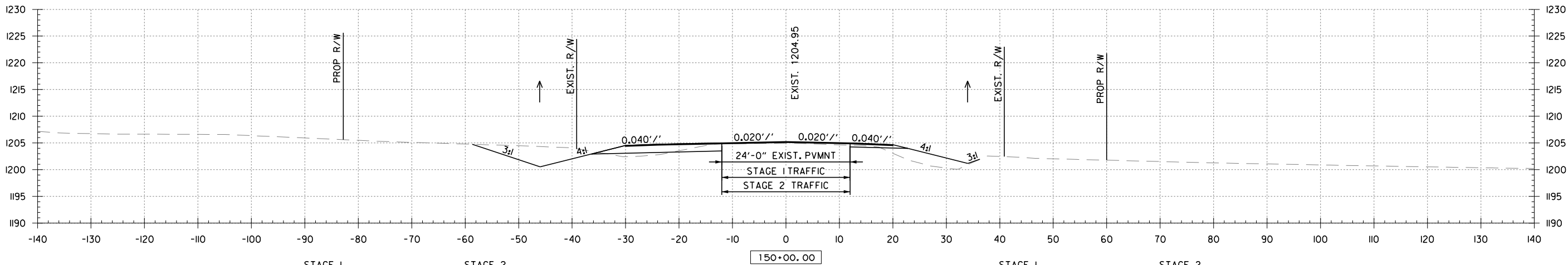
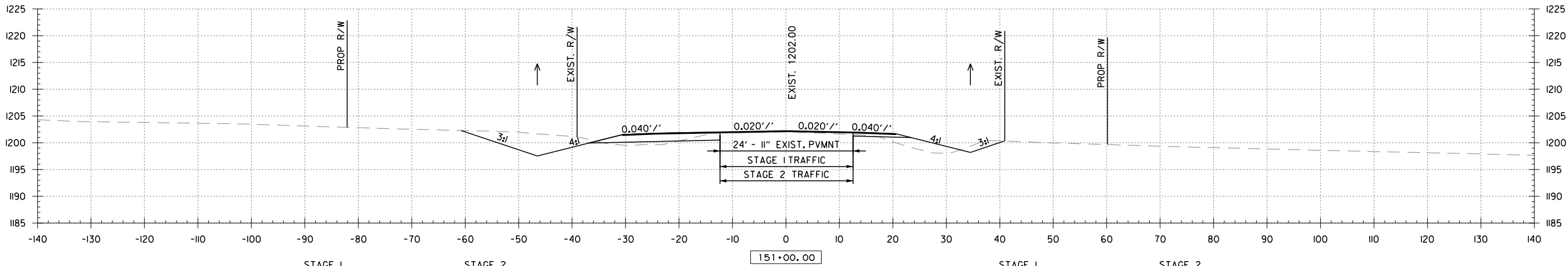
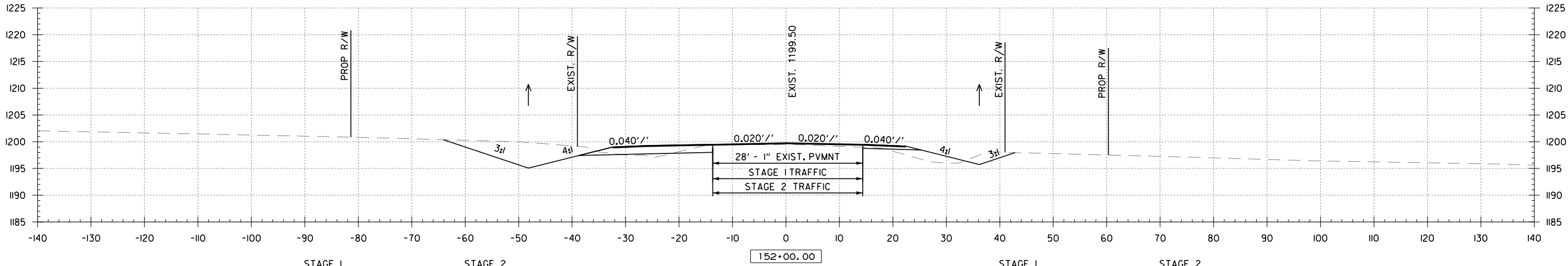


	DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
			6	ARK.	090558	71	81
			CROSS SECTIONS				

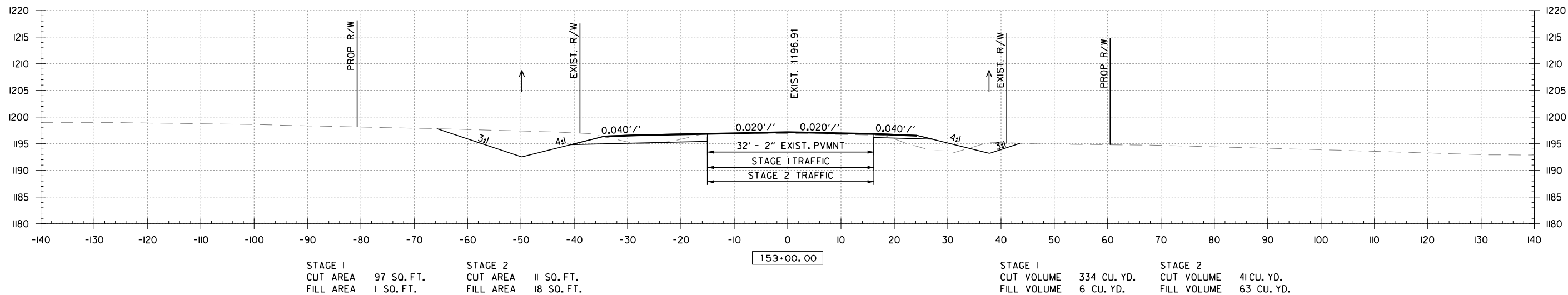
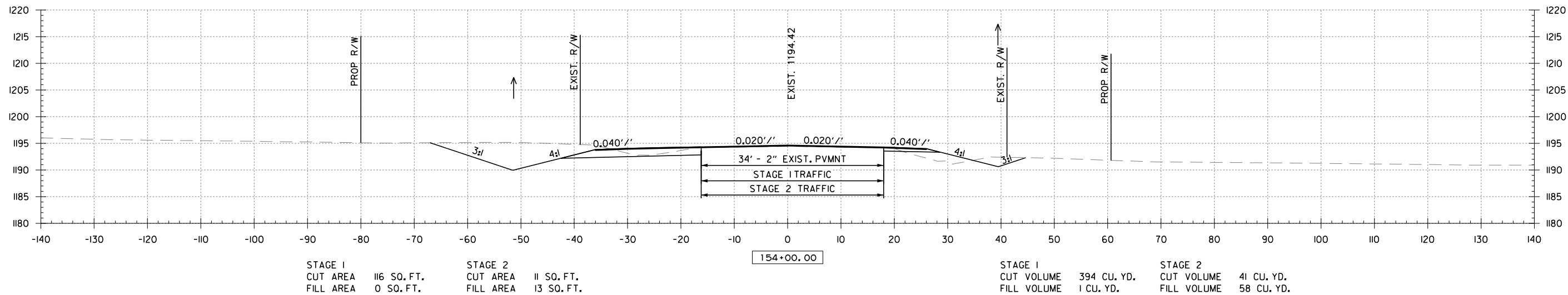
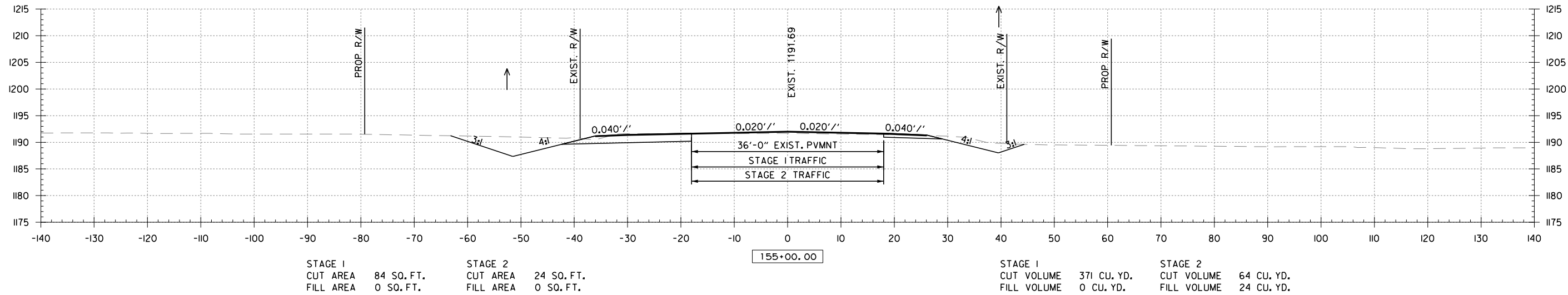


HWY. 59
CROSS SECTION STA. 148+00 TO STA. 149+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	72	81
CROSS SECTIONS						

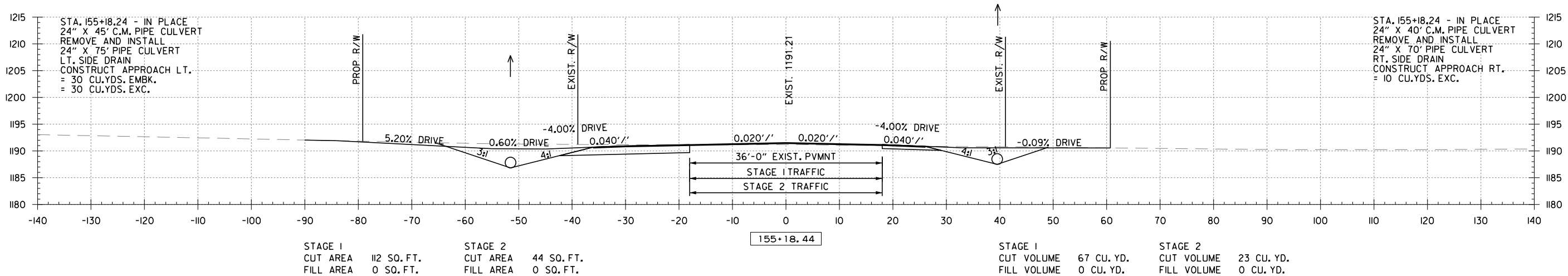
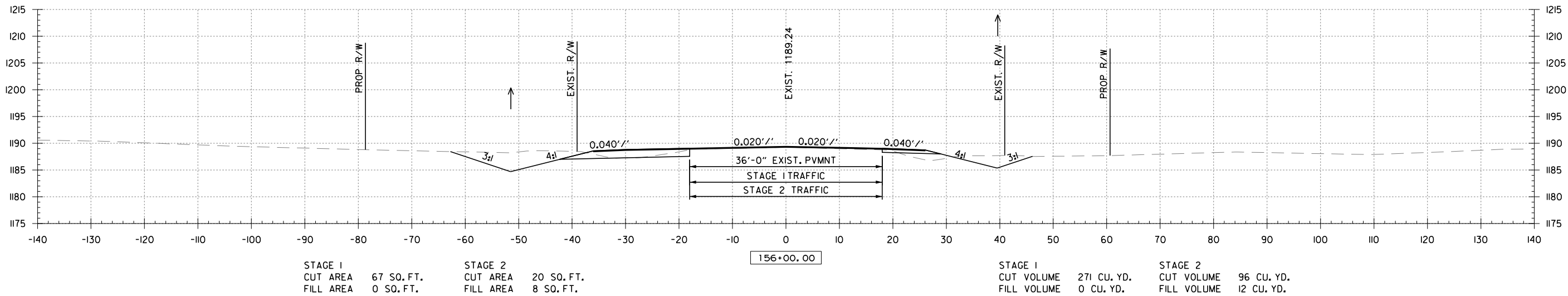
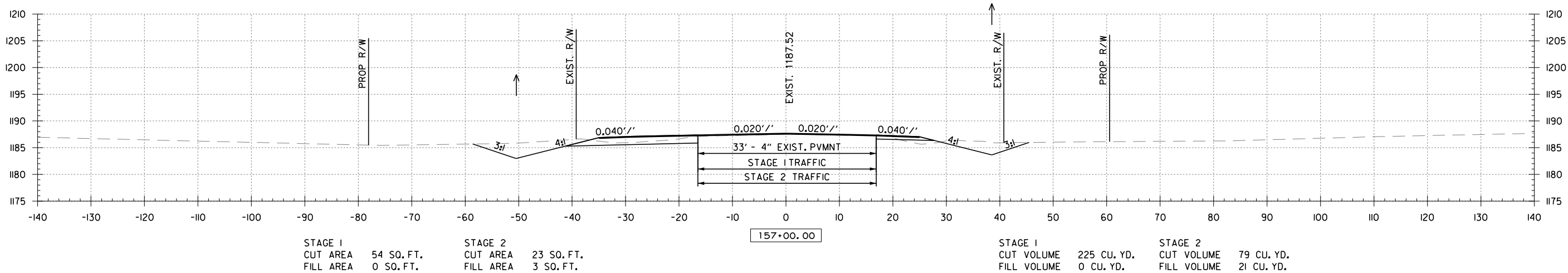


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	73	81
CROSS SECTIONS						

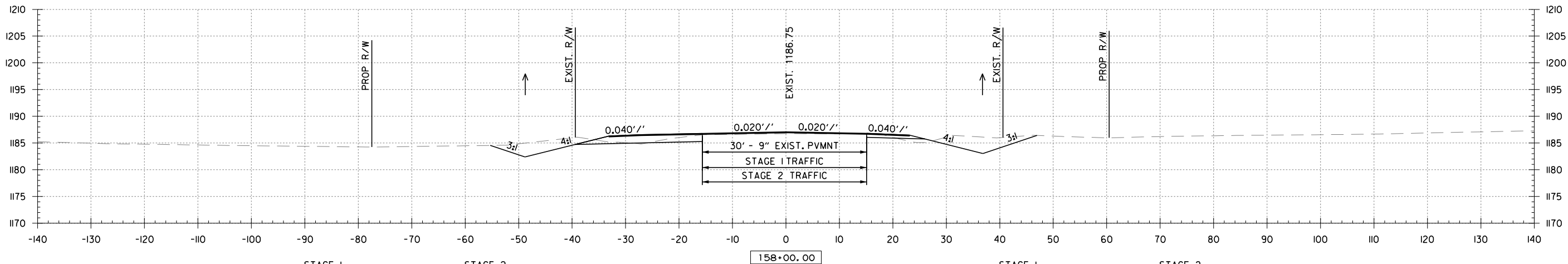
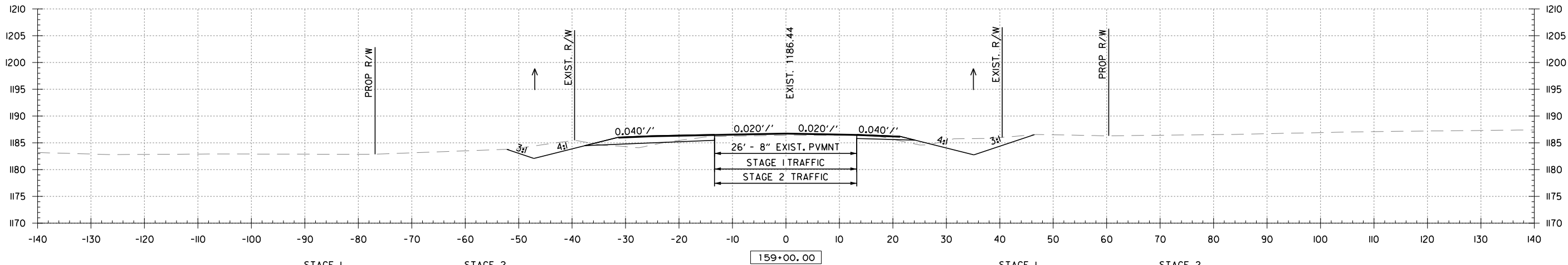
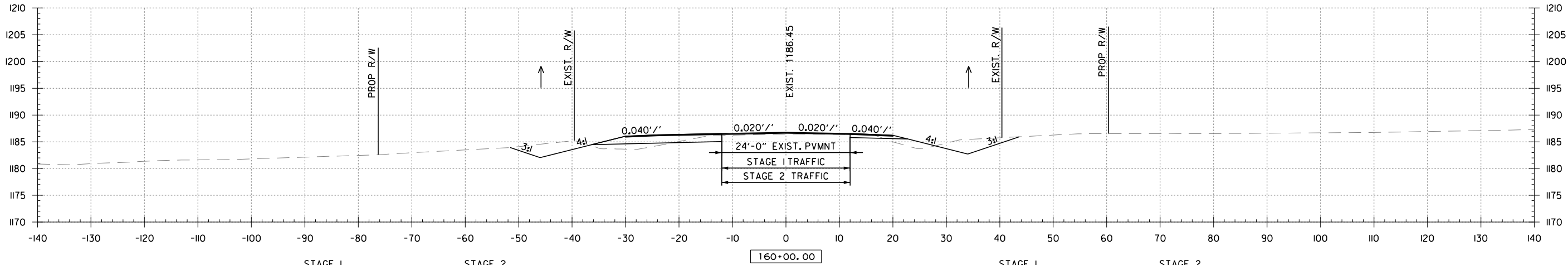


3/23/2023 2:28:21 PM
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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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CROSS SECTIONS						

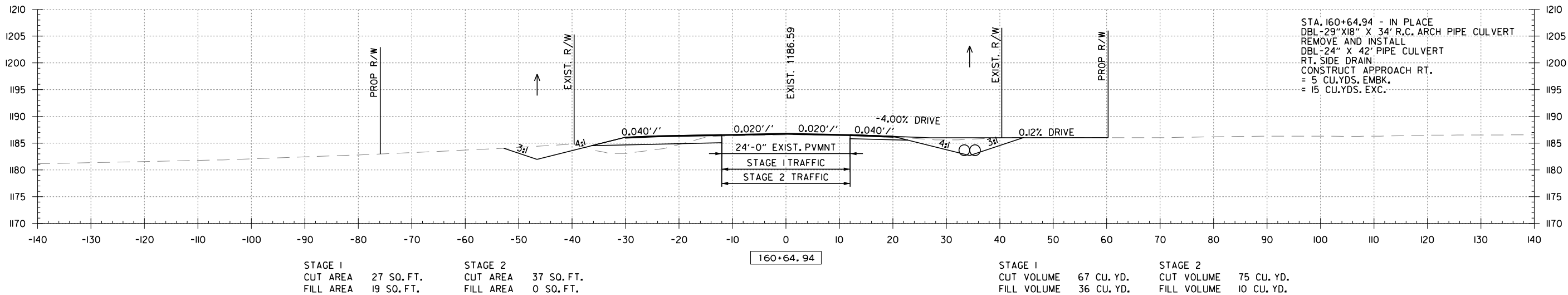
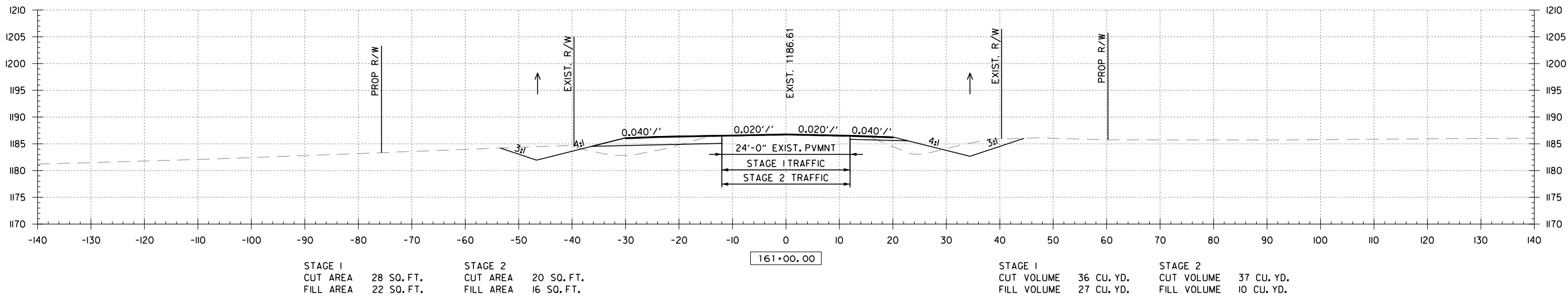
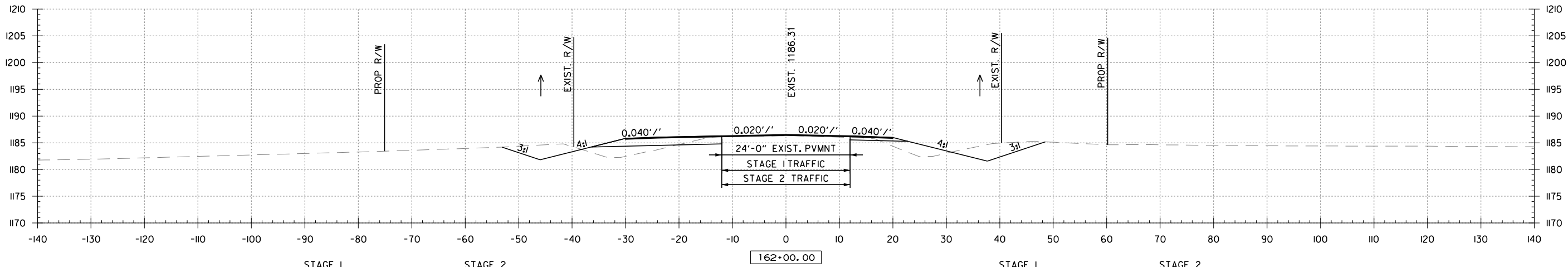


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	75	81
CROSS SECTIONS						



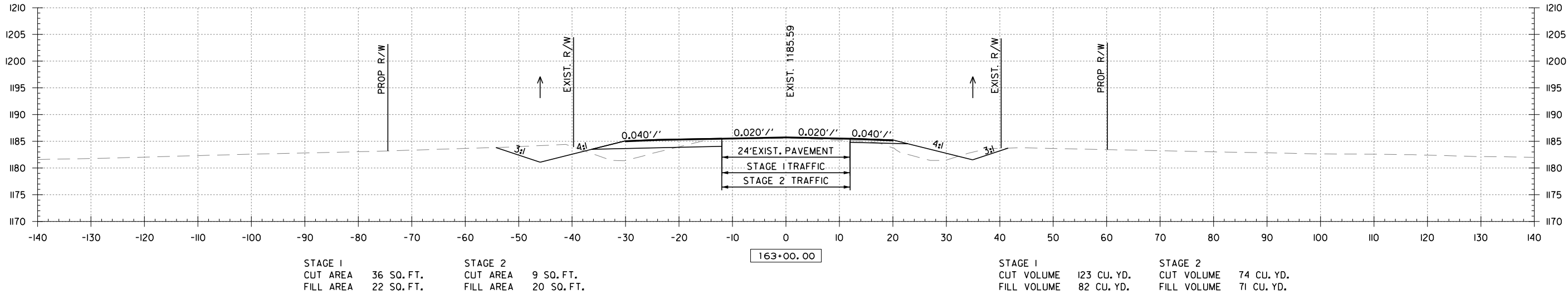
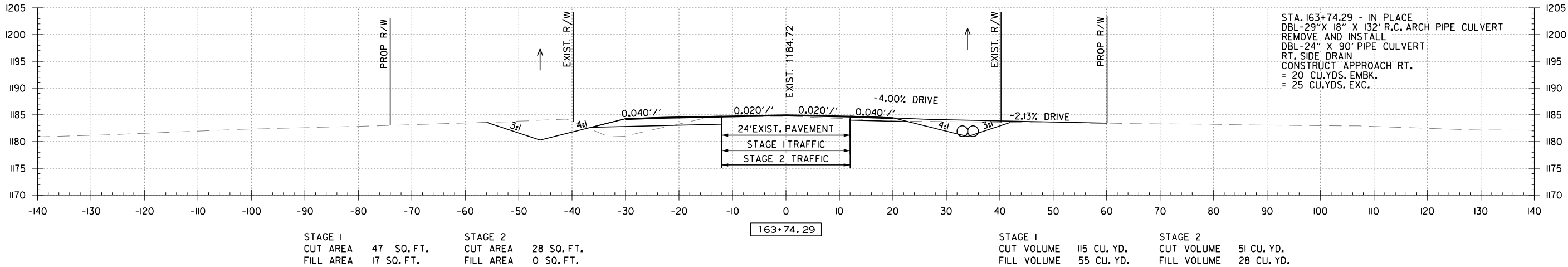
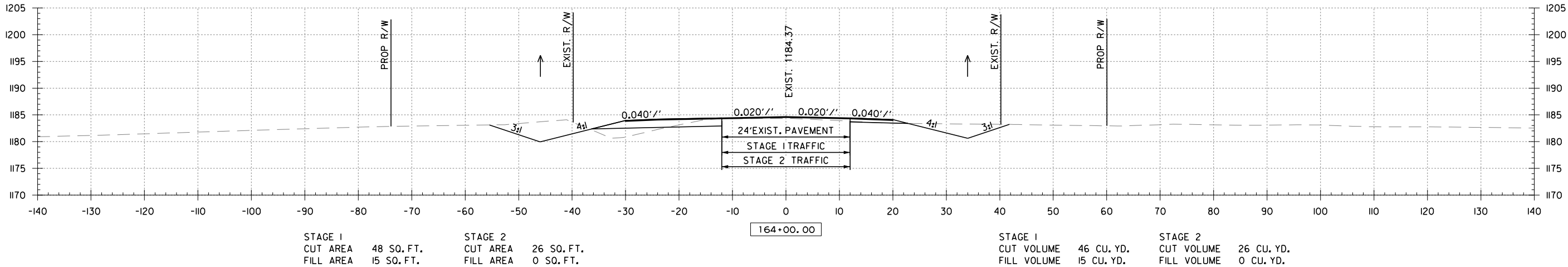
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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	76	81
CROSS SECTIONS						

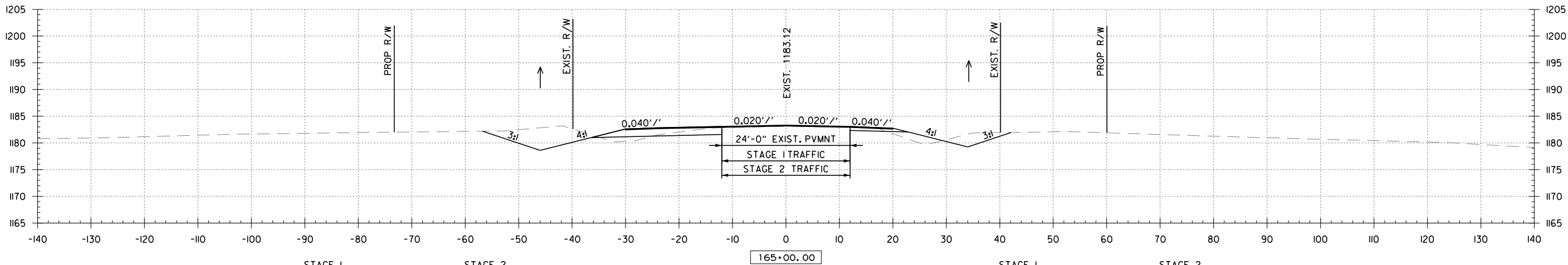
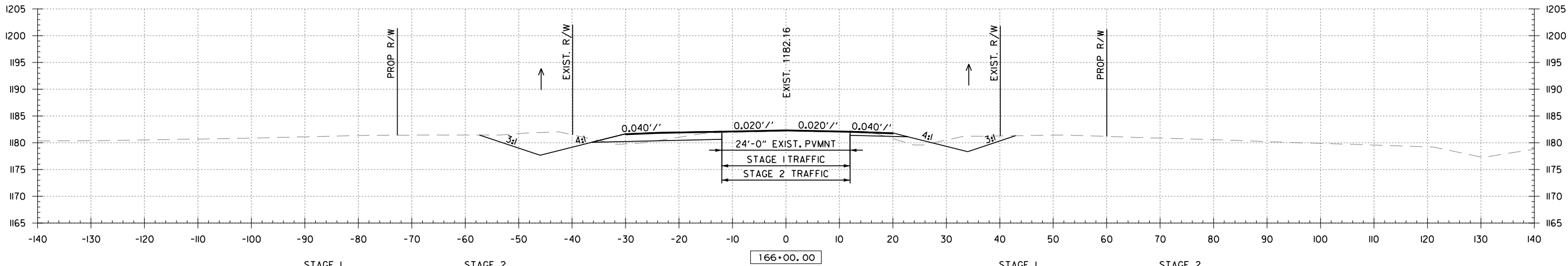
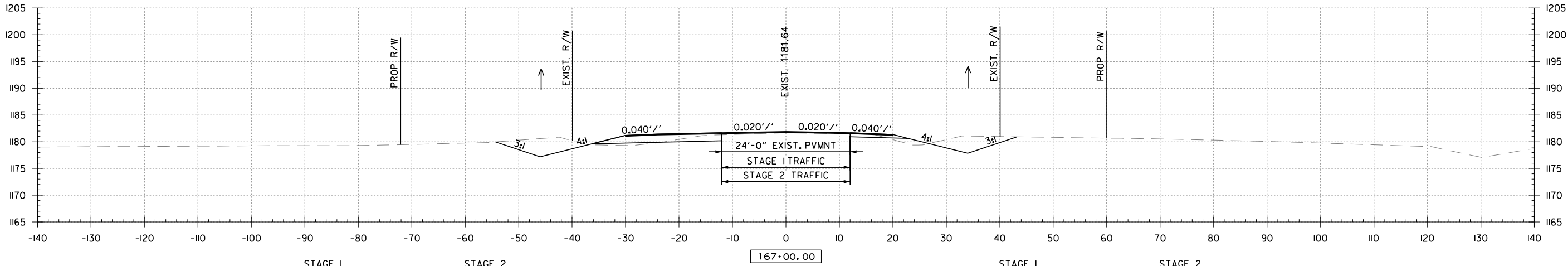


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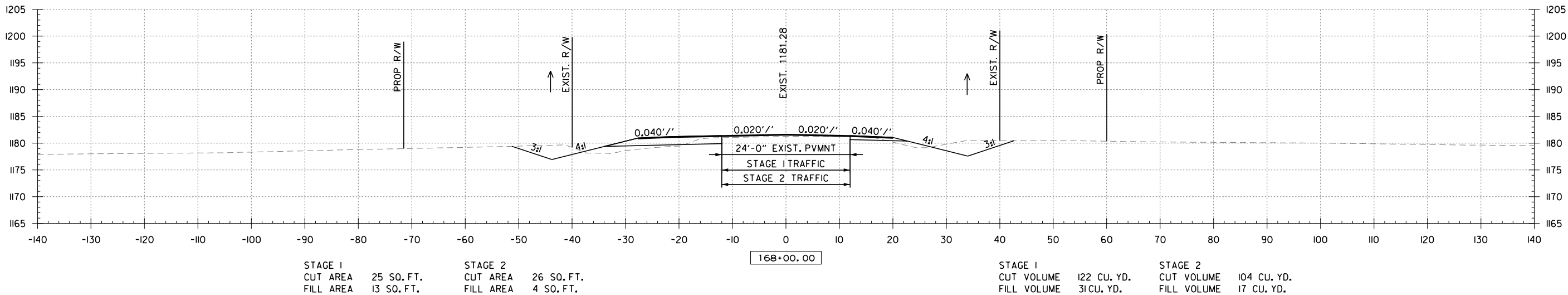
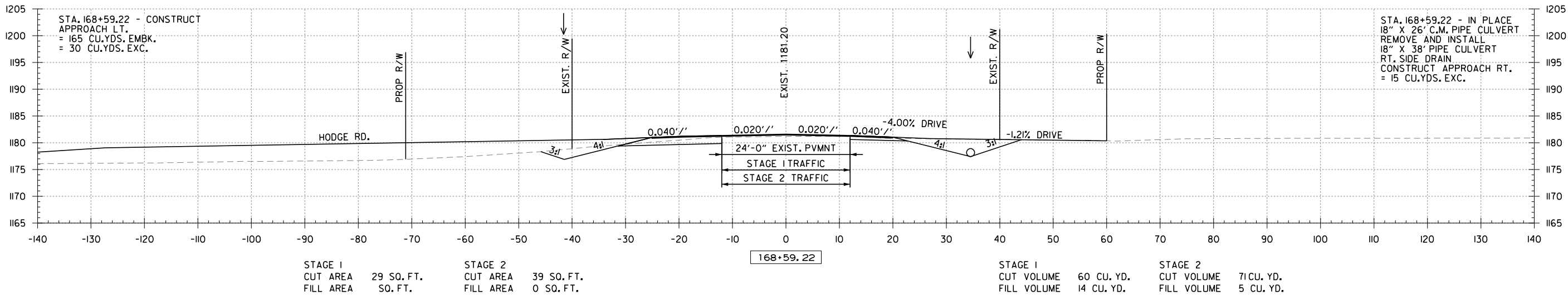
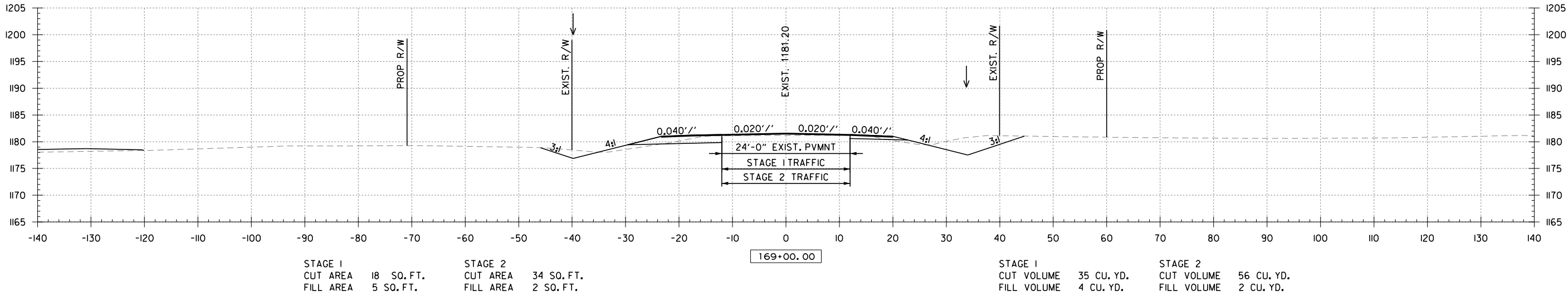
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	77	81
CROSS SECTIONS						



DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	78	81
CROSS SECTIONS						

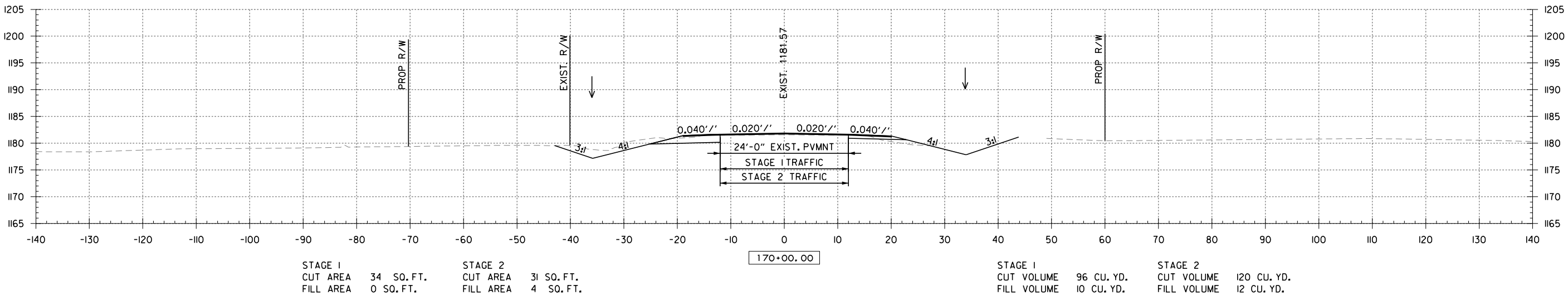
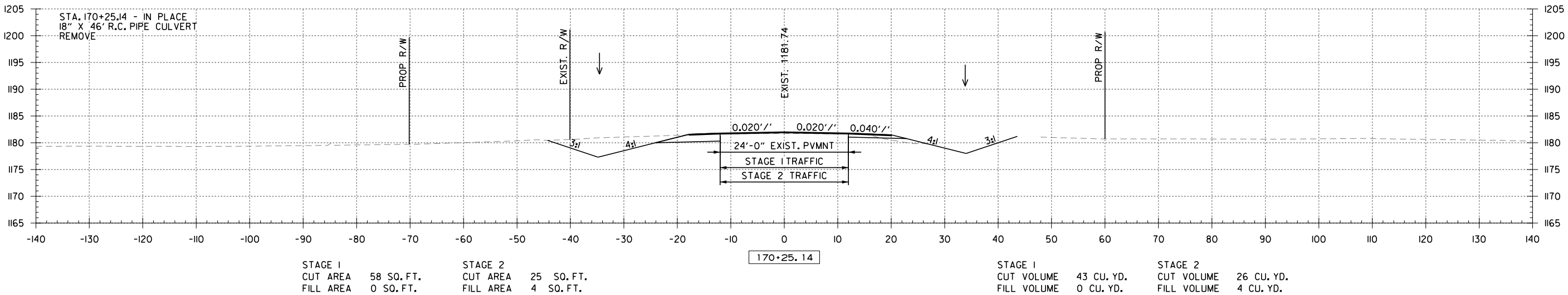
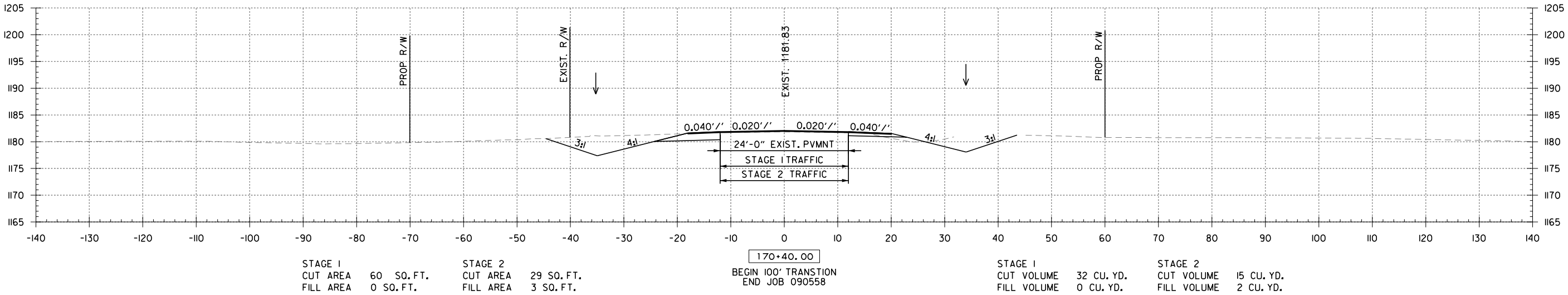


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	79	81
CROSS SECTIONS						



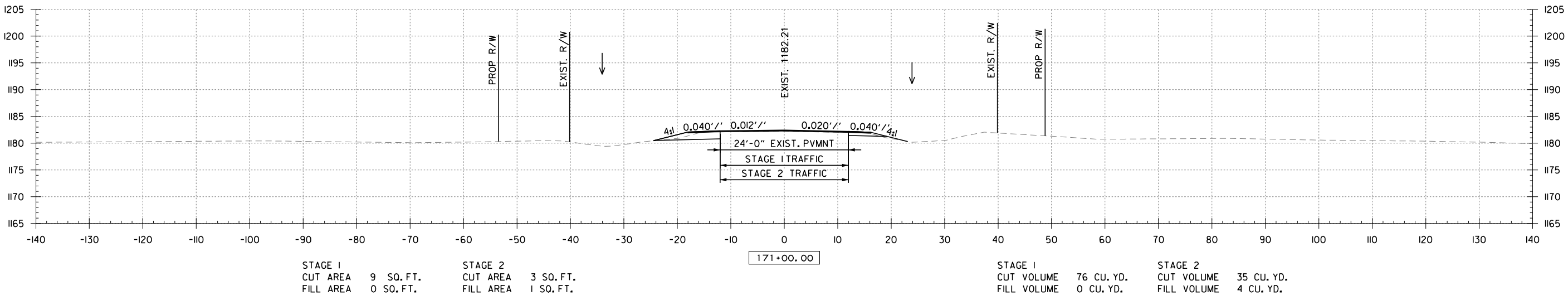
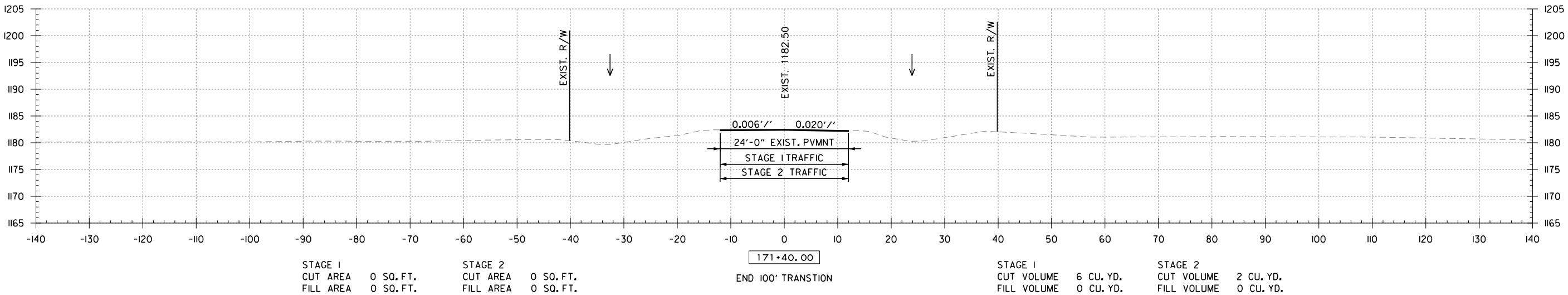
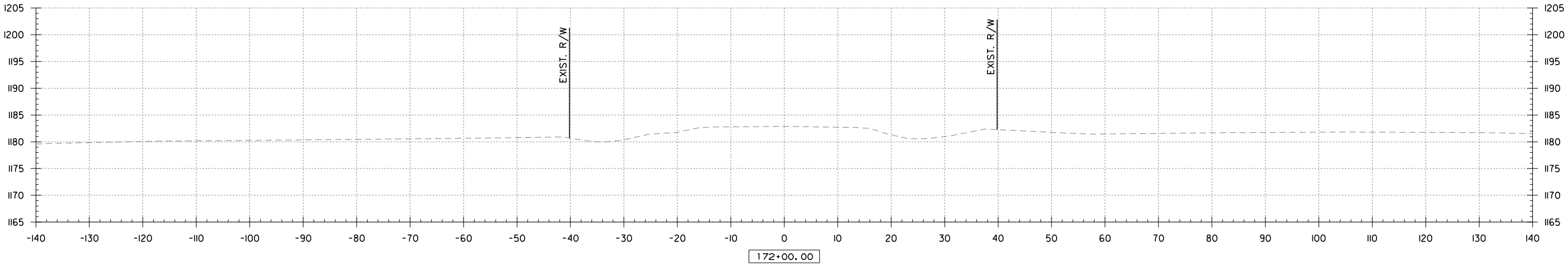
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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	80	81
CROSS SECTIONS						



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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	80A	81
CROSS SECTIONS						



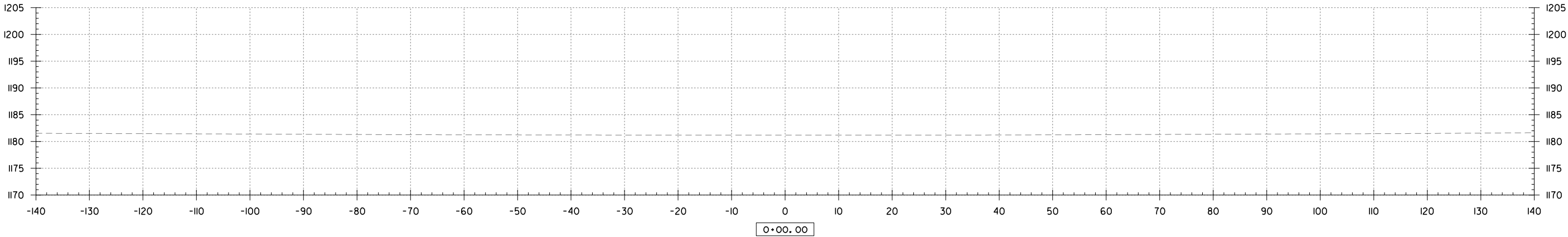
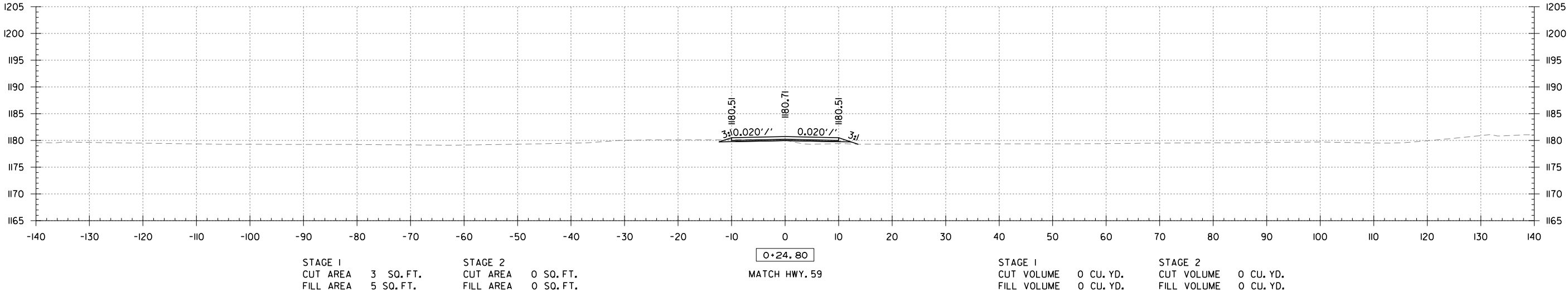
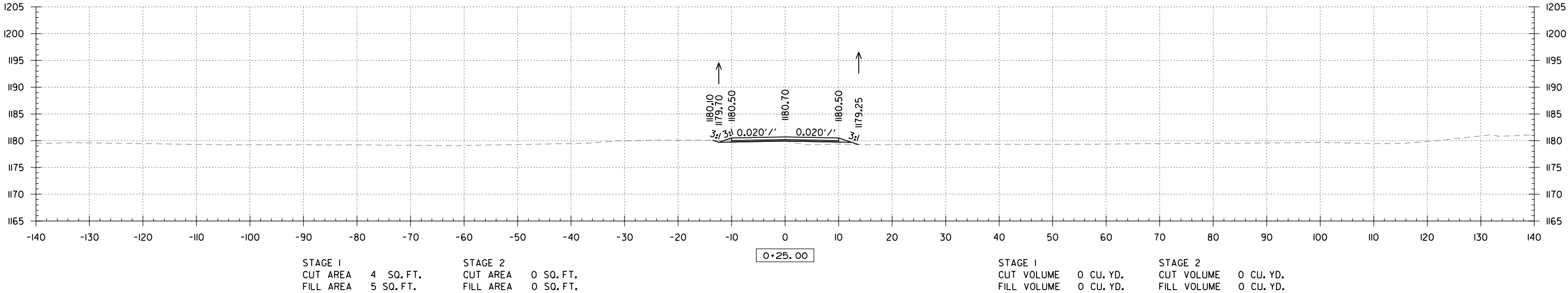
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7/16/2024

mBinkley

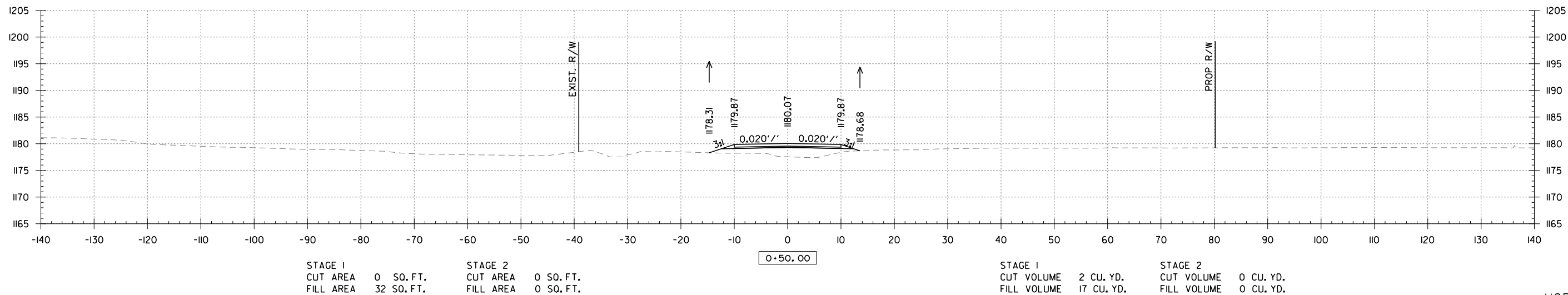
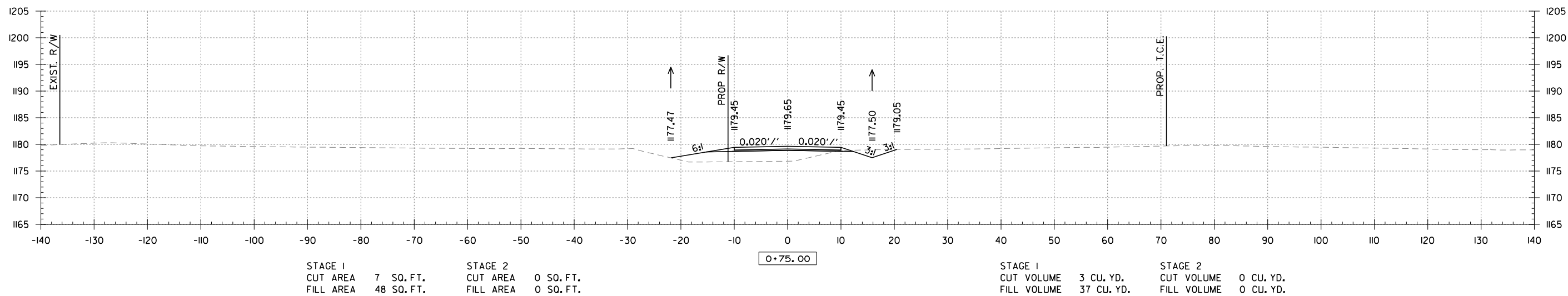
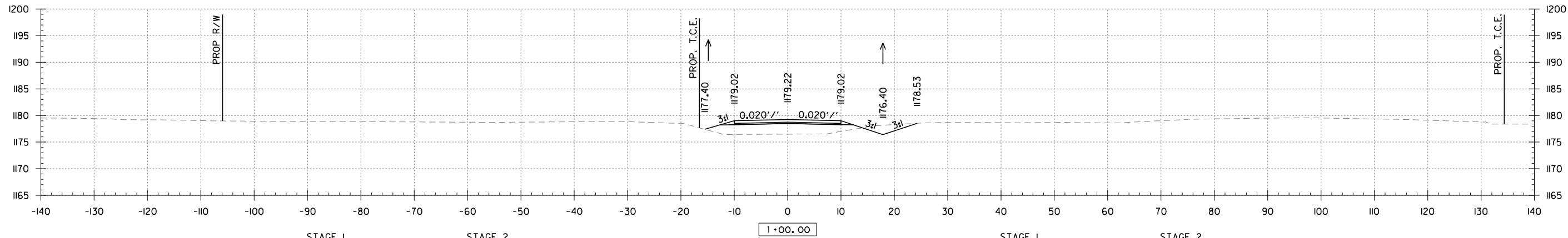
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DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	80B	81
CROSS SECTIONS						



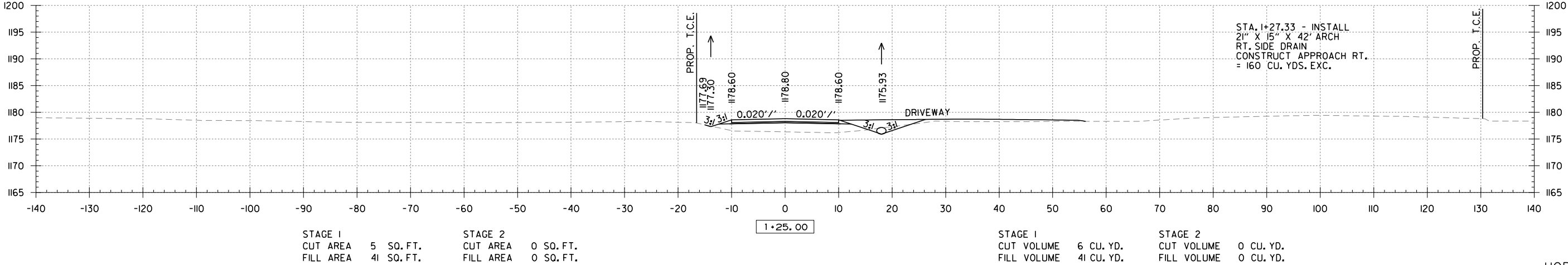
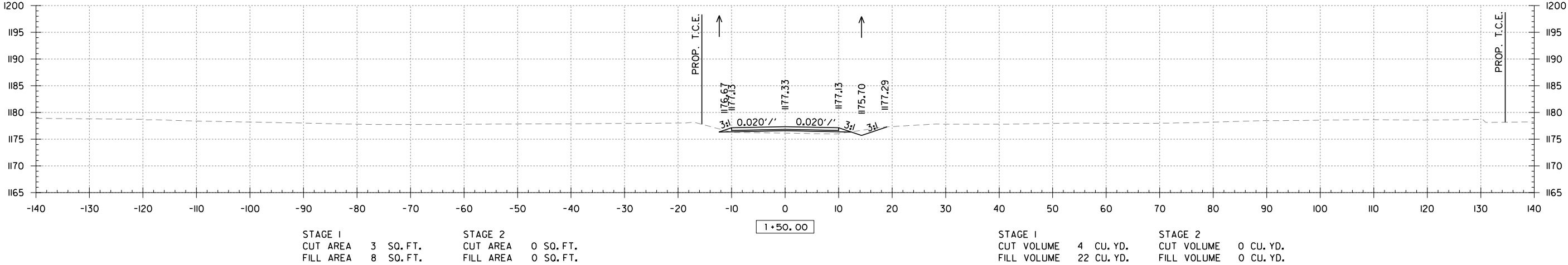
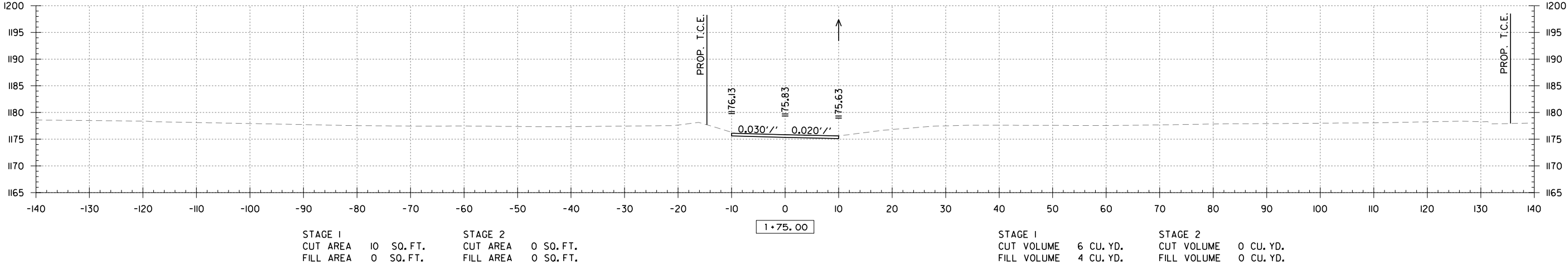
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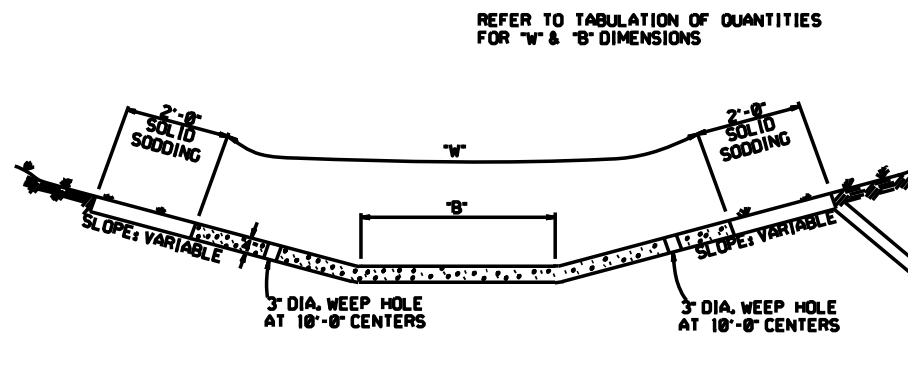
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	80C	81
CROSS SECTIONS						



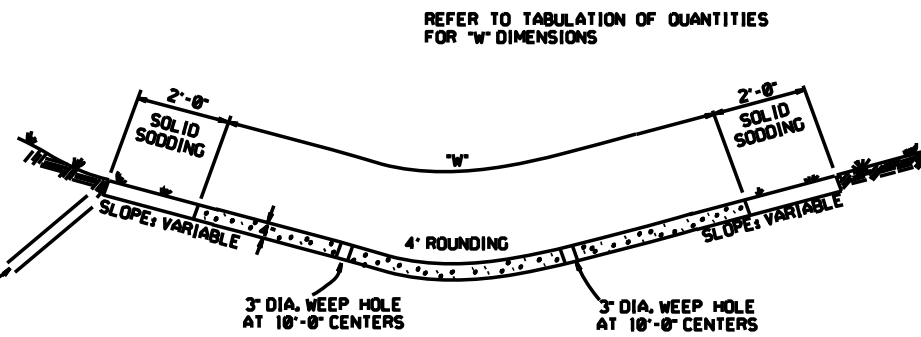
HODGE ROAD
CROSS SECTION STA. 0+50 TO STA. 1+00

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	090558	81	81
CROSS SECTIONS						



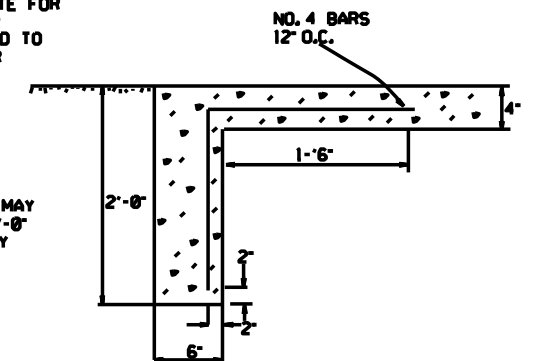


TYPE A

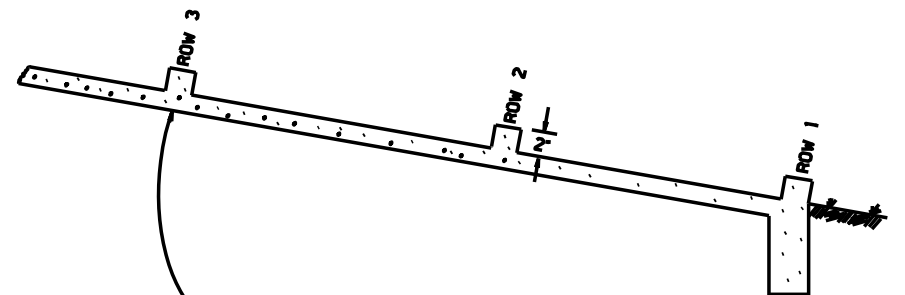


TYPE B

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."

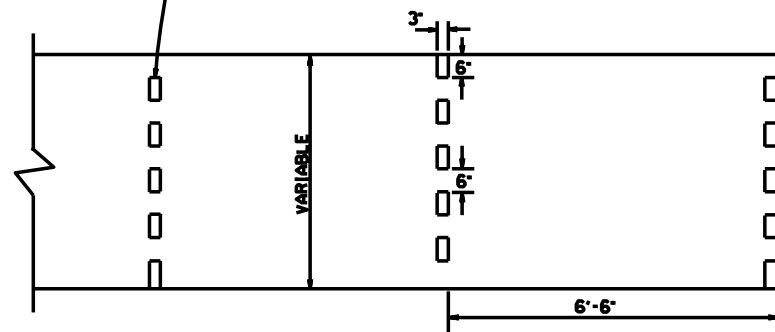


TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

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 INCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.



ENERGY DISSIPATORS
(NO SCALE)

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.

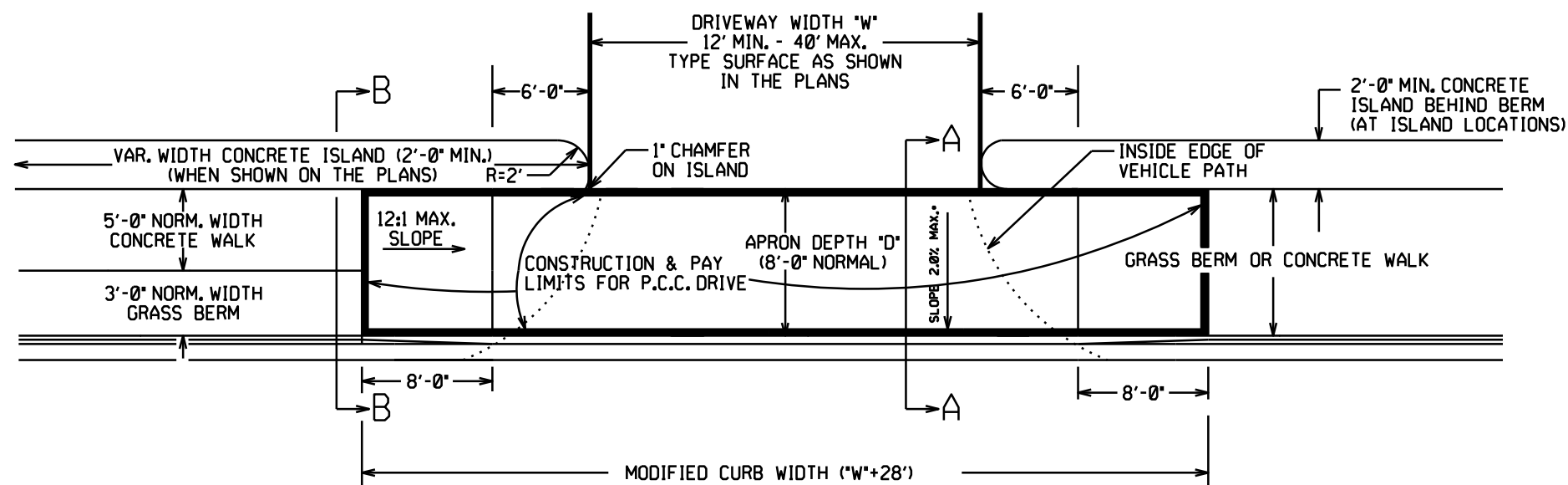
1' WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
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	651-7-15-88
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.	544-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS	508-11-1-84
11-1-84	ADDED	
11-1-84	EXCAVATION DETAILS ADDED	
10-2-72	TYPED A & B	
	REVISED AND REDRAWN	508-10-2-72
	DATE	REVISION
		DATE FILM'D

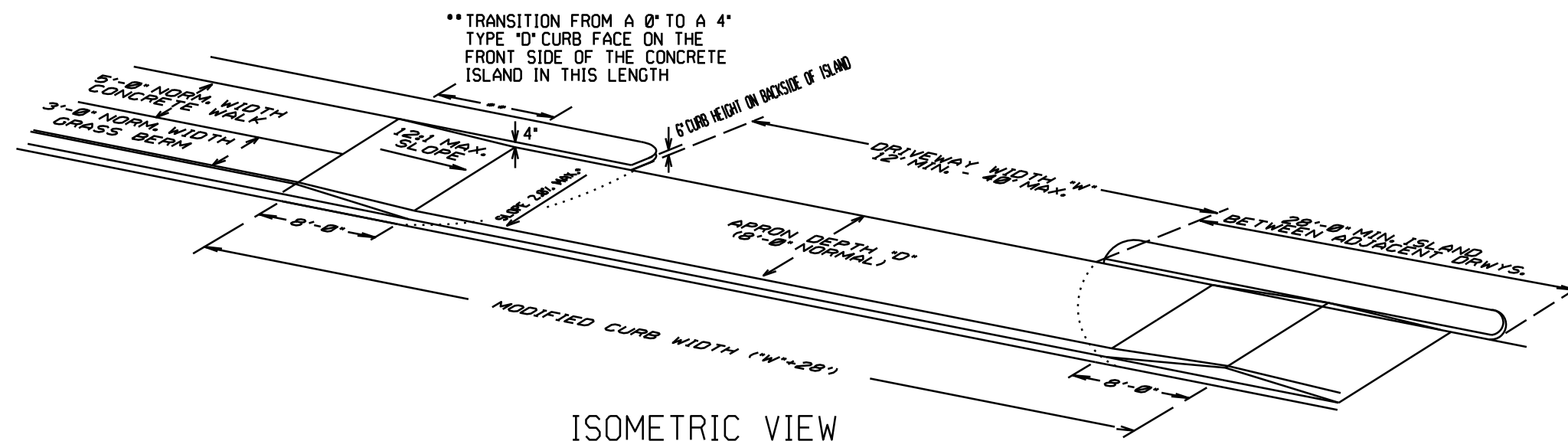
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

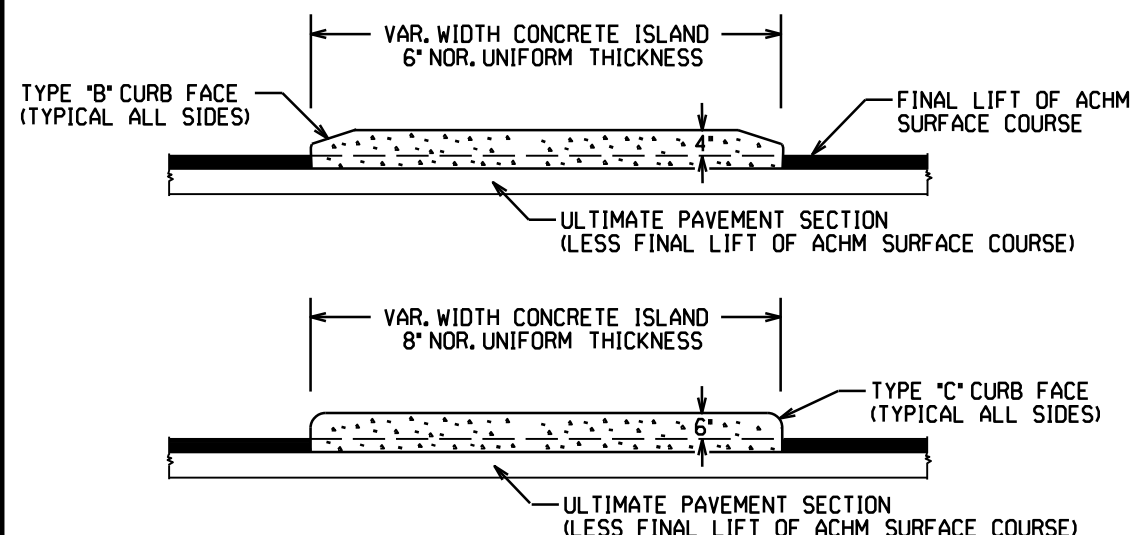
STANDARD DRAWING CDP-1



PLAN VIEW



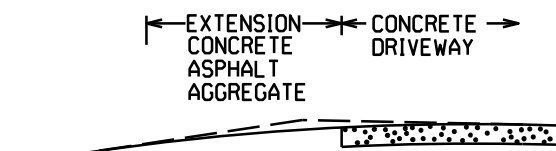
ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

CONCRETE ISLAND NOTES:

1. 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".
2. TRANSVERSE EXPANSION JOINTS, NOT LESS THAN 1/2" WIDE, SHALL BE PLACED AT MINIMUM INTERVAL OF 45'. TRANSVERSE JOINT SHALL BE CONSTRUCTED USING A JOINT FILLER COMPLYING WITH AASHTO M213.

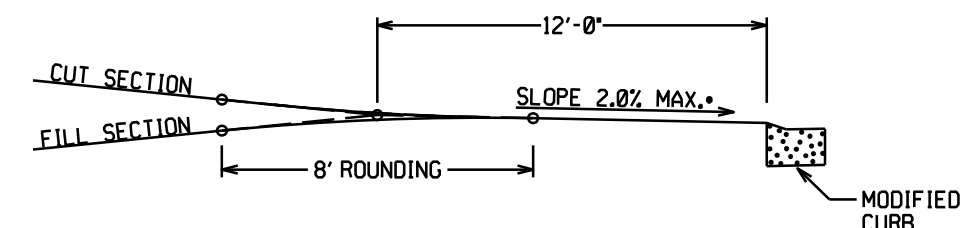


EXTENSION TYPICAL SECTIONS

- 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

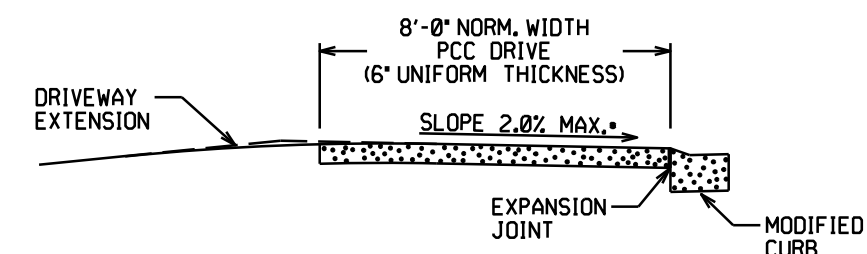
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

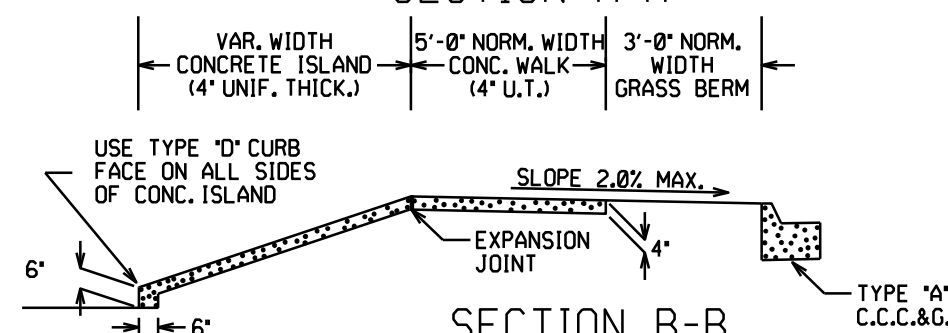


DRIVEWAY VERTICAL ALIGNMENT DETAILS

- NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



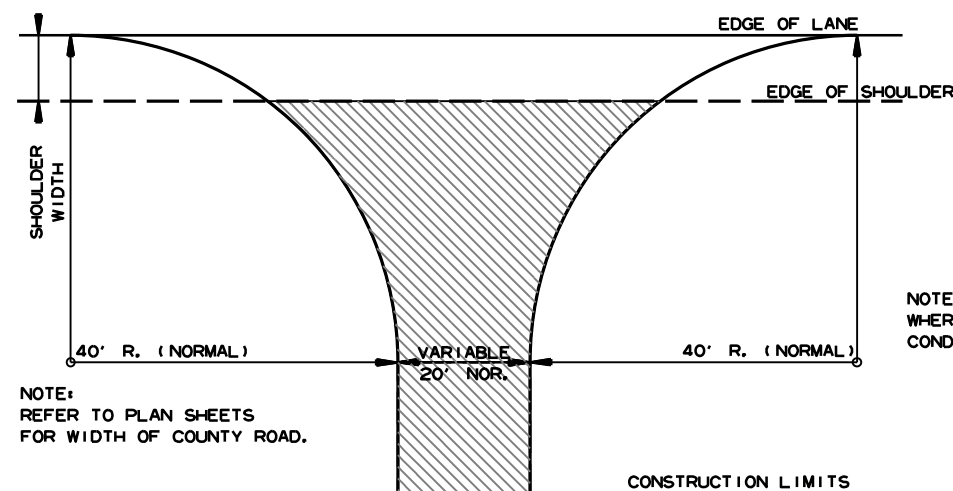
SECTION A-A



SECTION B-B
CURBED ISLAND BEHIND WALK

DATE	REV	DATE FILMED	DESCRIPTION
5-19-22			REVISED ISLAND NOTES
11-07-19			REVISED WALK DETAILS
2-27-14			REVISED PLAN & ISOMETRIC VIEW
11-29-07			ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05			REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02			ADDED ISLAND DETAILS & NOTES
3-30-00			REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98			REVISED NOTES
11-18-98			REDRAWN AND REISSUED
DATE	REV	DATE FILMED	DESCRIPTION

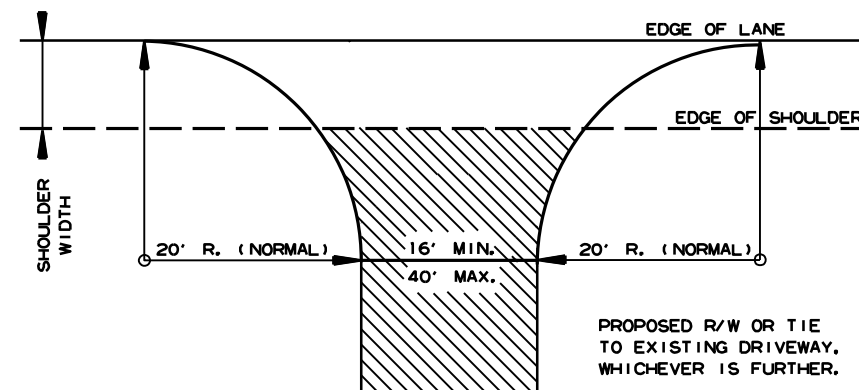
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



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

ACHM SURFACE COURSE (1 1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH, UNLESS OTHERWISE SPECIFIED IN PLANS.

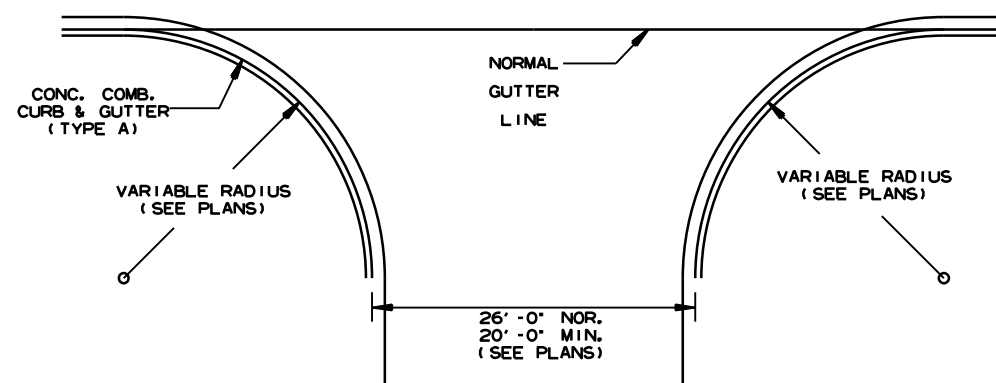
DETAIL FOR COUNTY ROAD TURNOUTS
OPEN SHOULDER SECTION



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

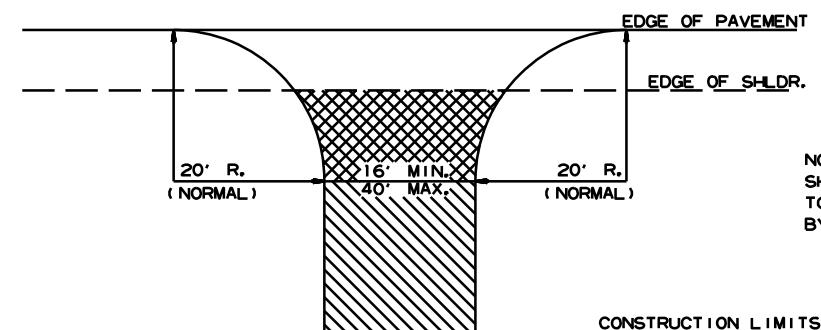
ACHM SURFACE COURSE (1 1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT OR GRAVEL DRIVE EXISTING; OR 6" CONCRETE IF CONCRETE DRIVE EXISTING.

DETAIL FOR DRIVEWAY TURNOUTS
OPEN SHOULDER SECTION
(ARTERIALS)



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

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



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

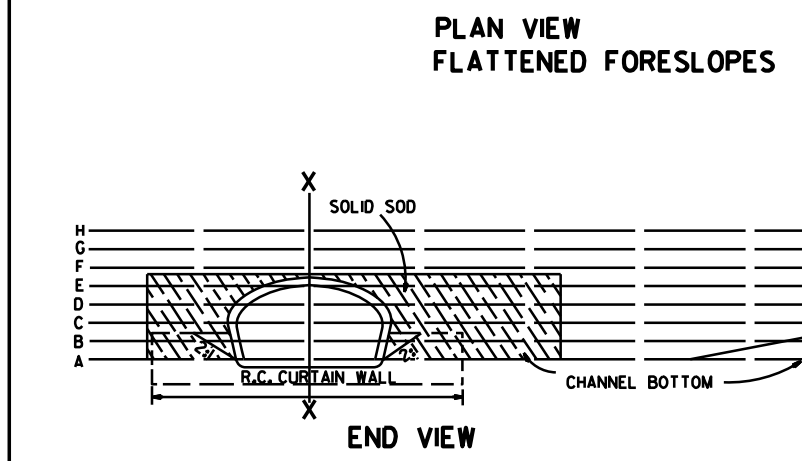
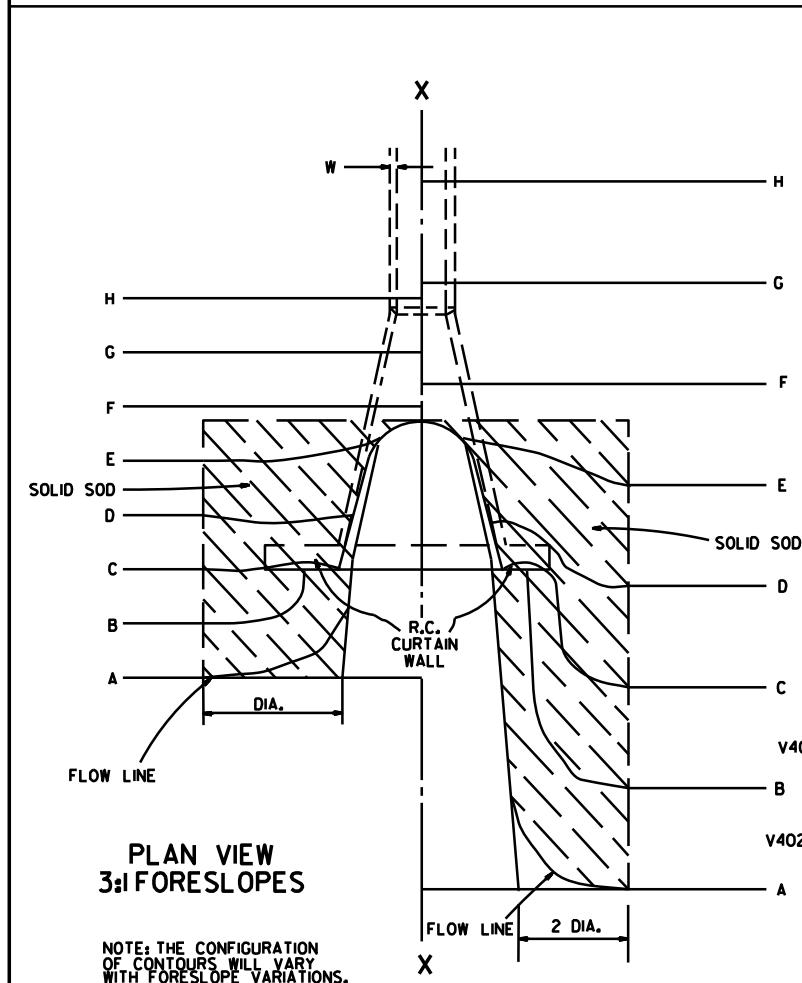
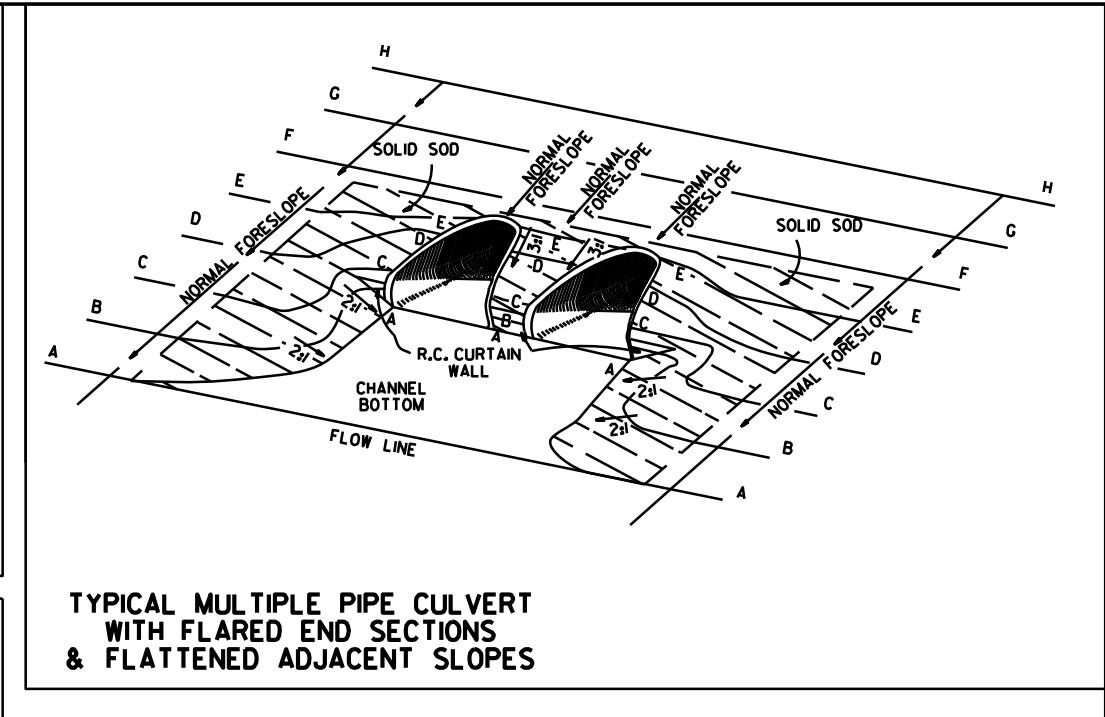
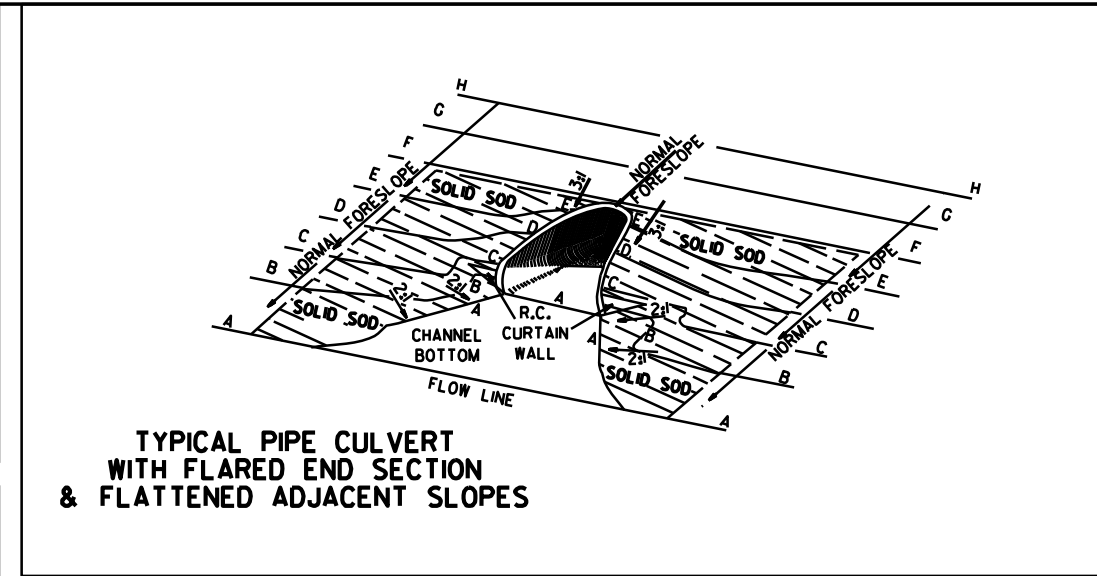
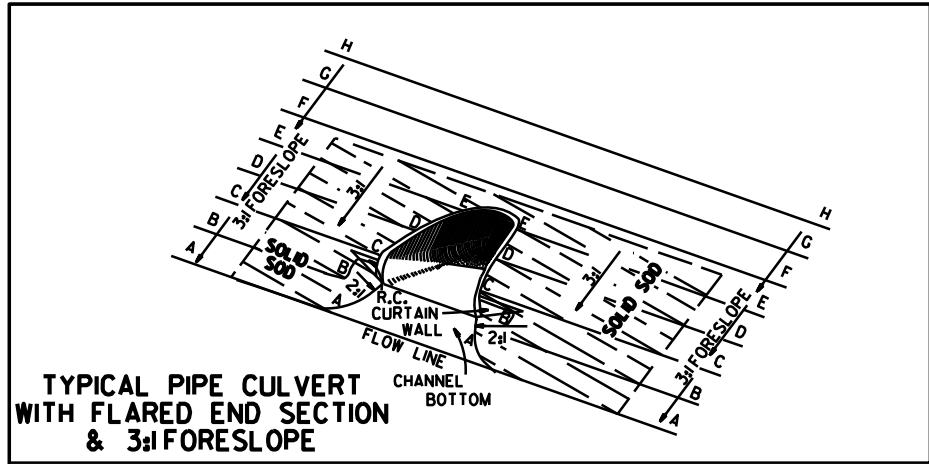
ASPHALT CONCRETE HOT MIX SURFACE COURSE (220 LBS. PER SQ. YD.) AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT DRIVE EXIST OR 6" CONCRETE IF CONCRETE DRIVE EXIST.

AGGREGATE BASE COURSE (CLASS 7) 9" COMP. DEPTH OR CONFORM TO EXISTING DRIVEWAY

DETAIL FOR DRIVEWAY TURNOUTS
(COLLECTORS)

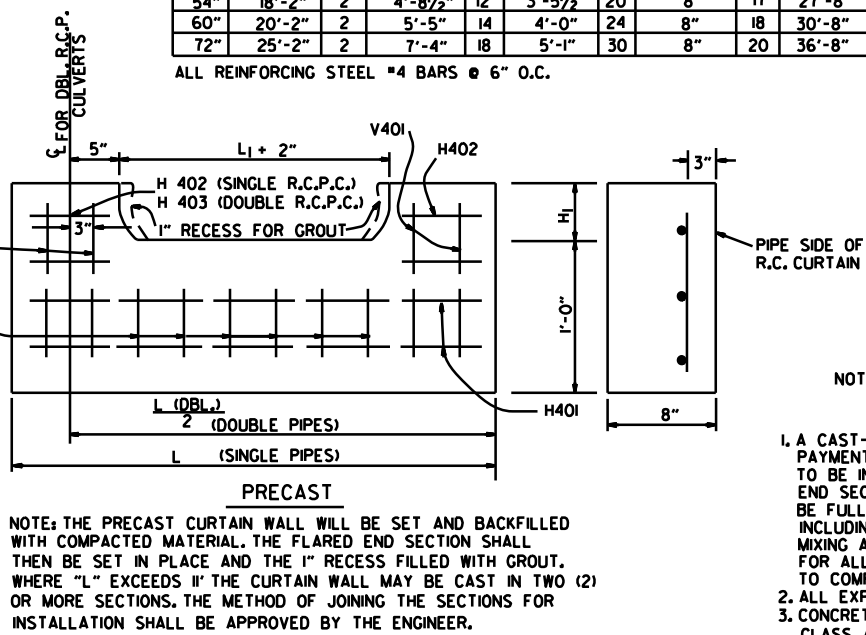
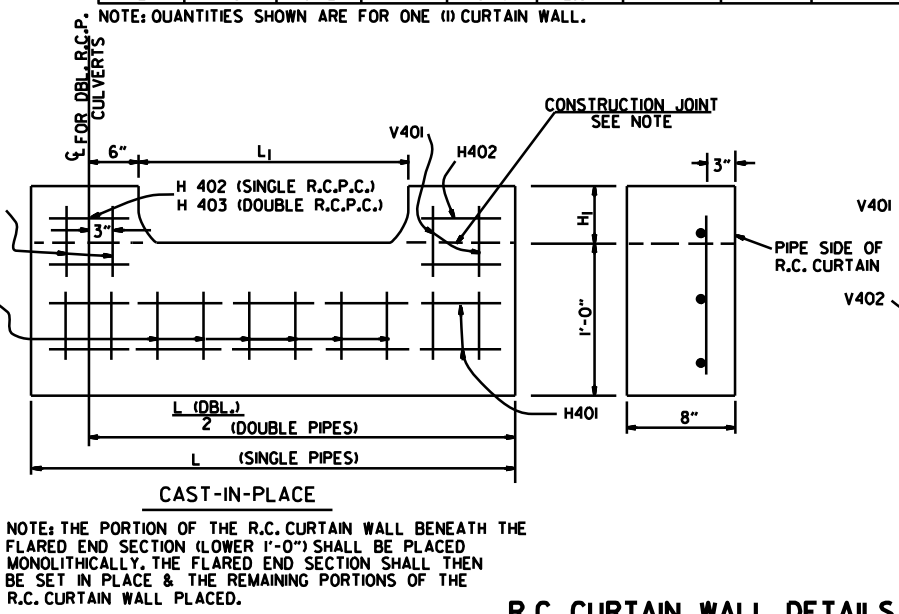
5-19-22	ISSUED	
DATE REV	DATE FILMED	DESCRIPTION

ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & STREET
TURNOUTS
STANDARD DRAWING DR-2



R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

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



REINFORCING STEEL SCHEDULE

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

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

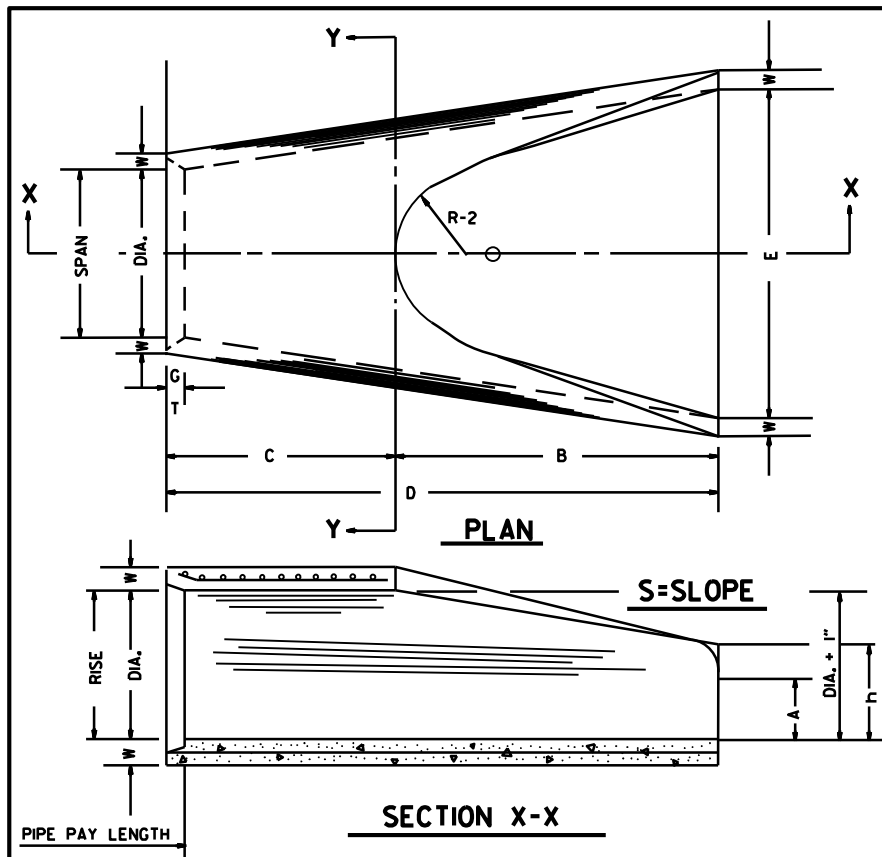
SOLID SODDING

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

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

- GENERAL NOTES**
1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
 2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
 3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
 4. WELDED WIRE MESH 3 x 3 W/10 x W/10 MAY BE USED IN LIEU OF REINFORCING BARS.

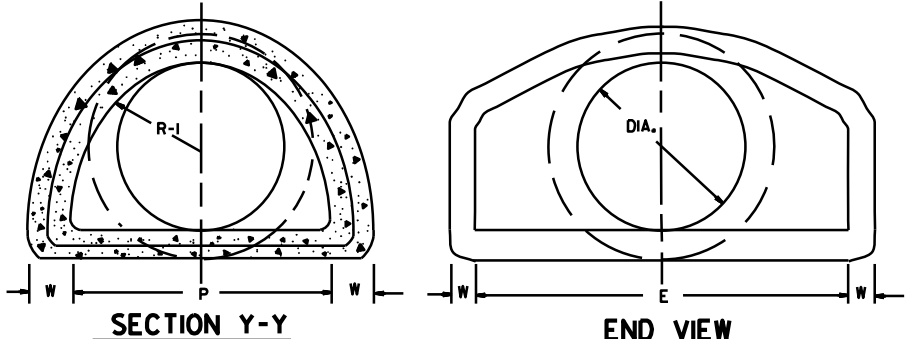
10-18-96	ADDED NOTE TO SOLID SODDING		ARKANSAS STATE HIGHWAY COMMISSION
10-12-95	CORRECTED SPELLING		
11-3-94	ADDED GENERAL NOTE NO. 4		
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80	ADDED PRECAST WALL & GENERAL NOTES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



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"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3 1/4"	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3 1/4"	25"	33 3/8"	16 1/4"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3 1/4"	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 3/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3 1/4"	37"	47 1/8"	24 3/8"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3 1/4"	43"	53 5/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3 1/4"	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3 1/4"	55"	65 1/2"	33 3/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3 1/4"	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3 1/4"	73"	77 1/8"	38 3/8"	24"	5"	13250	4'-6"



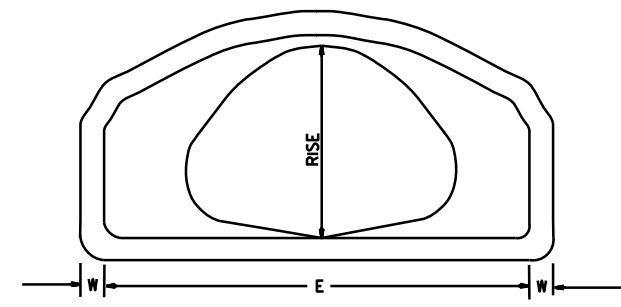
SECTION Y-Y
END VIEW

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

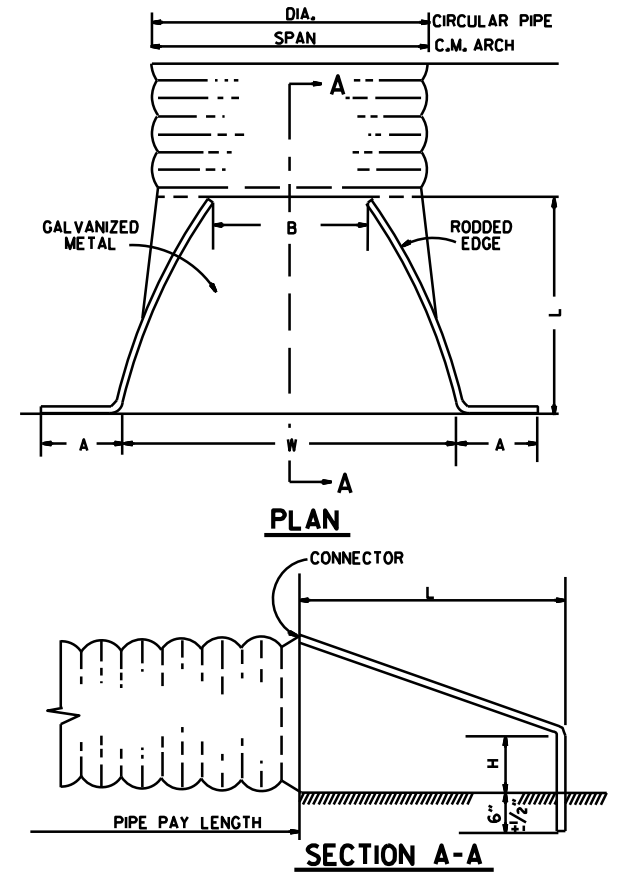
ARCH PIPE

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

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



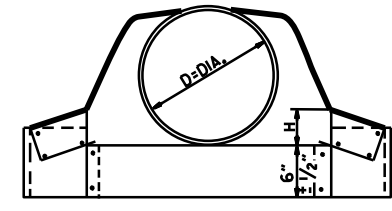
END VIEW
CONCRETE ARCH PIPE



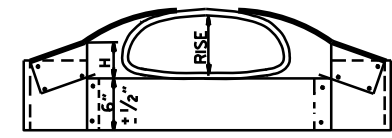
SECTION A-A

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



CIRCULAR PIPE



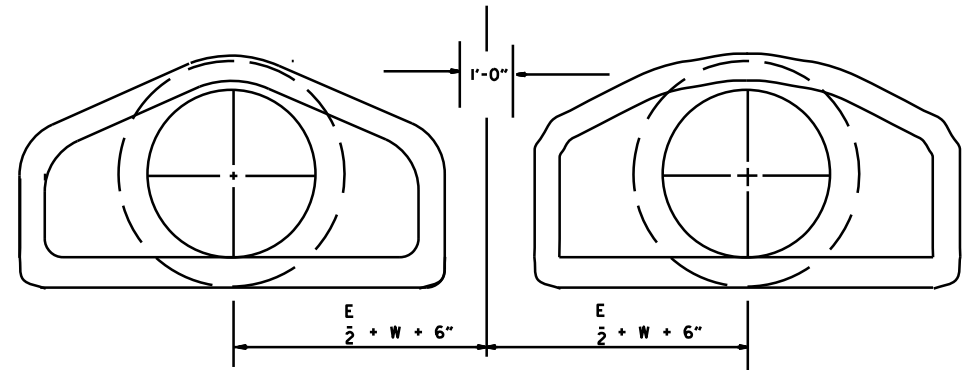
C.M. ARCH PIPE

CIRCULAR PIPE

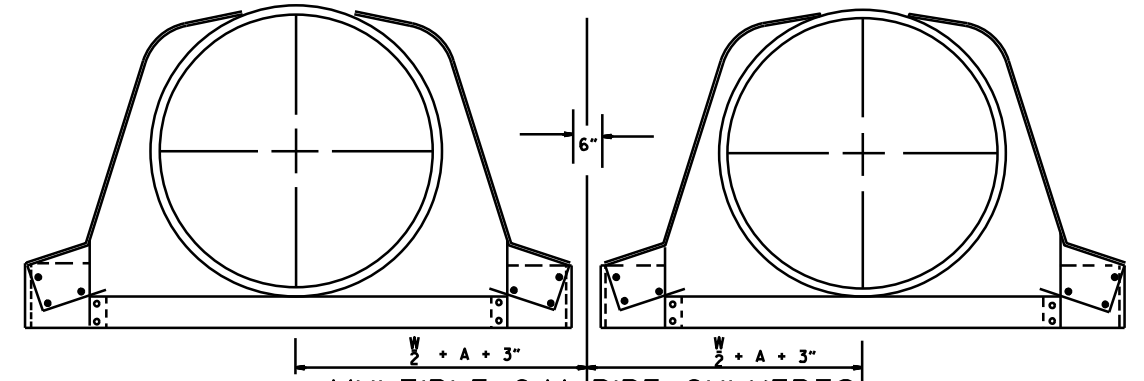
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1 1/2" ±	W 2" ±	S
12	16	6	6	6	21	24	2 1/2 1/4"
15	16	7	8	6	26	30	2 1/2 1/4"
18	16	8	10	6	31	36	2 1/2 1/4"
21	16	9	12	6	36	42	2 1/2 1/4"
24	16	10	13	6	41	48	2 1/2 1/4"
30	14	12	16	8	51	60	2 1/2 1/4"
36	14	14	19	9	60	72	2 1/2 1/4"
42	12	16	22	11	69	84	2 1/2 1/4"
48	12	18	27	12	78	90	2 1/2 1/4"
54	12	18	30	12	84	102	2 1/4"
60	12	18	33	12	87	114	1 1/2 1/4"
66	12	18	36	12	87	120	1 1/2 1/4"
72	12	18	39	12	87	126	1 1/3 1/4"

C.M. ARCH PIPE

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

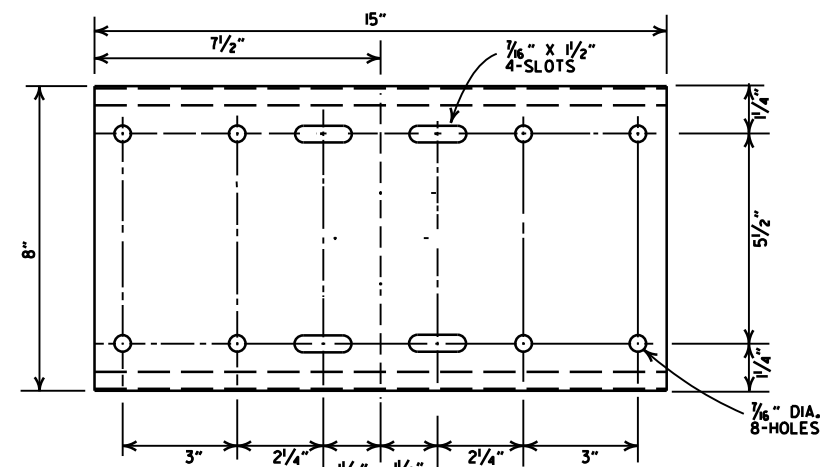


MULTIPLE R.C. PIPE CULVERTS

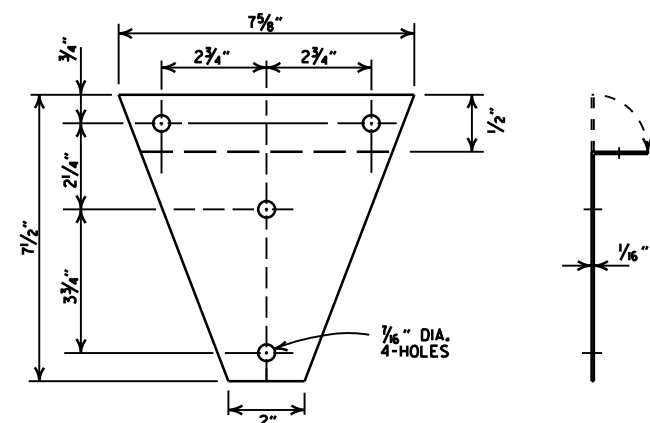


MULTIPLE C.M. PIPE CULVERTS

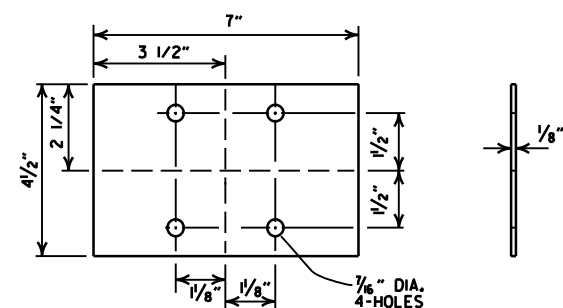
10-18-96	REVISED ASTM REF. TO AASHTO	664-5-15-80	ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	752-7-14-78	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	517-8-22-75	FLARED END SECTION
8-22-75	ADDED MULTIPLE PIPE CULVERTS	500-12-5-74	
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	627-5-24-73	STANDARD DRAWING FES-2
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	760-10-2-72	
10-2-72	REVISED AND REDRAWN	FILMED	
DATE	REVISION		



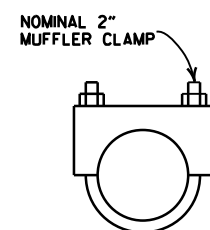
SHELF



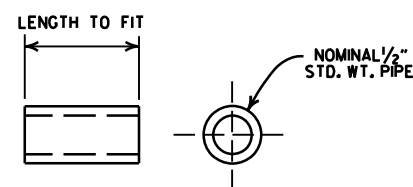
BRACKET



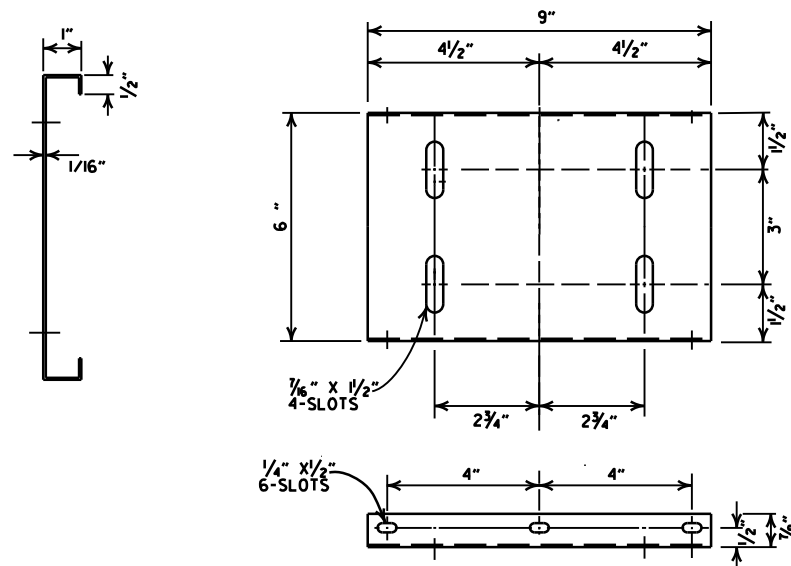
ANTI-TWIST PLATE



CLAMP



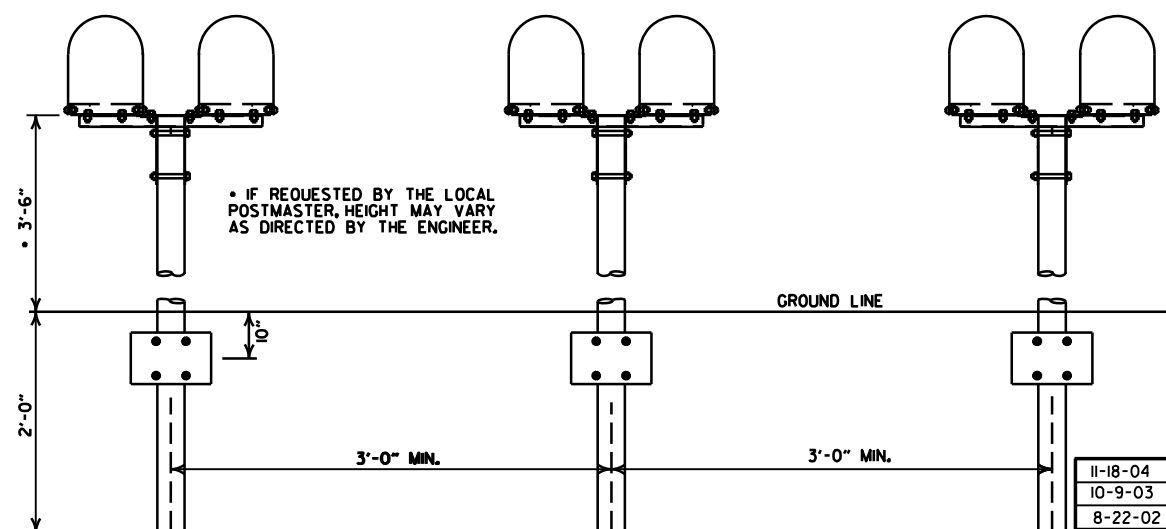
SPACER



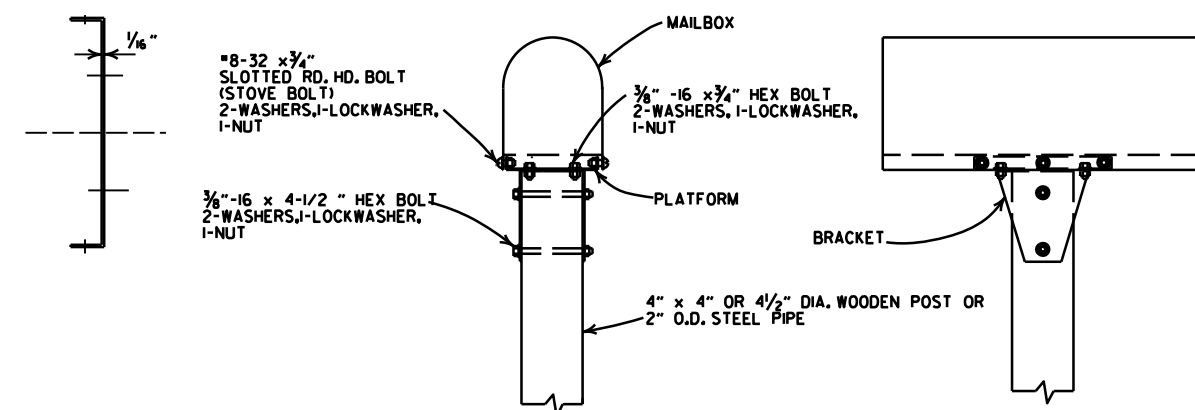
PLATFORM

GENERAL NOTES

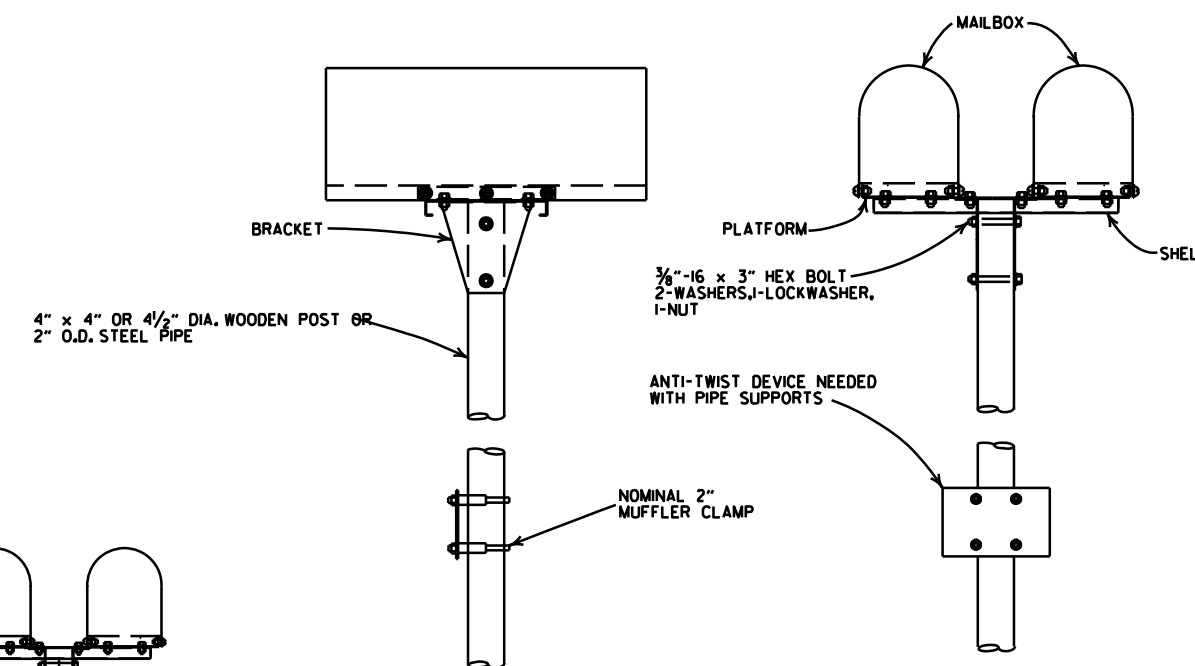
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED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



SPACING FOR MULTIPLE POST INSTALLATION



SINGLE INSTALLATION



DOUBLE INSTALLATION

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1

REINFORCED CONCRETE
ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT 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	43¾	44	26¾	27
42	51⅙	51	31⅙	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	87⅙	87
120	154	154	96⅞	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE
HORIZONTAL ELLIPTICAL
PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

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

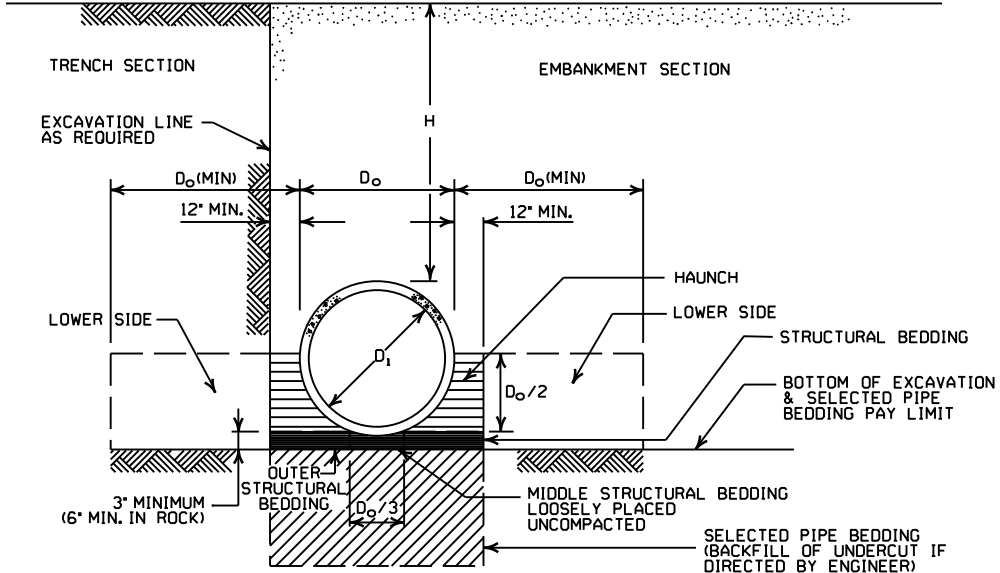
- LEGEND -

D_i = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
= UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION 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.

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 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.

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.

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	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1



CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2 3/4 INCH BY 1/2 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 MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 3/4 INCH BY 1/2 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)	MINIMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)		
				INSTALLATION	INSTALLATION		INSTALLATION	INSTALLATION		
				TYPE 1	TYPE 1		TYPE 1	TYPE 1		
			2 ¾ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2 ¾ 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	0.135	3	15		
66	77x52	8	0.168	3	15	0.164	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				① FOR MINIMUM COVER VALUES, "H" SHALL ② WHERE THE STANDARD 2 2/3" x ½" COR WITH A 3' x 1' OR 5' x 1' CORRUGATION OR GREATER THAN THE MAXIMUM FILL			
			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.

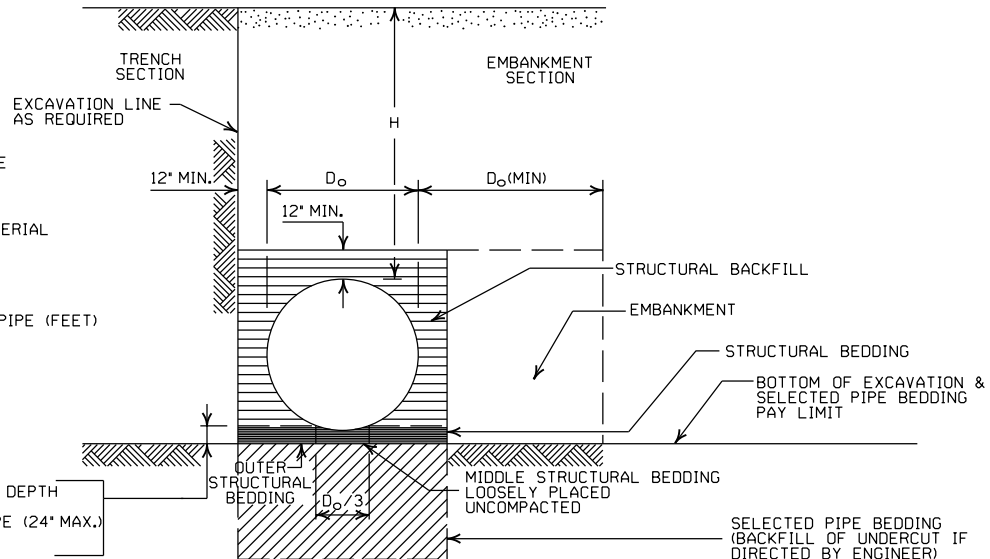
EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL		ALUMINUM	
ZINC COATED	UNCOATED		
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)

IN SOIL-MIN. EQUALS TWICE CORRUGATION DEPTH
IN ROCK-MIN. EQUALS GREATER OF:
1/2" PER FOOT OF FILL OVER PIPE (24" MAX.)
TWICE CORRUGATION DEPTH



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. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 3/4" X 1/2" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION 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 1/2" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" X 1" OR 5" X 1" CORRUGATION MAY BE SUBSTITUTED, 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.

2-27-14	REVISED GENERAL NOTE 1	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

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 1/4 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.
- STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH
BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

MINIMUM COVER VALUES, "H"
SHALL INCLUDE A MINIMUM 12"
OF PAVEMENT AND/OR BASE.

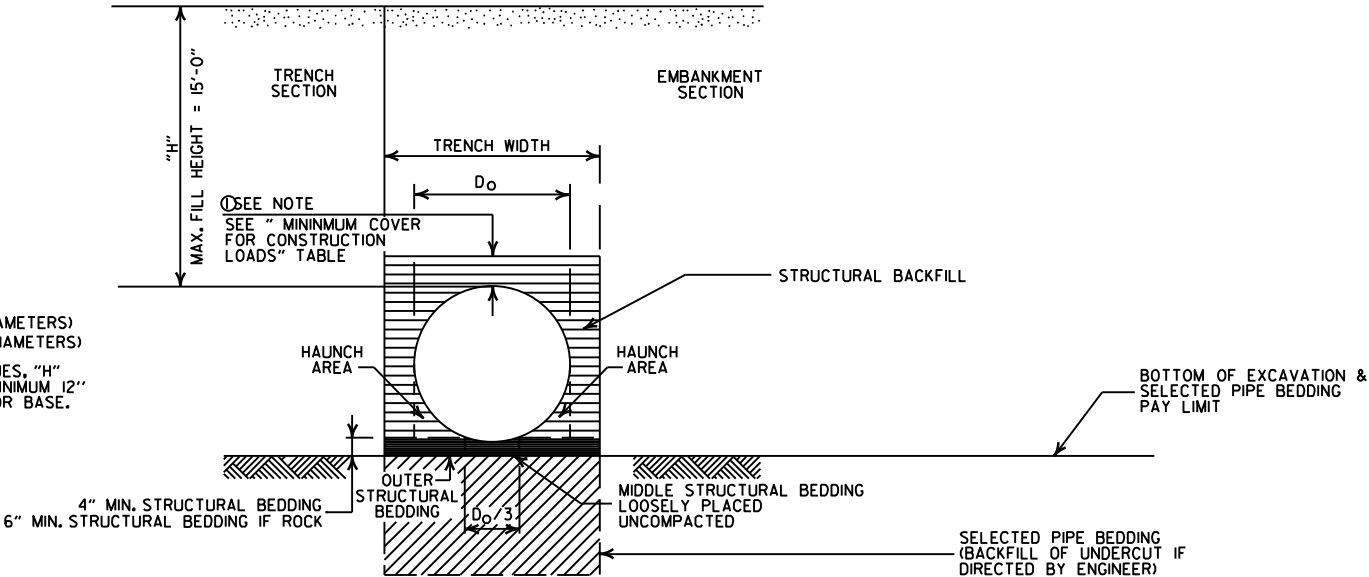
MULTIPLE INSTALLATION OF
HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM COVER FOR
CONSTRUCTION LOADS

PIPE DIAMETER	MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

- LEGEND -

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

===== STRUCTURAL BACKFILL MATERIAL
UNDISTURBED SOIL

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY 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.

			ARKANSAS STATE HIGHWAY COMMISSION
			PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)
			STANDARD DRAWING PCP-1
2-27-14	REVISED GENERAL NOTE 1.		
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE		
11-17-10	ISSUED		
DATE	REVISION	DATE FILMED	

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 1/2 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.
- STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PVC PIPE.

MINIMUM TRENCH WIDTH
BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

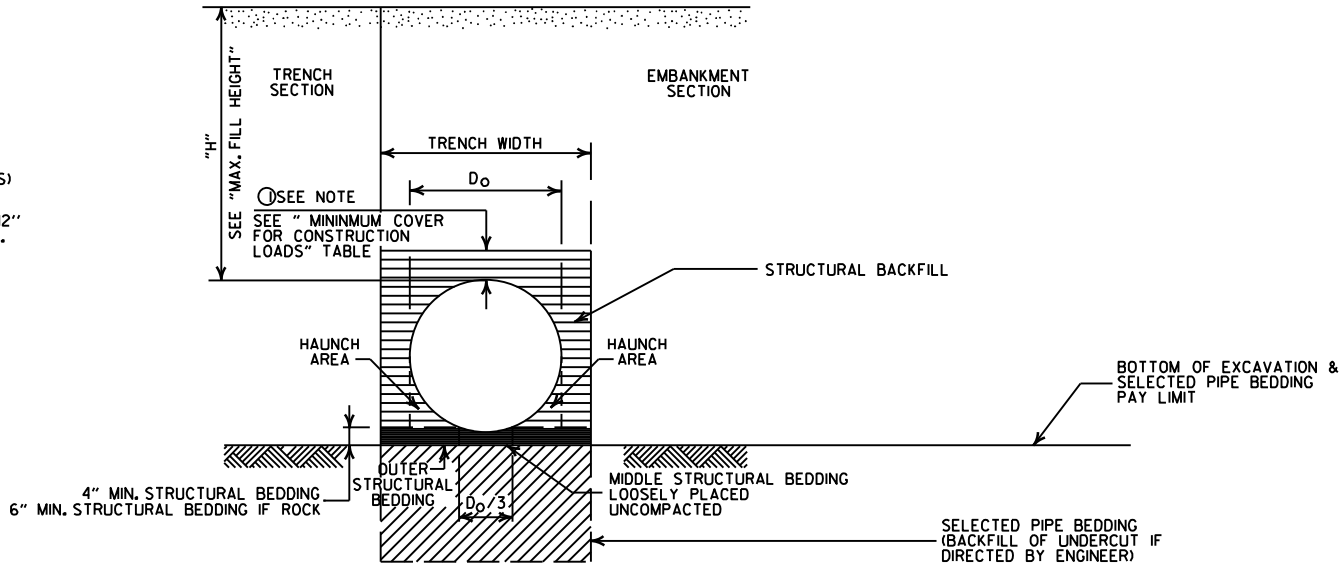
MULTIPLE INSTALLATION OF
PVC PIPES

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

MAXIMUM FILL HEIGHT
BASED ON STRUCTURAL BACKFILL

PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

- ① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H"
SHALL INCLUDE A MINIMUM 12"
OF PAVEMENT AND/OR BASE.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

- LEGEND -

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

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT
(PVC F949)

STANDARD DRAWING PCP-2



INSTALLATION TYPE	** MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4) OR TYPE 1 INSTALLATION 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 POLYPROPYLENE PIPE.

MULTIPLE INSTALLATION OF POLYPROPYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"
60"	5'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"
60"	10'-0"	15'-0"

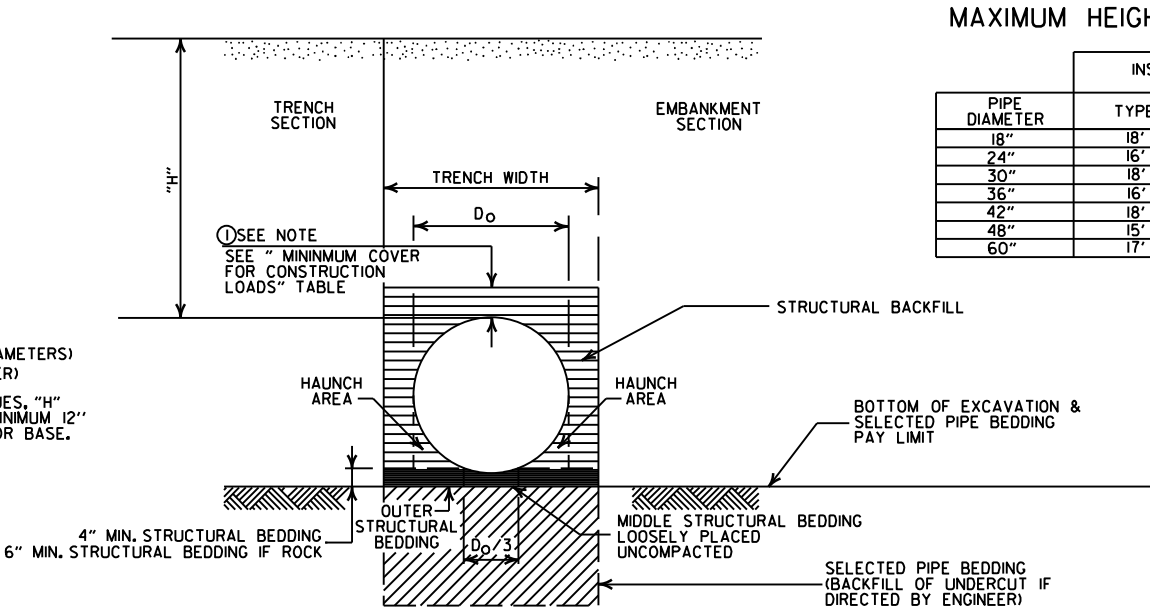
①NOTE:
12" MIN. (18" - 42" DIAMETERS)
24" MIN. (60" DIAMETER)

MINIMUM COVER VALUES, "H"
SHALL INCLUDE A MINIMUM 12"
OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-150.0 (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.



MAXIMUM HEIGHT OF FILL "H"

PIPE DIAMETER	INSTALLATION TYPE	
	TYPE 1	TYPE 2
18"	18'	14'
24"	16'	12'
30"	18'	14'
36"	16'	12'
42"	18'	13'
48"	15'	11'
60"	17'	12'

EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M330, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION (2012) WITH 2013 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. POLYPROPYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR POLYPROPYLENE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN SECTION 26.4.2.4 AND 30.4.2 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 3RD EDITION (2010) WITH 2012 INTERIMS. 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

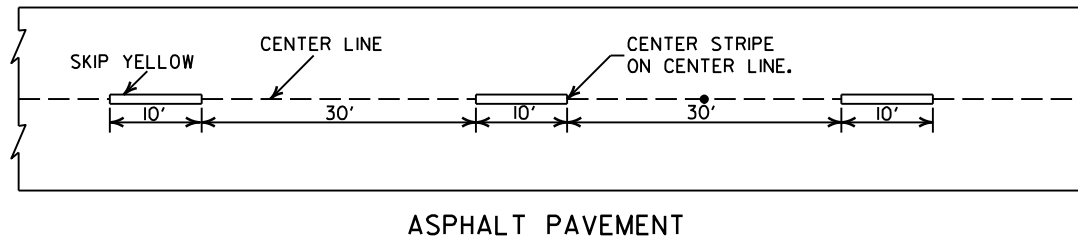
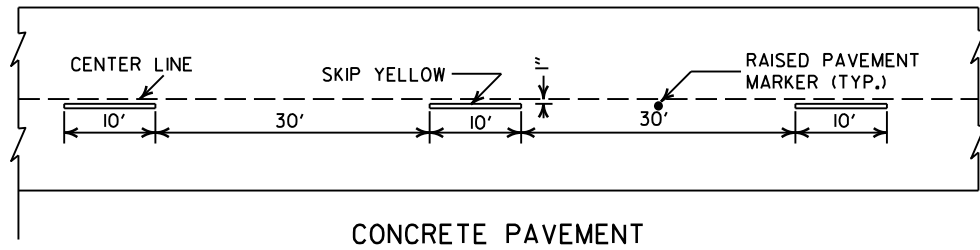
02-27-20	REVISED	
11-07-19	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

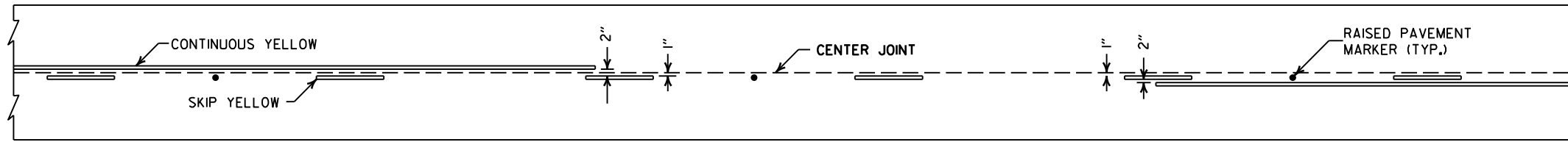
PLASTIC PIPE CULVERT
(POLYPROPYLENE)

STANDARD DRAWING PCP-3

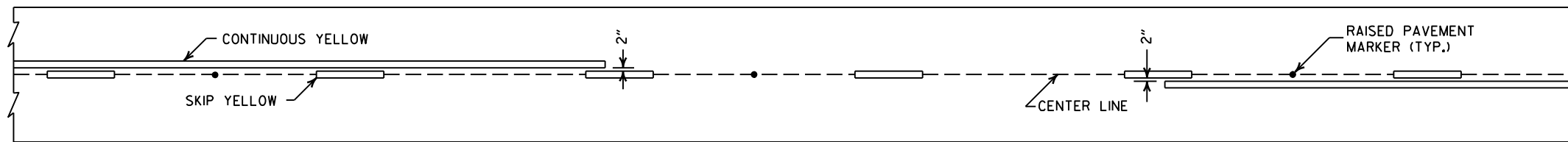




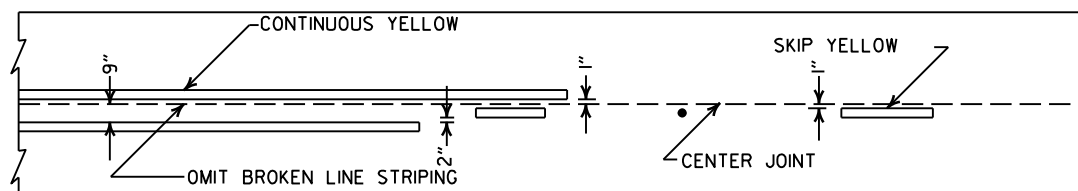
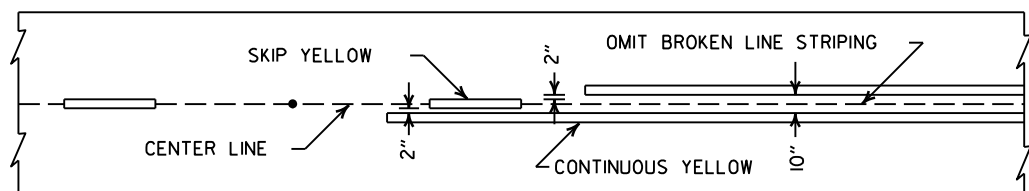
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT



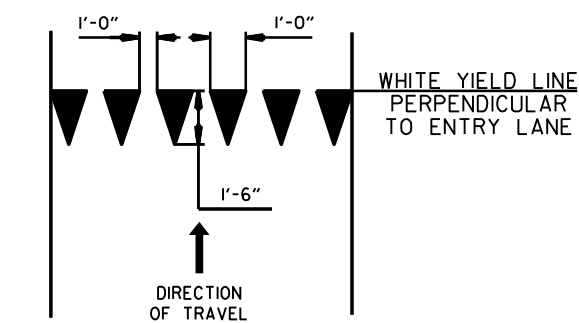
SOLID LINE STRIPING ON ASPHALT PAVEMENT



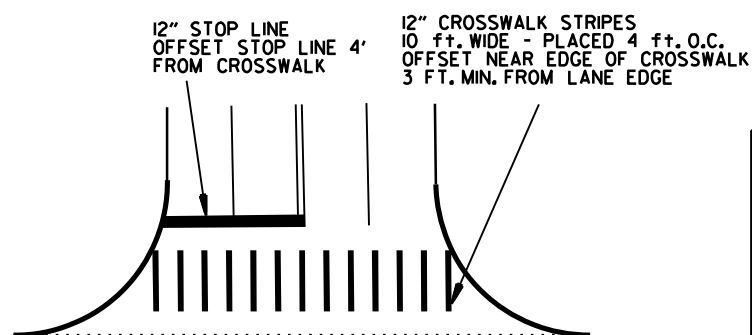
ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES



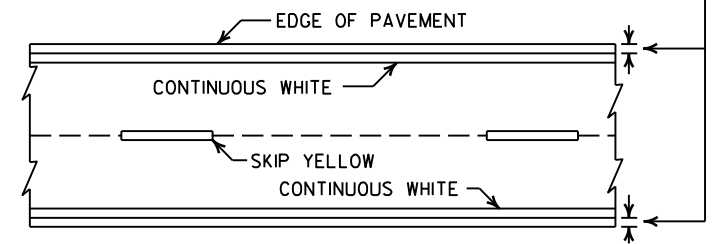
YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

- NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
 2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
 3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

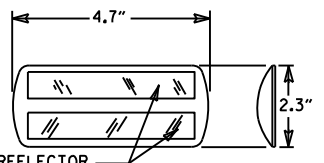
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



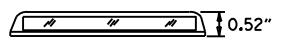
PAVEMENT EDGE LINE MARKING

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

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED FLOWABLE PAVT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			35 MPH			40 MPH			45 MPH			50 MPH			55 MPH			60 MPH			65 MPH			70 MPH			75 MPH		
	e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)	
		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE
0° 15'	NC			NC			NC			NC			NC			NC			NC			NC			NC			NC		
0° 30'	NC			NC			NC			NC			NC			NC			RC	96		NC			RC	96		NC		
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.030	120		0.032	125	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.034	130		0.038	139		0.042	149	
1° 15'	NC			NC			NC			0.022	95		0.028	115		0.032	125		0.038	139		0.042	149		0.046	158		0.052	173	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	139		0.044	154		0.050	168		0.056	182		0.062	197	
1° 45'	RC	72		RC	78		0.026	97		0.030	113		0.036	134		0.044	154		0.050	168		0.056	182		0.064	202		0.070	216	
2° 00'	RC	72		0.024	86		0.028	101		0.034	122		0.042	149		0.048	163		0.056	182		0.064	202		0.070	216		0.078	235	
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178		0.062	197		0.070	216		0.078	235		0.086	254	
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187		0.068	211		0.076	230		0.086	254		0.096	278	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149		0.054	178		0.064	202		0.072	221		0.082	245		0.092	269		0.100	288	
3° 00'	0.026	83		0.034	105		0.040	126		0.050	158		0.058	187		0.068	211		0.078	235		0.088	259		0.098	283		0.100	288	
3° 15'	0.028	86		0.036	109		0.044	134		0.052	162		0.062	197		0.072	221		0.082	245		0.092	269		0.100	288		0.100	288	
3° 30'	0.030	90		0.038	113		0.046	139	200	0.056	171		0.066	206		0.076	230		0.086	254		0.096	278		0.100	288		0.100	288	
3° 45'	0.032	93		0.040	117		0.050	147		0.058	176		0.070	216		0.080	240		0.090	264		0.100	288		0.100	288		0.100	288	
4° 00'	0.034	97		0.042	121		0.052	151		0.062	185		0.072	221		0.084	250		0.094	274		0.100	288		0.100	288		0.100	288	
4° 15'	0.036	100		0.044	125	200	0.054	155		0.064	189		0.076	230		0.086	254		0.096	278		0.100	288		0.100	288		0.100	288	
4° 30'	0.036	100		0.046	129		0.056	160		0.068	198		0.078	235		0.090	264		0.098	283		0.100	288		0.100	288		0.100	288	
4° 45'	0.038	104	200	0.048	133		0.060	168		0.070	203		0.082	245		0.092	269		0.098	283		0.100	288		0.100	288		0.100	288	
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207		0.084	250		0.094	274		0.098	283		0.100	288		0.100	288		0.100	288	
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221		0.088	259		0.098	283		0.098	283		0.100	288		0.100	288		0.100	288	
6° 00'	0.046	119		0.058	152		0.070	189		0.082	230	250	0.092	269		0.098	283		0.098	283		0.100	288		0.100	288		0.100	288	
6° 30'	0.050	126		0.062	160		0.074	198		0.086	239		0.096	278	300	0.096	278		0.096	278		0.100	288		0.100	288		0.100	288	
7° 00'	0.052	130		0.064	164		0.078	206		0.090	248		0.098	283		0.098	283		0.098	283		0.100	288		0.100	288		0.100	288	
7° 30'	0.054	133		0.068	172		0.080	210		0.092	252		0.100	288		0.100	288		0.100	288		0.100	288		0.100	288		0.100	288	
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257		0.094	257		0.094	257		0.094	257		0.094	257		0.094	257		0.094	257	
8° 30'	0.060	144		0.072	179		0.086	223		0.096	261		0.096	261		0.096	261		0.096	261		0.096	261		0.096	261		0.096	261	
9° 00'	0.062	148		0.076	187		0.088	227	250	0.098	266		0.098	266		0.098	266		0.098	266		0.098	266		0.098	266		0.098	266	
9° 30'	0.064	151		0.078	191		0.092	235		0.092	235		0.092	235		0.092	235		0.092	235		0.092	235		0.092	235		0.092	235	
10° 00'	0.066	155		0.080	195		0.094	240		0.094	240		0.094	240		0.094	240		0.094	240		0.094	240		0.094	240		0.094	240	
11° 00'	0.070	162		0.084	203		0.096	244		0.096	244		0.096	244		0.096	244		0.096	244		0.096	244		0.096	244		0.096	244	
12° 00'	0.074	169		0.088	211		0.098	248		0.098	248		0.098	248		0.098	248		0.098	248		0.098	248		0.098	248		0.098	248	
13° 00'	0.076	173		0.090	215	250	0.100	252	300	0.100	252	300	0.100	252	300	0.100	252	300	0.100	252	300	0.100	252	300	0.100	252	300	0.100	252	300
14° 00'	0.080	180		0.094	222		0.094	222		0.094	222		0.094	222		0.094	222		0.094	222		0.094	222		0.094	222		0.094	222	
15° 00'	0.082	184		0.096	226		0.096	226		0.096	226		0.096	226		0.096	226		0.096	226		0.096	226		0.096	226		0.096	226	
16° 00'	0.086	191		0.098	230		0.098	230		0.098	230		0.098	230		0.098	230		0.098	230		0.098	230		0.098	230		0.098	230	
17° 00'	0.088	194		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234		0.100	234	
18° 00'	0.090	198																												
19° 00'	0.092	202																												
20° 00'	0.094	205																												
21° 00'	0.096	209																												
22° 00'	0.096	209																												
23° 00'	0.098	212																												
24° 00'	0.098	212																												
25° 00'	0.100	216																												

D MAX = 28° 30'

GENERAL NOTES

- ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
- SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
- LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
- PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

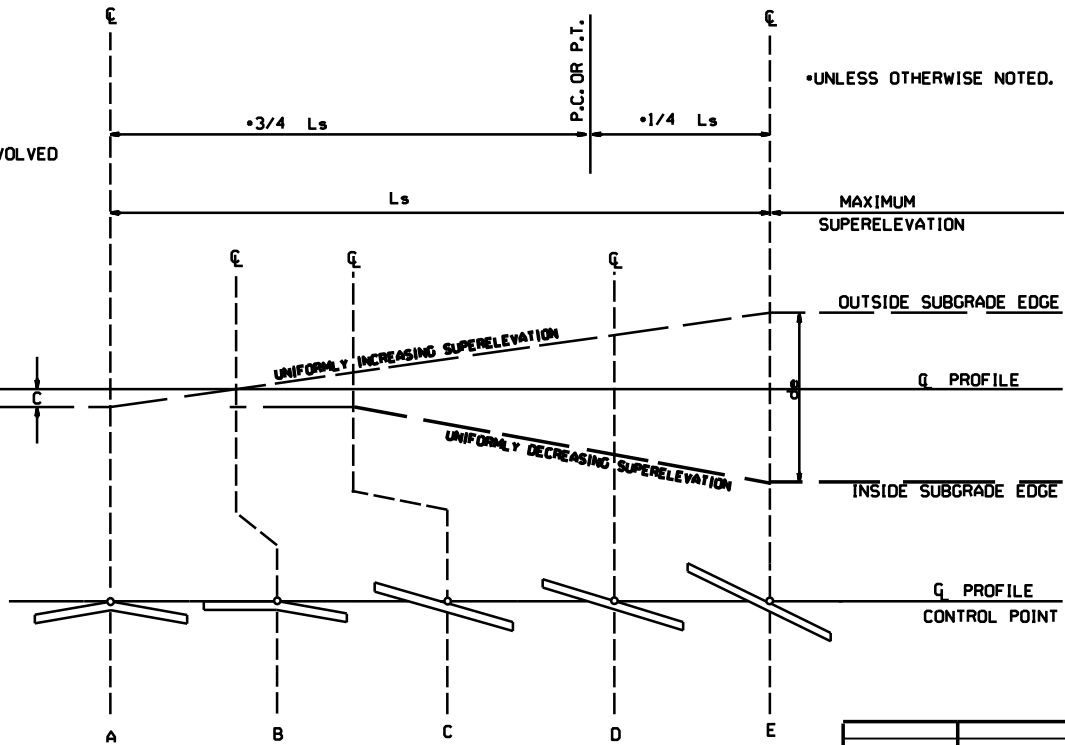
3 LANE UNDIVIDED - - - - +20%
4 LANE UNDIVIDED - - - - +50%
5 LANE UNDIVIDED - - - - +80%
6 LANE UNDIVIDED - - - - +100%

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.
RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

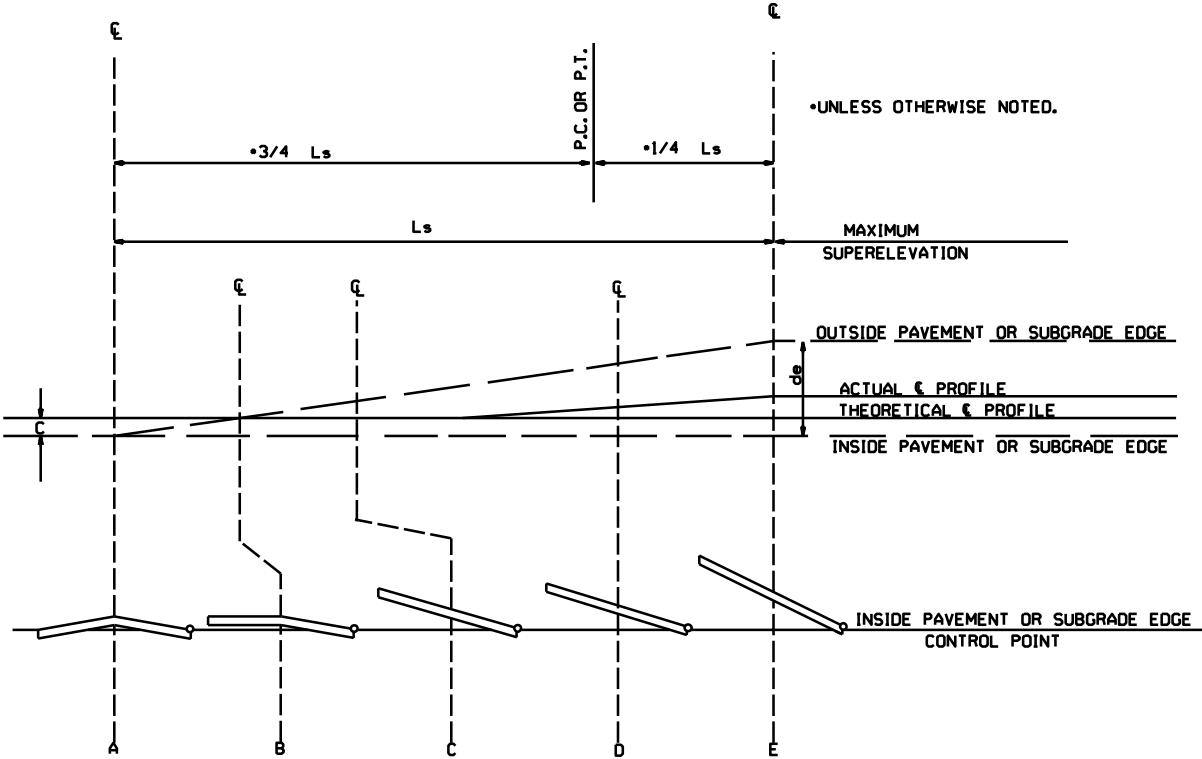
SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

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 CENTER LINE



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

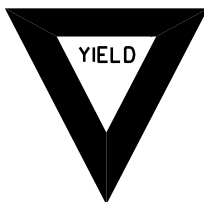
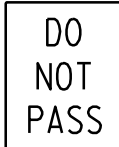
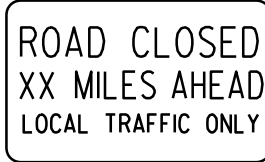
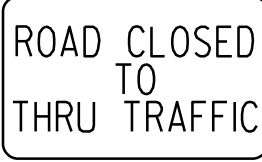
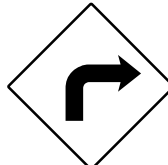
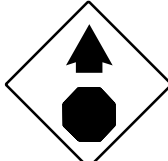
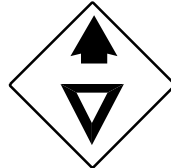
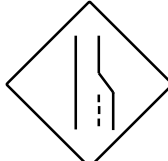
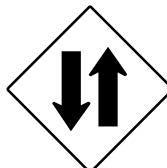
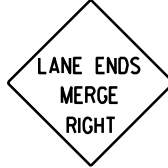
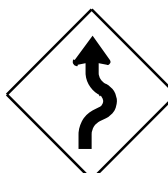
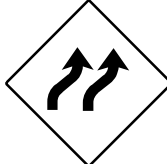
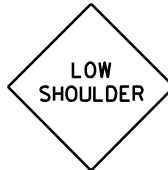
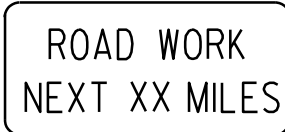
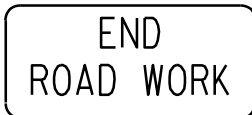
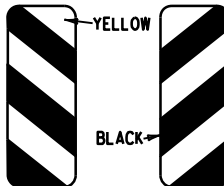
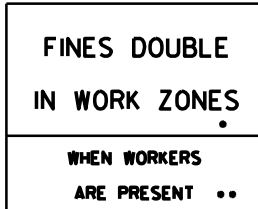
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

11-07-19	REVISED SUPERELEVATION TABLE	
10-18-96	ADDED FORMULA	
01-09-87	ISSUED	534-1-9-87
DATE	REVISION	DATE FILLED

ARKANSAS STATE HIGHWAY COMMISSION

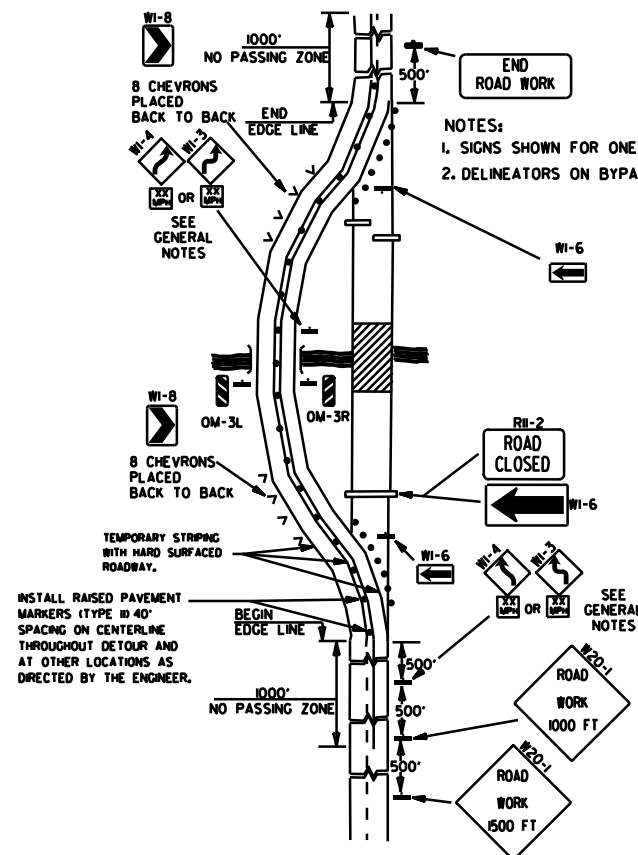
TABLES AND METHOD OF
SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

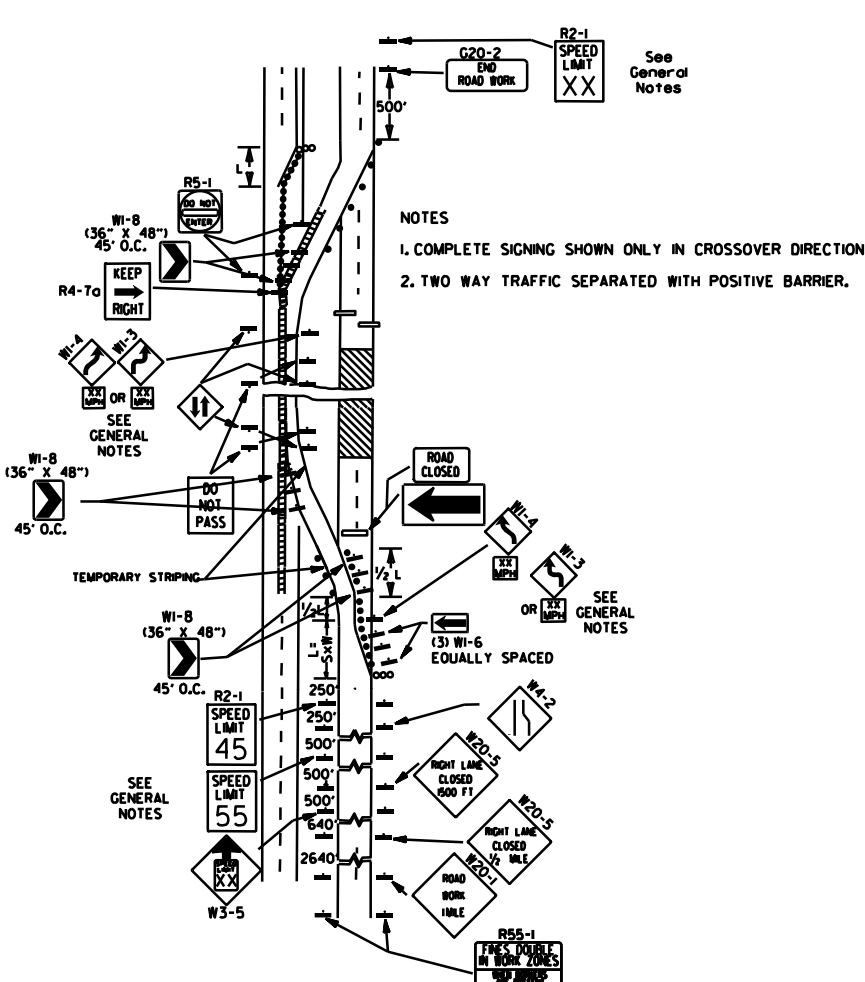
RI-1  STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"	RI-2  STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"	R2-1  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	W3-5  STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"	W3-5a  STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"	R4-1  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	R4-2  STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"	ADVANCE DISTANCES (XXXX) 500 FT 1/2 MILE 1000 FT 3/4 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 SO. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE. 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3. 6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE. 7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS. 8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. 9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT. 10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN. • NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.
R5-1  STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"	R11-2  48"x30"	R11-3A  60"x30"	R11-4  60"x30"	W21-5a  STD. 36"x36" FWY. 48"x48"	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   W6-2 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

11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
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	
DATE	REVISION	FILMED

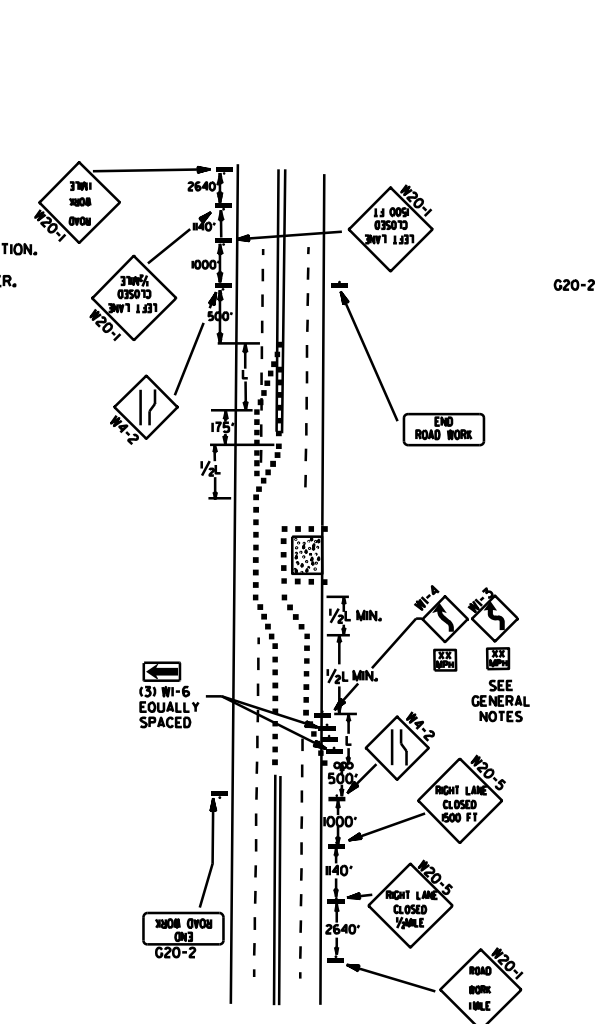
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



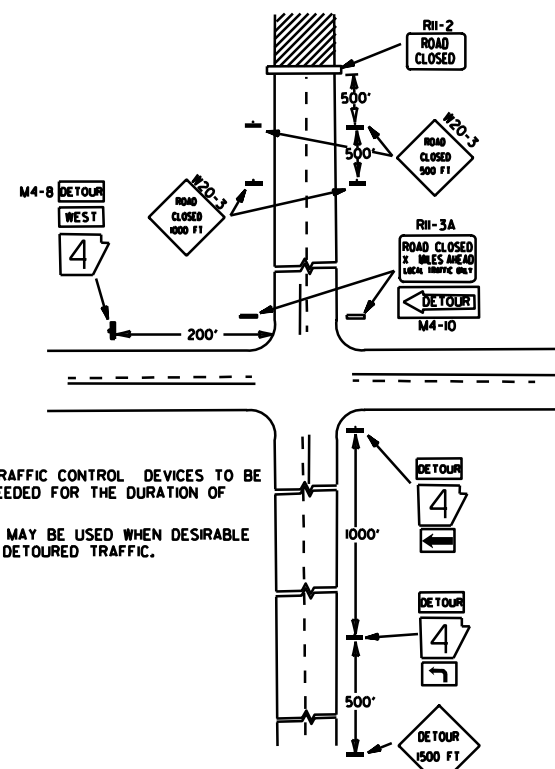
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



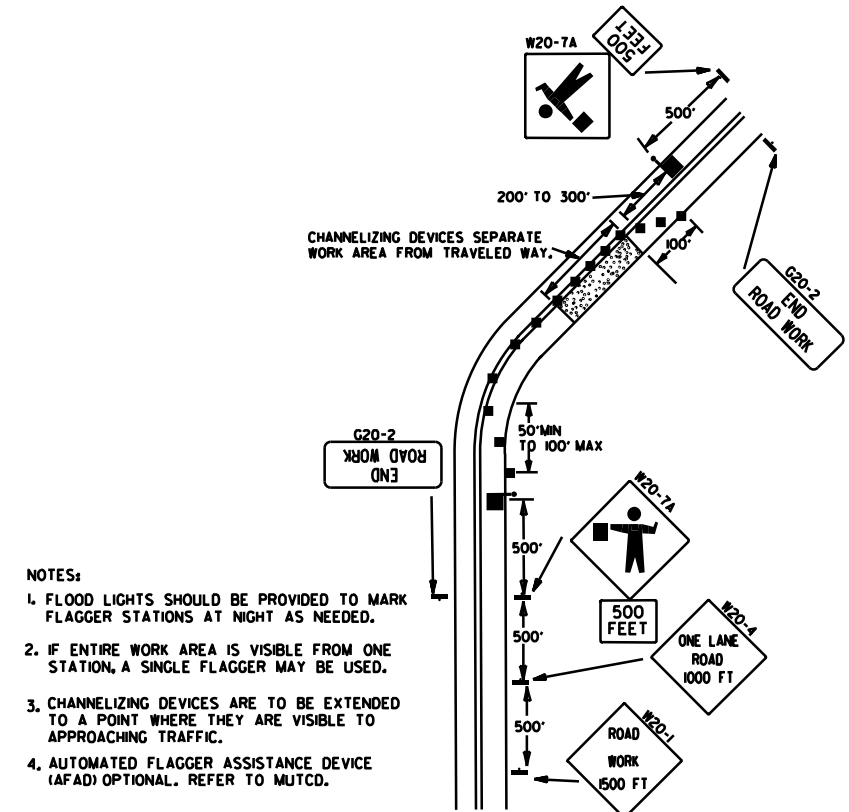
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



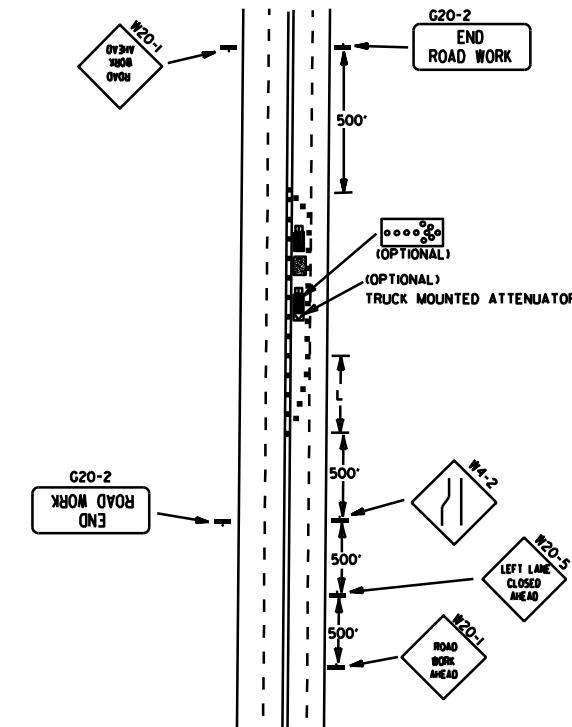
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



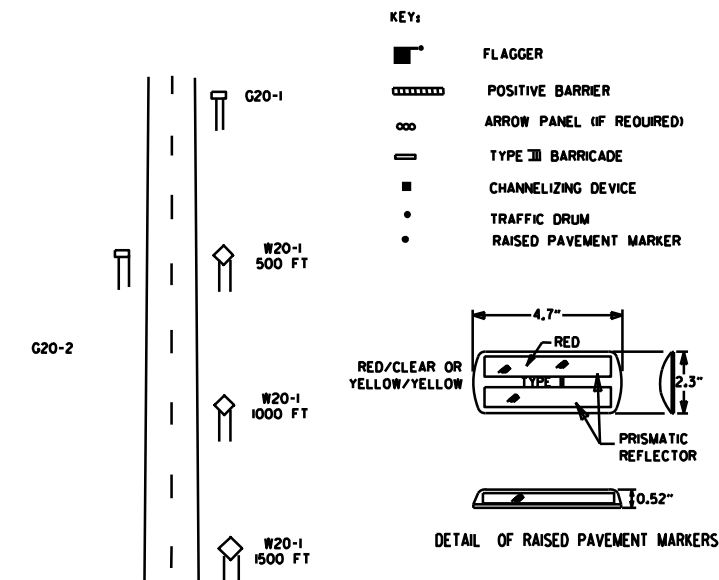
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



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



TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

$L = SXW$ FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:

L = MINIMUM LENGTH OF TAPER.

S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

W = WIDTH OF OFFSET.

- GENERAL NOTES:
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
 2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-155 SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-KXXI 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 R2-145 SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-KXXI 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. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
 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 ADOT QUALIFIED PRODUCTS LIST.
 9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

DATE	REVISION	FILMED
05-20-21	REVISED NOTE 7	
8-07-19	REVISED NOTE 4, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-1-10	ADDED (AFAD)	
8-20-08	REVISED SIGN DESIGNATIONS	
8-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

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.

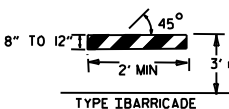
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

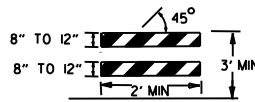
CHANNELIZING DEVICES

* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

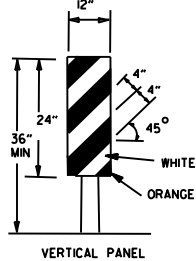
CONES



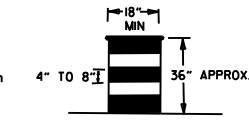
TYPE II BARRICADE



TYPE III BARRICADE



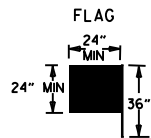
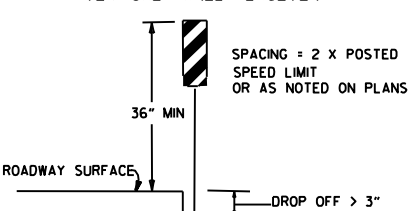
PLASTIC DRUM



TYPE III BARRICADE



VERTICAL PANEL PLACEMENT



FLAG SHALL BE OF GOOD GRADE RED MATERIAL

KEY:

- ARROW PANEL (IF REQUIRED)
- CHANNELIZING DEVICE
- TRAFFIC DRUM

GENERAL NOTES:

- A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
- WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(45) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/4 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(45) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
- WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1(55)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/4 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(55) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
- THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
- WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
- PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
- 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(1/4 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
- FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
- ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
- 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. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
- ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

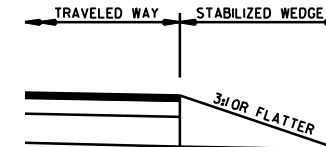
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
≤ 3"	CENTERLINE	STANDARD LANE CLOSURE ⁽⁶⁾	STANDARD LANE CLOSURE ⁽⁶⁾
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS ⁽¹⁾	W8-9 AND TRAFFIC DRUMS ⁽¹⁾
> 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽³⁾
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER ⁽⁴⁾ & EDGE LINES	PRECAST CONCRETE BARRIER ⁽⁴⁾ & EDGE LINES

GENERAL NOTES:

- WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
- WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS. IF AND WHERE DIRECTED BY THE ENGINEER.
- A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
- W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).

INTERSTATE		
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽²⁾
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

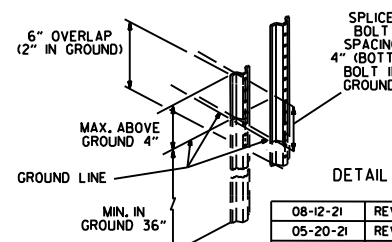
INTERSTATE AND NON-INTERSTATE		
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS



STABILIZED WEDGE

NOTE: MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

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.



DETAIL OF SPLICES

DATE	REVISION	FILED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED 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

GENERAL NOTES

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

WATTLE DITCH CHECK (E-1)

SAND BAG DITCH CHECK (E-5)

ROCK DITCH CHECK (E-6)

GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

GEOTEXTILE FABRIC SHALL BE SPICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

SILT FENCE (E-11)

DROP INLET SILT FENCE (E-7)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

GENERAL NOTES

1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

BALED STRAW FILTER BARRIER (E-2)

FILTER SOCK ALONG SLOPE (E-3)

COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

GENERAL NOTES

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 125 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBSIDIARY TO "FILTER SOCK (18")".

4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

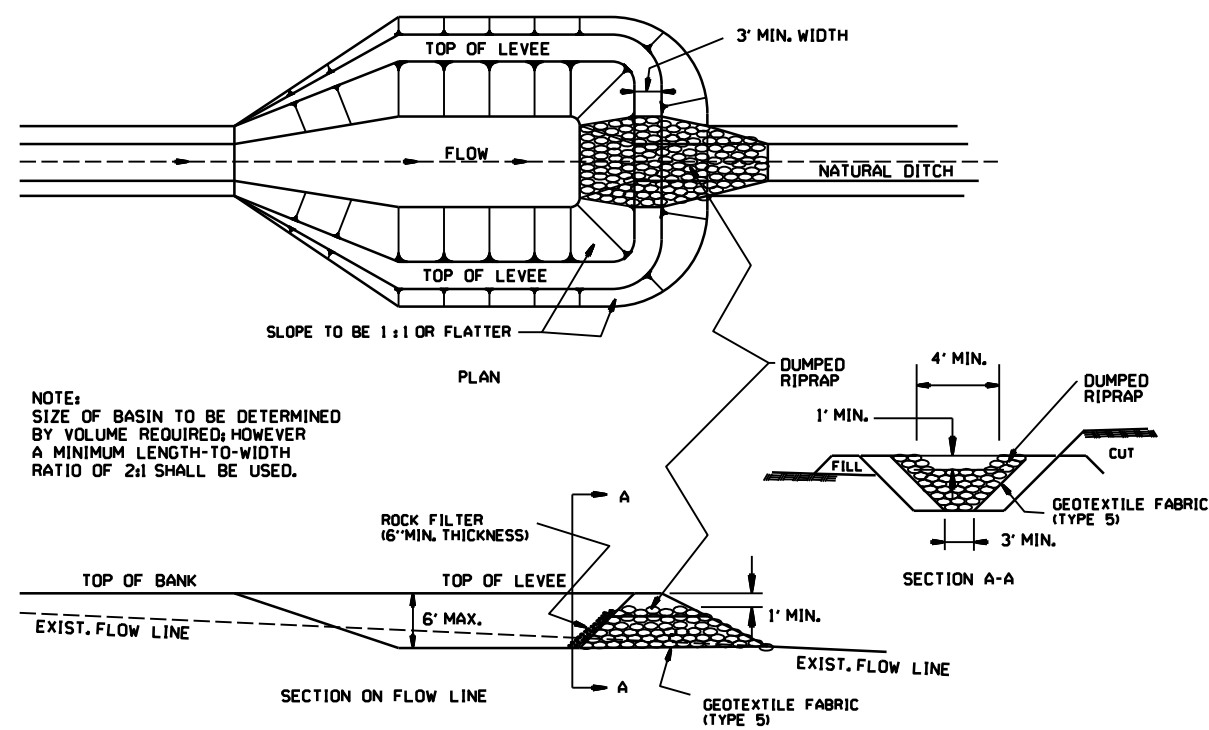
5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 15" BURIED END OF FABRIC	
06-02-94	REVISED E-1, 4, 7 & 11 DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76
DATE	REVISION	FILMED

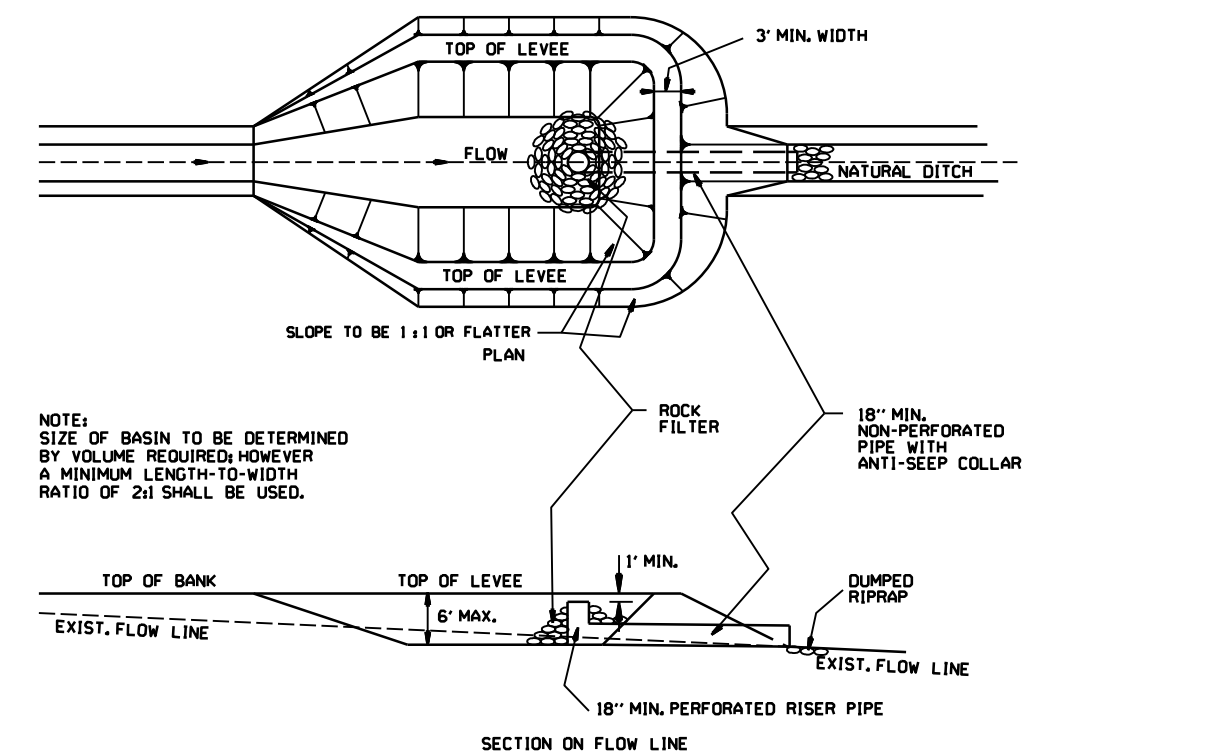
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

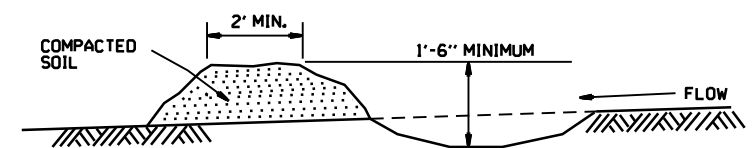
STANDARD DRAWING TEC-1



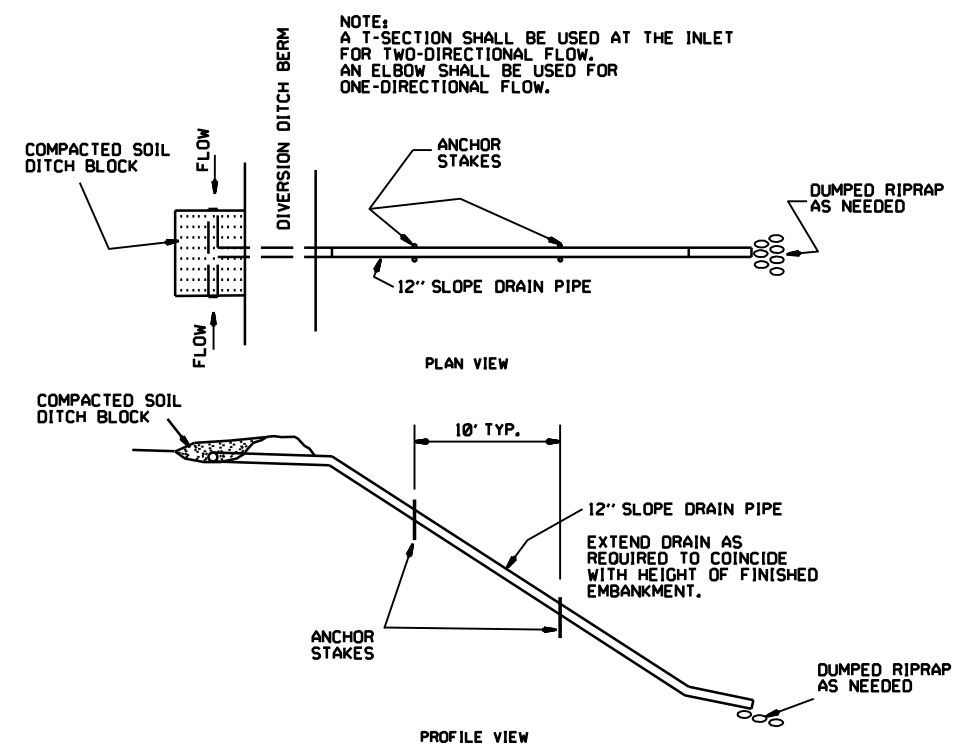
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



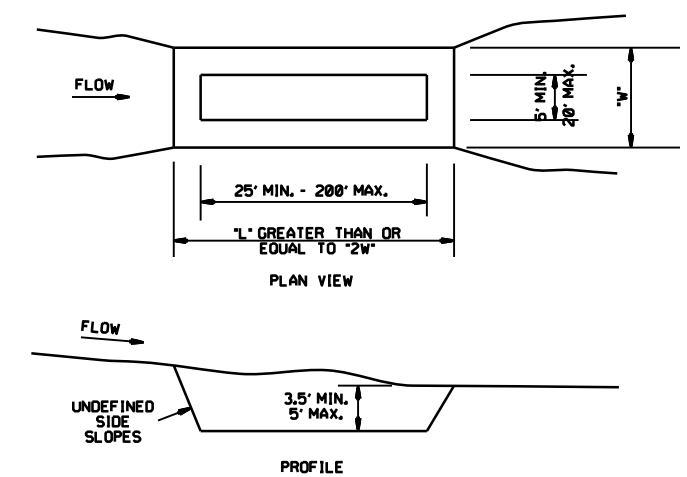
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



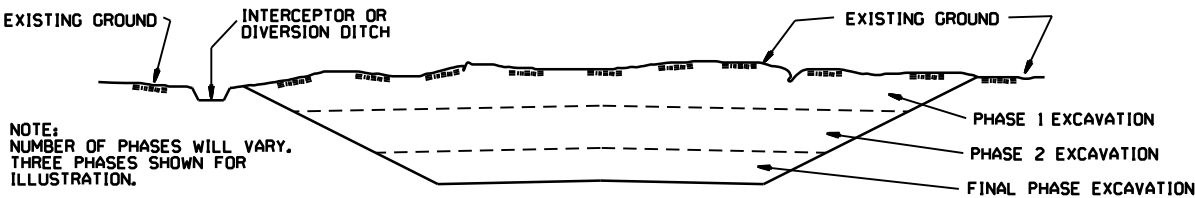
SEDIMENT BASIN (E-14)

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

CLEARING AND GRUBBING

- CONSTRUCTION SEQUENCE
- 1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES ,DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
 - 2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION

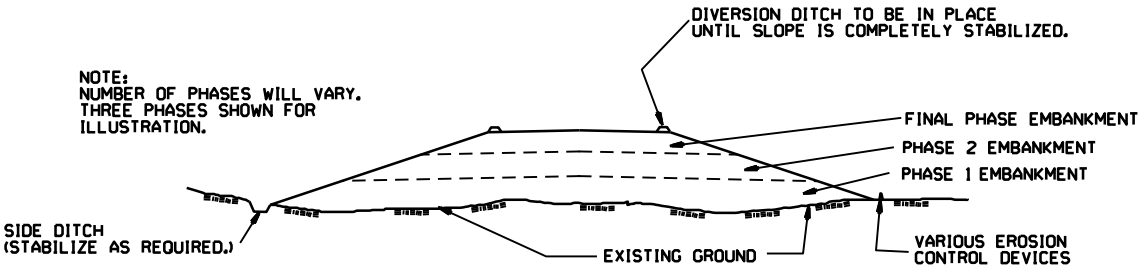


GENERAL NOTE

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

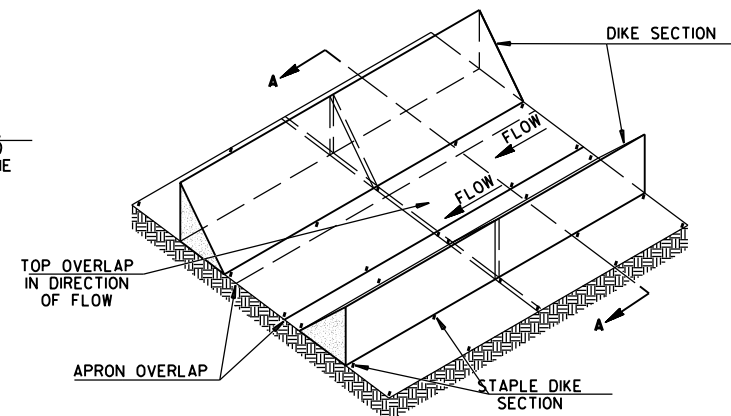
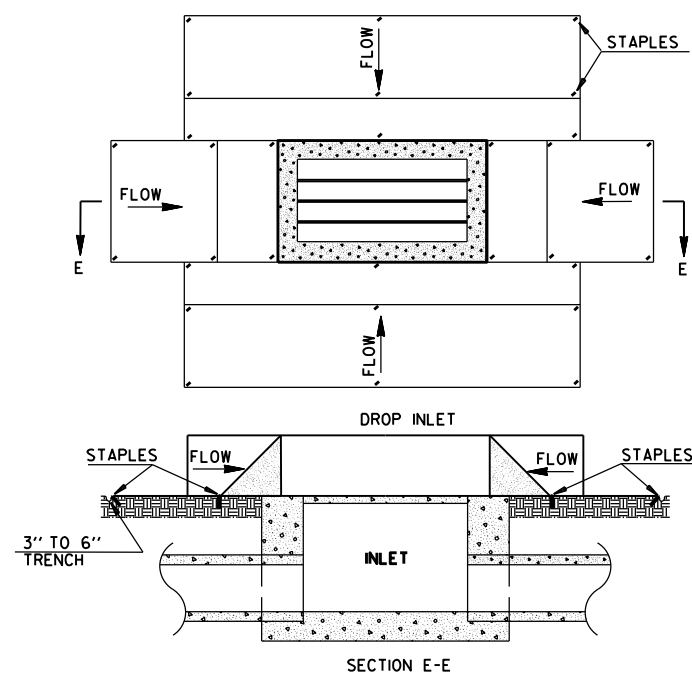
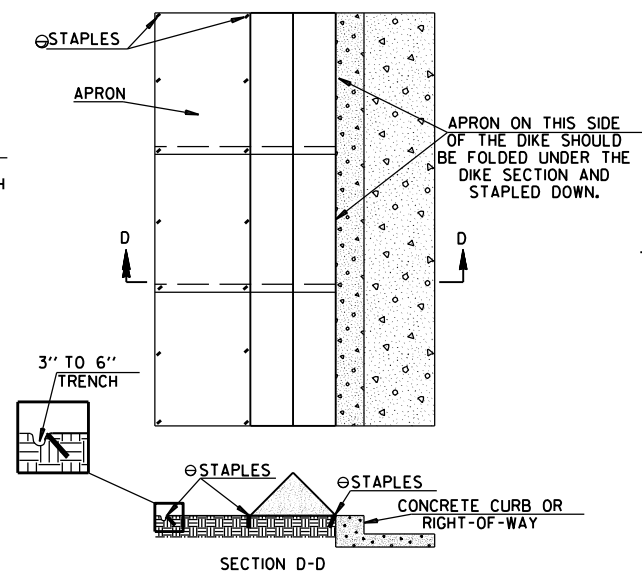
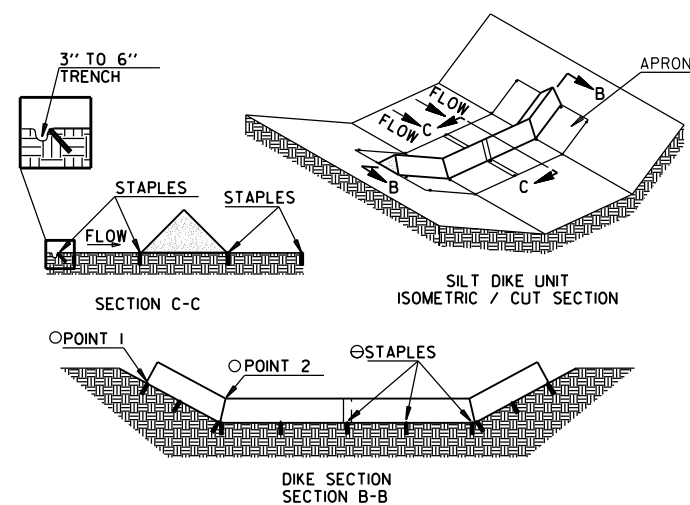
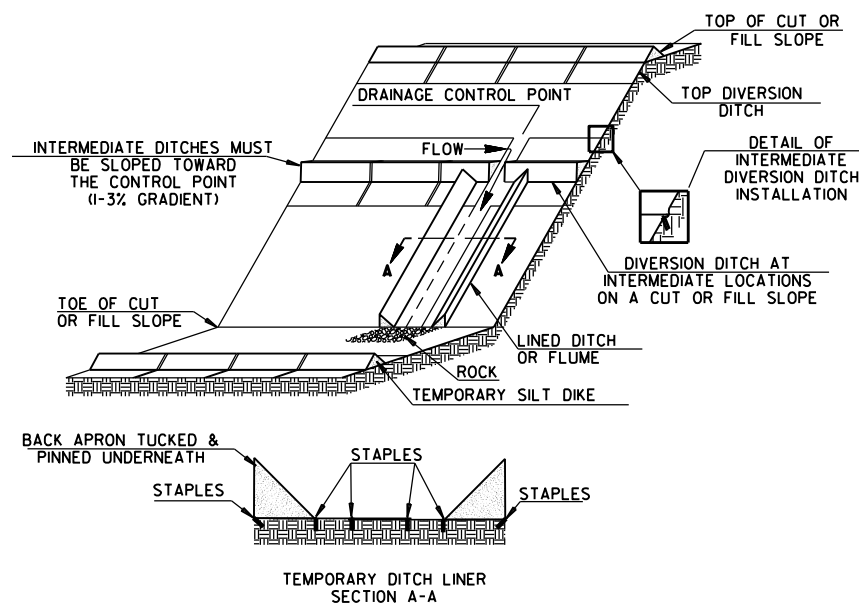


GENERAL NOTE

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.

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

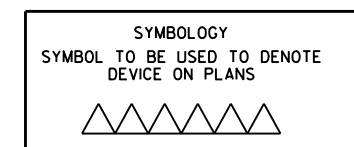


GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.
 2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.
- THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

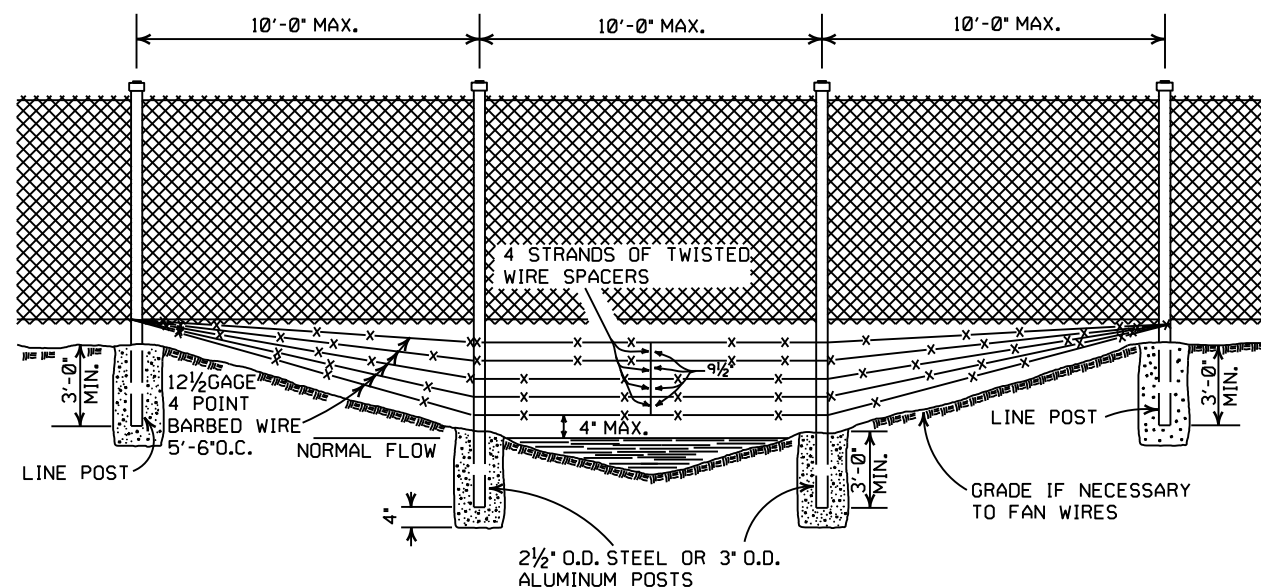
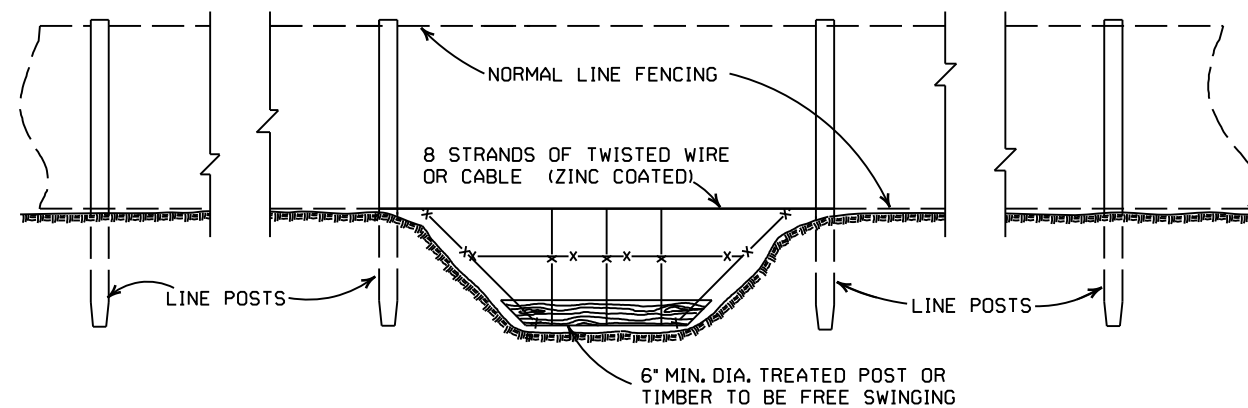
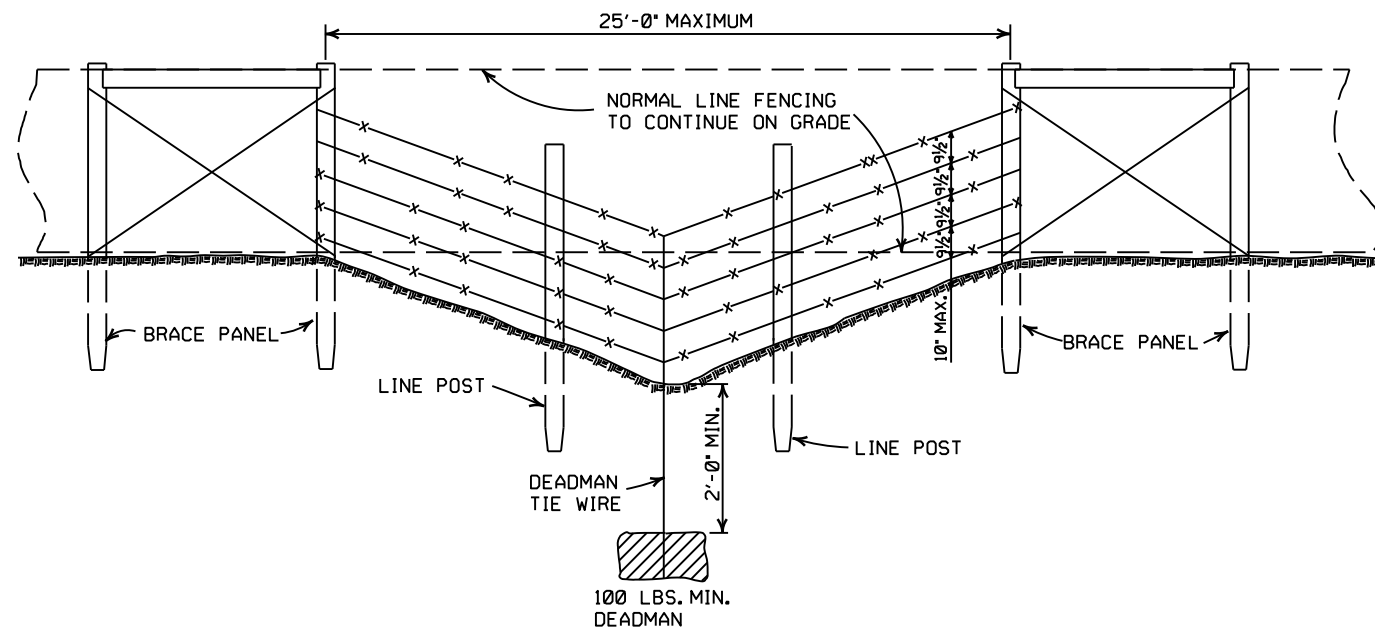
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3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.



NOTE: SILT DIKE SHOULD ONLY BE USED FOR
DROP INLETS IN SUMP LOCATIONS.

			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
7-26-12	REVISED GENERAL NOTE 2.		STANDARD DRAWING TEC-4
12-15-11	ISSUED		
DATE	REVISION	FILMED	



GENERAL NOTES:

THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

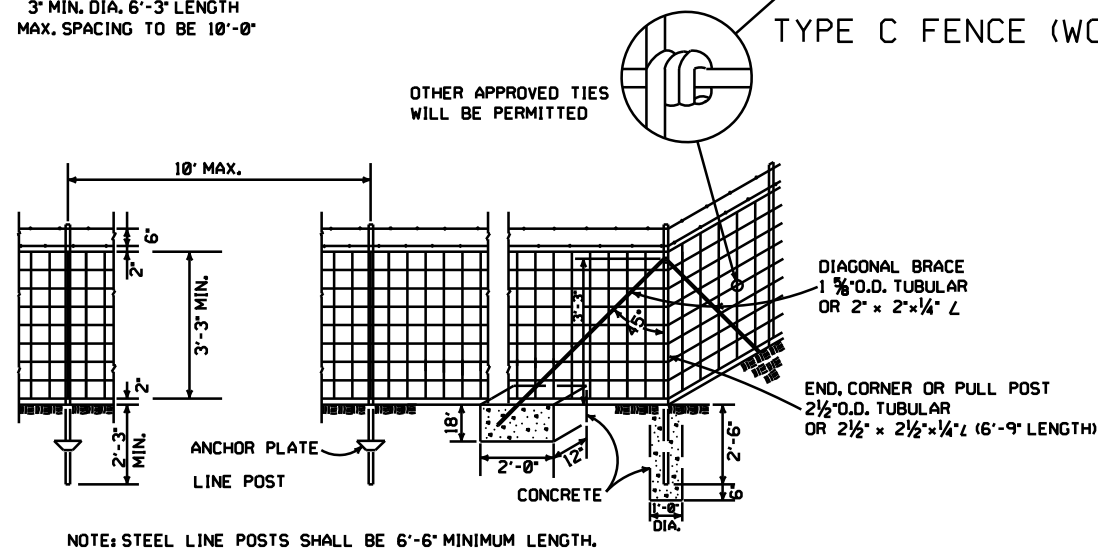
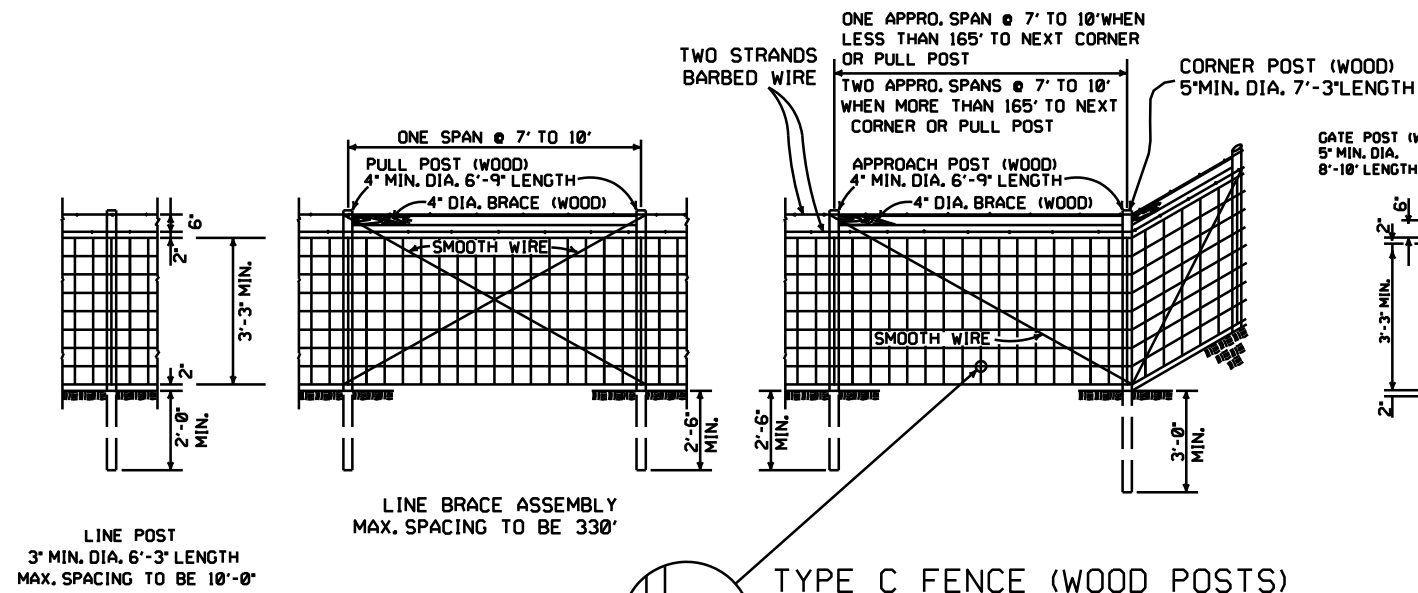
WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.

IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.

PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

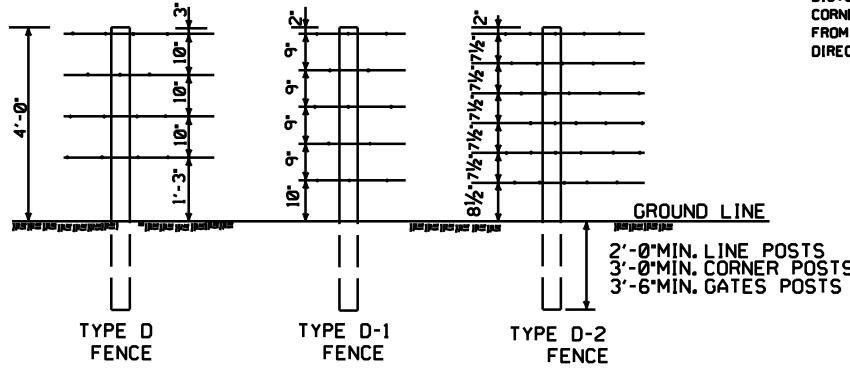
4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED AND REDRAWN	529-10-2-72
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION
WIRE FENCE WATER GAPS
STANDARD DRAWING WF-2

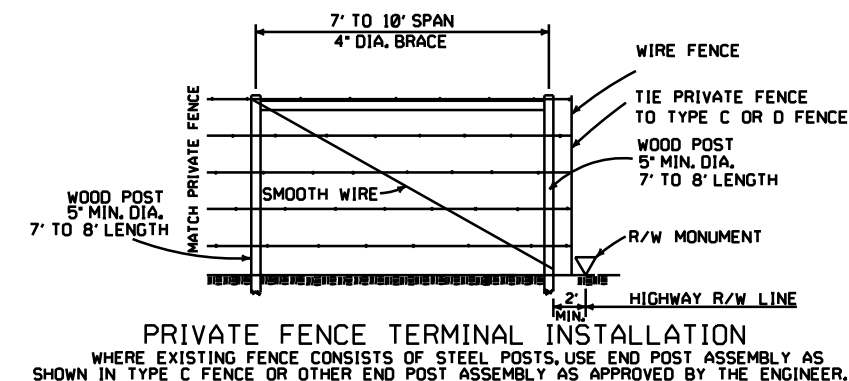
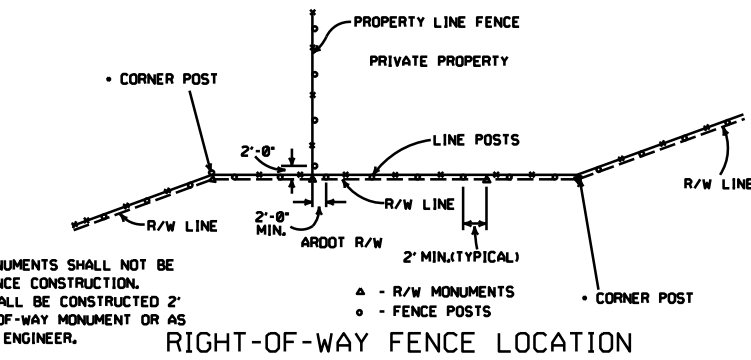


TYPE C FENCE (STEEL POSTS)

- 4 STRANDS BARBED WIRE (D)
- 5 STRANDS BARBED WIRE (D-1)
- 6 STRANDS BARBED WIRE (D-2)



NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



GENERAL NOTES:

STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE. AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE -1" TO +2". TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

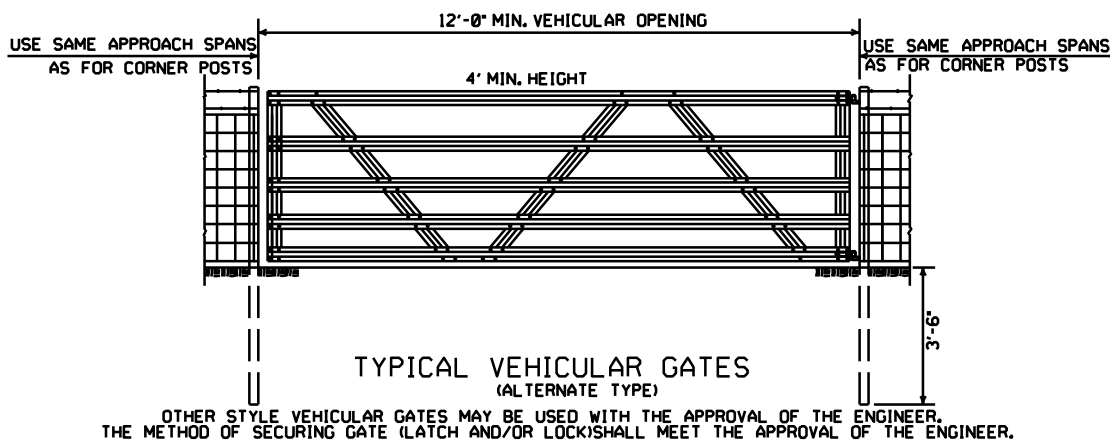
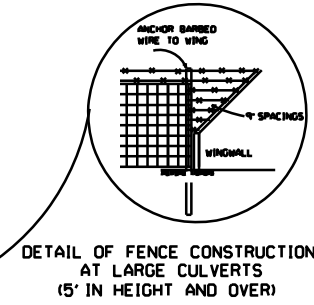
AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'WESTERN UNION METHOD' AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

NOTE: USE 3/8" x 1 1/2" LAG BOLT & SHIELD OR AS APPROVED BY THE ENGINEER.



8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

STANDARD DRAWING WF-4