

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 1         | 287          |

② CO. RD. 411 - HWY. 425 (EAST OF CROSSETT) (S)

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT  
CONSTRUCTION PLANS FOR STATE HIGHWAY

CO. RD. 411 - HWY. 425  
(EAST OF CROSSETT) (S)

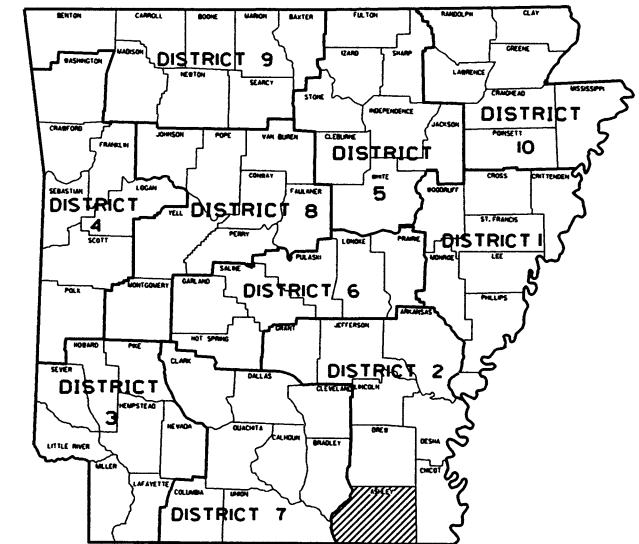
ASHLEY COUNTY

ROUTE 82 SECTION 8

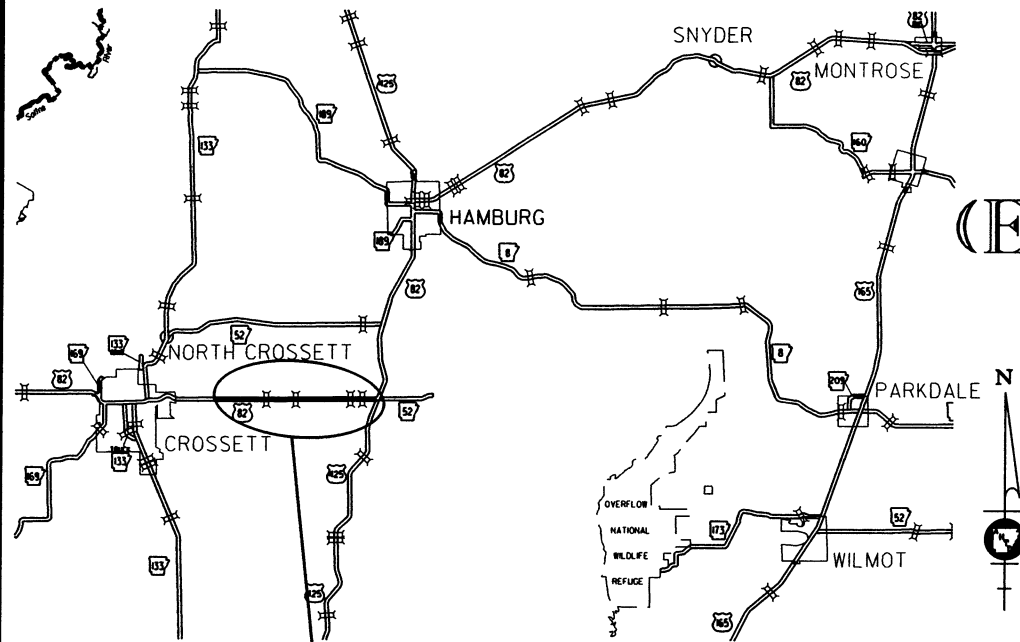
FEDERAL AID PROJ. NHPP-0002(31)

JOB 020534

NOT TO SCALE



ARK. HWY. DIST. NO. 2



VICINITY MAP

PROJECT AREA

BRIDGE DATA

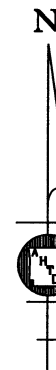
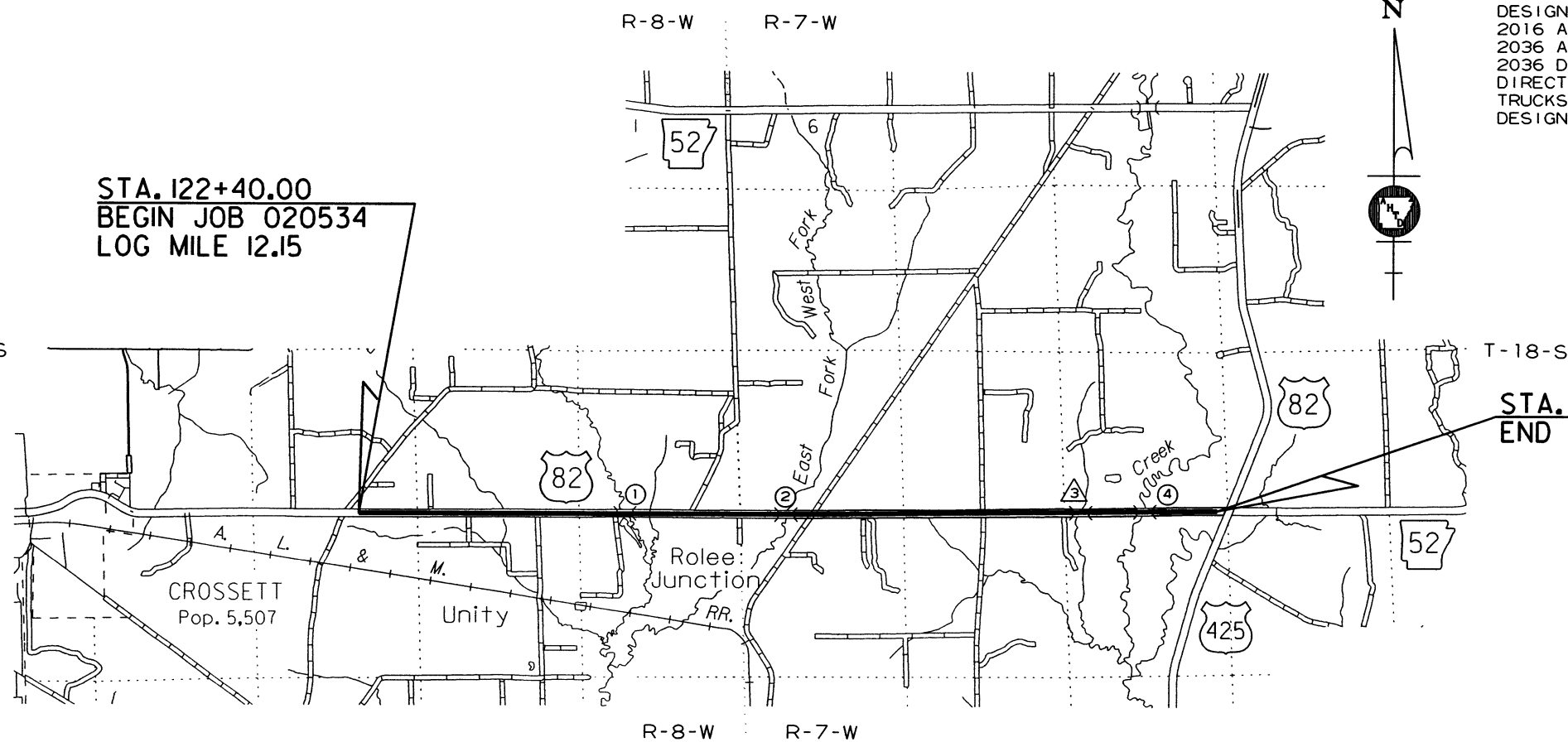
- STA. 207+98.50 BR. END  
106'-0" TOTAL LENGTH  
105'-0" CONTINUOUS COMP. W-BEAM  
① UNITS (35', 35', 35')  
75'-0" CLEAR ROADWAY  
BR. NO. 07321  
STA. 209+04.50 BR. END
- STA. 260+79.50 BR. END  
146'-0" TOTAL LENGTH  
145'-0" CONTINUOUS COMP. W-BEAM  
② UNITS (45', 55', 45')  
75'-0" CLEAR ROADWAY  
BR. NO. 07322  
STA. 262+25.50 BR. END
- STA. 377+71.00 BR. END  
146'-0" TOTAL LENGTH  
145'-0" CONTINUOUS COMP. W-BEAM  
④ UNITS (45', 55', 45')  
75'-0" CLEAR ROADWAY  
BR. NO. 07323  
STA. 379+17.00 BR. END

STRUCTURES OVER 20' - 0" SPAN

- ③ STA. 357+66 IN PLACE  
QUAD. 6" X 3" X 86" R.C. BOX CULVERT  
WITH 3+1 WINGS LT. & RT.  
RETAIN AND EXTEND 21' LT. AND 19' RT.  
TO A COMPLETED LENGTH OF 123'-0"  
Q50 = 350 CFS D.A. = 640 ACRES  
TOTAL SPAN = 27.00'

STA. 122+40.00  
BEGIN JOB 020534  
LOG MILE 12.15

T-18-S

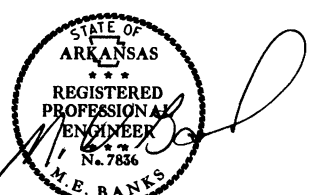


STA. 403+80.00  
END JOB 020534

DESIGN TRAFFIC DATA

DESIGN YEAR.....2016  
2016 ADT.....3800  
2036 ADT.....4200  
2036 DHV.....462  
DIRECTIONAL DISTRIBUTION...0.60  
TRUCKS.....17%  
DESIGN SPEED.....60 MPH

APPROVED



9-16-16  
DEPUTY DIRECTOR  
AND CHIEF ENGINEER

|           | BEGIN PROJECT | MID-POINT OF PROJECT | END PROJECT |
|-----------|---------------|----------------------|-------------|
| LATITUDE  | N 33°08'09"   | N 33°08'05"          | N 33°08'02" |
| LONGITUDE | W 91°55'13"   | W 91°52'05"          | W 91°49'13" |

| LENGTH OF PROJECT CALCULATED ALONG C.L. |         |          |         |             |
|-----------------------------------------|---------|----------|---------|-------------|
| GROSS LENGTH OF                         | PROJECT | 28140.00 | FEET OR | 5.330 MILES |
| NET                                     | ROADWAY | 27715.00 |         | 5.249 MILES |
| NET                                     | BRIDGES | 425.00   |         | 0.081 MILES |
| NET                                     | PROJECT | 28140.00 |         | 5.330 MILES |

P.E. JOB 020534

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 2            | 287             |

INDEX OF SHEETS

GOVERNING SPECIFICATIONS

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

| SHEET NO. | TITLE                                                                                                     | BRIDGE NO.          | DRWG. NO. | DATE     |
|-----------|-----------------------------------------------------------------------------------------------------------|---------------------|-----------|----------|
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| 157       | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER                              |                     | TC-4      | 2-27-14  |
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| 164       | DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS                                            |                     | W-X003-1  | 5-10-66  |
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| 168 - 287 | CROSS SECTIONS                                                                                            |                     |           |          |

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

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

| NUMBER     | TITLE                                                                               |
|------------|-------------------------------------------------------------------------------------|
| ERRATA     | ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS                                      |
| FHWA-1273  | REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS                     |
| FHWA-1273  | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS                   |
| FHWA-1273  | SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140) |
| FHWA-1273  | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES                    |
| FHWA-1273  | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS                       |
| FHWA-1273  | SUPPLEMENT - TRAINING PROGRAM - JOB 020534                                          |
| FHWA-1273  | SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS                  |
| FHWA-1273  | SUPPLEMENT - WAGE RATE DETERMINATION                                                |
| 100-3      | CONTRACTOR'S LICENSE                                                                |
| 102-2      | ISSUANCE OF PROPOSALS                                                               |
| 108-1      | LIQUIDATED DAMAGES                                                                  |
| 108-2      | WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER                                        |
| 303-1      | AGGREGATE BASE COURSE                                                               |
| 400-1      | TACK COATS                                                                          |
| 410-1      | CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES      |
| 604-1      | RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES          |
| 606-1      | PIPE CULVERTS FOR SIDE DRAINS                                                       |
| 620-1      | MULCH COVER                                                                         |
| JOB 020534 | AIRPORT CLEARANCE REQUIREMENTS                                                      |
| JOB 020534 | ARCHEOLOGICAL MONITORING                                                            |
| JOB 020534 | BIDDING REQUIREMENTS AND CONDITIONS                                                 |
| JOB 020534 | BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT                               |
| JOB 020534 | BROADBAND INTERNET SERVICE FOR FIELD OFFICE                                         |
| JOB 020534 | CARGO PREFERENCE ACT REQUIREMENTS                                                   |
| JOB 020534 | CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS                                          |
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| JOB 020534 | CULVERT CLEAN OUT                                                                   |
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| JOB 020534 | DIRECT TENSION INDICATORS FOR HIGH STRENGTH BOLT ASSEMBLIES                         |
| JOB 020534 | DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES                         |
| JOB 020534 | EXTENSION FOR PIPE CULVERTS                                                         |
| JOB 020534 | FLEXIBLE BEGINNING OF WORK                                                          |
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| JOB 020534 | HIGH PERFORMANCE PAVEMENT MARKING                                                   |
| JOB 020534 | MANDATORY ELECTRONIC CONTRACT                                                       |
| JOB 020534 | MANDATORY ELECTRONIC DOCUMENT SUBMITTAL                                             |
| JOB 020534 | NESTING SITES OF MIGRATORY BIRDS                                                    |
| JOB 020534 | PARTNERING REQUIREMENTS                                                             |
| JOB 020534 | PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS                                           |
| JOB 020534 | PLASTIC PIPE                                                                        |
| JOB 020534 | REMOVAL AND DISPOSAL OF GUARDRAIL                                                   |
| JOB 020534 | RESTRANING CONDITION                                                                |
| JOB 020534 | SECTION 404 NATIONWIDE 23 PERMIT REQUIREMENTS                                       |
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| JOB 020534 | SHORING                                                                             |
| JOB 020534 | SHORING FOR CULVERTS                                                                |
| JOB 020534 | SOIL STABILIZATION                                                                  |
| JOB 020534 | STORM WATER POLLUTION PREVENTION PLAN                                               |
| JOB 020534 | SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS                      |
| JOB 020534 | UTILITY ADJUSTMENTS                                                                 |
| JOB 020534 | VALUE ENGINEERING                                                                   |
| JOB 020534 | WARM MIX ASPHALT                                                                    |

GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

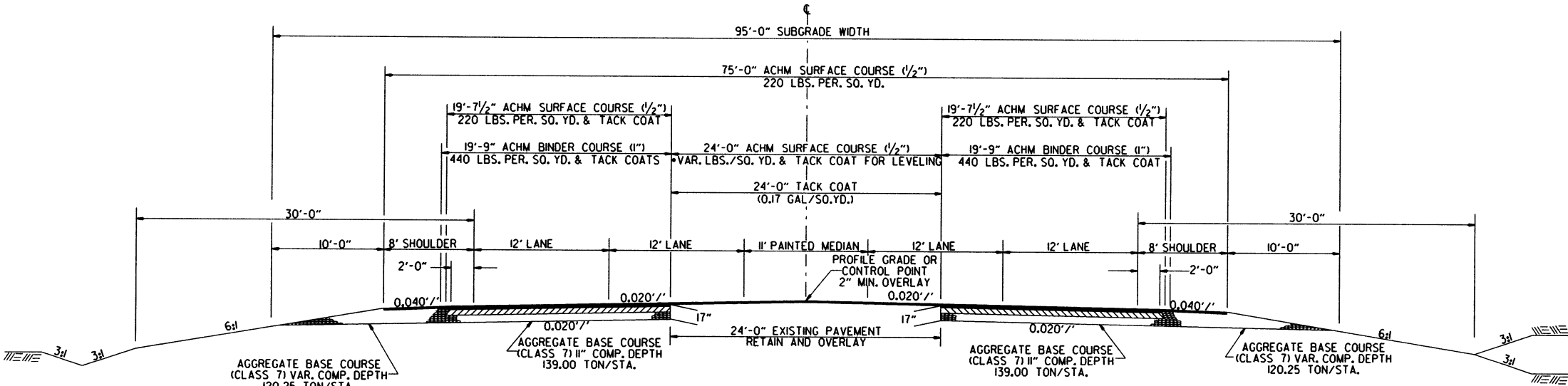
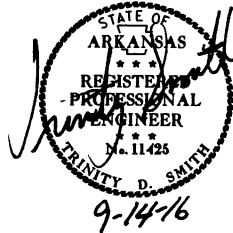
INDEX OF SHEETS,  
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2 TYPICAL SECTIONS OF IMPROVEMENT

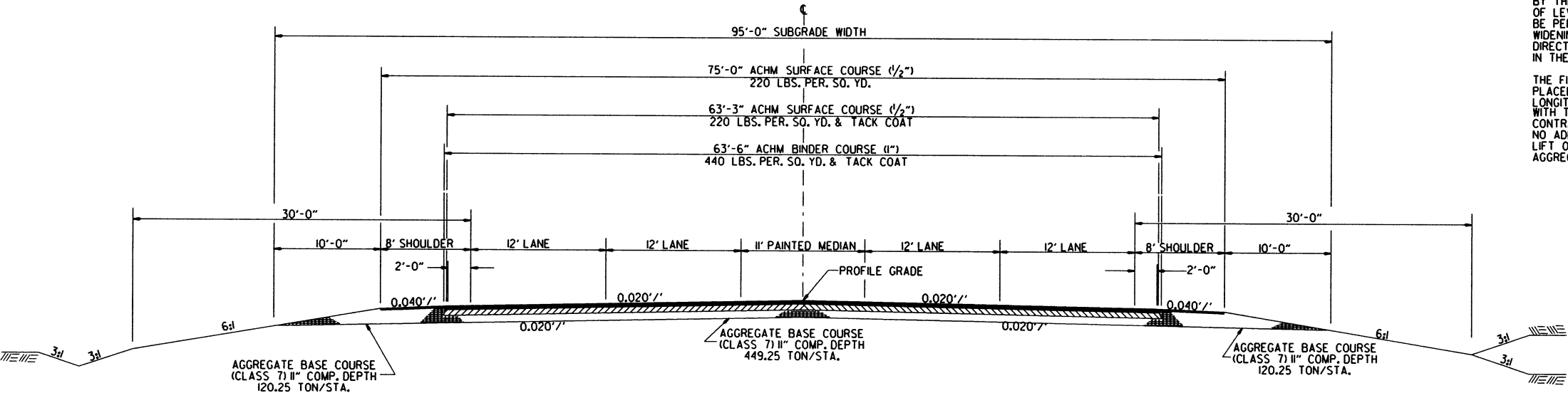


• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

HWY. 82 - 5 LANES (NOTCH, WIDEN, & OVERLAY) - TANGENT

122+40.00 TO 170+00.00  
193+00.00 TO 205+60.00  
211+00.00 TO 258+00.00  
265+58.00 TO 376+00.00  
382+00.00 TO 403+80.00

NOTES:  
REFER TO CROSS SECTIONS FOR DEVIATIONS FROM NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.  
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.  
ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.  
THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

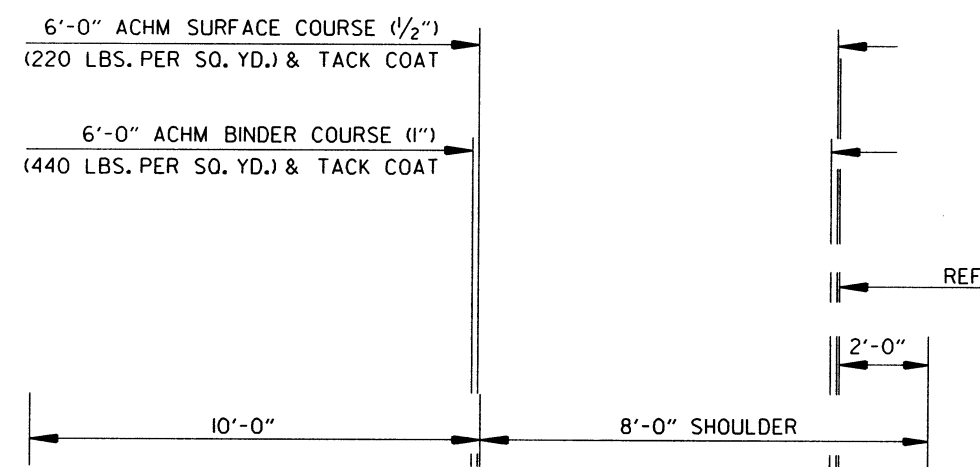
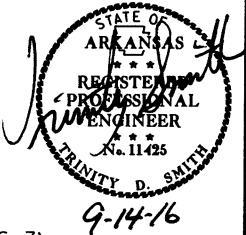


HWY. 82 - 5 LANES (FULL DEPTH SECTION) - TANGENT

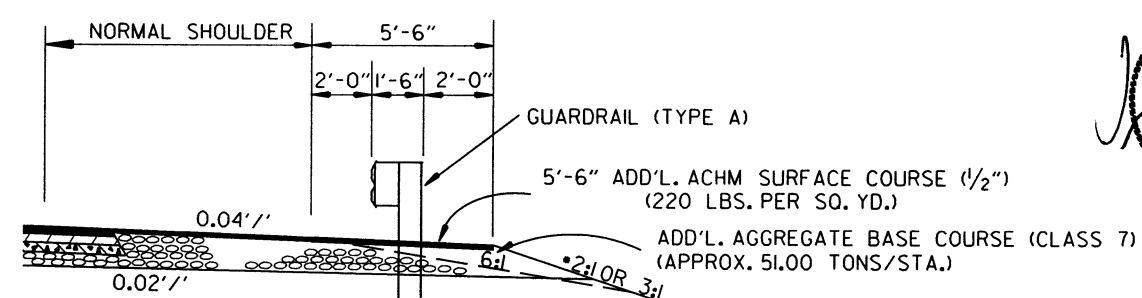
170+00.00 TO 193+00.00  
205+60.00 TO 207+68.50  
209+34.50 TO 211+00.00  
258+00.00 TO 260+48.94  
262+55.50 TO 265+58.00  
376+00.00 TO 377+41.00  
379+47.00 TO 382+00.00

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2 SPECIAL DETAILS

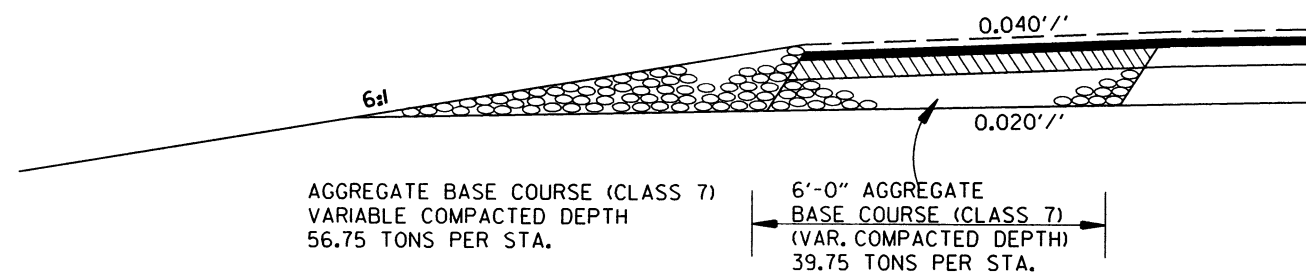


REFER TO TYPICAL SECTION



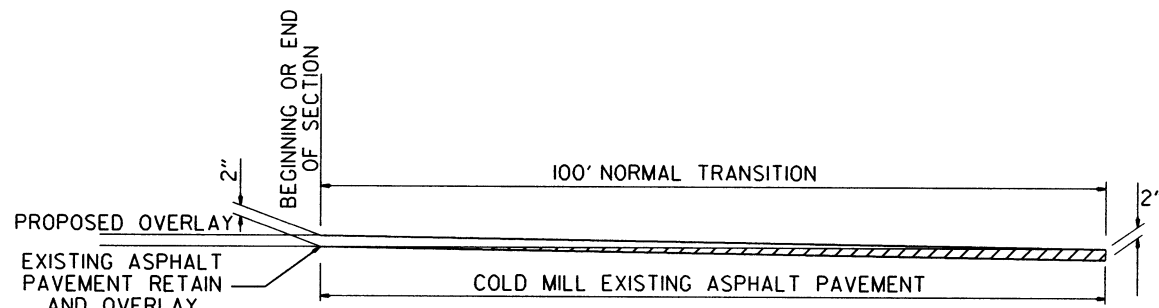
### WIDENING FOR GUARDRAIL

• NOTE: REFER TO STD. DRWG. GR-9A AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL AND FOR GUARDRAIL WIDENING TAPER BACK TO NORMAL SHOULDER.

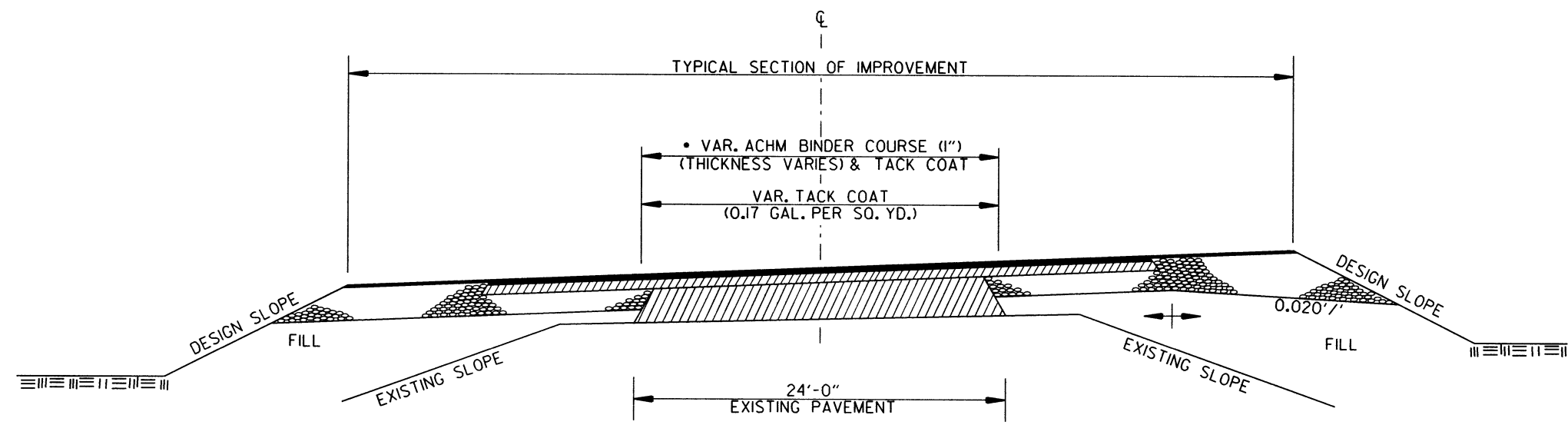


### FULL DEPTH SHOULDER FOR MAINTENANCE OF TRAFFIC

- STA. 205+28.50 - STA. 207+68.50
- STA. 209+34.50 - STA. 211+74.50
- STA. 258+28.50 - STA. 260+68.50
- STA. 262+55.50 - STA. 264+95.50
- STA. 375+01.00 - STA. 377+41.00
- STA. 379+47.00 - STA. 381+87.00



### DETAIL FOR TRANSITIONS



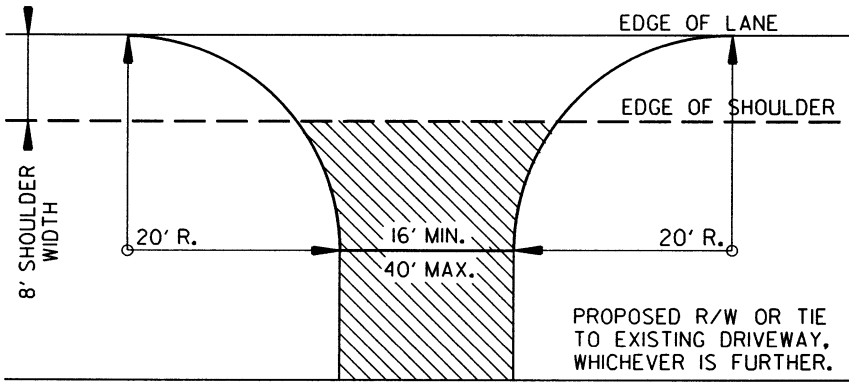
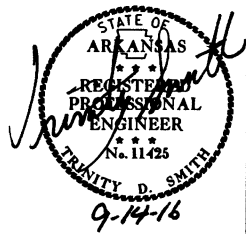
• 6" AGGREGATE BASE COURSE (CLASS 7) TO BE REPLACED WITH ACHM BINDER COURSE (1")

### METHOD OF RAISING GRADE

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

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    | 5            | 287             |
|                 |                |                 |                | JOB NO.               |       | 020534             |              |                 |

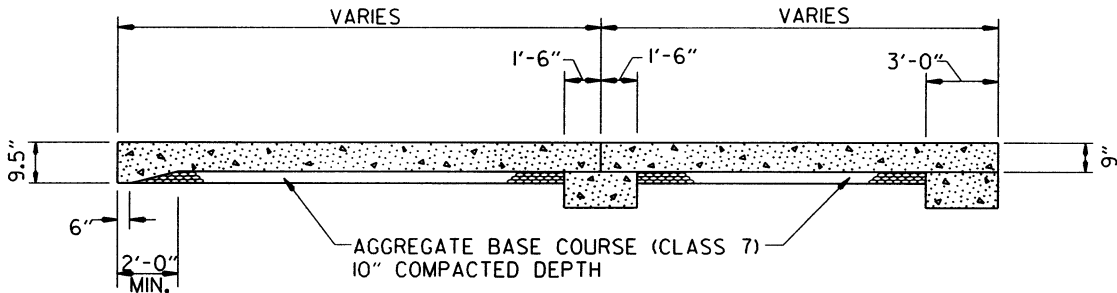
2 SPECIAL DETAILS



DETAIL FOR DRIVEWAY TURNOUTS  
OPEN SHOULDER SECTION

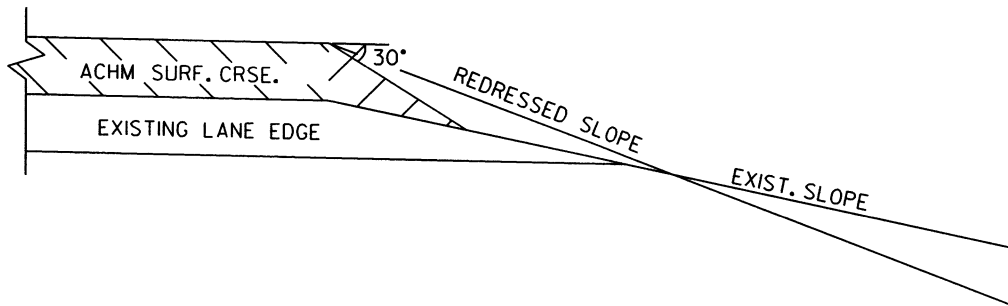
ACHM SURFACE COURSE (1/2")  
(220 LBS. PER SQ. YD.) AND  
AGGREGATE BASE COURSE (CLASS 7)  
7" COMP. DEPTH IF ASPHALT OR  
GRAVEL DRIVE EXISTING; OR 6" CONCRETE  
IF CONCRETE DRIVE EXISTING.

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

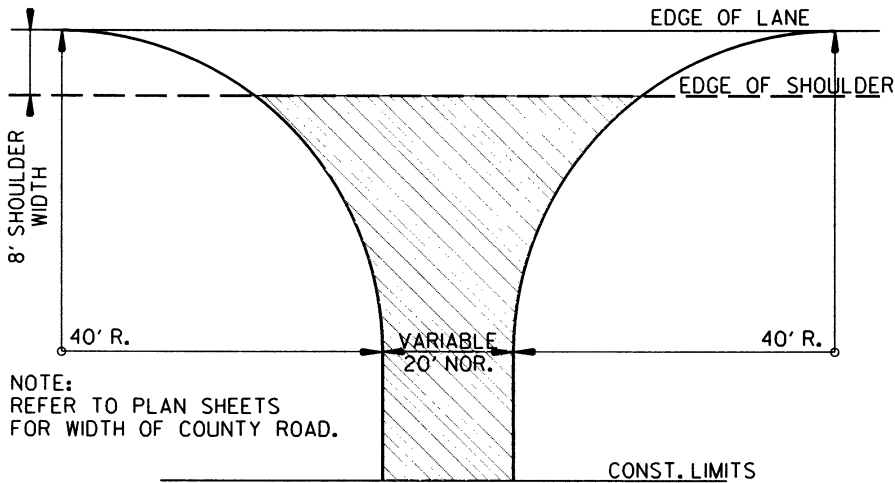


SECTION OF APPROACH SLAB

NOTE: REFER TO DETAILS OF TYPE SPECIAL APPROACH SLAB

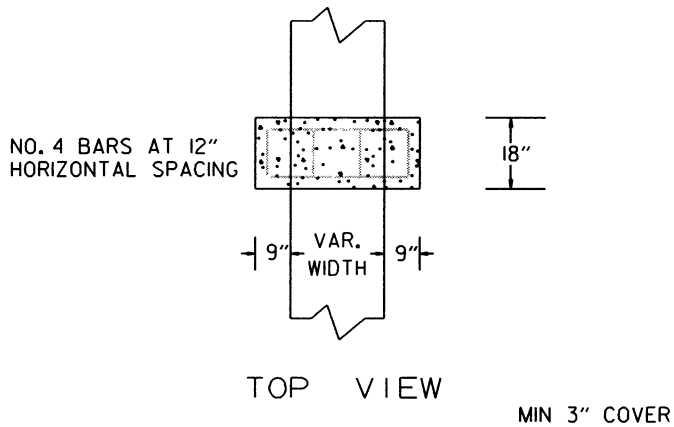


SAFETY EDGE DETAIL



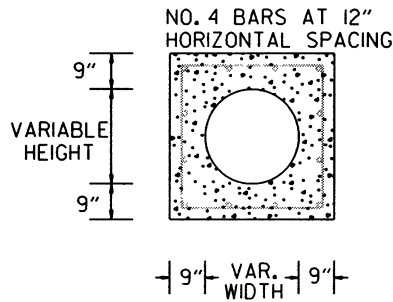
DETAIL FOR COUNTY ROAD TURNOUTS  
OPEN SHOULDER SECTION

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

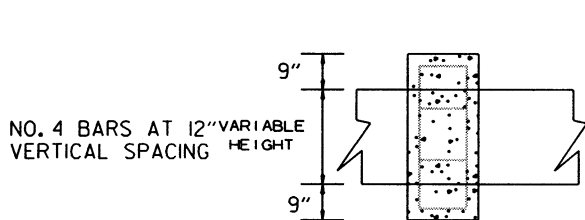


TOP VIEW

MIN 3" COVER



FRONT VIEW

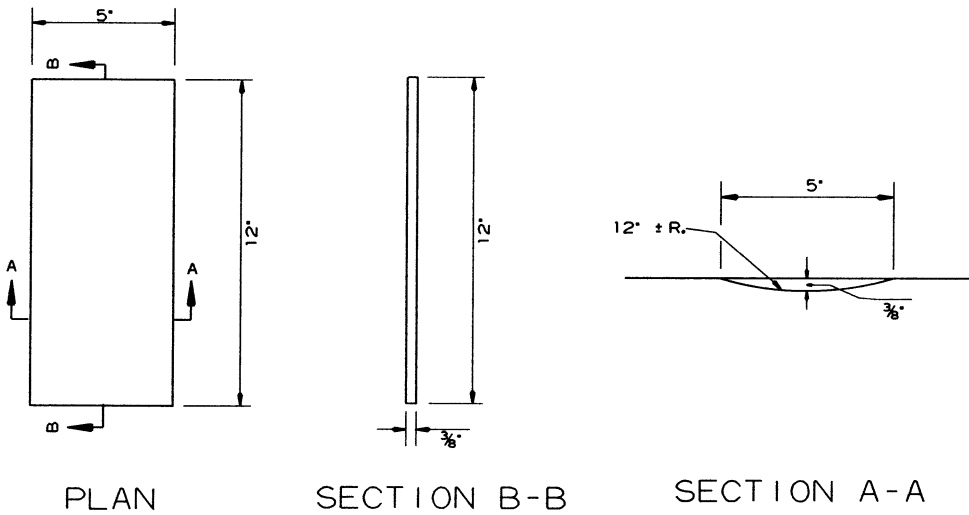
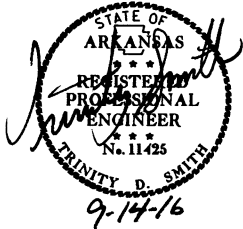


SIDE VIEW

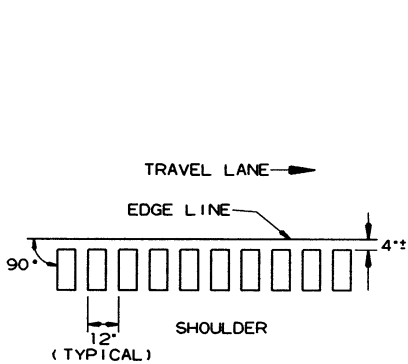
PIPE EXTENSION  
REINFORCED CONCRETE COLLAR DETAIL

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 6         | 287          |

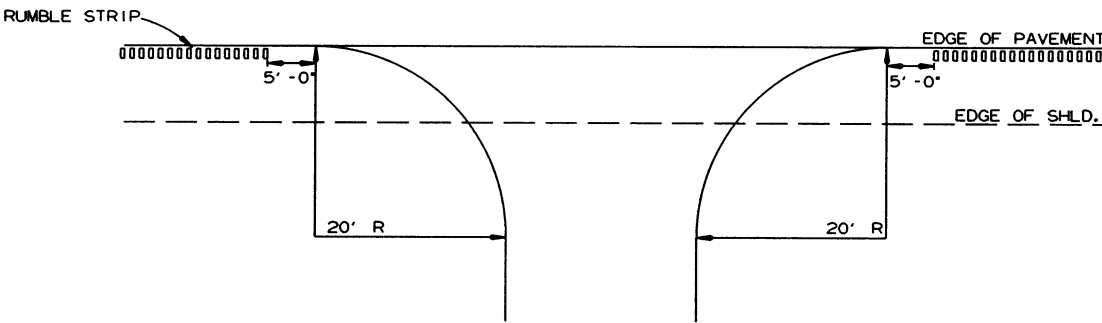
2 SPECIAL DETAILS



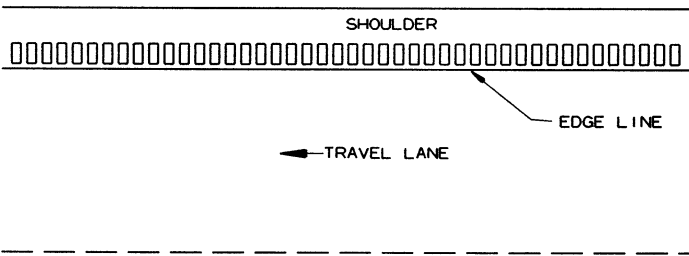
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS  
LEFT OR RIGHT SHOULDER



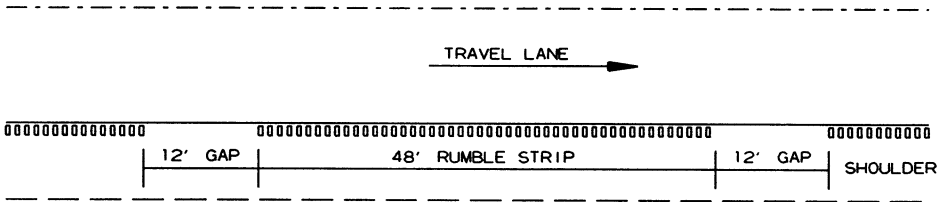
DETAIL FOR RUMBLE STRIP GAP  
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

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



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

DETAIL FOR GAP PATTERN RUMBLE STRIP

# EROSION CONTROL GENERAL NOTES

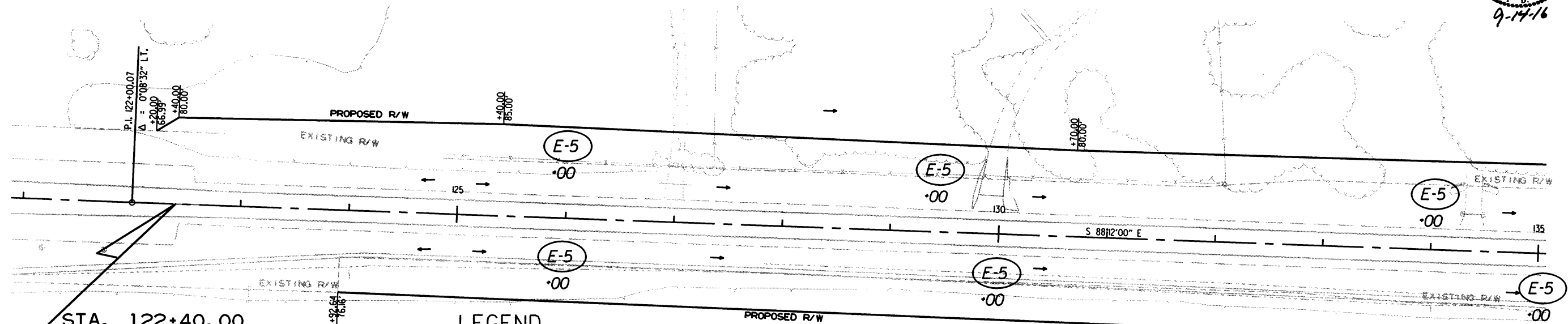
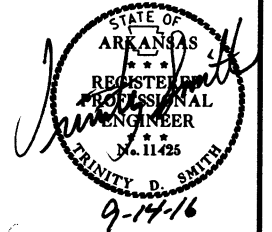
THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

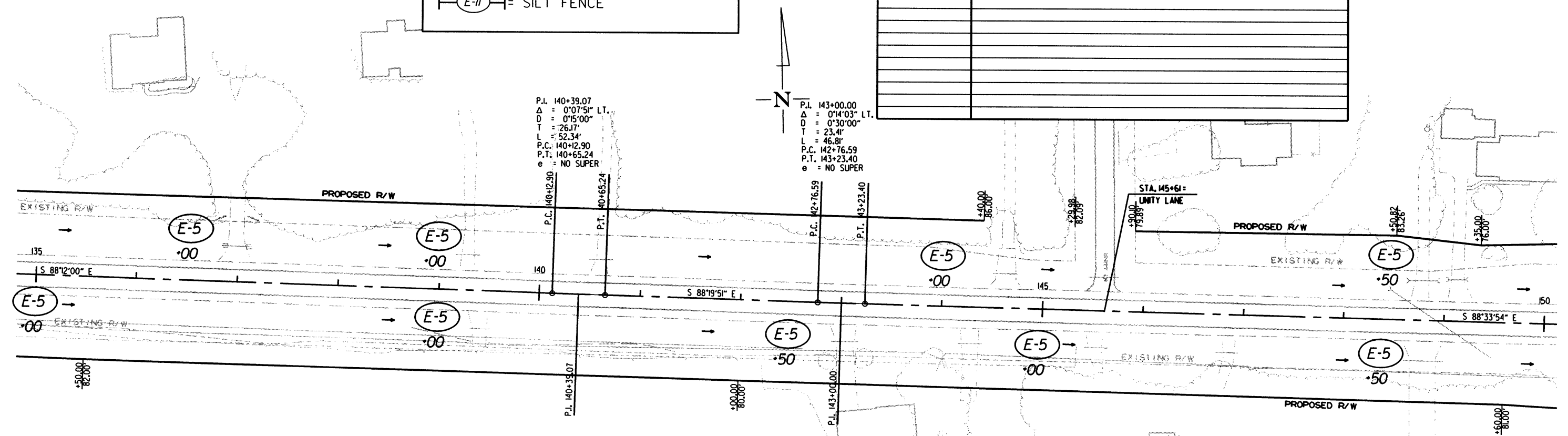
QUANTITIES:  
SAND BAG DITCH CHECKS = 2926 BAGS  
SILT FENCE E-11 = 4257 LIN. FT.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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## ② TEMPORARY EROSION CONTROL DETAILS



| DATE OF REVISION | REVISION |
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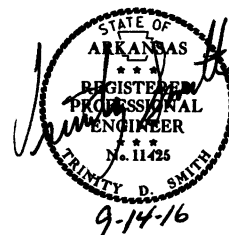


TEMPORARY EROSION CONTROL DETAILS  
CLEARING AND GRUBBING STAGE

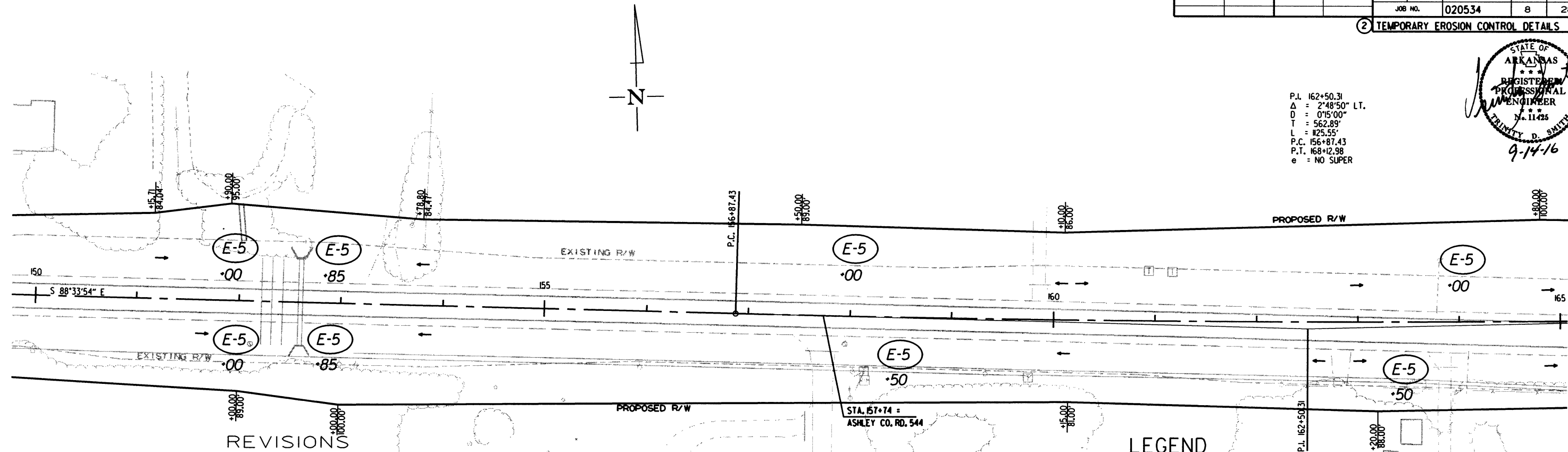


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|                 |                |                 |                |                       |       | JOB NO. 020534     | 8            | 287             |

2 TEMPORARY EROSION CONTROL DETAILS



P.L. 162+50.31  
 $\Delta$  = 2°48'50" LT.  
D = 0°15'00"  
T = 562.89'  
L = 125.55'  
P.C. 156+87.43  
P.T. 168+12.98  
e = NO SUPER



| DATE OF<br>REVISION | REVISION |
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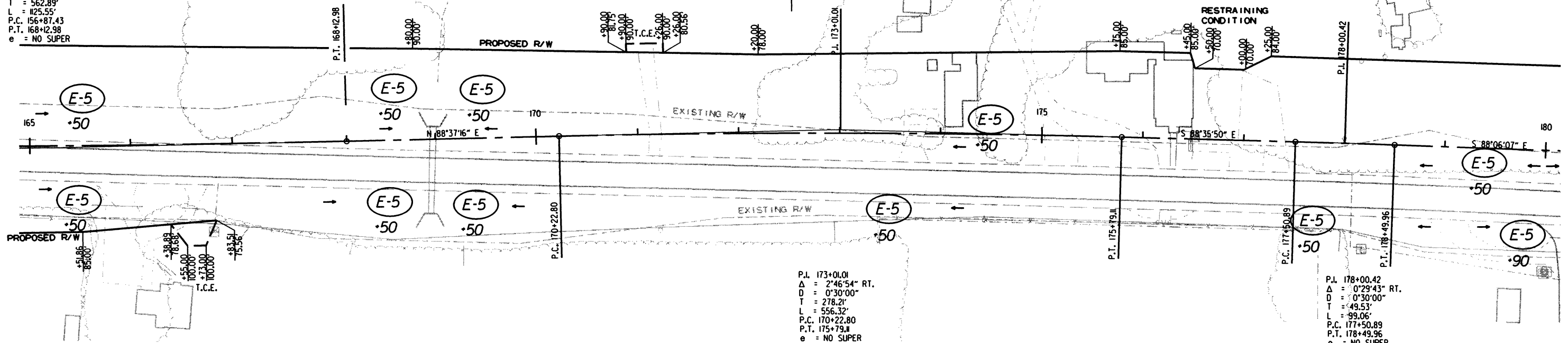
E-5

= SAND BAG DITCH CHECKS

E-II

= SILT FENCE

P.L. 162+50.31  
 $\Delta$  = 2°48'50" LT.  
D = 0°15'00"  
T = 562.89'  
L = 125.55'  
P.C. 156+87.43  
P.T. 168+12.98  
e = NO SUPER



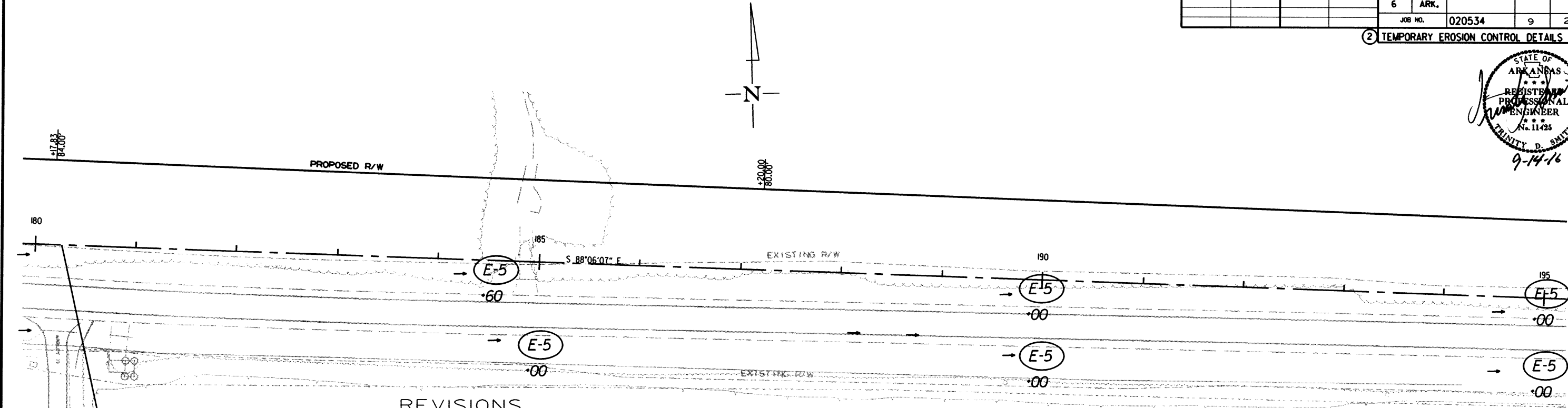
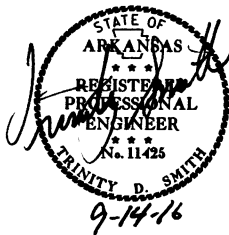
P.L. 173+01.01  
 $\Delta$  = 2°46'54" RT.  
D = 0°30'00"  
T = 278.21'  
L = 556.32'  
P.C. 170+22.80  
P.T. 175+79.11  
e = NO SUPER

P.L. 178+00.42  
 $\Delta$  = 0°29'43" RT.  
D = 0°30'00"  
T = 49.53'  
L = 99.06'  
P.C. 177+50.89  
P.T. 178+49.96  
e = NO SUPER

TEMPORARY EROSION CONTROL DETAILS  
CLEARING AND GRUBBING STAGE

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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|              |             |              |             | 6                  | ARK.  |                    |           |              |
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2 TEMPORARY EROSION CONTROL DETAILS



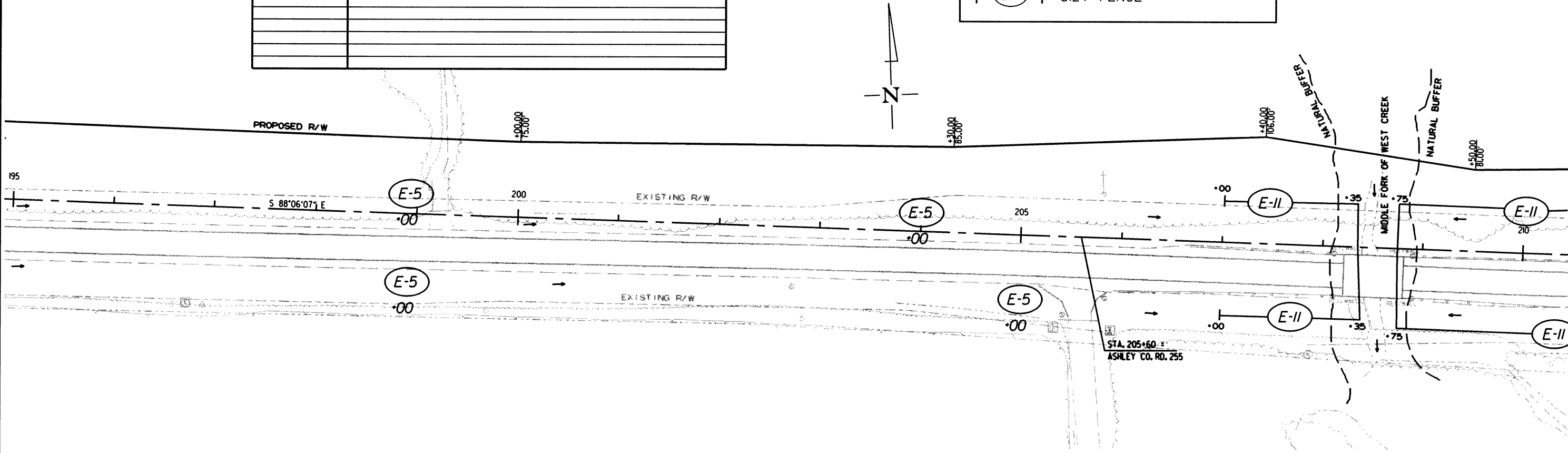
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LEGEND

(E-5) = SAND BAG DITCH CHECKS

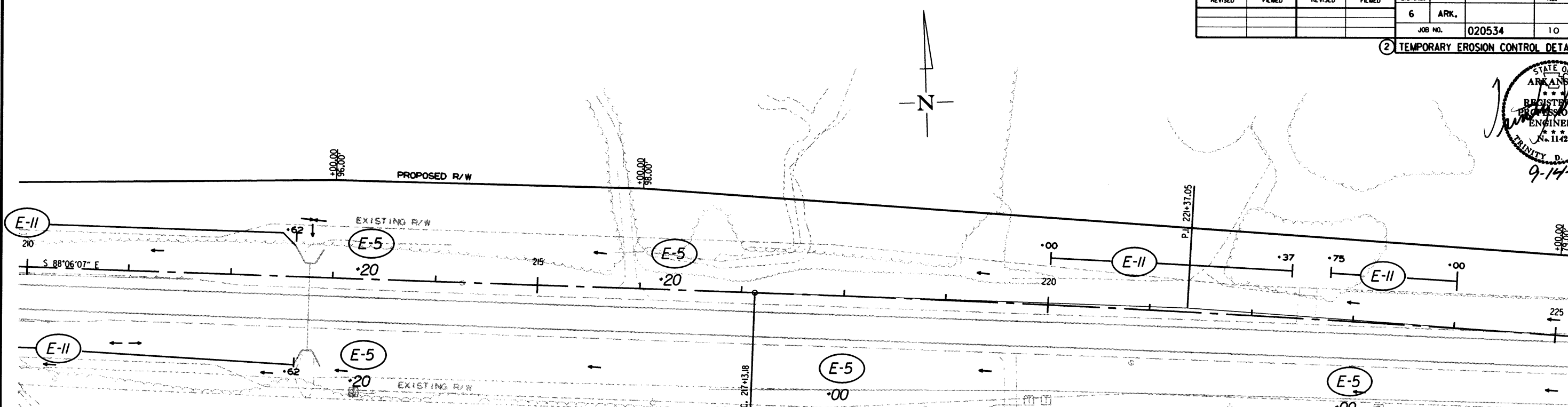
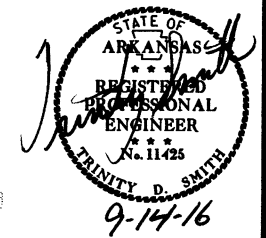
(E-II) = SILT FENCE



TEMPORARY EROSION CONTROL DETAILS  
CLEARING AND GRUBBING STAGE

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|              |             |              |             | 6                  | ARK.   |                    |           |              |
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2 TEMPORARY EROSION CONTROL DETAILS



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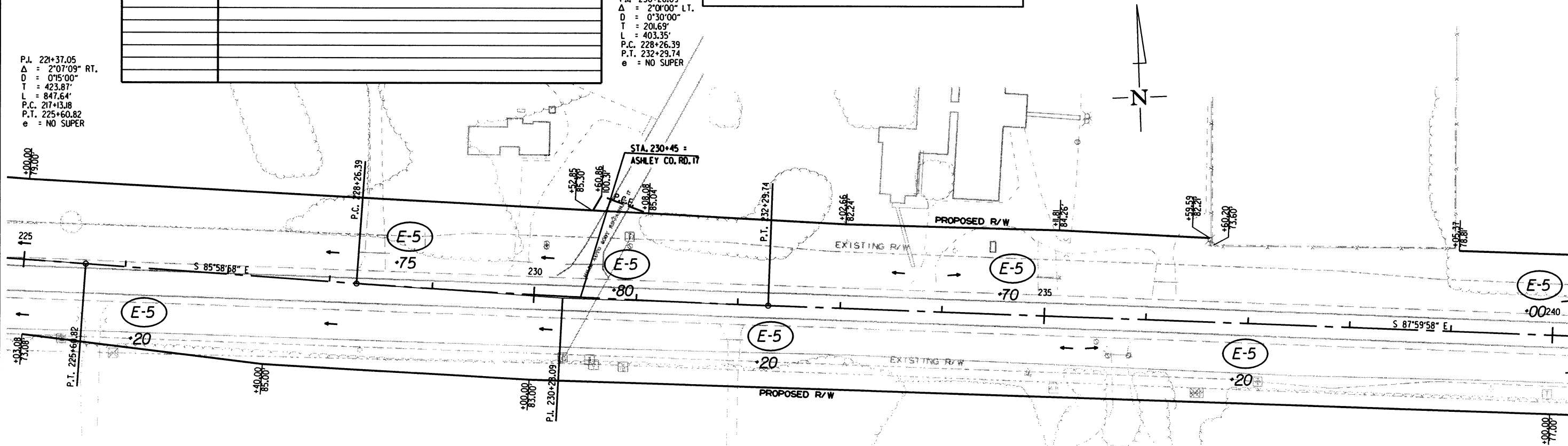
### LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-II) = SILT FENCE

P.I. 221+37.05  
 $\Delta$  = 2°07'09" RT.  
D = 0°15'00"  
T = 423.87'  
L = 847.64'  
P.C. 217+13.18  
P.T. 225+60.82  
e = NO SUPER

P.I. 221+37.05  
 $\Delta$  = 2°07'09" RT.  
D = 0°15'00"  
T = 423.87'  
L = 847.64'  
P.C. 217+13.18  
P.T. 225+60.82  
e = NO SUPER

P.I. 230+28.09  
 $\Delta$  = 2°04'00" LT.  
D = 0°30'00"  
T = 201.69'  
L = 403.35'  
P.C. 228+26.39  
P.T. 232+29.74  
e = NO SUPER



TEMPORARY EROSION CONTROL DETAILS  
CLEARING AND GRUBBING STAGE



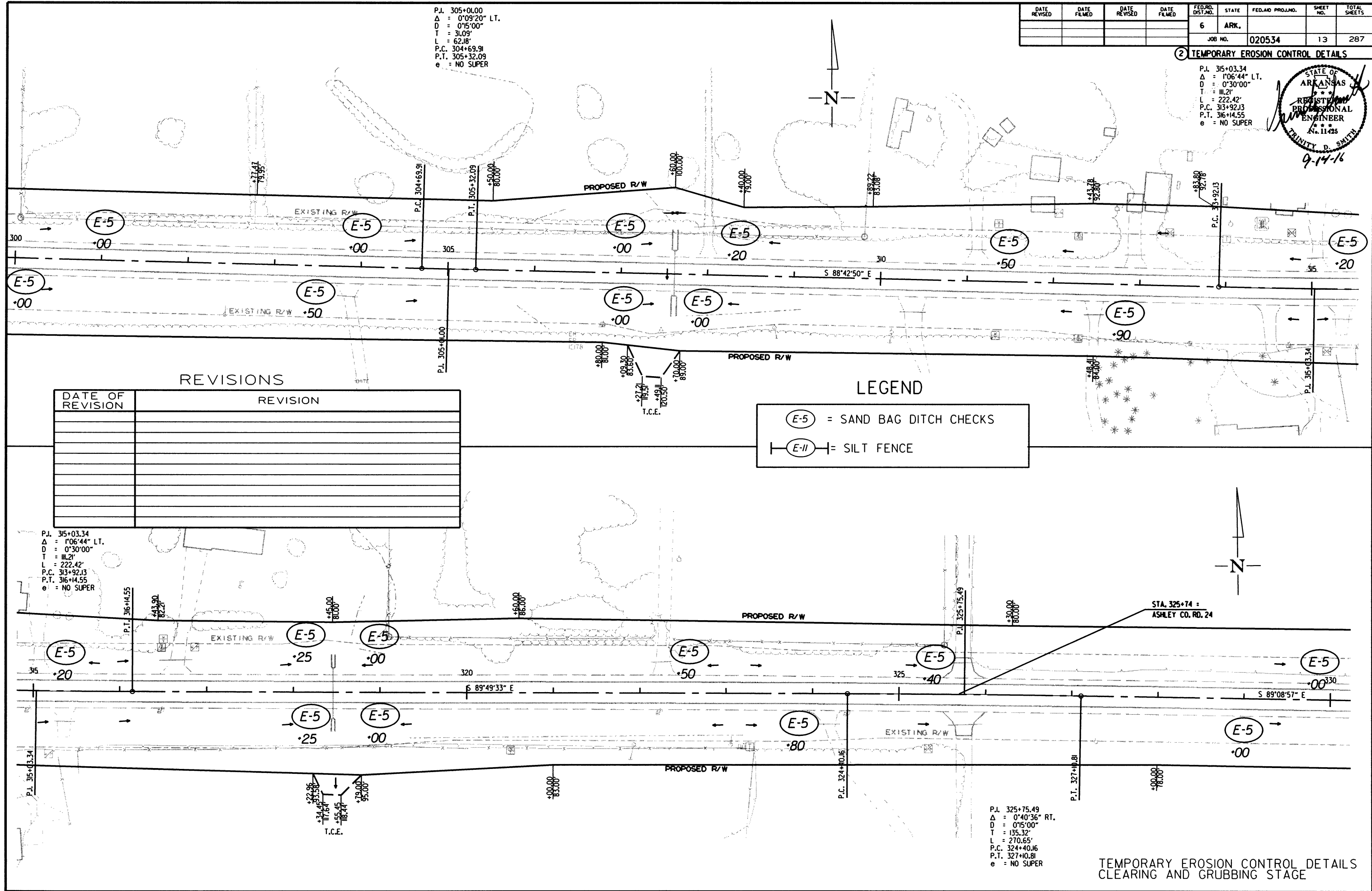
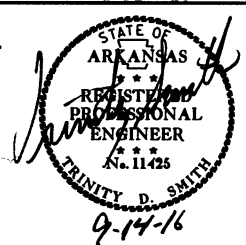


P.J. 305+01.00  
Δ = 0°09'20" LT.  
D = 0°15'00"  
T = 31.09'  
L = 62.18'  
P.C. 304+69.91  
P.T. 305+32.09  
e = NO SUPER

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
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|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 13           | 287             |

2 TEMPORARY EROSION CONTROL DETAILS

P.L. 315+03.34  
Δ = 1°06'44" LT.  
D = 0°30'00"  
T = 111.21'  
L = 222.42'  
P.C. 313+92.13  
P.T. 316+14.55  
e = NO SUPER



REVISIONS

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LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-II) = SILT FENCE

P.J. 315+03.34  
Δ = 1°06'44" LT.  
D = 0°30'00"  
T = 111.21'  
L = 222.42'  
P.C. 313+92.13  
P.T. 316+14.55  
e = NO SUPER

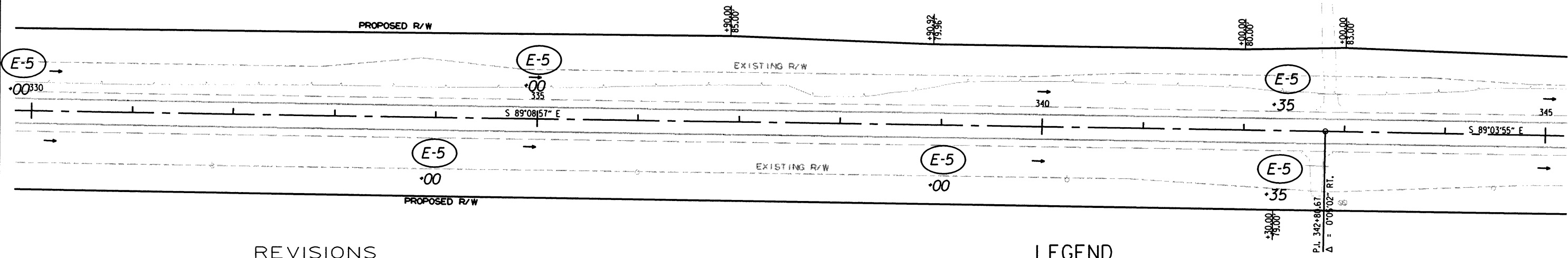
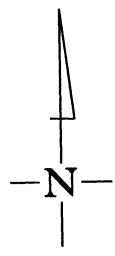
P.L. 325+75.49  
Δ = 0°40'36" RT.  
D = 0°15'00"  
T = 135.32'  
L = 270.65'  
P.C. 324+40.16  
P.T. 327+40.81  
e = NO SUPER

TEMPORARY EROSION CONTROL DETAILS  
CLEARING AND GRUBBING STAGE



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 14        | 287          |

2 TEMPORARY EROSION CONTROL DETAILS

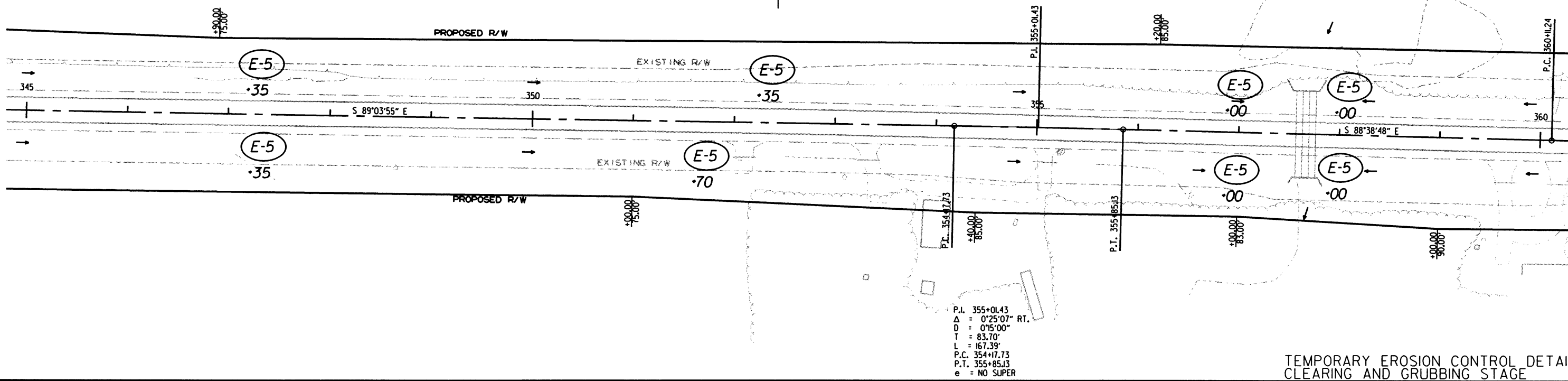


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LEGEND

(E-5) = SAND BAG DITCH CHECKS

(E-II) = SILT FENCE



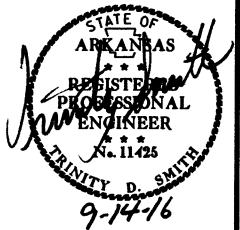
TEMPORARY EROSION CONTROL DETAILS  
CLEARING AND GRUBBING STAGE



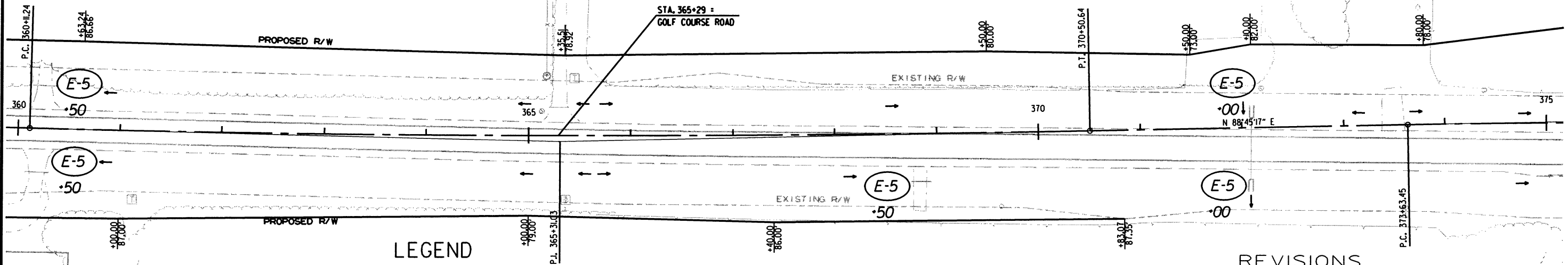
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|              |             |              |             |                    |       | JOB NO. 020534     | 15        | 287          |

## 2 TEMPORARY EROSION CONTROL DETAILS

P.I. 375+30.05  
 $\Delta = 1^{\circ}39'57''$  RT.  
 $D = 0^{\circ}30'00''$   
 $T = 166.60'$   
 $L = 333.17'$   
P.C. 373+63.45  
P.T. 376+96.62  
e = NO SUPER



P.I. 365+31.03  
 $\Delta = 2^{\circ}35'55''$  LT.  
 $D = 0^{\circ}15'00''$   
 $T = 519.79'$   
 $L = 1039.40'$   
P.C. 360+11.24  
P.T. 370+50.64  
e = NO SUPER

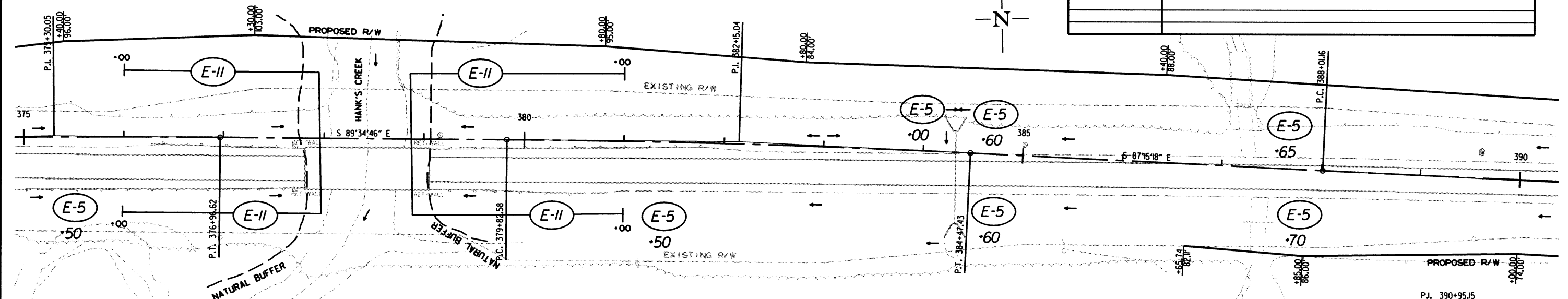


### LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-II) = SILT FENCE

### REVISIONS

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P.I. 375+30.05  
 $\Delta = 1^{\circ}39'57''$  RT.  
 $D = 0^{\circ}30'00''$   
 $T = 166.60'$   
 $L = 333.17'$   
P.C. 373+63.45  
P.T. 376+96.62  
e = NO SUPER

P.I. 382+15.04  
 $\Delta = 2^{\circ}19'27''$  RT.  
 $D = 0^{\circ}30'00''$   
 $T = 232.46'$   
 $L = 464.85'$   
P.C. 379+82.58  
P.T. 384+47.43  
e = NO SUPER

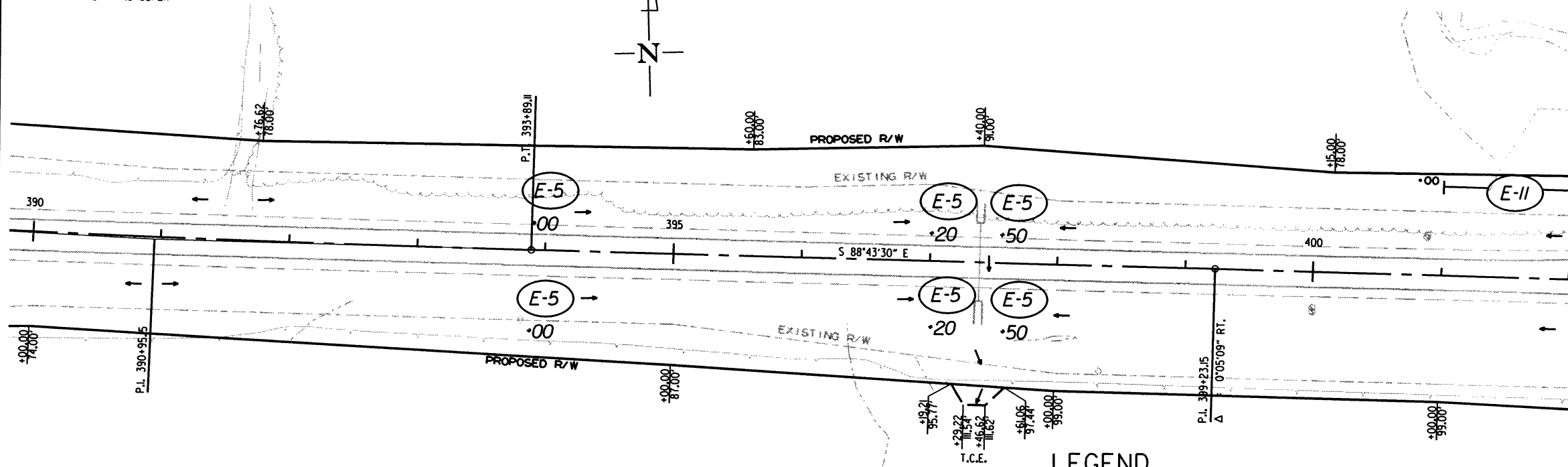
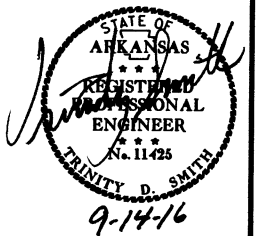
P.I. 390+95.15  
 $\Delta = 1^{\circ}28'12''$  LT.  
 $D = 0^{\circ}15'00''$   
 $T = 293.99'$   
 $L = 587.96'$   
P.C. 388+01.16  
P.T. 393+89.11  
e = NO SUPER

TEMPORARY EROSION CONTROL DETAILS  
CLEARING AND GRUBBING STAGE

P.L. 390+95.5  
Δ = 1'28'12" L.T.  
D = 0'15'00"  
T = 293.99'  
L = 587.96'  
P.C. 388+01.6  
P.T. 393+89.11  
e = NO SUPER

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 16           | 287             |

2 TEMPORARY EROSION CONTROL DETAILS

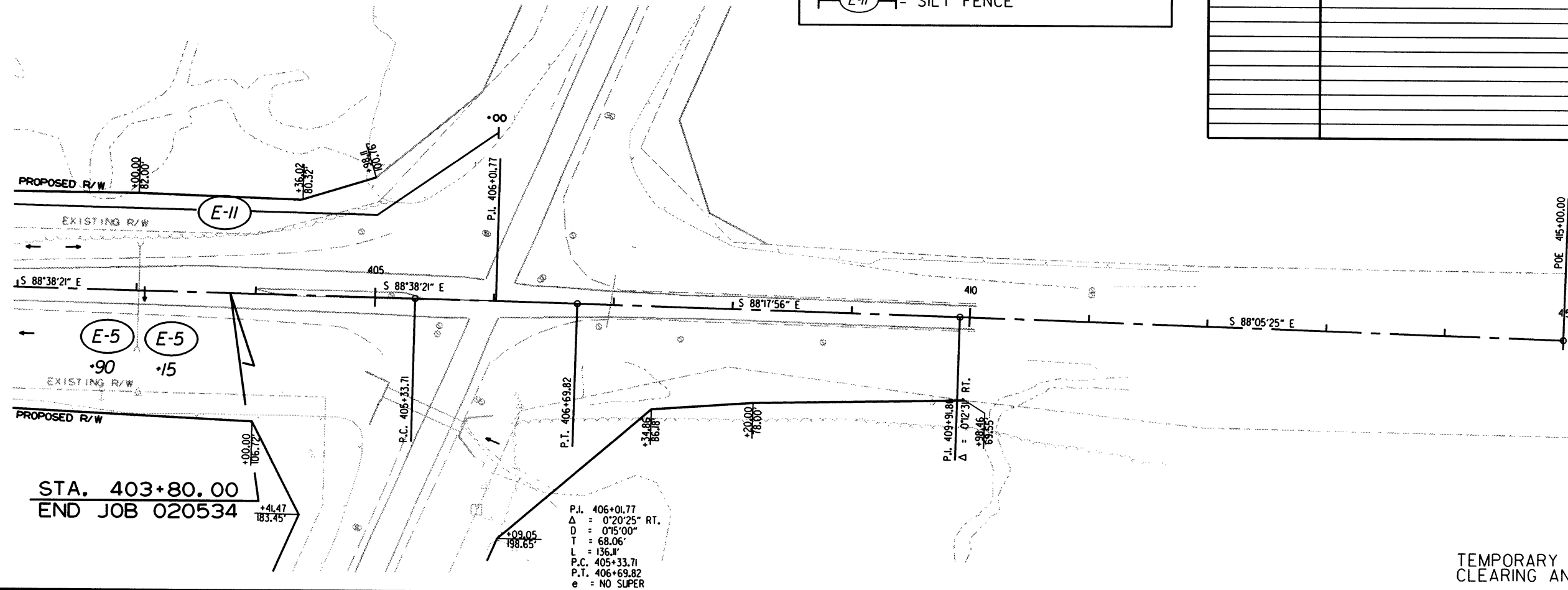


### LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-II) = SILT FENCE

### REVISIONS

| DATE OF<br>REVISION | REVISION |
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STA. 403+80.00  
END JOB 020534

P.L. 406+01.77  
Δ = 0'20'25" RT.  
D = 0'15'00"  
T = 68.06'  
L = 136.8'  
P.C. 405+33.71  
P.T. 406+69.82  
e = NO SUPER

TEMPORARY EROSION CONTROL DETAILS  
CLEARING AND GRUBBING STAGE

# EROSION CONTROL GENERAL NOTES

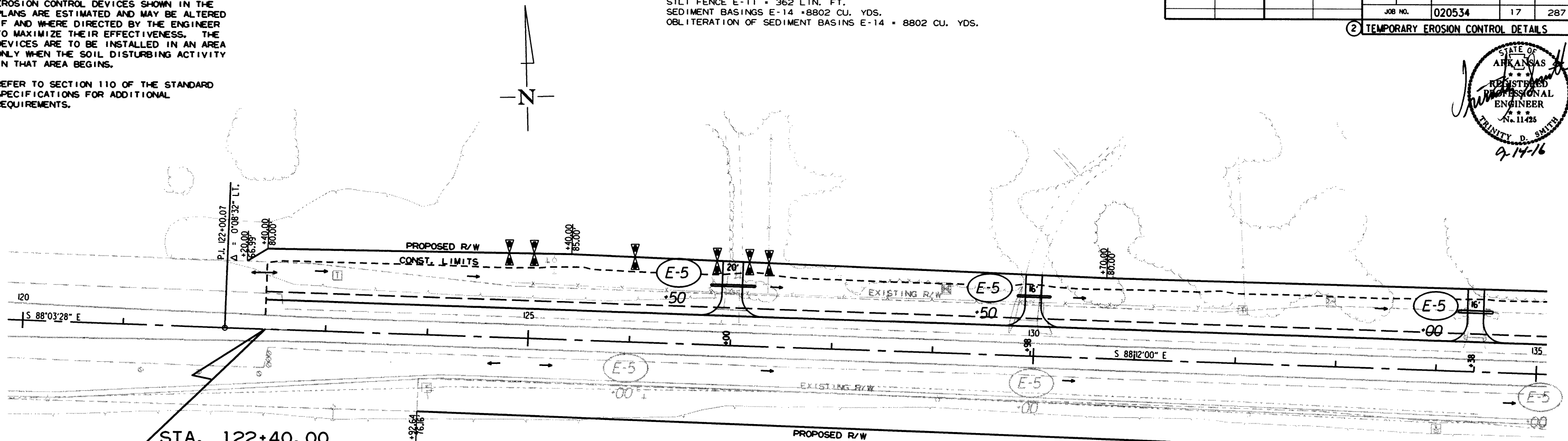
THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

QUANTITIES:  
SAND BAG DITCH CHECKS = 968 BAGS  
SILT FENCE E-11 = 362 LIN. FT.  
SEDIMENT BASINGS E-14 = 8802 CU. YDS.  
OBLITERATION OF SEDIMENT BASINS E-14 = 8802 CU. YDS.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 17        | 287          |

## 2 TEMPORARY EROSION CONTROL DETAILS



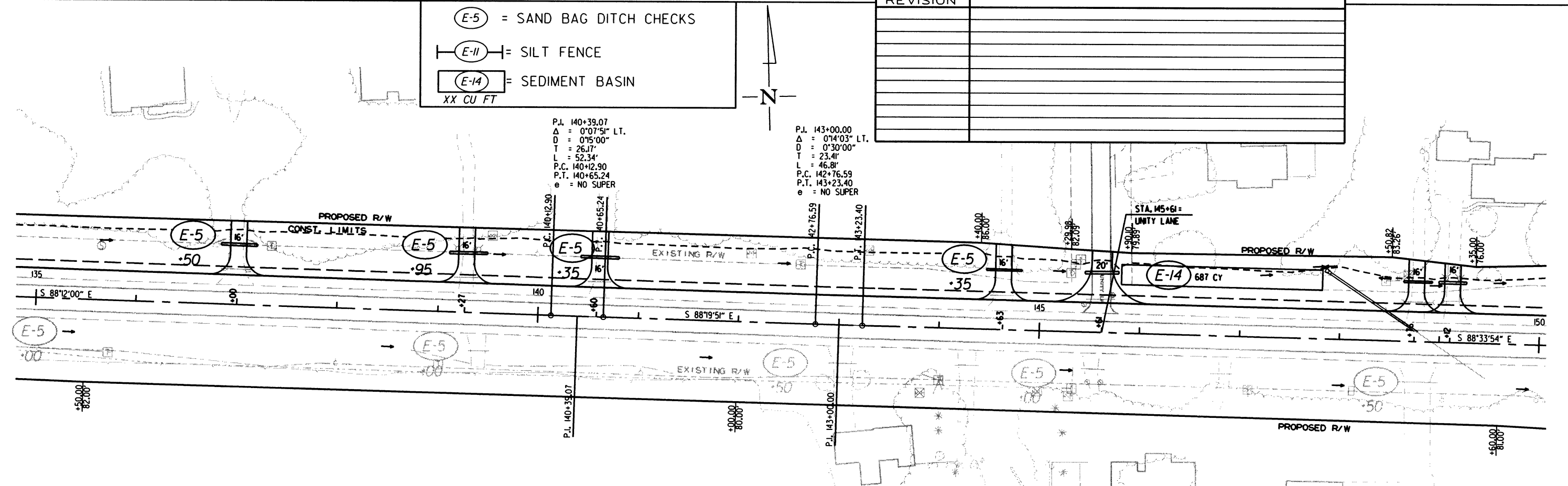
STA. 122+40.00  
BEGIN JOB 020534  
LOG MILE 12.15

## LEGEND

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

## REVISIONS

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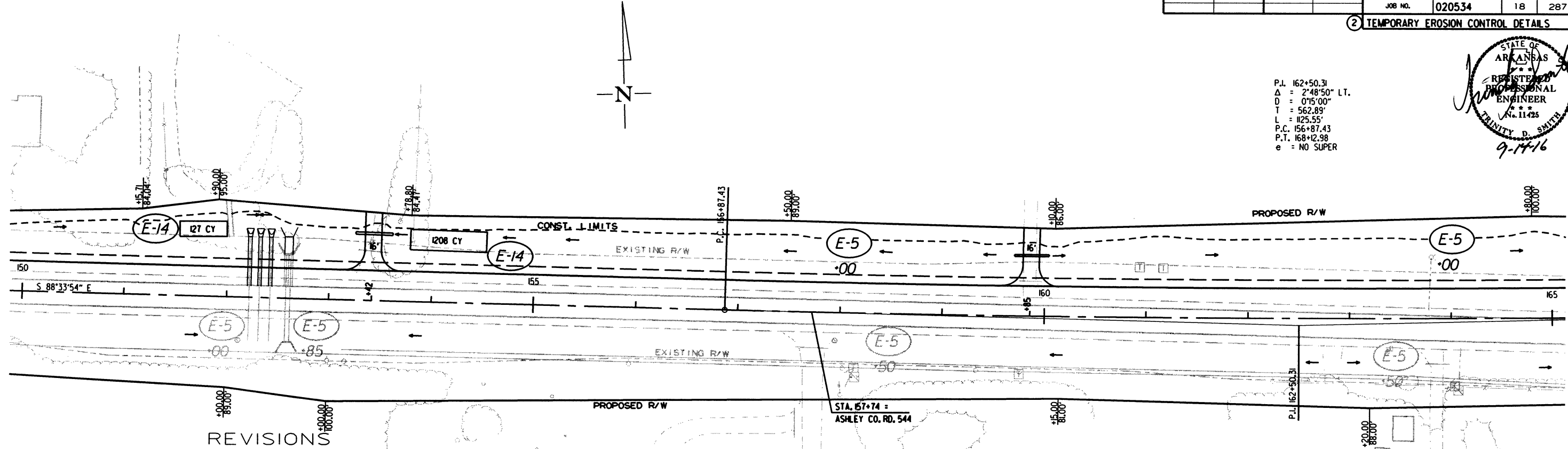
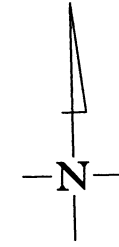


TEMPORARY EROSION CONTROL DETAILS - STAGE I

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 18           | 287             |

② TEMPORARY EROSION CONTROL DETAILS

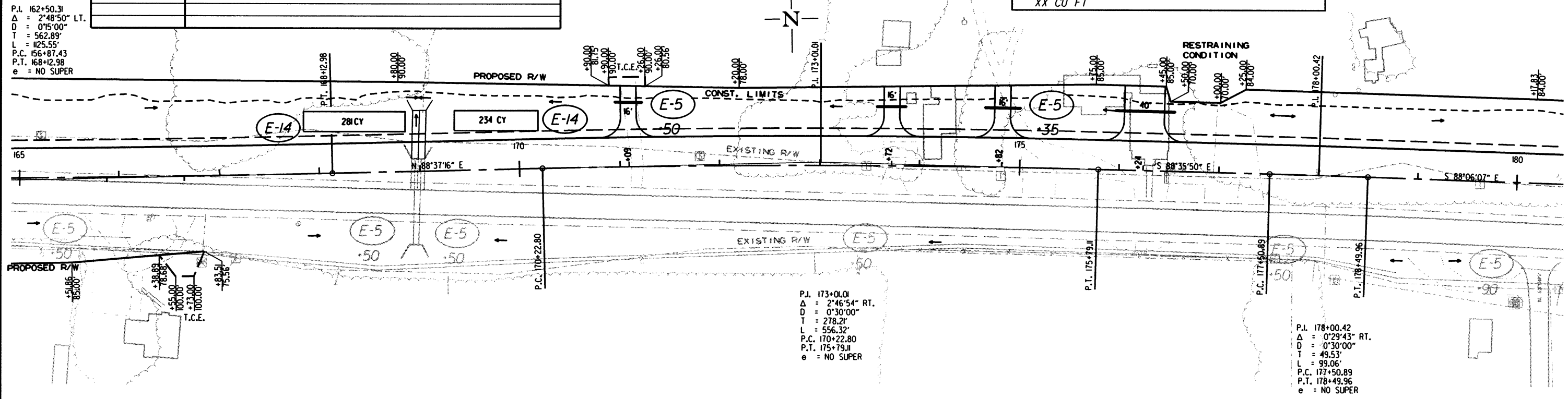
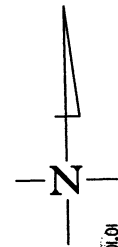
P.L. 162+50.31  
 $\Delta$  = 2°48'50" LT.  
D = 0°15'00"  
T = 562.89'  
L = 1125.55'  
P.C. 156+87.43  
P.T. 168+12.98  
e = NO SUPER



| DATE OF<br>REVISION | REVISION |
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## LEGEND

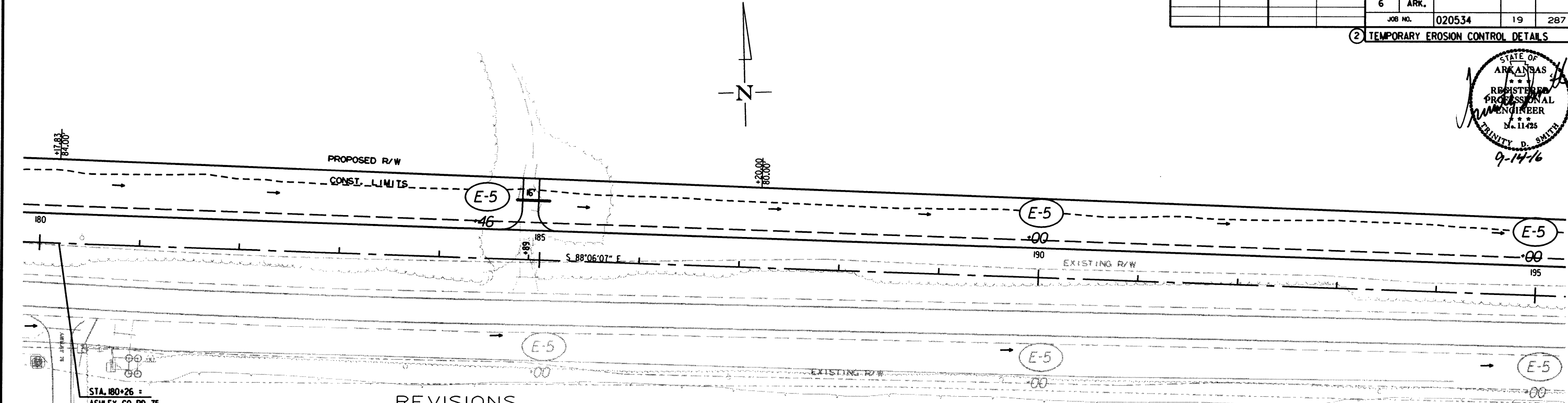
- (E-5) = SAND BAG DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN
- XX CU FT



TEMPORARY EROSION CONTROL DETAILS - STAGE I

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
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|                 |                |                 |                | 6                     | ARK.  |                    | 19           | 287             |
|                 |                |                 |                | JOB NO.               |       | 020534             |              |                 |

2 TEMPORARY EROSION CONTROL DETAILS



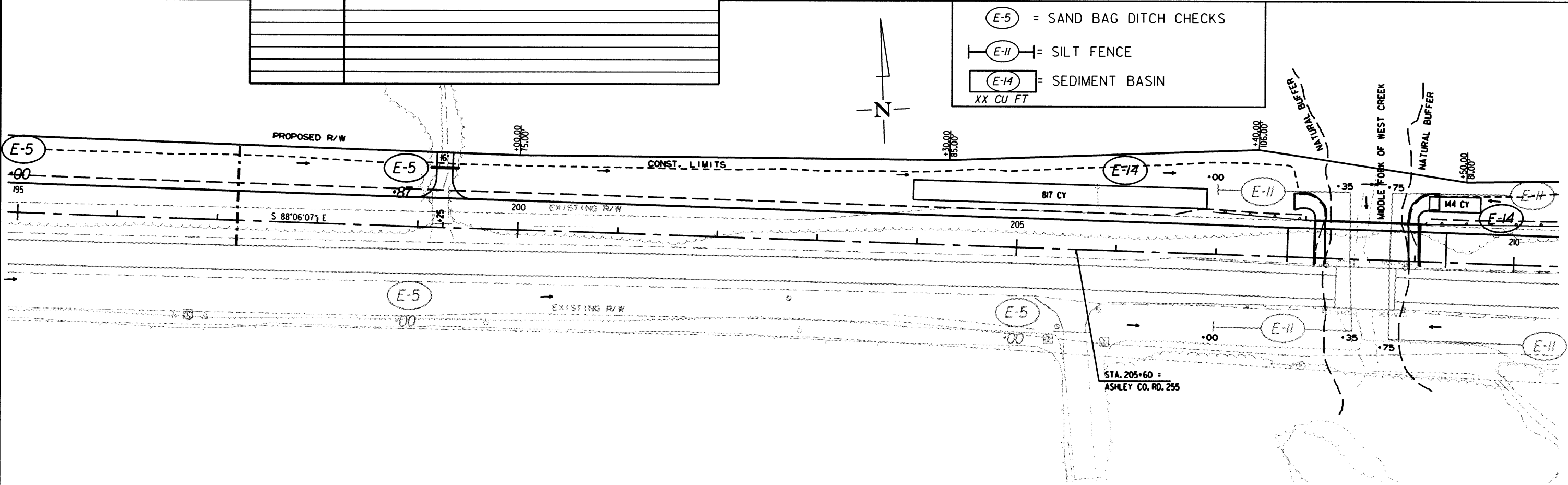
STA. 180+26 =  
ASHLEY CO. RD. 75

REVISIONS

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LEGEND

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



STA. 205+60 =  
ASHLEY CO. RD. 255



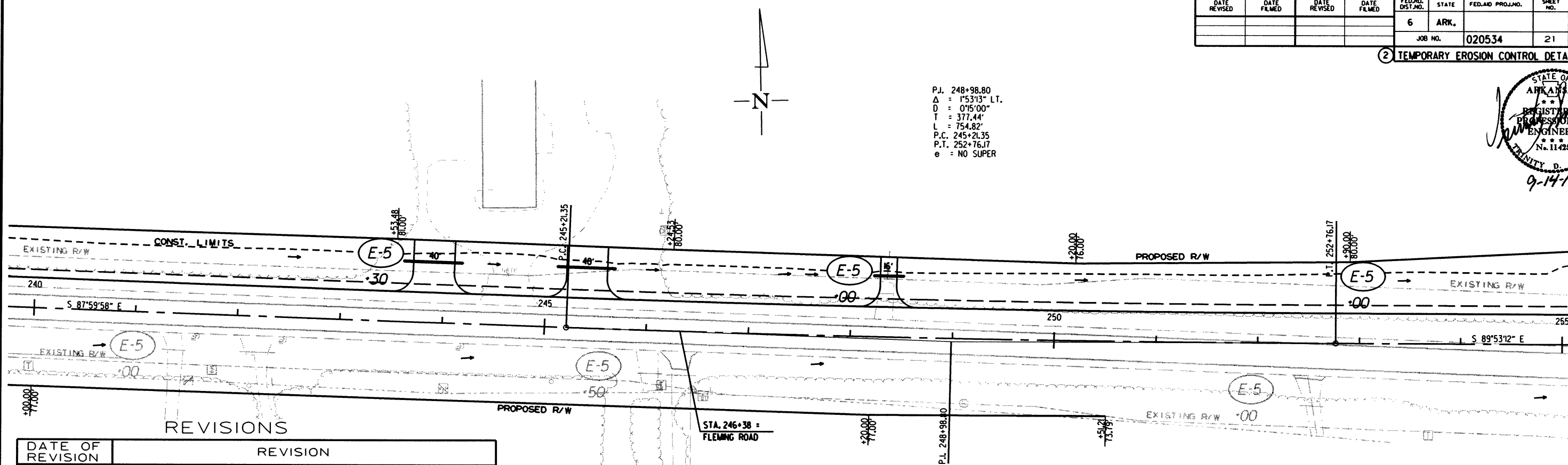


| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 21        | 287          |

2 TEMPORARY EROSION CONTROL DETAILS



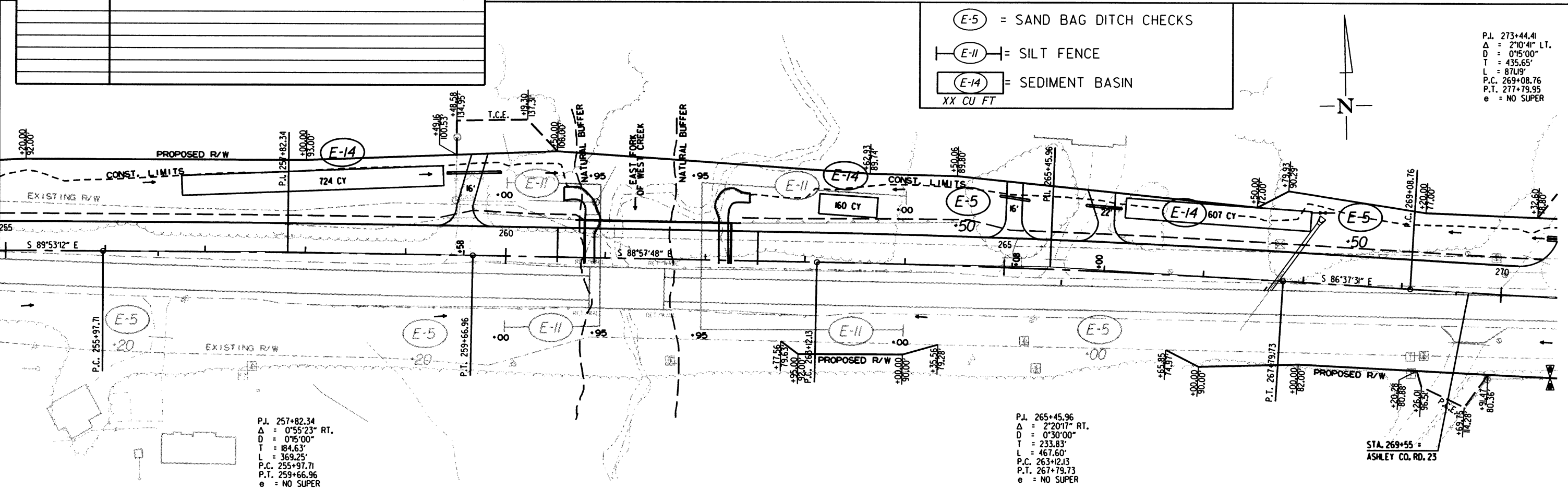
P.J. 248+98.80  
Δ = 1°53'13" LT.  
D = 0°15'00"  
T = 377.44'  
L = 754.82'  
P.C. 245+21.35  
P.T. 252+76.17  
e = NO SUPER



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LEGEND

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



P.J. 273+44.41  
Δ = 2°10'41" LT.  
D = 0°15'00"  
T = 435.65'  
L = 871.9'  
P.C. 269+08.76  
P.T. 277+79.95  
e = NO SUPER

P.J. 257+82.34  
Δ = 0°55'23" RT.  
D = 0°15'00"  
T = 184.63'  
L = 369.25'  
P.C. 255+97.71  
P.T. 259+66.96  
e = NO SUPER

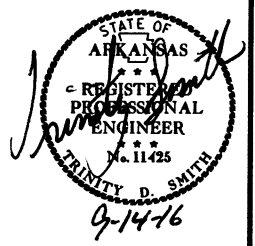
P.J. 265+45.96  
Δ = 2°20'17" RT.  
D = 0°30'00"  
T = 233.83'  
L = 467.60'  
P.C. 263+12.13  
P.T. 267+79.73  
e = NO SUPER

STA. 269+55 =  
ASHLEY CO. RD. 23

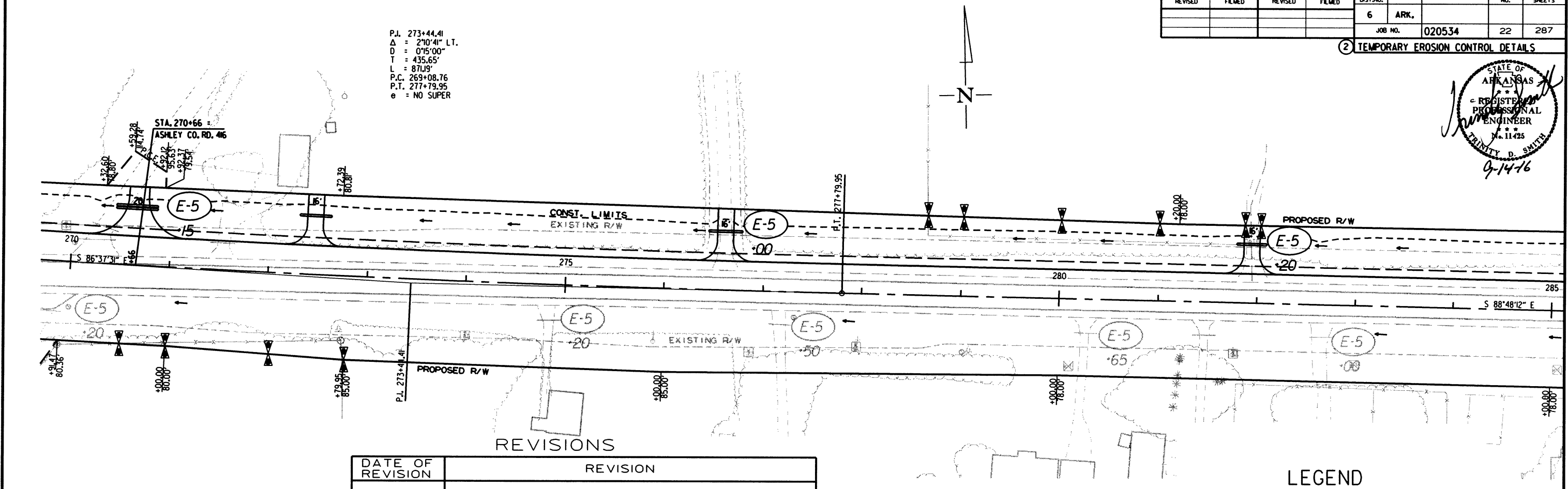


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|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             |                    |       | JOB NO. 020534     | 22        | 287          |

2 TEMPORARY EROSION CONTROL DETAILS



P.I. 273+44.41  
 $\Delta$  = 2°10'41" LT.  
D = 0°15'00"  
T = 435.65'  
L = 871.19'  
P.C. 269+08.76  
P.T. 277+79.95  
e = NO SUPER



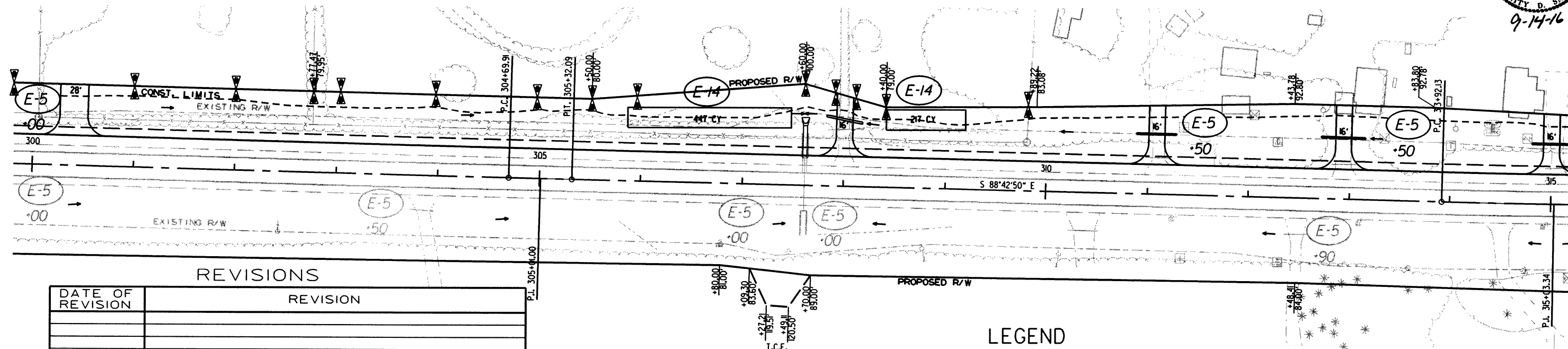


P.J. 305+01.00  
Δ = 0°09'20" LT.  
D = 0°15'00"  
T = 31.09'  
L = 62.18'  
P.C. 304+69.91  
P.T. 305+32.09  
e = NO SUPER

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 23        | 287          |

② TEMPORARY EROSION CONTROL DETAILS

P.J. 315+03.34  
Δ = 1°06'44" LT.  
D = 0°30'00"  
T = 111.21'  
L = 222.42'  
P.C. 313+92.13  
P.T. 316+14.55  
e = NO SUPER

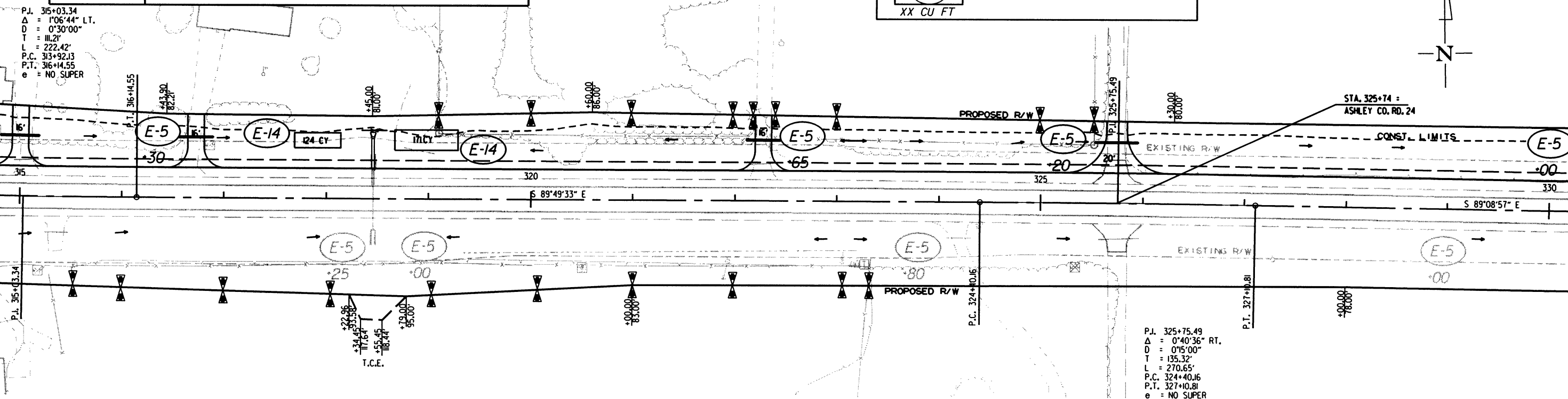


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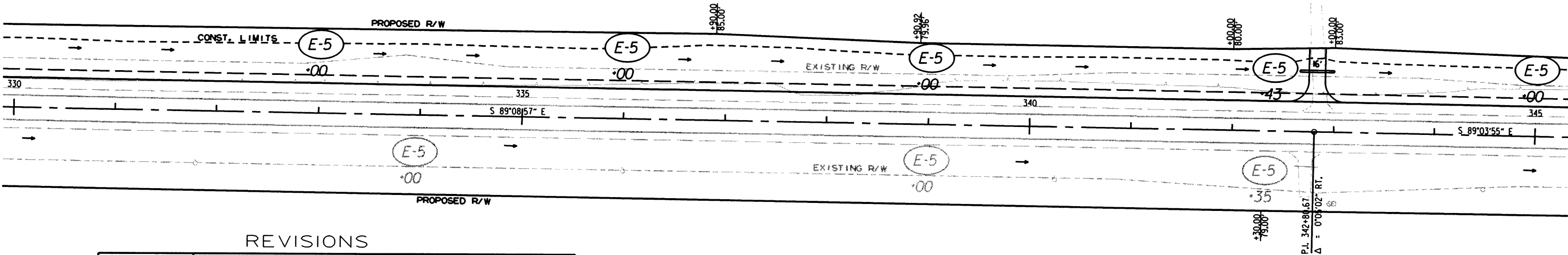
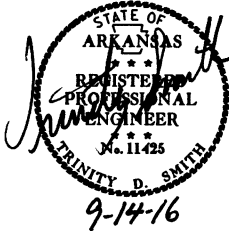
- (E-5) = SAND BAG DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN  
XX CU FT



P.J. 325+75.49  
Δ = 0°40'36" RT.  
D = 0°15'00"  
T = 135.32'  
L = 270.65'  
P.C. 324+40.16  
P.T. 327+10.81  
e = NO SUPER

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 24        | 287          |

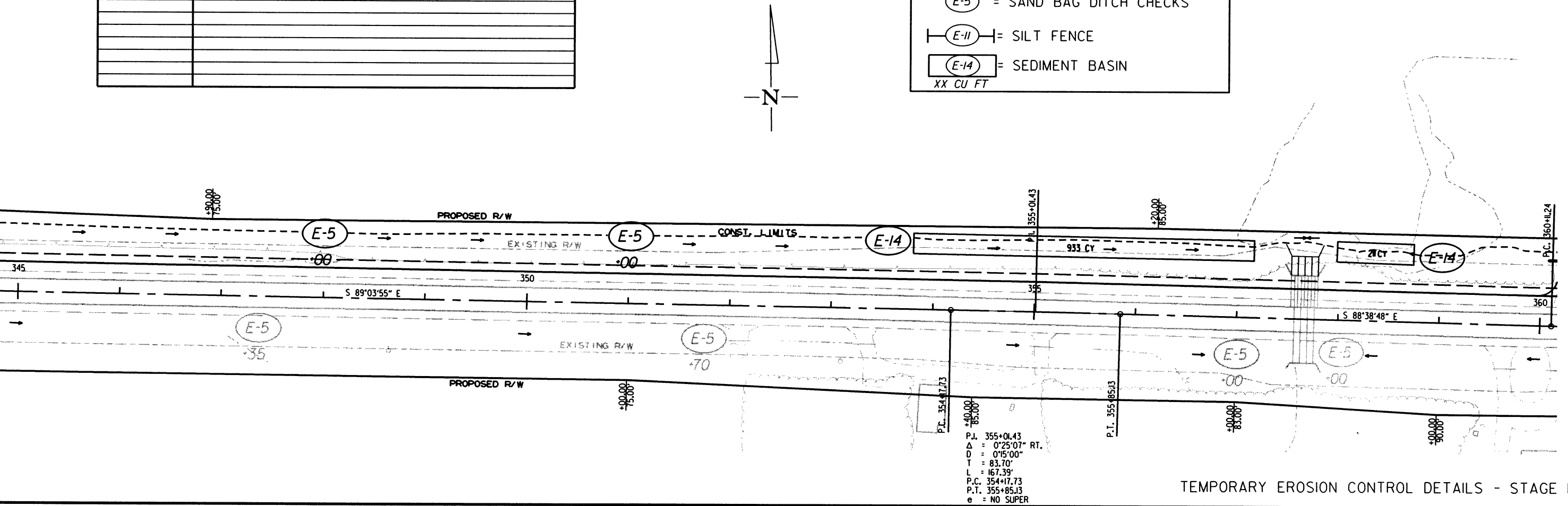
2 TEMPORARY EROSION CONTROL DETAILS



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LEGEND

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



TEMPORARY EROSION CONTROL DETAILS - STAGE I

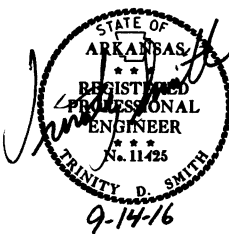
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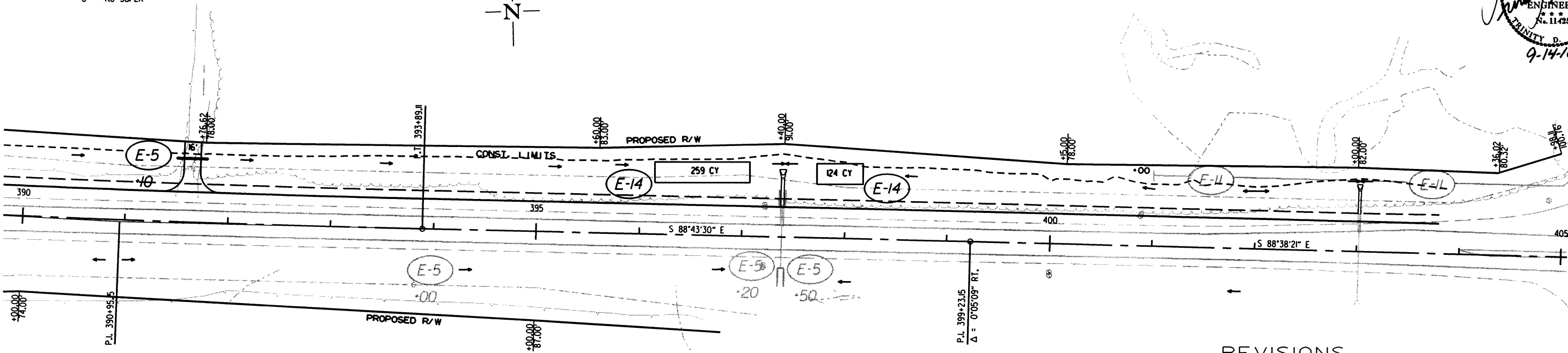


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|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 26           | 287             |

2 TEMPORARY EROSION CONTROL DETAILS



P.J. 390+95.15  
Δ = 1°28'12" LT.  
D = 0°15'00"  
T = 293.99'  
L = 587.96'  
P.C. 388+01.16  
P.T. 393+89.11  
e = NO SUPER

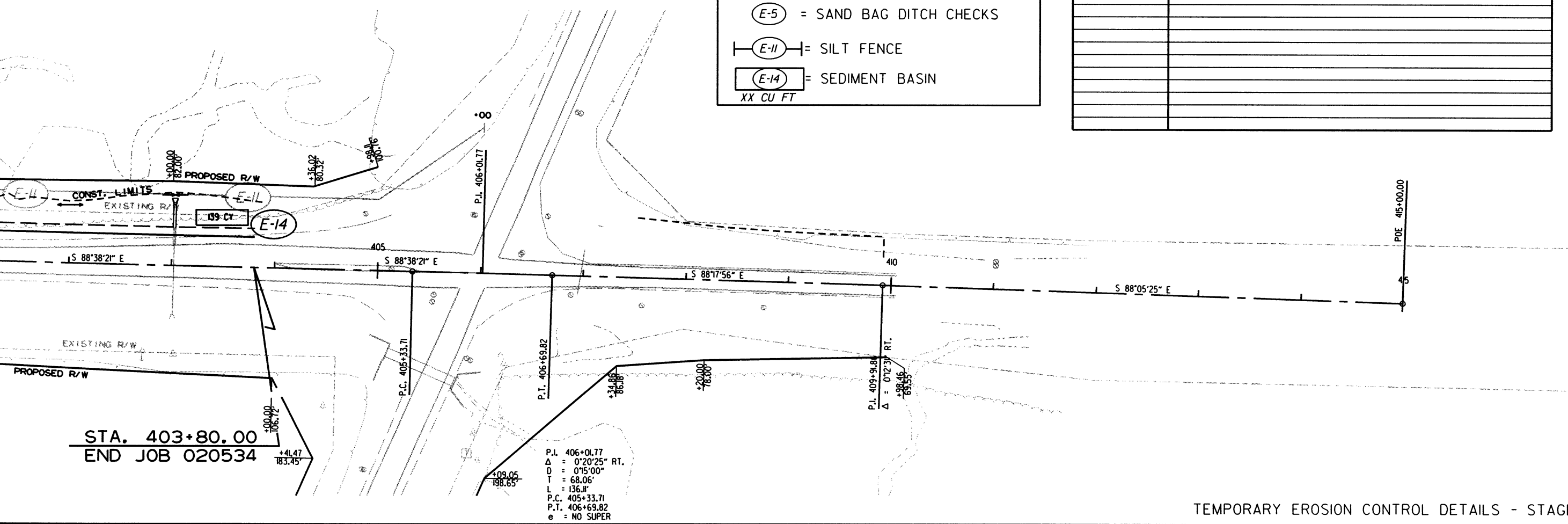


LEGEND

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

REVISIONS

| DATE OF<br>REVISION | REVISION |
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STA. 403+80.00  
END JOB 020534

P.J. 406+01.77  
Δ = 0°20'25" RT.  
D = 0°15'00"  
T = 68.06'  
L = 136.11'  
P.C. 405+33.71  
P.T. 406+69.82  
e = NO SUPER

# EROSION CONTROL GENERAL NOTES

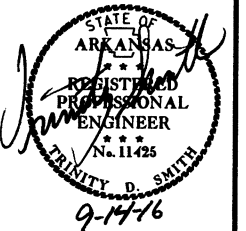
THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

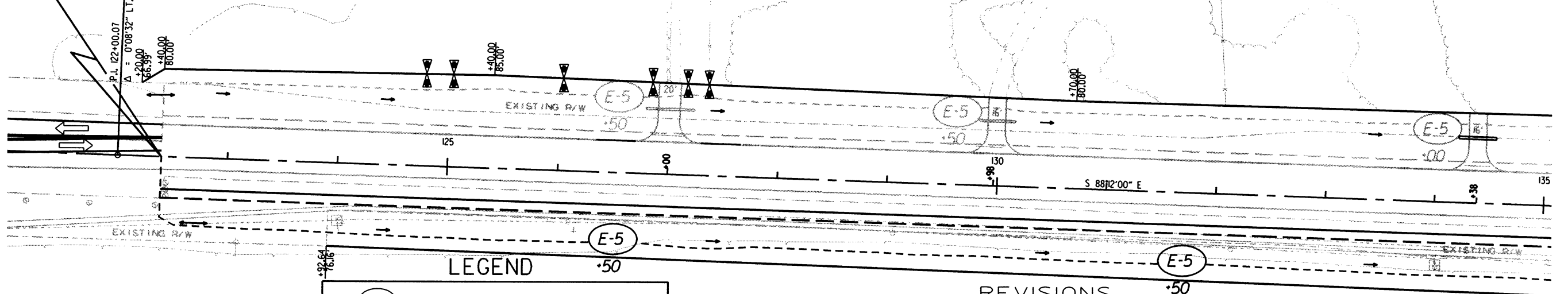
QUANTITIES:  
SAND BAG DITCH CHECKS E-5 = 1100 BAGS  
SEDIMENT BASINS E-14 = 7949 CU. YDS.  
OBLITERATION OF SEDIMENT BASINS E-14 = 7949 CU. YDS.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. PROJ. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|----------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6              | ARK.  |                    | 27        | 287          |

## TEMPORARY EROSION CONTROL DETAILS



STA. 122+40.00  
BEGIN JOB 020534  
LOG MILE 12.15



### LEGEND

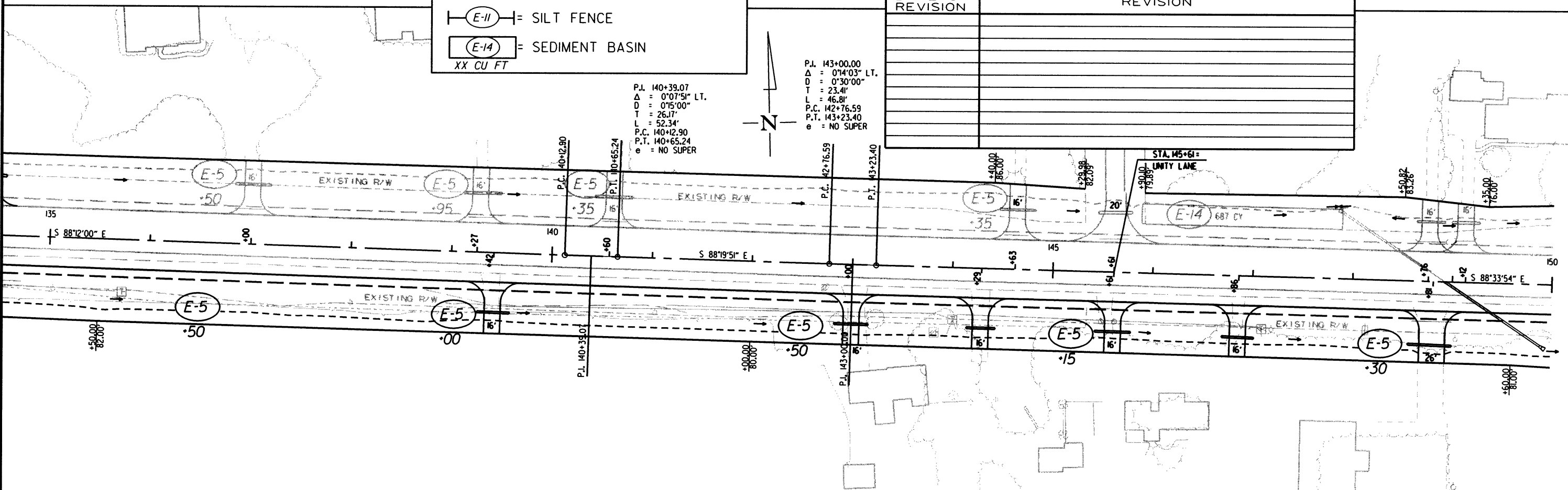
- (E-5) = SAND BAG DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN  
XX CU FT

### REVISIONS

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P.L. 140+39.07  
Δ = 0°07'51" LT.  
D = 0°15'00"  
T = 26.17'  
L = 52.34'  
P.C. 140+12.90  
P.T. 140+65.24  
e = NO SUPER

P.L. 143+00.00  
Δ = 0°14'03" LT.  
D = 0°30'00"  
T = 23.41'  
L = 46.81'  
P.C. 142+76.59  
P.T. 143+23.40  
e = NO SUPER



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 28           | 287             |

2 TEMPORARY EROSION CONTROL DETAILS

P.I. 162+50.31

$\Delta = 2^{\circ}48'50''$  LT.

D = 0'15'00"

T = 562.89'

L = 125.55'

P.C. 156+87.43

P.T. 168+12.98

e = NO SUPER

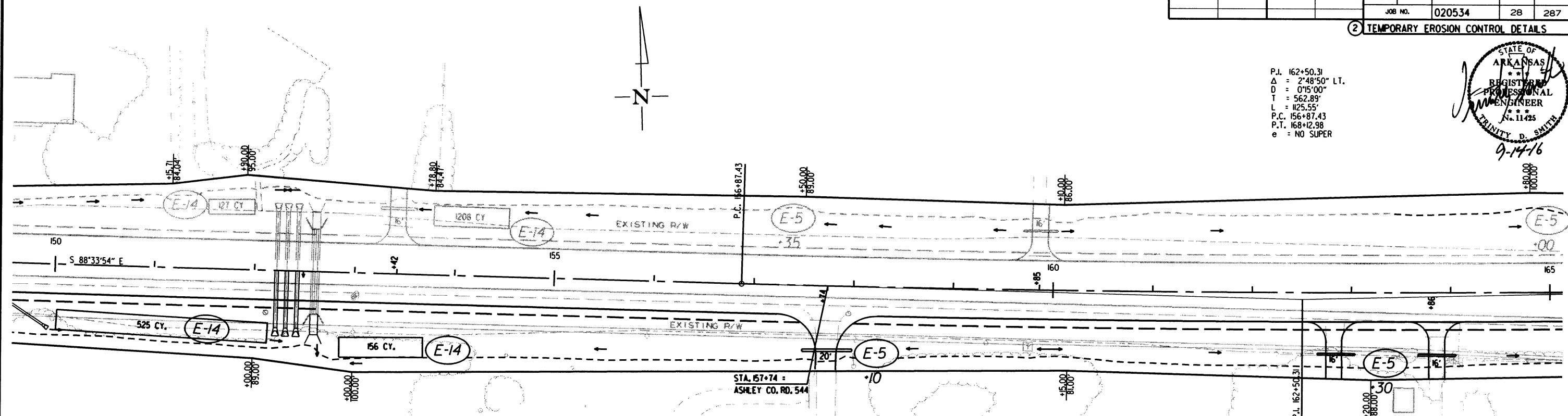
STATE OF ARKANSAS

REGISTERED PROFESSIONAL ENGINEER

N. 11425

TRINITY D. SMITH

9-14-16



REVISIONS

| DATE OF REVISION | REVISION |
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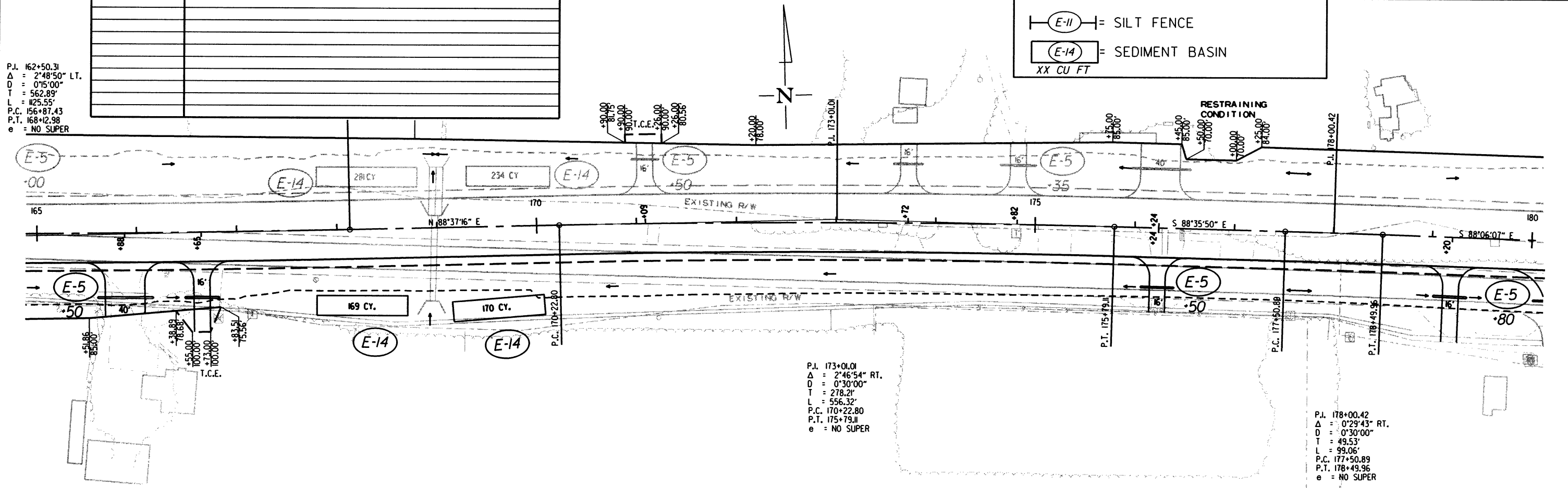
(E-5) = SAND BAG DITCH CHECKS

(E-11) = SILT FENCE

(E-14) = SEDIMENT BASIN

XX CU FT

P.I. 162+50.31  
 $\Delta = 2^{\circ}48'50''$  LT.  
 D = 0'15'00"  
 T = 562.89'  
 L = 125.55'  
 P.C. 156+87.43  
 P.T. 168+12.98  
 e = NO SUPER



P.I. 173+01.01  
 $\Delta = 2^{\circ}46'54''$  RT.  
 D = 0'30'00"  
 T = 278.21'  
 L = 556.32'  
 P.C. 170+22.80  
 P.T. 175+79.11  
 e = NO SUPER

P.I. 178+00.42  
 $\Delta = 0^{\circ}29'43''$  RT.  
 D = 0'30'00"  
 T = 49.53'  
 L = 99.06'  
 P.C. 177+50.89  
 P.T. 178+49.96  
 e = NO SUPER

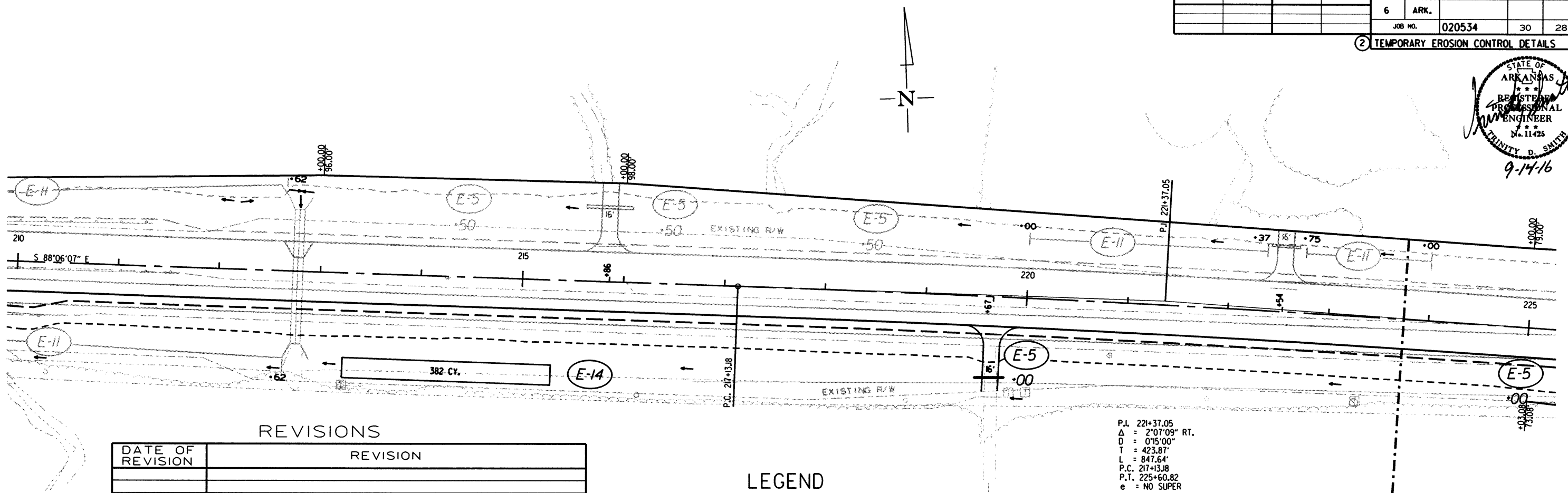






| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
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|              |             |              |             | 6                  | ARK.   |                    | 30        | 287          |
|              |             |              |             | JOB NO.            | 020534 |                    |           |              |

## 2 TEMPORARY EROSION CONTROL DETAILS



### REVISIONS

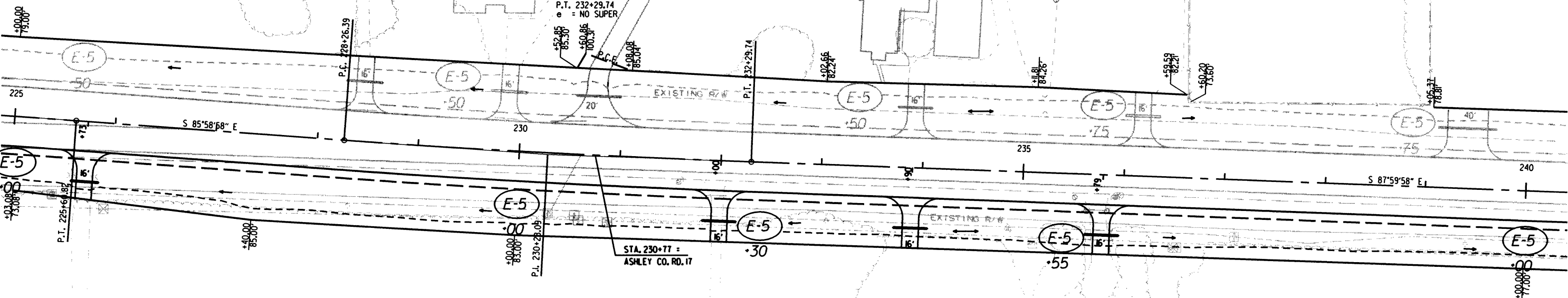
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### LEGEND

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

P.I. 221+37.05  
 $\Delta = 2^{\circ}07'09''$  RT.  
D = 0'15'00"  
T = 423.87'  
L = 847.64'  
P.C. 217+13.18  
P.T. 225+60.82  
e = NO SUPER

P.I. 230+28.09  
 $\Delta = 2^{\circ}01'00''$  LT.  
D = 0'30'00"  
T = 201.69'  
L = 403.35'  
P.C. 228+26.39  
P.T. 232+29.74  
e = NO SUPER



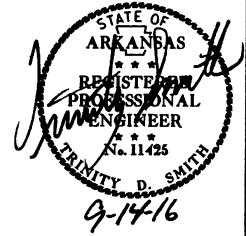
7/18/2016

R020534.DGN

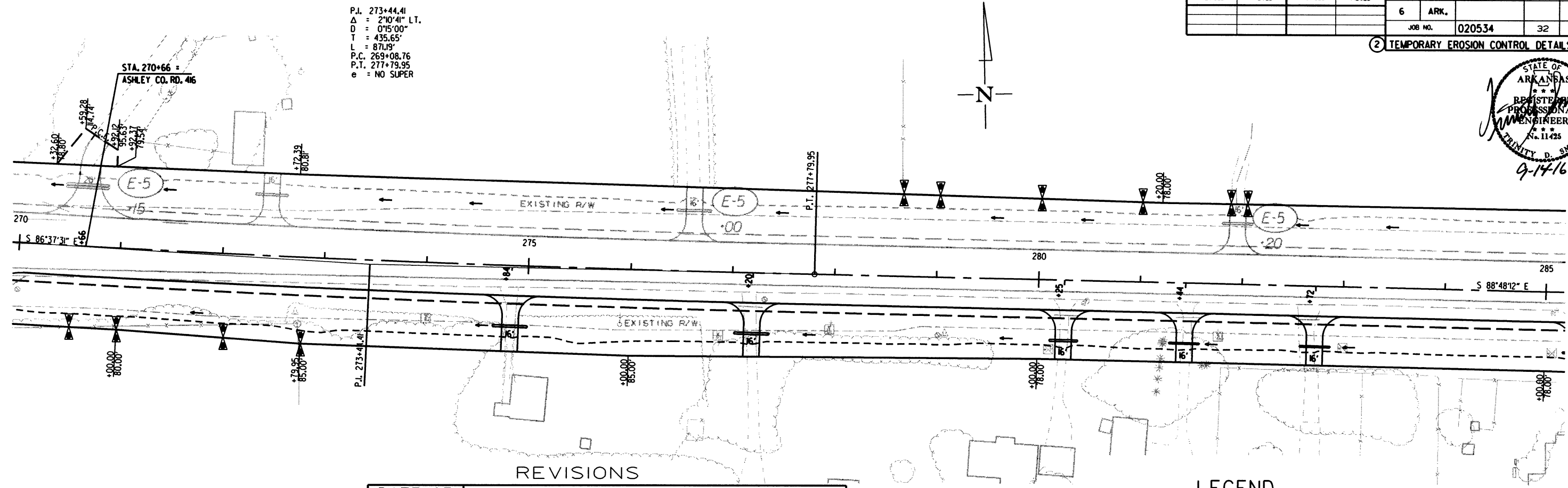


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 32           | 287             |

② TEMPORARY EROSION CONTROL DETAILS



P.I. 273+44.41  
 $\Delta = 2^{\circ}10'41''$  LT.  
 $D = 0^{\circ}15'00''$   
 $T = 435.65'$   
 $L = 871.19'$   
P.C. 269+08.76  
P.T. 277+79.95  
e = NO SUPER

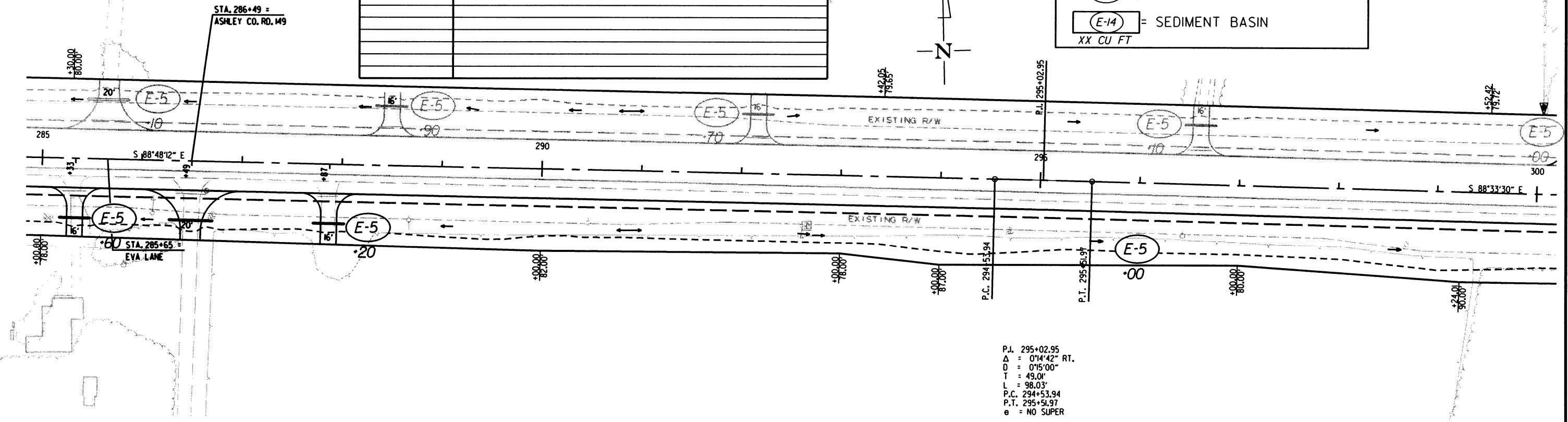


### REVISIONS

| DATE OF<br>REVISION | REVISION |
|---------------------|----------|
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### LEGEND

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

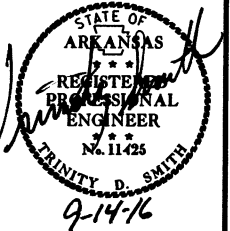


P.I. 295+02.95  
 $\Delta = 0^{\circ}14'42''$  RT.  
 $D = 0^{\circ}15'00''$   
 $T = 49.01'$   
 $L = 98.03'$   
P.C. 294+53.94  
P.T. 295+51.97  
e = NO SUPER

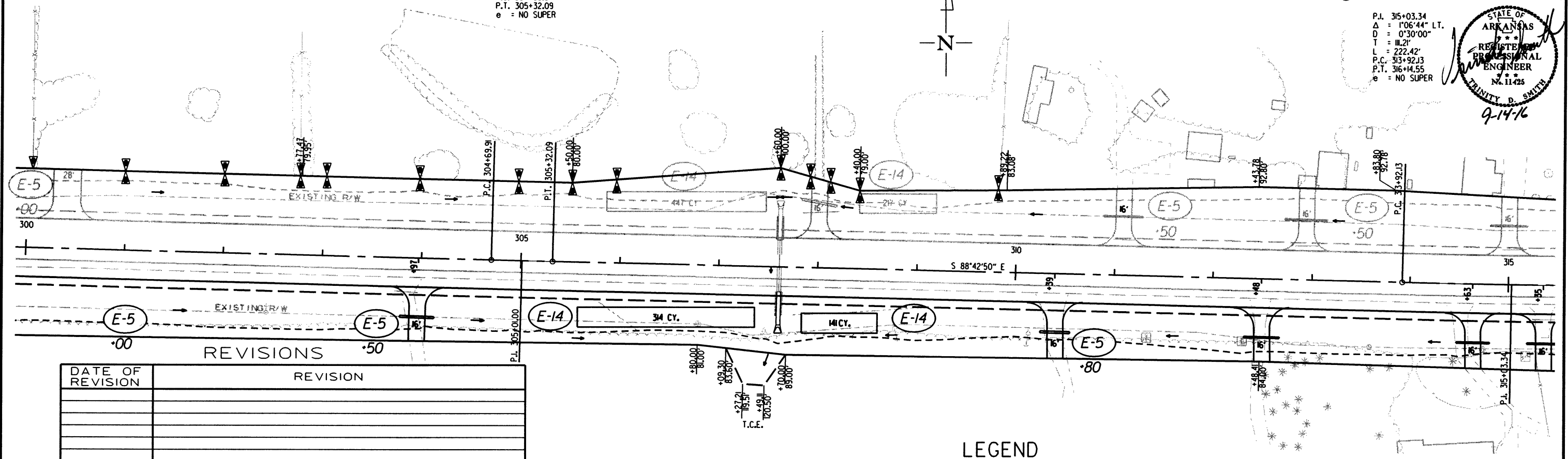
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 33        | 287          |

## ② TEMPORARY EROSION CONTROL DETAILS

P.I. 315+03.34  
 $\Delta$  = 1°06'44" LT.  
 $D$  = 0°30'00"  
 $T$  = 11.21'  
 $L$  = 222.42'  
P.C. 313+92.13  
P.T. 316+14.55  
e = NO SUPER



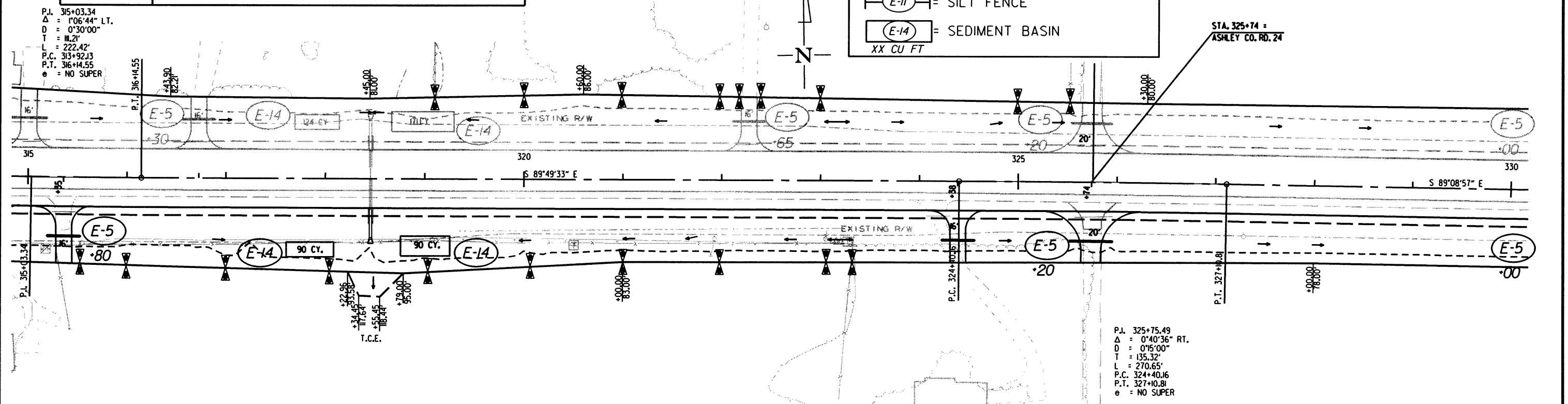
P.I. 305+01.00  
 $\Delta$  = 0°09'20" LT.  
 $D$  = 0°15'00"  
 $T$  = 31.09'  
 $L$  = 62.18'  
P.C. 304+69.91  
P.T. 305+32.09  
e = NO SUPER



| DATE OF REVISION | REVISION |
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## LEGEND

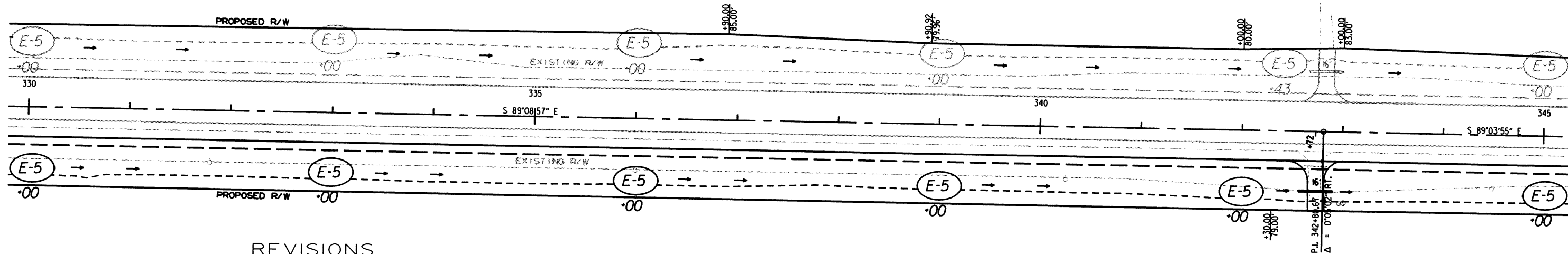
- (E-5) = SAND BAG DITCH CHECKS
- (E-11) = SILT FENCE
- (E-14) = SEDIMENT BASIN  
XX CU FT



P.I. 325+75.49  
 $\Delta$  = 0°40'36" RT.  
 $D$  = 0°15'00"  
 $T$  = 135.32'  
 $L$  = 270.65'  
P.C. 324+40.16  
P.T. 327+10.81  
e = NO SUPER

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 34        | 287          |

2 TEMPORARY EROSION CONTROL DETAILS

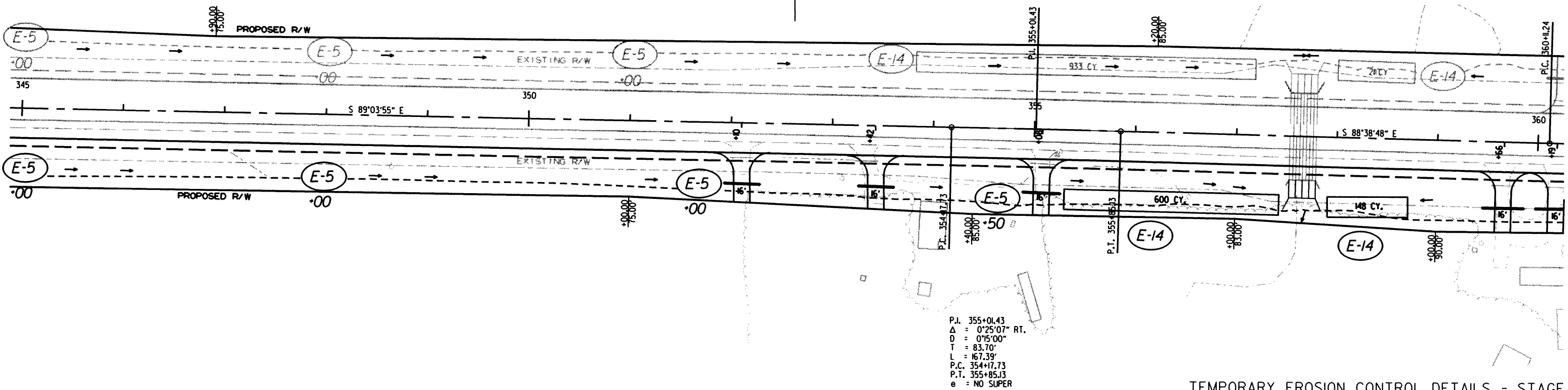


REVISIONS

| DATE OF REVISION | REVISION |
|------------------|----------|
|                  |          |
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LEGEND

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



TEMPORARY EROSION CONTROL DETAILS - STAGE 2

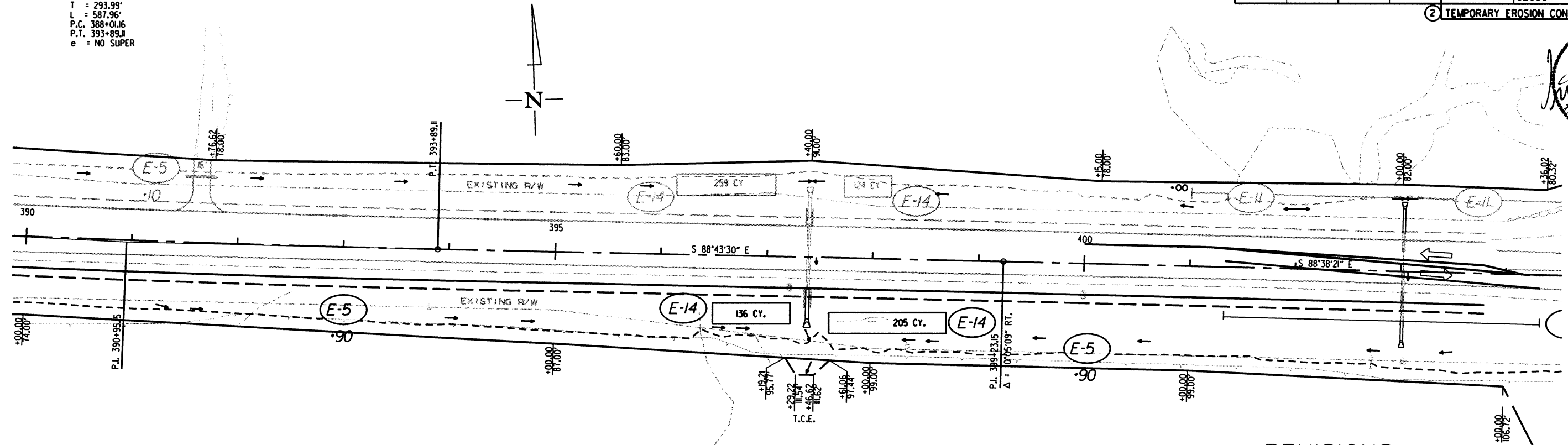
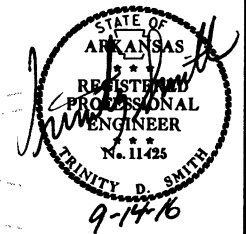




P.I. 390+95.15  
Δ = 1°28'12" LT.  
D = 0°15'00"  
T = 293.99'  
L = 587.96'  
P.C. 388+01.16  
P.T. 393+89.11  
e = NO SUPER

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 36        | 287          |

2 TEMPORARY EROSION CONTROL DETAILS

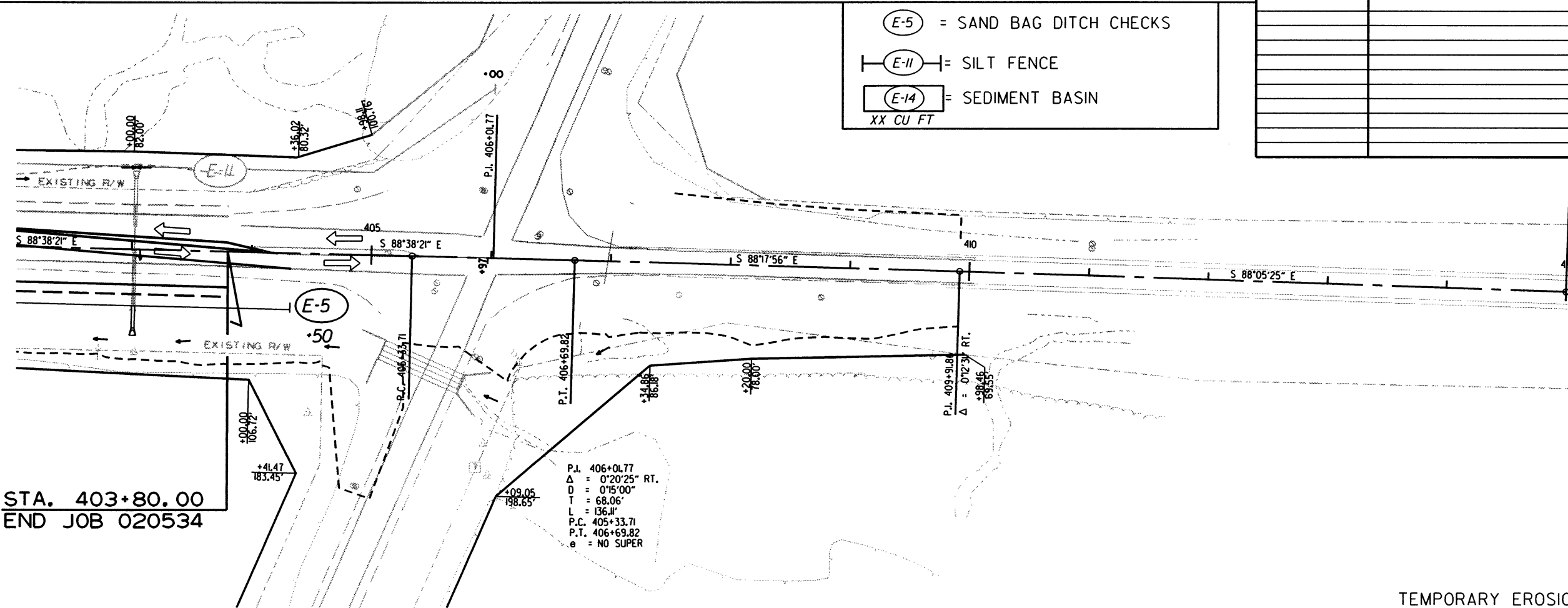


LEGEND

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

REVISIONS

| DATE OF REVISION | REVISION |
|------------------|----------|
|                  |          |
|                  |          |
|                  |          |
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|                  |          |
|                  |          |



STA. 403+80.00  
END JOB 020534

P.I. 406+01.77  
Δ = 0°20'25" RT.  
D = 0°15'00"  
T = 68.06'  
L = 136.11'  
P.C. 405+33.71  
P.T. 406+69.82  
e = NO SUPER



MAINTENANCE OF TRAFFIC:

STAGE 1:  
INSTALL LEVELING AS NEEDED.  
MAINTAIN TRAFFIC ON EXISTING LANES.  
PLACE VERTICAL PANELS ON LT. EXISTING LANE EDGE  
AT 50' O.C.  
CONST. LT. SIDE OF BRIDGES STA. 207+98.50-STA. 209+04.50,  
STA. 260+78.90-STA. 262+25.46,  
STA. 377+70.38-STA. 279+17.54 CONST. LT. OF CONSTRUCTION CL.  
INSTALL SIDE DRAINS LT. OF EXISTING.  
CONST. DRIVES LT. OF EXISTING.  
EXTEND DRAINAGE STRUCTURES LT. OF EXISTING.  
INSTALL CONSTRUCTION PAVEMENT MARKINGS.

STAGE 2:  
SHIFT TRAFFIC ONTO STAGE 1 CONSTRUCTION.  
PLACE TRAFFIC DRUMS ON LANE EDGE AT 100' O.C.  
CONST. RT. SIDE OF BRIDGES STA. 207+98.50-STA. 209+04.50,  
STA. 260+78.90-STA. 262+25.46,  
STA. 377+70.38-STA. 279+17.54 CONST. RT. OF CONSTRUCTION CL.  
INSTALL SIDE DRAINS RT. OF EXISTING.  
CONST. DRIVES RT. OF EXISTING.  
EXTEND DRAINAGE STRUCTURES RT. OF EXISTING.

STAGE 3:  
SHIFT TRAFFIC TO CONSTRUCTION CL.  
INSTALL FINAL 2" ACHM SURFACE COURSE.  
CONST. GUARDRAIL.  
INSTALL FINAL STRIPING.

QUANTITIES: STAGE 1  
SIGNS = 1050.0 SQ. FT.

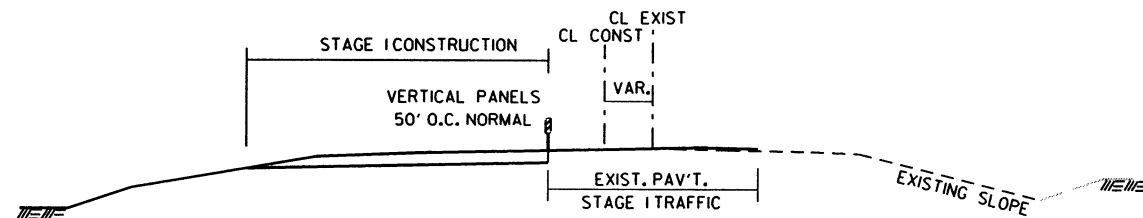
VERTICAL PANELS = 176 EACH  
TRAFFIC DRUMS = 422 EACH

(TYPE III) BARRICADES  
16' LT. = 3 EACH  
16' RT. = 7 EACH

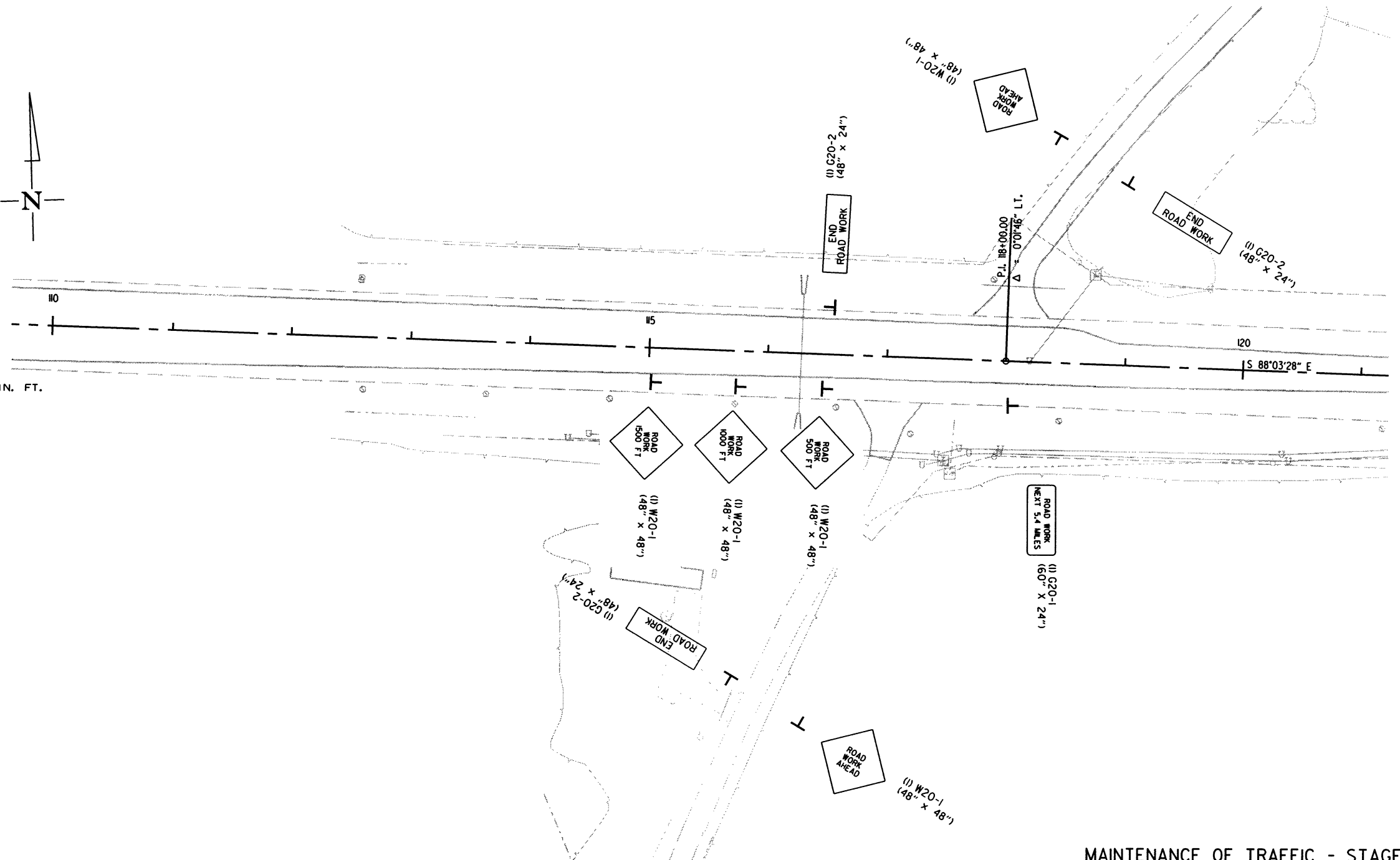
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 2349 LIN. FT.  
TEMPORARY IMPACT ATTENUATION BARRIER = 1 EACH  
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 1 EACH

CONSTRUCTION PAVEMENT MARKINGS = 110853 LIN. FT.

RAISED PAVEMENT MARKERS (TYPE III)  
YELLOW/YELLOW = 350 EACH



STAGE 1 TRAFFIC



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 37           | 287             |

② MAINTENANCE OF TRAFFIC

DO  
NOT  
PASS

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

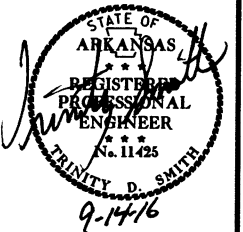
SHOULDER  
CLOSED

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

TO BE USED IF AND WHERE  
DIRECTED BY THE ENGINEER.

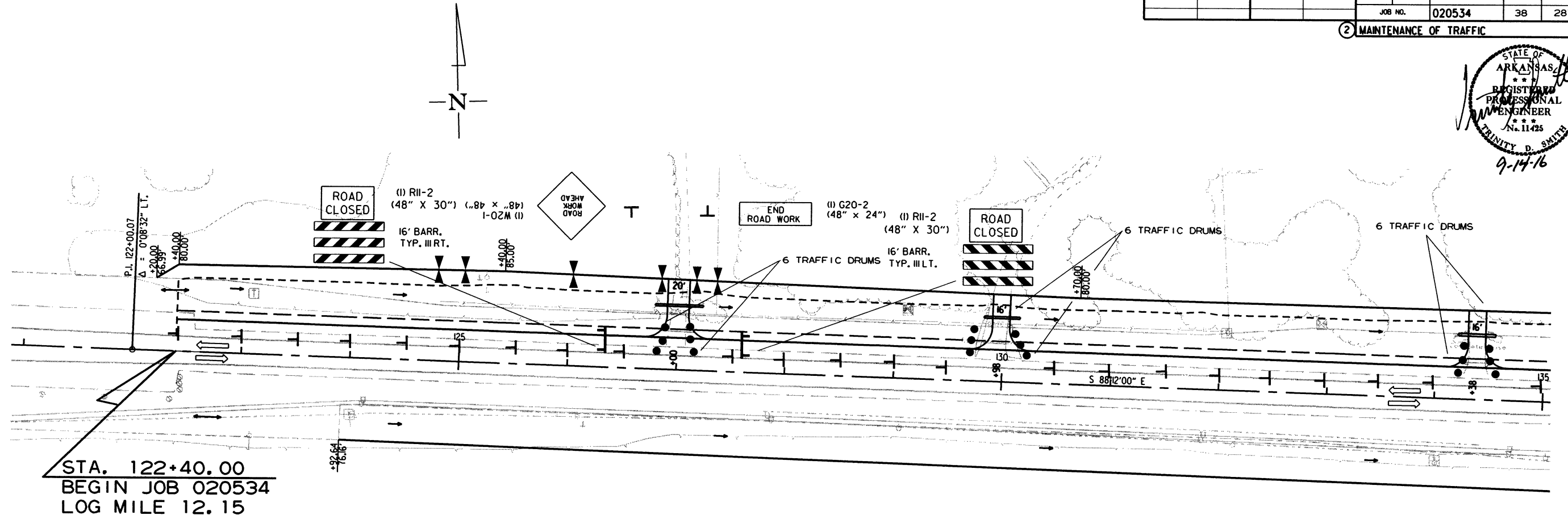
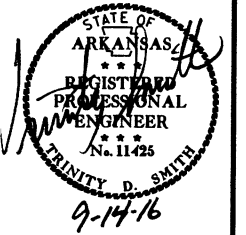
XX  
M.P.H.

(2) W13-1  
(24" X 24")



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 38           | 287             |

② MAINTENANCE OF TRAFFIC



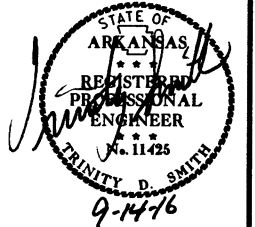
MAINTENANCE OF TRAFFIC - STAGE 1

7/18/2016

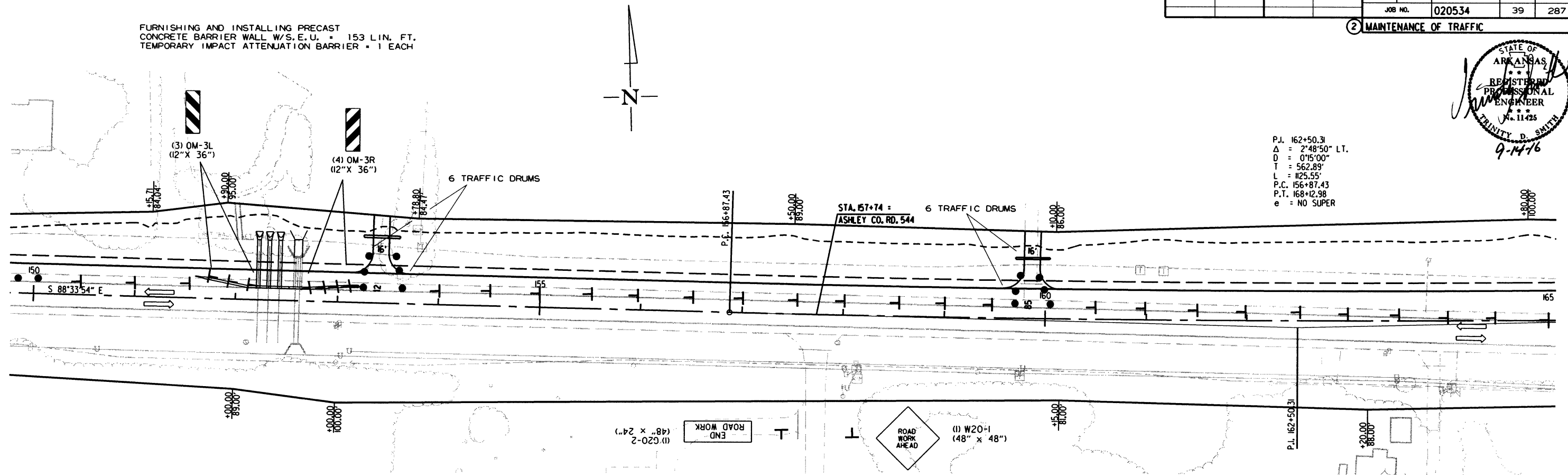
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 39           | 287             |

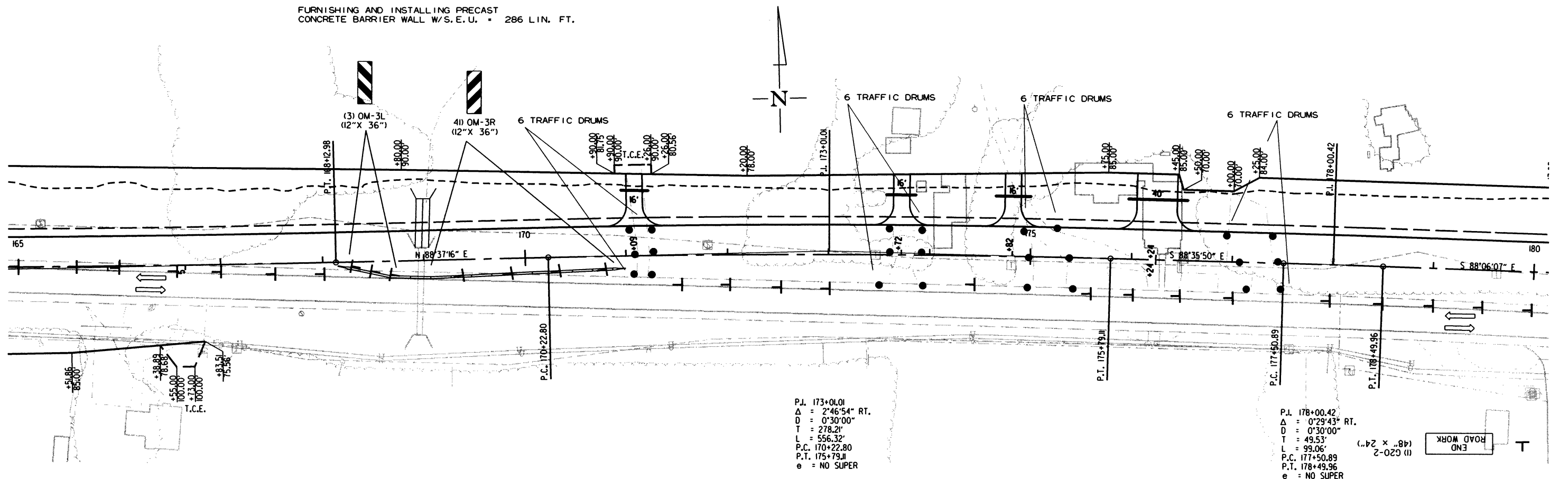
② MAINTENANCE OF TRAFFIC



P.I. 162+50.31  
 $\Delta$  = 2°48'50" LT.  
 $D$  = 0°15'00"  
 $T$  = 562.89'  
 $L$  = 1125.55'  
P.C. 156+87.43  
P.T. 168+12.98  
 $e$  = NO SUPER



FURNISHING AND INSTALLING PRECAST  
CONCRETE BARRIER WALL W/S.E.U. = 286 LIN. FT.



P.I. 178+00.42  
 $\Delta$  = 0°29'43" RT.  
 $D$  = 0°30'00"  
 $T$  = 49.53'  
 $L$  = 99.06'  
P.C. 177+50.89  
P.T. 178+49.96  
 $e$  = NO SUPER

MAINTENANCE OF TRAFFIC - STAGE I

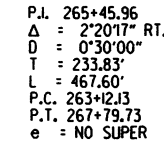
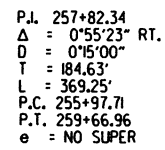
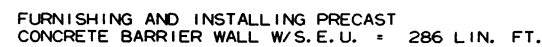
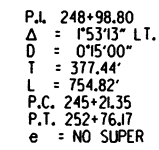
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## ② MAINTENANCE OF TRAFFIC

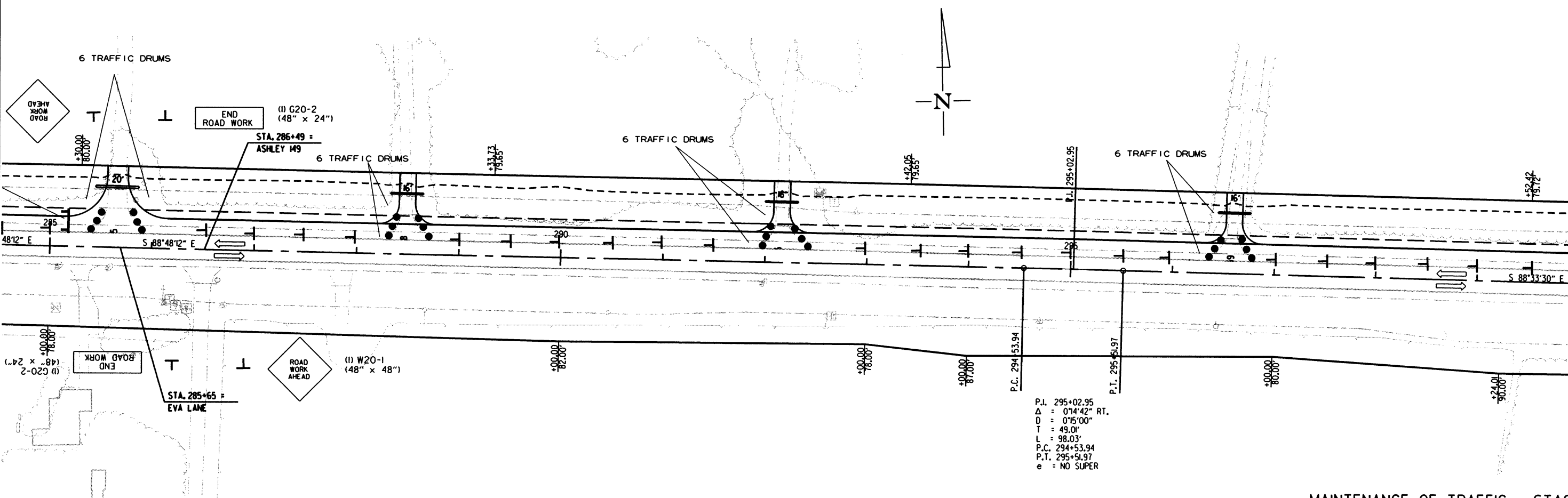
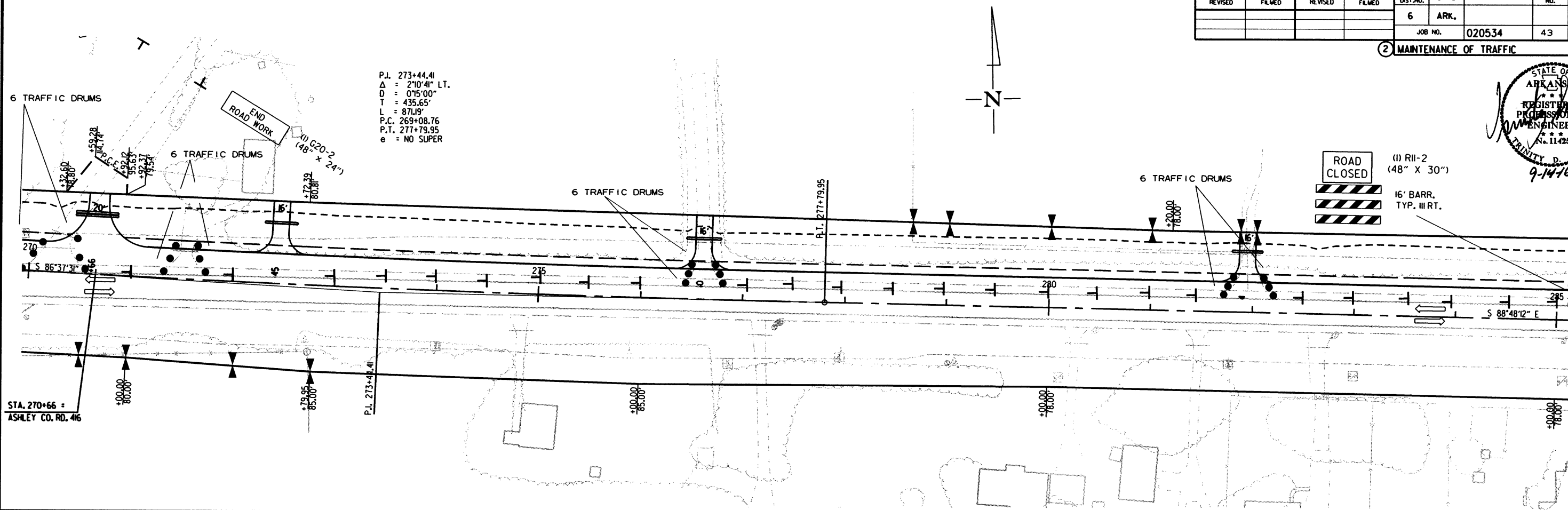
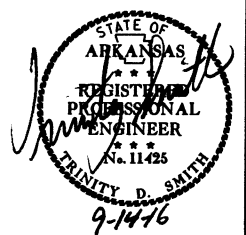


### MAINTENANCE OF TRAFFIC - STAGE I



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. PROJ. NO. | STATE | FED. PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|----------------|-----------------|----------------|----------------|-------|----------------|-----------|--------------|
|                 |                |                 |                | 6              | ARK.  |                |           |              |
|                 |                |                 |                | JOB NO.        |       | 020534         | 43        | 287          |

② MAINTENANCE OF TRAFFIC



P.I. 295+02.95  
 Δ = 0°14'42" RT.  
 D = 0°15'00"  
 T = 49.01'  
 L = 98.03'  
 P.C. 294+53.94  
 P.T. 295+51.97  
 e = NO SUPER

MAINTENANCE OF TRAFFIC - STAGE 1

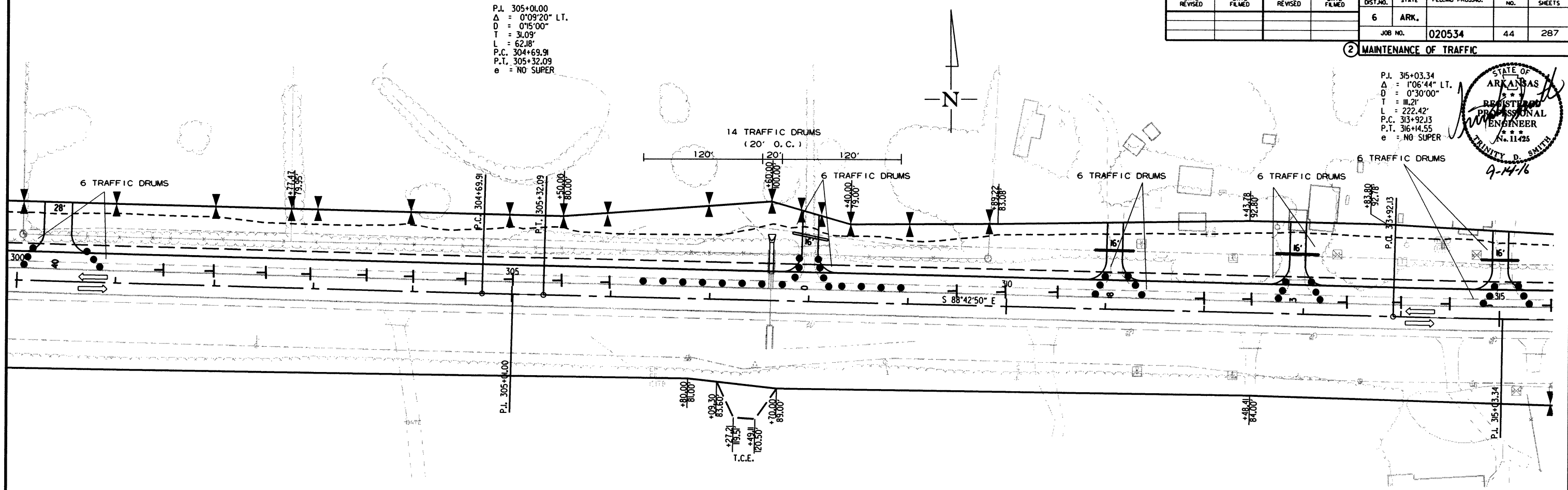
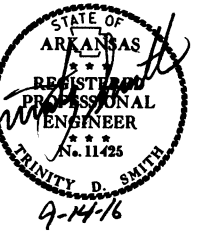
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 R020534.DGN



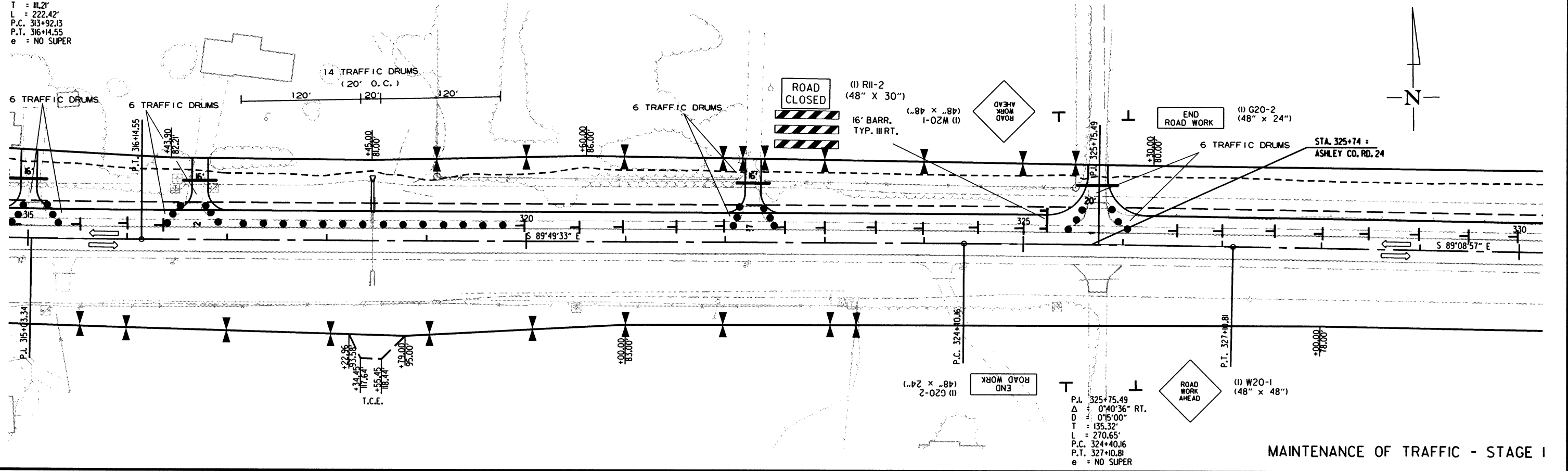
| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 44           | 287             |

## ② MAINTENANCE OF TRAFFIC

P.I. 315+03.34  
 $\Delta = 1^{\circ}06'44''$  LT.  
 $D = 0^{\circ}30'00''$   
 $T = 111.21'$   
 $L = 222.42'$   
P.C. 313+92.13  
P.T. 316+14.55  
e = NO SUPER



P.I. 315+03.34  
 $\Delta = 1^{\circ}06'44''$  LT.  
 $D = 0^{\circ}30'00''$   
 $T = 111.21'$   
 $L = 222.42'$   
P.C. 313+92.13  
P.T. 316+14.55  
e = NO SUPER



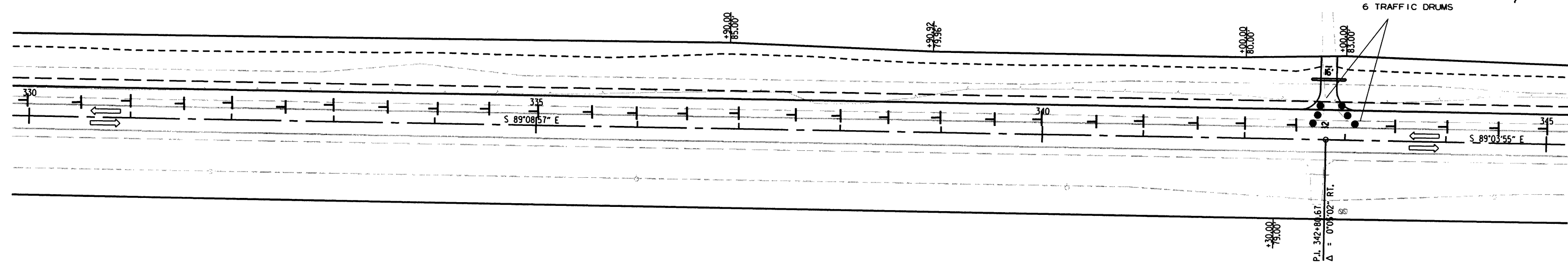
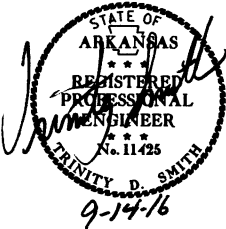
## MAINTENANCE OF TRAFFIC - STAGE 1

7/18/2016

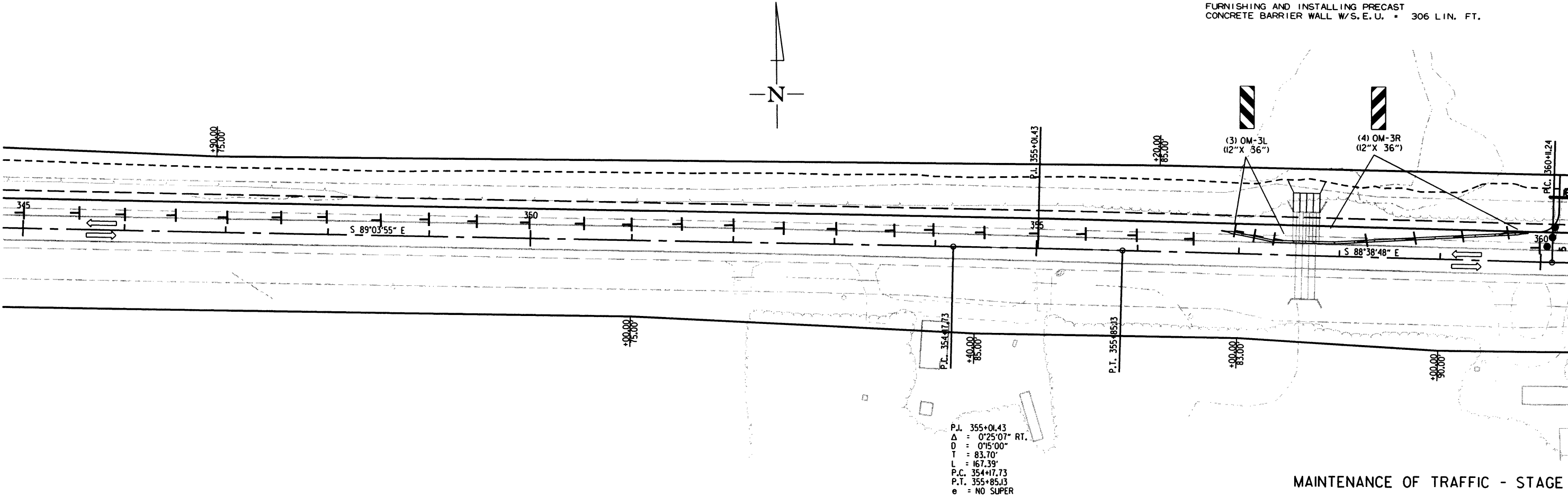
R020534.DGN

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 45        | 287          |

2 MAINTENANCE OF TRAFFIC



FURNISHING AND INSTALLING PRECAST  
CONCRETE BARRIER WALL W/S. E. U. • 306 LIN. FT.

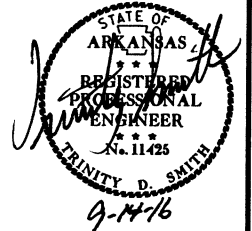


MAINTENANCE OF TRAFFIC - STAGE I

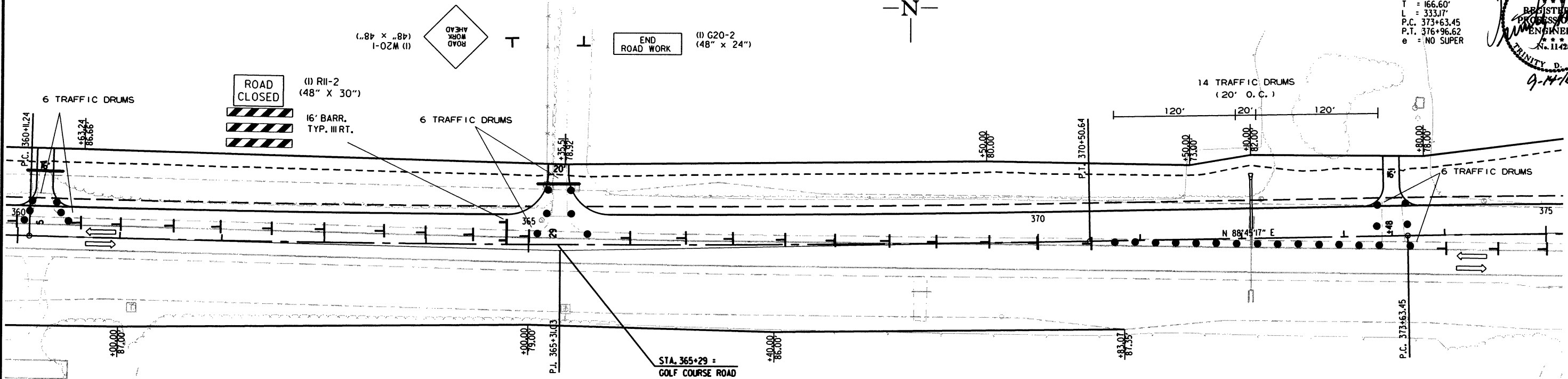
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 46        | 287          |

## ② MAINTENANCE OF TRAFFIC

P.J. 375+30.05  
 $\Delta = 1^{\circ}39'57''$  RT.  
 $D = 0^{\circ}30'00''$   
 $T = 166.60'$   
 $L = 333.17'$   
P.C. 373+63.45  
P.T. 376+96.62  
e = NO SUPER

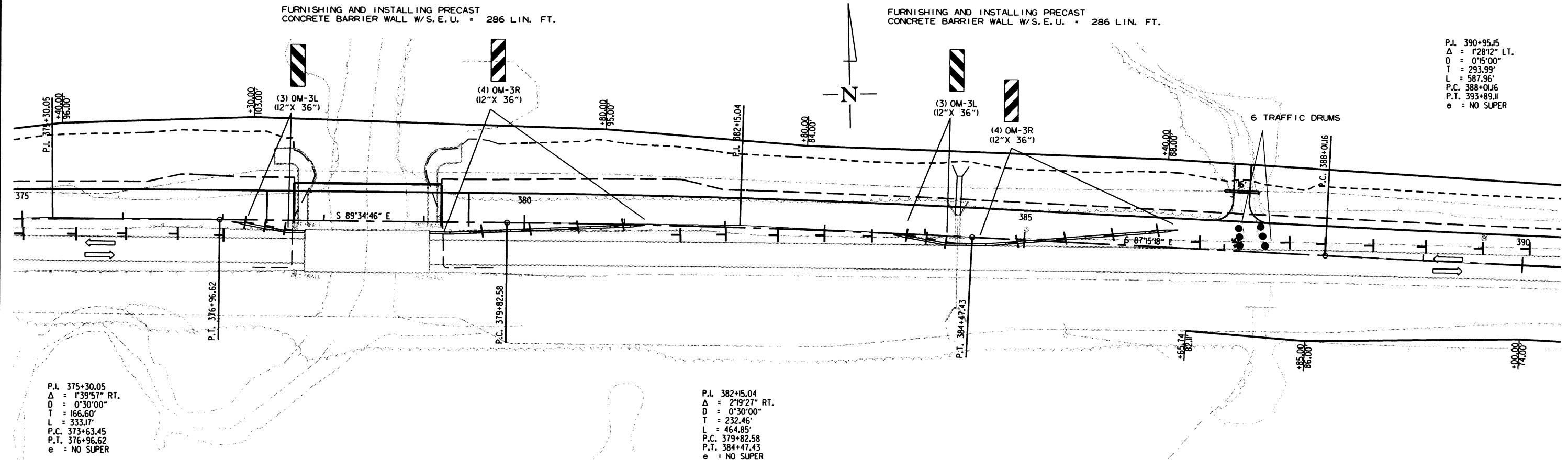


P.J. 365+31.03  
 $\Delta = 2^{\circ}35'55''$  LT.  
 $D = 0^{\circ}15'00''$   
 $T = 519.79'$   
 $L = 1039.40'$   
P.C. 360+11.24  
P.T. 370+50.64  
e = NO SUPER



FURNISHING AND INSTALLING PRECAST  
CONCRETE BARRIER WALL W/S. E. U. = 286 LIN. FT.

FURNISHING AND INSTALLING PRECAST  
CONCRETE BARRIER WALL W/S. E. U. = 286 LIN. FT.



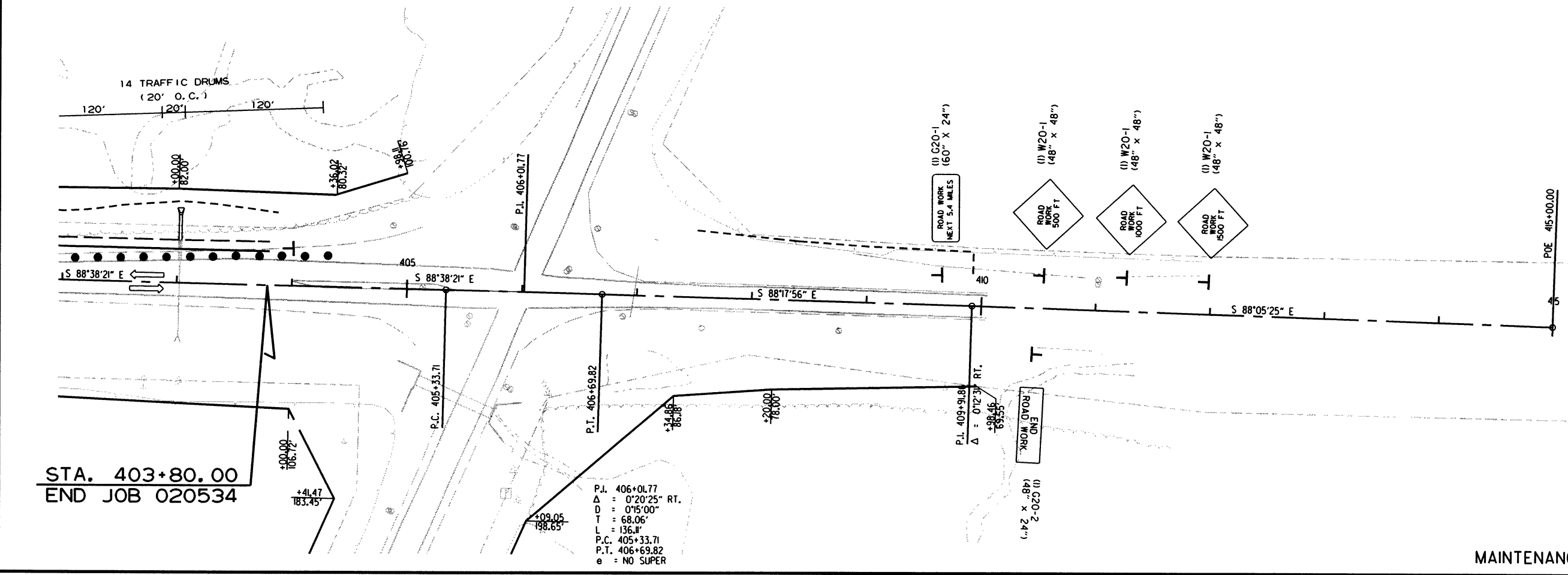
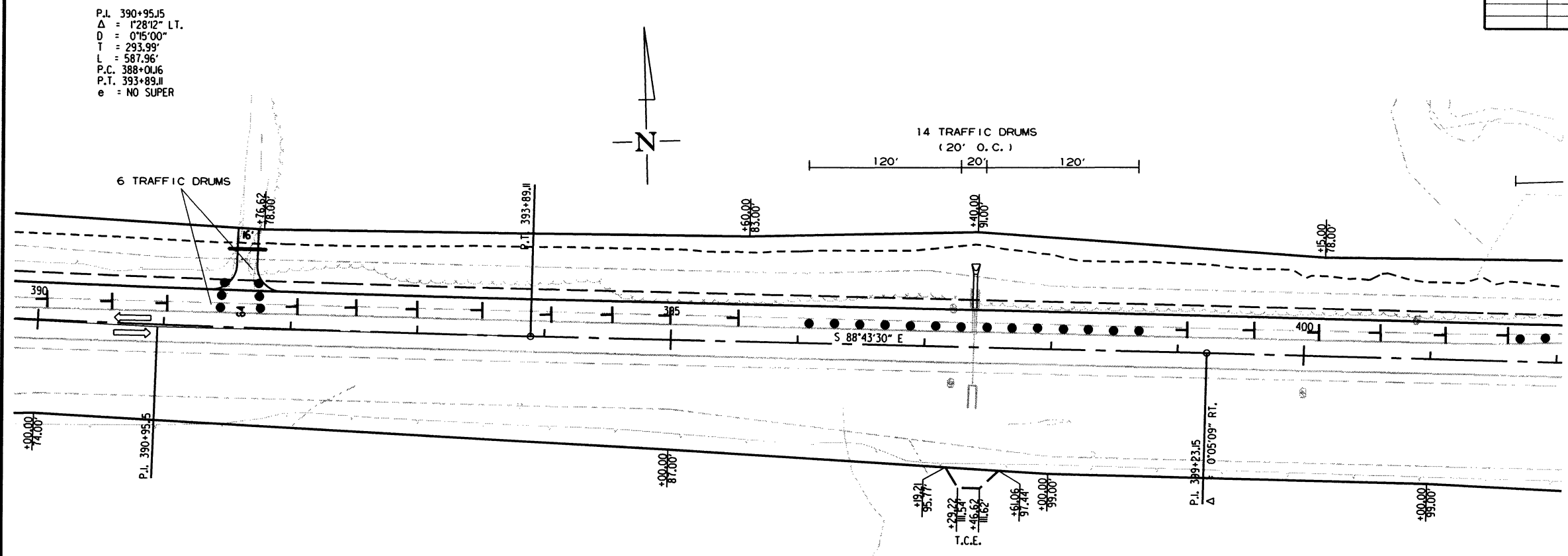
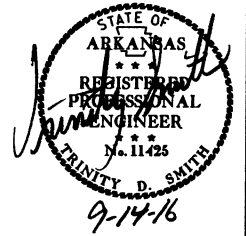
P.J. 390+95.15  
 $\Delta = 1^{\circ}28'12''$  LT.  
 $D = 0^{\circ}15'00''$   
 $T = 293.99'$   
 $L = 587.96'$   
P.C. 388+01.16  
P.T. 393+89.11  
e = NO SUPER

P.J. 375+30.05  
 $\Delta = 1^{\circ}39'57''$  RT.  
 $D = 0^{\circ}30'00''$   
 $T = 166.60'$   
 $L = 333.17'$   
P.C. 373+63.45  
P.T. 376+96.62  
e = NO SUPER

P.J. 382+15.04  
 $\Delta = 2^{\circ}19'27''$  RT.  
 $D = 0^{\circ}30'00''$   
 $T = 232.46'$   
 $L = 464.85'$   
P.C. 379+82.58  
P.T. 384+47.43  
e = NO SUPER

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 47        | 287          |

② MAINTENANCE OF TRAFFIC



MAINTENANCE OF TRAFFIC - STAGE 1

MAINTENANCE OF TRAFFIC:

STAGE 1:  
 INSTALL LEVELING AS NEEDED.  
 MAINTAIN TRAFFIC ON EXISTING LANES.  
 PLACE VERTICAL PANELS ON LT. EXISTING LANE EDGE  
 AT 50' O.C.  
 CONST. LT. SIDE OF BRIDGES STA. 207+98.50-STA. 209+04.50,  
 STA. 260+78.90-STA. 262+25.46,  
 STA. 377+70.38-STA. 279+17.54 CONST. LT. OF CONSTRUCTION CL.  
 INSTALL SIDE DRAINS LT. OF EXISTING.  
 CONST. DRIVES LT. OF EXISTING.  
 EXTEND DRAINAGE STRUCTURES LT. OF EXISTING.  
 INSTALL CONSTRUCTION PAVEMENT MARKINGS.

STAGE 2:  
 SHIFT TRAFFIC ONTO STAGE 1 CONSTRUCTION.  
 PLACE TRAFFIC DRUMS ON LANE EDGE AT 100' O.C.  
 CONST. RT. SIDE OF BRIDGES STA. 207+98.50-STA. 209+04.50,  
 STA. 260+78.90-STA. 262+25.46,  
 STA. 377+70.38-STA. 279+17.54 CONST. RT. OF CONSTRUCTION CL.  
 INSTALL SIDE DRAINS RT. OF EXISTING.  
 CONST. DRIVES RT. OF EXISTING.  
 EXTEND DRAINAGE STRUCTURES RT. OF EXISTING.

STAGE 3:  
 SHIFT TRAFFIC TO CONSTRUCTION CL.  
 INSTALL FINAL 2" ACHM SURFACE COURSE.  
 CONST. GUARDRAIL.  
 INSTALL FINAL STRIPING.

QUANTITIES:

SIGNS = 1150 SQ. FT.

TRAFFIC DRUMS = 605 EACH

(TYPE III) BARRICADES

16' LT. = 4 EACH

16' RT. = 11 EACH

FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 179 LIN. FT.

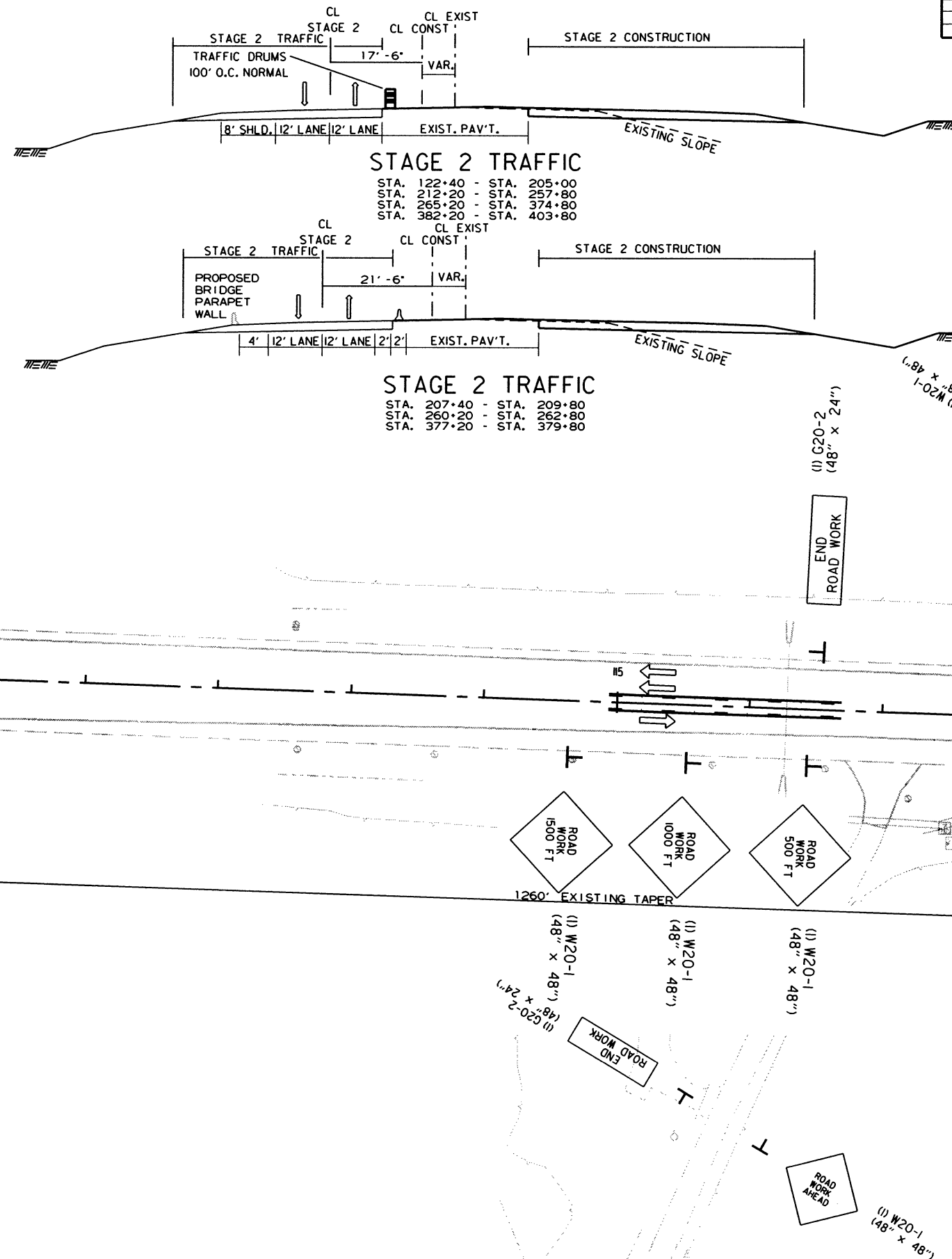
RELOCATING PRECAST CONCRETE BARRIER = 2349 LIN. FT.

CONSTRUCTION PAVEMENT MARKINGS = 113425 LIN. FT.

REMOVAL OF PERMANENT PAVEMENT MARKINGS = 3729 LIN. FT.

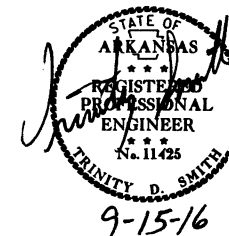
RAISED PAVEMENT MARKERS (TYPE III)

YELLOW/YELLOW = 364 EACH



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|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 48        | 287          |

2 MAINTENANCE OF TRAFFIC

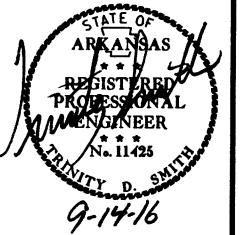


DO NOT PASS (10) R4-1 (24" X 30")

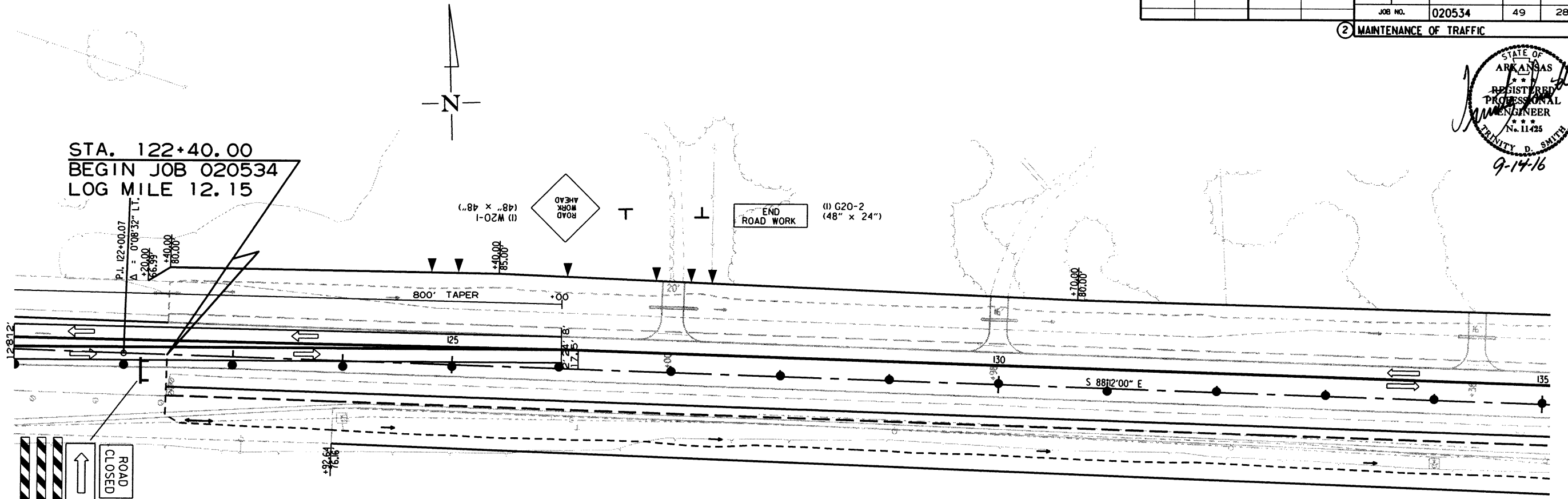
SHOULDER CLOSED (10) RSP-1 (48" X 30")

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 49           | 287             |

② MAINTENANCE OF TRAFFIC



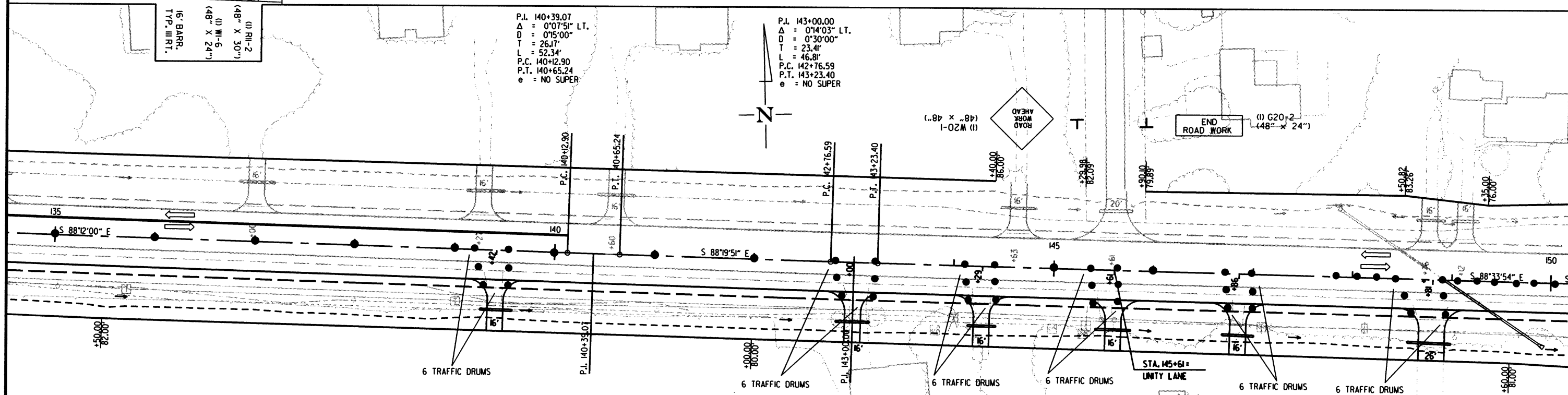
STA. 122+40.00  
BEGIN JOB 020534  
LOG MILE 12.15



ROAD  
CLOSED  
(48" X 24")  
1260' EXISTING  
TAPER  
16' BARR.  
TYP. III RT.

P.L. 140+39.07  
Δ = 0°07'51" LT.  
D = 0°15'00"  
T = 26.17'  
L = 52.34'  
P.C. 140+12.90  
P.T. 140+65.24  
e = NO SUPER

P.L. 143+00.00  
Δ = 0°14'03" LT.  
D = 0°30'00"  
T = 23.41'  
L = 46.81'  
P.C. 142+76.59  
P.T. 143+23.40  
e = NO SUPER



6 TRAFFIC DRUMS

6 TRAFFIC DRUMS

6 TRAFFIC DRUMS

6 TRAFFIC DRUMS

6 TRAFFIC DRUMS

6 TRAFFIC DRUMS

11 TRAFFIC DRUMS  
(20' O.C.)

MAINTENANCE OF TRAFFIC - STAGE 2

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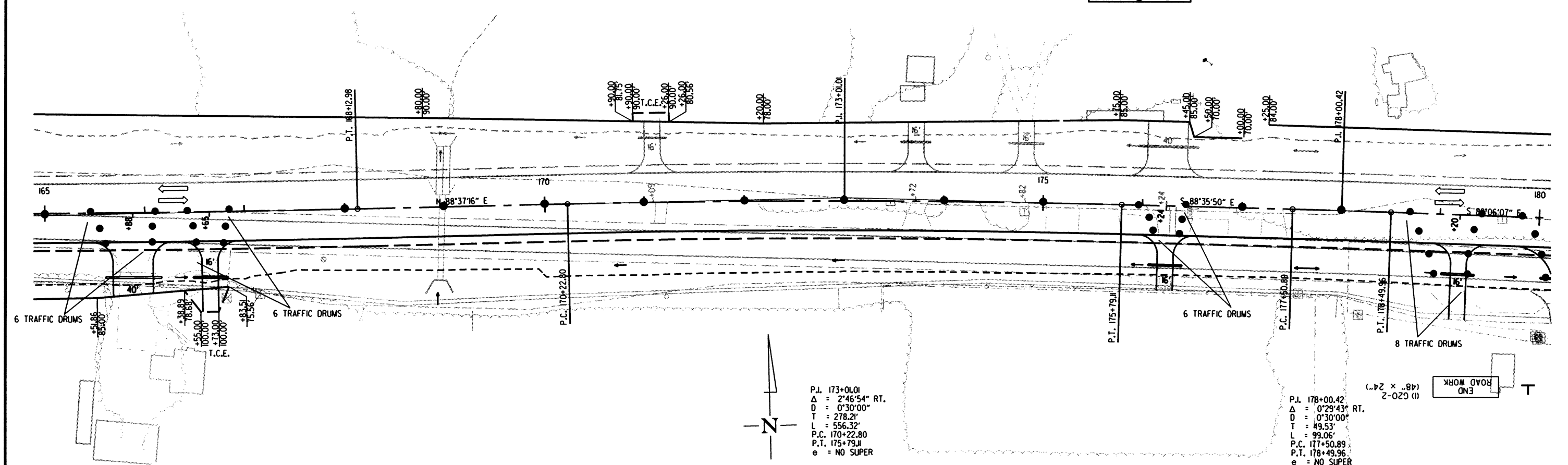
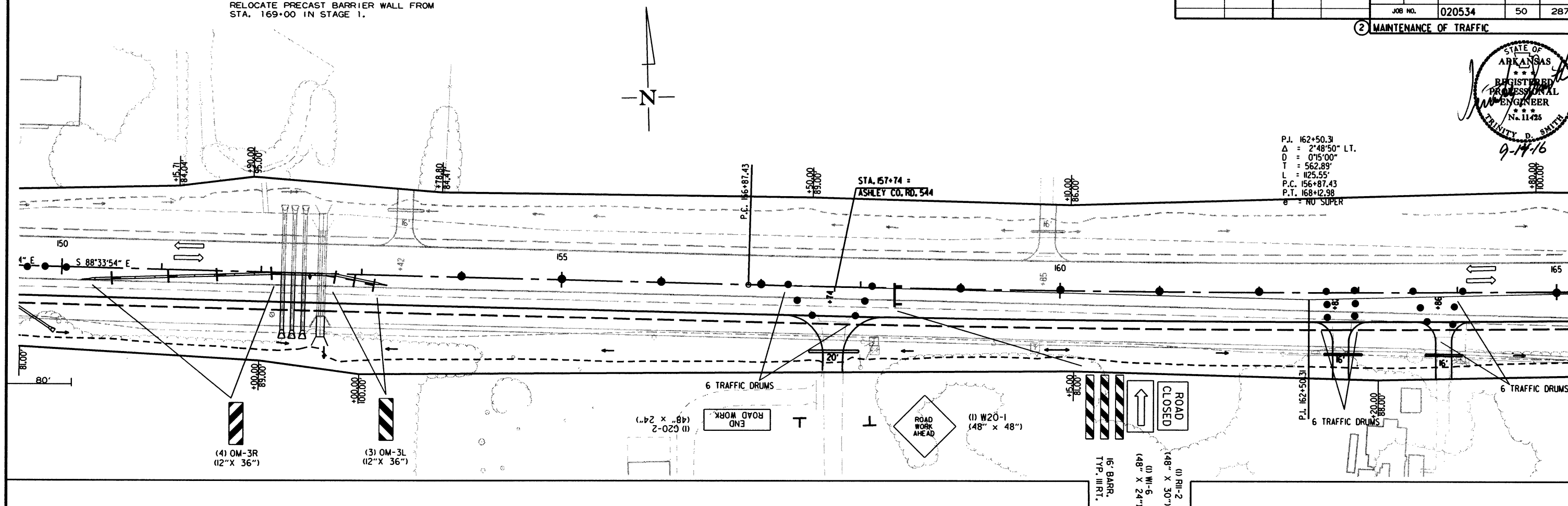
RELOCATING PRECAST CONCRETE BARRIER  
W/S.E.U. = 286 L.N. FT.  
RELOCATE PRECAST BARRIER WALL FROM  
STA. 169+00 IN STAGE 1.

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 50           | 287             |

② MAINTENANCE OF TRAFFIC



P.I. 162+50.31  
 $\Delta$  = 2°48'50" LT.  
D = 0°15'00"  
T = 562.89'  
L = 125.55'  
P.C. 156+87.43  
P.T. 168+12.98  
e = NO SUPER



P.I. 173+01.01  
 $\Delta$  = 2°46'54" RT.  
D = 0°30'00"  
T = 278.21'  
L = 556.32'  
P.C. 170+22.80  
P.T. 175+79.11  
e = NO SUPER

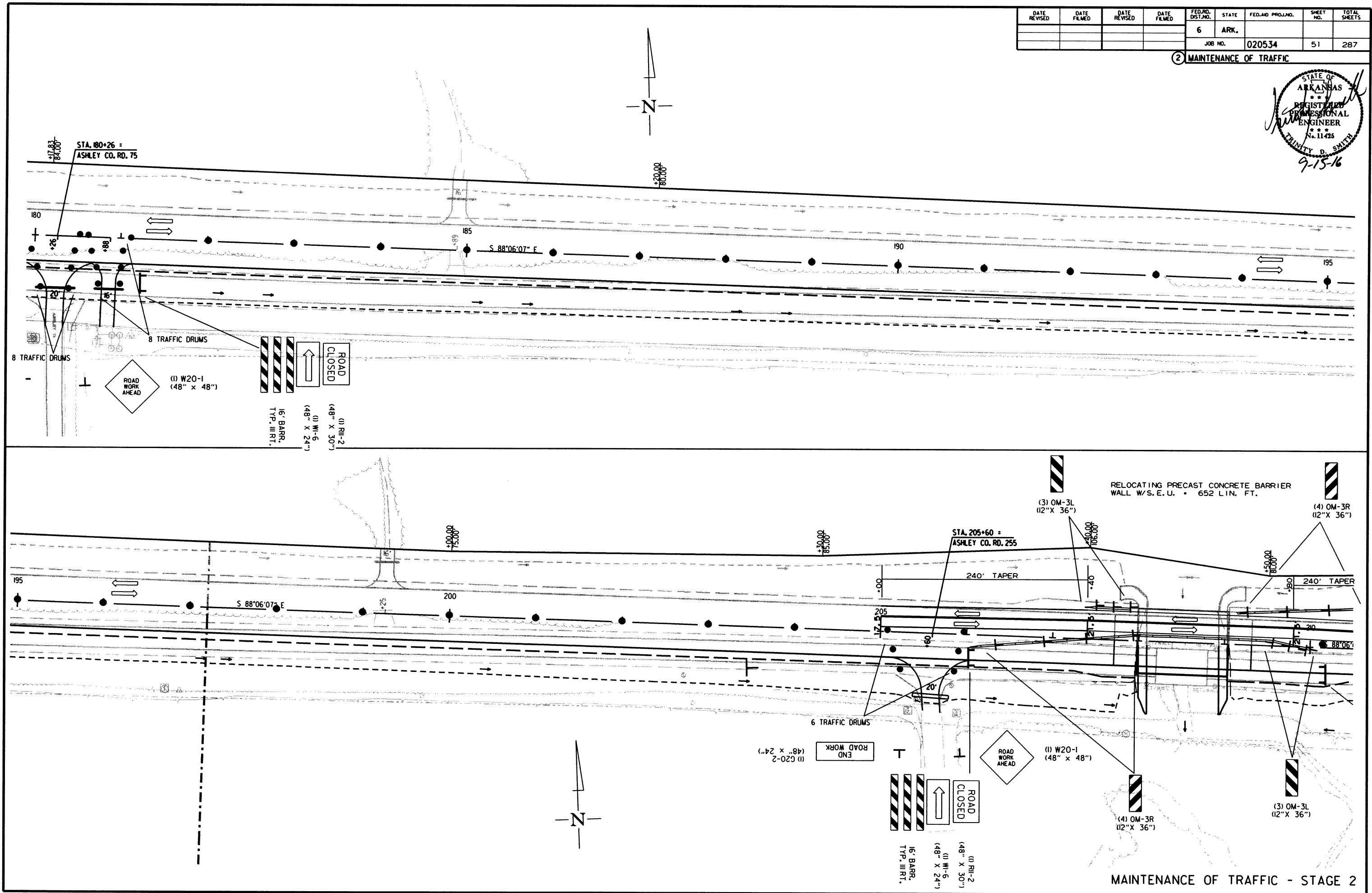
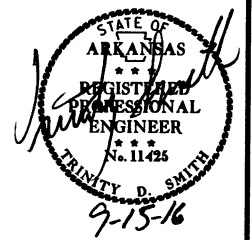
P.I. 178+00.42  
 $\Delta$  = 0°29'43" RT.  
D = 0°30'00"  
T = 49.53'  
L = 99.06'  
P.C. 177+50.89  
P.T. 178+49.96  
e = NO SUPER

MAINTENANCE OF TRAFFIC - STAGE 2



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             |                    |       | JOB NO. 020534     | 51        | 287          |

2 MAINTENANCE OF TRAFFIC

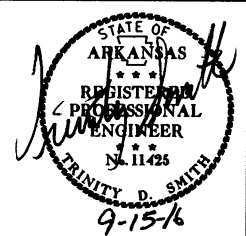


MAINTENANCE OF TRAFFIC - STAGE 2

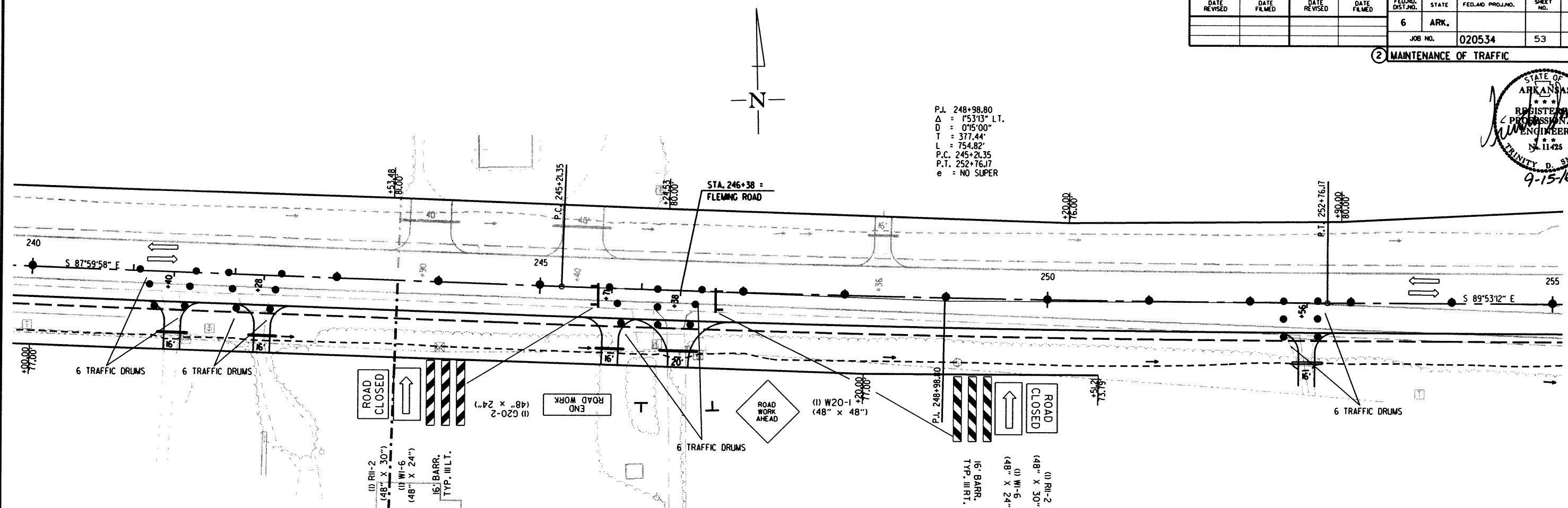


| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 53        | 287          |

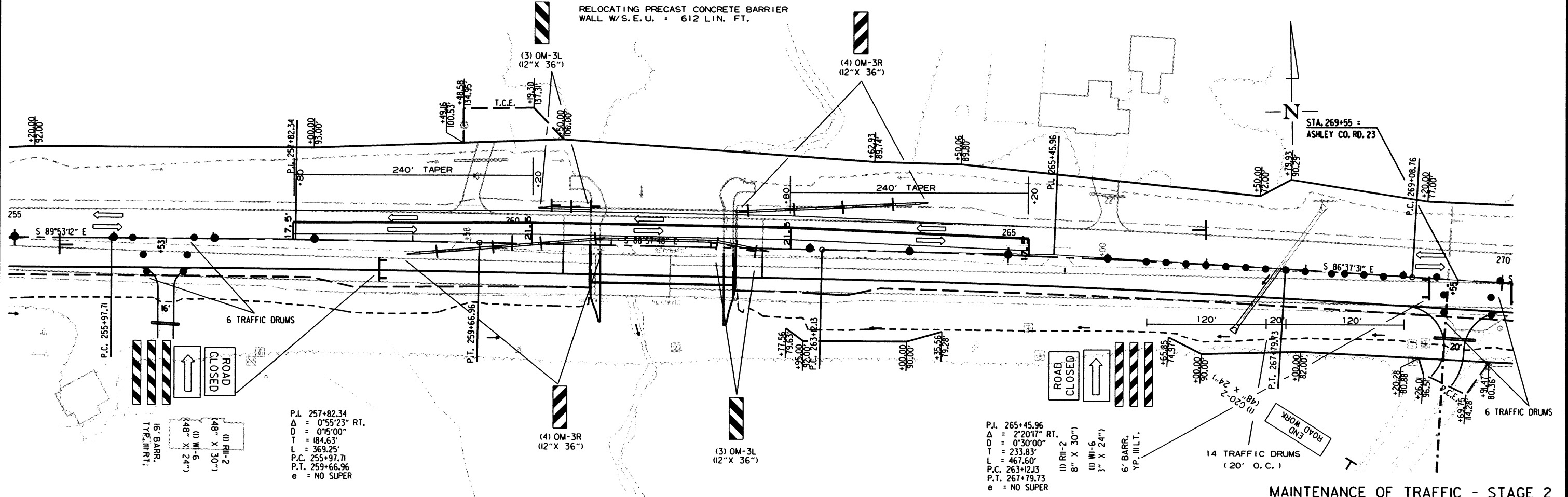
② MAINTENANCE OF TRAFFIC



P.L. 248+98.80  
 $\Delta = 1^{\circ}53'13''$  LT.  
 $D = 0^{\circ}15'00''$   
 $T = 377.44'$   
 $L = 754.82'$   
P.C. 245+21.35  
P.T. 252+76.17  
 $e = \text{NO SUPER}$



RELOCATING PRECAST CONCRETE BARRIER WALL W/S.E.U. = 612 LIN. FT.



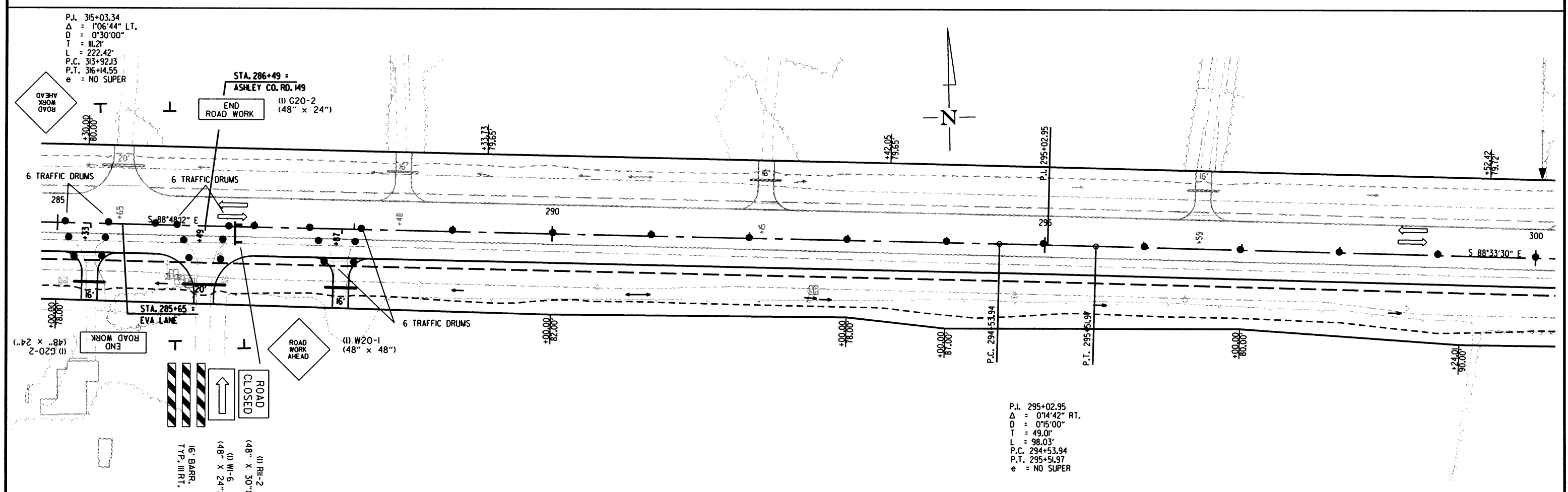
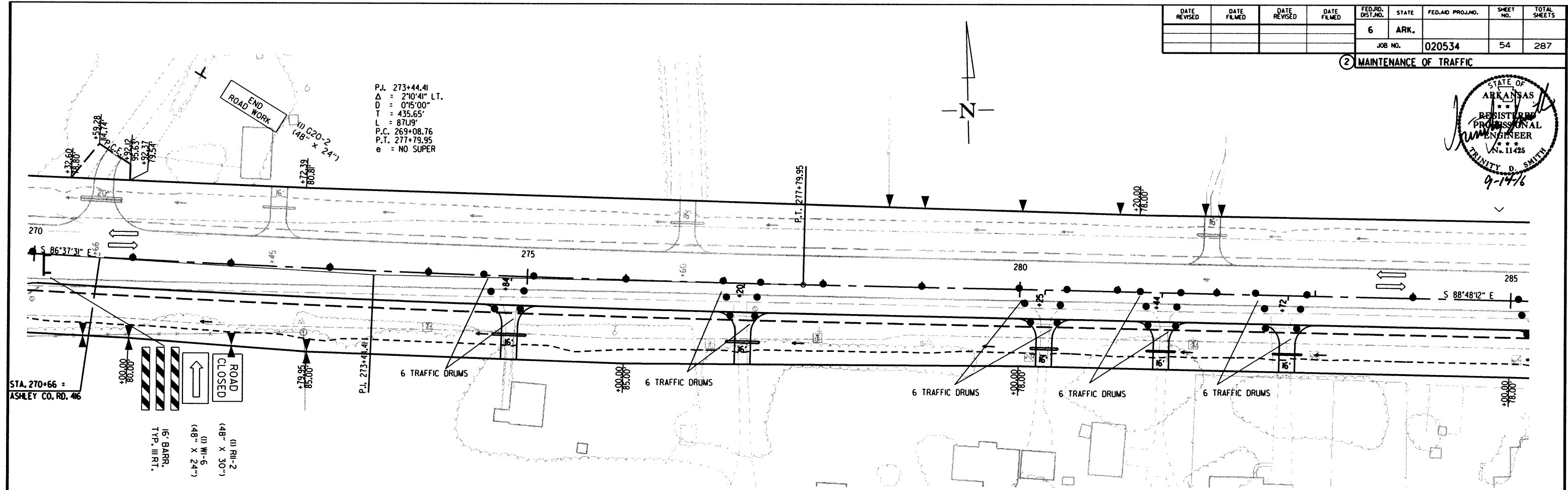
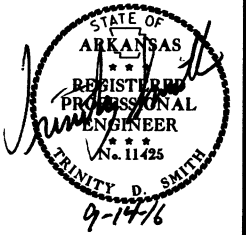
MAINTENANCE OF TRAFFIC - STAGE 2

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| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    | 54        | 287          |
|              |             |              |             | JOB NO. 020534     |       |                    |           |              |

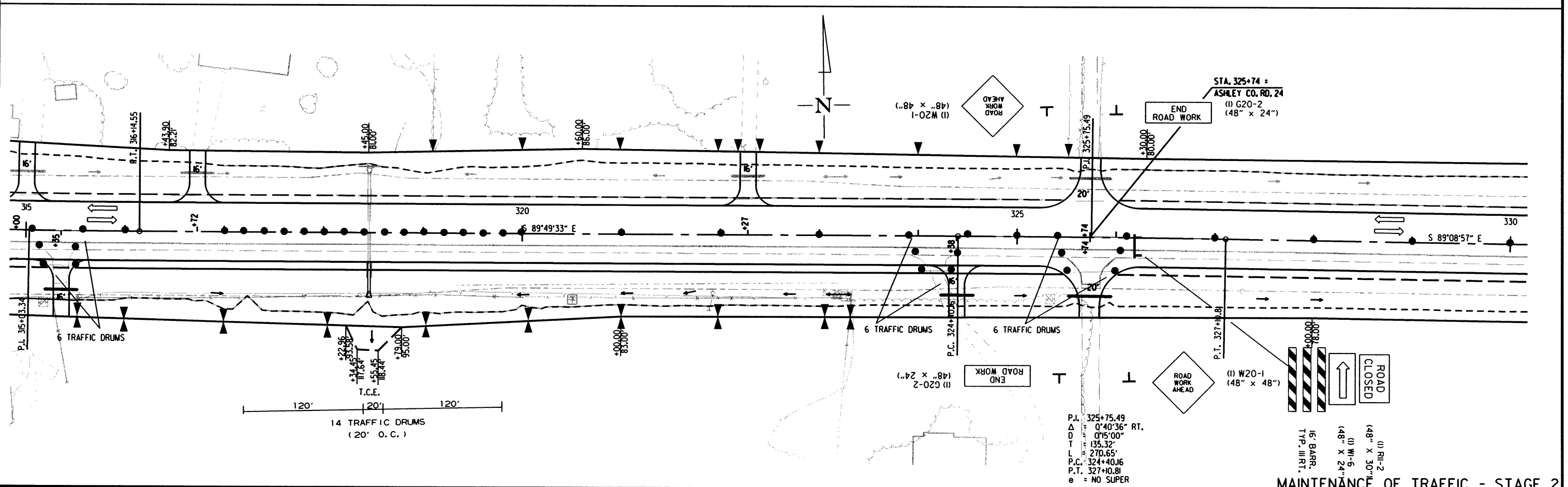
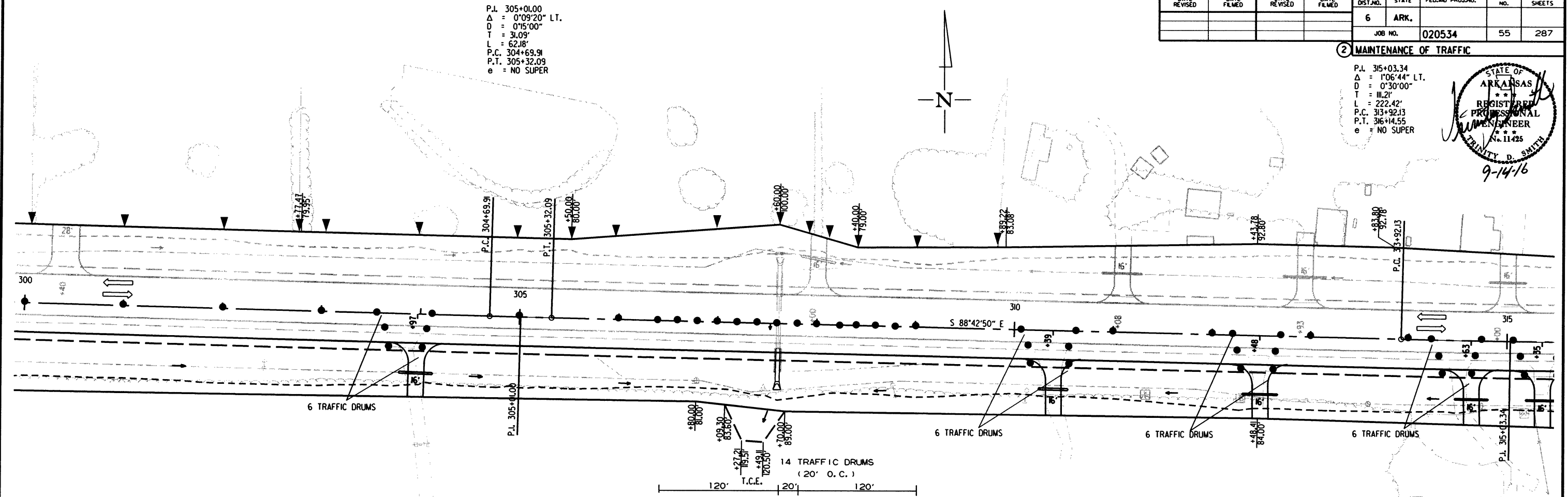
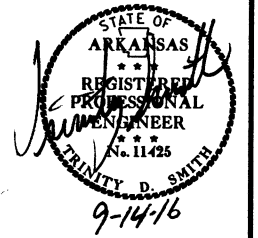
② MAINTENANCE OF TRAFFIC



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 55        | 287          |

## 2 MAINTENANCE OF TRAFFIC

P.L. 315+03.34  
 $\Delta = 1^{\circ}06'44''$  LT.  
 $D = 0^{\circ}30'00''$   
 $T = 111.21'$   
 $L = 222.42'$   
P.C. 313+92.13  
P.T. 316+14.55  
e = NO SUPER



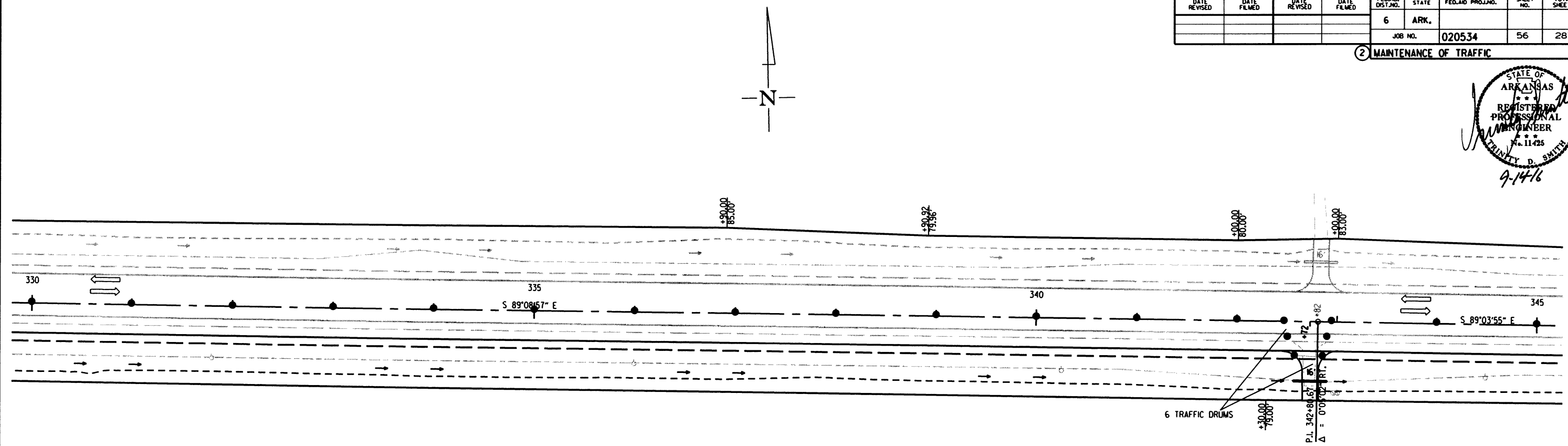
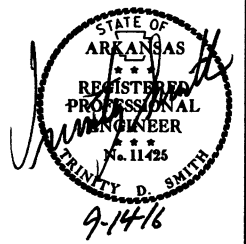
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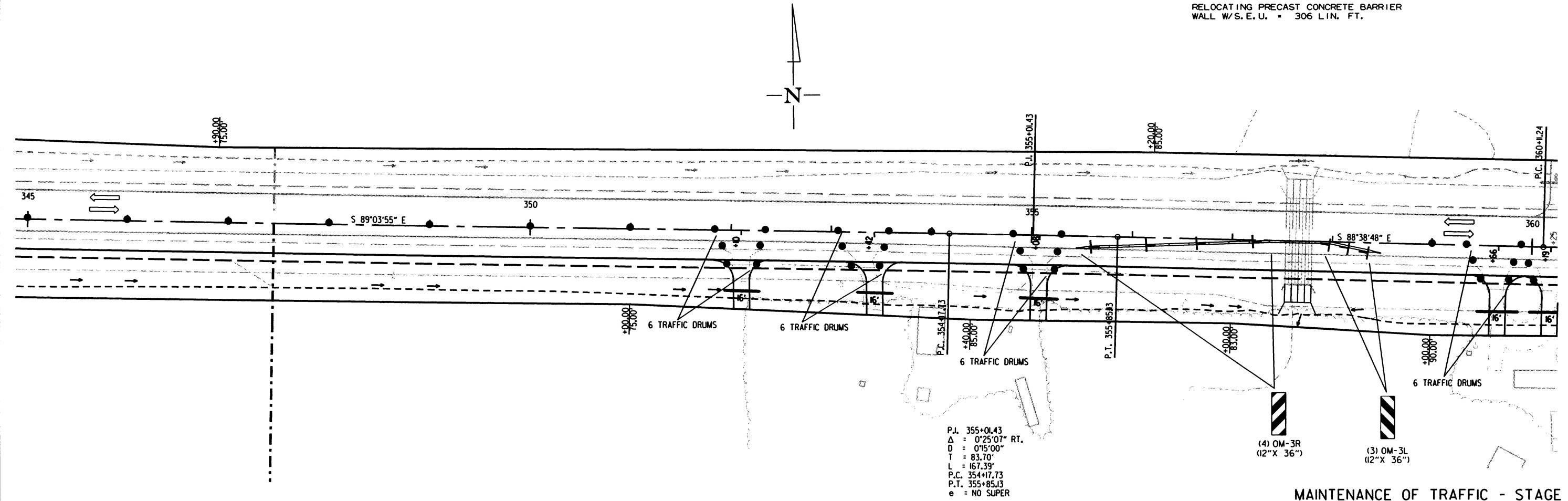
MAINTENANCE OF TRAFFIC - STAGE 2

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 56           | 287             |

② MAINTENANCE OF TRAFFIC



RELOCATING PRECAST CONCRETE BARRIER  
WALL W/S.E.U. = 306 LIN. FT.





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|--------------|-------------|--------------|-------------|----------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6              | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.        |       | 020534             | 57        | 287          |

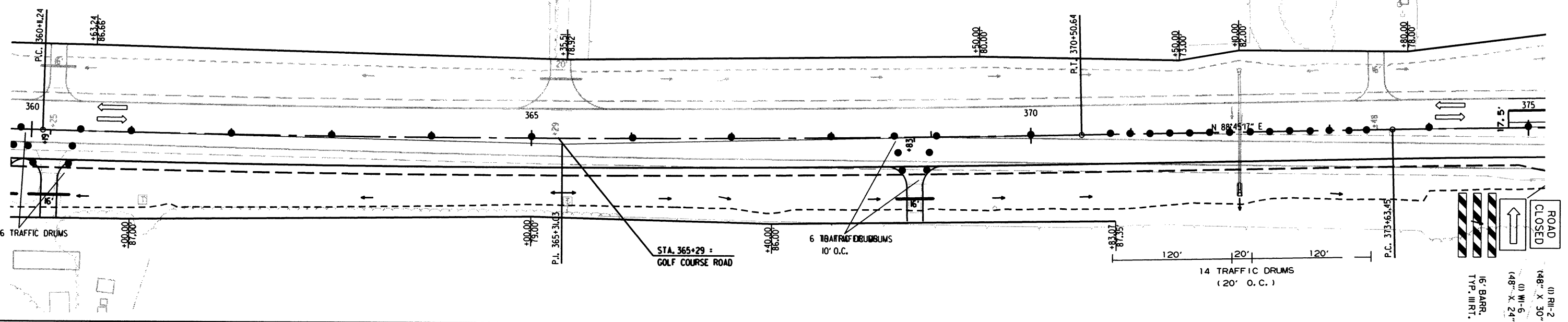
② MAINTENANCE OF TRAFFIC



P.L. 365+31.03  
 $\Delta = 2'35'55''$  LT.  
 $D = 0'15'00''$   
 $T = 519.79'$   
 $L = 1039.40'$   
P.C. 360+11.24  
P.T. 370+50.64  
 $e = \text{NO SUPER}$



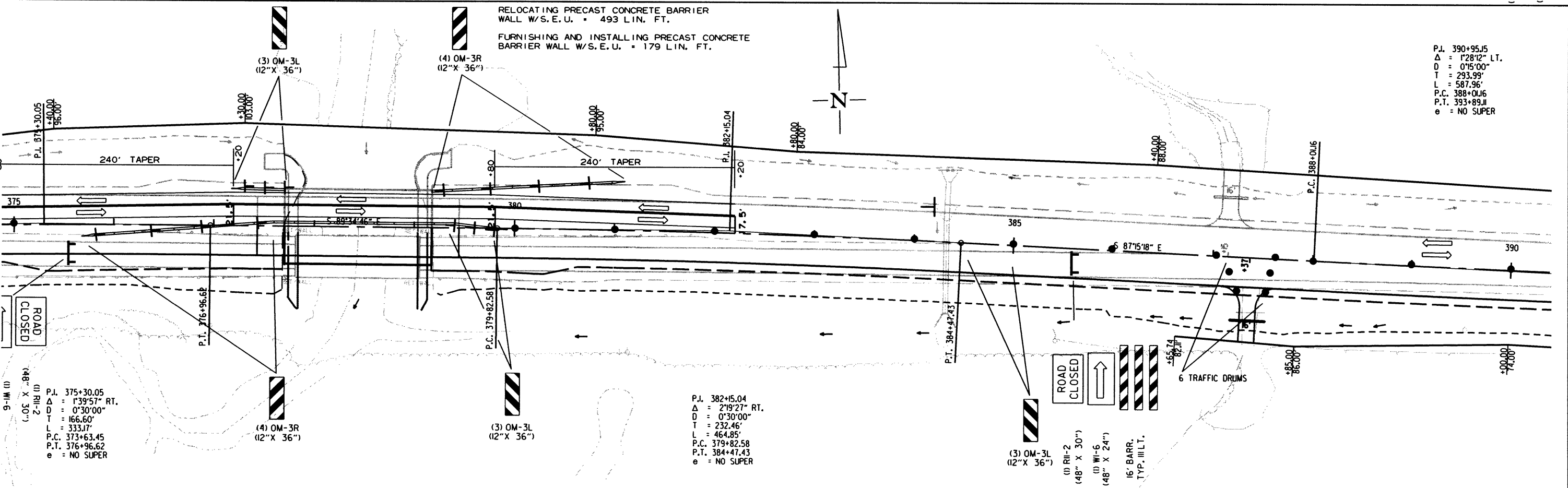
ROAD WORK AHEAD (48" x 48")  
END ROAD WORK (48" x 24")  
(1) G20-2 (48" x 24")



RELOCATING PRECAST CONCRETE BARRIER WALL W/S.E.U. = 493 LIN. FT.  
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER WALL W/S.E.U. = 179 LIN. FT.



P.L. 390+95.15  
 $\Delta = 1'28'12''$  LT.  
 $D = 0'15'00''$   
 $T = 293.99'$   
 $L = 587.96'$   
P.C. 388+01.16  
P.T. 393+89.11  
 $e = \text{NO SUPER}$



MAINTENANCE OF TRAFFIC - STAGE 2

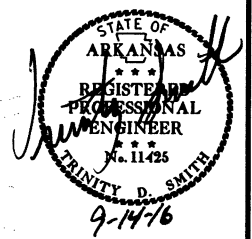
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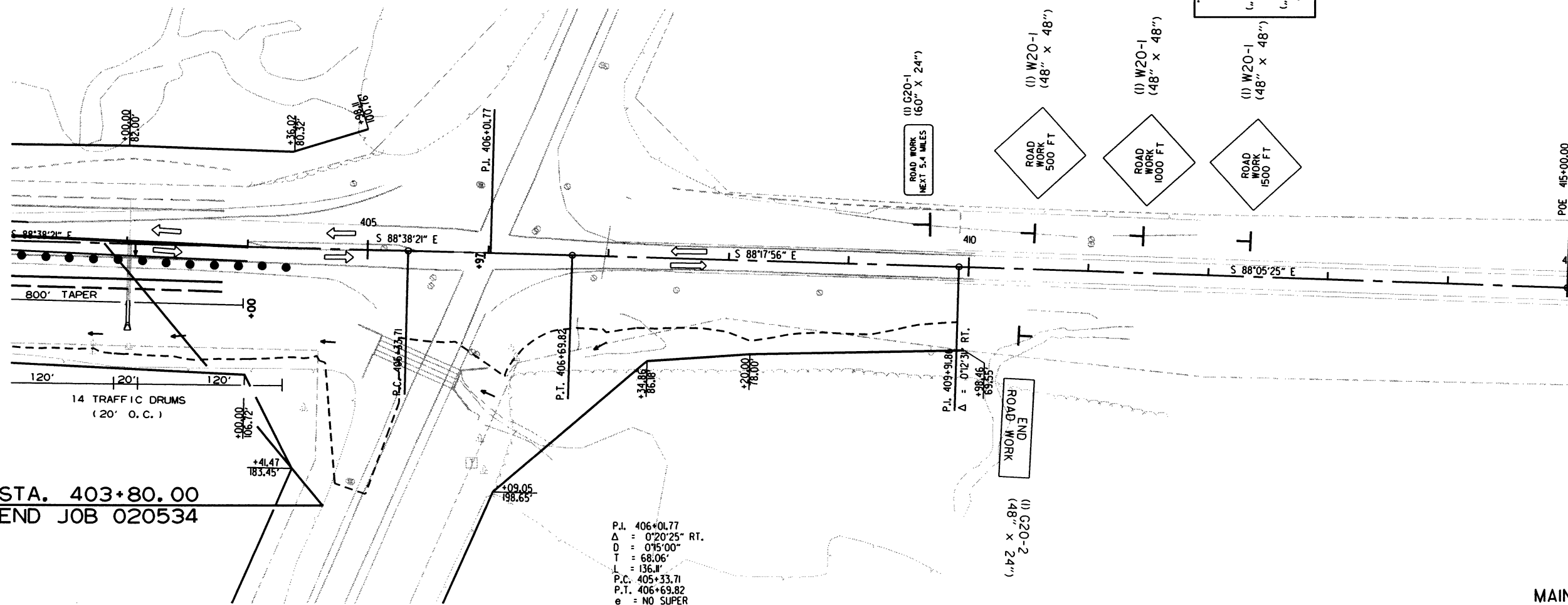
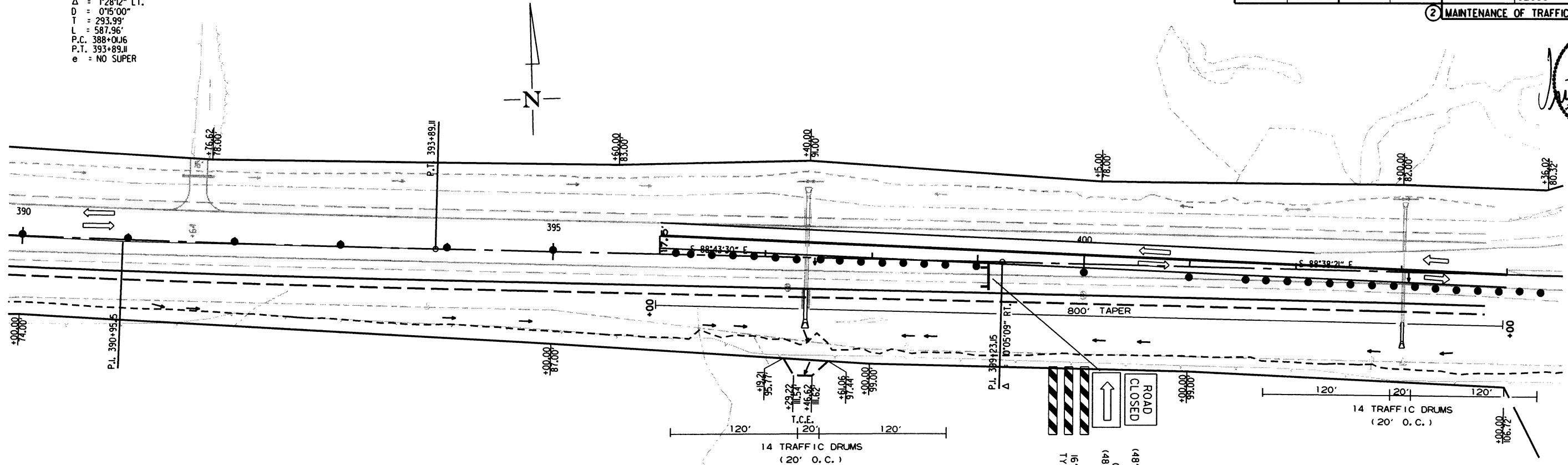


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 58           | 287             |

② MAINTENANCE OF TRAFFIC



P.I. 390+95.5  
 $\Delta = 128'12''$  LT.  
 $D = 0'15'00''$   
 $T = 293.99'$   
 $L = 587.96'$   
P.C. 388+04.6  
P.T. 393+89.11  
 $e = \text{NO SUPER}$



STA. 403+80.00  
END JOB 020534

MAINTENANCE OF TRAFFIC - STAGE 2

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MAINTENANCE OF TRAFFIC:

STAGE 1:  
INSTALL LEVELING AS NEEDED.  
MAINTAIN TRAFFIC ON EXISTING LANES.  
PLACE VERTICAL PANELS ON LT. EXISTING LANE EDGE  
AT 50' O.C.  
CONST. LT. SIDE OF BRIDGES STA. 207+98.50-STA. 209+04.50,  
STA. 260+78.90-STA. 262+25.46,  
STA. 377+70.38-STA. 279+17.54 CONST. LT. OF CONSTRUCTION CL.  
INSTALL SIDE DRAINS LT. OF EXISTING.  
CONST. DRIVES LT. OF EXISTING.  
EXTEND DRAINAGE STRUCTURES LT. OF EXISTING.  
INSTALL CONSTRUCTION PAVEMENT MARKINGS.

STAGE 2:  
SHIFT TRAFFIC ONTO STAGE 1 CONSTRUCTION.  
PLACE TRAFFIC DRUMS ON LANE EDGE AT 100' O.C.  
CONST. RT. SIDE OF BRIDGES STA. 207+98.50-STA. 209+04.50,  
STA. 260+78.90-STA. 262+25.46,  
STA. 377+70.38-STA. 279+17.54 CONST. RT. OF CONSTRUCTION CL.  
INSTALL SIDE DRAINS RT. OF EXISTING.  
CONST. DRIVES RT. OF EXISTING.  
EXTEND DRAINAGE STRUCTURES RT. OF EXISTING.

STAGE 3:  
SHIFT TRAFFIC TO CONSTRUCTION CL.  
INSTALL FINAL 2" ACHM SURFACE COURSE.  
CONST. GUARDRAIL.  
INSTALL FINAL STRIPING.

QUANTITIES:

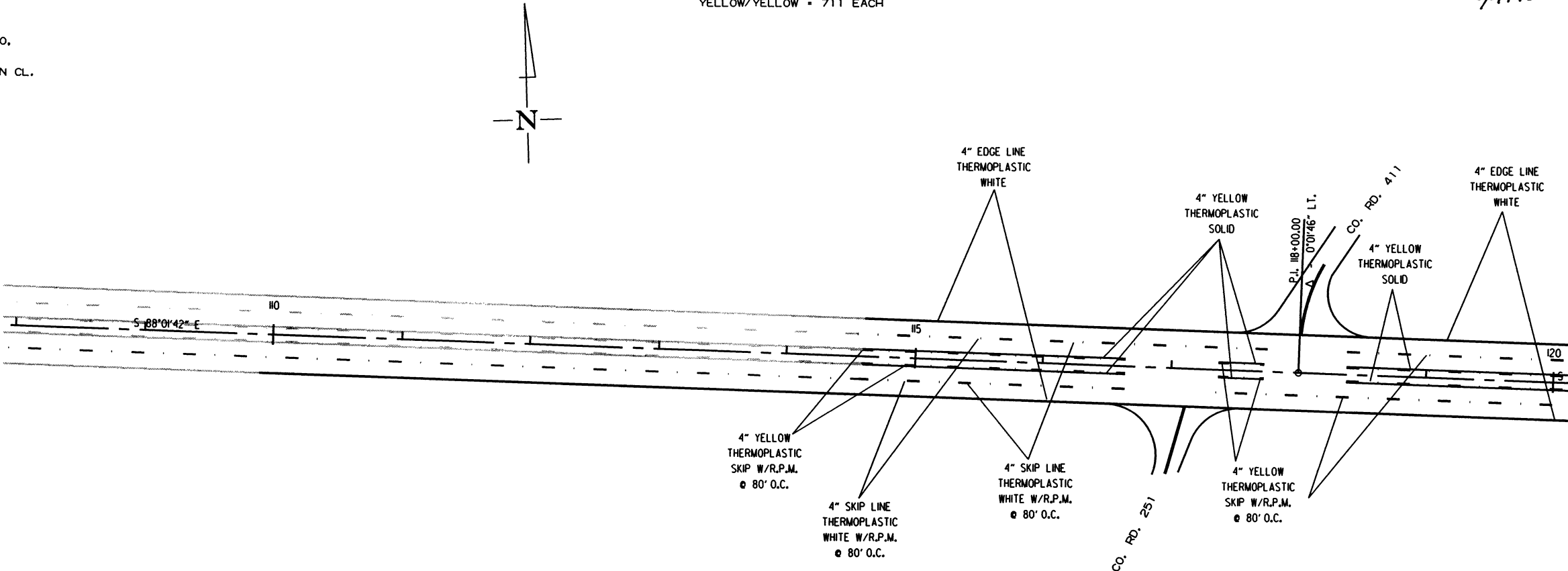
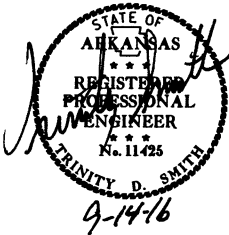
THERMOPLASTIC PAVEMENT MARKING  
4" WHITE = 69639 LIN. FT.  
4" YELLOW = 72121 LIN. FT.  
4" DBL. YELLOW = 1122 LIN. FT.

HIGH PERFORMANCE CONTRAST MARKING TAPE  
4" YELLOW = 1404 LIN. FT.  
4" WHITE = 281 LIN. FT.

RAISED PAVEMENT MARKERS (TYPE 11) (80' O.C.)  
WHITE/RED = 711 EACH  
YELLOW/YELLOW = 711 EACH

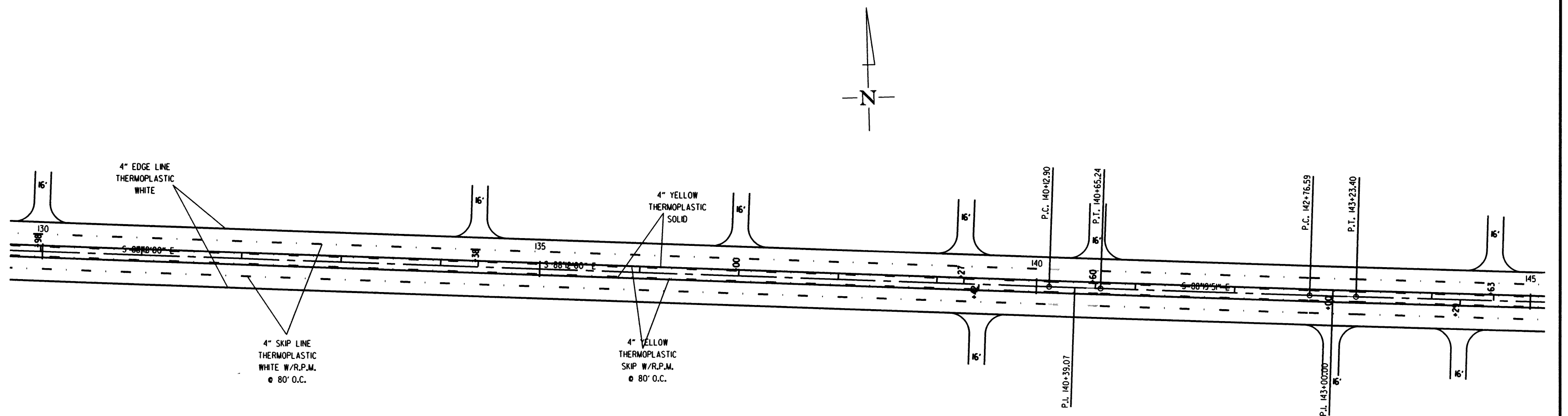
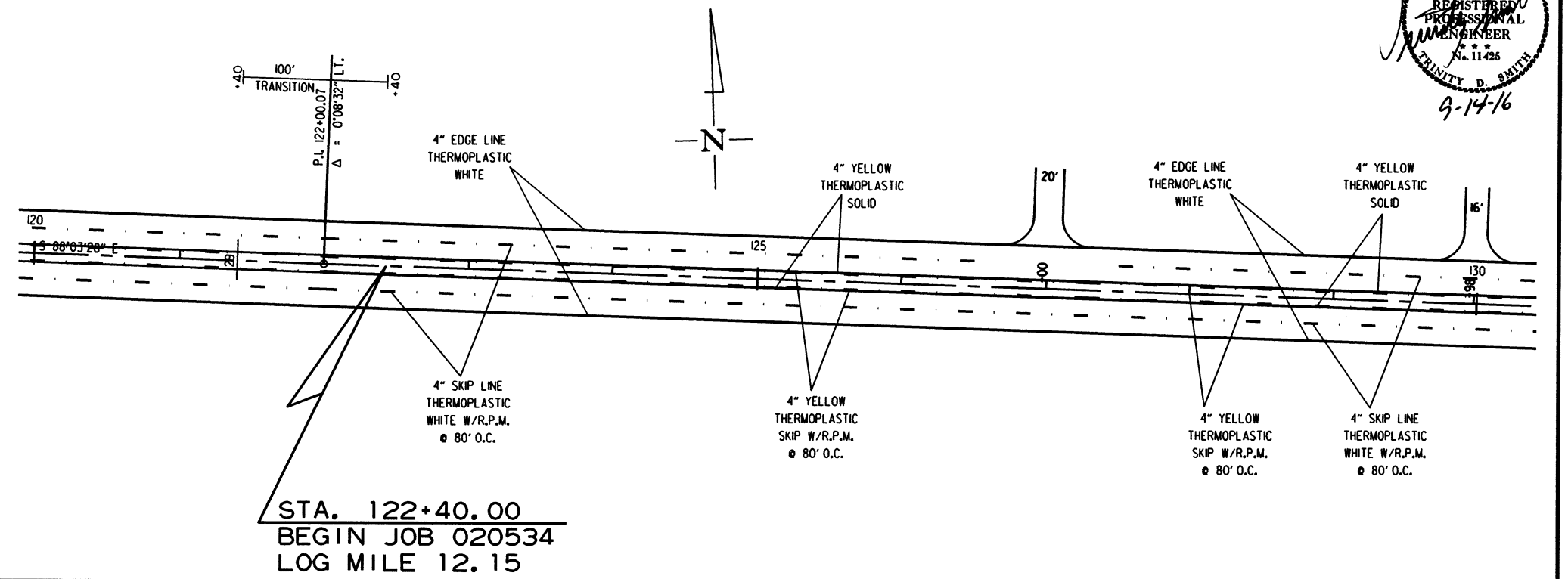
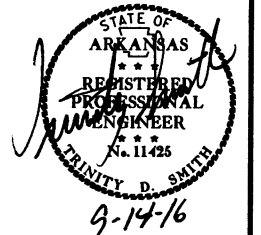
| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 59           | 287             |

PERMANENT PAVEMENT MARKING DETAILS



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|----------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6              | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.        |       | 020534             | 60        | 287          |

② PERMANENT PAVEMENT MARKING DETAILS



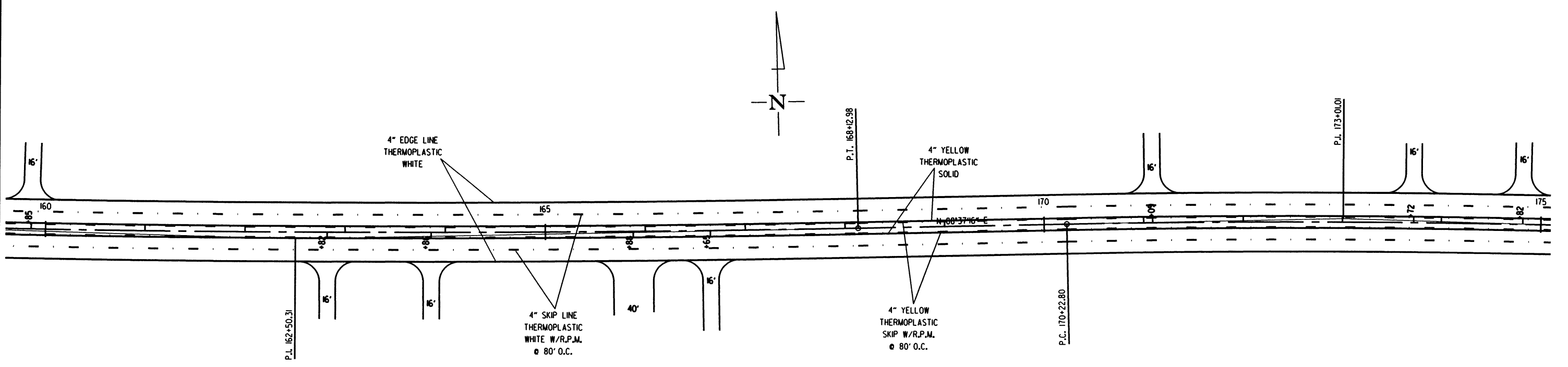
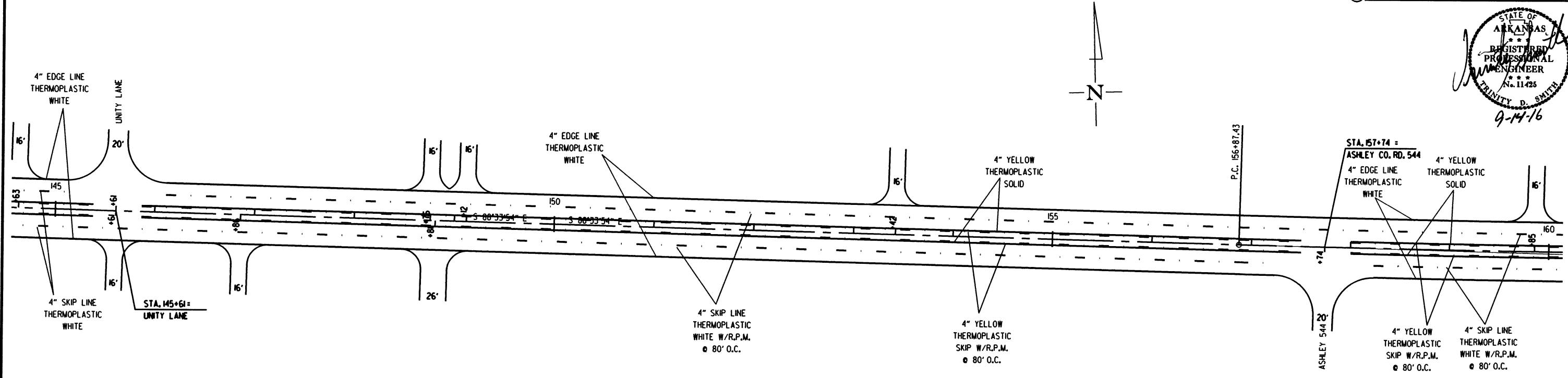
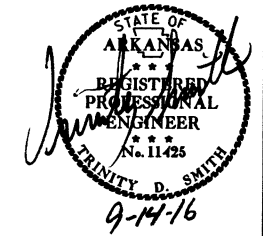
PERMANENT PAVEMENT MARKING DETAILS

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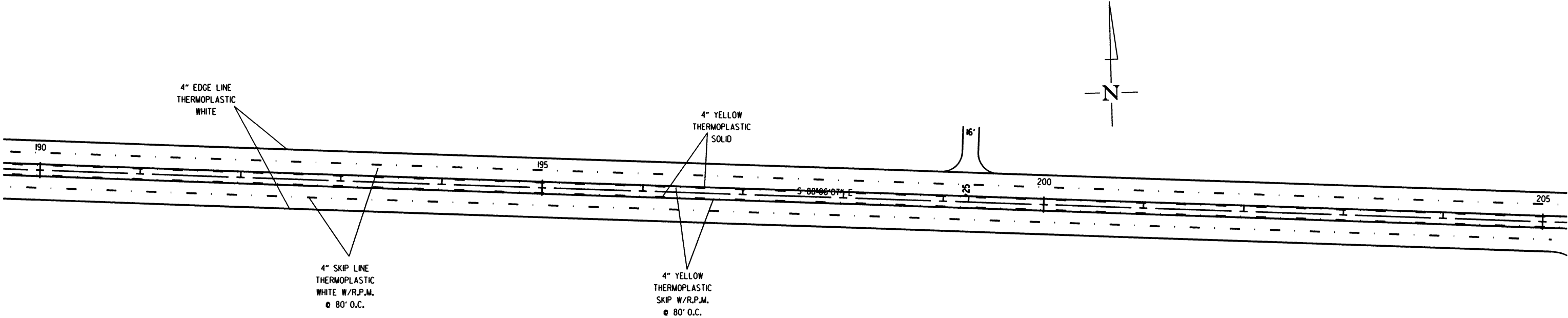
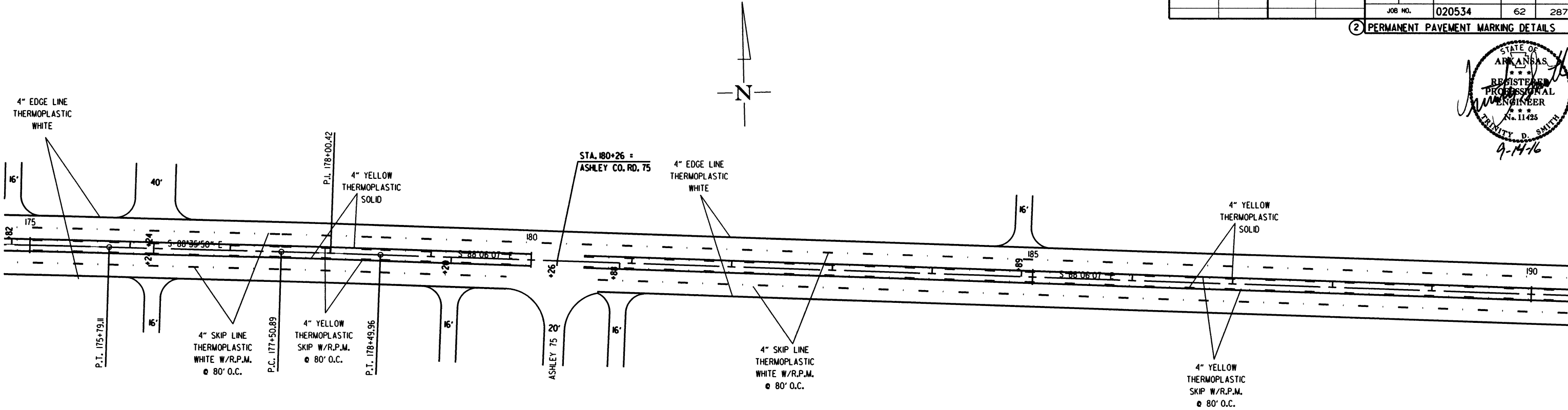
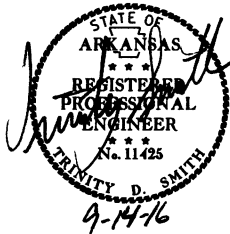
| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 61           | 287             |

2 PERMANENT PAVEMENT MARKING DETAILS



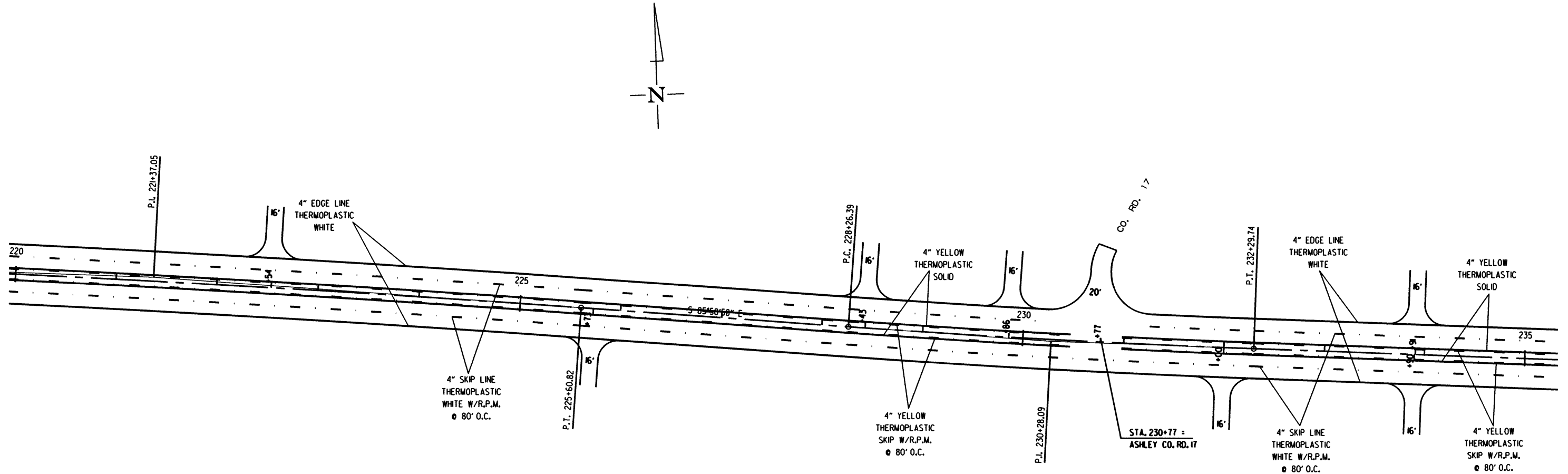
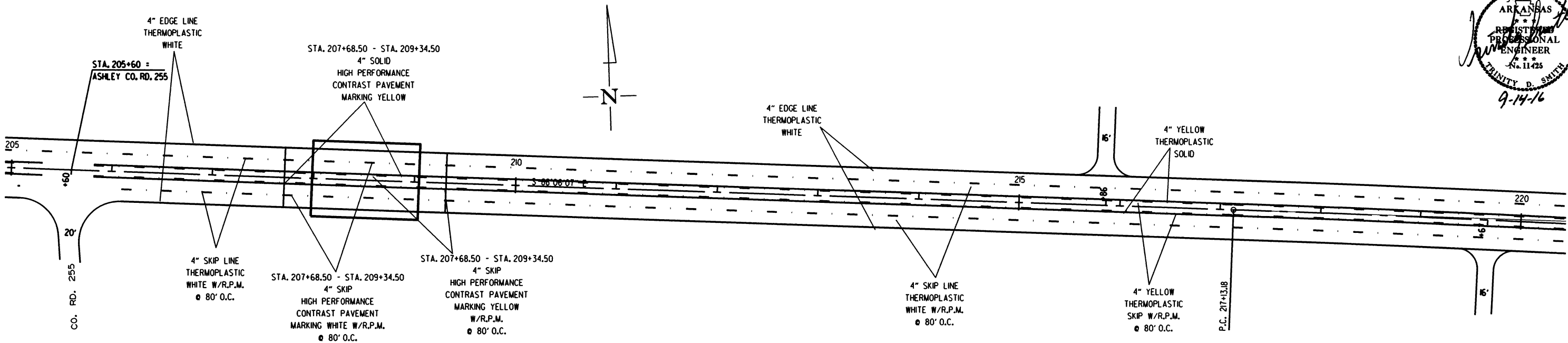
| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO. 020534        |       |                    | 62           | 287             |

2 PERMANENT PAVEMENT MARKING DETAILS



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 63           | 287             |

PERMANENT PAVEMENT MARKING DETAILS

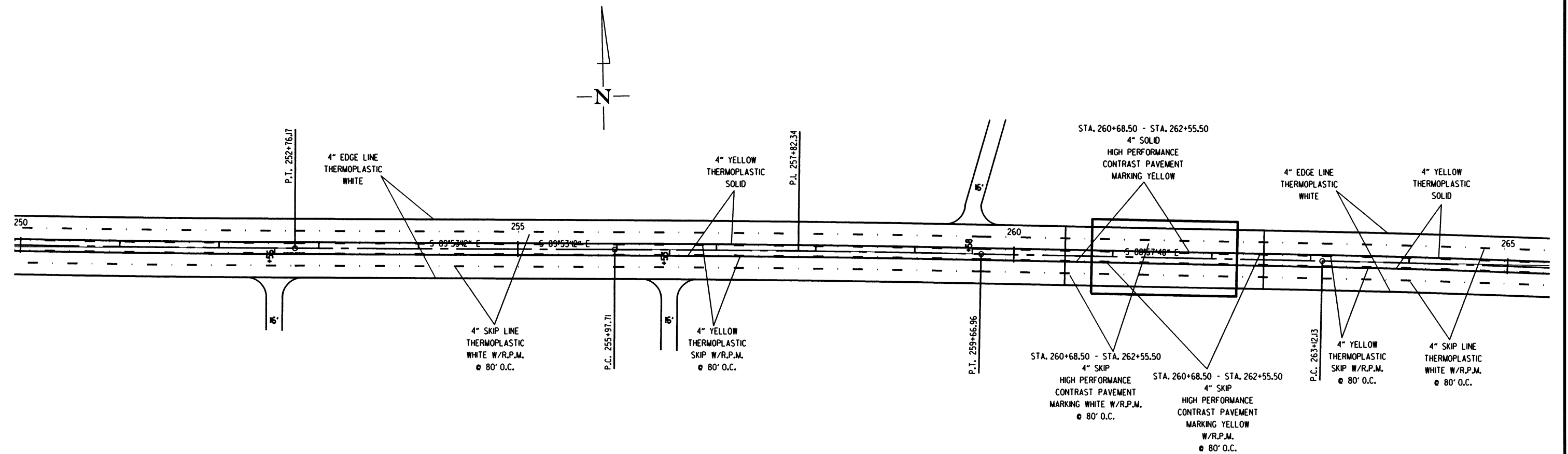
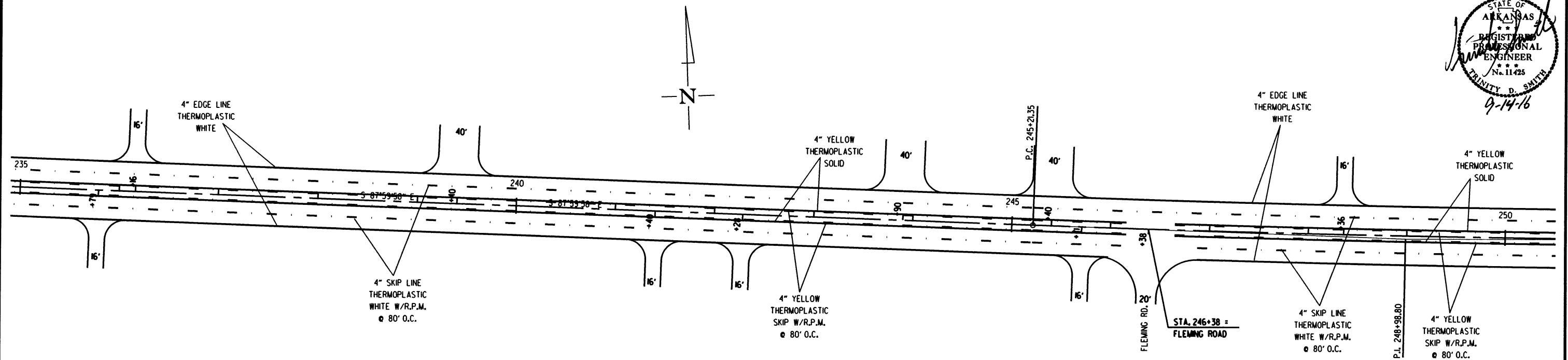
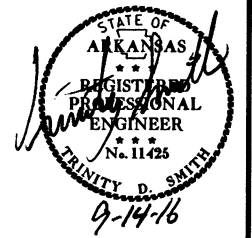


PERMANENT PAVEMENT MARKING DETAILS



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 64           | 287             |

② PERMANENT PAVEMENT MARKING DETAILS



PERMANENT PAVEMENT MARKING DETAILS

7/18/2016

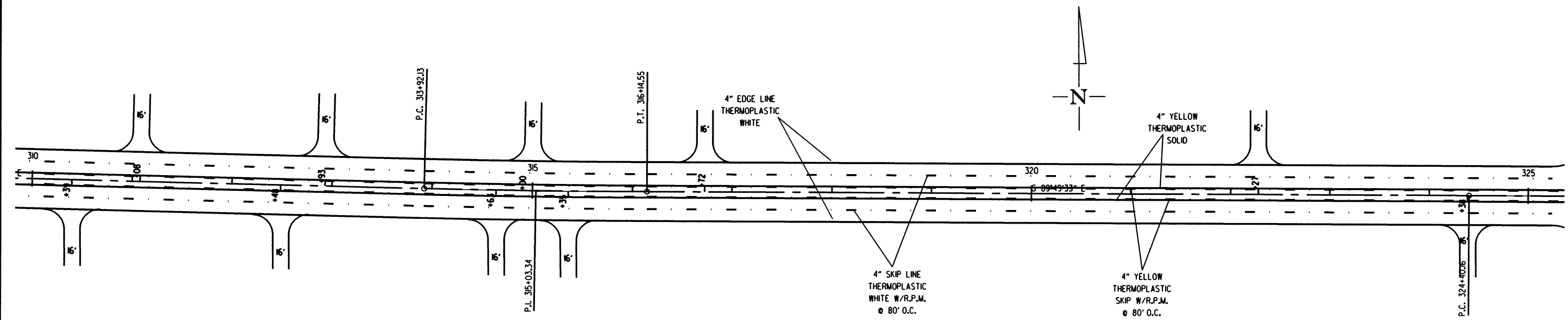
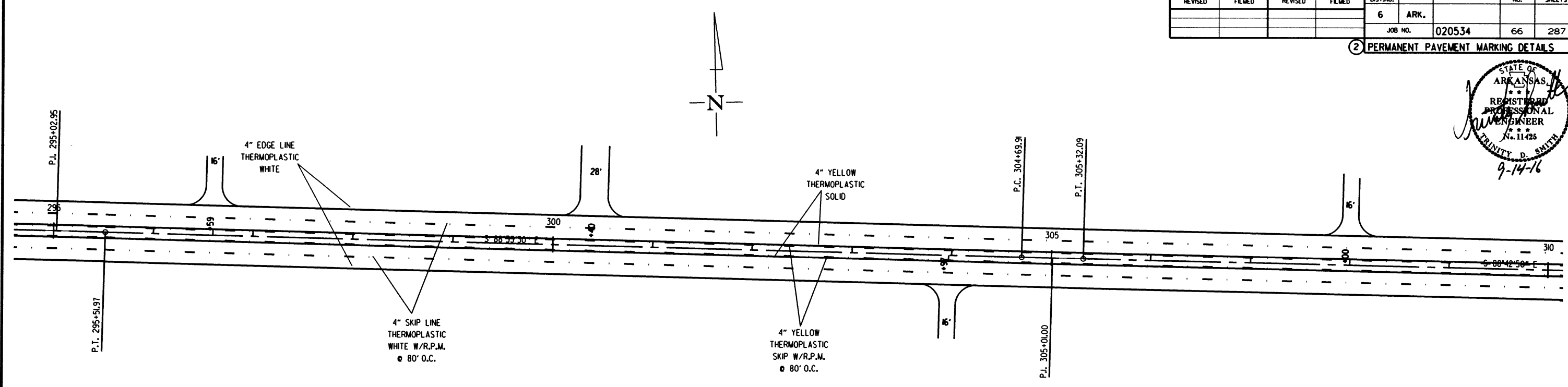
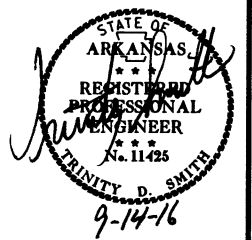
R020534.DGN





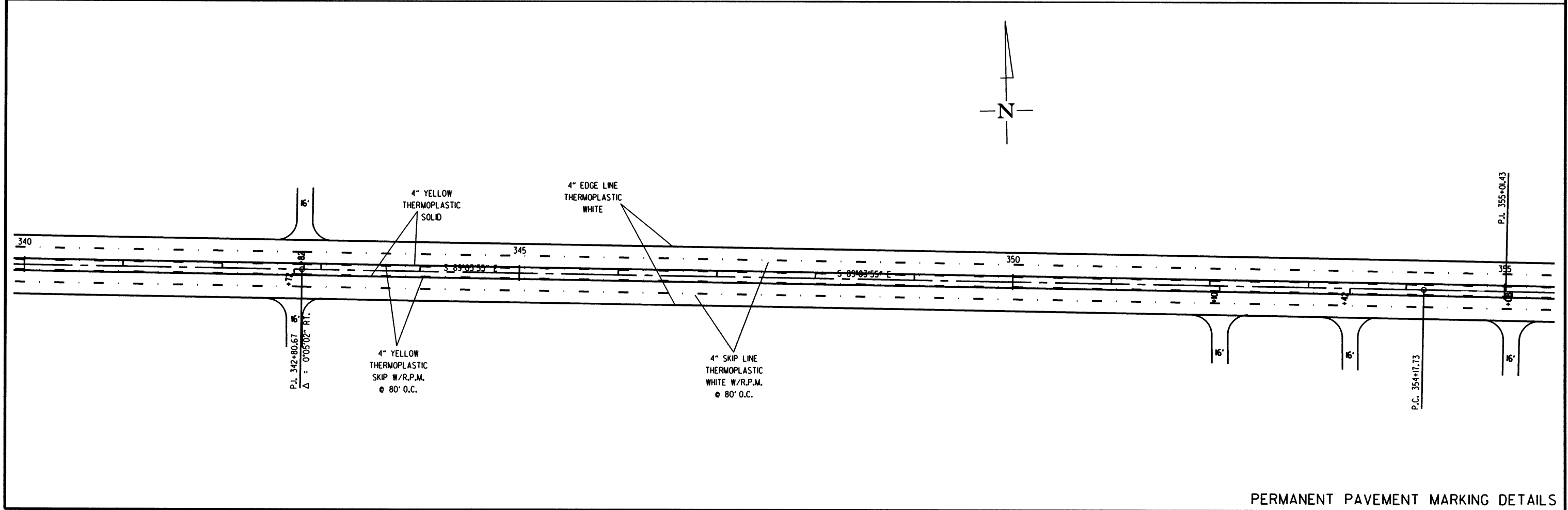
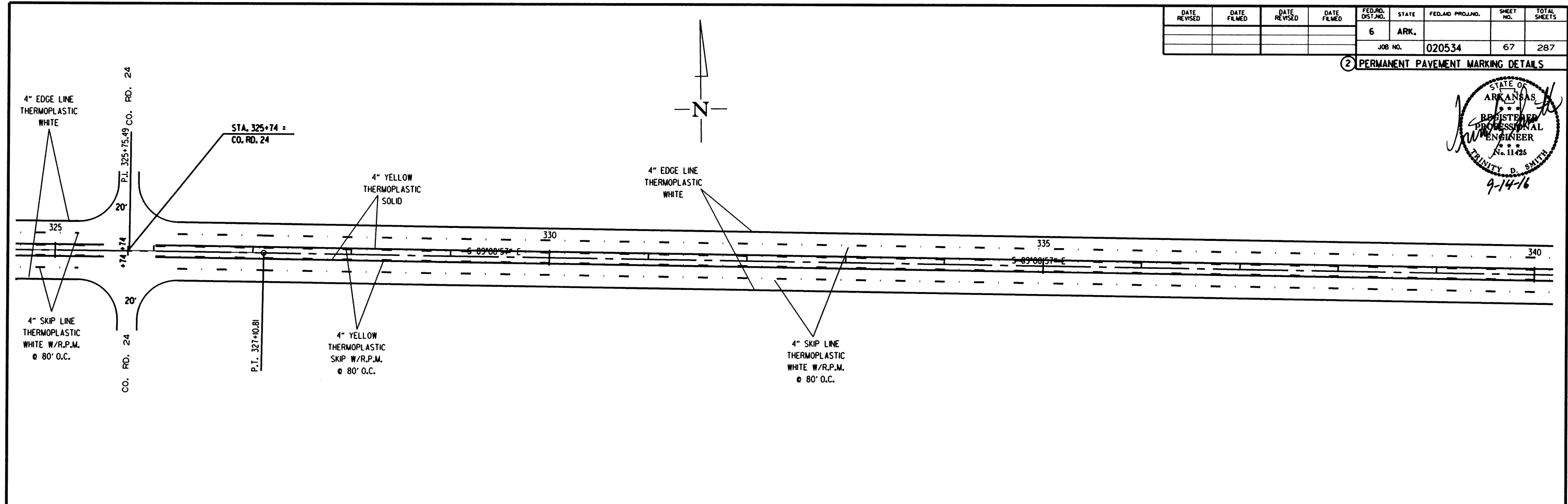
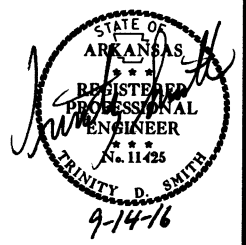
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             |                    |       | JOB NO. 020534     | 66        | 287          |

2 PERMANENT PAVEMENT MARKING DETAILS



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 67           | 287             |

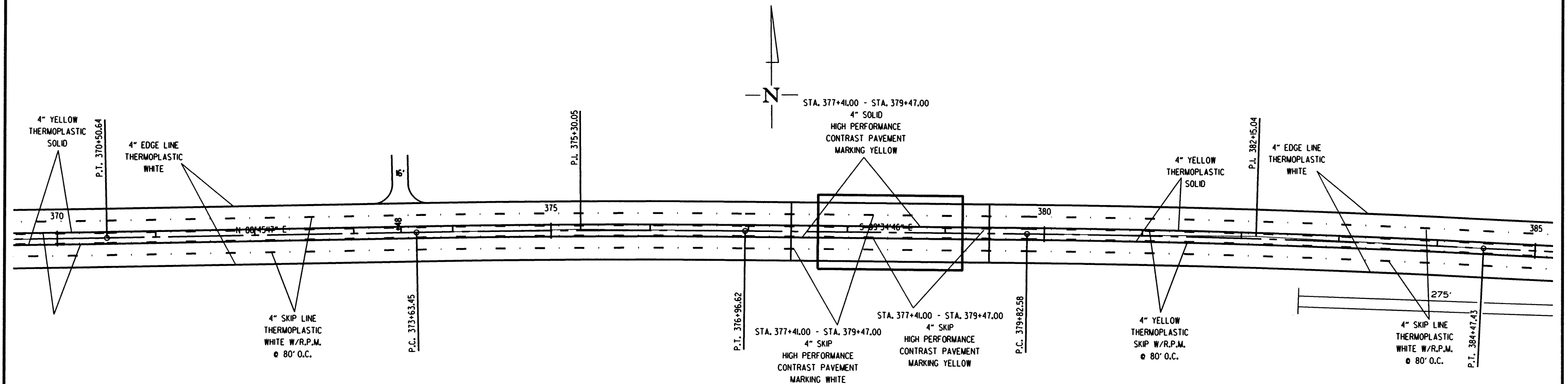
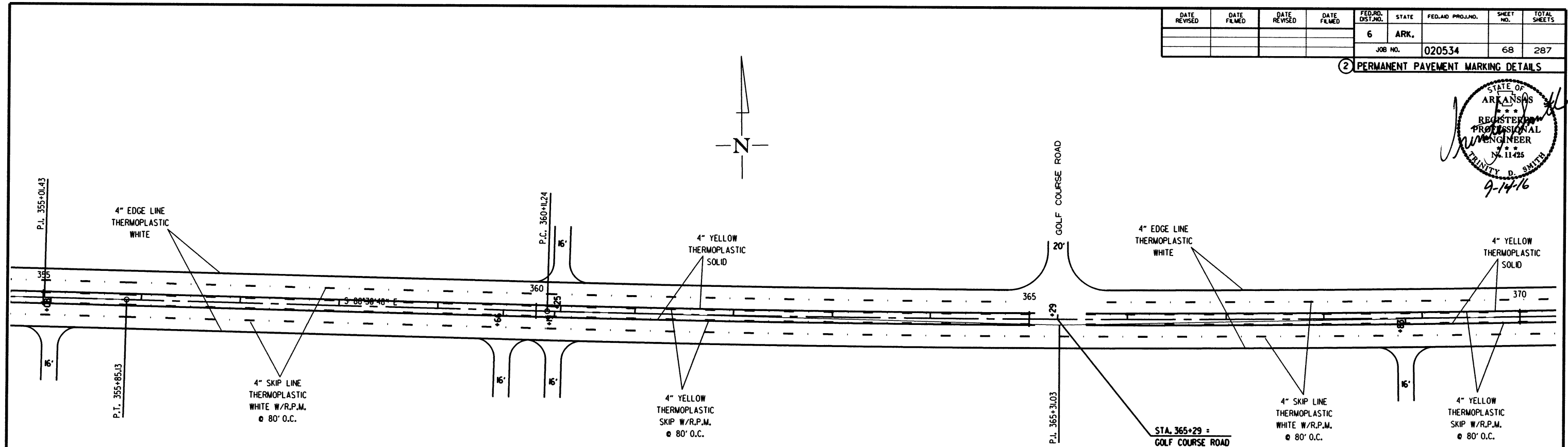
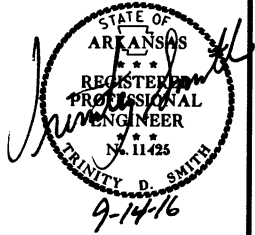
2 PERMANENT PAVEMENT MARKING DETAILS



PERMANENT PAVEMENT MARKING DETAILS

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 68           | 287             |

② PERMANENT PAVEMENT MARKING DETAILS



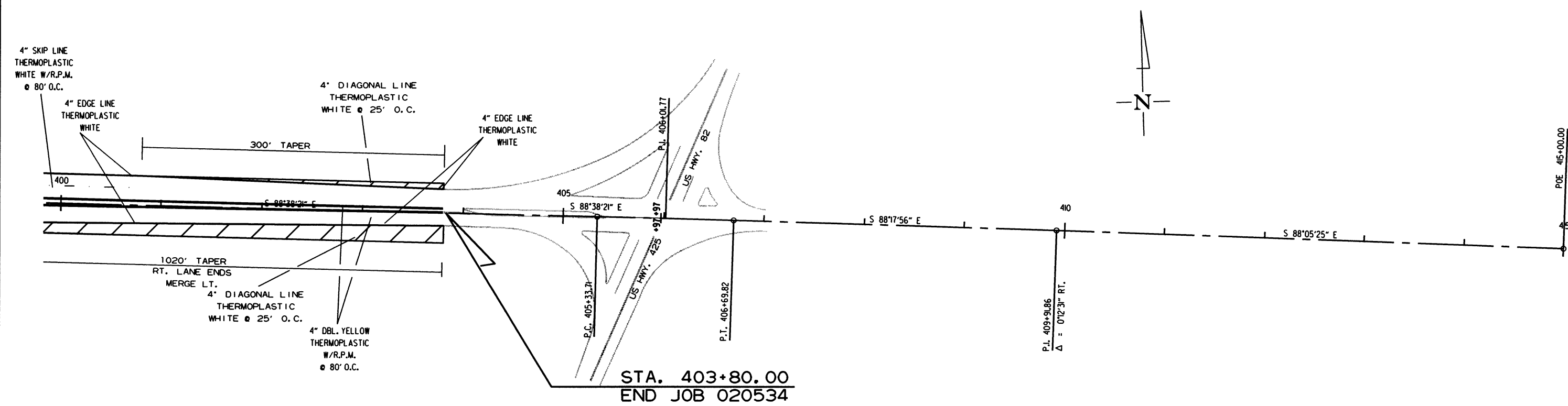
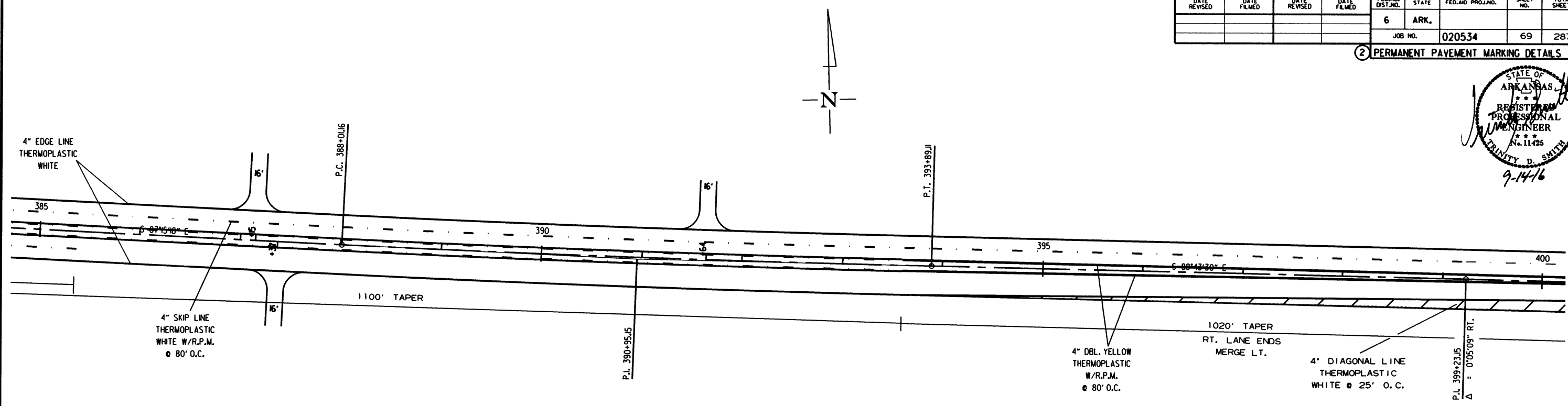
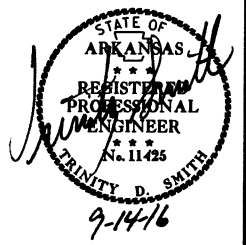
PERMANENT PAVEMENT MARKING DETAILS

7/18/2016

R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 69           | 287             |

PERMANENT PAVEMENT MARKING DETAILS



STA. 403+80.00  
END JOB 020534

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 70           | 287             |

② QUANTITIES



| ADVANCE WARNING SIGNS AND DEVICES |                                                    |           |                 |         |         |                               |                      |         |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
|-----------------------------------|----------------------------------------------------|-----------|-----------------|---------|---------|-------------------------------|----------------------|---------|--------------------|------------------|-----------------------|-------|--------------------------------------------------------|----------------------------------------------|-----------------------------------------------|-----------------------------------------|
| SIGN<br>NUMBER                    | DESCRIPTION                                        | SIGN SIZE | STAGE 1         | STAGE 2 | STAGE 3 | MAXIMUM<br>NUMBER<br>REQUIRED | TOTAL SIGNS REQUIRED |         | VERTICAL<br>PANELS | TRAFFIC<br>DRUMS | BARRICADES (TYPE III) |       | FURNISHING &<br>INSTALLING<br>PRECAST CONC.<br>BARRIER | RELOCATING<br>PRECAST<br>CONCRETE<br>BARRIER | TEMPORARY<br>IMPACT<br>ATTENUATION<br>BARRIER | TEMP. IMPACT<br>ATTEN.BARR.<br>(REPAIR) |
|                                   |                                                    |           |                 |         |         |                               | NO.                  | SQ. FT. |                    |                  | EACH                  | RIGHT |                                                        |                                              |                                               |                                         |
|                                   |                                                    |           | LIN. FT. - EACH |         |         |                               |                      |         |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| W20-1                             | ROAD WORK 1500 FT.                                 | 48"x48"   | 4               | 4       | 4       | 4                             | 4                    | 64.0    |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| W20-1                             | ROAD WORK 1000 FT.                                 | 48"x48"   | 4               | 4       | 4       | 4                             | 4                    | 64.0    |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| W20-1                             | ROAD WORK 500 FT.                                  | 48"x48"   | 4               | 4       | 4       | 4                             | 4                    | 64.0    |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| W20-1                             | ROAD WORK AHEAD                                    | 48"x48"   | 14              | 14      | 14      | 14                            | 14                   | 224.0   |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| G20-2                             | END ROAD WORK                                      | 48"x24"   | 20              | 20      | 20      | 20                            | 20                   | 160.0   |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| G20-1                             | ROAD WORK NEXT xx MILES                            | 60"x24"   | 2               | 2       | 2       | 2                             | 2                    | 20.0    |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| R11-2                             | ROAD CLOSED                                        | 48"x30"   | 10              | 15      |         | 15                            | 15                   | 150.0   |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| OM-3L                             | OBJECT MARKER                                      | 12"x36"   | 18              | 27      |         | 27                            | 27                   | 81.0    |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| OM-3R                             | OBJECT MARKER                                      | 12"x36"   | 24              | 36      |         | 36                            | 36                   | 108.0   |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| W1-6                              | LARGE ARROW                                        | 48"x24"   |                 | 15      |         | 15                            | 15                   | 120.0   |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| R4-1                              | DO NOT PASS                                        | 24"x30"   | 10              | 10      | 10      | 10                            | 10                   | 50.0    |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| RSP-1                             | SHOULDER CLOSED                                    | 48"x30"   | 10              | 10      |         | 10                            | 10                   | 100.0   |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
| W13-1                             | ADVISORY SPEED                                     | 24"x24"   | 2               | 2       | 2       | 2                             | 2                    | 8.0     |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
|                                   |                                                    |           |                 |         |         |                               |                      |         |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
|                                   |                                                    |           |                 |         |         |                               |                      |         |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
|                                   | VERTICAL PANELS                                    |           | 176             | 9       |         | 176                           |                      |         | 176                |                  |                       |       |                                                        |                                              |                                               |                                         |
|                                   | TRAFFIC DRUMS                                      |           | 422             | 605     |         | 605                           |                      |         |                    | 605              |                       |       |                                                        |                                              |                                               |                                         |
|                                   |                                                    |           |                 |         |         |                               |                      |         |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
|                                   | TYPE III BARRICADE-RT. (16')                       |           | 7               | 11      |         | 11                            |                      |         |                    |                  | 176                   |       |                                                        |                                              |                                               |                                         |
|                                   | TYPE III BARRICADE-LT. (16')                       |           | 3               | 4       |         | 4                             |                      |         |                    |                  |                       | 64    |                                                        |                                              |                                               |                                         |
|                                   |                                                    |           |                 |         |         |                               |                      |         |                    |                  |                       |       |                                                        |                                              |                                               |                                         |
|                                   | FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER |           | 2349            | 179     |         | 2528                          |                      |         |                    |                  |                       |       | 2528                                                   |                                              |                                               |                                         |
|                                   | RELOCATING PRECAST CONCRETE BARRIER                |           |                 | 2349    |         | 2349                          |                      |         |                    |                  |                       |       |                                                        | 2349                                         |                                               |                                         |
|                                   | TEMPORARY IMPACT ATTENUATION BARRIER               |           | 1               |         |         | 1                             |                      |         |                    |                  |                       |       |                                                        |                                              | 1                                             |                                         |
|                                   | TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)      |           | 1               |         |         | 1                             |                      |         |                    |                  |                       |       |                                                        |                                              |                                               | 1                                       |
| TOTALS:                           |                                                    |           |                 |         |         |                               |                      | 1213.0  | 176                | 605              | 176                   | 64    | 2528                                                   | 2349                                         | 1                                             | 1                                       |

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

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

| CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS |         |         |         |                                        |                                |                                           |                                          |                         |                   |                                 |        |                                            |        |
|----------------------------------------------------------------|---------|---------|---------|----------------------------------------|--------------------------------|-------------------------------------------|------------------------------------------|-------------------------|-------------------|---------------------------------|--------|--------------------------------------------|--------|
| DESCRIPTION                                                    | STAGE 1 | STAGE 2 | STAGE 3 | REMOVAL OF PERMANENT PAVEMENT MARKINGS | CONSTRUCTION PAVEMENT MARKINGS | REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS | REMOVABLE CONSTRUCTION PAVEMENT MARKINGS | RAISED PAVEMENT MARKERS |                   | THERMOPLASTIC PAVEMENT MARKINGS |        | HIGH PERFORMANCE CONTRAST PAVEMENT MARKING |        |
|                                                                |         |         |         |                                        |                                |                                           |                                          | TYPE II (WHITE)         | TYPE II (YEL/YEL) | 4"                              |        | 4"                                         |        |
|                                                                |         |         |         |                                        |                                |                                           |                                          |                         |                   | WHITE                           | YELLOW | WHITE                                      | YELLOW |
|                                                                |         |         |         |                                        |                                |                                           |                                          |                         |                   |                                 |        |                                            |        |
| LIN. FT. - EACH                                                |         |         |         | LIN. FT.                               |                                | LIN. FT.                                  |                                          | EACH                    |                   | LIN. FT.                        |        | LIN. FT.                                   |        |
| REMOVAL OF PERMANENT PAVEMENT MARKINGS                         |         | 3729    |         | 3729                                   |                                |                                           |                                          |                         |                   |                                 |        |                                            |        |
| CONSTRUCTION PAVEMENT MARKINGS                                 | 110853  | 113425  |         |                                        | 224278                         |                                           |                                          |                         |                   |                                 |        |                                            |        |
| REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS                      |         |         | 2130    |                                        |                                | 2130                                      |                                          |                         |                   |                                 |        |                                            |        |
| REMOVABLE CONSTRUCTION PAV'T MARKINGS                          |         | 1404    |         |                                        |                                |                                           | 1404                                     |                         |                   |                                 |        |                                            |        |
| RAISED PAVEMENT MARKERS TYPE II (WHITE)                        |         |         | 711     |                                        |                                |                                           |                                          | 711                     |                   |                                 |        |                                            |        |
| RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)                      | 350     | 364     | 711     |                                        |                                |                                           |                                          |                         | 1425              |                                 |        |                                            |        |
| THERMOPLASTIC PAVEMENT MARKING WHITE (4")                      |         |         | 69639   |                                        |                                |                                           |                                          |                         |                   | 69639                           |        |                                            |        |
| THERMOPLASTIC PAVEMENT MARKING YELLOW (4")                     |         |         | 74365   |                                        |                                |                                           |                                          |                         |                   |                                 | 74365  |                                            |        |
| HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")          |         |         | 281     |                                        |                                |                                           |                                          |                         |                   |                                 |        | 281                                        |        |
| HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4")         |         |         | 1404    |                                        |                                |                                           |                                          |                         |                   |                                 |        |                                            | 1404   |
|                                                                |         |         |         |                                        |                                |                                           |                                          |                         |                   |                                 |        |                                            |        |
| TOTALS:                                                        |         |         |         | 3729                                   | 224278                         | 2130                                      | 1404                                     | 711                     | 1425              | 69639                           | 74365  | 281                                        | 1404   |

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

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





| REMOVAL AND DISPOSAL OF CULVERTS |                                       |               |
|----------------------------------|---------------------------------------|---------------|
| STATION                          | DESCRIPTION                           | PIPE CULVERTS |
|                                  |                                       | EACH          |
| 127+00                           | 18"X30' C.M. PIPE CULVERT ON LT.      | 1             |
| 129+92                           | 18"X24' C.M. PIPE CULVERT ON LT.      | 1             |
| 134+38                           | 24"X24' C.M. PIPE CULVERT ON LT.      | 1             |
| 136+98                           | 24"X30' C.M. PIPE CULVERT ON LT.      | 1             |
| 139+28                           | 24"X24' C.P.P. PIPE CULVERT ON LT.    | 1             |
| 139+42                           | 18"X22' C.M. PIPE CULVERT ON RT.      | 1             |
| 140+60                           | 24"X24' C.P.P. PIPE CULVERT ON LT.    | 1             |
| 143+05                           | 18"X28' C.M. PIPE CULVERT ON RT.      | 1             |
| 144+29                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 144+62                           | 18"X24' C.M. PIPE CULVERT ON LT.      | 1             |
| 145+55                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 145+60                           | 30"X30' C.M. PIPE CULVERT ON LT.      | 1             |
| 146+84                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 148+76                           | 24"X28' STEEL PIPE CULVERT ON LT.     | 1             |
| 148+80                           | 18"X40' C.M. PIPE CULVERT ON RT.      | 1             |
| 148+97                           | 18"X120' C.M. PIPE CULVERT 32" R.F.S. | 1             |
| 149+12                           | 24"X18' STEEL PIPE CULVERT ON LT.     | 1             |
| 152+32                           | TRI 42"X86' C.M. PIPE CULVERT         | 3             |
| 153+42                           | 24"X42' STEEL PIPE CULVERT ON LT.     | 1             |
| 157+73                           | 24"X33' STEEL PIPE CULVERT ON RT.     | 1             |
| 159+86                           | 15"X22' C.M. PIPE CULVERT ON LT.      | 1             |
| 163+87                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 165+86                           | 18"X51' C.M. PIPE CULVERT ON RT.      | 1             |
| 166+61                           | 18"X23' C.M. PIPE CULVERT ON RT.      | 1             |
| 180+27                           | 12"X20' C.M. PIPE CULVERT ON RT.      | 1             |
| 180+89                           | 18"X23' C.M. PIPE CULVERT ON RT.      | 1             |
| 184+89                           | 18"X23' C.M. PIPE CULVERT ON LT.      | 1             |
| 199+23                           | 18"X23' C.M. PIPE CULVERT ON LT.      | 1             |
| 205+60                           | 48"X39' C.M. PIPE CULVERT ON RT.      | 1             |
| 215+87                           | 36"X30' C.P.P. PIPE CULVERT ON LT.    | 1             |
| 219+68                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 222+54                           | 24"X28' STEEL PIPE CULVERT ON LT.     | 1             |
| 225+68                           | 18"X26' C.M. PIPE CULVERT ON RT.      | 1             |
| 228+43                           | 18"X30' C.M. PIPE CULVERT ON LT.      | 1             |
| 229+86                           | 24"X25' C.M. PIPE CULVERT ON LT.      | 1             |
| 230+48                           | 18"X37' C.M. PIPE CULVERT ON LT.      | 1             |
| 231+95                           | 18"X23' C.M. PIPE CULVERT ON RT.      | 1             |
| 233+90                           | 18"X23' C.M. PIPE CULVERT ON LT.      | 1             |
| 235+02                           | 18"X24' C.M. PIPE CULVERT ON LT.      | 1             |
| 235+73                           | 18"X23' C.M. PIPE CULVERT ON RT.      | 1             |
| 236+18                           | 24"X24' C.M. PIPE CULVERT ON LT.      | 1             |
| 241+38                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 242+21                           | 18"X35' C.M. PIPE CULVERT ON RT.      | 1             |
| 243+90                           | 18"X48' C.M. PIPE CULVERT ON LT.      | 1             |
| 245+40                           | 18"X48' C.M. PIPE CULVERT ON LT.      | 1             |
| 246+05                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 246+32                           | 12"X65' C.M. PIPE CULVERT ON RT.      | 1             |
| 246+36                           | 24"X30' C.M. PIPE CULVERT ON RT.      | 1             |
| 248+33                           | 24"X17' C.M. PIPE CULVERT ON LT.      | 1             |
| 252+53                           | 24"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 256+57                           | 24"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 259+55                           | 24"X30' C.M. PIPE CULVERT ON LT.      | 1             |
| 265+55                           | DBL 24"X24' C.M. PIPE CULVERT ON LT.  | 2             |
| 267+58                           | 36"X61' C.M. PIPE CULVERT 55" L.F.S.  | 1             |
| 269+70                           | 24"X43' C.M. PIPE CULVERT ON RT.      | 1             |
| 270+00                           | 24"X39' C.M. PIPE CULVERT ON LT.      | 1             |
| 270+30                           | 18"X27' C.M. PIPE CULVERT ON LT.      | 1             |
| 271+52                           | 24"X25' C.M. PIPE CULVERT ON LT.      | 1             |
| 274+84                           | 24"X25' C.M. PIPE CULVERT ON RT.      | 1             |
| 276+61                           | 24"X30' C.M. PIPE CULVERT ON LT.      | 1             |
| 277+18                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 280+27                           | 24"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 281+47                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 281+92                           | 24"X35' C.M. PIPE CULVERT ON LT.      | 1             |
| 282+65                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 285+32                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 285+65                           | 24"X36' C.M. PIPE CULVERT ON LT.      | 1             |
| 286+49                           | 18"X31' C.M. PIPE CULVERT ON RT.      | 1             |
| 287+85                           | 15"X21' C.M. PIPE CULVERT ON RT.      | 1             |
| 288+47                           | 18"X25' C.M. PIPE CULVERT ON LT.      | 1             |
| 292+16                           | 18"X26' C.M. PIPE CULVERT ON LT.      | 1             |
| 296+58                           | 18"X24' C.P.P. PIPE CULVERT ON LT.    | 1             |
| 300+58                           | 24"X30' PLASTIC PIPE CULVERT ON LT.   | 1             |
| 303+84                           | 24"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 308+01                           | 24"X37' C.M. PIPE CULVERT ON LT.      | 1             |
| 310+37                           | 24"X30' C.M. PIPE CULVERT ON RT.      | 1             |
| 311+09                           | 18"X24' C.M. PIPE CULVERT ON LT.      | 1             |
| 312+47                           | 18"X23' C.M. PIPE CULVERT ON RT.      | 1             |
| 312+93                           | 18"X24' C.P.P. PIPE CULVERT ON LT.    | 1             |
| 315+05                           | 18"X25' C.P.P. PIPE CULVERT ON LT.    | 1             |
| 315+36                           | 15"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 316+64                           | 18"X38' C.M. PIPE CULVERT ON LT.      | 1             |
| 322+25                           | 18"X25' C.M. PIPE CULVERT ON LT.      | 1             |
| 324+19                           | 15"X25' C.M. PIPE CULVERT ON RT.      | 1             |
| 325+73                           | 18"X29' C.M. PIPE CULVERT ON LT.      | 1             |
| 325+76                           | 15"X40' C.M. PIPE CULVERT ON RT.      | 1             |
| 342+73                           | 18"X23' C.M. PIPE CULVERT ON RT.      | 1             |
| 342+84                           | 24"X24' C.M. PIPE CULVERT ON LT.      | 1             |
| 352+10                           | 18"X23' C.M. PIPE CULVERT ON RT.      | 1             |
| 353+34                           | 18"X23' C.M. PIPE CULVERT ON RT.      | 1             |
| 355+08                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 359+66                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 360+19                           | 18"X24' C.M. PIPE CULVERT ON RT.      | 1             |
| 360+24                           | 18"X24' C.M. PIPE CULVERT ON LT.      | 1             |
| 365+29                           | 18"X20' C.M. PIPE CULVERT ON LT.      | 1             |
| 368+85                           | 15"X20' C.M. PIPE CULVERT ON RT.      | 1             |
| 387+23                           | 24"X30' C.M. PIPE CULVERT ON LT.      | 1             |
| 387+37                           | 18"X31' C.M. PIPE CULVERT ON RT.      | 1             |
| 391+64                           | 18"X28' C.M. PIPE CULVERT ON LT.      | 1             |
| TOTALS:                          |                                       | 102           |

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

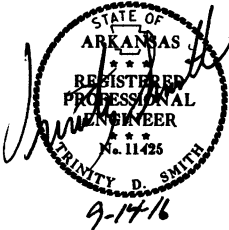
| ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC                                                                                                                                                          |     |                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------|
| LOCATION                                                                                                                                                                                                      | TON | TACK COAT GALLON |
| ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER                                                                                                                                             | 131 | 262              |
|                                                                                                                                                                                                               |     |                  |
|                                                                                                                                                                                                               |     |                  |
|                                                                                                                                                                                                               |     |                  |
|                                                                                                                                                                                                               |     |                  |
| TOTALS:                                                                                                                                                                                                       | 131 | 262              |
| NOTE: QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS. BASIS OF ESTIMATE: ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE |     |                  |

| RUMBLE STRIPS IN ASPHALT SHOULDERS                                                                            |           |                        |                                              |
|---------------------------------------------------------------------------------------------------------------|-----------|------------------------|----------------------------------------------|
| STATION                                                                                                       | STATION   | LOCATION               | * RUMBLE STRIPS IN ASPHALT SHOULDERS LIN.FT. |
|                                                                                                               |           |                        |                                              |
| 122+40.00                                                                                                     | 207+68.50 | MAIN LANES - LT. & RT. | 15001.0                                      |
| 209+34.50                                                                                                     | 260+68.50 | MAIN LANES - LT. & RT. | 8590.0                                       |
| 262+55.50                                                                                                     | 377+41.00 | MAIN LANES - LT. & RT. | 19675.0                                      |
| 379+47.00                                                                                                     | 403+80.00 | MAIN LANES - LT. & RT. | 4668.0                                       |
|                                                                                                               |           |                        |                                              |
|                                                                                                               |           |                        |                                              |
|                                                                                                               |           |                        |                                              |
|                                                                                                               |           |                        |                                              |
| TOTAL:                                                                                                        |           |                        | 47934.0                                      |
| * QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. |           |                        |                                              |

| ACHM PATCHING OF EXISTING ROADWAY                                 |     |
|-------------------------------------------------------------------|-----|
| DESCRIPTION                                                       | TON |
| ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER | 250 |
|                                                                   |     |
|                                                                   |     |
|                                                                   |     |
|                                                                   |     |
| TOTAL:                                                            | 250 |
| NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.   |     |

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 72        | 287          |

2 QUANTITIES



| PAVEMENT REPAIR OVER<br>CULVERTS (CONCRETE) |            |       |        |         |
|---------------------------------------------|------------|-------|--------|---------|
| STATION                                     | LOCATION   | WIDTH | LENGTH | CU. YD. |
|                                             |            | FEET  |        |         |
| 148+97                                      | MAIN LANES | 7.92  | 45     | 9.9     |
| 152+32                                      | MAIN LANES | 26.75 | 24     | 17.8    |
| 267+58                                      | MAIN LANES | 10.25 | 30     | 8.5     |
|                                             |            |       |        |         |
|                                             |            |       |        |         |
|                                             |            |       |        |         |
|                                             |            |       |        |         |
|                                             |            |       |        |         |
| TOTAL:                                      |            |       |        | 36.2    |
| AVG. DEPTH = 9"                             |            |       |        |         |

| COLD MILLING ASPHALT PAVEMENT   |           |            |            |                               |
|---------------------------------|-----------|------------|------------|-------------------------------|
| STATION                         | STATION   | LOCATION   | AVG. WIDTH | COLD MILLING ASPHALT PAVEMENT |
|                                 |           |            | FEET       | SQ. YD.                       |
| 121+40.00                       | 122+40.00 | MAIN LANES | 75         | 833.33                        |
| 403+80.00                       | 404+80.00 | MAIN LANES | 32         | 340.73                        |
|                                 |           |            |            |                               |
|                                 |           |            |            |                               |
|                                 |           |            |            |                               |
|                                 |           |            |            |                               |
|                                 |           |            |            |                               |
| TOTAL:                          |           |            |            | 1174.06                       |
| NOTE: AVERAGE MILLING DEPTH 1". |           |            |            |                               |



SOIL LOG (BOX 1 OF 2)

| STATION | LOCATION | DEPTH    | LIQUID LIMIT | PLASTICITY INDEX | AASHTO CLASSIFICATION | COLOR |
|---------|----------|----------|--------------|------------------|-----------------------|-------|
|         |          | FEET     |              |                  |                       |       |
| 120+00  | 45RT     | 0-5      | 25           | 7                | A-4(4)                | GRAY  |
| 120+00  | 18RT     | 0-5      | 22           | 8                | A-4(2)                | GRAY  |
| 120+00  | 6RT      | 0-5      | 20           | 5                | A-4(1)                | GRAY  |
| 128+00  | 25LT     | 0-5      | 29           | 9                | A-4(7)                | BROWN |
| 128+00  | 15LT     | 0-5      | 27           | 8                | A-4(5)                | BR/GR |
| 128+00  | 6LT      | 0-5      | 24           | 6                | A-4(3)                | BR/GR |
| 136+00  | 25RT     | 0-5      | 29           | 10               | A-4(8)                | BROWN |
| 136+00  | 15RT     | 0-5      | 27           | 8                | A-4(5)                | GRAY  |
| 136+00  | 6RT      | 0-5      | 24           | 6                | A-4(3)                | BROWN |
| 144+00  | 25LT     | 0-5      | 30           | 13               | A-6(11)               | BROWN |
| 144+00  | 15LT     | 0-5      | 23           | 7                | A-4(2)                | BROWN |
| 144+00  | 6LT      | 0-5      | 23           | 7                | A-4(3)                | BROWN |
| 144+00  | 25LT     | 0-5      | 31           | 14               | A-6(11)               | BROWN |
| 152+00  | 25RT     | 0-5      | 22           | 5                | A-4(1)                | BR/GR |
| 152+00  | 15RT     | 0-5      | 20           | 5                | A-4(1)                | BR/GR |
| 152+00  | 6RT      | 0-5      | 21           | 6                | A-4(2)                | BR/GR |
| 160+00  | 25LT     | 0-5      | 28           | 9                | A-4(6)                | BROWN |
| 160+00  | 15LT     | 0-5      | 28           | 9                | A-4(6)                | GRAY  |
| 160+00  | 6LT      | 0-5      | 24           | 7                | A-4(4)                | BROWN |
| 168+00  | 65RT     | 0-5      | 24           | 6                | A-4(4)                | BR/GR |
| 168+00  | 44RT     | 0-5      | 30           | 14               | A-6(10)               | BR/GR |
| 168+00  | 35RT     | 0-5      | 27           | 11               | A-6(8)                | BR/GR |
| 176+00  | 48RT     | 0-5      | 26           | 8                | A-4(5)                | GRAY  |
| 176+00  | 35RT     | 0-5      | 26           | 9                | A-4(5)                | GRAY  |
| 176+00  | 25RT     | 0-5      | 27           | 7                | A-4(5)                | GRAY  |
| 184+00  | 75RT     | 0-5      | 28           | 9                | A-4(7)                | BR/GR |
| 184+00  | 64RT     | 0-5      | 22           | 7                | A-4(2)                | BR/GR |
| 184+00  | 55RT     | 0-5      | 23           | 7                | A-4(3)                | BR/GR |
| 192+00  | 34RT     | 0-5      | 26           | 12               | A-6(6)                | BROWN |
| 192+00  | 20RT     | 0-5      | 31           | 15               | A-6(8)                | BROWN |
| 192+00  | CL       | 0-5      | 40           | 19               | A-6(19)               | BROWN |
| 200+00  | CL       | 0-5      | 31           | 12               | A-6(10)               | BR/GR |
| 200+00  | 19RT     | 0-5      | 21           | 5                | A-4(1)                | BR/GR |
| 200+00  | 10RT     | 0-5      | 23           | 8                | A-4(2)                | BR/GR |
| 207+00  | 45RT     | 0-5      | 18           | 4                | A-4(0)                | BR/GR |
| 207+00  | 35RT     | 0-5      | 27           | 11               | A-6(7)                | BR/GR |
| 207+00  | 26RT     | 0-5      | 28           | 13               | A-6(10)               | BR/GR |
| 209+00  | 6LT      | *1       | 22           | 4                | A-4(1)                | BROWN |
| 209+00  | 6LT      | 8.9-10.4 | 31           | 15               | A-4(0)                | GRAY  |
| 209+00  | 6LT      | 3.9-5.4  | 29           | 12               | A-4(0)                | GRAY  |
| 209+00  | 6LT      | *4       | ND           | NP               | A-3(1)                | BROWN |
| 209+00  | 6LT      | *3       | ND           | NP               | A-2-4(0)              | BROWN |
| 209+00  | 6LT      | *2       | 51           | 34               | A-7-6(37)             | GRAY  |
| 209+00  | 6LT      | *7       | ND           | NP               | A-2-4(0)              | BROWN |
| 209+00  | 6LT      | *6       | ND           | NP               | A-3(1)                | BROWN |
| 209+00  | 6LT      | *5       | ND           | NP               | A-4(0)                | BROWN |
| 209+00  | 6LT      | *10      | ND           | NP               | A-3(1)                | BROWN |
| 209+00  | 6LT      | *9       | ND           | NP               | A-3(1)                | BROWN |
| 209+00  | 6LT      | *8       | ND           | NP               | A-3(1)                | BROWN |
| 209+00  | 6LT      | *13      | ND           | NP               | A-3(1)                | GRAY  |
| 209+00  | 6LT      | *12      | ND           | NP               | A-3(1)                | GRAY  |
| 209+00  | 6LT      | *11      | ND           | NP               | A-3(1)                | GRAY  |
| 209+00  | 6LT      | *16      | 37           | 20               | A-6(17)               | GR/BR |
| 209+00  | 6LT      | *15      | 42           | 17               | A-7-6(17)             | GR/BR |
| 209+00  | 6LT      | *14      | ND           | NP               | A-3(1)                | GRAY  |
| 209+00  | 6LT      | *18      | 29           | 8                | A-4(5)                | GR/BR |
| 209+00  | 6LT      | *17      | 38           | 17               | A-6(14)               | GRAY  |
| 216+00  | 15RT     | 0-5      | 30           | 18               | A-6(11)               | BR/GR |
| 216+00  | 5LT      | 0-5      | 27           | 13               | A-6(9)                | BR/GR |
| 216+00  | 5RT      | 0-5      | 28           | 15               | A-6(9)                | BR/GR |
| 224+00  | 25RT     | 0-5      | 27           | 11               | A-6(8)                | GRAY  |
| 224+00  | 15RT     | 0-5      | 28           | 13               | A-6(9)                | GRAY  |
| 224+00  | 6RT      | 0-5      | 24           | 10               | A-4(6)                | GRAY  |
| 224+00  | 25RT     | 0-5      | 26           | 9                | A-4(7)                | GRAY  |
| 232+00  | 25LT     | 0-5      | 30           | 10               | A-4(9)                | BR/GR |
| 232+00  | 15LT     | 0-5      | 26           | 11               | A-6(6)                | BR/GR |
| 232+00  | 6LT      | 0-5      | 23           | 7                | A-4(2)                | BR/GR |
| 240+00  | 25RT     | 0-5      | 27           | 8                | A-4(5)                | BROWN |
| 240+00  | 15RT     | 0-5      | 25           | 7                | A-4(3)                | GRAY  |
| 240+00  | 6RT      | 0-5      | 24           | 7                | A-4(3)                | GRAY  |
| 248+00  | 25LT     | 0-5      | 27           | 12               | A-6(8)                | BROWN |
| 248+00  | 15LT     | 0-5      | 23           | 7                | A-4(4)                | BR/GR |
| 248+00  | 6LT      | 0-5      | 24           | 8                | A-4(3)                | GRAY  |
| 256+00  | 38RT     | 0-5      | 24           | 9                | A-4(6)                | GRAY  |
| 256+00  | 28RT     | 0-5      | 22           | 7                | A-4(4)                | BR/GR |
| 256+00  | 18RT     | 0-5      | 23           | 8                | A-4(5)                | BR/GR |
| 261+75  | 3LT      | #1       | ND           | NP               | A-4(0)                | BROWN |
| 261+75  | 3LT      | 8.8-10.3 | 22           | 5                | A-4(2)                | GR/BR |
| 261+75  | 3LT      | 3.8-5.3  | 25           | 11               | A-6(5)                | RD/BR |
| 261+75  | 3LT      | #4       | ND           | NP               | A-4(0)                | RD/BR |
| 261+75  | 3LT      | #3       | 20           | 6                | A-4(0)                | BROWN |

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

SOIL LOG (BOX 2 OF 2)

| STATION | LOCATION | DEPTH    | LIQUID LIMIT | PLASTICITY INDEX | AASHTO CLASSIFICATION | COLOR |
|---------|----------|----------|--------------|------------------|-----------------------|-------|
|         |          | FEET     |              |                  |                       |       |
| 261+75  | 3LT      | #2       | 32           | 22               | A-6(12)               | GR/BR |
| 261+75  | 3LT      | #7       | ND           | NP               | A-3(1)                | BROWN |
| 261+75  | 3LT      | #6       | ND           | NP               | A-3(1)                | BROWN |
| 261+75  | 3LT      | #5       | ND           | NP               | A-3(1)                | BROWN |
| 261+75  | 3LT      | #10      | ND           | NP               | A-3(1)                | BROWN |
| 261+75  | 3LT      | #8       | ND           | NP               | A-3(1)                | BROWN |
| 261+75  | 3LT      | #13      | ND           | NP               | A-3(1)                | BROWN |
| 261+75  | 3LT      | #12      | ND           | NP               | A-3(1)                | BROWN |
| 261+75  | 3LT      | #11      | ND           | NP               | A-3(1)                | BROWN |
| 261+75  | 3LT      | #16      | ND           | NP               | A-3(1)                | BROWN |
| 261+75  | 3LT      | #15      | ND           | NP               | A-3(1)                | BROWN |
| 261+75  | 3LT      | #14      | ND           | NP               | A-1-B(1)              | BROWN |
| 261+75  | 3LT      | #18      | ND           | NP               | A-4(0)                | GRAY  |
| 261+75  | 3LT      | #17      | ND           | NP               | A-4(0)                | GRAY  |
| 261+75  | 3LT      | #9       | ND           | NP               | A-3(1)                | BROWN |
| 265+00  | 14LT     | 0-5      | 21           | 6                | A-4(2)                | BR/GR |
| 265+00  | 4LT      | 0-5      | 26           | 12               | A-6(7)                | BR/GR |
| 265+00  | 6RT      | 0-5      | 23           | 10               | A-4(6)                | BR/GR |
| 272+00  | 25RT     | 0-5      | 32           | 17               | A-6(15)               | BR/GR |
| 272+00  | 15RT     | 0-5      | 26           | 11               | A-6(7)                | BR/GR |
| 272+00  | 6RT      | 0-5      | 26           | 12               | A-6(9)                | BR/GR |
| 280+00  | 25LT     | 0-5      | 29           | 10               | A-4(8)                | BROWN |
| 280+00  | 15LT     | 0-5      | 22           | 5                | A-4(2)                | BR/GR |
| 280+00  | 6LT      | 0-5      | 27           | 12               | A-6(7)                | BR/GR |
| 280+00  | 25LT     | 0-5      | 30           | 11               | A-6(9)                | BROWN |
| 288+00  | 25RT     | 0-5      | 36           | 17               | A-6(15)               | BR/GR |
| 288+00  | 15RT     | 0-5      | 27           | 8                | A-4(6)                | BR/GR |
| 288+00  | 6RT      | 0-5      | 27           | 9                | A-4(6)                | BR/GR |
| 296+00  | 25LT     | 0-5      | 28           | 9                | A-4(7)                | BROWN |
| 296+00  | 15LT     | 0-5      | 28           | 10               | A-4(8)                | GRAY  |
| 296+00  | 6LT      | 0-5      | 24           | 7                | A-4(3)                | BR/GR |
| 304+00  | 25RT     | 0-5      | 28           | 11               | A-6(7)                | BROWN |
| 304+00  | 15RT     | 0-5      | 24           | 7                | A-4(3)                | GRAY  |
| 304+00  | 6RT      | 0-5      | 26           | 10               | A-4(6)                | GRAY  |
| 312+00  | 25LT     | 0-5      | 32           | 16               | A-6(14)               | BROWN |
| 312+00  | 15LT     | 0-5      | 29           | 14               | A-6(10)               | GRAY  |
| 312+00  | 6LT      | 0-5      | 27           | 11               | A-6(7)                | GRAY  |
| 320+00  | 25RT     | 0-5      | 27           | 9                | A-4(7)                | BROWN |
| 320+00  | 15RT     | 0-5      | 23           | 8                | A-4(3)                | GRAY  |
| 320+00  | 6RT      | 0-5      | 22           | 7                | A-4(3)                | BR/GR |
| 328+00  | 25LT     | 0-5      | 31           | 14               | A-6(12)               | BROWN |
| 328+00  | 15LT     | 0-5      | 29           | 15               | A-6(10)               | GRAY  |
| 328+00  | 6LT      | 0-5      | 25           | 10               | A-4(6)                | BR/GR |
| 336+00  | 25RT     | 0-5      | 28           | 12               | A-6(8)                | BROWN |
| 336+00  | 15RT     | 0-5      | 24           | 8                | A-4(2)                | BR/GR |
| 336+00  | 6RT      | 0-5      | 23           | 7                | A-4(2)                | GRAY  |
| 336+00  | 25RT     | 0-5      | 27           | 9                | A-4(6)                | BROWN |
| 344+00  | 25LT     | 0-5      | 28           | 12               | A-6(8)                | BROWN |
| 344+00  | 15LT     | 0-5      | 23           | 7                | A-4(3)                | BROWN |
| 344+00  | 6LT      | 0-5      | 32           | 18               | A-6(11)               | BROWN |
| 352+00  | 25RT     | 0-5      | 31           | 14               | A-6(12)               | BROWN |
| 352+00  | 15RT     | 0-5      | 30           | 15               | A-6(11)               | GRAY  |
| 352+00  | 6RT      | 0-5      | 27           | 13               | A-6(8)                | BR/GR |
| 360+00  | 25LT     | 0-5      | 25           | 7                | A-4(4)                | BR/GR |
| 360+00  | 15LT     | 0-5      | 22           | 7                | A-4(2)                | GRAY  |
| 360+00  | 6LT      | 0-5      | 24           | 8                | A-4(4)                | BROWN |
| 368+00  | 25RT     | 0-5      | 30           | 12               | A-6(10)               | BROWN |
| 368+00  | 15RT     | 0-5      | 26           | 8                | A-4(4)                | BR/GR |
| 368+00  | 6RT      | 0-5      | 24           | 7                | A-4(4)                | BR/GR |
| 375+00  | 14LT     | 0-5      | 24           | 9                | A-4(6)                | BR/GR |
| 375+00  | CL       | 0-5      | 23           | 10               | A-4(5)                | BR/GR |
| 375+00  | 10RT     | 0-5      | 24           | 10               | A-4(6)                | BR/GR |
| 375+00  | 14LT     | 0-5      | 25           | 7                | A-4(5)                | BR/GR |
| 377+53  | 3LT      | *10      | ND           | NP               | A-3(1)                | BROWN |
| 377+53  | 3LT      | *9       | ND           | NP               | A-3(1)                | BROWN |
| 377+53  | 3LT      | *8       | ND           | NP               | A-3(0)                | BROWN |
| 377+53  | 3LT      | *13      | ND           | NP               | A-3(1)                | BROWN |
| 377+53  | 3LT      | *12      | ND           | NP               | A-3(1)                | BROWN |
| 377+53  | 3LT      | *=11     | ND           | NP               | A-3(0)                | BROWN |
| 377+53  | 3LT      | *16      | ND           | NP               | A-1-B(1)              | BROWN |
| 377+53  | 3LT      | *15      | ND           | NP               | A-3(1)                | BROWN |
| 377+53  | 3LT      | *=14     | ND           | NP               | A-3(1)                | BROWN |
| 377+53  | 3LT      | *17      | ND           | NP               | A-1-B(1)              | BROWN |
| 377+53  | 3LT      | *=16     | ND           | NP               | A-1-B(1)              | GR/BR |
| 377+53  | 3LT      | *5       | ND           | NP               | A-2-4(0)              | GR/BR |
| 377+53  | 3LT      | *        | 23           | 8                | A-4(4)                | BR/GR |
| 377+53  | 3LT      | 9.2-10.7 | 28           | 9                | A-4(7)                | BR/GR |
| 377+53  | 3LT      | 4.2-5.7  | ND           | NP               | A-4(0)                | BR/GR |
| 377+53  | 3LT      | *4       | ND           | NP               | A-3(1)                | GR/BR |
| 377+53  | 3LT      | *3       | ND           | NP               | A-2-4(0)              | BROWN |
| 377+53  | 3LT      | *2       | ND           | NP               | A-4(0)                | GRAY  |
| 377+53  | 3LT      | *7       | ND           | NP               | A-3(1)                | BROWN |
| 377+53  | 3LT      | *6       | ND           | NP               | A-3(0)                | BROWN |
| 384+00  | 36RT     | 0-5      | 26           | 11               | A-6(8)                | BR/GR |
| 384+00  | 25RT     | 0-5      | 25           | 10               | A-4(7)                | BR/GR |
| 384+00  | 17RT     | 0-5      | 28           | 11               | A-6(8)                | BR/GR |
| 392+00  | 25LT     | 0-5      | 25           | 10               | A-4(6)                | BROWN |
| 392+00  | 15LT     | 0-5      | 25           | 10               | A-4(6)                | BR/GR |
| 392+00  | 6LT      | 0-5      | 23           | 7                | A-4(4)                | BR/GR |
| 400+00  | 25RT     | 0-5      | 21           | 5                | A-4(2)                | BR/GR |
| 400+00  | 15RT     | 0-5      | 21           | 6                | A-4(2)                | GRAY  |
| 400+00  | 6RT      | 0-5      | 22           | 8                | A-4(4)                | GRAY  |

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

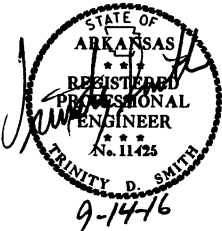
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 73        | 287          |

2 QUANTITIES



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             |                    |       | JOB NO. 020534     | 74        | 287          |

2 QUANTITIES



| EROSION CONTROL                                                   |         |                       |                           |       |             |        |                            |                           |             |        |                             |                   |                       |                                |                              |
|-------------------------------------------------------------------|---------|-----------------------|---------------------------|-------|-------------|--------|----------------------------|---------------------------|-------------|--------|-----------------------------|-------------------|-----------------------|--------------------------------|------------------------------|
| STATION                                                           | STATION | LOCATION              | PERMANENT EROSION CONTROL |       |             |        |                            | TEMPORARY EROSION CONTROL |             |        |                             |                   |                       |                                |                              |
|                                                                   |         |                       | SEEDING                   | LIME  | MULCH COVER | WATER  | SECOND SEEDING APPLICATION | TEMPORARY SEEDING         | MULCH COVER | WATER  | SAND BAG DITCH CHECKS (E-5) | SILT FENCE (E-11) | SEDIMENT BASIN (E-14) | OBLITERATION OF SEDIMENT BASIN | *SEDIMENT REMOVAL & DISPOSAL |
|                                                                   |         |                       | ACRE                      | TON   | ACRE        | M.GAL. | ACRE                       | ACRE                      | ACRE        | M.GAL. | BAG                         | LIN. FT.          | CU.YD.                | CU.YD.                         | CU. YD.                      |
| ENTIRE                                                            | PROJECT | CLEARING AND GRUBBING |                           |       |             |        |                            | 89.00                     | 89.00       | 1815.6 | 2926                        | 4257              |                       |                                | 178                          |
| ENTIRE                                                            | PROJECT | STAGE 1               | 13.37                     | 26.74 | 13.37       | 1363.7 | 13.37                      | 1.00                      | 1.00        | 20.4   | 968                         | 362               | 8802                  | 8802                           | 8843                         |
| ENTIRE                                                            | PROJECT | STAGE 2               | 13.55                     | 27.10 | 13.55       | 1382.1 | 13.55                      | 1.00                      | 1.00        | 20.4   | 1100                        |                   | 7949                  | 7949                           | 7956                         |
|                                                                   |         |                       |                           |       |             |        |                            |                           |             |        |                             |                   |                       |                                |                              |
|                                                                   |         |                       |                           |       |             |        |                            |                           |             |        |                             |                   |                       |                                |                              |
| *ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. |         |                       | 3.00                      | 6.00  | 3.00        | 306.0  | 3.00                       | 3.00                      | 3.00        | 61.2   | 300                         | 200               | 500                   | 500                            | 507                          |
| TOTALS:                                                           |         |                       | 29.92                     | 59.84 | 29.92       | 3051.8 | 29.92                      | 94.00                     | 94.00       | 1917.6 | 5294                        | 4819              | 17251                 | 17251                          | 17484                        |

BASIS OF ESTIMATE:  
LIME .....2 TONS / ACRE OF SEEDING  
WATER .....102.0 M.G. / ACRE OF SEEDING  
WATER .....20.4 M.G. / ACRE OF TEMPORARY SEEDING  
WATER .....12.6 GAL. / SQ. YD. OF SOLID SODDING  
WATTLE DITCH CHECKS .....9 LIN. FT. / LOCATION  
SAND BAG DITCH CHECKS .....22 BAGS / LOCATION  
ROCK DITCH CHECKS .....3 CU.YD./LOCATION

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

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

STRUCTURES

| STATION                       | DESCRIPTION                                         | REINFORCED CONCRETE PIPE CULVERT<br>(CLASS III) |     |     |     |     | FLARED END SECTIONS FOR R.C. PIPE CULVERTS |     |     |     |     | SPAN | HEIGHT | LENGTH | CLASS S CONCRETE-ROADWAY | REINF. STEEL-ROADWAY (GRADE 60) | UNCL.EXC. FOR STR.-ROADWAY | SOLID SODDING | WATER | STD. DWG. NOS.                |                            |
|-------------------------------|-----------------------------------------------------|-------------------------------------------------|-----|-----|-----|-----|--------------------------------------------|-----|-----|-----|-----|------|--------|--------|--------------------------|---------------------------------|----------------------------|---------------|-------|-------------------------------|----------------------------|
|                               |                                                     | 24"                                             | 30" | 36" | 42" | 48" | 24"                                        | 30" | 36" | 42" | 48" |      |        |        |                          |                                 |                            |               |       |                               |                            |
|                               |                                                     | LIN. FT.                                        |     |     |     |     | EACH                                       |     |     |     |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
|                               |                                                     |                                                 |     |     |     |     |                                            |     |     |     |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
| 148+97                        | CONSTRUCT R.C. PIPE CULVERT 32" RFS W/FES LT. & RT. | 236                                             |     |     |     |     | 2                                          |     |     |     |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
| 152+32                        | CONSTRUCT TRI R.C. PIPE CULVERT W/FES LT. & RT.     |                                                 |     |     | 351 |     |                                            |     |     | 6   |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
| 152+60                        | EXTEND DBL. R.C. BOX CULVERT W/3:1 WINGS LT. & RT.  |                                                 |     |     |     |     |                                            |     |     |     |     | 4    | 3      | 44     | 31.76                    | 4402                            | 20                         | 14            | 0.18  | PCC-1, PCM-1, FES-1, FES-2    |                            |
| 168+97                        | EXTEND DBL. R.C. BOX CULVERT W/3:1 WINGS LT. & RT.  |                                                 |     |     |     |     |                                            |     |     |     |     | 6    | 4      | 51     | 49.87                    | 8150                            | 31                         | 18            | 0.23  | R-200X-0, W-X003-1, RCB-1,2,3 |                            |
| 212+76                        | EXTEND DBL R.C. BOX CULVERT W/3:1 WINGS LT. & RT.   |                                                 |     |     |     |     |                                            |     |     |     |     | 5    | 5      | 50     | 45.71                    | 7038                            | 28                         | 19            | 0.24  | R-200X-0, W-X003-1, RCB-1,2,3 |                            |
| 267+58                        | CONSTRUCT R.C. PIPE CULVERT W/FES LT. & RT.         |                                                 |     |     | 141 |     |                                            |     |     | 2   |     |      |        |        |                          |                                 |                            |               | 55    | 0.69                          | PCC-1, PCM-1, FES-1, FES-2 |
| 307+61                        | EXTEND R.C. PIPE CULVERT W/FES LT. & RT.            |                                                 |     |     |     | 74  |                                            |     |     |     | 2   |      |        |        |                          |                                 |                            |               | 58    | 0.73                          | PCC-1, PCM-1, FES-1, FES-2 |
| 318+45                        | EXTEND R.C. PIPE CULVERT W/FES LT. & RT.            |                                                 | 66  |     |     |     |                                            | 2   |     |     |     |      |        |        |                          |                                 |                            |               | 26    | 0.33                          | PCC-1, PCM-1, FES-1, FES-2 |
| 372+09                        | EXTEND R.C. PIPE CULVERT W/FES LT. & RT.            | 63                                              |     |     |     |     | 2                                          |     |     |     |     |      |        |        |                          |                                 |                            |               | 19    | 0.24                          | PCC-1, PCM-1, FES-1, FES-2 |
| 384+32                        | EXTEND R.C. BOX CULVERT W/3:1 WINGS LT.             |                                                 |     |     |     |     |                                            |     |     |     |     | 5    | 4      | 42     | 21.70                    | 2647                            | 19                         | 15            | 0.19  | R-100X-0, W-X003-1, RCB-1,2,3 |                            |
| 397+38                        | EXTEND R.C. PIPE CULVERT W/FES LT. & RT.            |                                                 |     | 63  |     |     |                                            |     | 2   |     |     |      |        |        |                          |                                 |                            |               | 34    | 0.43                          | PCC-1, PCM-1, FES-1, FES-2 |
| 403+01                        | EXTEND R.C. PIPE CULVERT W/FES LT. & RT.            |                                                 | 49  |     |     |     |                                            | 2   |     |     |     |      |        |        |                          |                                 |                            |               | 26    | 0.33                          | PCC-1, PCM-1, FES-1, FES-2 |
|                               |                                                     |                                                 |     |     |     |     |                                            |     |     |     |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
|                               |                                                     |                                                 |     |     |     |     |                                            |     |     |     |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
|                               |                                                     |                                                 |     |     |     |     |                                            |     |     |     |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
| SUBTOTALS:                    |                                                     | 299                                             | 115 | 63  | 492 | 74  | 4                                          | 4   | 2   | 8   | 2   |      |        |        | 149.04                   | 22237                           | 98                         | 362           | 4.57  |                               |                            |
| STRUCTURES OVER 20' - 0" SPAN |                                                     |                                                 |     |     |     |     |                                            |     |     |     |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
| 357+66                        | EXTEND QUAD. R.C. BOX CULVERT W/3:1 WINGS LT. & RT. |                                                 |     |     |     |     |                                            |     |     |     |     | 6    | 3      | 42     | 75.56                    | 14074                           | 40                         | 22            | 0.28  | R-400X-0, W-X003-1, RCB-1,2,3 |                            |
|                               |                                                     |                                                 |     |     |     |     |                                            |     |     |     |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
|                               |                                                     |                                                 |     |     |     |     |                                            |     |     |     |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
|                               |                                                     |                                                 |     |     |     |     |                                            |     |     |     |     |      |        |        |                          |                                 |                            |               |       |                               |                            |
| SUBTOTALS:                    |                                                     |                                                 |     |     |     |     |                                            |     |     |     |     |      |        |        | 75.56                    | 14074                           | 40                         | 22            | 0.28  |                               |                            |
| TOTALS:                       |                                                     | 299                                             | 115 | 63  | 492 | 74  | 4                                          | 4   | 2   | 8   | 2   |      |        |        | 224.60                   | 36311                           | 138                        | 384           | 4.85  |                               |                            |

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.

APPROACH SLABS

| STATION   | STATION   | LOCATION   | APPROACH SLABS | REINFORCING STEEL-RDWY. (GR. 60) | AGGREGATE BASE CRS. (CLASS 7) |
|-----------|-----------|------------|----------------|----------------------------------|-------------------------------|
|           |           |            | CU.YD.         | POUND                            | TON                           |
| 207+68.50 | 207+98.50 | MAIN LANES | 95.80          | 7275                             | 114.75                        |
| 209+04.50 | 209+34.50 | MAIN LANES | 95.80          | 7275                             | 114.75                        |
| 260+68.50 | 260+98.50 | MAIN LANES | 95.80          | 7275                             | 114.75                        |
| 262+25.50 | 262+55.50 | MAIN LANES | 95.80          | 7275                             | 114.75                        |
| 377+41.00 | 377+71.00 | MAIN LANES | 95.80          | 7275                             | 114.75                        |
| 379+17.00 | 379+47.00 | MAIN LANES | 95.80          | 7275                             | 114.75                        |
|           |           |            |                |                                  |                               |
|           |           |            |                |                                  |                               |
|           |           |            |                |                                  |                               |
| TOTALS:   |           |            | 574.80         | 43650                            | 688.50                        |

NOTE: USE T =9" FOR 8' SHOULDER.

CULVERT CLEAN OUT

| STATION | LOCATION   | EACH |
|---------|------------|------|
| 318+46  | OUTLET RT. | 1    |
| 403+02  | OUTLET RT. | 1    |
|         |            |      |
|         |            |      |
|         |            |      |
| TOTAL:  |            | 2    |

SELECTED PIPE BEDDING

| LOCATION                                                              | SELECTED<br>PIPE<br>BEDDING |
|-----------------------------------------------------------------------|-----------------------------|
|                                                                       | CU.YD.                      |
| ENTIRE PROJECT TO BE USED IF<br>AND WHERE DIRECTED BY THE<br>ENGINEER | 380                         |
|                                                                       |                             |
|                                                                       |                             |
| TOTAL:                                                                | 380                         |

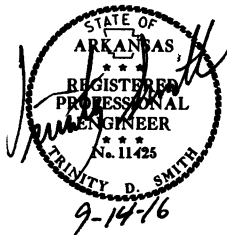
NOTE: QUANTITY ESTIMATED.  
SEE SECTION 104.03 OF THE STD. SPECS.

DRIVEWAYS & TURNOUTS

| STATION | SIDE | LOCATION           | WIDTH | PORTLAND CEMENT CONCRETE DRIVEWAY | ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22) |       | AGGREGATE BASE COURSE (CLASS 7) | SIDE DRAINS |     |     |     |     | STANDARD DRAWINGS          |
|---------|------|--------------------|-------|-----------------------------------|------------------------------------------------------------|-------|---------------------------------|-------------|-----|-----|-----|-----|----------------------------|
|         |      |                    |       |                                   | SQ. YD.                                                    | TON   |                                 | 18"         | 24" | 30" | 36" | 48" |                            |
|         |      |                    |       |                                   |                                                            |       |                                 |             |     |     |     |     |                            |
| 127+00  | LT.  | ASHLEY CO. RD. 411 | 20    |                                   | 180.80                                                     | 19.89 | 73.83                           | 46          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 129+98  | LT.  | MAIN LANES         | 16    | 80.30                             |                                                            |       |                                 | 36          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 134+38  | LT.  | MAIN LANES         | 16    | 82.50                             |                                                            |       |                                 |             | 34  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 137+00  | LT.  | MAIN LANES         | 16    | 85.10                             |                                                            |       |                                 |             | 36  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 139+27  | LT.  | MAIN LANES         | 16    |                                   | 87.20                                                      | 9.59  | 35.61                           |             | 36  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 139+42  | RT.  | MAIN LANES         | 16    |                                   | 87.80                                                      | 9.66  | 35.85                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 140+60  | LT.  | MAIN LANES         | 16    |                                   | 88.50                                                      | 9.74  | 36.14                           |             | 38  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 143+00  | RT.  | MAIN LANES         | 16    |                                   | 87.50                                                      | 9.63  | 35.73                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 144+29  | RT.  | MAIN LANES         | 16    |                                   | 87.80                                                      | 9.66  | 35.85                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 144+63  | LT.  | MAIN LANES         | 16    | 87.10                             |                                                            |       |                                 |             | 36  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 145+61  | RT.  | MAIN LANES         | 16    |                                   | 155.90                                                     | 17.15 | 63.66                           | 36          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 145+61  | LT.  | UNITY LANE         | 20    |                                   | 130.70                                                     | 14.38 | 53.37                           |             |     | 34  |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 146+86  | RT.  | MAIN LANES         | 16    |                                   | 88.80                                                      | 9.77  | 36.26                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 148+76  | LT.  | MAIN LANES         | 16    |                                   | 80.60                                                      | 8.87  | 32.91                           |             | 28  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 148+81  | RT.  | MAIN LANES         | 26    | 143.20                            |                                                            |       |                                 | 44          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 149+12  | LT.  | MAIN LANES         | 16    |                                   |                                                            |       |                                 |             | 28  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 153+42  | LT.  | MAIN LANES         | 16    |                                   |                                                            |       |                                 |             | 36  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 157+74  | RT.  | ASHLEY CO. RD. 544 | 20    |                                   | 197.70                                                     | 21.75 | 80.73                           |             |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 159+85  | LT.  | MAIN LANES         | 16    |                                   | 90.30                                                      | 9.93  | 36.87                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 162+82  | RT.  | MAIN LANES         | 16    |                                   | 101.80                                                     | 11.20 | 41.57                           | 38          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 163+86  | RT.  | MAIN LANES         | 16    |                                   | 100.20                                                     | 11.02 | 40.92                           | 38          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 165+88  | RT.  | MAIN LANES         | 40    |                                   | 229.20                                                     | 25.21 | 93.59                           | 56          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 166+65  | RT.  | MAIN LANES         | 16    |                                   | 120.40                                                     | 13.24 | 49.16                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 171+09  | LT.  | MAIN LANES         | 16    |                                   | 96.70                                                      | 10.64 | 39.49                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 173+72  | LT.  | MAIN LANES         | 16    |                                   | 78.00                                                      | 8.58  | 31.85                           | 30          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 174+82  | LT.  | MAIN LANES         | 16    |                                   | 82.30                                                      | 9.05  | 33.61                           | 36          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 176+24  | LT.  | MAIN LANES         | 40    |                                   | 214.50                                                     | 23.60 | 87.59                           | 60          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 176+24  | RT.  | MAIN LANES         | 16    |                                   | 95.60                                                      | 10.52 | 39.04                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 179+20  | RT.  | MAIN LANES         | 16    |                                   | 131.80                                                     | 14.50 | 53.82                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 180+26  | RT.  | ASHLEY CO. RD. 75  | 20    |                                   | 240.00                                                     | 26.40 | 98.00                           | 46          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 180+88  | RT.  | MAIN LANES         | 16    |                                   | 130.90                                                     | 14.40 | 53.45                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 184+89  | LT.  | MAIN LANES         | 16    |                                   | 81.10                                                      | 8.92  | 33.12                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 199+25  | LT.  | MAIN LANES         | 16    |                                   | 70.50                                                      | 7.76  | 28.79                           | 28          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 205+60  | RT.  | ASHLEY 235         | 20    |                                   | 209.00                                                     | 22.99 | 85.34                           |             |     |     |     | 42  | PCC-1, PCM-1, PCP-1, PCP-2 |
| 215+86  | LT.  | MAIN LANES         | 16    |                                   | 121.00                                                     | 13.31 | 49.41                           |             |     |     |     | 46  | PCC-1, PCM-1, PCP-1, PCP-2 |
| 219+67  | RT.  | MAIN LANES         | 16    |                                   | 114.30                                                     | 12.57 | 46.67                           | 30          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 222+54  | LT.  | MAIN LANES         | 16    |                                   | 80.10                                                      | 8.81  | 32.71                           |             | 28  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 225+73  | RT.  | MAIN LANES         | 16    |                                   | 81.30                                                      | 8.94  | 33.20                           | 28          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 228+43  | LT.  | MAIN LANES         | 16    |                                   | 86.90                                                      | 9.56  | 35.48                           |             | 36  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 229+86  | LT.  | MAIN LANES         | 16    |                                   | 91.00                                                      | 10.01 | 37.16                           |             | 36  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 230+77  | LT.  | ASHLEY CO. RD. 17  | 20    |                                   | 170.60                                                     | 18.77 | 69.66                           | 48          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 232+00  | RT.  | MAIN LANES         | 16    |                                   | 89.50                                                      | 9.85  | 36.55                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 233+90  | RT.  | MAIN LANES         | 16    |                                   | 87.80                                                      | 9.66  | 35.85                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 233+91  | LT.  | MAIN LANES         | 16    |                                   | 84.40                                                      | 9.28  | 34.46                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 235+79  | RT.  | MAIN LANES         | 16    |                                   | 86.20                                                      | 9.48  | 35.20                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 236+16  | LT.  | MAIN LANES         | 16    |                                   | 92.80                                                      | 10.21 | 37.89                           |             | 34  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 239+40  | LT.  | MAIN LANES         | 40    |                                   | 190.00                                                     | 20.90 | 77.58                           | 54          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 241+40  | RT.  | MAIN LANES         | 16    |                                   | 82.00                                                      | 9.02  | 33.48                           | 30          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 242+28  | RT.  | MAIN LANES         | 16    |                                   | 81.60                                                      | 8.98  | 33.32                           | 28          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 243+90  | LT.  | MAIN LANES         | 40    | 56.70                             |                                                            |       |                                 |             |     | 58  |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 245+40  | LT.  | MAIN LANES         | 40    | 56.70                             |                                                            |       |                                 |             |     | 58  |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 245+71  | RT.  | MAIN LANES         | 16    |                                   | 80.30                                                      | 8.83  | 32.79                           |             | 28  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 246+38  | RT.  | FLEMING ROAD       | 20    |                                   | 174.90                                                     | 19.24 | 71.42                           |             | 38  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 248+36  | LT.  | MAIN LANES         | 16    |                                   | 76.50                                                      | 8.42  | 31.24                           | 30          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 252+56  | RT.  | MAIN LANES         | 16    |                                   | 92.90                                                      | 10.22 | 37.93                           |             | 30  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 256+53  | RT.  | MAIN LANES         | 16    |                                   | 128.20                                                     | 14.10 | 52.35                           | 28          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 259+58  | LT.  | MAIN LANES         | 16    |                                   | 178.20                                                     | 19.60 | 72.77                           | 54          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 265+08  | LT.  | MAIN LANES         | 16    |                                   | 88.20                                                      | 9.70  | 36.02                           | 60          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 266+00  | LT.  | MAIN LANES         | 22    |                                   | 110.30                                                     | 12.13 | 45.04                           | 36          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 269+55  | RT.  | ASHLEY CO. RD. 23  | 20    |                                   | 242.50                                                     | 26.68 | 99.02                           | 40          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 270+66  | LT.  | ASHLEY CO. RD. 416 | 20    |                                   | 187.50                                                     | 20.63 | 76.56                           | 80          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 272+45  | LT.  | MAIN LANES         | 16    |                                   | 88.40                                                      | 9.72  | 36.10                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 274+84  | RT.  | MAIN LANES         | 16    |                                   | 95.90                                                      | 10.55 | 39.16                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 276+60  | LT.  | MAIN LANES         | 16    |                                   | 91.80                                                      | 10.10 | 37.49                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 277+20  | RT.  | MAIN LANES         | 16    |                                   | 92.00                                                      | 10.12 | 37.57                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 280+25  | RT.  | MAIN LANES         | 16    |                                   | 84.30                                                      | 9.27  | 34.42                           |             | 28  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 281+44  | LT.  | MAIN LANES         | 16    |                                   | 81.90                                                      | 9.01  | 33.44                           | 30          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 281+94  | LT.  | MAIN LANES         | 16    |                                   | 85.00                                                      | 9.35  | 34.71                           |             | 30  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 282+72  | RT.  | MAIN LANES         | 16    |                                   | 84.30                                                      | 9.27  | 34.42                           |             | 30  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 285+33  | RT.  | MAIN LANES         | 16    |                                   |                                                            |       |                                 |             |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 285+65  | LT.  | EVA LANE           | 20    | 84.80                             | 184.10                                                     | 20.25 | 75.17                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 286+49  | RT.  | ASHLEY CO. RD. 149 | 20    |                                   | 182.50                                                     | 20.08 | 74.52                           | 44          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 287+87  | RT.  | MAIN LANES         | 16    |                                   | 88.50                                                      | 9.74  | 36.14                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 288+48  | LT.  | MAIN LANES         | 16    |                                   | 87.30                                                      | 9.60  | 35.65                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 292+15  | LT.  | MAIN LANES         | 16    |                                   | 87.20                                                      | 9.59  | 35.61                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 296+59  | LT.  | MAIN LANES         | 16    |                                   | 86.40                                                      | 9.50  | 35.28                           | 32          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 300+40  | LT.  | MAIN LANES         | 28    |                                   | 205.60                                                     | 22.62 | 83.95                           |             | 42  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 303+97  | RT.  | MAIN LANES         | 16    |                                   | 94.80                                                      | 10.43 | 38.71                           | 34          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 308+00  | LT.  | MAIN LANES         | 16    |                                   | 104.80                                                     | 11.53 | 42.79                           | 36          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 310+39  | RT.  | MAIN LANES         | 16    |                                   | 98.90                                                      | 10.88 | 40.38                           |             | 30  |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 311+08  | LT.  | MAIN LANES         | 16    |                                   | 102.10                                                     | 11.23 | 41.69                           | 40          |     |     |     |     | PCC-1, PCM-1, PCP-1, PCP-2 |
| 312+48  | RT.  | MAIN LANES         | 16    |                                   | 95.00                                                      | 10.45 | 38.79                           | 36          |     |     |     | </  |                            |

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 76           | 287             |

2 QUANTITIES



| BASE AND SURFACING                  |           |                              |          |                                 |           |           |           |                  |          |                         |           |                |          |                            |           |                |          |           |           |                |          |                |
|-------------------------------------|-----------|------------------------------|----------|---------------------------------|-----------|-----------|-----------|------------------|----------|-------------------------|-----------|----------------|----------|----------------------------|-----------|----------------|----------|-----------|-----------|----------------|----------|----------------|
| STATION                             | STATION   | LOCATION                     | LENGTH   | AGGREGATE BASE COURSE (CLASS 7) |           | TACK COAT |           |                  |          | ACHM BINDER COURSE (1") |           |                |          | ACHM SURFACE COURSE (1/2") |           |                |          |           |           |                |          |                |
|                                     |           |                              |          | TON / STATION                   | TON       | AVG. WID. | SQ.YD.    | GALLONS / SQ.YD. | GALLON   | AVG. WID.               | SQ.YD.    | POUND / SQ.YD. | PG 64-22 | AVG. WID.                  | SQ.YD.    | POUND / SQ.YD. | PG 64-22 | AVG. WID. | SQ.YD.    | POUND / SQ.YD. | PG 64-22 | TOTAL PG 64-22 |
|                                     |           |                              | FEET     |                                 |           | FEET      |           |                  |          | FEET                    |           |                | TON      | FEET                       |           |                | TON      | FEET      |           |                | TON      | TON            |
| MAIN LANES                          |           |                              |          |                                 |           |           |           |                  |          |                         |           |                |          |                            |           |                |          |           |           |                |          |                |
| 121+40.00                           | 122+40.00 | MAIN LANES - TRANSITION      | 100.00   |                                 |           | 75.00     | 833.33    | 0.05             | 41.67    |                         |           |                |          |                            |           |                | 75.00    | 833.33    | 220.00    | 91.67          | 91.67    |                |
| 122+40.00                           | 170+00.00 | MAIN LANES - NOTCH AND WIDEN | 4760.00  | 518.50                          | 24680.60  | 102.75    | 54343.33  | 0.05             | 2717.17  | 39.50                   | 20891.11  | 440.00         | 4596.04  | 39.25                      | 20758.89  | 220.00         | 2283.48  | 75.00     | 39666.67  | 220.00         | 4363.33  | 6646.81        |
| 170+00.00                           | 193+00.00 | MAIN LANES - FULL DEPTH      | 2300.00  | 689.75                          | 15864.25  | 126.75    | 32391.67  | 0.05             | 1619.58  | 63.50                   | 16227.78  | 440.00         | 3570.11  | 63.25                      | 16163.89  | 220.00         | 1778.03  | 75.00     | 19166.67  | 220.00         | 2108.33  | 3886.36        |
| 193+00.00                           | 205+60.00 | MAIN LANES - NOTCH AND WIDEN | 1260.00  | 518.50                          | 6533.10   | 102.75    | 14385.00  | 0.05             | 719.25   | 39.50                   | 5530.00   | 440.00         | 1216.60  | 39.25                      | 5495.00   | 220.00         | 604.45   | 75.00     | 10500.00  | 220.00         | 1155.00  | 1759.45        |
| 205+60.00                           | 207+68.50 | MAIN LANES - FULL DEPTH      | 208.50   | 666.00                          | 1388.61   | 132.75    | 3075.38   | 0.05             | 153.77   | 69.50                   | 1610.08   | 440.00         | 354.22   | 69.25                      | 1604.29   | 220.00         | 176.47   | 75.00     | 1737.50   | 220.00         | 191.13   | 367.60         |
| 209+34.50                           | 211+00.00 | MAIN LANES - FULL DEPTH      | 165.50   | 666.00                          | 1102.23   | 132.75    | 2441.13   | 0.05             | 122.06   | 69.50                   | 1278.03   | 440.00         | 281.17   | 69.25                      | 1273.43   | 220.00         | 140.08   | 75.00     | 1379.17   | 220.00         | 151.71   | 291.79         |
| 211+00.00                           | 258+00.00 | MAIN LANES - NOTCH AND WIDEN | 4700.00  | 518.50                          | 24369.50  | 102.75    | 53658.33  | 0.05             | 2682.92  | 39.50                   | 20627.78  | 440.00         | 4538.11  | 39.25                      | 20497.22  | 220.00         | 2254.69  | 75.00     | 39166.67  | 220.00         | 4308.33  | 6563.02        |
| 258+00.00                           | 260+49.50 | MAIN LANES - FULL DEPTH      | 249.50   | 666.00                          | 1661.67   | 132.75    | 3680.13   | 0.05             | 184.01   | 69.50                   | 1926.69   | 440.00         | 423.87   | 69.25                      | 1919.76   | 220.00         | 211.17   | 75.00     | 2079.17   | 220.00         | 228.71   | 439.88         |
| 262+55.50                           | 265+58.00 | MAIN LANES - FULL DEPTH      | 302.50   | 666.00                          | 2014.65   | 132.75    | 4461.88   | 0.05             | 223.09   | 69.50                   | 2335.97   | 440.00         | 513.91   | 69.25                      | 2327.57   | 220.00         | 256.03   | 75.00     | 2520.83   | 220.00         | 277.29   | 533.32         |
| 265+58.00                           | 376+00.00 | MAIN LANES - NOTCH AND WIDEN | 11042.00 | 518.50                          | 57252.77  | 102.75    | 126062.83 | 0.05             | 6303.14  | 39.50                   | 48462.11  | 440.00         | 10661.66 | 39.25                      | 48155.39  | 220.00         | 5297.09  | 75.00     | 92016.67  | 220.00         | 10121.83 | 15418.92       |
| 376+00.00                           | 377+41.00 | MAIN LANES - FULL DEPTH      | 141.00   | 666.00                          | 939.06    | 132.75    | 2079.75   | 0.05             | 103.99   | 69.50                   | 1088.83   | 440.00         | 239.54   | 69.25                      | 1084.92   | 220.00         | 119.34   | 75.00     | 1175.00   | 220.00         | 129.25   | 248.59         |
| 379+47.00                           | 382+00.00 | MAIN LANES - FULL DEPTH      | 253.00   | 666.00                          | 1684.98   | 132.75    | 3731.75   | 0.05             | 186.59   | 69.50                   | 1953.72   | 440.00         | 429.82   | 69.25                      | 1946.69   | 220.00         | 214.14   | 75.00     | 2108.33   | 220.00         | 231.92   | 446.06         |
| 382+00.00                           | 403+80.00 | MAIN LANES - NOTCH AND WIDEN | 2180.00  | 518.50                          | 11303.30  | 102.75    | 24888.33  | 0.05             | 1244.42  | 39.50                   | 9567.78   | 440.00         | 2104.91  | 39.25                      | 9507.22   | 220.00         | 1045.79  | 75.00     | 18166.67  | 220.00         | 1998.33  | 3044.12        |
| 403+80.00                           | 404+80.00 | MAIN LANES - TRANSITION      | 100.00   | 259.25                          | 259.25    | 111.50    | 1238.89   | 0.05             | 61.94    | 19.60                   | 217.78    | 440.00         | 47.91    |                            | 484.44    | 220.00         | 53.29    | 43.60     | 484.44    | 220.00         | 53.29    | 106.58         |
|                                     |           |                              |          |                                 |           |           |           |                  |          |                         |           |                |          |                            |           |                |          |           |           |                |          |                |
| ADDITIONAL FOR LEVELING             |           |                              |          |                                 |           |           |           |                  |          |                         |           |                |          |                            |           |                |          |           |           |                |          |                |
| 122+40.00                           | 171+00.00 | MAIN LANES                   | 4860.00  |                                 |           | 24.00     | 12960.00  | 0.17             | 2203.20  |                         |           |                |          |                            |           |                | 24.00    | 12960.00  | VAR.      | 3292.85        | 3292.85  |                |
| 190+00.00                           | 205+60.00 | MAIN LANES                   | 1560.00  |                                 |           | 24.00     | 4160.00   | 0.17             | 707.20   |                         |           |                |          |                            |           |                | 24.00    | 4160.00   | VAR.      | 457.60         | 457.60   |                |
| 209+34.50                           | 260+49.50 | MAIN LANES                   | 5115.00  |                                 |           | 24.00     | 13640.00  | 0.17             | 2318.80  |                         |           |                |          |                            |           |                | 24.00    | 13640.00  | VAR.      | 1500.40        | 1500.40  |                |
| 262+55.50                           | 377+41.00 | MAIN LANES                   | 11485.50 |                                 |           | 24.00     | 30628.00  | 0.17             | 5206.76  |                         |           |                |          |                            |           |                | 24.00    | 30628.00  | VAR.      | 3369.08        | 3369.08  |                |
| 379+47.00                           | 403+80.00 | MAIN LANES                   | 2433.00  |                                 |           | 24.00     | 6488.00   | 0.17             | 1102.96  |                         |           |                |          |                            |           |                | 24.00    | 6488.00   | VAR.      | 892.10         | 892.10   |                |
|                                     |           |                              |          |                                 |           |           |           |                  |          |                         |           |                |          |                            |           |                |          |           |           |                |          |                |
|                                     |           |                              |          |                                 |           |           |           |                  |          |                         |           |                |          |                            |           |                |          |           |           |                |          |                |
| ADDITIONAL FOR GUARDRAIL            |           |                              |          |                                 |           |           |           |                  |          |                         |           |                |          |                            |           |                |          |           |           |                |          |                |
| 207+25.50                           | 207+98.49 | MAIN LANES ON RT.            | 73.00    | 51.00                           | 37.23     |           |           |                  |          |                         |           |                |          | 5.50                       | 44.61     | 220.00         | 4.91     |           |           |                |          | 4.91           |
| 206+52.35                           | 207+98.50 | MAIN LANES ON LT.            | 146.15   | 51.00                           | 74.54     |           |           |                  |          |                         |           |                |          | 5.50                       | 89.31     | 220.00         | 9.82     |           |           |                |          | 9.82           |
| 209+04.50                           | 210+50.65 | MAIN LANES ON RT.            | 146.15   | 51.00                           | 74.54     |           |           |                  |          |                         |           |                |          | 5.50                       | 89.31     | 220.00         | 9.82     |           |           |                |          | 9.82           |
| 209+04.50                           | 211+75.65 | MAIN LANES ON LT.            | 271.15   | 51.00                           | 138.29    |           |           |                  |          |                         |           |                |          | 5.50                       | 165.70    | 220.00         | 18.23    |           |           |                |          | 18.23          |
| 258+08.35                           | 260+79.50 | MAIN LANES ON RT.            | 271.15   | 51.00                           | 138.29    |           |           |                  |          |                         |           |                |          | 5.50                       | 165.70    | 220.00         | 18.23    |           |           |                |          | 18.23          |
| 259+33.35                           | 260+79.50 | MAIN LANES ON LT.            | 146.15   | 51.00                           | 74.54     |           |           |                  |          |                         |           |                |          | 5.50                       | 89.31     | 220.00         | 9.82     |           |           |                |          | 9.82           |
| 262+25.50                           | 263+71.65 | MAIN LANES ON RT.            | 146.15   | 51.00                           | 74.54     |           |           |                  |          |                         |           |                |          | 5.50                       | 89.31     | 220.00         | 9.82     |           |           |                |          | 9.82           |
| 262+25.50                           | 264+96.65 | MAIN LANES ON LT.            | 271.15   | 51.00                           | 138.29    |           |           |                  |          |                         |           |                |          | 5.50                       | 165.70    | 220.00         | 18.23    |           |           |                |          | 18.23          |
| 374+99.85                           | 377+71.00 | MAIN LANES ON RT.            | 271.15   | 51.00                           | 138.29    |           |           |                  |          |                         |           |                |          | 5.50                       | 165.70    | 220.00         | 18.23    |           |           |                |          | 18.23          |
| 376+24.85                           | 377+71.00 | MAIN LANES ON LT.            | 146.15   | 51.00                           | 74.54     |           |           |                  |          |                         |           |                |          | 5.50                       | 89.31     | 220.00         | 9.82     |           |           |                |          | 9.82           |
| 379+17.00                           | 380+63.15 | MAIN LANES ON RT.            | 146.15   | 51.00                           | 74.54     |           |           |                  |          |                         |           |                |          | 5.50                       | 89.31     | 220.00         | 9.82     |           |           |                |          | 9.82           |
| 379+17.00                           | 381+88.15 | MAIN LANES ON LT.            | 271.15   | 51.00                           | 138.29    |           |           |                  |          |                         |           |                |          | 5.50                       | 165.70    | 220.00         | 18.23    |           |           |                |          | 18.23          |
| ADDITIONAL FOR GRADE RAISE          |           |                              |          |                                 |           |           |           |                  |          |                         |           |                |          |                            |           |                |          |           |           |                |          |                |
| 205+60.00                           | 207+68.50 | MAIN LANES                   | 208.50   |                                 |           |           |           |                  |          | 24.00                   | 556.00    | 660.00         | 183.48   |                            |           |                |          |           |           |                |          |                |
| 209+34.50                           | 212+00.00 | MAIN LANES                   | 235.50   |                                 |           |           |           |                  |          | 24.00                   | 628.00    | 605.00         | 189.97   |                            |           |                |          |           |           |                |          |                |
| 249+00.00                           | 255+00.00 | MAIN LANES                   | 600.00   |                                 |           |           |           |                  |          | 24.00                   | 1600.00   | 550.00         | 440.00   |                            |           |                |          |           |           |                |          |                |
| 257+00.00                           | 260+49.50 | MAIN LANES                   | 349.50   |                                 |           |           |           |                  |          | 24.00                   | 932.00    | 1320.00        | 615.12   |                            |           |                |          |           |           |                |          |                |
| 262+55.50                           | 266+00.00 | MAIN LANES                   | 344.50   |                                 |           |           |           |                  |          | 24.00                   | 918.67    | 1320.00        | 606.32   |                            |           |                |          |           |           |                |          |                |
| 375+00.00                           | 377+41.00 | MAIN LANES                   | 241.00   |                                 |           |           |           |                  |          | 24.00                   | 642.67    | 330.00         | 106.04   |                            |           |                |          |           |           |                |          |                |
| 379+47.00                           | 382+00.00 | MAIN LANES                   | 253.00   |                                 |           |           |           |                  |          | 24.00                   | 674.67    | 330.00         | 111.32   |                            |           |                |          |           |           |                |          |                |
| ADDITIONAL FOR FULL DEPTH SHOULDERS |           |                              |          |                                 |           |           |           |                  |          |                         |           |                |          |                            |           |                |          |           |           |                |          |                |
| 205+00.00                           | 205+60.00 |                              | 60.00    | 96.50                           | 57.90     | 6.00      | 40.00     | 0.05             | 2.00     | 6.00                    | 40.00     | 440.00         | 8.80     | 6.00                       | 40.00     | 220.00         | 4.40     |           |           |                |          | 4.40           |
| 211+00.00                           | 212+20.00 |                              | 120.00   | 96.50                           | 115.80    | 6.00      | 80.00     | 0.05             | 4.00     | 6.00                    | 80.00     | 440.00         | 17.60    | 6.00                       | 80.00     | 220.00         | 8.80     |           |           |                |          | 8.80           |
| 374+80.00                           | 376+00.00 |                              | 120.00   | 96.50                           | 115.80    | 6.00      | 80.00     | 0.05             | 4.00     | 6.00                    | 80.00     | 440.00         | 17.60    | 6.00                       | 80.00     | 220.00         | 8.80     |           |           |                |          | 8.80           |
| 382+00.00                           | 382+20.00 |                              | 20.00    | 96.50                           | 19.30     | 6.00      | 13.33     | 0.05             | 0.67     | 6.00                    | 13.33     | 440.00         | 2.93     | 6.00                       | 13.33     | 220.00         | 1.47     |           |           |                |          | 1.47           |
| TOTALS:                             |           |                              |          |                                 | 150538.69 |           | 395361.06 |                  | 27913.19 |                         | 137883.00 |                | 31277.05 |                            | 132841.01 |                | 14612.50 |           | 298877.12 |                | 34922.15 | 49534.65       |

BASIS OF ESTIMATE:  
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER  
ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER  
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22  
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. ROAD<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|------------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                      | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.                |       | 020534             | 77           | 287             |

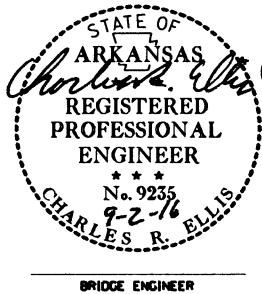
① 07321, 07322, 07323 - QUANTITIES - 56041

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 020534

| BRIDGE NO.                  | NAME PLATE TITLE          | UNIT OF STRUCTURE                   | ITEM NO. | 205                                                     | 801                                             | 802                      | 802                          | 803                                  | 804                                   | 804                                       | 805                                    | 805                                    | 805       | 805             | SP & 807                                          | 808                  | 812                        | 816           | 816            |
|-----------------------------|---------------------------|-------------------------------------|----------|---------------------------------------------------------|-------------------------------------------------|--------------------------|------------------------------|--------------------------------------|---------------------------------------|-------------------------------------------|----------------------------------------|----------------------------------------|-----------|-----------------|---------------------------------------------------|----------------------|----------------------------|---------------|----------------|
|                             |                           |                                     | ITEM     | ②<br>REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. _ ) | UNCLASSIFIED EXCAVATION FOR STRUCTURES - BRIDGE | CLASS S CONCRETE- BRIDGE | CLASS S(AE) CONCRETE- BRIDGE | CLASS I PROTECTIVE SURFACE TREATMENT | REINFORCING STEEL - BRIDGE (GRADE 60) | EPOXY COATED REINFORCING STEEL (GRADE 60) | ①<br>STEEL SHELL PILING (14" DIAMETER) | ①<br>STEEL SHELL PILING (20" DIAMETER) | PREBORING | PILE ENCASEMENT | STRUCTURAL STEEL IN BEAM SPANS (M 270, GRADE 50W) | ELASTOMERIC BEARINGS | BRIDGE NAME PLATE (TYPE D) | DUMPED RIPRAP | FILTER BLANKET |
|                             |                           |                                     |          | UNIT                                                    | LUMP SUM                                        | CU. YD.                  | CU. YD.                      | CU. YD.                              | GAL.                                  | LB.                                       | LB.                                    | LIN. FT.                               | LIN. FT.  | LIN. FT.        | LIN. FT.                                          | LB.                  | CU. IN.                    | EACH          | CU. YD.        |
| 07321                       | MIDDLE FORK OF WEST CREEK |                                     |          |                                                         |                                                 |                          |                              |                                      |                                       |                                           |                                        |                                        |           |                 |                                                   |                      |                            |               |                |
|                             |                           | END BENT NO. 1                      |          | 37                                                      | 27.25                                           |                          |                              | 2,675                                | 610                                   | 550                                       |                                        | 100                                    |           |                 |                                                   |                      | 138                        | 243           |                |
|                             |                           | INTERIOR BENT NO. 2                 |          |                                                         | 31.40                                           |                          |                              | 3,030                                |                                       |                                           | 550                                    |                                        | 60        |                 | 2,356.5                                           |                      |                            |               |                |
|                             |                           | INTERIOR BENT NO. 3                 |          |                                                         | 31.40                                           |                          |                              | 3,030                                |                                       |                                           | 550                                    |                                        | 60        |                 | 2,356.5                                           |                      |                            |               |                |
|                             |                           | END BENT NO. 4                      |          | 37                                                      | 27.25                                           |                          |                              | 2,675                                | 610                                   | 550                                       |                                        | 100                                    |           |                 |                                                   |                      | 139                        | 245           |                |
|                             |                           | 105'-0" CONT. INTEGRAL W-BEAM UNIT  |          |                                                         |                                                 | 257.00                   | 19.3                         |                                      | 55,350                                |                                           |                                        |                                        |           | 107,170         |                                                   | 1                    |                            |               |                |
|                             |                           | SITE NO. 1 (EXISTING BR. NO. 05340) | I        |                                                         |                                                 |                          |                              |                                      |                                       |                                           |                                        |                                        |           |                 |                                                   |                      |                            |               |                |
| TOTALS FOR BRIDGE NO. 07321 |                           |                                     |          | 74                                                      | 117.30                                          | 257.00                   | 19.3                         | 11,410                               | 56,570                                | 1,100                                     | 1,100                                  | 200                                    | 120       | 107,170         | 4,713.0                                           | 1                    | 277                        | 488           |                |
| 07322                       | EAST FORK OF WEST CREEK   |                                     |          |                                                         |                                                 |                          |                              |                                      |                                       |                                           |                                        |                                        |           |                 |                                                   |                      |                            |               |                |
|                             |                           | END BENT NO. 1                      |          | 20                                                      | 27.25                                           |                          |                              | 2,680                                | 610                                   | 600                                       |                                        | 100                                    |           |                 |                                                   |                      | 137                        | 240           |                |
|                             |                           | INTERIOR BENT NO. 2                 |          |                                                         | 31.40                                           |                          |                              | 3,030                                |                                       |                                           | 600                                    |                                        | 90        |                 | 2,791.5                                           |                      |                            |               |                |
|                             |                           | INTERIOR BENT NO. 3                 |          |                                                         | 31.40                                           |                          |                              | 3,030                                |                                       |                                           | 600                                    |                                        | 50        |                 | 2,791.5                                           |                      |                            |               |                |
|                             |                           | END BENT NO. 4                      |          | 19                                                      | 27.25                                           |                          |                              | 2,680                                | 610                                   | 600                                       |                                        | 100                                    |           |                 |                                                   |                      | 138                        | 243           |                |
|                             |                           | 145'-0" CONT. INTEGRAL W-BEAM UNIT  |          |                                                         |                                                 | 344.80                   | 26.6                         |                                      | 75,470                                |                                           |                                        |                                        |           | 172,660         |                                                   | 1                    |                            |               |                |
|                             |                           | SITE NO. 2 (EXISTING BR. NO. 05341) | I        |                                                         |                                                 |                          |                              |                                      |                                       |                                           |                                        |                                        |           |                 |                                                   |                      |                            |               |                |
| TOTALS FOR BRIDGE NO. 07322 |                           |                                     |          | 39                                                      | 117.30                                          | 344.80                   | 26.6                         | 11,420                               | 76,690                                | 1,200                                     | 1,200                                  | 200                                    | 140       | 172,660         | 5,583.0                                           | 1                    | 275                        | 483           |                |
| 07323                       | HANKS CREEK               |                                     |          |                                                         |                                                 |                          |                              |                                      |                                       |                                           |                                        |                                        |           |                 |                                                   |                      |                            |               |                |
|                             |                           | END BENT NO. 1                      |          | 44                                                      | 27.25                                           |                          |                              | 2,680                                | 610                                   | 650                                       |                                        | 100                                    |           |                 |                                                   |                      | 157                        | 278           |                |
|                             |                           | INTERIOR BENT NO. 2                 |          |                                                         | 31.40                                           |                          |                              | 3,030                                |                                       |                                           | 650                                    |                                        | 100       |                 | 2,791.5                                           |                      |                            |               |                |
|                             |                           | INTERIOR BENT NO. 3                 |          |                                                         | 31.40                                           |                          |                              | 3,030                                |                                       |                                           | 650                                    |                                        | 100       |                 | 2,791.5                                           |                      |                            |               |                |
|                             |                           | END BENT NO. 4                      |          | 46                                                      | 27.25                                           |                          |                              | 2,680                                | 610                                   | 650                                       |                                        | 100                                    |           |                 |                                                   |                      | 158                        | 279           |                |
|                             |                           | 145'-0" CONT. INTEGRAL W-BEAM UNIT  |          |                                                         |                                                 | 344.80                   | 26.6                         |                                      | 75,470                                |                                           |                                        |                                        |           | 172,660         |                                                   | 1                    |                            |               |                |
|                             |                           | SITE NO. 4 (EXISTING BR. NO. 05342) | I        |                                                         |                                                 |                          |                              |                                      |                                       |                                           |                                        |                                        |           |                 |                                                   |                      |                            |               |                |
| TOTALS FOR BRIDGE NO. 07323 |                           |                                     |          | 90                                                      | 117.30                                          | 344.80                   | 26.6                         | 11,420                               | 76,690                                | 1,300                                     | 1,300                                  | 200                                    | 200       | 172,660         | 5,583.0                                           | 1                    | 315                        | 557           |                |
| TOTALS FOR JOB NO. 020534   |                           |                                     |          | 203                                                     | 351.90                                          | 946.60                   | 72.5                         | 34,250                               | 209,950                               | 3,600                                     | 3,600                                  | 600                                    | 460       | 452,490         | 15,879.0                                          | 3                    | 867                        | 1,528         |                |

- ① STEEL SHELL PILES SHALL CONFORM TO ASTM A252, GRADE 3, Fy = 45 ksi.
- ② EXPOSED TIMBER PILING FROM PREVIOUS STRUCTURE TO BE REMOVED TO A DEPTH OF 2' BELOW NATURAL GROUND.

AILEEN SCHUBEL  
DESIGN SECTION SUPERVISOR



SCHEDULE OF BRIDGE QUANTITIES  
CO. RD. 411 - HWY. 425 (EAST OF CROSSETT) (S)  
ASHLEY COUNTY  
ROUTE 82 SEC. 08  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: ACP DATE: 06/02/14 FILENAME: b020534-ql.dgn  
CHECKED BY: JYP DATE: 8-19-16 SCALE: NONE  
DESIGNED BY: DATE: BRIDGE NOS. 07321, 07322 & 07323 DRAWING NO. 56041

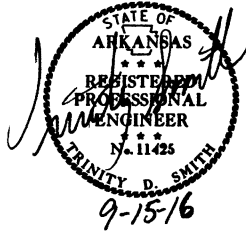


DENOTES ALTERNATE BID ITEMS.

## REVISIONS

## REVISION

## ② SUMMARY OF QUANTITIES AND REVISIONS



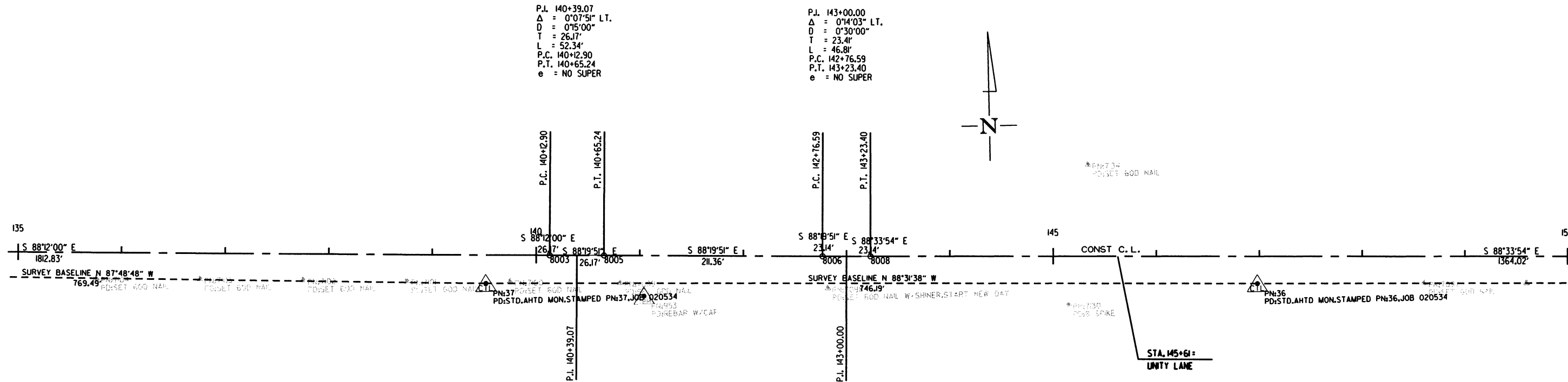
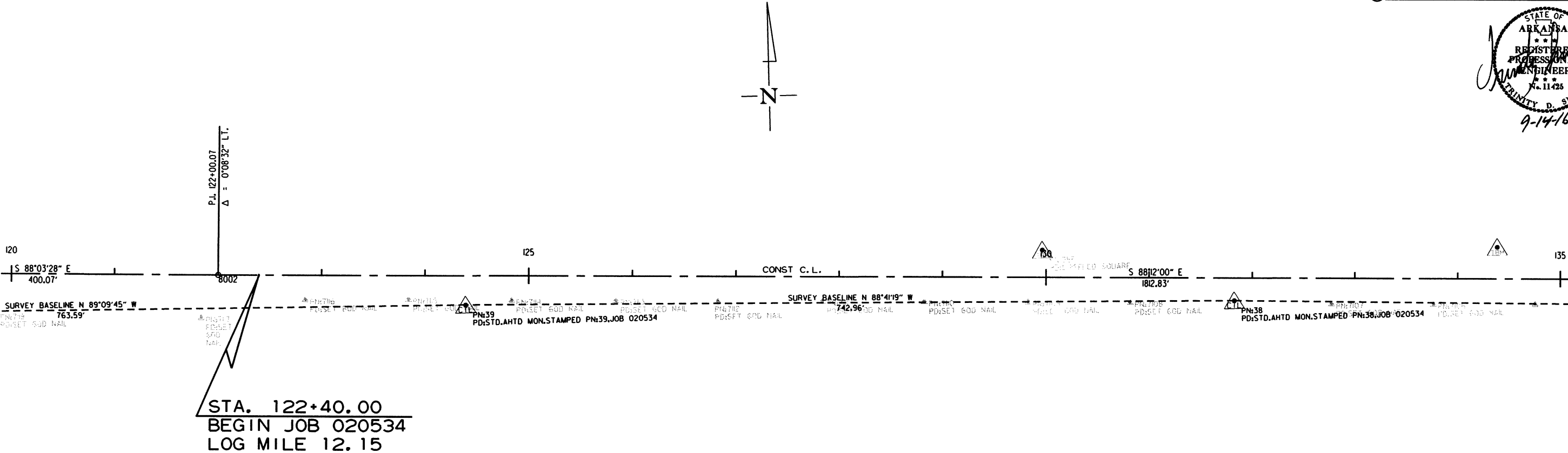
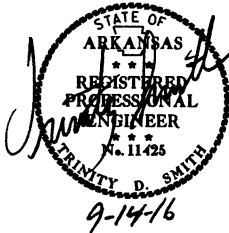
SURVEY CONTROL COORDINATES

Project Name: a020534  
Date: 11/8/2012  
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL,  
020022-020022A-020003-020003A PROJECTED TO GROUND.  
Units: U.S. SURVEY FOOT

| Point Name | Northing     | Easting      | Elev    | Feature | Description                   |
|------------|--------------|--------------|---------|---------|-------------------------------|
| 1          | 1482256.9151 | 1367210.8308 | 141.075 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 2          | 1481636.6953 | 1366989.6740 | 138.220 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 3          | 1482893.3054 | 1367545.5019 | 142.520 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 4          | 1482326.9508 | 1367902.7862 | 140.404 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 5          | 1482350.7051 | 1366743.1710 | 136.938 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 6          | 1482367.9255 | 1366003.6321 | 135.650 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 7          | 1482384.3140 | 1364720.7748 | 136.380 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 8          | 1482392.9657 | 1363931.3025 | 135.135 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 9          | 1482397.1896 | 1363219.4887 | 136.141 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 10         | 1482411.7701 | 1362439.1701 | 135.310 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 11         | 1482433.2364 | 1361723.5034 | 137.236 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 12         | 1482445.5560 | 1360937.0230 | 142.029 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 13         | 1482455.7317 | 1360196.8271 | 146.320 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 14         | 1482468.7192 | 1359410.0067 | 153.866 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 15         | 1482473.9521 | 1358688.2152 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 16         | 1482496.9003 | 1357930.1639 | 157.661 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 17         | 1482514.9777 | 1356460.2718 | 165.988 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 18         | 1482530.1932 | 1354997.8504 | 168.144 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 19         | 1482546.1507 | 1353167.0508 | 164.024 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 20         | 1482568.3357 | 1351182.5399 | 146.254 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 21         | 1482581.6464 | 1349585.5015 | 143.095 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 22         | 1482598.8098 | 1347826.5915 | 142.362 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 23         | 1482613.6096 | 1346058.2819 | 148.506 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 24         | 1482634.0526 | 1344375.2819 | 147.910 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 25         | 1482650.1535 | 1342841.3238 | 145.470 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 26         | 1482668.1535 | 1341963.8141 | 145.739 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 27         | 1482698.1535 | 1340663.8141 | 144.749 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 28         | 1482720.8070 | 1339376.6985 | 148.588 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 29         | 1482747.7881 | 1337587.4352 | 152.265 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 30         | 1482773.4383 | 1335759.1952 | 150.810 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 31         | 1482795.6756 | 1334527.3138 | 150.459 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 32         | 1482810.6771 | 1333257.3138 | 151.778 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 33         | 1482827.1646 | 1331997.8522 | 157.203 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 34         | 1482874.0530 | 1330682.9795 | 163.438 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 35         | 1482889.4375 | 1329340.2107 | 165.739 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 36         | 1482921.5765 | 1327914.0170 | 167.004 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 37         | 1482940.7559 | 1326481.3238 | 167.593 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 38         | 1482970.1159 | 1325037.2819 | 170.273 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 39         | 1482987.1194 | 1323575.3022 | 168.677 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 40         | 1482998.2790 | 1322140.2107 | 159.107 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 41         | 1483026.1151 | 1320733.6116 | 157.763 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 42         | 1483052.8892 | 1319303.6116 | 151.558 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 43         | 1483080.4583 | 1317882.5026 | 155.952 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 44         | 1483104.6585 | 1316460.4331 | 155.952 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 45         | 1483115.8733 | 1315039.1026 | 163.030 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 46         | 1483135.6735 | 1313617.0707 | 167.348 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 47         | 1483154.9777 | 1312195.8271 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 48         | 1483174.9777 | 1310773.6116 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 49         | 1483194.9777 | 1309351.3025 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 50         | 1483214.9777 | 1307929.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 51         | 1483234.9777 | 1306507.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 52         | 1483254.9777 | 1305085.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 53         | 1483274.9777 | 1303663.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 54         | 1483294.9777 | 1302241.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 55         | 1483314.9777 | 1300819.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 56         | 1483334.9777 | 1300397.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 57         | 1483354.9777 | 1299975.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 58         | 1483374.9777 | 1299553.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 59         | 1483394.9777 | 1299131.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 60         | 1483414.9777 | 1298709.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 61         | 1483434.9777 | 1298287.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 62         | 1483454.9777 | 1297865.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 63         | 1483474.9777 | 1297443.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 64         | 1483494.9777 | 1297021.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 65         | 1483514.9777 | 1296599.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 66         | 1483534.9777 | 1296177.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 67         | 1483554.9777 | 1295755.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 68         | 1483574.9777 | 1295333.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 69         | 1483594.9777 | 1294911.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 70         | 1483614.9777 | 1294489.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 71         | 1483634.9777 | 1294067.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 72         | 1483654.9777 | 1293645.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 73         | 1483674.9777 | 1293223.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 74         | 1483694.9777 | 1292801.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 75         | 1483714.9777 | 1292379.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 76         | 1483734.9777 | 1291957.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 77         | 1483754.9777 | 1291535.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 78         | 1483774.9777 | 1291113.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 79         | 1483794.9777 | 1290691.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 80         | 1483814.9777 | 1290269.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 81         | 1483834.9777 | 1289847.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 82         | 1483854.9777 | 1289425.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 83         | 1483874.9777 | 1289003.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 84         | 1483894.9777 | 1288581.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 85         | 1483914.9777 | 1288159.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 86         | 1483934.9777 | 1287737.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 87         | 1483954.9777 | 1287315.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 88         | 1483974.9777 | 1286893.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 89         | 1483994.9777 | 1286471.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 90         | 1484014.9777 | 1286049.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 91         | 1484034.9777 | 1285627.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 92         | 1484054.9777 | 1285205.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 93         | 1484074.9777 | 1284783.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 94         | 1484094.9777 | 1284361.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 95         | 1484114.9777 | 1283939.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 96         | 1484134.9777 | 1283517.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 97         | 1484154.9777 | 1283095.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 98         | 1484174.9777 | 1282673.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 99         | 1484194.9777 | 1282251.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 100        | 1484214.9777 | 1281829.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 101        | 1484234.9777 | 1281407.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 102        | 1484254.9777 | 1280985.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 103        | 1484274.9777 | 1280563.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 104        | 1484294.9777 | 1280141.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 105        | 1484314.9777 | 1279719.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 106        | 1484334.9777 | 1279297.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 107        | 1484354.9777 | 1278875.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 108        | 1484374.9777 | 1278453.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 109        | 1484394.9777 | 1278031.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 110        | 1484414.9777 | 1277609.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 111        | 1484434.9777 | 1277187.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 112        | 1484454.9777 | 1276765.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 113        | 1484474.9777 | 1276343.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 114        | 1484494.9777 | 1275921.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 115        | 1484514.9777 | 1275499.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 116        | 1484534.9777 | 1275077.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 117        | 1484554.9777 | 1274655.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 118        | 1484574.9777 | 1274233.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 119        | 1484594.9777 | 1273811.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 120        | 1484614.9777 | 1273389.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 121        | 1484634.9777 | 1272967.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 122        | 1484654.9777 | 1272545.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 123        | 1484674.9777 | 1272123.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 124        | 1484694.9777 | 1271701.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 125        | 1484714.9777 | 1271279.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 126        | 1484734.9777 | 1270857.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 127        | 1484754.9777 | 1270435.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 128        | 1484774.9777 | 1270013.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 129        | 1484794.9777 | 1269591.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 130        | 1484814.9777 | 1269169.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 131        | 1484834.9777 | 1268747.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 132        | 1484854.9777 | 1268325.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 133        | 1484874.9777 | 1267903.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 134        | 1484894.9777 | 1267481.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 135        | 1484914.9777 | 1267059.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 136        | 1484934.9777 | 1266637.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 137        | 1484954.9777 | 1266215.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 138        | 1484974.9777 | 1265793.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 139        | 1484994.9777 | 1265371.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 140        | 1485014.9777 | 1264949.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 141        | 1485034.9777 | 1264527.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 142        | 1485054.9777 | 1264105.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 143        | 1485074.9777 | 1263683.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 144        | 1485094.9777 | 1263261.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMINUM CAP |
| 145        | 1485114.9777 | 1262839.0230 | 157.587 | CTL     | *5/8" REBAR W/2" ALUMIN       |

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       |                    |              |                 |
|                 |                |                 |                |                       |       |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 80           | 287             |

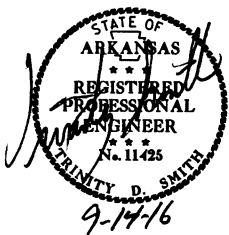
2 SURVEY CONTROL DETAILS



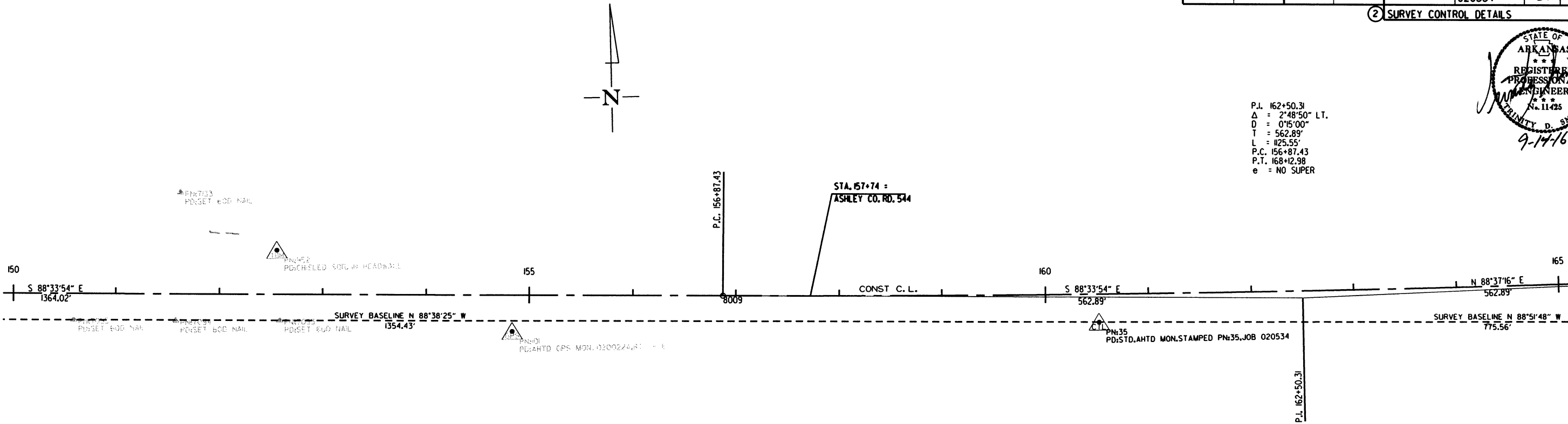


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 81           | 287             |

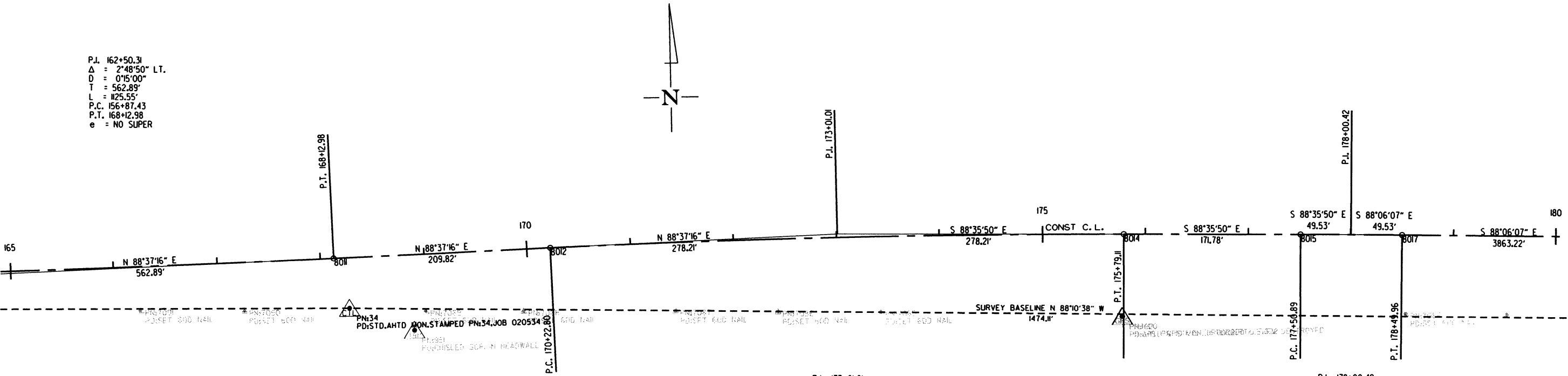
2 SURVEY CONTROL DETAILS



P.L. 162+50.31  
Δ = 2°48'50" LT.  
D = 0°15'00"  
T = 562.89'  
L = 1125.55'  
P.C. 156+87.43  
P.T. 168+12.98  
e = NO SUPER



P.L. 162+50.31  
Δ = 2°48'50" LT.  
D = 0°15'00"  
T = 562.89'  
L = 1125.55'  
P.C. 156+87.43  
P.T. 168+12.98  
e = NO SUPER



P.L. 173+01.01  
Δ = 2°46'54" RT.  
D = 0°30'00"  
T = 278.21'  
L = 556.32'  
P.C. 170+22.80  
P.T. 175+79.11  
e = NO SUPER

P.L. 178+00.42  
Δ = 0°29'43" RT.  
D = 0°30'00"  
T = 49.53'  
L = 99.06'  
P.C. 177+50.89  
P.T. 178+49.96  
e = NO SUPER

SURVEY CONTROL DETAILS

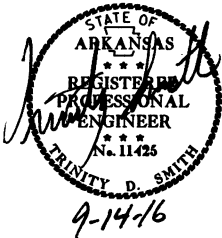




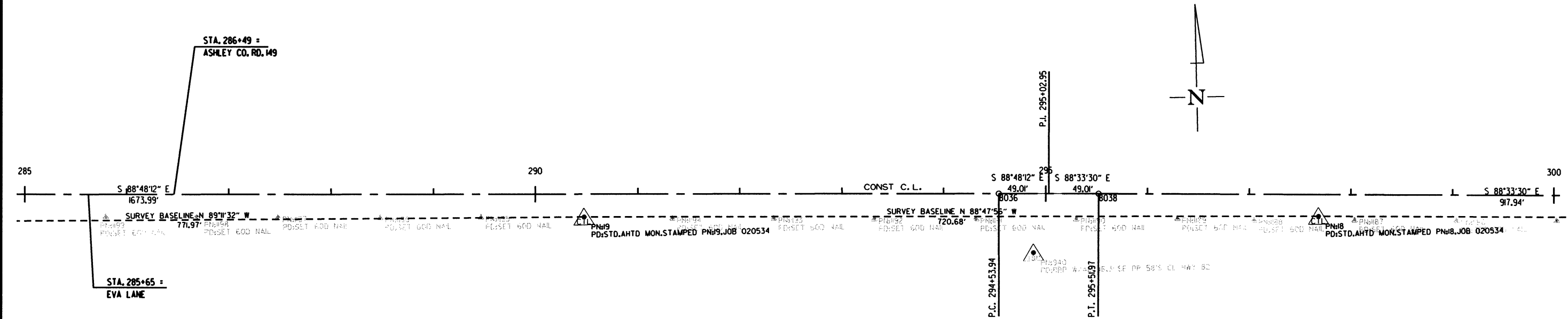
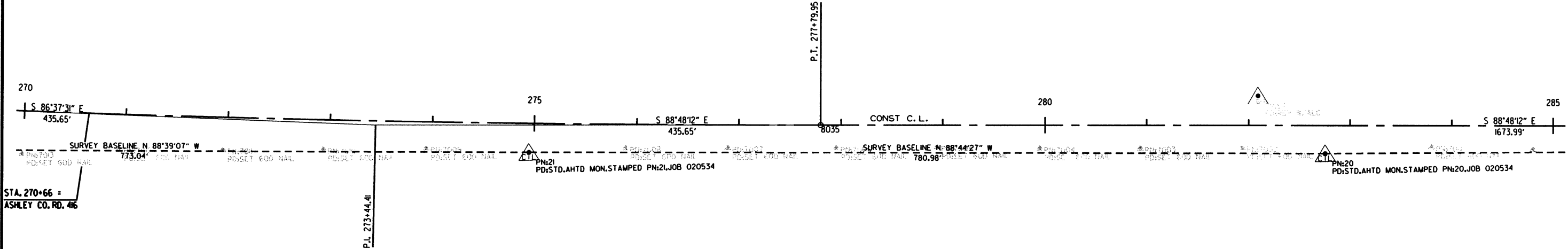


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE   | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|---------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.    |                    |              |                 |
|                 |                |                 |                |                       | JOB NO. | 020534             | 85           | 287             |

2 SURVEY CONTROL DETAILS



P.I. 273+44.41  
Δ = 2°10'41" LT.  
D = 0°15'00"  
T = 435.65'  
L = 871.19'  
P.C. 269+08.76  
P.T. 277+79.95  
e = NO SUPER



P.I. 295+02.95  
Δ = 0°14'42" RT.  
D = 0°15'00"  
T = 49.01'  
L = 98.03'  
P.C. 294+53.94  
P.T. 295+51.97  
e = NO SUPER



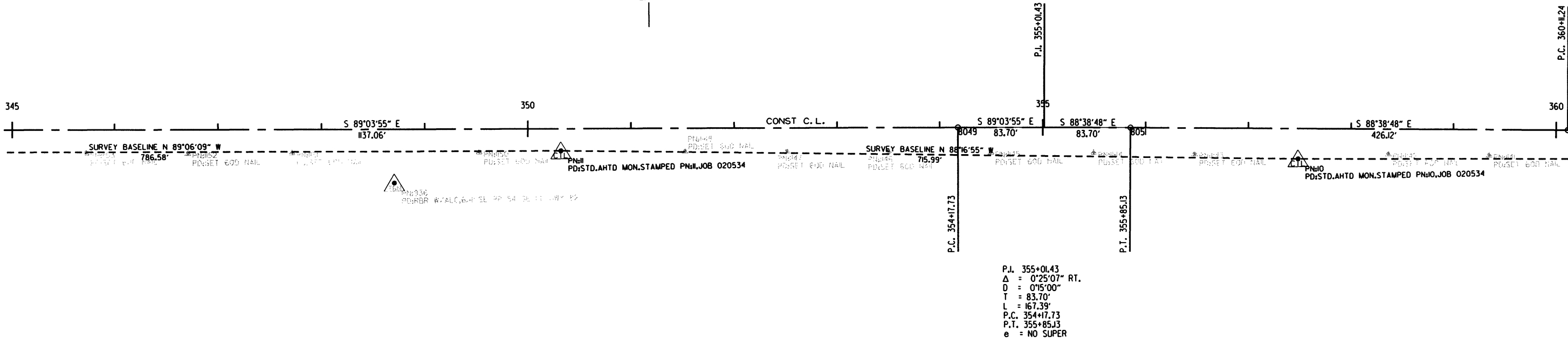
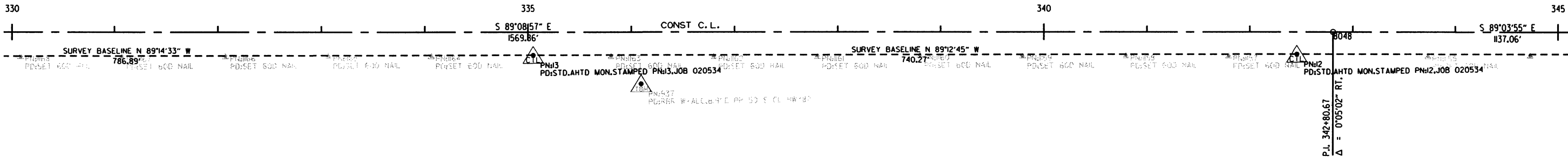
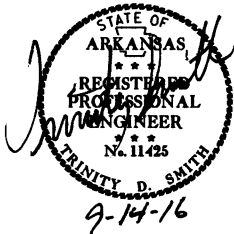
SURVEY CONTROL DETAILS





| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 87           | 287             |

2 SURVEY CONTROL DETAILS

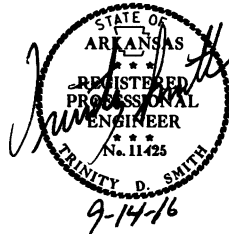


SURVEY CONTROL DETAILS

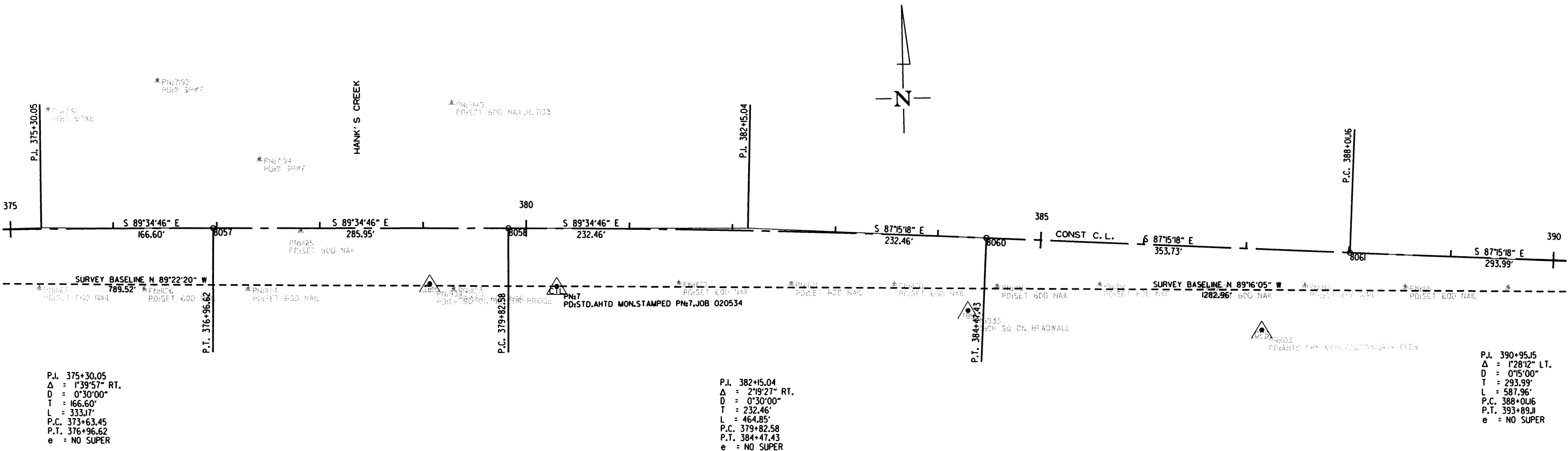
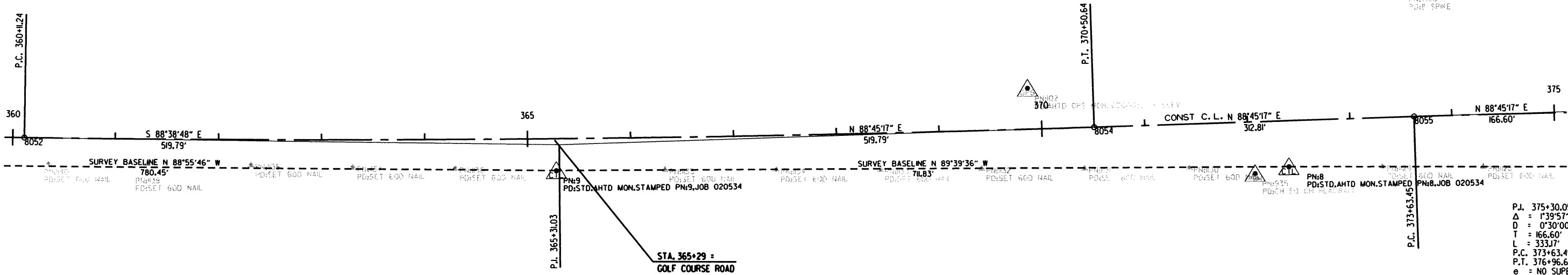


| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 88        | 287          |

2 SURVEY CONTROL DETAILS



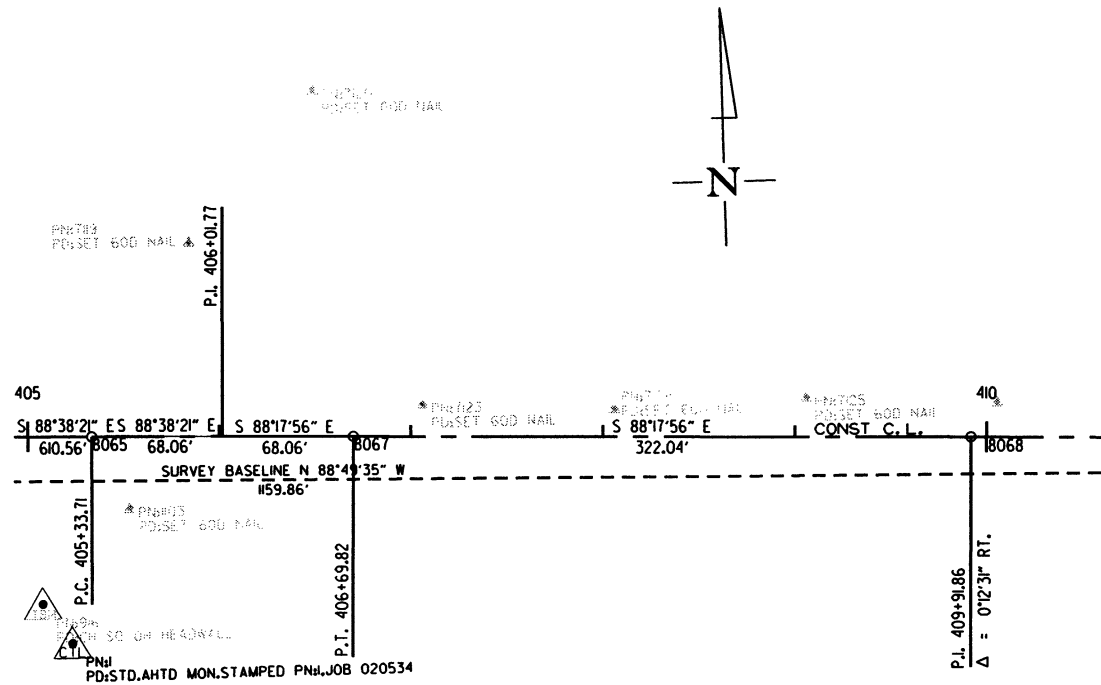
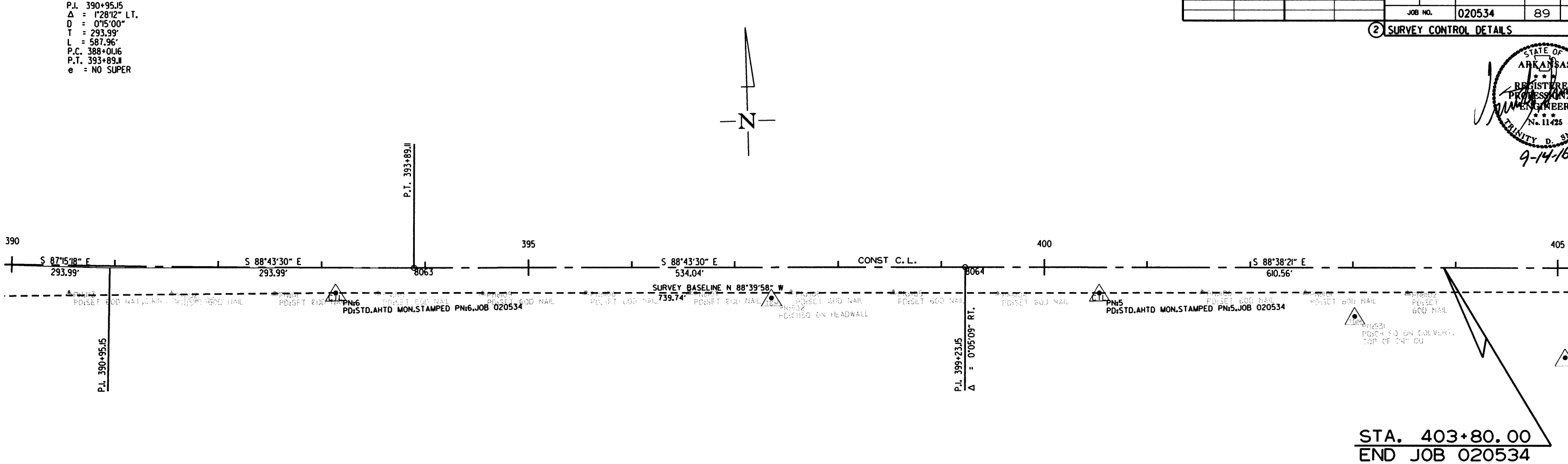
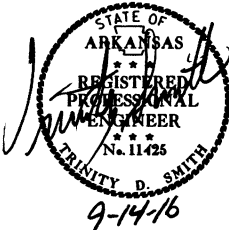
P.I. 365+31.03  
 $\Delta = 2'35'55''$  LT.  
D = 0'15'00"  
T = 519.79'  
L = 1039.40'  
P.C. 360+11.24  
P.T. 370+50.64  
e = NO SUPER



SURVEY CONTROL DETAILS

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             |                    |       | JOB NO. 020534     | 89        | 287          |

2 SURVEY CONTROL DETAILS

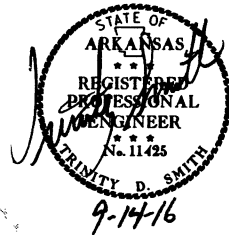


P.L. 406+01.77  
 $\Delta = 0^{\circ}20'25''$  RT.  
D = 0'15'00"  
T = 68.06'  
L = 136.11'  
P.C. 405+33.71  
P.T. 406+69.82  
e = NO SUPER

SURVEY CONTROL DETAILS

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 90           | 287             |

2 PLAN AND PROFILE SHEETS



STA. 127+00 IN PLACE  
18" X 30" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
18" X 46" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 85 CU. YDS.

STA. 129+92 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +98  
18" X 36" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 65 CU. YDS.

STA. 134+38 IN PLACE  
24" X 24" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 34" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 65 CU. YDS.

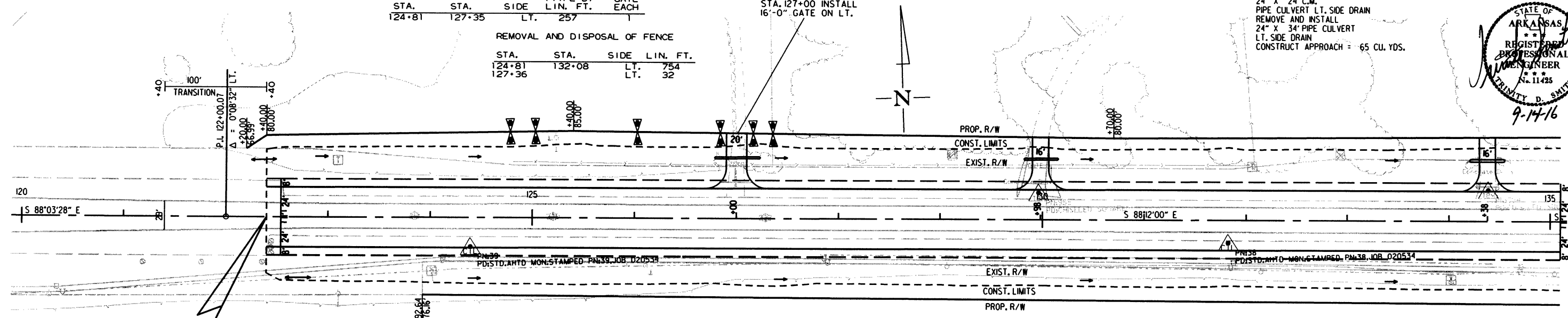
FENCE

| STA.   | STA.   | SIDE | WIRE FENCE 16'-0" (TYPE D) GATE EACH |
|--------|--------|------|--------------------------------------|
| 124+81 | 127+35 | LT.  | 257                                  |

REMOVAL AND DISPOSAL OF FENCE

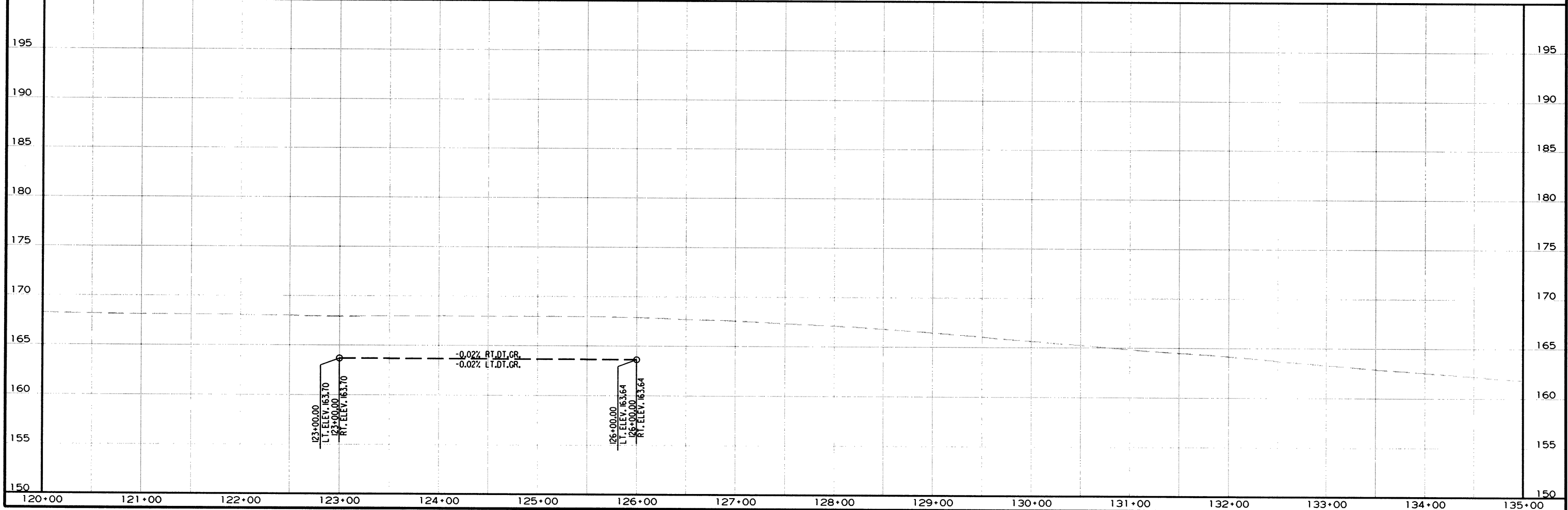
| STA.   | STA.   | SIDE | LIN. FT. |
|--------|--------|------|----------|
| 124+81 | 132+08 | LT.  | 754      |
| 127+36 |        | LT.  | 32       |

STA. 127+00 INSTALL 16'-0" GATE ON LT.



STA. 122+40.00  
BEGIN JOB 020534  
LOG MILE 12.15

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



123+00.00  
LT. ELEV. 163.70  
RT. ELEV. 163.70

-0.02% RT. DT. GR.  
-0.02% LT. DT. GR.

126+00.00  
LT. ELEV. 163.64  
RT. ELEV. 163.64

STA.136+98 IN PLACE  
24" X 30" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +00  
24" X 36" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 80 CU. YDS.

STA.139+28 IN PLACE  
24" X 24" C.P.P.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +27  
24" X 36" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 75 CU. YDS.

STA.140+60 IN PLACE  
24" X 24" C.P.P.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 38" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 80 CU. YDS.

STA.144+62 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +63  
24" X 36" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 70 CU. YDS.

STA.145+29 IN PLACE (UNITY LANE)  
18" X 20" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
RETAIN  
STA.145+71 IN PLACE (UNITY LANE)  
12" X 34" STEEL PIPE CULVERT  
PIPE CULVERT LT. SIDE DRAIN  
RETAIN

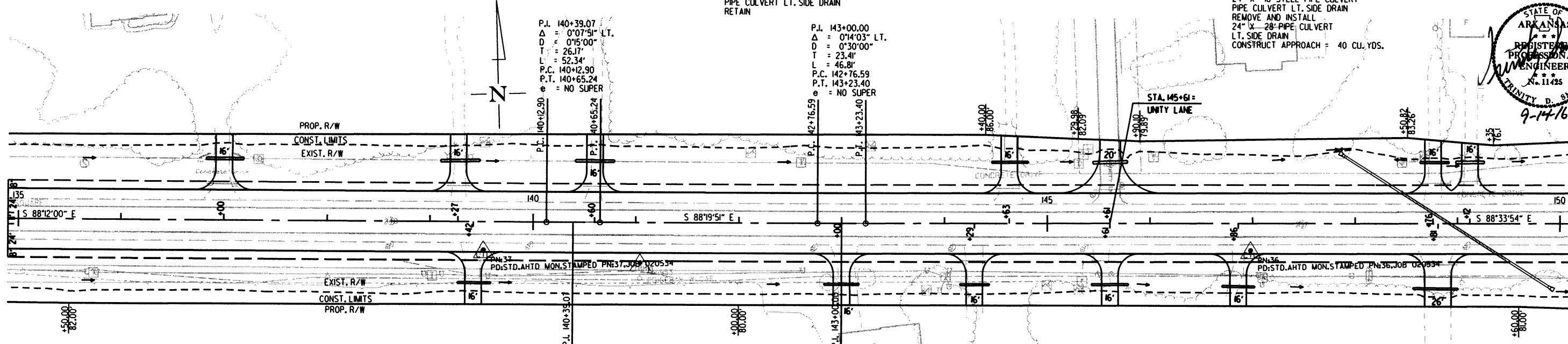
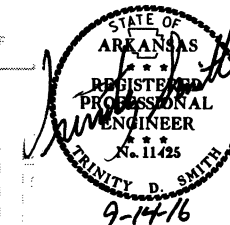
STA.145+60 IN PLACE  
30" X 30" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +61  
30" X 34" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT TURNOUT = 70 CU. YDS.

STA.148+76 IN PLACE  
24" X 28" STEEL PIPE CULVERT  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 28" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 35 CU. YDS.

STA.149+12 IN PLACE  
24" X 18" STEEL PIPE CULVERT  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 28" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 40 CU. YDS.

2 PLAN AND PROFILE SHEETS

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 91           | 287             |



STA.139+42 IN PLACE  
18" X 22" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL  
18" X 32" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 50 CU. YDS.

STA.143+05 IN PLACE  
18" X 28" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +00  
18" X 34" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 55 CU. YDS.

STA.144+29 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL  
18" X 32" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 50 CU. YDS.

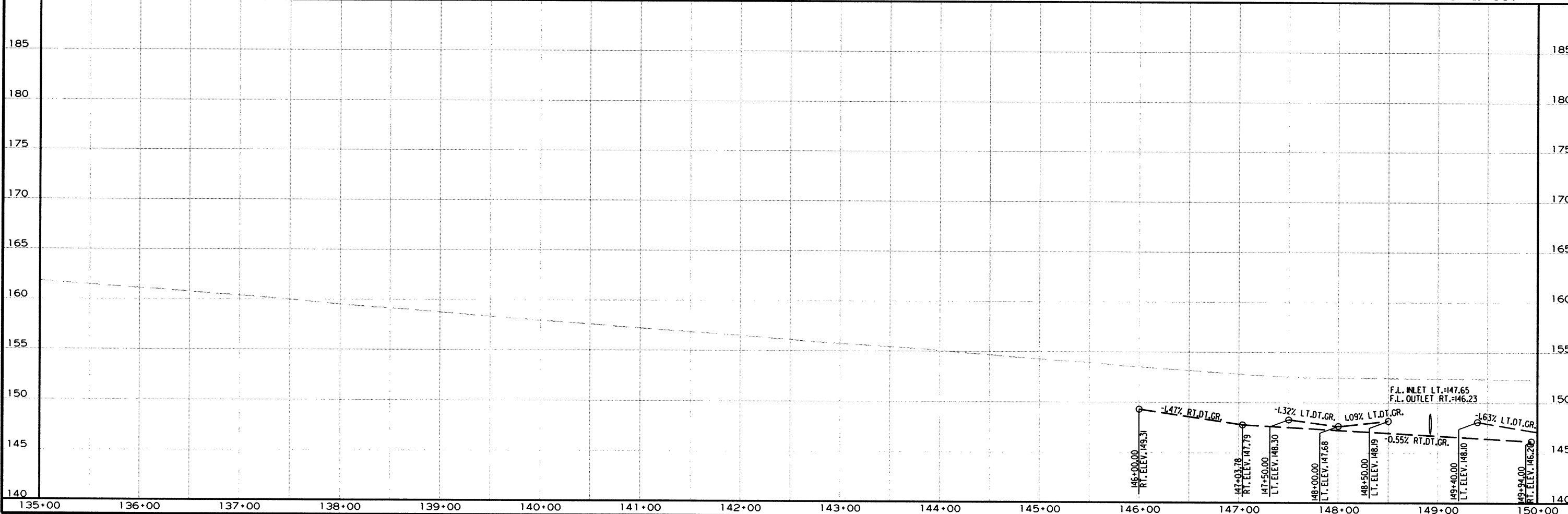
STA.145+55 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +61  
18" X 36" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 45 CU. YDS.

STA.146+84 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +86  
18" X 32" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 50 CU. YDS.

STA.148+80 IN PLACE  
18" X 40" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +81  
18" X 44" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 85 CU. YDS.

STA.148+97 IN PLACE  
18" X 120" C.M. PIPE CULVERT  
32" RT. FWD. SKEW  
WITH HDWLS LT. & RT.  
REMOVE AND CONSTRUCT  
24" X 236" R.C. PIPE  
32" RT. FWD. SKEW  
(CLASS III) (TYPE 3 BEDDING)  
WITH FES LT. & RT.  
050 = 19 CFS D.A. = 9 ACRES  
24" R.C. PIPE = 236 LIN. FT.  
24" FES = 2 EA.

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



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STA. 153+42 IN PLACE  
24" X 42" STEEL PIPE CULVERT  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 36" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 75 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

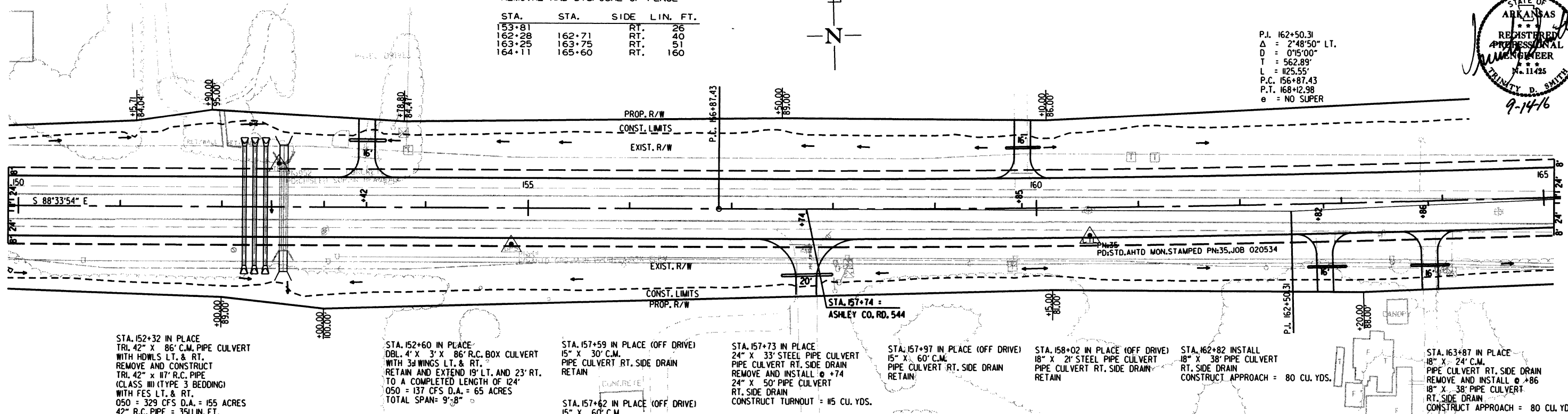
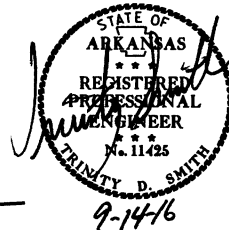
| STA.   | STA.   | SIDE | LIN. FT. |
|--------|--------|------|----------|
| 153+81 | 162+71 | RT.  | 26       |
| 162+28 | 163+75 | RT.  | 40       |
| 163+25 | 165+60 | RT.  | 51       |
| 164+11 |        | RT.  | 160      |

STA. 159+86 IN PLACE  
15" X 22" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +85  
18" X 34" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 60 CU. YDS.

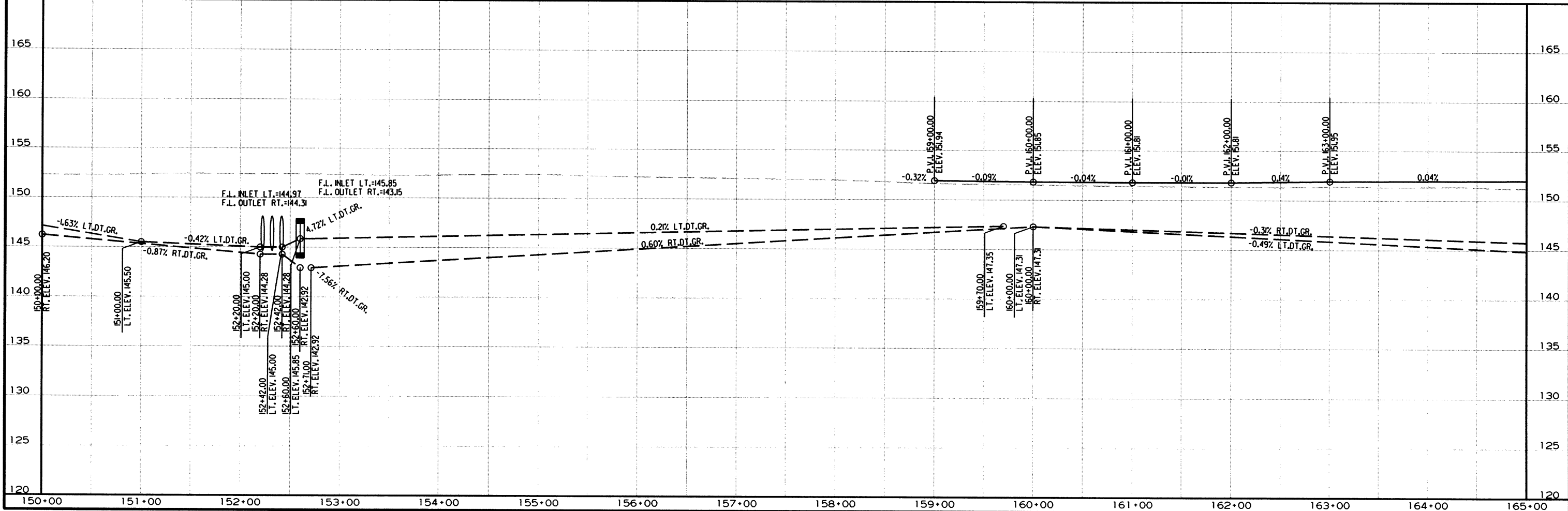
| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 92           | 287             |

2 PLAN AND PROFILE SHEETS

P.I. 162+50.31  
 $\Delta$  = 2°48'50" LT.  
D = 0°15'00"  
T = 562.89'  
L = 1125.55'  
P.C. 156+87.43  
P.T. 168+12.98  
e = NO SUPER

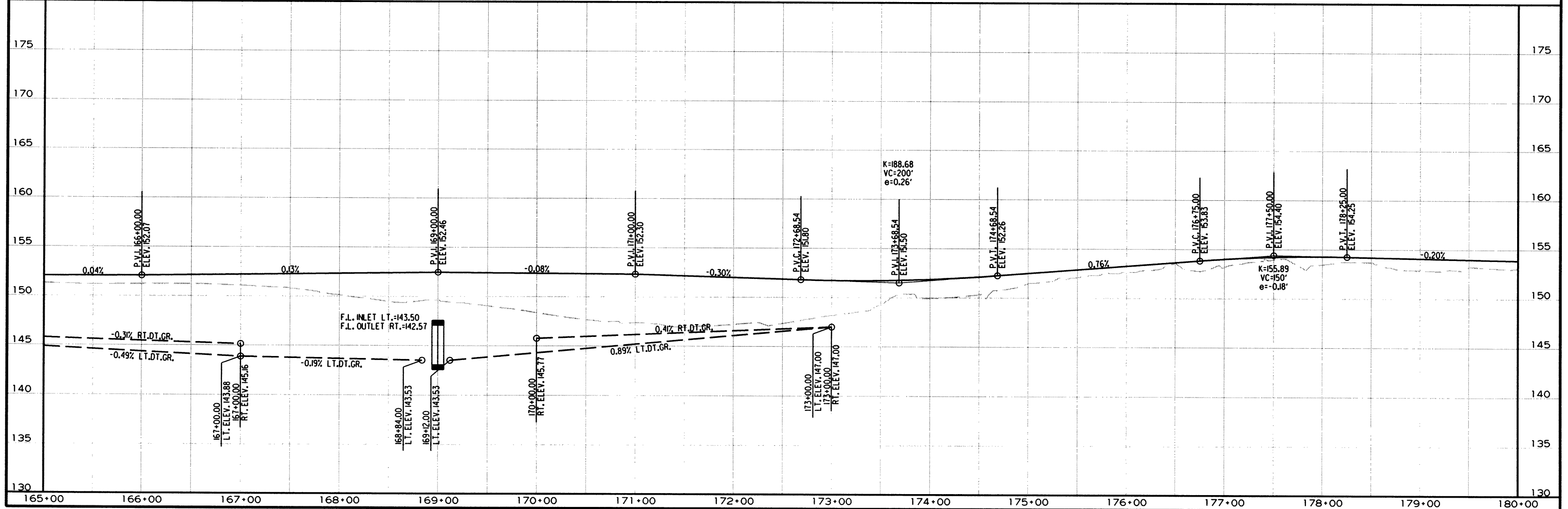
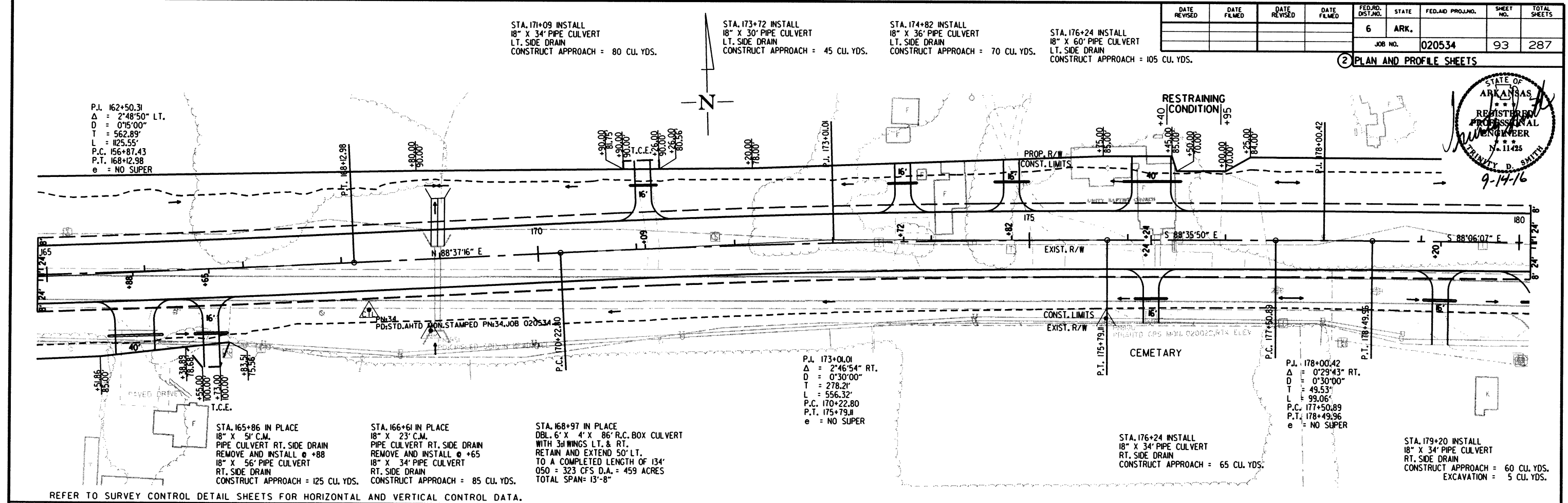
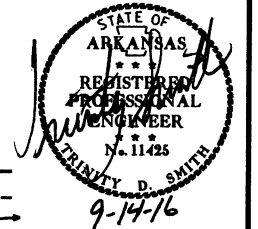


REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 93           | 287             |

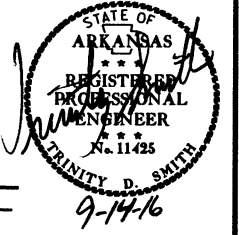
## ② PLAN AND PROFILE SHEETS



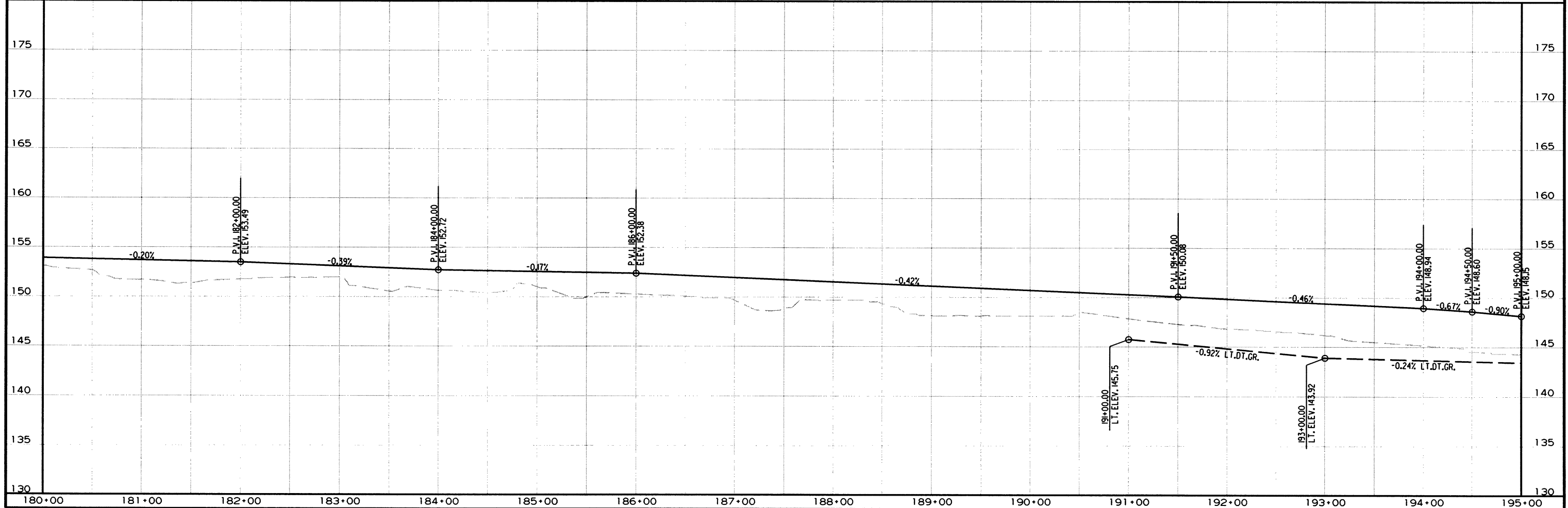
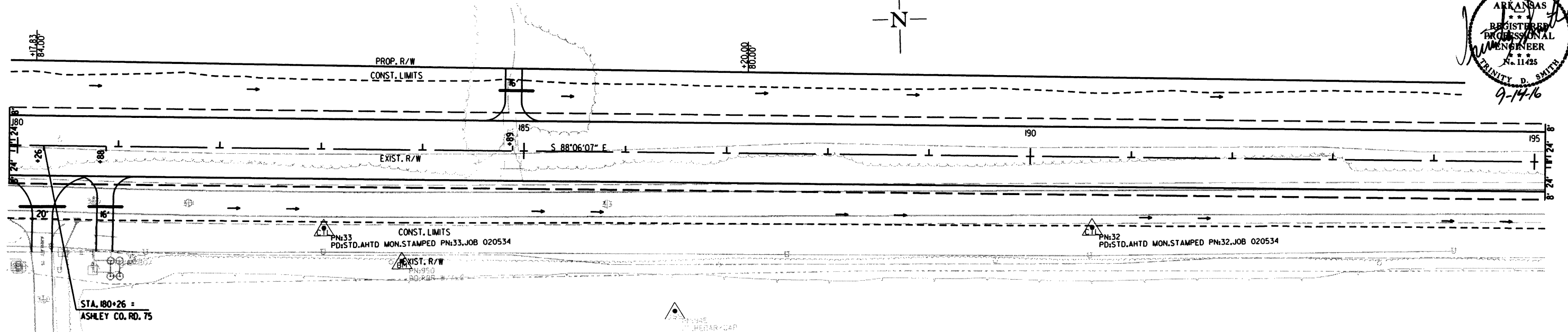
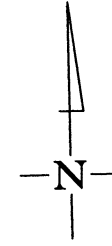


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 94           | 287             |

② PLAN AND PROFILE SHEETS



STA. 184+89 IN PLACE  
18" X 23' C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
18" X 34' PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 60 CU. YDS.



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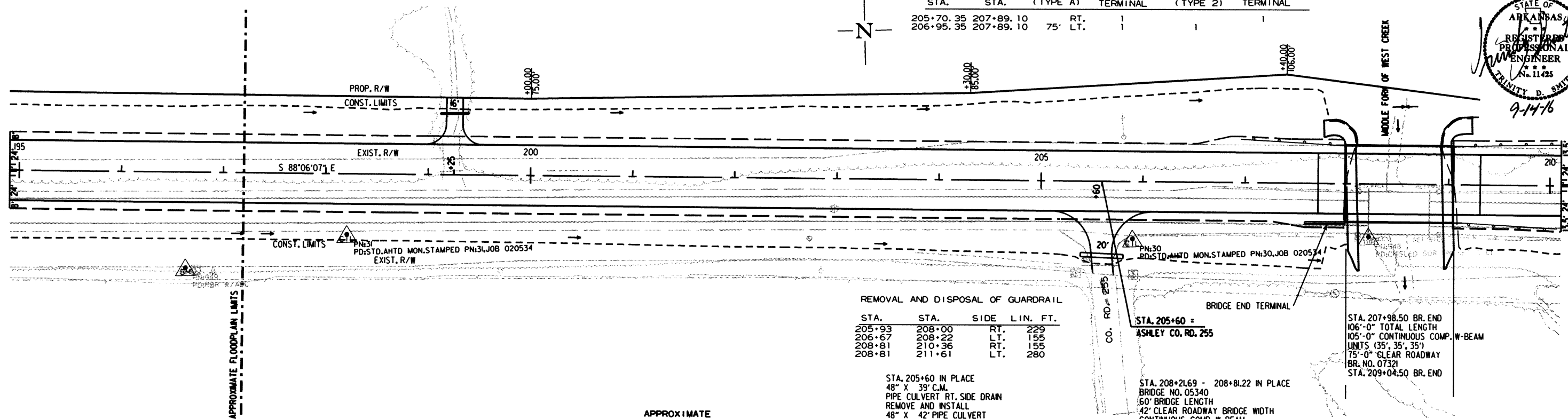


STA.199+23 IN PLACE  
18" X 23' C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +25  
18" X 28' PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 35 CU. YDS.

GUARDRAIL

| STA.      | STA.      | GUARDRAIL<br>(TYPE A) | THREE BEAM<br>GUARDRAIL<br>TERMINAL | GUARDRAIL<br>TERMINAL<br>(TYPE 2) | BRIDGE END<br>TERMINAL |
|-----------|-----------|-----------------------|-------------------------------------|-----------------------------------|------------------------|
| 205+70.35 | 207+89.10 | RT.                   | 1                                   | 1                                 | 1                      |
| 206+95.35 | 207+89.10 | 75' LT.               |                                     |                                   |                        |

2 PLAN AND PROFILE SHEETS



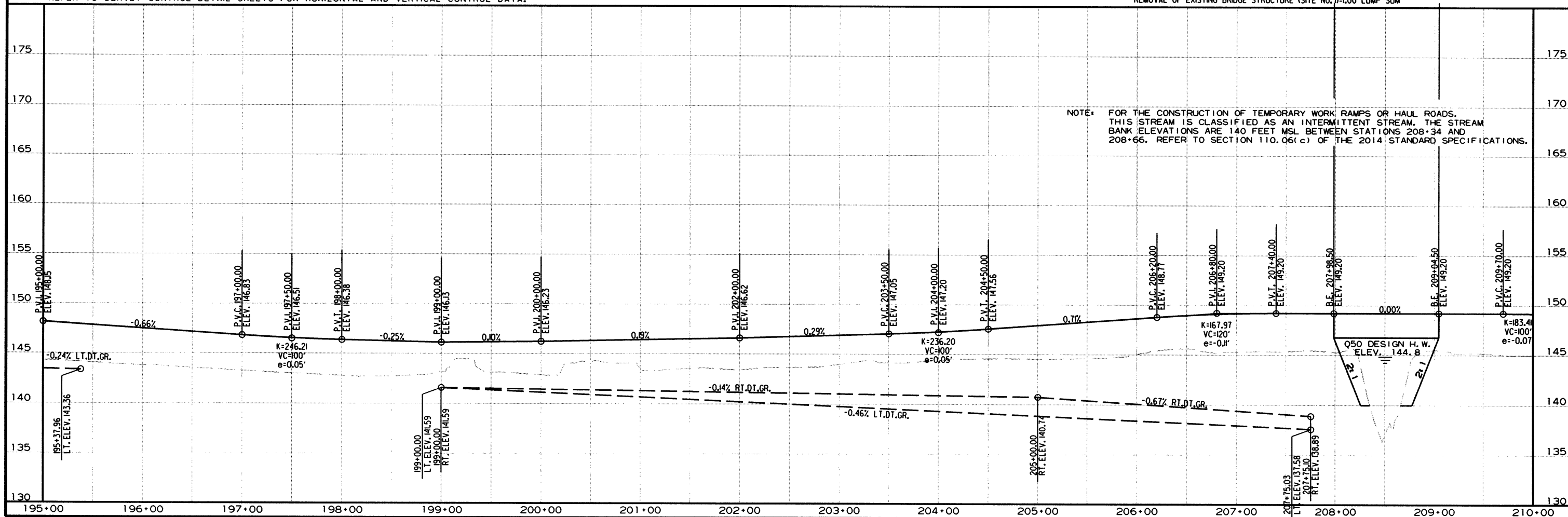
REMOVAL AND DISPOSAL OF GUARDRAIL

| STA.   | STA.   | SIDE | LIN. FT. |
|--------|--------|------|----------|
| 205+93 | 208+00 | RT.  | 229      |
| 206+67 | 208+22 | LT.  | 155      |
| 208+81 | 210+36 | RT.  | 155      |
| 208+81 | 211+61 | LT.  | 280      |

STA. 205+60 IN PLACE  
48" X 39' C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL  
48" X 42' PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT TURNOUT = 120 CU. YDS.

APPROXIMATE  
FLOODPLAIN LIMITS  
STA. 197+20 - 223+75

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



7/18/2016

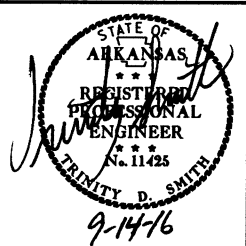
R020534.DGN



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 96           | 287             |

2 PLAN AND PROFILE SHEETS

STA. 222+54 IN PLACE  
24" X 28" STEEL PIPE CULVERT  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +86  
24" X 28" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 35 CU. YDS.

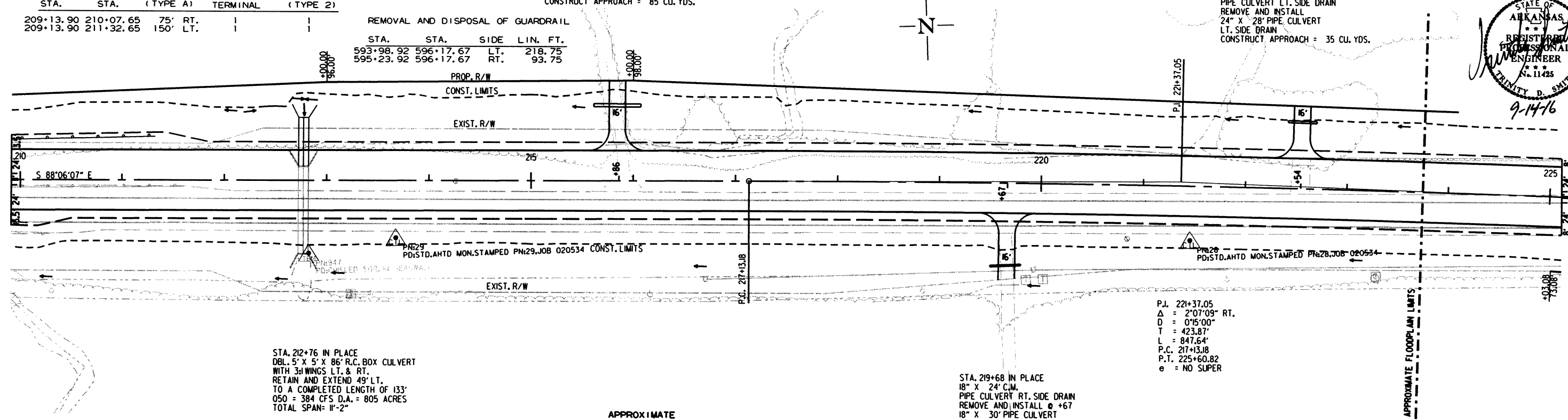


STA. 215+87 IN PLACE  
36" X 30" C.P.P.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +86  
36" X 46" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 85 CU. YDS.

REMOVAL AND DISPOSAL OF GUARDRAIL

| STA.      | STA.      | SIDE | LIN. FT. |
|-----------|-----------|------|----------|
| 593+98.92 | 596+17.67 | LT.  | 218.75   |
| 595+23.92 | 596+17.67 | RT.  | 93.75    |

| STA.      | STA.      | GUARDRAIL<br>(TYPE A) | THREE BEAM<br>GUARDRAIL<br>TERMINAL | GUARDRAIL<br>TERMINAL<br>(TYPE 2) |
|-----------|-----------|-----------------------|-------------------------------------|-----------------------------------|
| 209+13.90 | 210+07.65 | 75' RT.               |                                     |                                   |
| 209+13.90 | 211+32.65 | 150' LT.              |                                     |                                   |



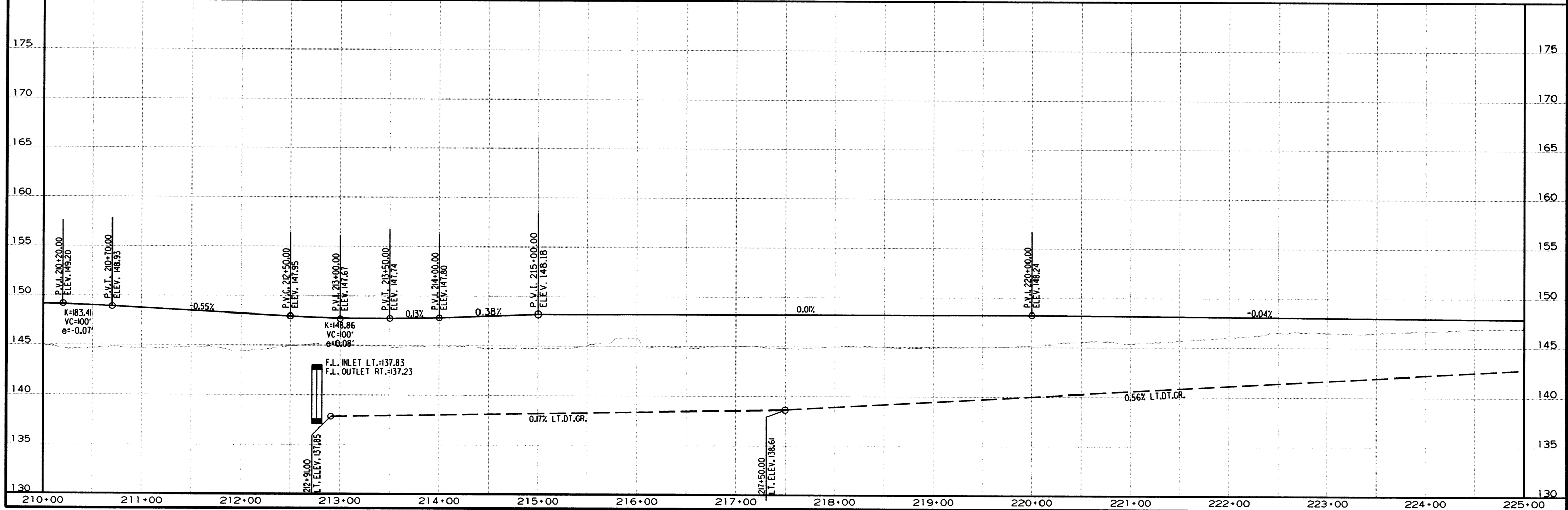
P.J. 221+37.05  
Δ = 2°07'09" RT.  
D = 0°15'00"  
T = 423.87'  
L = 847.64'  
P.C. 217+13.18  
P.T. 225+60.82  
e = NO SUPER

STA. 219+68 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +67  
18" X 30" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 110 CU. YDS.

STA. 212+76 IN PLACE  
DBL. 5' X 5' X 86" R.C. BOX CULVERT  
WITH 3d WINGS LT. & RT.  
RETAIN AND EXTEND 49' LT.  
TO A COMPLETED LENGTH OF 133'  
QSO = 384 CFS D.A. = 805 ACRES  
TOTAL SPAN= 11'-2"

APPROXIMATE  
FLOODPLAIN LIMITS  
STA. 197+20 - 223+75

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



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STA. 228+43 IN PLACE  
18" X 30" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 36" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 65 CU. YDS.

STA. 229+86 IN PLACE  
24" X 25" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 36" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 75 CU. YDS.

STA. 230+48 IN PLACE  
18" X 37" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +77  
18" X 48" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT TURNOUT = 125 CU. YDS.

STA. 233+90 IN PLACE  
18" X 33" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +91  
18" X 34" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 60 CU. YDS.

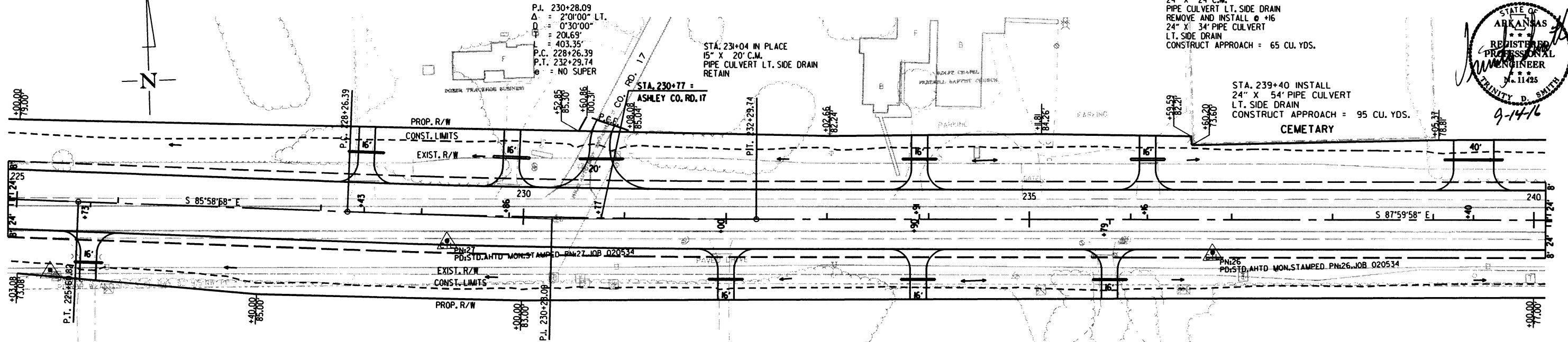
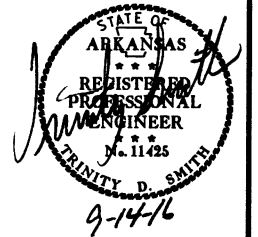
STA. 235+02 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 97           | 287             |

2 PLAN AND PROFILE SHEETS

STA. 236+18 IN PLACE  
24" X 24" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +16  
24" X 34" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 65 CU. YDS.

STA. 239+40 INSTALL  
24" X 54" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 95 CU. YDS.  
CEMETARY

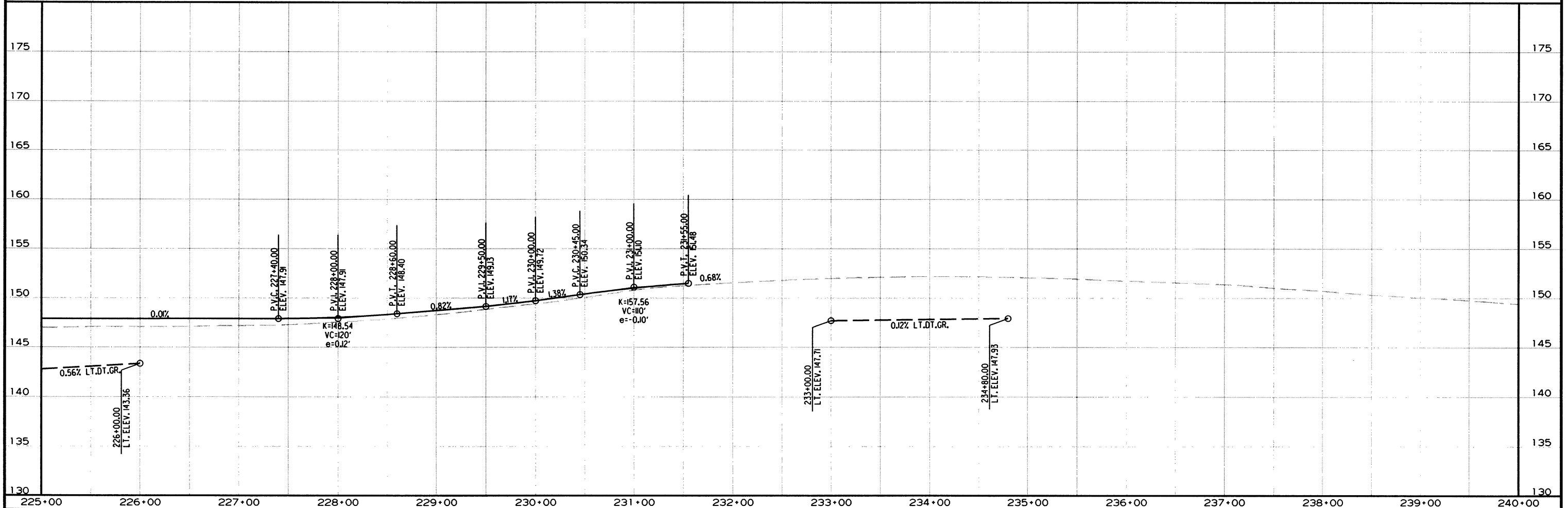


STA. 225+68 IN PLACE  
18" X 26" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ 73  
18" X 28" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 30 CU. YDS.  
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

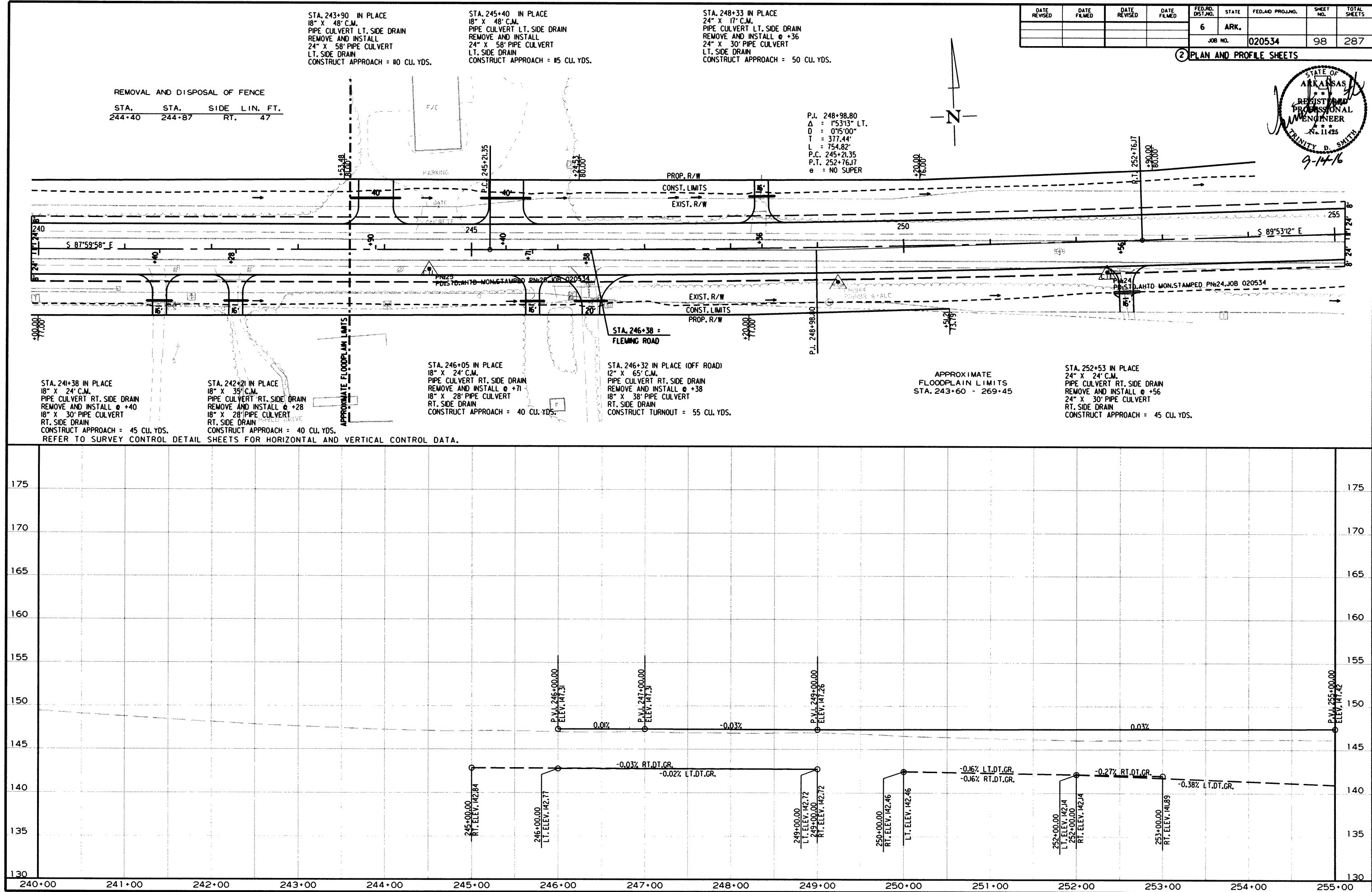
STA. 231+95 IN PLACE  
18" X 23" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +00  
18" X 34" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 55 CU. YDS.

STA. 233+90 INSTALL  
18" X 32" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 235+73 IN PLACE  
18" X 23" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +79  
18" X 34" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 60 CU. YDS.

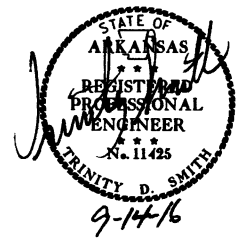


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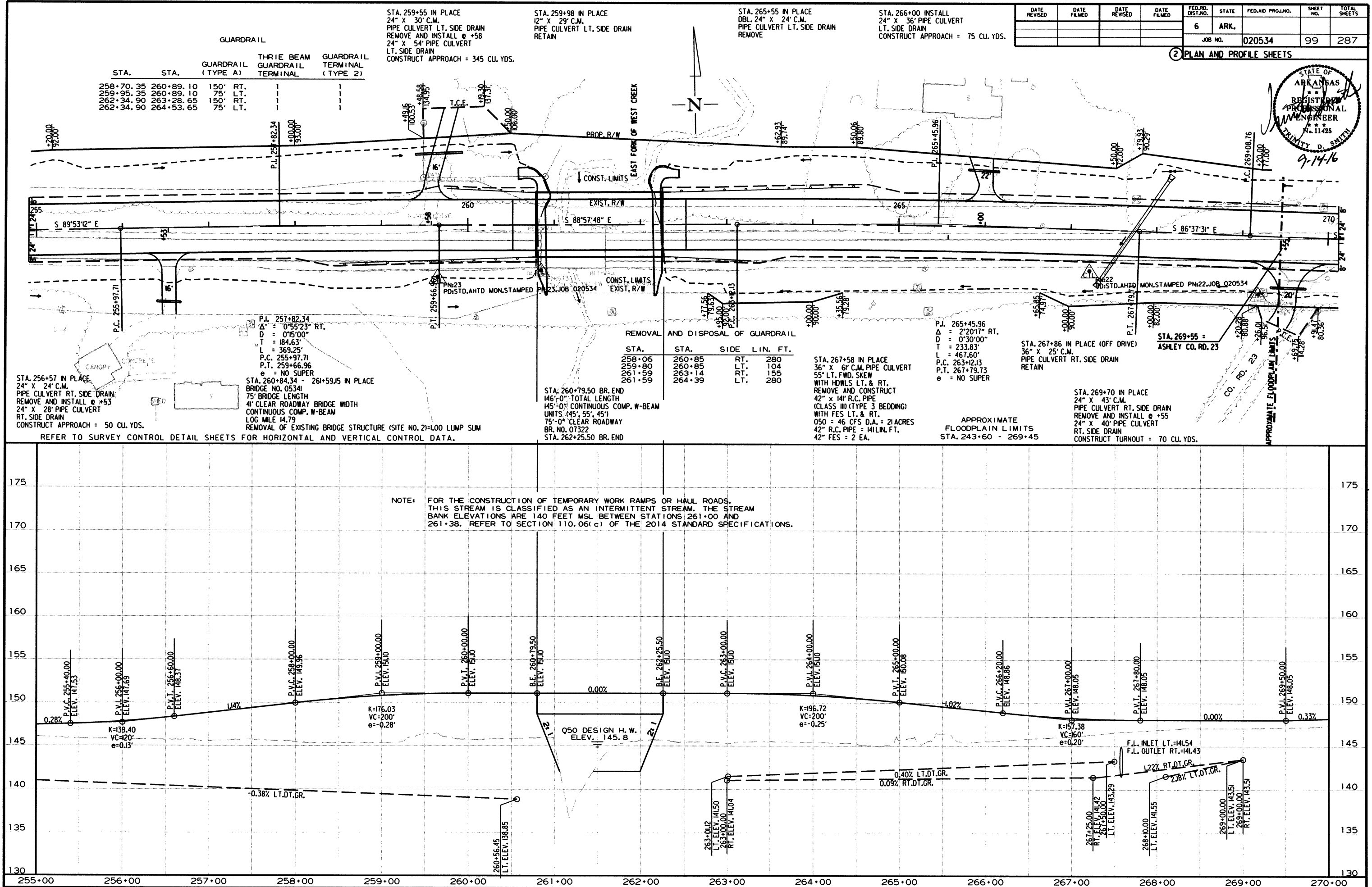
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 98        | 287          |

2 PLAN AND PROFILE SHEETS



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 | 99                 | 287          |                 |

## 2 PLAN AND PROFILE SHEETS



7/18/2016

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STA. 270+30 IN PLACE  
24" X 39" C.M.  
18" X 27" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +66  
DBL. 24" X 40" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT TURNOUT = 100 CU. YDS.

STA. 271+52 IN PLACE  
24" X 25" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ 272+45  
24" X 32" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 60 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

| STA.   | STA.   | SIDE | LT. | RT. | 253 |
|--------|--------|------|-----|-----|-----|
| 270+43 | 272+78 | RT.  |     |     |     |
| 278+65 | 282+03 | LT.  |     |     | 359 |

STA. 276+61 IN PLACE  
24" X 30" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +60  
24" X 34" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 70 CU. YDS.

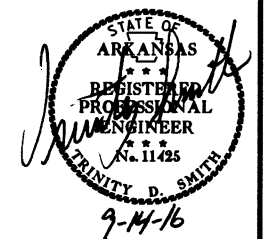
| STA.   | STA.   | SIDE | RT. | LT. |
|--------|--------|------|-----|-----|
| 270+54 | 272+80 | RT.  |     |     |
| 278+65 | 282+03 | LT.  |     |     |

FENCE  
WIRE FENCE (TYPE C)  
LIN. FT. 227  
WIRE FENCE (TYPE D)  
LIN. FT. 338  
16'-0" GATE EACH

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 100       | 287          |

2 PLAN AND PROFILE SHEETS

STA. 281+92 IN PLACE  
24" X 35" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +94  
24" X 30" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 50 CU. YDS.



STA. 281+94 INSTALL  
16'-0" GATE ON LT.

STA. 270+66 =  
ASHLEY CO. RD. 416

P.I. 273+44.41  
 $\Delta = 2'10"41"$  LT.  
D = 0'15"00"  
T = 435.65'  
L = 87.119'  
P.C. 269+08.76  
P.T. 277+79.95  
e = NO SUPER

PROP. R/W  
CONST. LIMITS  
EXIST. R/W

275

280

285

PD:STD.AHTD MON.STAMPED PN:21, JOB 020534

CONST. LIMITS  
PROP. R/W

PD:STD.AHTD MON.STAMPED PN:20, JOB 020534

STA. 274+84 IN PLACE  
24" X 25" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 34" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 60 CU. YDS.

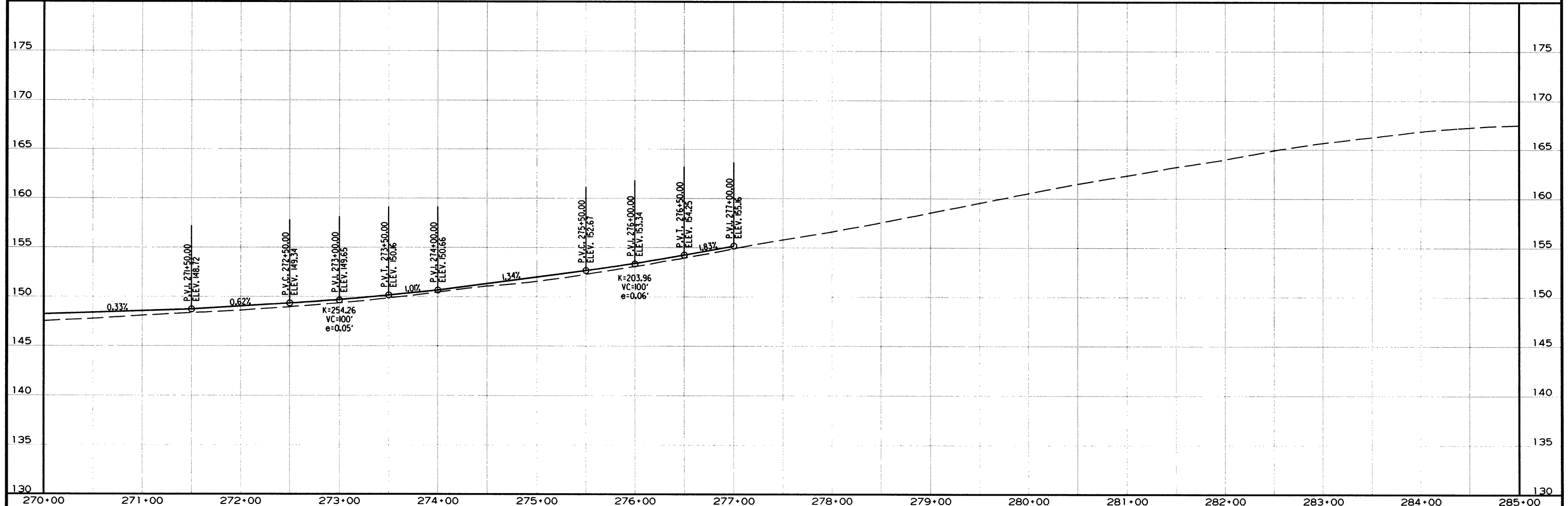
STA. 277+18 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +20  
24" X 32" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 60 CU. YDS.

STA. 280+27 IN PLACE  
24" X 24" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +25  
24" X 28" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 40 CU. YDS.

STA. 281+47 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +44  
18" X 30" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 45 CU. YDS.

STA. 282+65 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +72  
18" X 30" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 45 CU. YDS.

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



7/18/2016

R020534.DGN

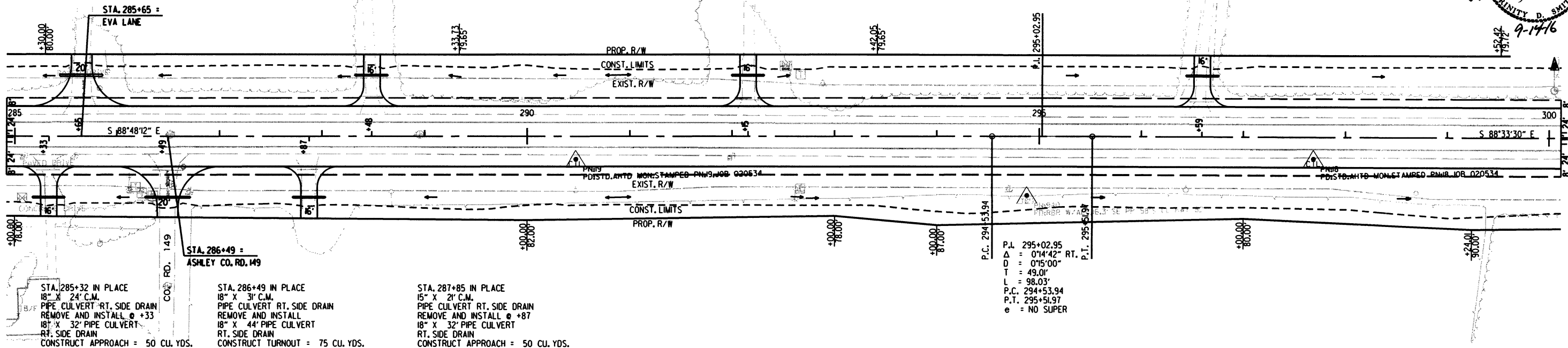
STA. 285+65 IN PLACE  
24" X 36" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +48  
24" X 42" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT TURNOUT = 80 CU. YDS.

STA. 288+47 IN PLACE  
18" X 25" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +48  
18" X 32" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 55 CU. YDS.

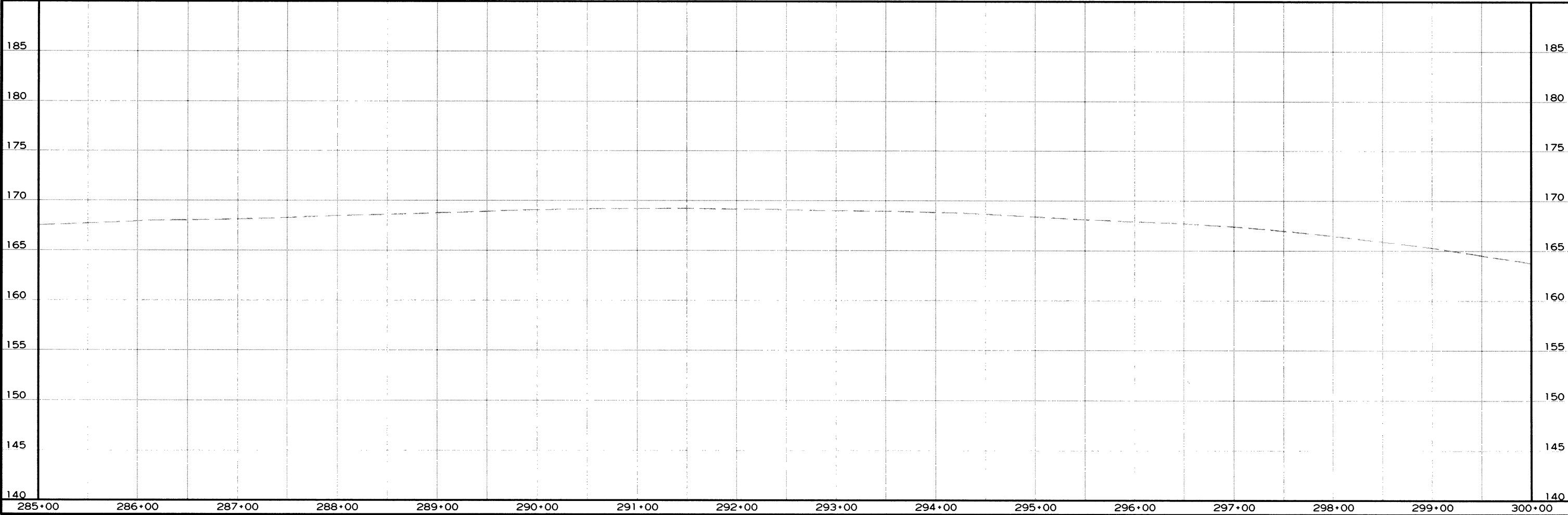
STA. 292+16 IN PLACE  
18" X 26" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +15  
18" X 32" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 296+58 IN PLACE  
18" X 24" C.P.P.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +59  
18" X 32" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 50 CU. YDS.

2 PLAN AND PROFILE SHEETS



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



7/18/2016

R020534.DGN



STA. 300+58 IN PLACE  
24" X 30" PLASTIC PIPE CULVERT  
LT. SIDE DRAIN  
REMOVE AND INSTALL @ +40  
24" X 42" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 75 CU. YDS.

REMOVAL AND DISPOSAL OF FENCE

| STA.   | STA.   | SIDE | LT. | LT. LIN. FT. |
|--------|--------|------|-----|--------------|
| 300+04 | 309+81 | LT.  |     | 1042         |
| 302+76 |        | LT.  |     | 33           |

FENCE  
WIRE FENCE 16'-0"  
(TYPE D)  
LIN. FT. GATE  
EACH

| STA.   | STA.   | SIDE | LT. | LT. LIN. FT. |
|--------|--------|------|-----|--------------|
| 300+05 | 310+00 | LT.  |     | 931          |

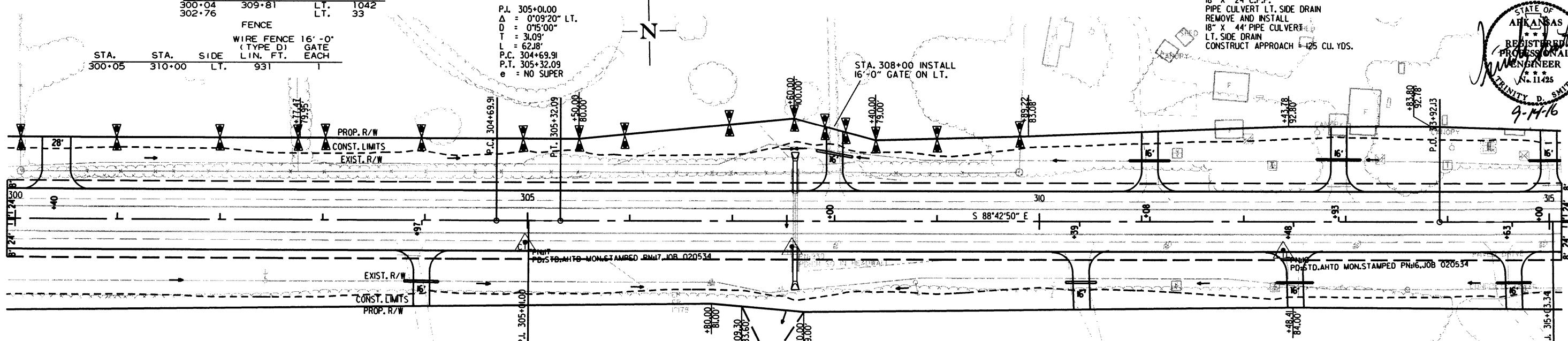
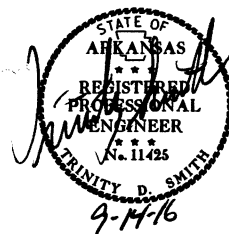
P.L. 305+01.00  
 $\Delta = 0^{\circ}09'20"$  LT.  
 $D = 0^{\circ}15'00"$   
 $T = 34.09'$   
 $L = 62.48'$   
P.C. 304+69.91  
P.T. 305+32.09  
 $e = \text{NO SUPER}$

STA. 308+01 IN PLACE  
24" X 37" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +00  
24" X 36" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 80 CU. YDS.

STA. 311+09 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +08  
18" X 40" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 90 CU. YDS.

STA. 312+93 IN PLACE  
18" X 24" C.P.P.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
18" X 44" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 425 CU. YDS.

2 PLAN AND PROFILE SHEETS



STA. 303+84 IN PLACE  
24" X 24" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +97  
24" X 34" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 65 CU. YDS.

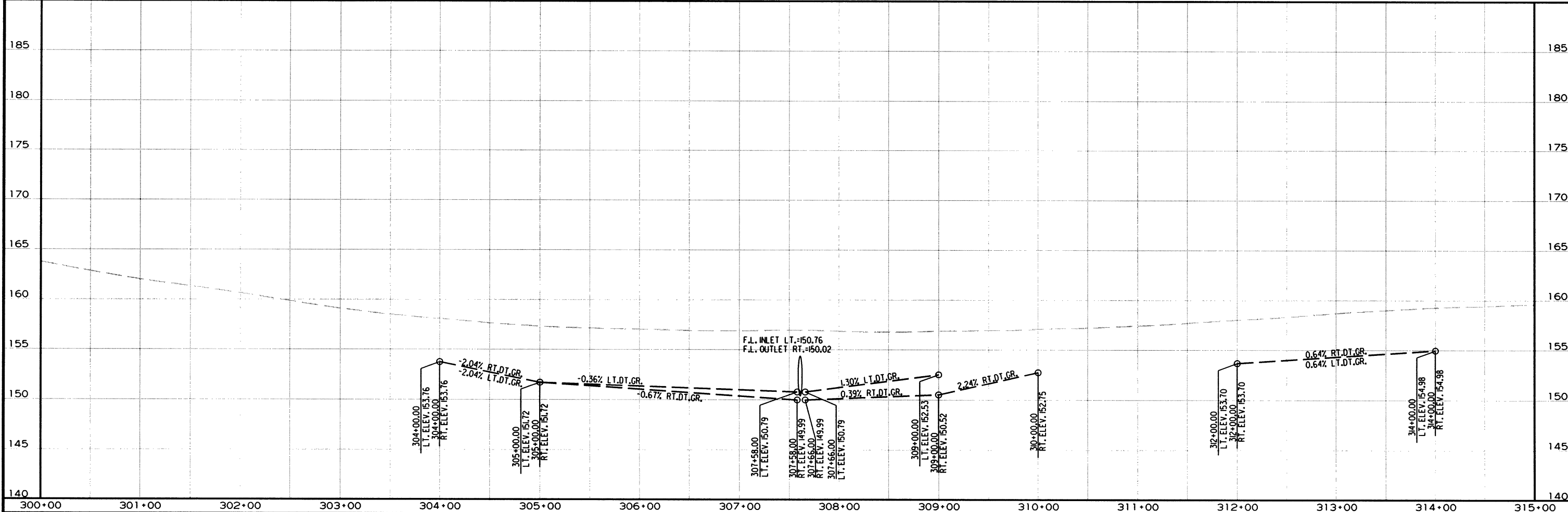
STA. 307+61 IN PLACE  
48" X 52" R.C. PIPE CULVERT  
WITH HDWLS LT. & RT.  
REMOVE HDWLS LT. & RT. AND EXTEND R.C. PIPE  
32' LT. AND 34' RT.  
TO A COMPLETED LENGTH OF 118'  
(CLASS III (TYPE 3 BEDDING)  
WITH FES LT. & RT.  
050 = 128 CFS D.A. = 63 ACRES  
48" R.C. PIPE = 74' LIN. FT.  
48" FES = 2 EA.

STA. 310+37 IN PLACE  
24" X 30" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +39  
24" X 30" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 50 CU. YDS.

STA. 312+47 IN PLACE  
18" X 23" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +48  
18" X 36" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 75 CU. YDS.

STA. 314+63 INSTALL  
18" X 34" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 65 CU. YDS.

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



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STA. 315+05 IN PLACE  
18" X 25" C.P.P.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +00  
18" X 38" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 90 CU. YDS.

STA. 316+64 IN PLACE  
18" X 38" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +72  
18" X 34" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 55 CU. YDS.

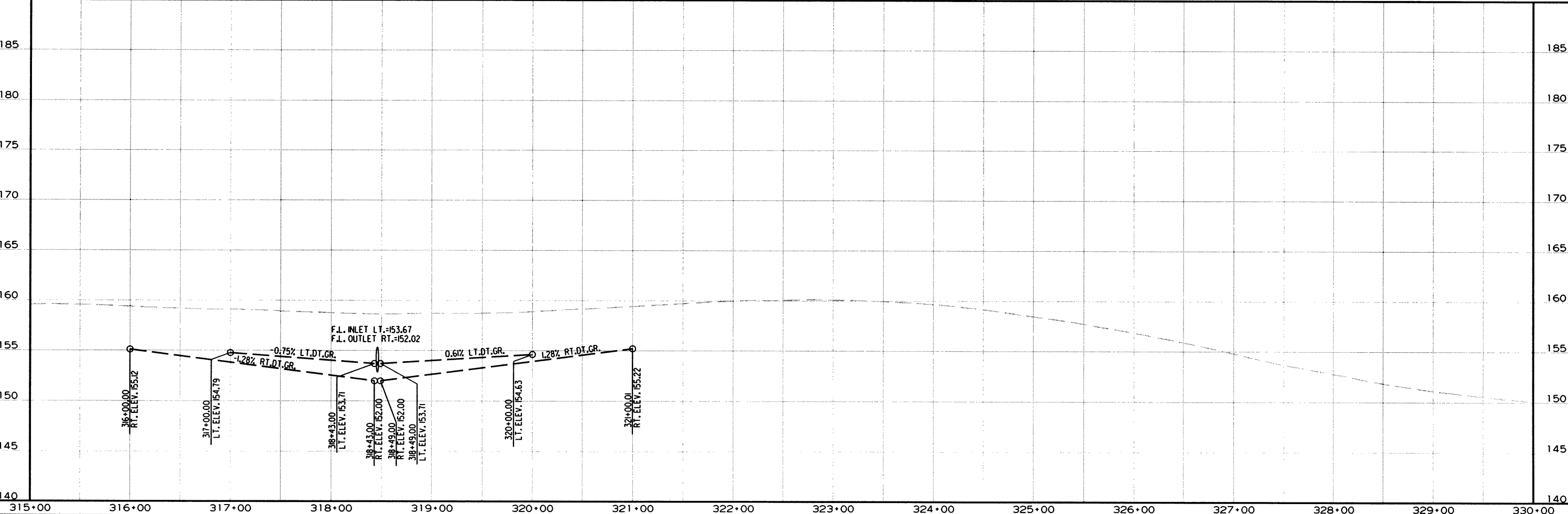
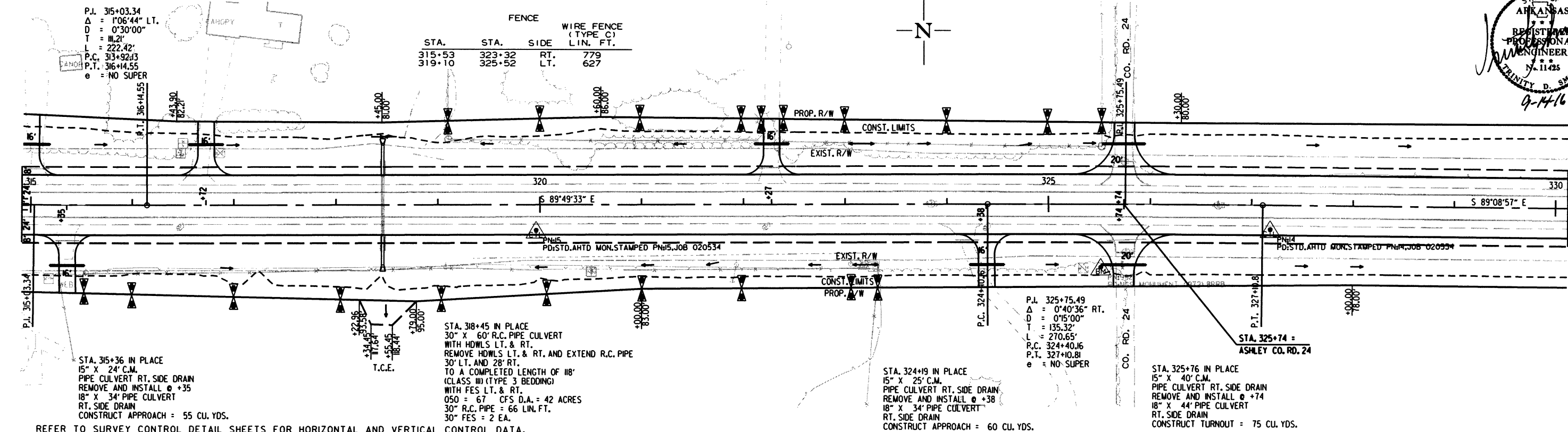
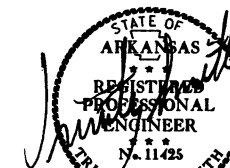
| REMOVAL AND DISPOSAL OF FENCE |        |      |          |  |
|-------------------------------|--------|------|----------|--|
| STA.                          | STA.   | SIDE | LIN. FT. |  |
| 315+29                        | 315+31 | RT.  | 11       |  |
| 315+52                        | 323+34 | RT.  | 828      |  |
| 319+10                        | 325+52 | LT.  | 684      |  |

STA. 322+25 IN PLACE  
18" X 25" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +27  
18" X 34" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 65 CU. YDS.

STA. 325+73 IN PLACE  
18" X 29" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +74  
18" X 42" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT TURNOUT = 65 CU. YDS.

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 103          | 287             |

2 PLAN AND PROFILE SHEETS

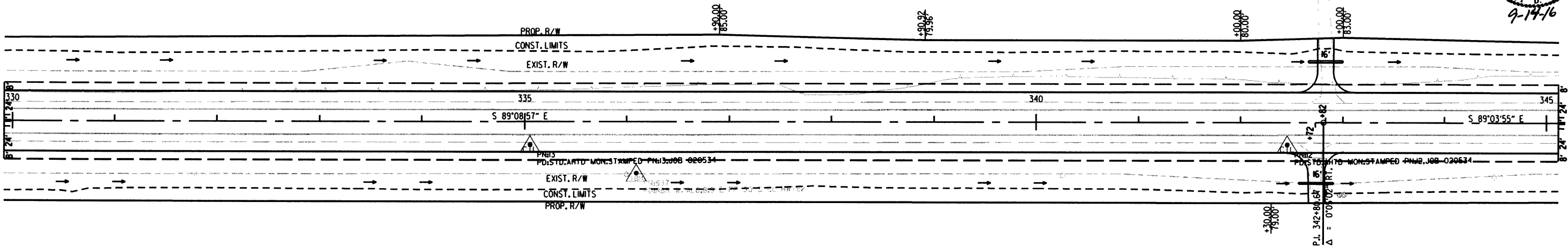
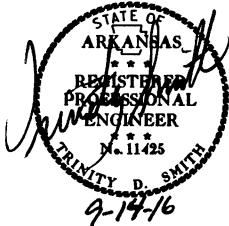




| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 104          | 287             |

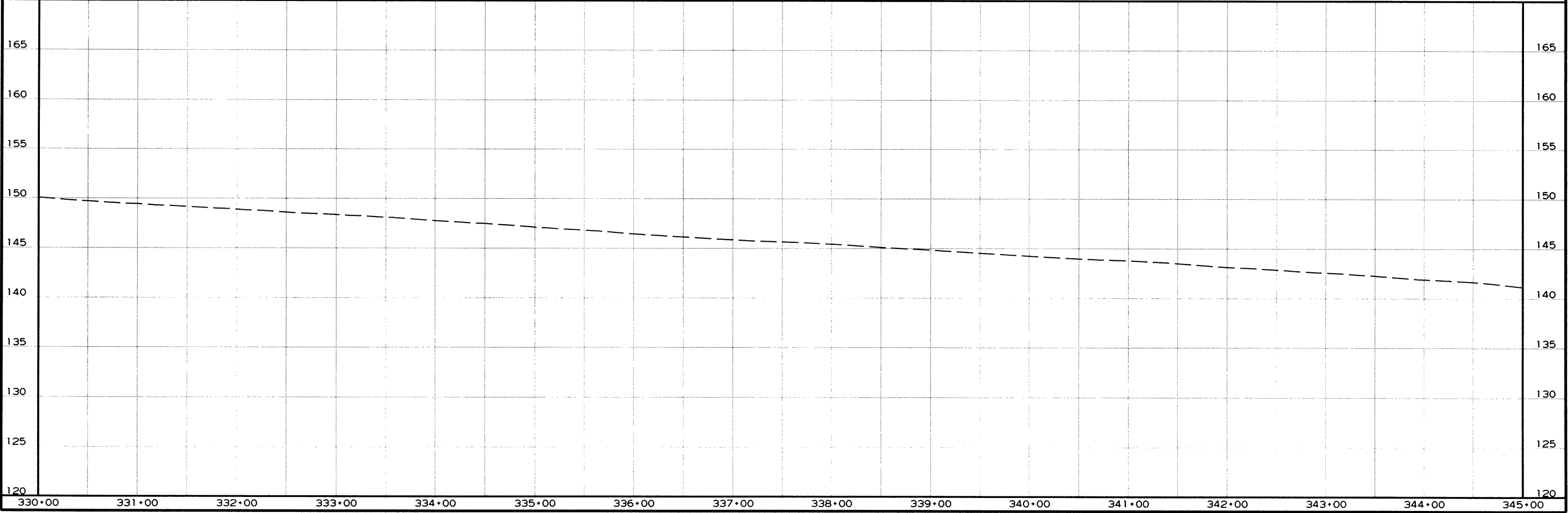
2 PLAN AND PROFILE SHEETS

STA. 342+84 IN PLACE  
24" X 24" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +82  
24" X 34" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 70 CU. YDS.



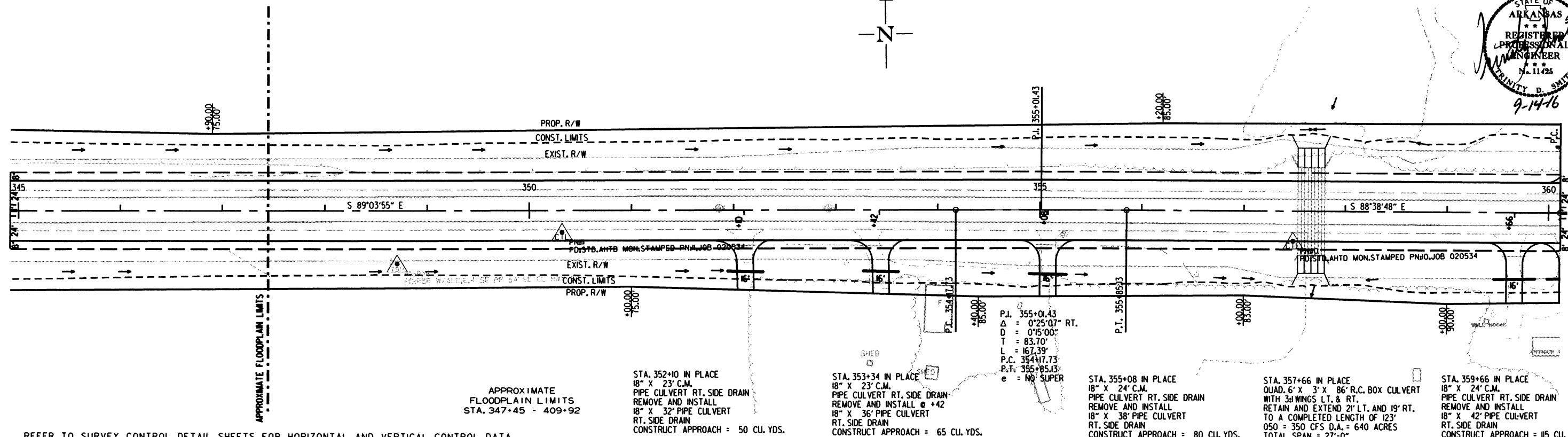
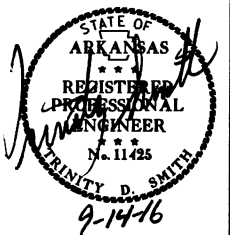
STA. 342+73 IN PLACE  
18" X 23" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +72  
18" X 34" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 55 CU. YDS.

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

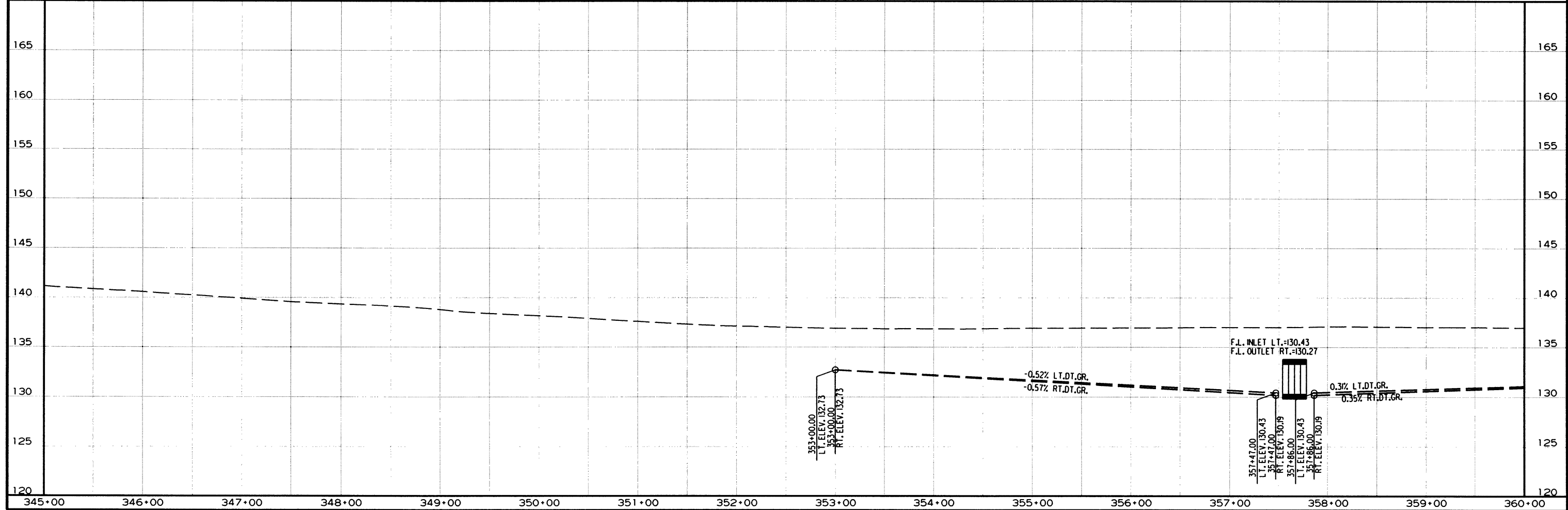


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 105          | 287             |

2 PLAN AND PROFILE SHEETS



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



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STA. 360+24 IN PLACE  
18" X 24" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +25  
18" X 36" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 75 CU. YDS.

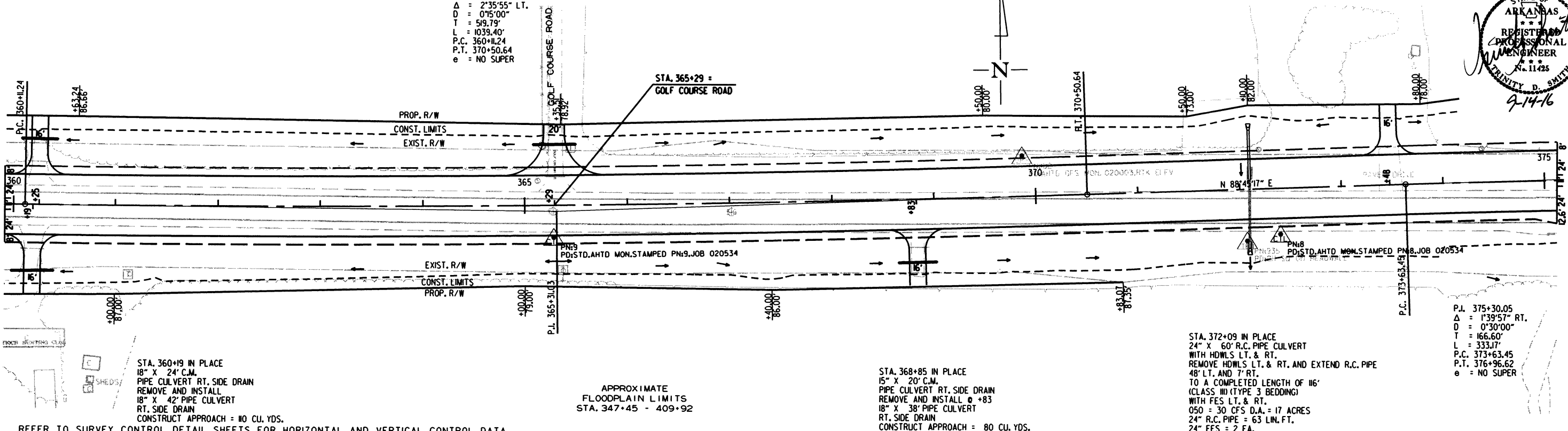
STA. 365+29 IN PLACE  
18" X 20" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
18" X 42" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT TURNOUT = 65 CU. YDS.

P.L. 365+31.03  
 $\Delta = 2'35.55"$  LT.  
 $D = 0'15.00"$   
 $T = 519.79'$   
 $L = 1039.40'$   
P.C. 360+11.24  
P.T. 370+50.64  
e = NO SUPER

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|-----------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                       |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534        | 106          | 287             |

STA. 373+48 CONSTRUCT  
APPROACH ON LT. = 50 CU. YDS.

2 PLAN AND PROFILE SHEETS

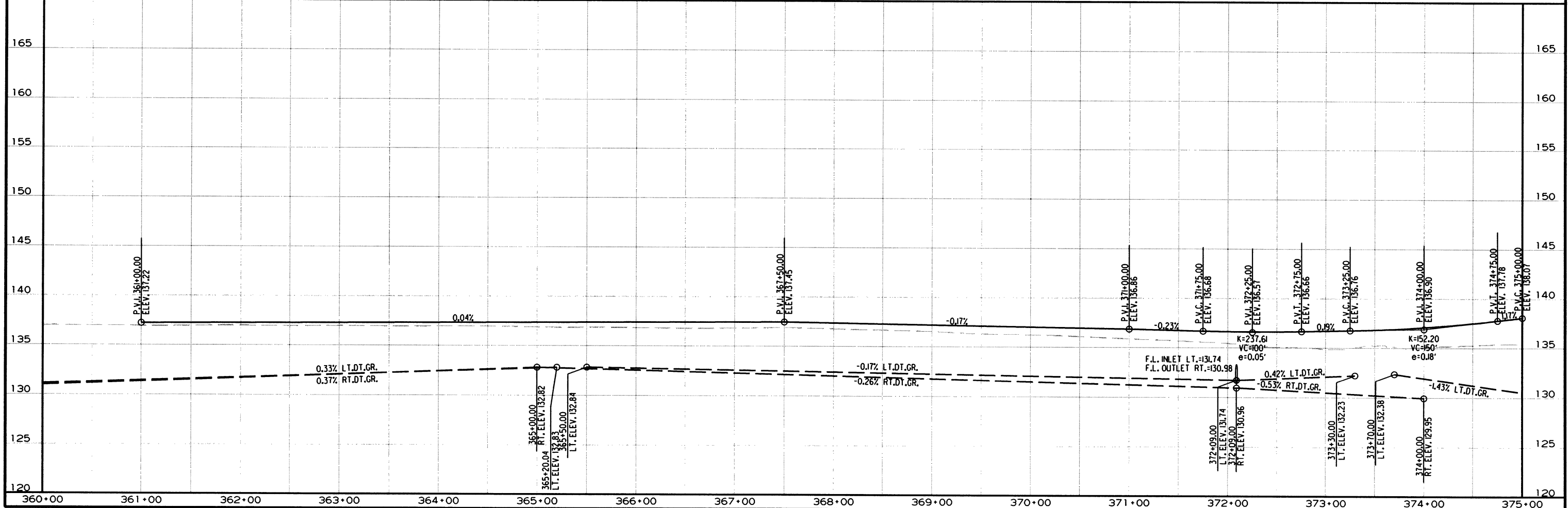


REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

STA. 372+09 IN PLACE  
24" X 60" R.C. PIPE CULVERT  
WITH HDWLS LT. & RT.  
REMOVE HDWLS LT. & RT. AND EXTEND R.C. PIPE  
48' LT. AND 7' RT.  
TO A COMPLETED LENGTH OF 116'  
(CLASS III (TYPE 3 BEDDING)  
WITH FES LT. & RT.  
050 = 30 CFS D.A. = 17 ACRES  
24" R.C. PIPE = 63 LIN. FT.  
24" FES = 2 EA.

STA. 368+85 IN PLACE  
15" X 20" C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +83  
18" X 38" PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = 80 CU. YDS.

P.L. 375+30.05  
 $\Delta = 1'39.57"$  RT.  
 $D = 0'30.00"$   
 $T = 166.60'$   
 $L = 333.17'$   
P.C. 373+63.45  
P.T. 376+96.62  
e = NO SUPER

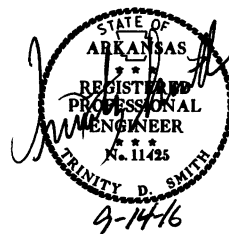


7/18/2016

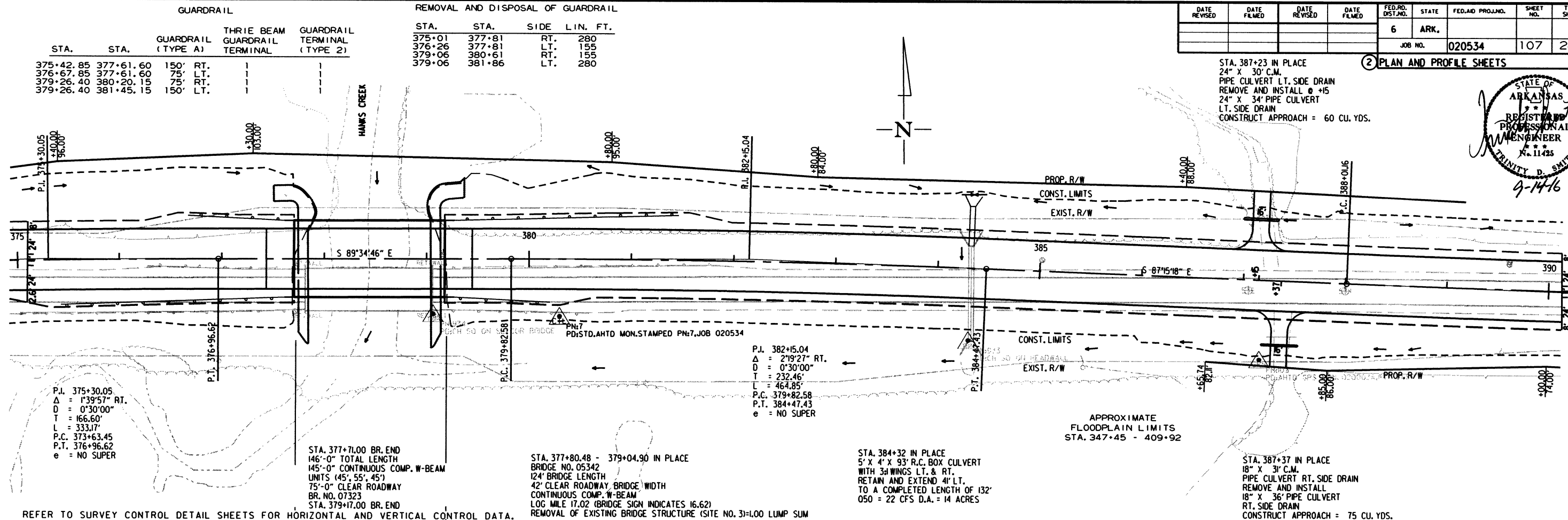
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 107          | 287             |

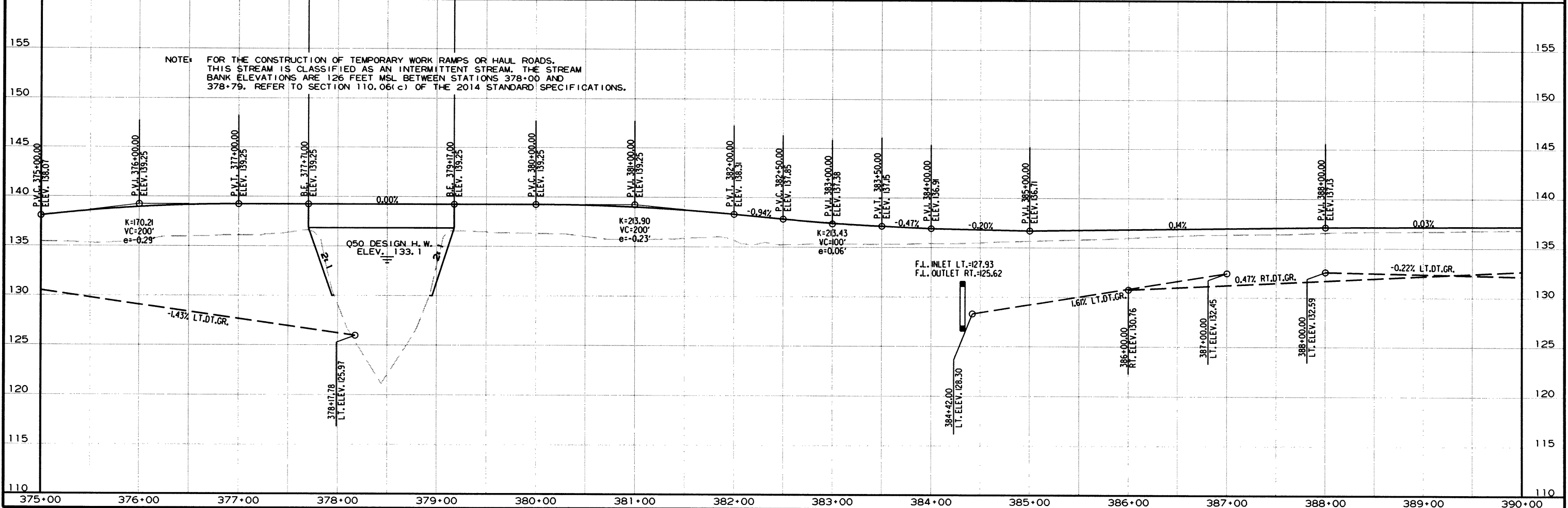
2 PLAN AND PROFILE SHEETS



STA. 387+23 IN PLACE  
24" X 30" C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL @ +15  
24" X 34" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 60 CU. YDS.



NOTE: FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS,  
THIS STREAM IS CLASSIFIED AS AN INTERMITTENT STREAM. THE STREAM  
BANK ELEVATIONS ARE 126 FEET MSL BETWEEN STATIONS 378+00 AND  
378+79. REFER TO SECTION 110.06(c) OF THE 2014 STANDARD SPECIFICATIONS.



7/18/2016

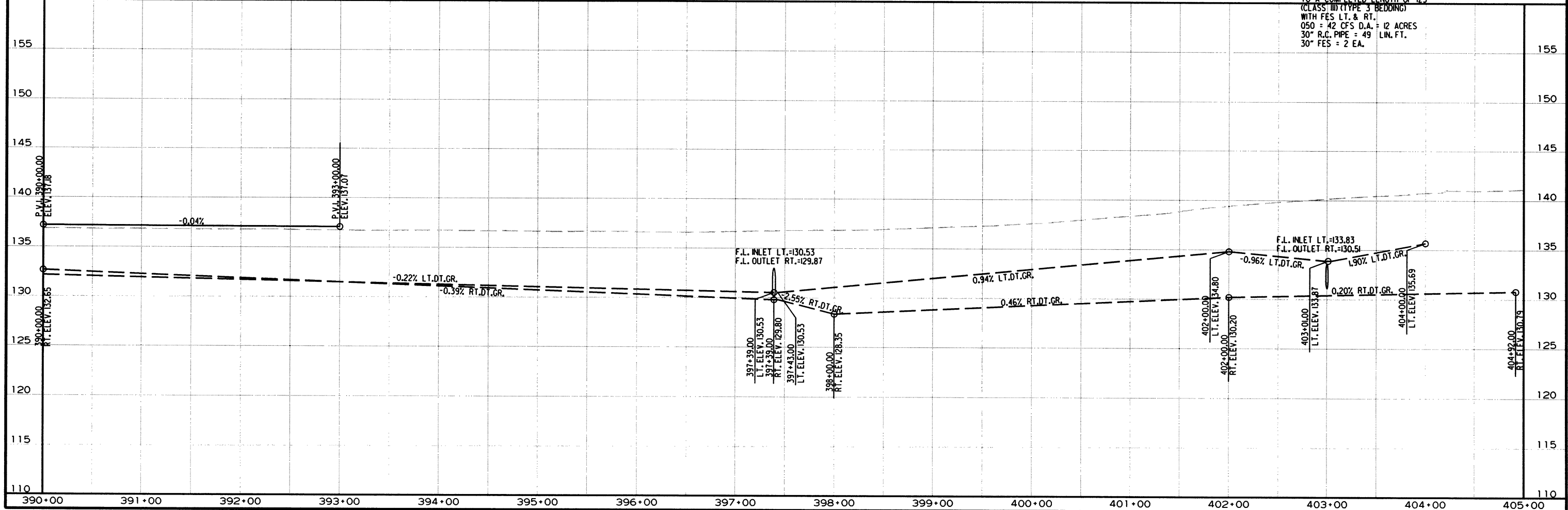
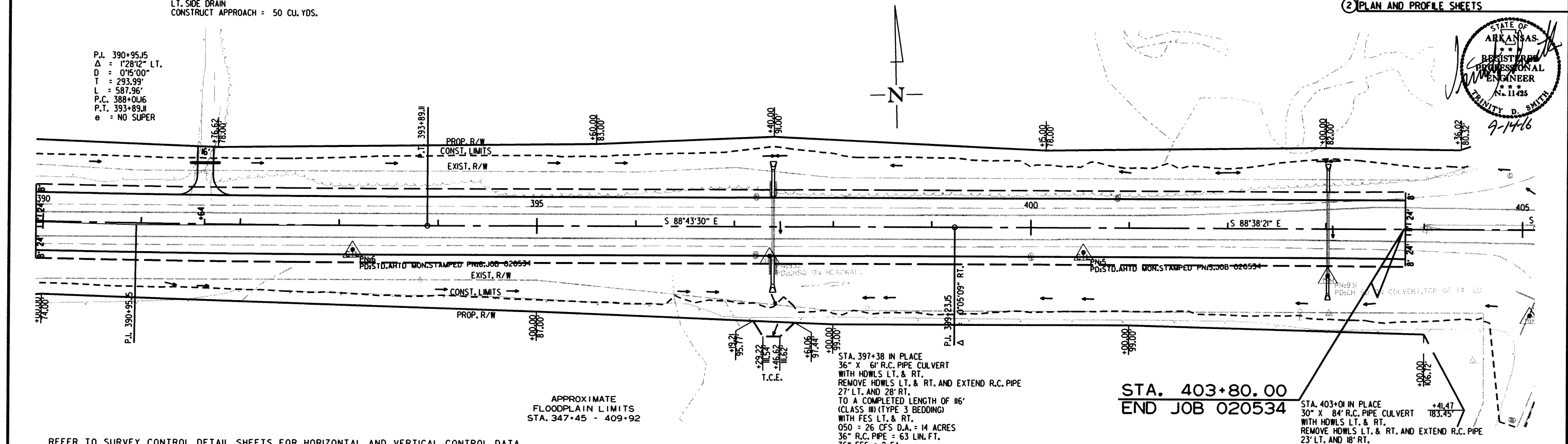
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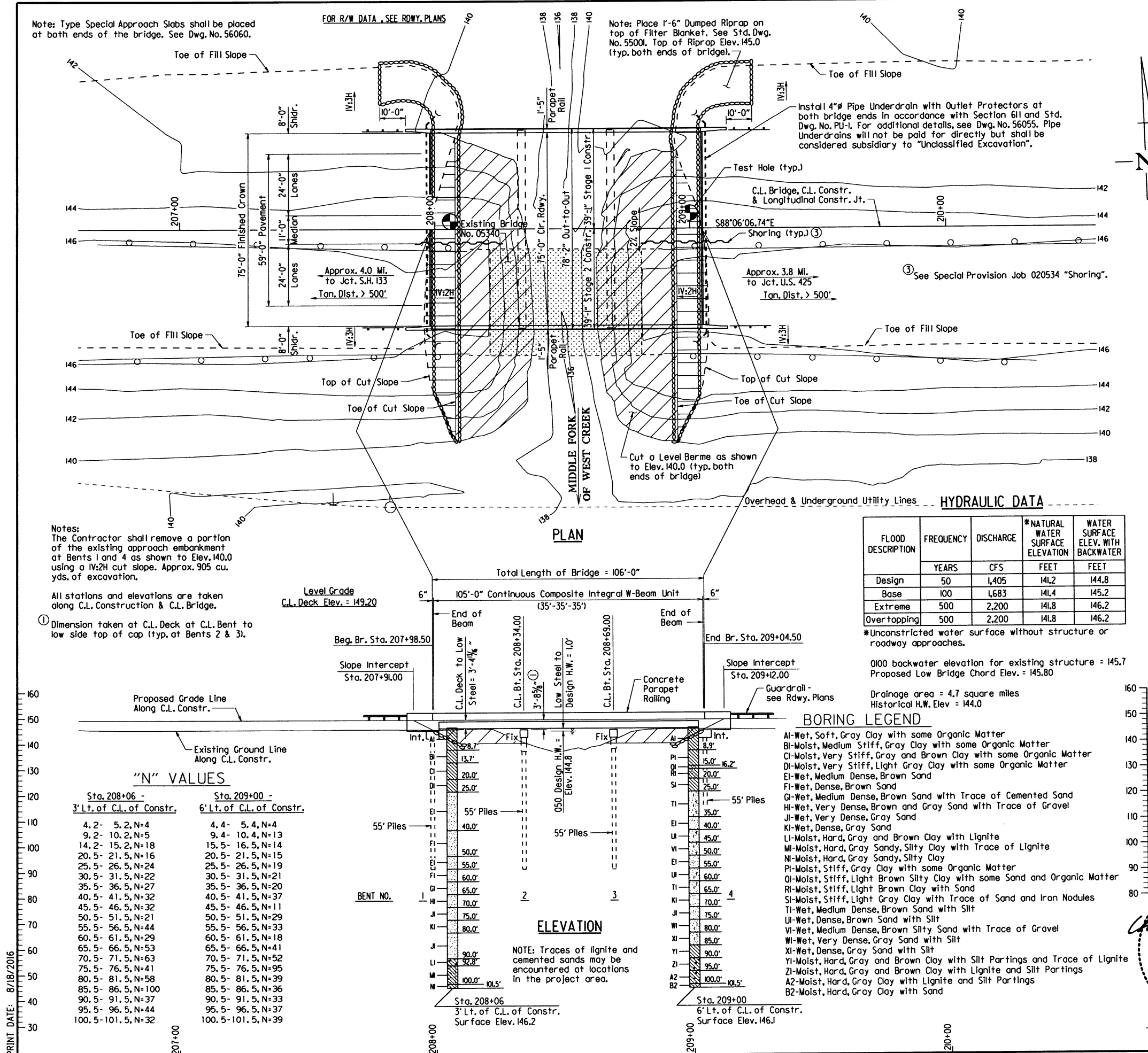
STA. 391+64 IN PLACE  
18" X 28" PIPE CULVERT  
LT. SIDE DRAIN  
REMOVE AND INSTALL  
18" X 30" PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 50 CU. YDS.

P.L. 390+95.15  
Δ = 1'28'12" LT.  
D = 0'15'00"  
T = 293.99'  
L = 587.96'  
P.C. 388+01.6  
P.T. 393+89.11  
e = NO SUPER

| DATE REVISED   | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|                |             |              |             | 6                  | ARK.  | 020534             | 108       | 287          |
| JOB NO. 020534 |             |              |             |                    |       |                    |           |              |

2 PLAN AND PROFILE SHEETS





| DATE REVISION | DATE FILMED | DATE REVISION | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---------------|-------------|---------------|-------------|---------------------|-------|--------------------|-----------|--------------|
|               |             |               |             | 6                   | ARK.  |                    |           |              |
|               |             |               |             | JOB NO.             |       | 020534             | 109       | 287          |
|               |             |               |             | 07321 - LAYOUT      |       |                    |           | 56042        |

GENERAL NOTES

BENCH MARK: TBM #948, chiseled square on existing retaining wall, 51.89' Rt. of C.L. Construction Sta. 208+21.73, Elev. = 146.72.

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

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition, with 2013 Interim Revisions.

LIVE LOADING: HL93  
SEISMIC PERFORMANCE ZONE: 2

MATERIALS AND STRENGTHS

| Class                                                    | Concrete (superstructure) | f'c = 4,000 psi |
|----------------------------------------------------------|---------------------------|-----------------|
| Class 5                                                  | Concrete (substructure)   | f'c = 3,500 psi |
| Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A) |                           | fy = 60,000 psi |
| Structural Steel (AASHTO M 270, Gr. 36)                  |                           | Fy = 36,000 psi |
| Structural Steel (AASHTO M 270, Gr. 50W)                 |                           | Fy = 50,000 psi |

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

② STEEL SHELL PILING: Piling for Bents 1 and 4 shall be 14" dia. concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 155 tons per pile. Piling in Bents 2 and 3 shall be 20" dia. concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 276 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer in accordance with Section 805. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. No additional payment will be made for cut-off or build-up. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

DRIVING SYSTEM: The driving system approval and ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b) "Method B-Wave Equation Analysis (WEAP)". It is estimated that a minimum rated hammer energy of 27,000 ft.-lbs. per blow will be required to obtain the ultimate bearing capacity at Bents 1 and 4 and a minimum rated hammer energy of 51,000 ft.-lbs. per blow will be required to obtain the ultimate bearing capacity at Bents 2 and 3.

PREBORING: Preboring is required for all piling at Bents 1 and 4. Prebored holes at Bents 1 and 4 shall have a diameter 6" greater than the diameter of the pile for a depth of 10' below the bottom of the cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling, which may require the use of temporary casings or other approved methods. Any related cost for backfilling and temporary casing will not be paid for separately but shall be considered subsidiary to the item "Steel Shell Piling". Preboring will be paid for in accordance with Section 805.

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below finished ground. See Std. Dwg. No. 55021 for additional information.

BRIDGE DECK: The concrete bridge deck shall be given a fine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

DETAIL DRAWINGS:

| END BENTS                    | DRAWING NO.   |
|------------------------------|---------------|
| End Bents                    | 56046 & 56047 |
| Int. Bents                   | 56048 & 56049 |
| Steel Shell Piling           | 55021         |
| Elastomeric Bearings         | 56050         |
| 105'-0" Integral W-Beam Unit | 56051-56056   |
| Type Special Approach Slab   | 56060         |

EXISTING BRIDGE: Existing Bridge No. 05340, (L.M. 13.78) is 42' wide and 60' long and consists of reinforced concrete slab spans supported by concrete pile bents.

REMOVAL AND SALVAGE: After Stage 1 has been constructed and open to traffic, existing Bridge No. 05340 shall be removed in accordance with Section 205. Subsidiary to this removal, exposed timber piling from a previous structure shall also be removed to a minimum depth of 2' below natural ground. All material from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans and Details of Stage Construction on Dwg. No. 56045.

② The proposed bridge shall be constructed to avoid interference with the existing piling. The Contractor shall verify measurements for both construction stages before driving any piling. Any adjustments necessary to fit the proposed bridge to the existing bridge location shall be submitted for the Engineer's approval.

LAYOUT OF BRIDGE OVER  
MIDDLE FORK OF WEST CREEK  
CO. RD. 411 - HWY. 425 (EAST OF CROSSETT) (S)  
ASHLEY COUNTY  
ROUTE 82 SEC. 08  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 8-28-13 FILENAME: b020534xl.dgn  
CHECKED BY: ACP DATE: 8-19-16 SCALE: 1" = 20'  
DESIGNED BY: JYP DATE: 8-13  
BRIDGE NO. 07321 DRAWING NO. 56042

STATE OF ARKANSAS  
REGISTERED PROFESSIONAL ENGINEER  
No. 9235  
9-2-16  
CHARLES R. ELLIS  
BRIDGE ENGINEER



Note: Type Special Approach Slabs shall be placed at both ends of the bridge. See Dwg. No. 56060.

FOR R/W DATA, SEE ROWY. PLANS

Note: Place 1'-6" Dumped Riprap on top of Filter Blanket. See Std. Dwg. No. 55001. Top of Riprap Elev. 146.0 (typ. both ends of bridge).

Install 4"Ø Pipe Underdrain with Outlet Protectors at both bridge ends in accordance with Section 611 and Std. Dwg. No. PU-1. For additional details, see Dwg. No. 56055. Pipe Underdrains will not be paid for directly but shall be considered subsidiary to "Unclassified Excavation".

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE   | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|---------------------|---------|--------------------|-----------|--------------|
|              |             |              |             | 6                   | ARK.    |                    |           |              |
|              |             |              |             | JOB NO.             |         | 020534             | 110       | 287          |
|              |             |              |             | 07322 - LAYOUT      | - 56043 |                    |           |              |

#### GENERAL NOTES

BENCH MARK: TBM #943, chiseled square on SW corner of existing bridge, 52.68' Rt. of C.L. Construction Sta. 260+84.70, Elev. = 147.39.

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

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition, with 2013 Interim Revisions.

LIVE LOADING: HL93

SEISMIC PERFORMANCE ZONE: 2

#### MATERIALS AND STRENGTHS

Class S(AE) Concrete (superstructure)  $f'_c = 4,000$  psi  
Class S Concrete (substructure)  $f'_c = 3,500$  psi  
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)  $f_y = 60,000$  psi  
Structural Steel (AASHTO M 270, Gr. 36)  $F_y = 36,000$  psi  
Structural Steel (AASHTO M 270, Gr. 50W)  $F_y = 50,000$  psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

② STEEL SHELL PILING: Piling for Bents 1 and 4 shall be 14" dia. concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 155 tons per pile. Piling for Bents 2 and 3 shall be 20" dia. concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 276 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer in accordance with Section 805. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. No additional payment will be made for cut-off or build-up. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

DRIVING SYSTEM: The driving system approval and ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b) "Method B-Wave Equation Analysis (WEAP)". It is estimated that a minimum rated hammer energy of 27,000 ft.-lbs. per blow will be required to obtain the ultimate bearing capacity at Bents 1 and 4 and a minimum rated hammer energy of 51,000 ft.-lbs. per blow will be required to obtain the ultimate bearing capacity at Bents 2 and 3.

PREBORING: Preboring is required for all piling at Bents 1 and 4. Prebored holes at Bents 1 and 4 shall have a diameter 6" greater than the diameter of the pile for a depth of 10' below the bottom of the cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling, which may require the use of temporary casings or other approved methods. Any related cost for backfilling and temporary casing will not be paid for separately but shall be considered subsidiary to the item "Steel Shell Piling". Preboring will be paid for in accordance with Section 805.

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below finished ground. See Std. Dwg. No. 55021 for additional information.

BRIDGE DECK: The concrete bridge deck shall be given a fine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

DETAIL DRAWINGS:  
End Bents 56046 & 56047  
Int. Bents 56048 & 56049  
Steel Shell Piling 55021  
Elastomeric Bearings 56050  
145'-0" Integral W-Beam Unit 56051-56053, 56057-56059  
Type Special Approach Slab 56060

EXISTING BRIDGE: Existing Bridge No. 05341, (L.M. 14.79) is 42' wide and 75' long and consists of reinforced concrete slab spans supported by concrete pile bents.

REMOVAL AND SALVAGE: After Stage I has been constructed and open to traffic, existing Bridge No. 05341 shall be removed in accordance with Section 205. Subsidiary to this removal, exposed timber piling from a previous structure shall also be removed to a minimum depth of 2' below natural ground. All material from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans and Details of Stage Construction on Dwg. No. 56045.

② The proposed bridge shall be constructed to avoid interference with the existing piling. The Contractor shall verify measurements for both construction stages before driving any piling. Any adjustments necessary to fit the proposed bridge to the existing bridge location shall be submitted for the Engineer's approval.

LAYOUT OF BRIDGE OVER  
EAST FORK OF WEST CREEK  
CO. RD. 411 - HWY. 425 (EAST OF CROSSETT) (S)  
ASHLEY COUNTY

ROUTE 82 SEC. 08  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 8-28-13 FILENAME: b020534x2.11.dgn  
CHECKED BY: ACP DATE: 8-19-16 SCALE: 1" = 20'  
DESIGNED BY: JYP DATE: 8-13

BRIDGE NO. 07322

DRAWING NO. 56043

#### HYDRAULIC DATA

| FLOOD DESCRIPTION | FREQUENCY | DISCHARGE | *NATURAL WATER SURFACE ELEVATION | WATER SURFACE ELEV. WITH BACKWATER |
|-------------------|-----------|-----------|----------------------------------|------------------------------------|
|                   | YEARS     | CFS       | FEET                             | FEET                               |
| Design            | 50        | 2,117     | 144.5                            | 145.8                              |
| Base              | 100       | 2,437     | 144.7                            | 146.2                              |
| Extreme           | 500       | 2,920     | 145.0                            | 146.6                              |
| Overtopping       | >500      | -         | -                                | -                                  |

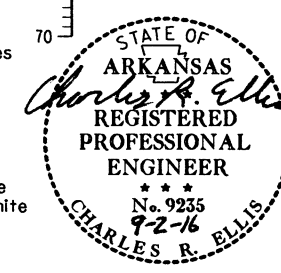
\*Unconstricted water surface without structure or roadway approaches.

O100 backwater elevation for existing structure = 147.1  
Proposed Low Bridge Chord Elev. = 147.45

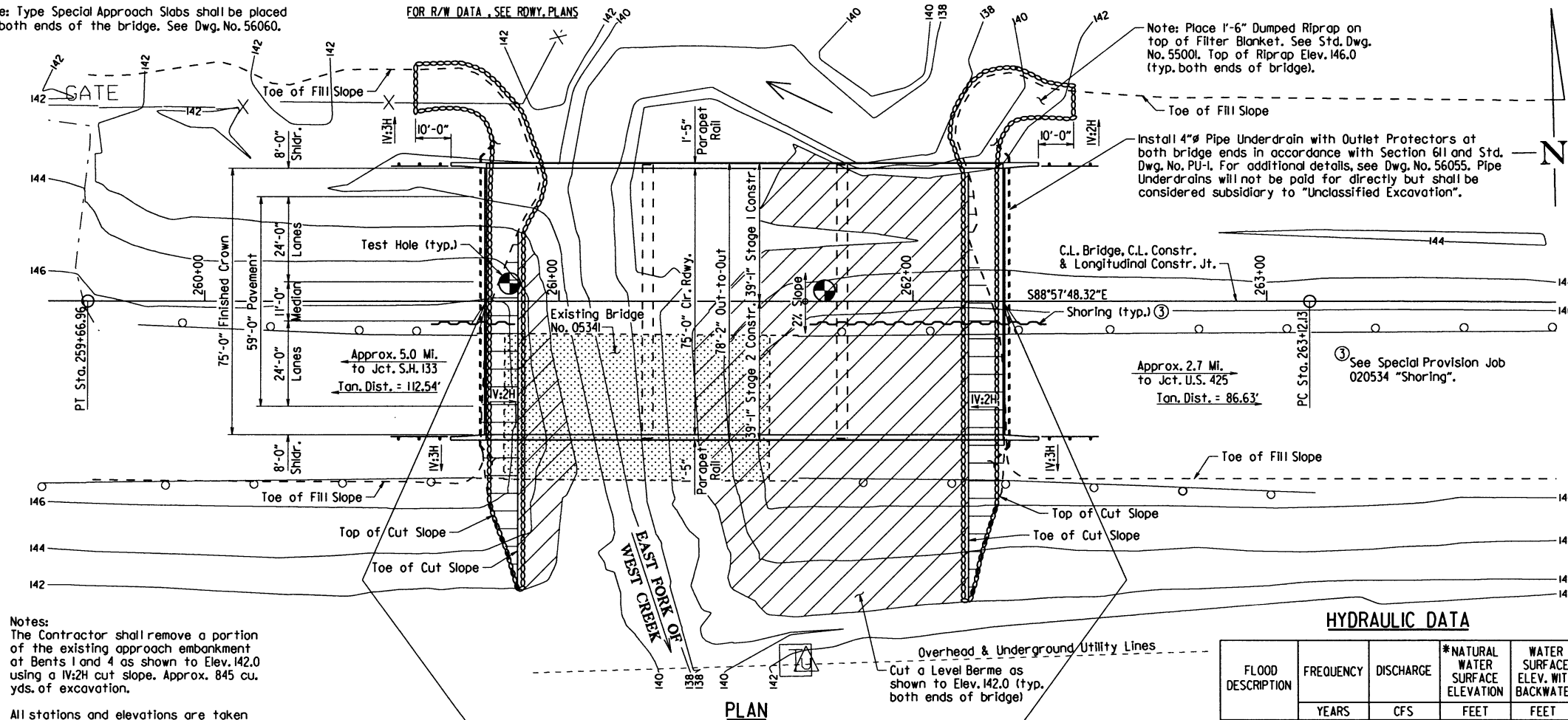
Drainage area = 4.4 square miles  
Historical H.W. Elev. = 143.5

#### BORING LEGEND

AI-Moist, Soft, Brown Clay with some Organic Matter  
BI-Moist, Soft, Brown and Gray Clay with some Organic Matter  
CI-Moist, Medium Stiff, Reddish Brown and Gray Clay with Sand and some Iron Nodules  
DI-Moist, Stiff, Gray and Brown Clay with some Sand and Iron Nodules  
EI-Wet, Medium Dense, Reddish Brown and Gray Sand  
FI-Wet, Medium Dense, Brown Sand  
GI-Wet, Dense, Brown Sand  
HI-Wet, Dense, Brown Sand with Trace of Gravel  
JI-Gravel  
KI-Wet, Medium Dense, Brown Sand with Trace of Gravel  
LI-Wet, Loose, Brown Sand with Gravel  
MI-Moist, Very Dense, Dark Gray Clayey, Silty Sand with Trace of Lignite  
NI-Wet, Very Dense, Dark Gray Silty Sand with Trace of Lignite  
PI-Moist, Hard, Dark Gray Clay with Silt and Sand Partings  
OI-Moist, Hard, Dark Brown Clay with Trace of Lignite  
RI-Dry, Very Stiff, Reddish Brown Clay with Sand  
SI-Wet, Medium Stiff, Gray and Brown Silty Clay  
TI-Moist, Medium Dense, Brown and Gray Silt with Sand  
UI-Moist, Stiff, Gray and Brown Clay with Sand and Iron Nodules  
VI-Moist, Very Stiff, Brown Silty Clay  
WI-Wet, Medium Dense, Reddish Brown Silt with Sand  
XI-Wet, Medium Dense, Brown Sand with Silt  
YI-Wet, Dense, Brown Sand with Silt  
ZI-Wet, Very Dense, Brown Sand with Silt  
A2-Wet, Dense, Brown Sand with Silt and Trace of Gravel  
B2-Wet, Very Dense, Brown Sand with Silt and Trace of Lignite  
C2-Wet, Very Dense, Brown Sand with Gravel and Trace of Lignite  
D2-Moist, Very Dense, Dark Gray Silty Sand  
E2-Hard, Brown and Gray Cemented Sand  
F2-Moist, Dense, Gray Sandy Silt



BRIDGE ENGINEER



#### PLAN

Total Length of Bridge = 146'-0"

Notes:  
The Contractor shall remove a portion of the existing approach embankment at Bents 1 and 4 as shown to Elev. 142.0 using a 1/2H cut slope. Approx. 845 cu. yds. of excavation.

All stations and elevations are taken along C.L. Construction & C.L. Bridge.

① Dimension taken at C.L. Deck at C.L. Bent to low side top of cap (typ. at Bents 2 & 3).

Level Grade  
C.L. Deck Elev. = 151.10

Beg. Br. Sta. 260+79.50

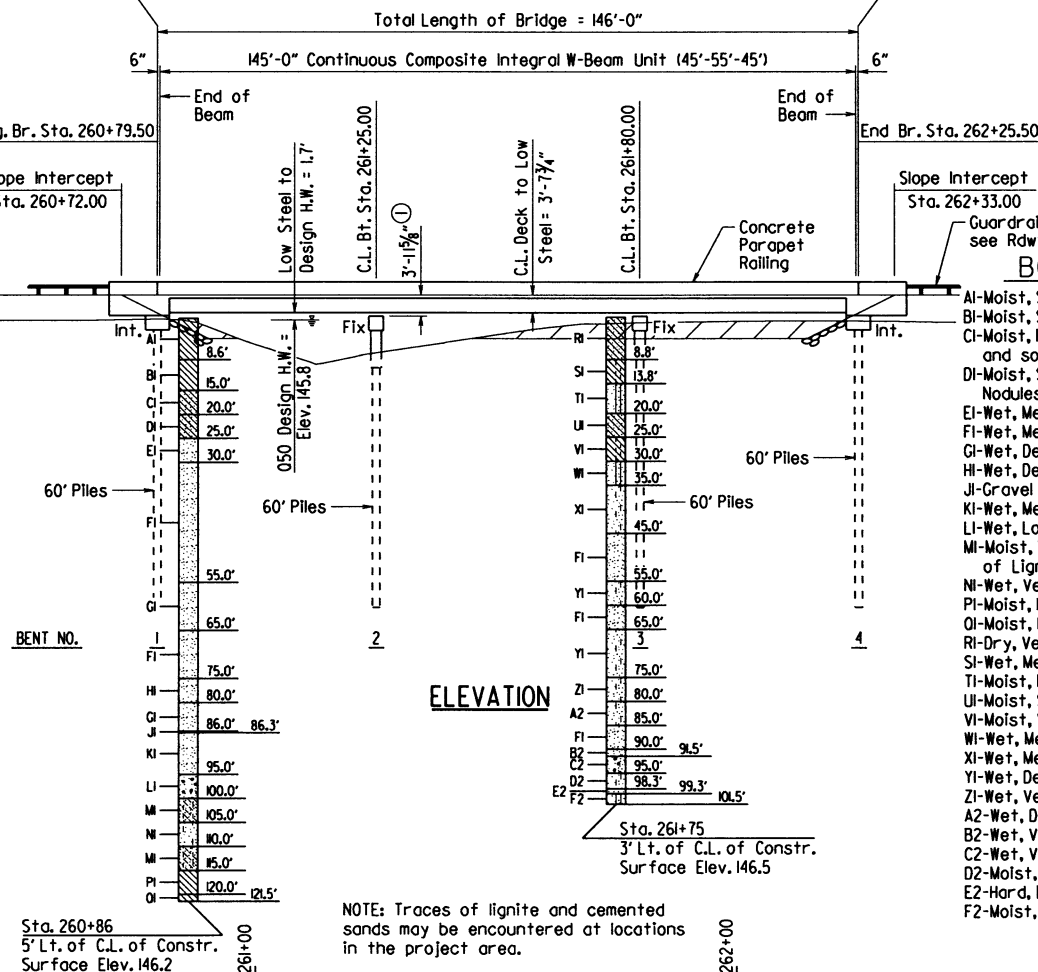
Slope Intercept  
Sta. 260+72.00

Proposed Grade Line  
Along C.L. Constr.

Existing Ground Line  
Along C.L. Constr.

#### "N" VALUES

| Sta. 260+86 -<br>5' Lt. of C.L. of Constr. | Sta. 261+75 -<br>3' Lt. of C.L. of Constr. |
|--------------------------------------------|--------------------------------------------|
| 4.1- 5.1, N=4                              | 4.3- 5.3, N=19                             |
| 9.1- 10.1, N=4                             | 9.3- 10.3, N=8                             |
| 15.5- 16.5, N=7                            | 14.3- 15.3, N=15                           |
| 20.5- 21.5, N=9                            | 20.5- 21.5, N=9                            |
| 25.5- 26.5, N=20                           | 25.5- 26.5, N=18                           |
| 30.5- 31.5, N=15                           | 30.5- 31.5, N=11                           |
| 35.5- 36.5, N=30                           | 35.5- 36.5, N=21                           |
| 40.5- 41.5, N=14                           | 40.5- 41.5, N=21                           |
| 45.5- 46.5, N=15                           | 45.5- 46.5, N=21                           |
| 50.5- 51.5, N=16                           | 50.5- 51.5, N=25                           |
| 55.5- 56.5, N=38                           | 55.5- 56.5, N=47                           |
| 60.5- 61.5, N=48                           | 60.5- 61.5, N=28                           |
| 65.5- 66.5, N=17                           | 65.5- 66.5, N=34                           |
| 70.5- 71.5, N=30                           | 70.5- 71.5, N=44                           |
| 75.5- 76.5, N=31                           | 75.5- 76.5, N=57                           |
| 80.5- 81.5, N=36                           | 80.5- 81.5, N=37                           |
| 85.5- 86.5, N=33                           | 85.5- 86.5, N=25                           |
| 90.5- 91.5, N=27                           | 90.5- 91.5, N=56                           |
| 95.5- 96.5, N=10                           | 95.5- 96.5, N=54                           |
| 100.5- 101.5, N=54                         | 100.5- 101.5, N=47                         |
| 105.5- 106.5, N=52                         |                                            |
| 110.5- 111.5, N=70                         |                                            |
| 115.5- 116.5, N=41                         |                                            |
| 120.5- 121.5, N=38                         |                                            |



#### ELEVATION

NOTE: Traces of lignite and cemented sands may be encountered at locations in the project area.

PRINT DATE: 9/2/2016



Note: Type Special Approach Slab shall be placed at both ends of the bridge. See Dwg. No. 56060.

FOR R/W DATA, SEE RDWY. PLANS

Note: Place 1'-6" Dumped Riprap on top of Filter Blanket. See Std. Dwg. No. 55001. Top of Riprap Elev. 133.5 (typ. both ends of bridge).

Install 4" Pipe Underdrain with Outlet Protectors at both bridge ends in accordance with Section 611 and Std. Dwg. No. PU-1. For additional details, see Dwg. No. 56055. Pipe Underdrains will not be paid for directly but shall be considered subsidiary to "Unclassified Excavation".

| DATE REVISION | DATE FILMED | DATE REVISION | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO.     | SHEET NO. | TOTAL SHEETS |
|---------------|-------------|---------------|-------------|---------------------|-------|------------------------|-----------|--------------|
|               |             |               |             | 6                   | ARK.  |                        |           |              |
|               |             |               |             | JOB NO.             |       | 020534                 | 111       | 287          |
|               |             |               |             |                     |       | 07323 - LAYOUT - 56044 |           |              |

#### GENERAL NOTES

BENCH MARK: #934 Chisled Square on SE Corner of Existing Bridge, 53.67' Right of C.L. Construction Sta. 379+06.41, Elevation = 137.61.

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

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, Sixth Edition, with 2013 Interim Revisions.

LIVE LOADING: HL93

SEISMIC PERFORMANCE ZONE: 2

#### MATERIALS AND STRENGTHS

Class (SAC) Concrete (superstructure) f'c = 4,000 psi  
Class S Concrete (substructure) f'c = 3,500 psi  
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A) fy = 60,000 psi  
Structural Steel (AASHTO M 270, Gr. 36) Fy = 36,000 psi  
Structural Steel (AASHTO M 270, Gr. 50W) Fy = 50,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

② STEEL SHELL PILING: Piling in Bents 1 and 4 shall be 14" dia. concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 155 tons per pile. Piling in Bents 2 and 3 shall be 20" dia. concrete filled steel shell piles and shall be driven to a minimum ultimate bearing capacity of 276 tons per pile. All piling shall be driven with an approved air, steam or diesel hammer in accordance with Section 805. Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. No additional payment will be made for cut-off or build-up. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

DRIVING SYSTEM: The driving system approval and ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b) "Method B-Wave Equation Analysis (WEAP)". It is estimated that a minimum rated hammer energy of 27,000 ft.-lbs. per blow will be required to obtain the ultimate bearing capacity at Bents 1 and 4 and a minimum rated hammer energy of 51,000 ft.-lbs. per blow will be required to obtain the ultimate bearing capacity of Bents 2 and 3.

PREBORING: Preboring is required for all piling in Bents 1 and 4. Prebored holes at Bents 1 and 4 shall have a diameter 6" greater than the greatest diameter of the pile for a depth of 10' below bottom of cap. The void space around the pile after completion of driving shall be backfilled with sand or pea gravel. The Contractor shall be responsible for keeping prebored holes free of debris prior to backfilling, which may require the use of temporary casings or other approved methods. Any related cost for backfilling and temporary casing will not be paid for separately but shall be considered subsidiary to the item "Steel Shell Piling". Preboring will be paid for in accordance with Section 805.

PILE ENCASEMENT: Pile encasement for Bents 2 and 3 shall extend from bottom of cap to 3' below natural ground. See Std. Dwg. No. 55021 for additional information.

BRIDGE DECK: The concrete bridge deck shall be given a fine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

#### DETAIL DRAWINGS:

End Bents 56046 & 56047  
Int. Bents 56048 & 56049  
Steel Shell Piling 55021  
Elastomeric Bearings 56050  
145'-0" Cont. Integral W-Beam Unit 56051-56053, 56057-56059  
Type Special Approach Slab 56060

EXISTING BRIDGE: Existing Bridge No. 05342, (L.M. 17.02) is 42' wide and 125' long and consists of reinforced concrete slab spans supported by concrete pile bents.

REMOVAL AND SALVAGE: After Stage I has been constructed and open to traffic, existing Bridge No. 05342 shall be removed in accordance with Section 205. Subsidiary to this removal, exposed timber piling from a previous structure shall also be removed to a minimum depth of 2' below natural ground. All material from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans and details of Stage Construction on Dwg. No. 56045.

② The proposed bridge shall be constructed to avoid interference with the existing piling. The Contractor shall verify measurements for both construction stages before driving any piling. Any adjustments necessary to fit the proposed bridge to the existing bridge location shall be submitted for the Engineer's approval.

#### HYDRAULIC DATA

| FLOOD DESCRIPTION | FREQUENCY | DISCHARGE | *NATURAL WATER SURFACE ELEVATION | WATER SURFACE ELEV. WITH BACKWATER |
|-------------------|-----------|-----------|----------------------------------|------------------------------------|
|                   | YEARS     | CFS       | FEET                             | FEET                               |
| Design            | 50        | 3,240     | 132.0                            | 133.1                              |
| Base              | 100       | 3,840     | 132.4                            | 133.7                              |
| Extreme           | 500       | 5,360     | 133.4                            | 135.0                              |
| Overtopping       | >500      | -         | -                                | -                                  |

\*Unconstricted water surface without structure or roadway approaches.

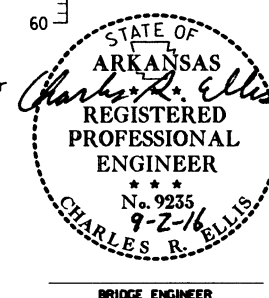
0100 backwater elevation for existing structure = 133.7

Proposed Low Bridge Chord Elev. = 135.60

Drainage area = 26.2 square miles  
Historical H.W. Elev = 133.2

#### BORING LEGEND

Al-Moist, Loose, Brown and Gray Silt with some Organic Matter  
Bl-Moist, Medium Stiff, Light Brown and Gray Clay with some Organic Matter  
Cl-Moist, Stiff, Light Brown and Gray Clay with Sand  
Di-Moist, Dense, Light Gray Clayey Sand  
El-Wet, Medium Dense, Brown Silty Sand  
Fi-Wet, Medium Dense, Light Gray and Brown Sand with Silt  
Gi-Wet, Medium Dense, Light Gray and Brown Sand with Silt and Trace of Organic Matter  
Hi-Wet, Medium Dense, Brown Sand with Silt  
Ji-Wet, Medium Dense, Light Brown Sand with Silt  
Ki-Wet, Dense, Brown Sand with Silt  
Li-Wet, Medium Dense, Brown Sand  
Mi-Wet, Medium Dense, Brown Sand with Silt and some Gravel  
Ni-Gravel  
Pi-Wet, Dense, Brown Sand with Silt and Trace of Gravel  
Qi-Wet, Dense, Brown Sand  
Ri-Wet, Dense, Brown Sand with Silt and some Gravel  
Si-Wet, Dense, Brown and Gray Sand with Gravel  
Ti-Wet, Dense, Brown and Gray Sand with some Gravel  
U-Moist, Soft, Reddish Brown and Gray Clay with some Organic Matter  
Vi-Moist, Soft, Reddish Brown Clay with some Organic Matter  
Wi-Moist, Very Stiff, Light Gray Clay  
Xi-Moist, Stiff, Reddish Brown and Light Gray Clay  
Yi-Wet, Medium Dense, Reddish Brown Sand  
Zi-Wet, Medium Dense, Light Brown Sand  
A2-Wet, Dense, Brown Sand with Trace of Gravel  
B2-Wet, Very Dense, Brown Sand  
D2-Wet, Dense, Brown Sand with some Gravel  
E2-Wet, Dense, Gray Sand with Gravel



BRIDGE ENGINEER

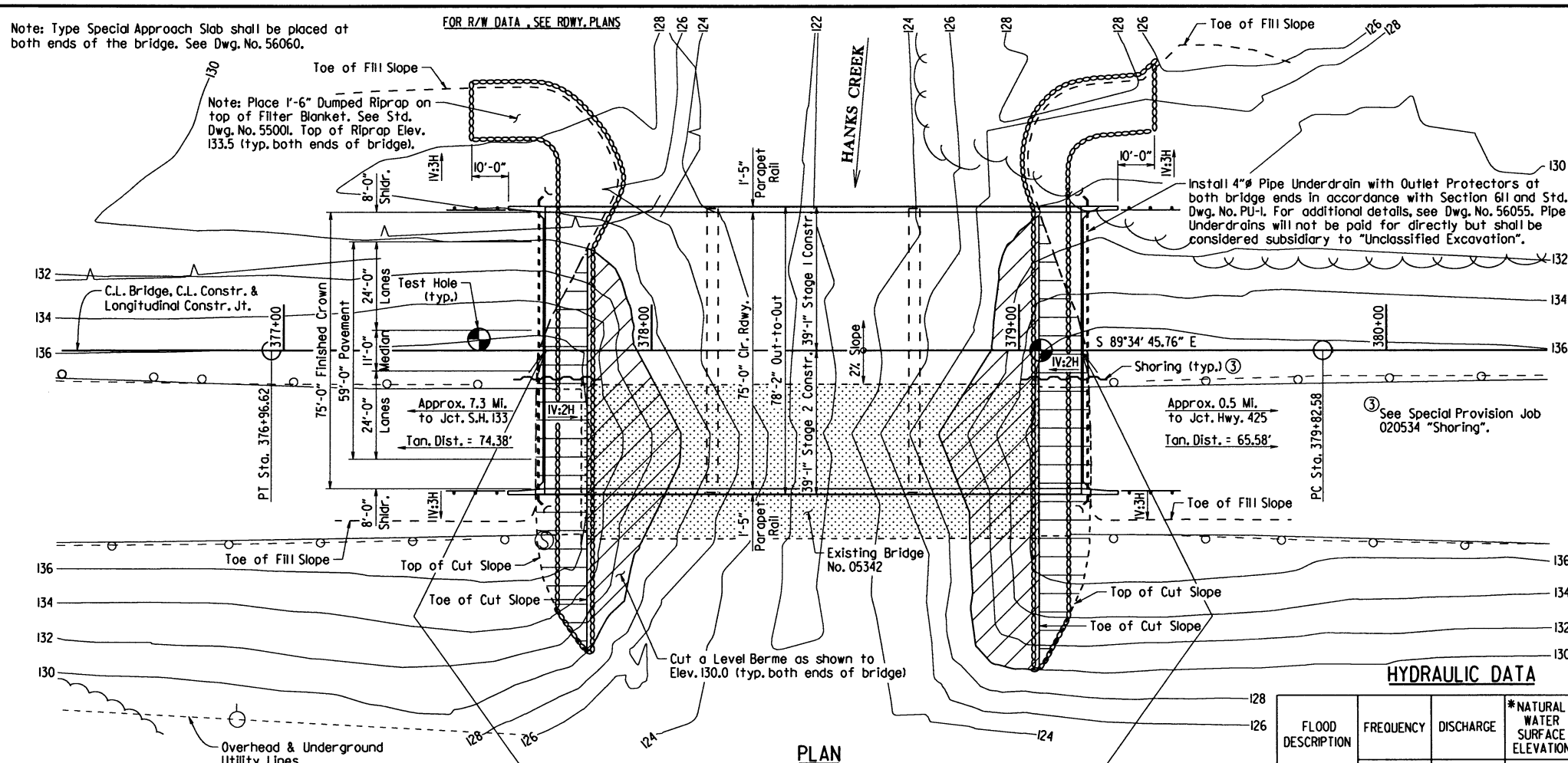
LAYOUT OF BRIDGE OVER  
HANKS CREEK  
CO. RD. 411 - HWY. 425 (EAST OF CROSSETT) (S)  
ASHLEY COUNTY  
ROUTE 82 SEC. 08  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 09-18-13 FILENAME: b020534x4\_11.dgn  
CHECKED BY: JYP DATE: 6-26-14 SCALE: 1" = 20'  
DESIGNED BY: ACP DATE: 9-13

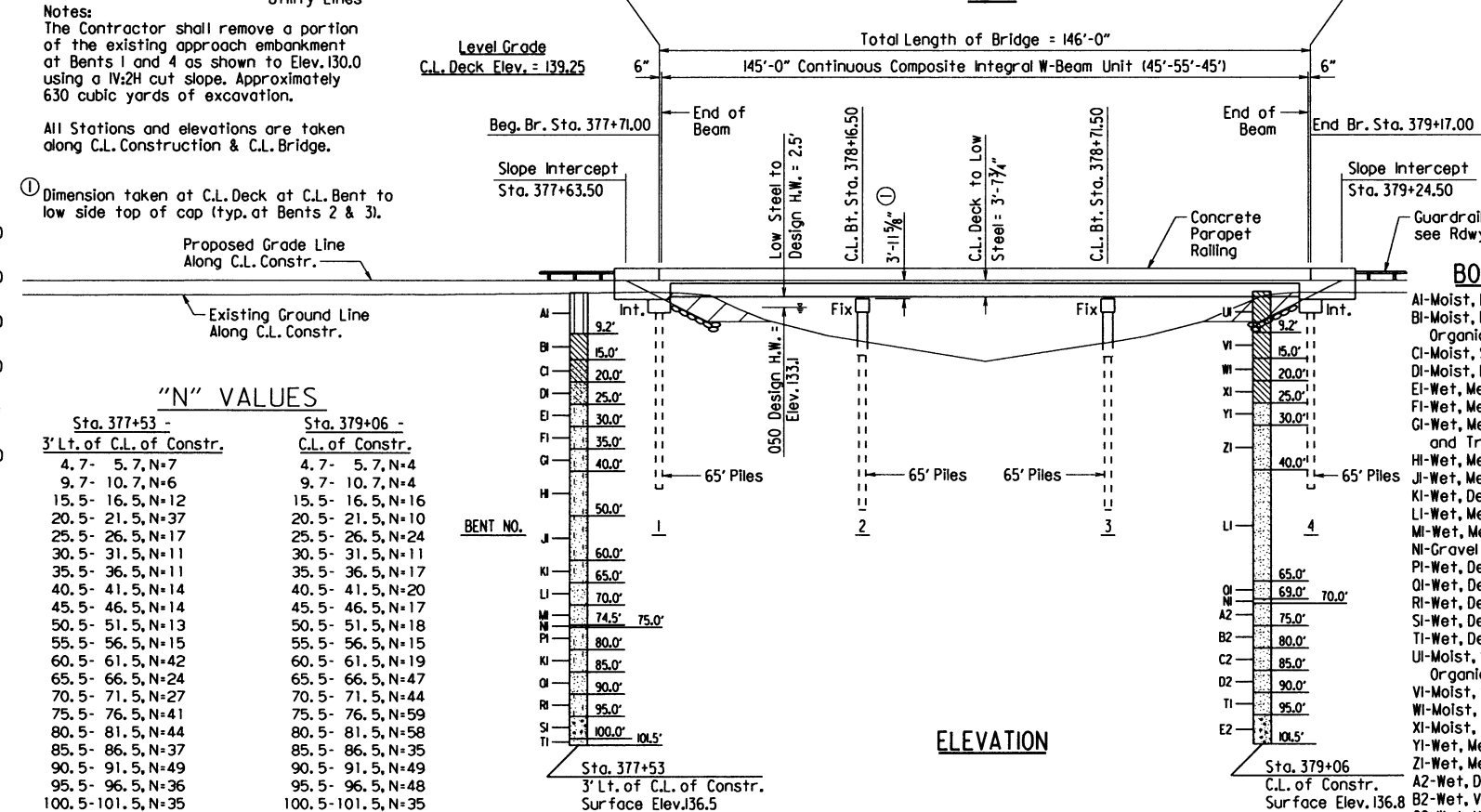
BRIDGE NO. 07323

DRAWING NO. 56044

#### PLAN



#### ELEVATION



#### "N" VALUES

| Sta. 377+53 -<br>3' Lt. of C.L. of Constr. | Sta. 379+06 -<br>C.L. of Constr. |
|--------------------------------------------|----------------------------------|
| 4.7- 5.7, N=7                              | 4.7- 5.7, N=4                    |
| 9.7- 10.7, N=6                             | 9.7- 10.7, N=4                   |
| 15.5- 16.5, N=12                           | 15.5- 16.5, N=16                 |
| 20.5- 21.5, N=37                           | 20.5- 21.5, N=10                 |
| 25.5- 26.5, N=17                           | 25.5- 26.5, N=24                 |
| 30.5- 31.5, N=11                           | 30.5- 31.5, N=11                 |
| 35.5- 36.5, N=11                           | 35.5- 36.5, N=17                 |
| 40.5- 41.5, N=14                           | 40.5- 41.5, N=20                 |
| 45.5- 46.5, N=14                           | 45.5- 46.5, N=17                 |
| 50.5- 51.5, N=13                           | 50.5- 51.5, N=18                 |
| 55.5- 56.5, N=15                           | 55.5- 56.5, N=15                 |
| 60.5- 61.5, N=42                           | 60.5- 61.5, N=19                 |
| 65.5- 66.5, N=24                           | 65.5- 66.5, N=47                 |
| 70.5- 71.5, N=27                           | 70.5- 71.5, N=44                 |
| 75.5- 76.5, N=41                           | 75.5- 76.5, N=59                 |
| 80.5- 81.5, N=44                           | 80.5- 81.5, N=58                 |
| 85.5- 86.5, N=37                           | 85.5- 86.5, N=35                 |
| 90.5- 91.5, N=49                           | 90.5- 91.5, N=49                 |
| 95.5- 96.5, N=36                           | 95.5- 96.5, N=48                 |
| 100.5- 101.5, N=35                         | 100.5- 101.5, N=35               |

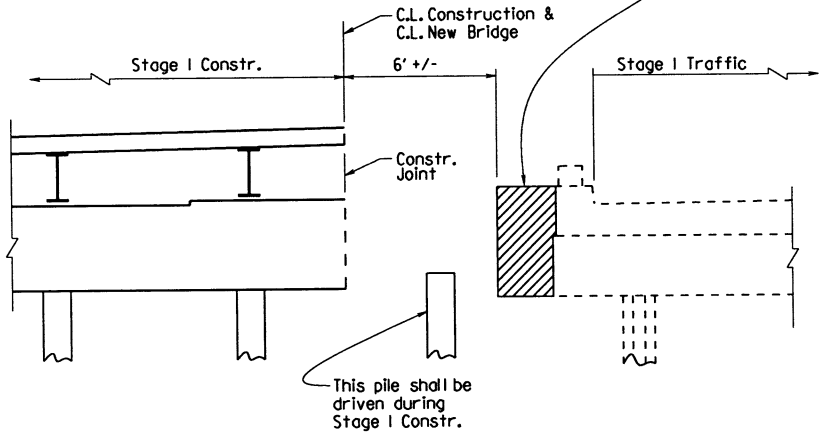
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO.                    | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|----------------------------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                                      | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.                                |       | 020534             | 112       | 287          |
|              |             |              |             | 07321, 07322, 07323 STAGE CONSTRUCTION |       |                    |           | 56045        |

TABLE OF VARIABLES

| Existing Bridge No. | Type Bent | "A" | "B"    | "C"    |
|---------------------|-----------|-----|--------|--------|
| 05340               | End       | 4   | 8'-10" | 3'-7"  |
|                     | Interior  | 4   | 8'-10" | 3'-7"  |
| 05341               | End       | 4   | 9'-0"  | 3'-4"  |
|                     | Interior  | 5   | 7'-0"  | 3'-10" |
| 05342               | End       | 4   | 9'-0"  | 3'-4"  |
|                     | Interior  | 5   | 7'-0"  | 3'-10" |

Note: Variables in table are based on original plans.

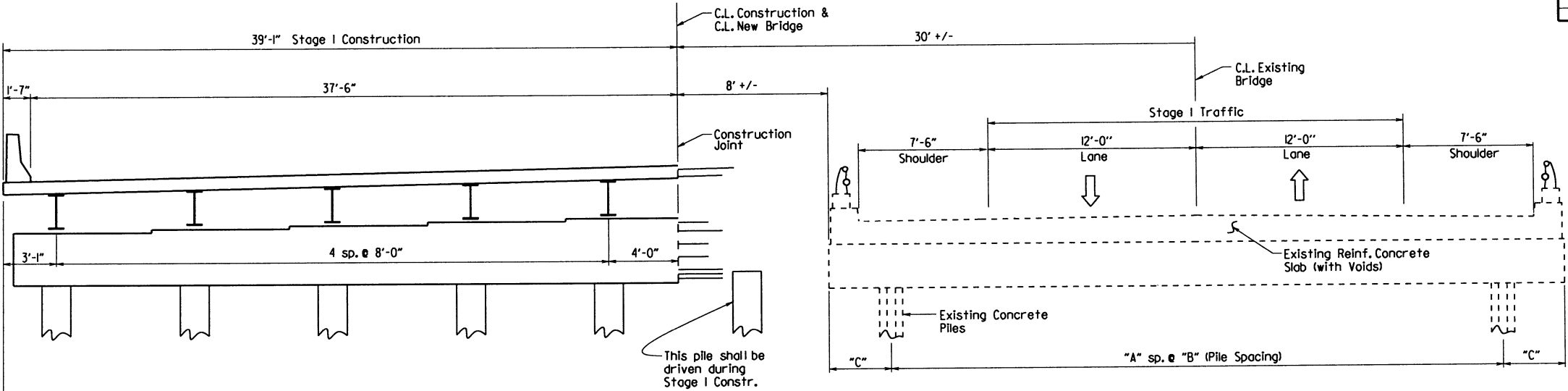
Removal of portions of the existing structure which may interfere with new construction shall be as directed by the Engineer.



STAGE I CONSTRUCTION AT END BENTS

Looking Ahead

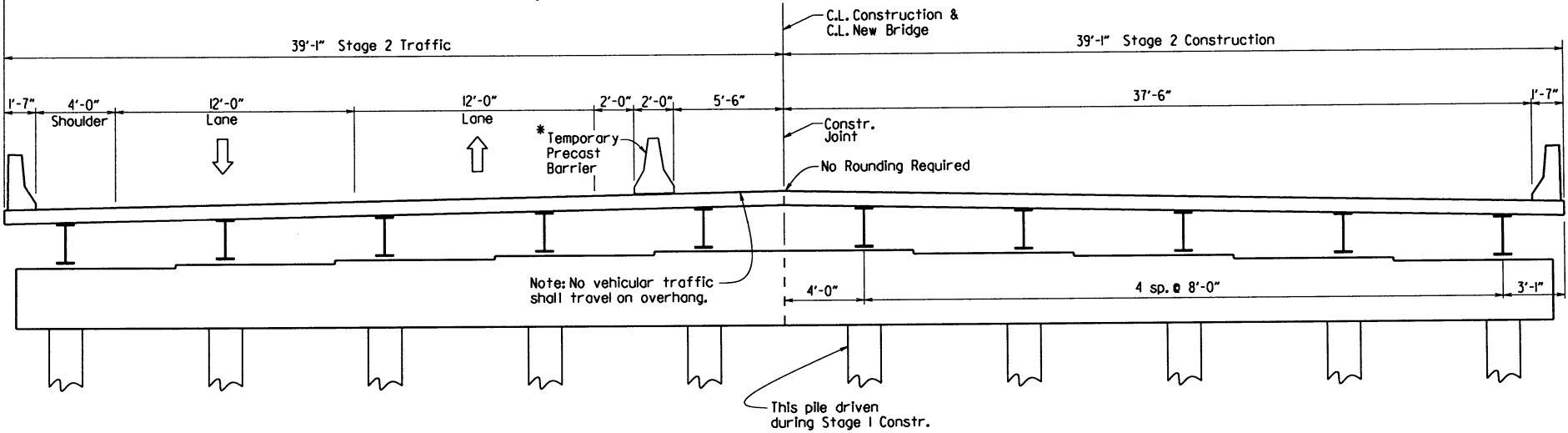
Note:  
See Roadway Plans for additional details of stage construction.



STAGE I CONSTRUCTION

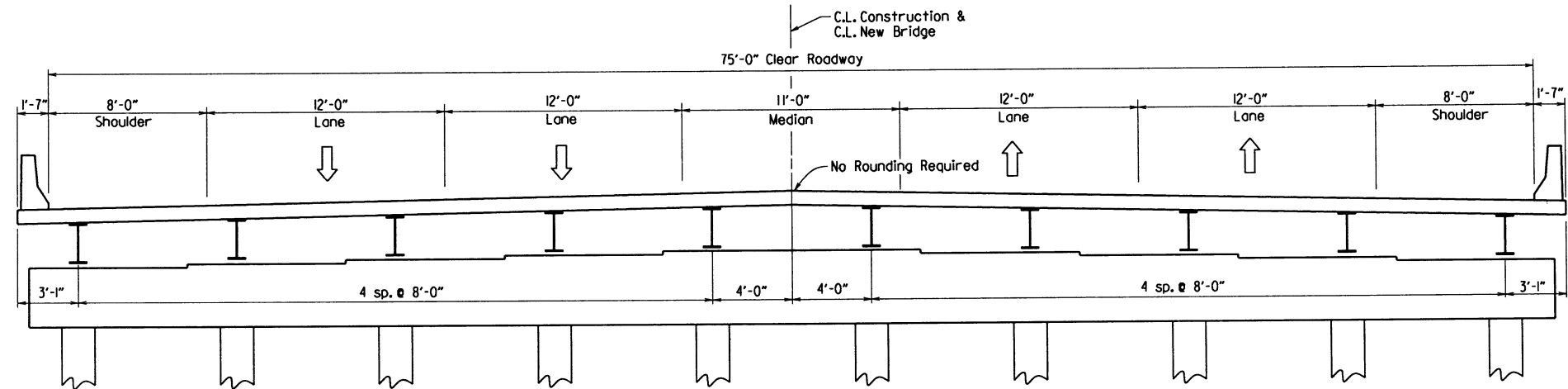
Looking Ahead

\* Temporary Precast Barrier shall not be attached to the bridge deck.



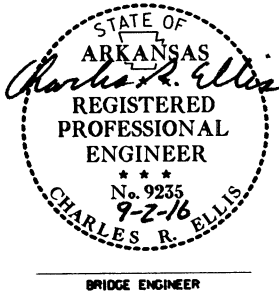
STAGE 2 CONSTRUCTION

Looking Ahead



CONSTRUCTION COMPLETE

Looking Ahead

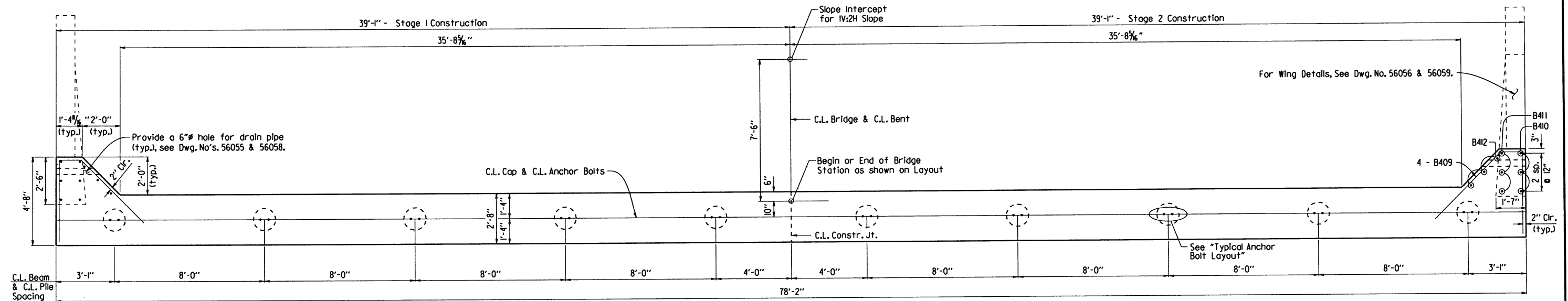


DETAILS OF STAGE CONSTRUCTION

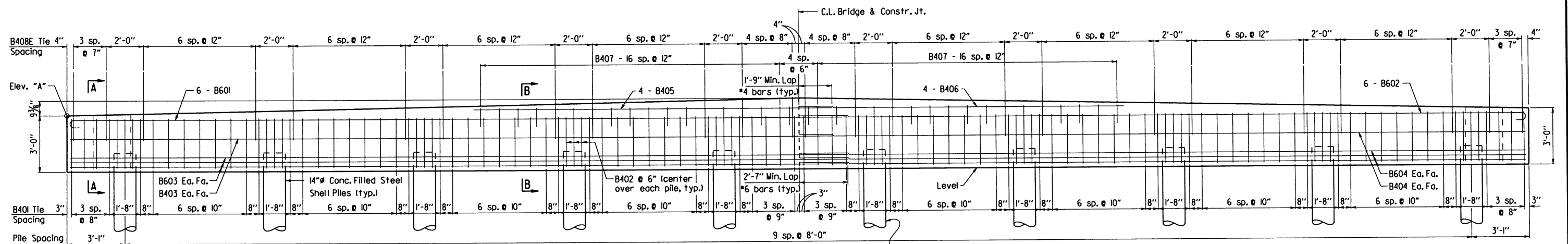
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: AMS. DATE: 8/12/13 FILENAME: b020534\_sc.dgn  
CHECKED BY: JJP DATE: 6-26-14 SCALE: 1/4" = 1'-0"  
DESIGNED BY: DATE:  
BRIDGE NO. 07321, 07322 & 07323 DRAWING NO. 56045

07321, 07322, 07323 -END BENTS- 56046



$\frac{3}{8}'' = 1'-0''$

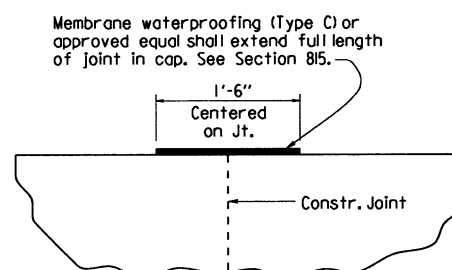


Looking Ahead - Bent 4  
Bent 1 Similar  
 $\frac{3}{8}'' = 1'-0''$

— This pile shall be driven during Stage I Construction.

For "Section A-A", "Section B-B", Bar List, and General Notes, See Dwg. No. 56047.

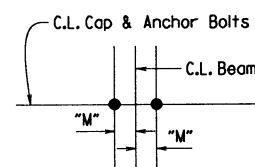
Note: Bars B410, B411, & B412 shall have a 2'-10" embedment into the end bent cap.



Note: Payment for membrane to be considered subsidiary to Class S Concrete-Bridge.

### CONSTRUCTION JOINT DETAIL

No Scale

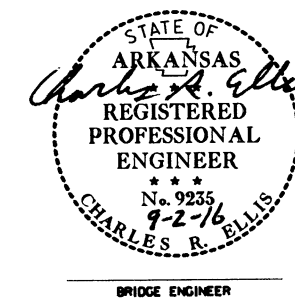


### TYPICAL ANCHOR BOLT LAYOUT

$$I'' = I' - 0''$$

### TABLE OF VARIABLES

| Bridge No. | Elev. "A" | "M"    |
|------------|-----------|--------|
| 07321      | 145.40    | 2 1/2" |
| 07322      | 147.06    | 2 5/8" |
| 07323      | 135.21    | 2 5/8" |



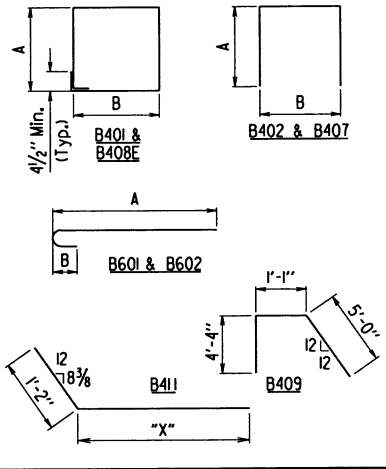
SHEET 1 OF 2  
DETAILS OF END BENTS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 01/23/14 FILENAME: b020534\_b1.dgn  
 CHECKED BY: JYP DATE: 6-24-14 SCALE: As Shown  
 DESIGNED BY: ACP DATE: 12-13  
 BRIDGE NO. 07321, 07322 & 07323 DRAWING NO. 56046

BAR LIST (PER END BENT)

| Mark  | No. Req'd. | Length  | A       | B     | Pin Dia. |
|-------|------------|---------|---------|-------|----------|
| B401  | 90         | 10'-4"  | 2'-8"   | 2'-4" | 2"       |
| B402  | 30         | 7'-6"   | 2'-8"   | 2'-4" | 2"       |
| B403  | 2          | 40'-8"  | -       | -     | Str.     |
| B404  | 2          | 38'-11" | -       | -     | Str.     |
| B405  | 4          | 19'-2"  | -       | -     | Str.     |
| B406  | 4          | 17'-5"  | -       | -     | Str.     |
| B407  | 36         | 4'-2"   | 1'-0"   | 2'-4" | 2"       |
| B408E | 74         | 12'-4"  | 3'-8"   | 2'-4" | 2"       |
| B409  | 8          | 10'-4"  | -       | -     | 2"       |
| B410  | 6          | "W"     | -       | -     | Str.     |
| B411  | 6          | "Y"     | "X"     | -     | 2"       |
| B412  | 6          | "Z"     | -       | -     | Str.     |
| B601  | 6          | 42'-2"  | 4'-6"   | 6"    | 4 1/2"   |
| B602  | 6          | 39'-7"  | 38'-11" | 6"    | 4 1/2"   |
| B603  | 6          | 41'-6"  | -       | -     | Str.     |
| B604  | 6          | 38'-11" | -       | -     | Str.     |

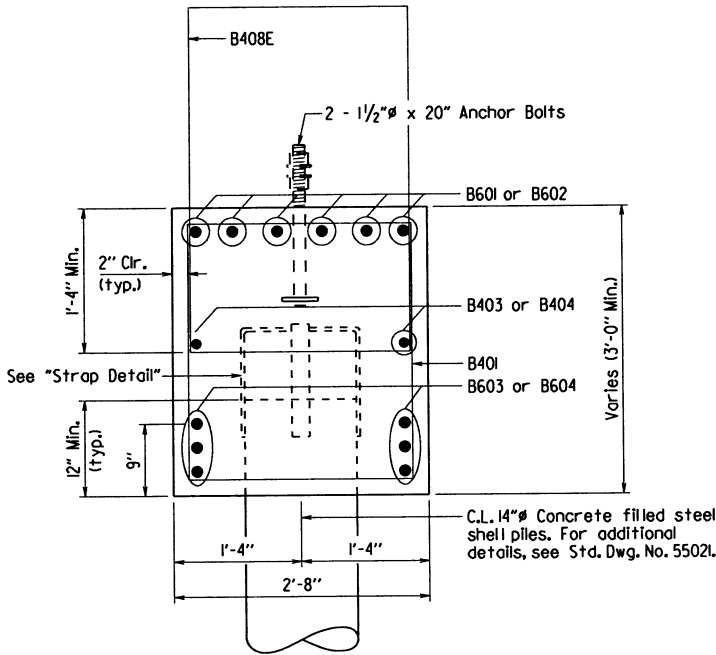
BENDING DIAGRAMS  
(DIMENSIONS ARE OUT TO OUT OF BARS.)



Bars designated with an "E" are epoxy coated.

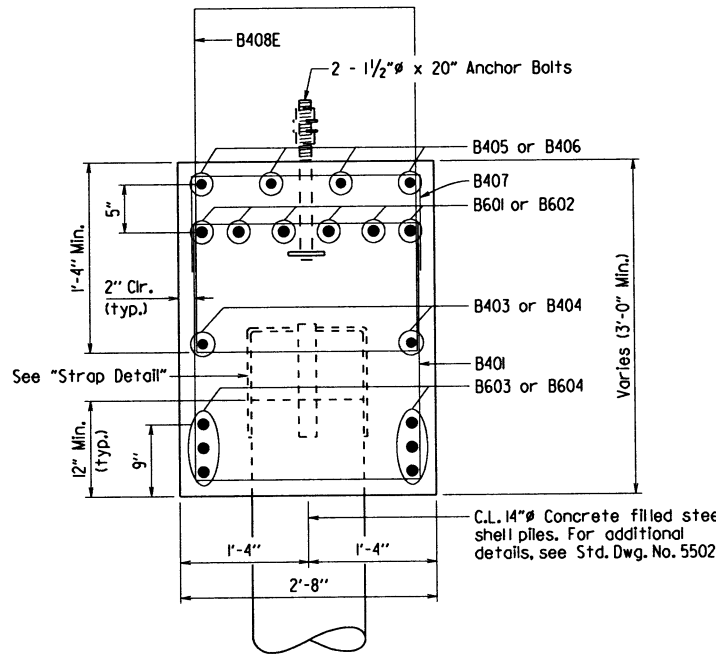
TABLE OF VARIABLES

| Bridge No. | "W"   | "X"   | "Y"   | "Z"    |
|------------|-------|-------|-------|--------|
| 07321      | 8'-5" | 6'-1" | 7'-3" | 4'-10" |
| 07322      | 8'-8" | 6'-4" | 7'-6" | 5'-1"  |
| 07323      | 8'-8" | 6'-4" | 7'-6" | 5'-1"  |

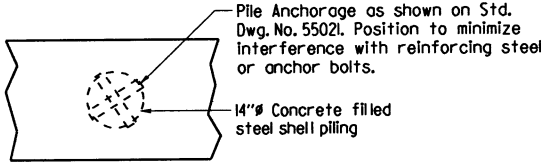


SECTION A-A  
1" = 1'-0"

For Details of Anchor Bolts and  
Anchor Bolt Plates, See Dwg. No. 56052.



SECTION B-B  
1" = 1'-0"



STRAP DETAIL  
No Scale

GENERAL NOTES

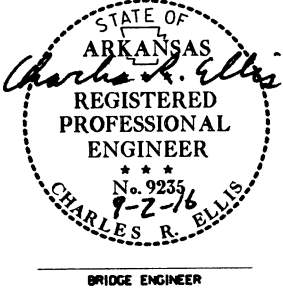
All concrete shall be Class "S" with a minimum 28-Day compressive Strength  $f'_c = 3,500$  psi. Concrete shall be poured in the dry and all exposed corners to be chamfered  $\frac{3}{4}$ " unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 OR M 322, Type A, with mill test reports.

Top reinforcing bars and pile anchorage in cap shall be properly placed to avoid interference with anchor bolts.

Granular Backfill and Pipe Underdrain required behind Cap. See Dwg. No's. 56055 & 56058.

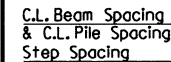
For additional information, See Layout.



SHEET 2 OF 2  
DETAILS OF END BENTS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 01/23/14 FILENAME: b020534.bl.dgn  
CHECKED BY: JJP DATE: 6-26-14 SCALE: As Shown  
DESIGNED BY: ACP DATE: 12-13  
BRIDGE NO. 07321, 07322 & 07323 DRAWING NO. 56047

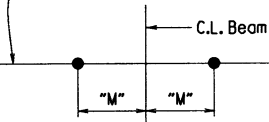
① 07321, 07322, 07323 - INT. BENTS - 56048


$$\frac{3}{8}'' = 1'-0''$$


LOOKING AHEAD  
 $\frac{3}{8}'' = 1'-0''$

- This pile shall be driven during Stage I Construction.

For "Section A-A", "Section B-B", Bar List, and General Notes, See Dwg. No. 56049.



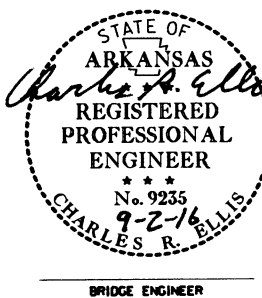
### TYPICAL ANCHOR BOLT LAYOUT

1" = 1'-0"

For details of Elastomeric Bearings, See Dwg. No. 56050.

## TABLE OF VARIABLES

| Bridge No. | Elev. "A" | "M"               |
|------------|-----------|-------------------|
| 07321      | 145.48    | 8 $\frac{3}{4}$ " |
| 07322      | 147.13    | 9 $\frac{1}{2}$ " |
| 07323      | 135.28    | 9 $\frac{1}{2}$ " |



SHEET 1 OF 2  
DETAILS OF INTERMEDIATE BENTS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 01/23/14 FILENAME: b020534\_b2.dgn  
 CHECKED BY: JYP DATE: 6-26-14 SCALE: As Shown  
 DESIGNED BY: ACP DATE: 12-13  
 BRIDGE NO. 07321, 07322 & 07323 DRAWING NO. 56048

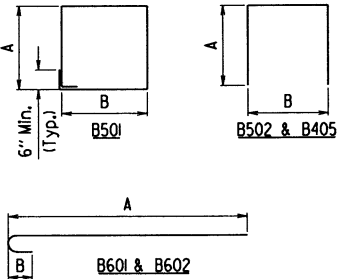
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|---------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                   | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.             |       | 020534             | 110       | 287          |

07321, 07322, 07323 - INT. BENTS - 56049

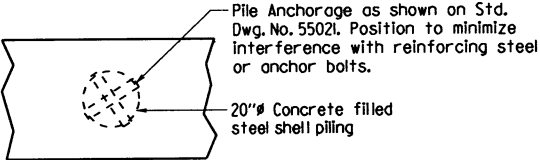
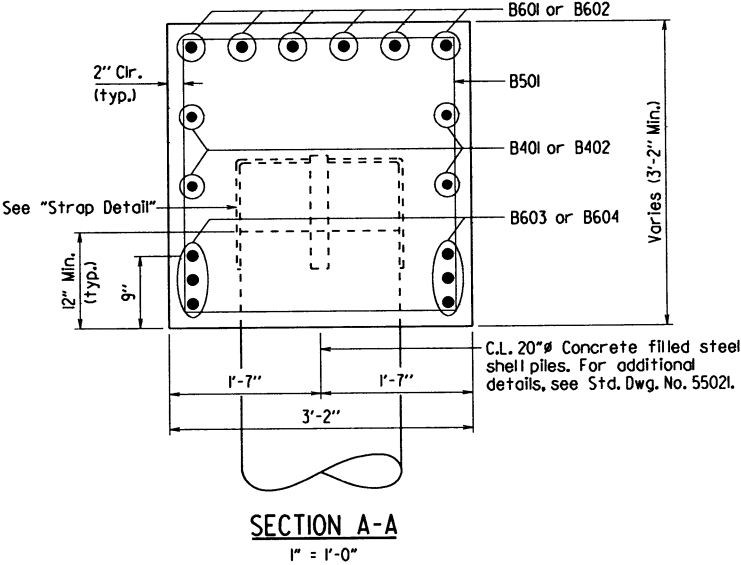
BAR LIST (PER BENT)

| Mark | No. Req'd. | Length  | A       | B      | Pin Dia. |
|------|------------|---------|---------|--------|----------|
| B401 | 4          | 40'-1"  | -       | -      | Str.     |
| B402 | 4          | 38'-4"  | -       | -      | Str.     |
| B403 | 4          | 16'-1"  | -       | -      | Str.     |
| B404 | 4          | 14'-4"  | -       | -      | Str.     |
| B405 | 28         | 4'-8"   | 1'-0"   | 2'-10" | 2"       |
| B501 | 70         | 11'-10" | 2'-10"  | 2'-10" | 2 1/2"   |
| B502 | 40         | 8'-4"   | 2'-10"  | 2'-10" | 2 1/2"   |
| B601 | 6          | 41'-7"  | 40'-11" | 6"     | 4 1/2"   |
| B602 | 6          | 39'-0"  | 38'-4"  | 6"     | 4 1/2"   |
| B603 | 6          | 40'-11" | -       | -      | Str.     |
| B604 | 6          | 38'-4"  | -       | -      | Str.     |

BENDING DIAGRAMS  
(DIMENSIONS ARE OUT TO OUT OF BARS.)



Bars designated with an "E" are epoxy coated.



STRAP DETAIL  
No Scale

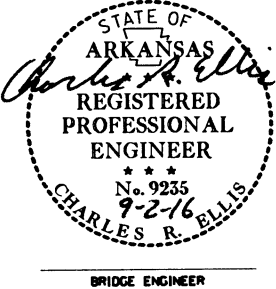
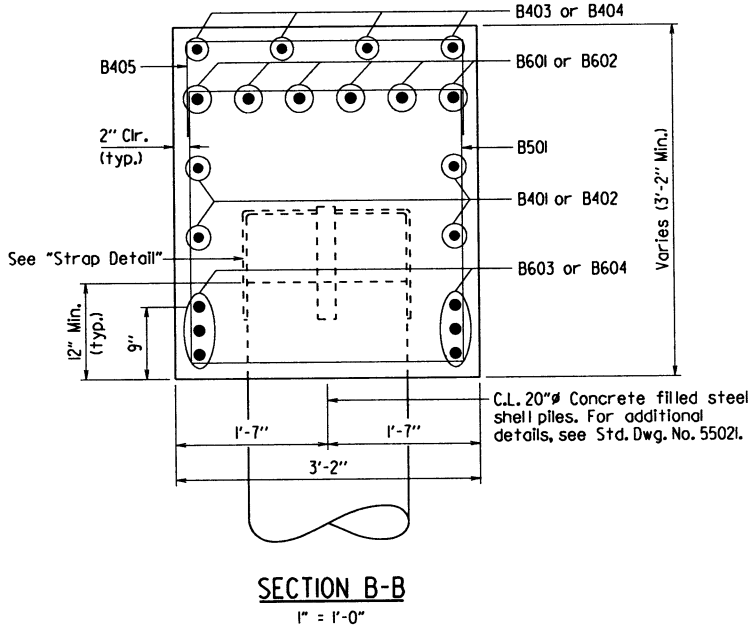
GENERAL NOTES

All concrete Shall be Class "S" with a minimum 28-Day compressive Strength  $f'_c = 3,500$  psi. Concrete shall be poured in the dry and all exposed corners to be chamfered  $\frac{3}{4}$ " unless otherwise noted.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 OR M 322, Type A, with mill test reports.

Top reinforcing bars and pile anchorage in cap shall be properly placed to avoid interference with anchor bolts.

For additional information, See Layout.



SHEET 2 OF 2  
DETAILS OF INTERMEDIATE BENTS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 01/23/14 FILENAME: b020534\_b2.dgn  
CHECKED BY: JYP DATE: 6-26-14 SCALE: As Shown  
DESIGNED BY: ACP DATE: 12-13  
BRIDGE NO. 07321, 07322 & 07323 DRAWING NO. 56049

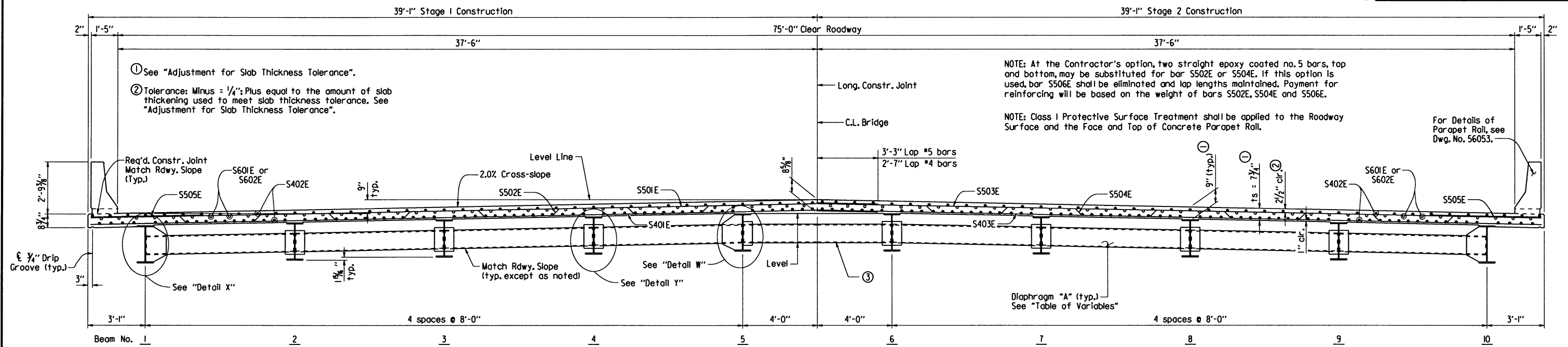






Bar positions or clearances from the forms shall be maintained by means of stays, ties, hangers or other approved devices per subsection 804.06.

| DATE REVISED                           | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------------------------------|-------------|--------------|-------------|---------------------|-------|--------------------|-----------|--------------|
|                                        |             |              |             | 6                   | ARK.  |                    |           |              |
|                                        |             |              |             | JOB NO.             |       | 020534             | 118       | 287          |
| ① 07321, 07322, 07323 - COMMON - 56051 |             |              |             |                     |       |                    |           |              |



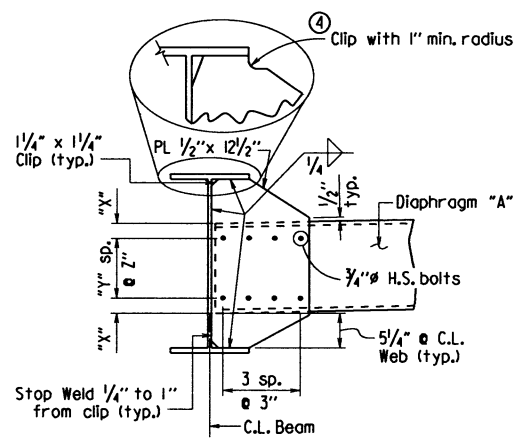
TYPICAL ROADWAY SECTION

Looking Ahead  
3/8" = 1'-0"

③ Before the Stage 2 deck pour, loosely install as many bolts as possible on both ends of the diaphragms in this bay to the satisfaction of the Engineer. An external means of supporting the Stage 1 overhang shall be provided and shall remain in place until after completion of the Stage 2 deck pour. Install remaining bolts and fully tighten all bolts as soon as practical after completion of the Stage 2 deck pour.

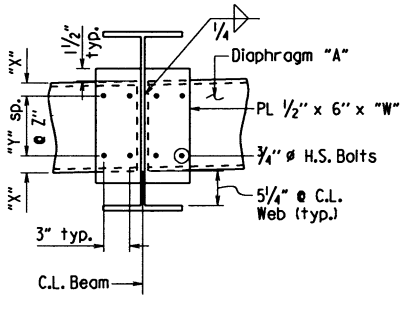
**Slab Reinforcing:**  
Longitudinal: S402E as shown  
S601E and S602E as shown, see "Half Reinforcing Plan & Pouring Sequence", Dwg. No. 56055 for Bridge No. 07321 and Dwg. No. 56058 for Bridge Nos. 07322 & 07323.  
Transverse: S501E @ 12" o.c. in top, S401E @ 12" o.c. in bottom  
S502E @ 12" o.c. bent up over beams and lapped with S506E — Alternate in Stage 1  
S503E @ 12" o.c. in top, S403E @ 12" o.c. in bottom  
S504E @ 12" o.c. bent up over beams — Alternate in Stage 2  
S505E @ 6" in top at overhangs (bundled with no. 5 bars)

④ If permanent steel bridge deck forms are used, the fabricator shall clip the plate as necessary to accommodate the deck form support.

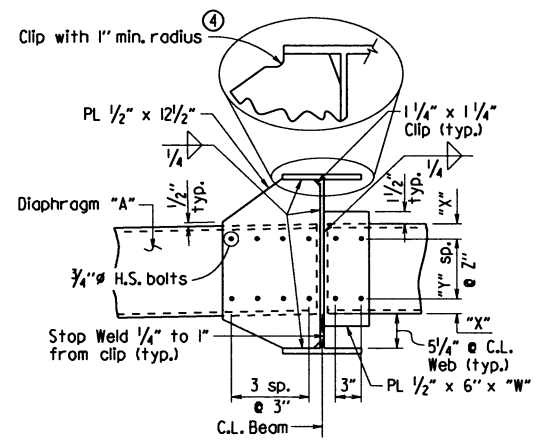


DETAIL X  
No Scale

Note: Bolts in connections shall be properly installed and tightened in accordance with Subsection 807.71.



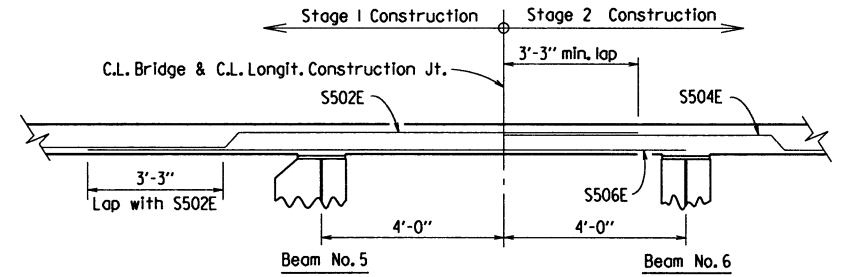
DETAIL Y  
No Scale



DETAIL W  
No Scale

TABLE OF VARIABLES

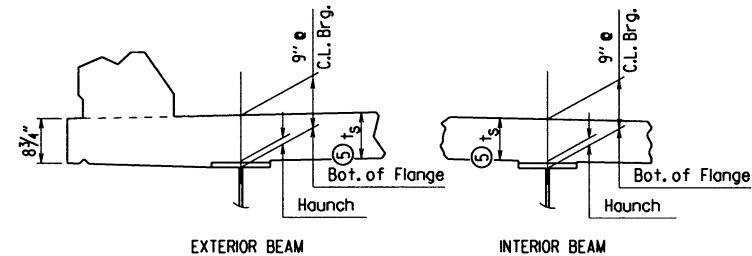
| Unit    | Diaphragm "A" | "W" | "X"    | "Y" | "Z"  |
|---------|---------------|-----|--------|-----|------|
| 145'-0" | C 15x33.9     | 18" | 2 5/8" | 3   | 3/4" |
| 105'-0" | C 12x20.7     | 15" | 2 1/2" | 2   | 3/2" |



LAP DETAIL OF TRUSSED BARS

No Scale

Laps for Transverse Reinforcing between stages of construction shall not be tied.



EXTERIOR BEAM

INTERIOR BEAM

t<sub>s</sub> = slab thickness as shown in "Typical Roadway Section"

⑤ Tolerance when removable deck forming is used is + 1/2", - 1/4". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

No Scale

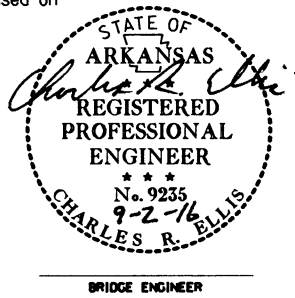
NOTES: Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum occurs when top flange contacts bottom reinforcing steel; Maximum = top flange thickness plus 1 1/4". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

TABLE FOR WELD

| Material Thickness of Thicker Part Joined (Inches) | Minimum Size of Fillet Weld (Inches) | Single Pass Weld Must Be Used |
|----------------------------------------------------|--------------------------------------|-------------------------------|
| To 3/4" Inclusive                                  | 1/4"                                 |                               |
| Over 3/4"                                          | 5/8"                                 |                               |

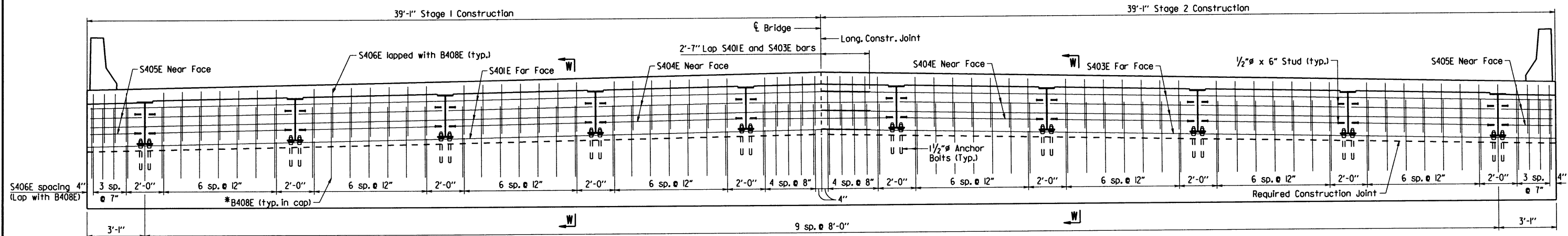
Note: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.



BRIDGE ENGINEER

SHEET 1 OF 3  
COMMON DETAILS OF  
CONTINUOUS INTEGRAL W-BEAM UNITS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: ACP DATE: 12-26-13 FILENAME: b020534-sl.dgn  
CHECKED BY: JYP DATE: 6-26-14 SCALE: As Shown  
DESIGNED BY: JYP DATE: 12-13  
BRIDGE NO. 07321, 07322 & 07323 DRAWING NO. 56051

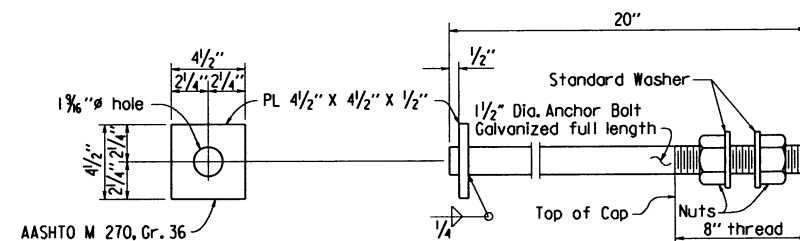
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|----------------------------------------|-------------|--------------|-------------|---------------------|-------|--------------------|-----------|--------------|
|                                        |             |              |             | 6                   | ARK.  |                    |           |              |
|                                        |             |              |             | JOB NO.             |       | 020534             | 119       | 287          |
| ① 07321, 07322, 07323 - COMMON - 56052 |             |              |             |                     |       |                    |           |              |



### TYPICAL ROADWAY SECTION NEAR END OF SPAN

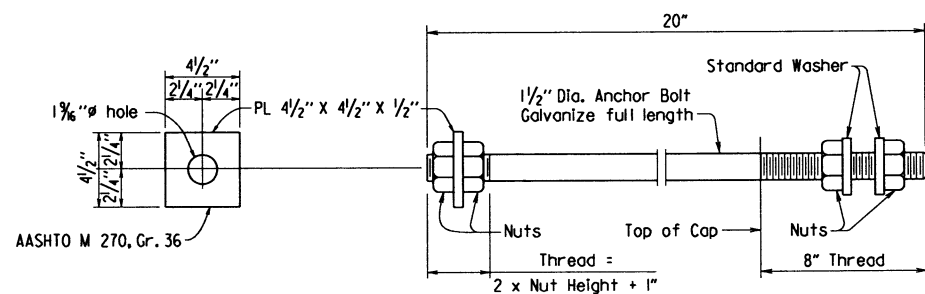
Looking Ahead - Bent 4  
Bent 1 Similar  
 $\frac{3}{8}$ " = 1'-0"

\* See End Bent Details on Dwg. No's. 56046 & 56047 for reinforcing and additional details.



### ANCHOR BOLT DETAIL

No Scale



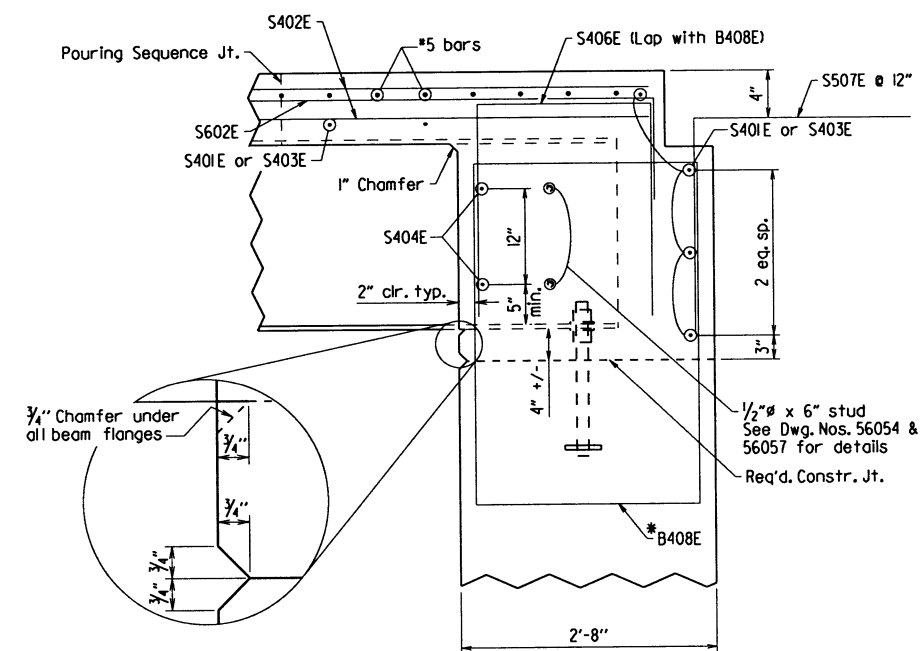
### ALTERNATE ANCHOR BOLT DETAIL

No Scale

Anchor bolts shall comply with AASHTO M 314, Grade 55, with Supplementary Requirement S1, and galvanized according to Subsection 807.07. Nuts and Washers for bolts shall be as specified in Subsection 807.07.

Use lower nut and washer to adjust to grade. Snug tight top nut and washer after grade is adjusted.

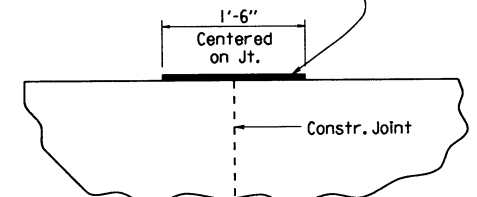
Bolts, nuts, and washers shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M 270, Gr. 50W)".



### SECTION W-W

1" = 1'-0"

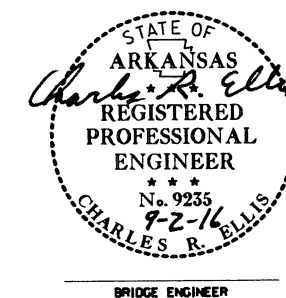
Membrane waterproofing (Type C) or approved equal shall extend full length of joint in cap. See Section 815.



Note: Payment for membrane to be considered subsidiary to Class S(AE) Concrete-Bridge.

### CONSTRUCTION JOINT DETAIL

No Scale



SHEET 2 OF 3  
COMMON DETAILS OF  
CONTINUOUS INTEGRAL W-BEAM UNITS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 12-26-13 FILENAME: b020534\_sl.dgn  
CHECKED BY: JYP DATE: 6-26-14 SCALE: As Shown  
DESIGNED BY: JYP DATE: 10-13  
BRIDGE NO. 07321, 07322 & 07323 DRAWING NO. 56052

| DATE REVISED                           | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|----------------------------------------|-------------|--------------|-------------|---------------------|-------|--------------------|-----------|--------------|
|                                        |             |              |             | 6                   | ARK.  |                    |           |              |
|                                        |             |              |             | JOB NO.             |       | 020534             | 170       | 287          |
| ① 07321, 07322, 07323 - COMMON - 56053 |             |              |             |                     |       |                    |           |              |

## GENERAL NOTES

**CONSTRUCTION SPECIFICATIONS:** Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable supplemental specifications and special provisions.

**DESIGN SPECIFICATIONS:** AASHTO LRFD Bridge Design Specifications, Sixth Edition, with 2013 interim revisions.

### MATERIALS AND STRENGTHS:

Class S(AE) Concrete  
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)  
Structural Steel (AASHTO M 270, Gr. 50W)  
Structural Steel (AASHTO M 270, Gr. 36)

$f'_c = 4,000$  psi  
 $f_y = 60,000$  psi  
 $F_y = 50,000$  psi  
 $F_y = 36,000$  psi

### CONCRETE:

Concrete shall be poured in the dry and all exposed corners to be chamfered  $\frac{3}{4}$ " unless otherwise noted. All concrete shall be Class S(AE) with a minimum 28 day compressive strength  $f'_c = 4,000$  psi.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

The concrete deck shall be given a fine finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection due to the railing. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the parapet railing. Any railing pours made before the entire slab has been placed and cured must be approved by the Engineer.

Removable forms shall be used for concrete diaphragms. End bent diaphragms shall be poured monolithically with deck. See details on Dwg. No. 56055 for Bridge No. 07321, and see details on Dwg. No. 56058 for Br. Nos. 07322 and 07323.

### REINFORCING STEEL:

All reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A, with mill test reports. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)."

### STRUCTURAL STEEL:

Structural steel shall be AASHTO M 270, Grade 50W unless otherwise noted and shall be paid for as "Structural Steel in Beam Spans (M 270, Gr. 50W)". Grade 50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with Subsection 807.84(e). Structural steel completely embedded in concrete may be AASHTO M 270, Gr. 36 unless otherwise noted.

Drawings show general features of design only. Shop drawings shall be made in accordance with the specifications, submitted and approval secured before fabrication is begun.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

Beams and field splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Beam Spans (M 270, Gr. 50W)".

All beams shall be assembled in the shop as specified in Subsection 807.54 and blocked in their true position. The camber, length of sections, distance between bearings, and openings of joints shall be measured and this information shall become part of the permanent records. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of  $\frac{1}{4}$ " +/- is allowed for camber.

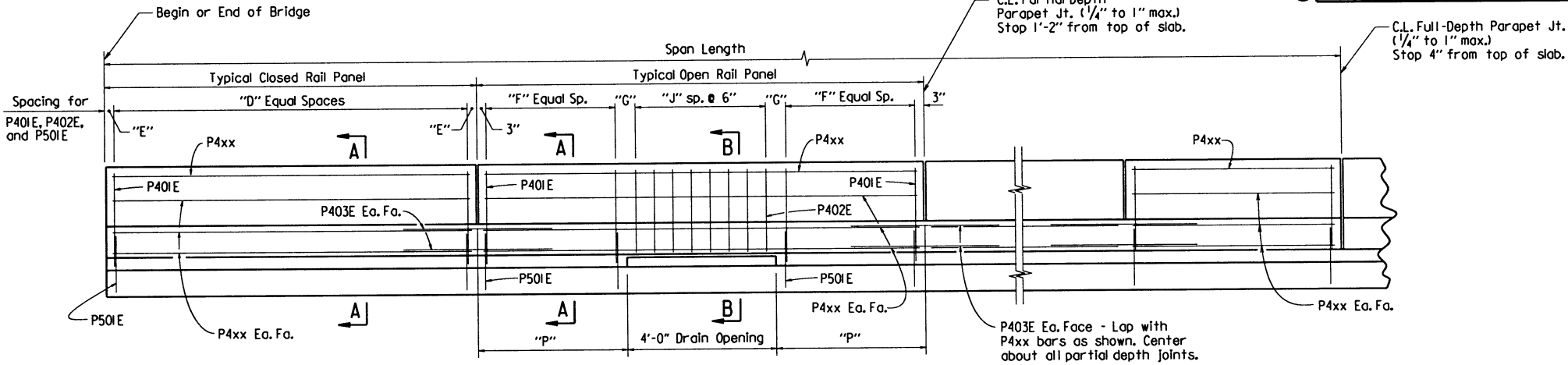
Flange field splice plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

Field connections shall be bolted with high-strength bolts and shall be  $\frac{3}{4}$ "  $\phi$  bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam webs and on the bottom of the beam flanges. Holes for  $\frac{3}{4}$ "  $\phi$  high-strength bolts may be  $\frac{5}{8}$ "  $\phi$  if a washer is supplied for use under both the nut and head of the bolt.

Steel diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck unless otherwise noted.

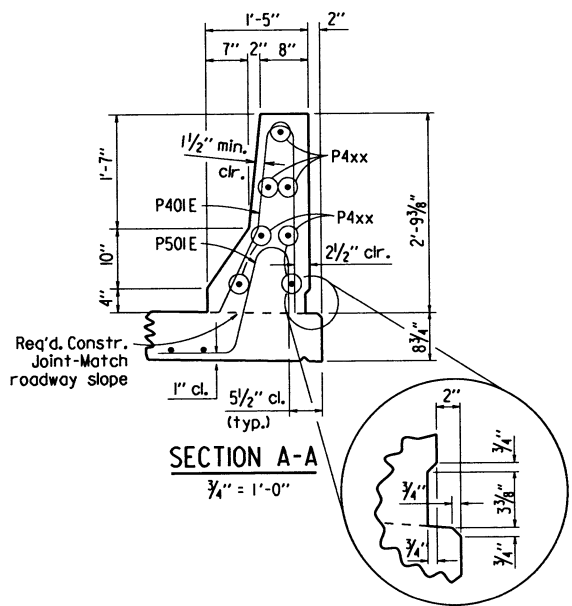
All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with recommendations of the manufacturer.



## ELEVATION - CONCRETE PARAPET RAIL

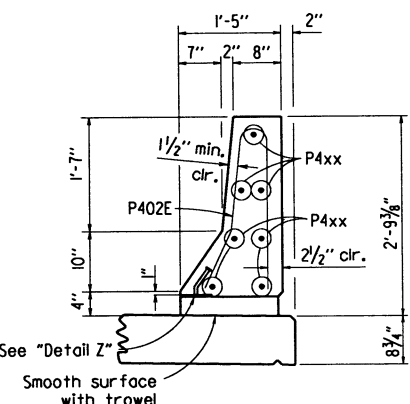
$\frac{1}{2}$ " = 1'-0"

Note:  
For location of full and partial depth parapet joints, see Dwg. No. 56055 for Br. No. 07321 and Dwg. No. 56058 for Br. Nos. 07322 & 07323.



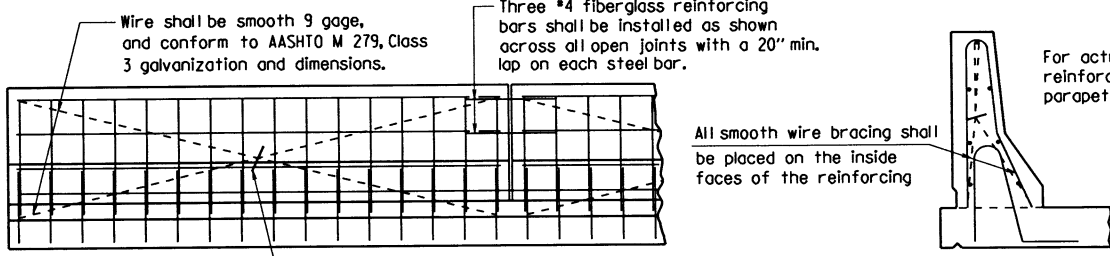
## SECTION A-A

$\frac{3}{4}$ " = 1'-0"



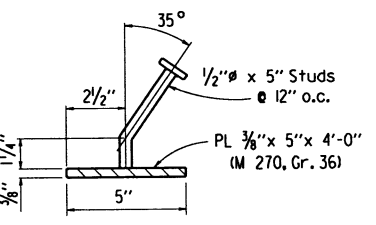
## SECTION B-B

$\frac{3}{4}$ " = 1'-0"



## DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

No Scale



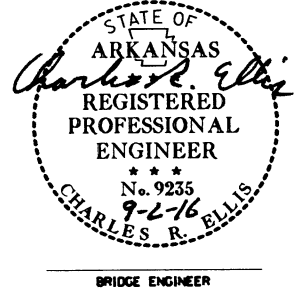
## DETAIL Z

No Scale

Note:  
Parapet Studs shall be 5" long, granular flux filled, solid fluxed, or equal, and automatically end welded to the plate. Studs and plate shall meet the requirements of Section 807. Studs and plate shall be measured and paid for as Structural Steel in Beam Spans (M 270, Gr. 50W).  
The surfaces of the 3/8" Plates which will not be in contact with concrete shall be painted in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the Fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to "Structural Steel in Beam Spans (M 270, Gr. 50W)".

## TABLES OF VARIABLES

|               | Closed Rail Panels |     |     |          | Open Rail Panels |     |     |     |        |          |
|---------------|--------------------|-----|-----|----------|------------------|-----|-----|-----|--------|----------|
|               | Panel Length       | "D" | "E" | P4xx Bar | Panel Length     | "F" | "G" | "J" | "P"    | P4xx Bar |
| 145'-0" UNITS | 8'-0"              | 15  | 3"  | P404E    | 13'-0"           | 8   | 6"  | 7   | 4'-6"  | P405E    |
|               |                    |     |     |          | 14'-9"           | 10  | 6"  | 7   | 5'-4½" | P406E    |
| 105'-0" UNIT  | 9'-0"              | 17  | 3"  | P404E    | 17'-0"           | 12  | 6"  | 7   | 6'-6"  | P406E    |
|               | 9'-6"              | 18  | 3"  | P405E    |                  |     |     |     |        |          |



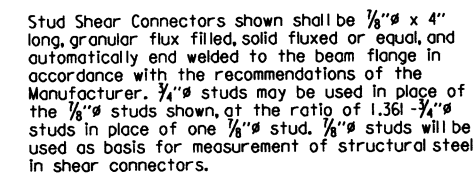
SHEET 3 OF 3  
COMMON DETAILS OF  
CONTINUOUS INTEGRAL W-BEAM UNITS  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 12-26-13  
CHECKED BY: JJP DATE: 6-26-14  
DESIGNED BY: JJP DATE: 10-13  
BRIDGE NO. 07321, 07322 & 07323  
DRAWING NO. 56053

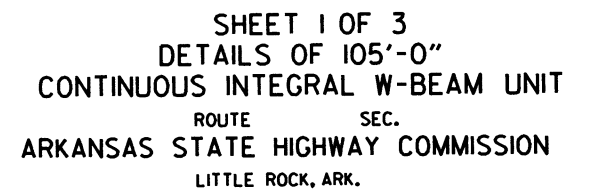

$$\frac{1}{8}'' = 1'-0''$$


NTS


$$1'' = 1'-0''$$

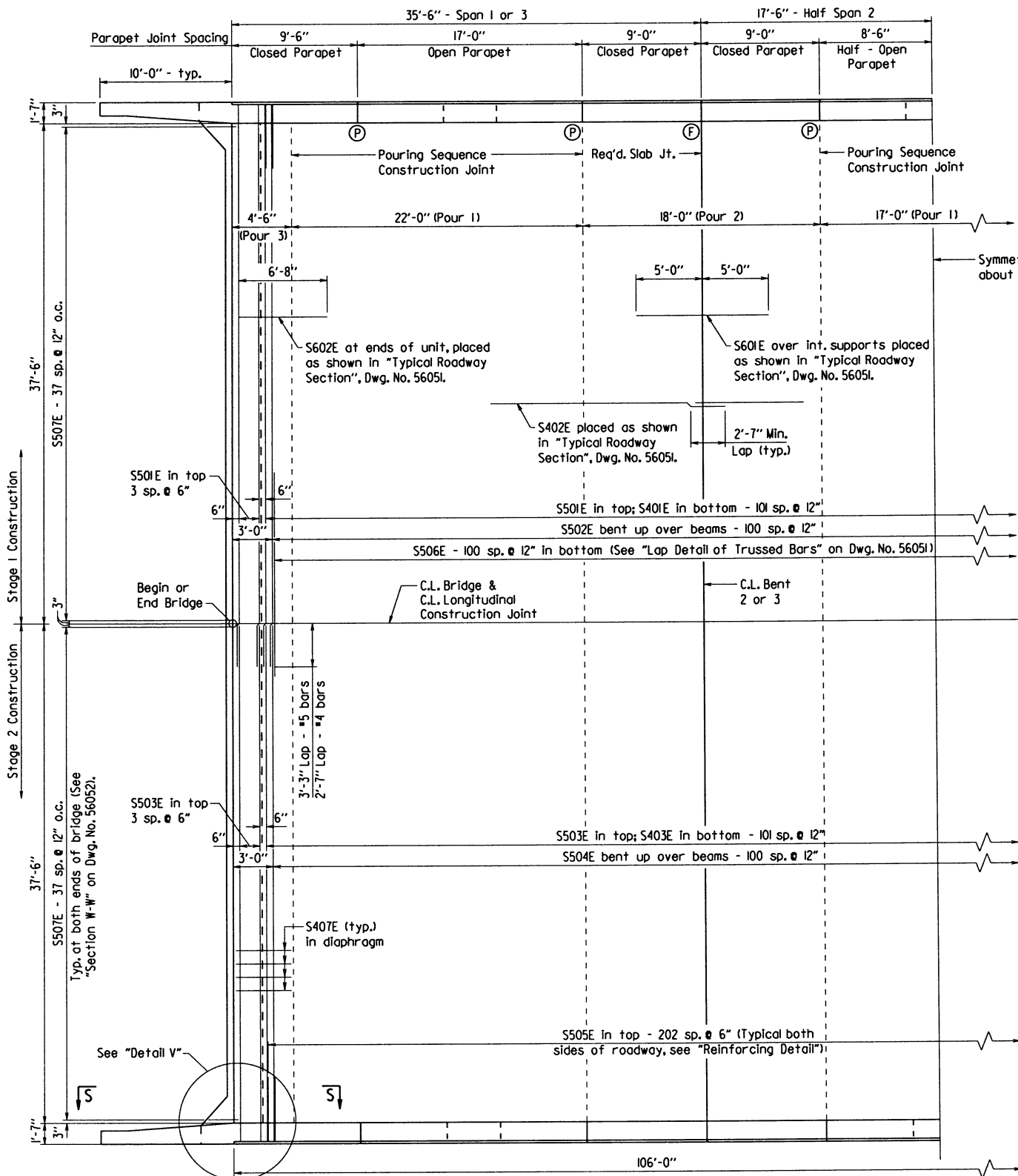
$$\frac{3}{4}'' = 1'-0''$$


## No Scale



DRAWN BY: ACP DATE: 12-26-13 FILENAME: b020534\_sl.dgn  
CHECKED BY: JYP DATE: 6-26-14 SCALE: As Shown  
DESIGNED BY: JYP DATE: 10-13  
BRIDGE NO. 07321 DRAWING NO. 56054

PRINT DATE: 8/18/2016



HALF REINFORCING PLAN AND POURING SEQUENCE

- (P) Partial depth parapet joint at this location  
(F) Full depth parapet joint at this location

Notes:  
Parapet rail spacing and joint depth shown are typical for both sides of roadway.  
For parapet reinforcing details, see Dwg. No. 56053.

Rails and wings are included in span construction and are included in span quantities.

Required slab joints and pouring sequence joints shall align with parapet open joints (except at end bent closure pour joints) at the gutterline.

For "View R-R" and "View S-S", see Dwg. No. 56056.

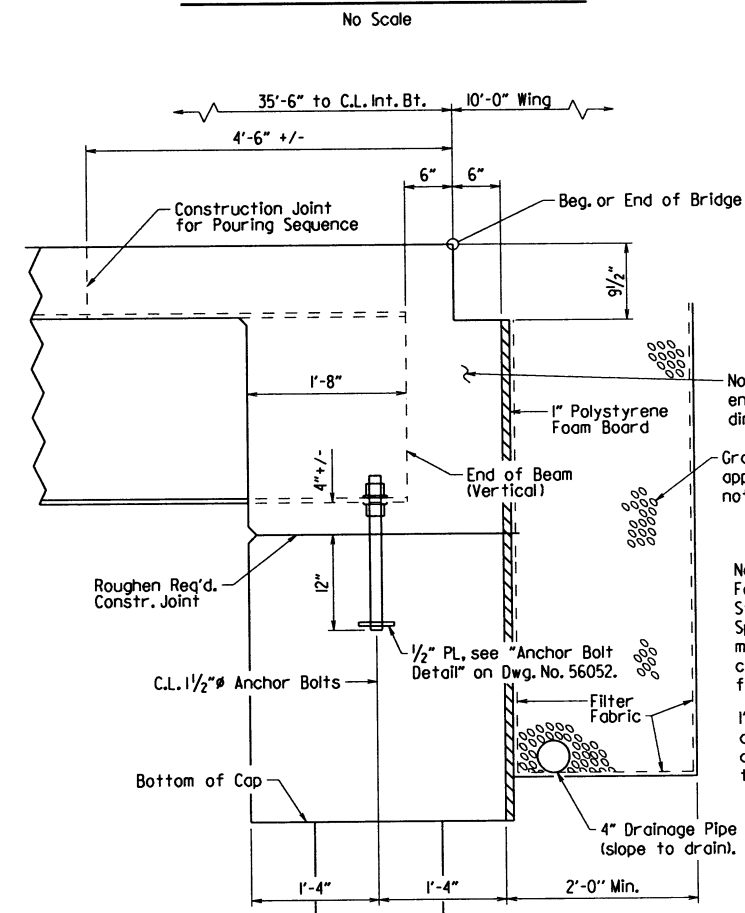
POURING SEQUENCE NOTES:

Pours with the same number may be placed simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. Pours (2) must be placed before Pours (3) can be placed, 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between adjacent pours.

Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. Concrete diaphragms at ends of unit shall be poured monolithically with the deck. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

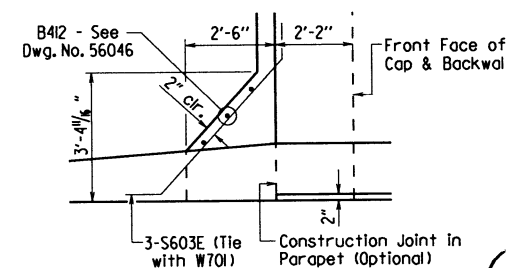
1/2" X 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. This joint shall be formed. Seal must be gray or other color similar to concrete.

LONGITUDINAL CONSTRUCTION JOINT



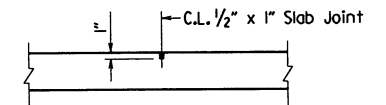
SECTION AT END BENT

1" = 1'-0"



DETAIL V

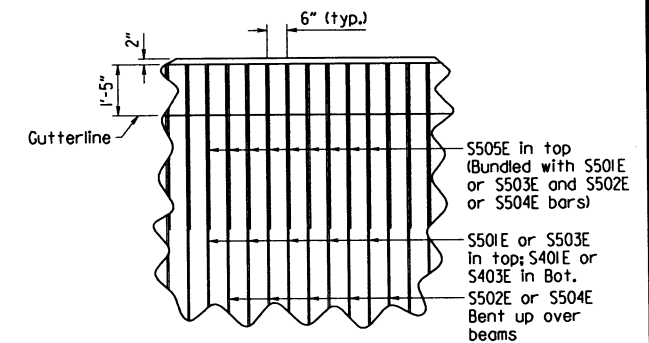
3/8" = 1'-0"



Use Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab and shall align with open joints at the front face of the parapet (except at end bent closure pour joints). Slab joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck from gutterline to gutterline.

SLAB JOINT DETAIL

No Scale



REINFORCING DETAIL

No Scale

SHEET 2 OF 3  
DETAILS OF 105'-0"  
CONTINUOUS INTEGRAL W-BEAM UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: ACP DATE: 12-27-13 FILENAME: b020534\_sl.dgn  
CHECKED BY: JJP DATE: 6-26-14 SCALE: As Shown  
DESIGNED BY: JJP DATE: 10-13  
BRIDGE NO. 07321 DRAWING NO. 56055

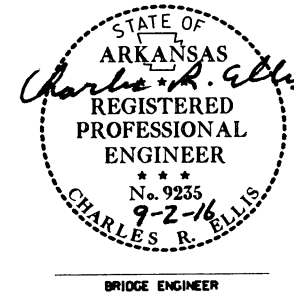


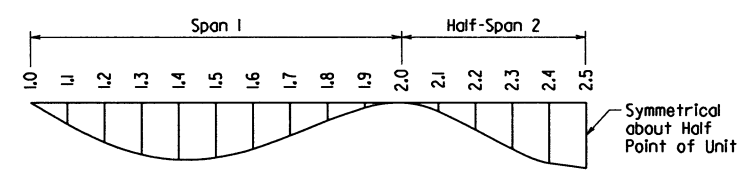




TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

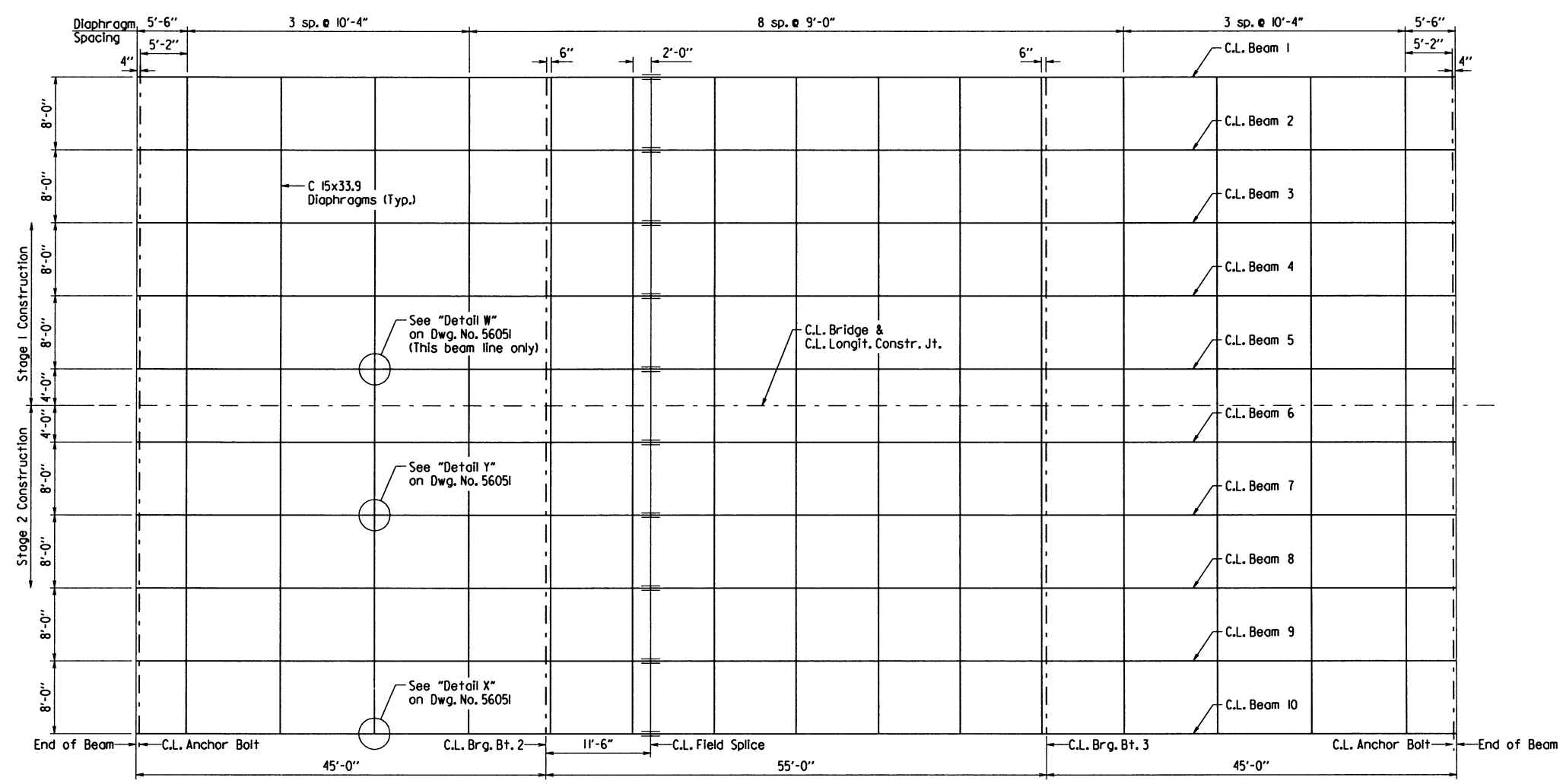
| Span        | Point of Deflection | Structural Steel |               | Structural Steel + Slab |               | Structural Steel + Slab + Parapet |               |
|-------------|---------------------|------------------|---------------|-------------------------|---------------|-----------------------------------|---------------|
|             |                     | Exterior Beam    | Interior Beam | Exterior Beam           | Interior Beam | Exterior Beam                     | Interior Beam |
| Span 1      | 1.0                 | 0.000            | 0.000         | 0.000                   | 0.000         | 0.000                             | 0.000         |
|             | 1.1                 | 0.017            | 0.019         | 0.148                   | 0.169         | 0.161                             | 0.182         |
|             | 1.2                 | 0.032            | 0.035         | 0.273                   | 0.311         | 0.297                             | 0.334         |
|             | 1.3                 | 0.041            | 0.046         | 0.358                   | 0.408         | 0.390                             | 0.439         |
|             | 1.4                 | 0.046            | 0.051         | 0.394                   | 0.449         | 0.429                             | 0.483         |
|             | 1.5                 | 0.044            | 0.049         | 0.379                   | 0.432         | 0.413                             | 0.465         |
|             | 1.6                 | 0.037            | 0.041         | 0.319                   | 0.364         | 0.347                             | 0.391         |
|             | 1.7                 | 0.026            | 0.029         | 0.227                   | 0.259         | 0.247                             | 0.279         |
|             | 1.8                 | 0.014            | 0.016         | 0.124                   | 0.141         | 0.135                             | 0.152         |
|             | 1.9                 | 0.004            | 0.005         | 0.036                   | 0.041         | 0.039                             | 0.044         |
| Half-Span 2 | 2.0                 | 0.000            | 0.000         | 0.000                   | 0.000         | 0.000                             | 0.000         |
|             | 2.1                 | 0.007            | 0.008         | 0.061                   | 0.069         | 0.066                             | 0.074         |
|             | 2.2                 | 0.022            | 0.024         | 0.188                   | 0.214         | 0.205                             | 0.230         |
|             | 2.3                 | 0.037            | 0.042         | 0.321                   | 0.366         | 0.350                             | 0.394         |
|             | 2.4                 | 0.048            | 0.054         | 0.418                   | 0.476         | 0.455                             | 0.512         |
|             | 2.5                 | 0.053            | 0.059         | 0.453                   | 0.516         | 0.493                             | 0.555         |

Symmetrical about Half Point of Unit



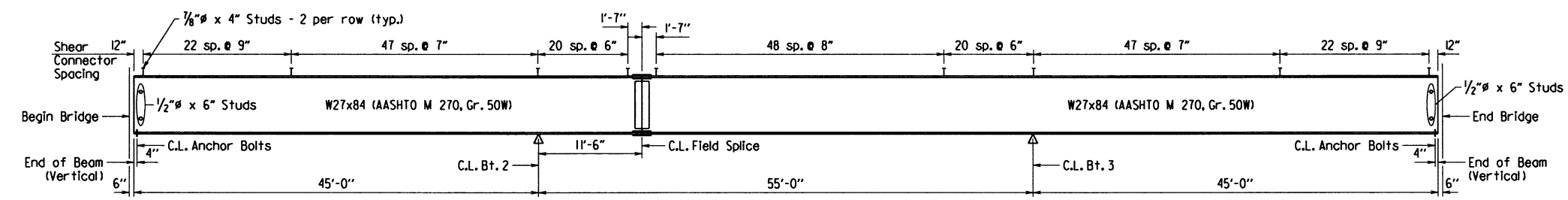
HALF DEAD LOAD DEFLECTION DIAGRAM

NOTE: Camber for Dead Load Deflection +/- 1/4" tolerance. Deflections shown are along C.L. Beam from a chord from C.L. Bearing to C.L. Bearing.



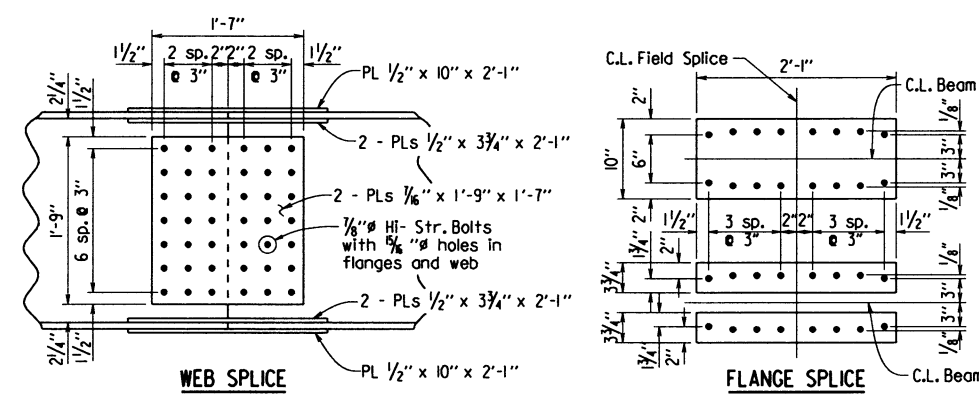
FRAMING PLAN

1/8" = 1'-0"



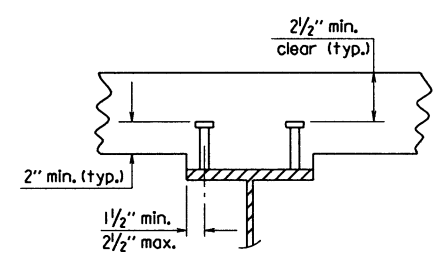
TYPICAL BEAM ELEVATION

NTS



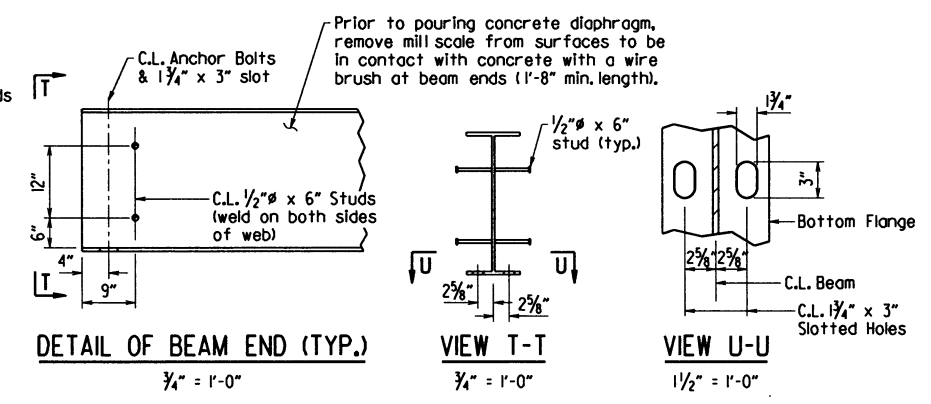
FIELD SPICE DETAIL

1" = 1'-0"



SHEAR CONNECTOR DETAIL

No Scale



DETAIL OF BEAM END (TYP.)

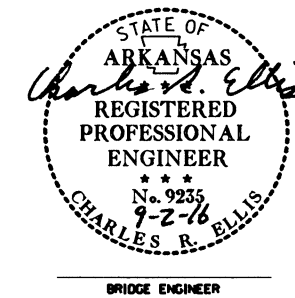
3/4" = 1'-0"

VIEW T-T

3/4" = 1'-0"

VIEW U-U

1/2" = 1'-0"



SHEET 1 OF 3  
 DETAILS OF 145'-0"  
 CONTINUOUS INTEGRAL W-BEAM UNIT  
 ROUTE SEC.  
 ARKANSAS STATE HIGHWAY COMMISSION  
 LITTLE ROCK, ARK.  
 DRAWN BY: ACP DATE: 12-26-13 FILENAME: b020534-sl.dgn  
 CHECKED BY: JYP DATE: 6-26-14 SCALE: As Shown  
 DESIGNED BY: ACP DATE: 10-13  
 BRIDGE NO. 07322 & 07323 DRAWING NO. 56057

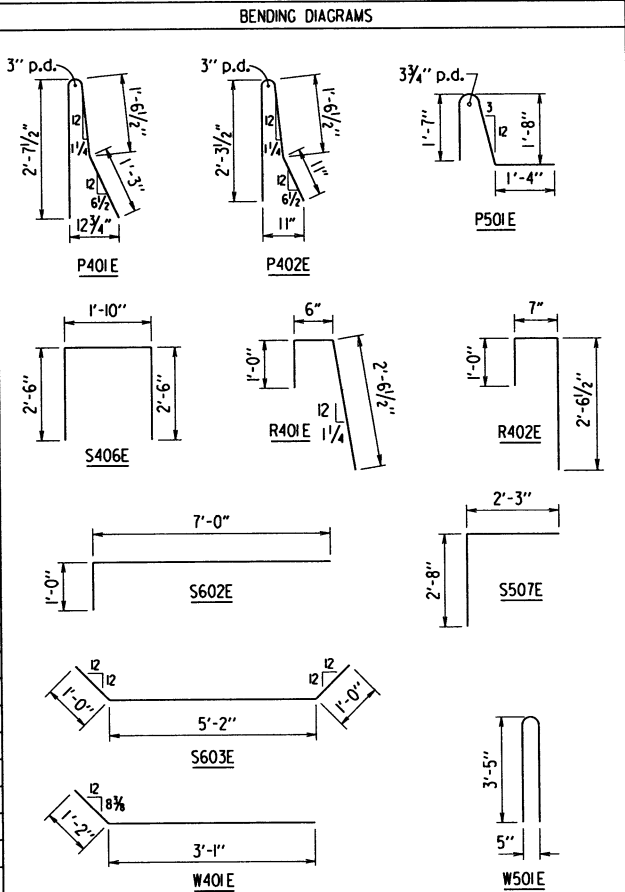




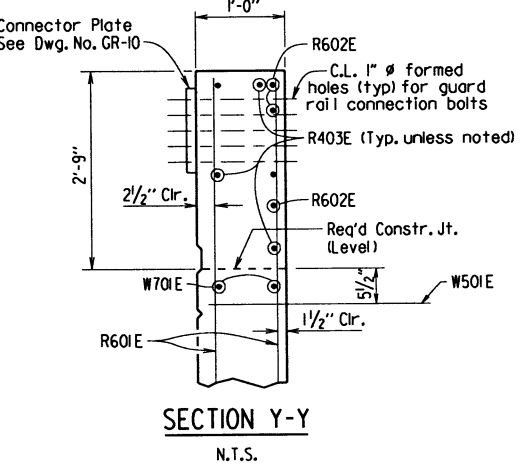
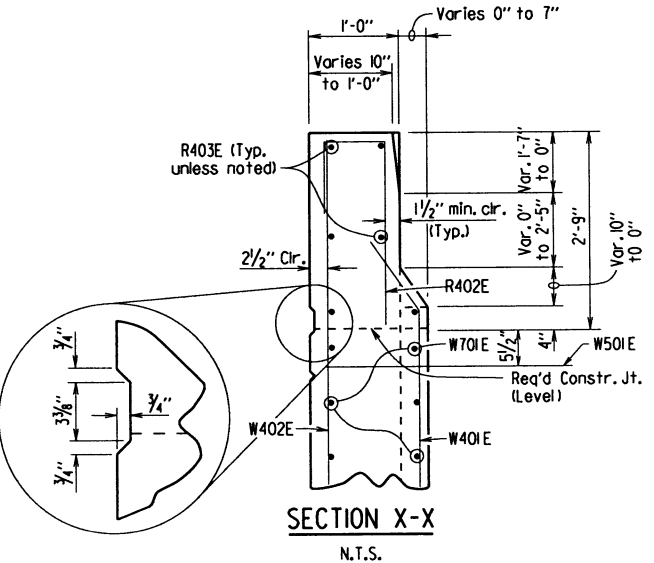
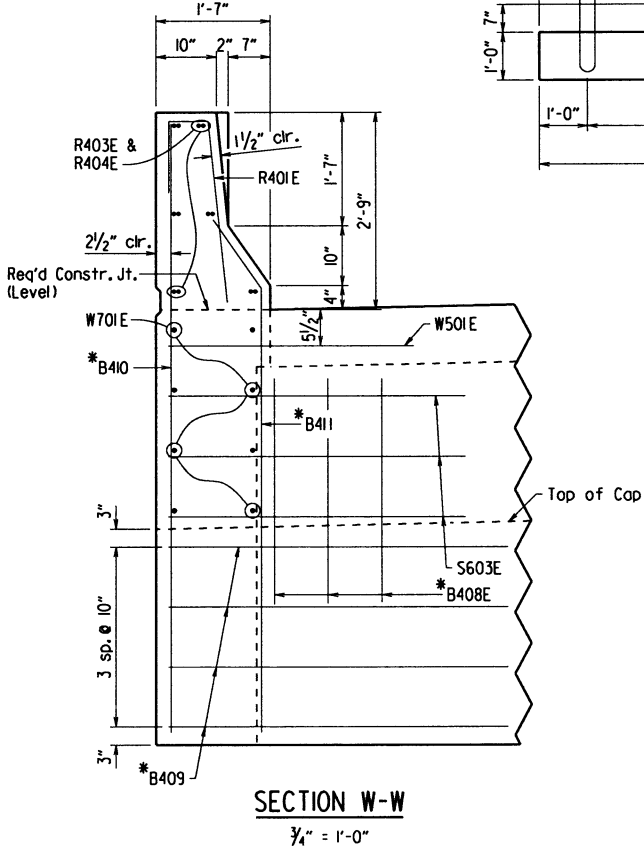
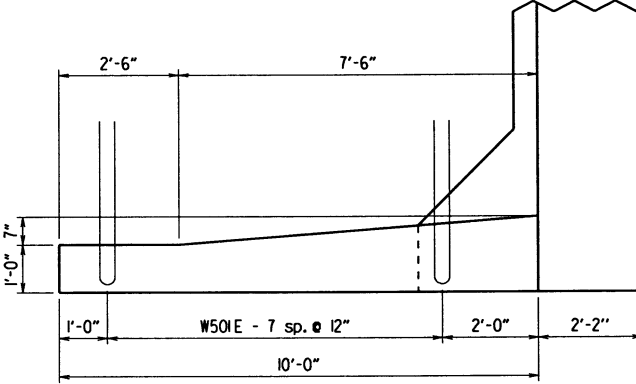
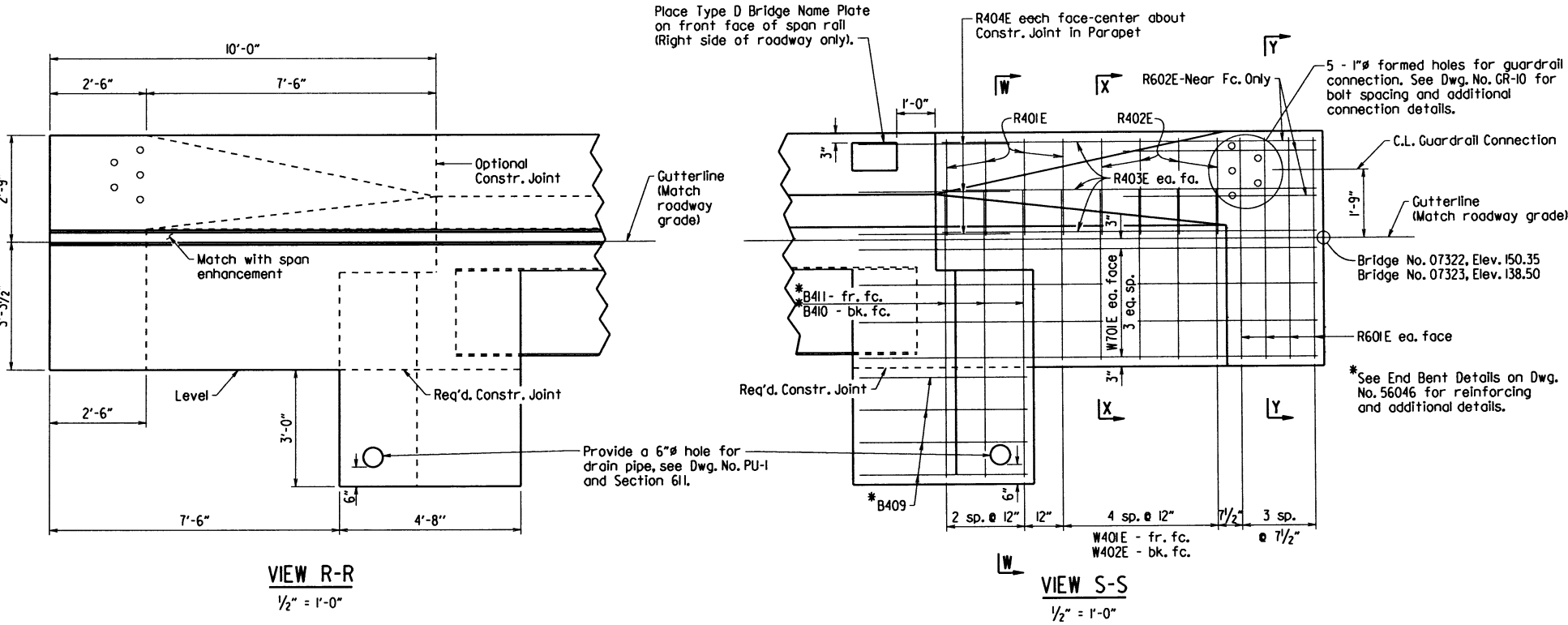
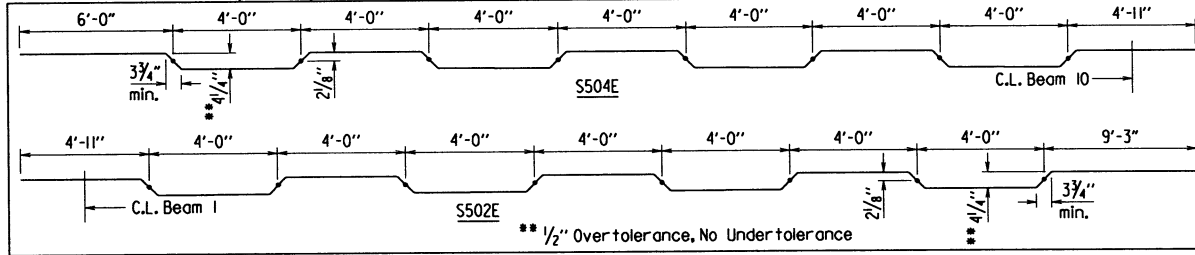
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO.                    | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|----------------------------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                                      | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.                                |       | 020534             | 126       | 287          |
|              |             |              |             | ① 07322 & 07323 - 145'-0" UNIT - 56059 |       |                    |           |              |

BAR LIST - PER UNIT

| MARK  | NO. REQ'D. | LENGTH  | P.D.   |
|-------|------------|---------|--------|
| S401E | 150        | 4'-6"   | Str.   |
| S402E | 856        | 38'-6"  | Str.   |
| S403E | 150        | 38'-11" | Str.   |
| S404E | 36         | 7'-8"   | Str.   |
| S405E | 8          | 2'-9"   | Str.   |
| S406E | 148        | 6'-8"   | 2"     |
| S501E | 150        | 42'-2"  | Str.   |
| S502E | 141        | 43'-0"  | 3 3/4" |
| S503E | 150        | 38'-11" | Str.   |
| S504E | 141        | 39'-9"  | 3 3/4" |
| S505E | 566        | 4'-10"  | Str.   |
| S506E | 141        | 13'-6"  | Str.   |
| S507E | 152        | 4'-10"  | 3 3/4" |
| S601E | 156        | 18'-0"  | Str.   |
| S602E | 156        | 7'-10"  | 4 1/2" |
| S603E | 12         | 7'-2"   | 4 1/2" |
| P401E | 476        | 5'-6"   | 3"     |
| P402E | 112        | 4'-10"  | 3"     |
| P403E | 80         | 5'-7"   | Str.   |
| P404E | 84         | 7'-8"   | Str.   |
| P405E | 42         | 12'-8"  | Str.   |
| P406E | 56         | 14'-5"  | Str.   |
| P501E | 476        | 4'-9"   | 3 3/4" |
| R401E | 16         | 3'-11"  | 2"     |
| R402E | 16         | 4'-0"   | 2"     |
| R403E | 24         | 9'-8"   | Str.   |
| R404E | 24         | 3'-11"  | Str.   |
| R601E | 32         | 5'-8"   | Str.   |
| R602E | 12         | 5'-0"   | Str.   |
| W401E | 20         | 4'-3"   | 2"     |
| W402E | 20         | 5'-8"   | Str.   |
| W501E | 32         | 7'-1"   | 3 3/4" |
| W701E | 32         | 11'-10" | Str.   |



Dimensions are out to out of bars.  
Note: Bars with an "E" suffix are to be epoxy coated.



STATE OF ARKANSAS  
REGISTERED PROFESSIONAL ENGINEER  
No. 9235  
9-2-16  
CHARLES R. ELLIS  
BRIDGE ENGINEER

SHEET 3 OF 3  
DETAILS OF 145'-0"  
CONTINUOUS INTEGRAL W-BEAM UNIT  
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.  
DRAWN BY: ACP DATE: 12-31-13 FILENAME: b020534\_sl.dgn  
CHECKED BY: JNP DATE: 6-26-14 SCALE: As Shown  
DESIGNED BY: ACP DATE: 10-13  
BRIDGE NO. 07322 & 07323 DRAWING NO. 56059

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|---------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                   | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.             |       | 020534             | 127       | 287          |

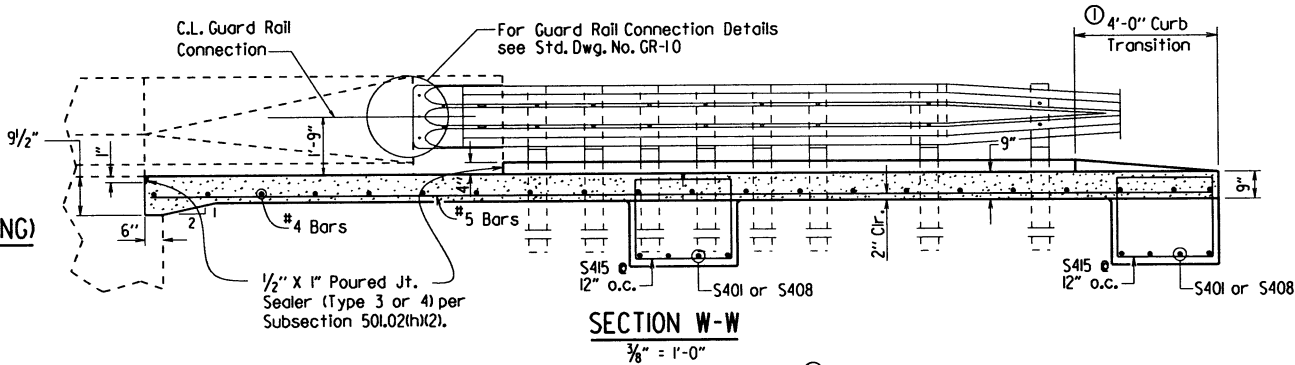
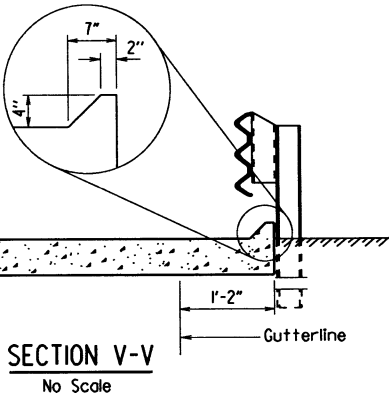
07321, 07322, 07323 - APPROACH SLAB - 56060

### BAR LIST PER APPROACH SLAB (TYPE SPECIAL)

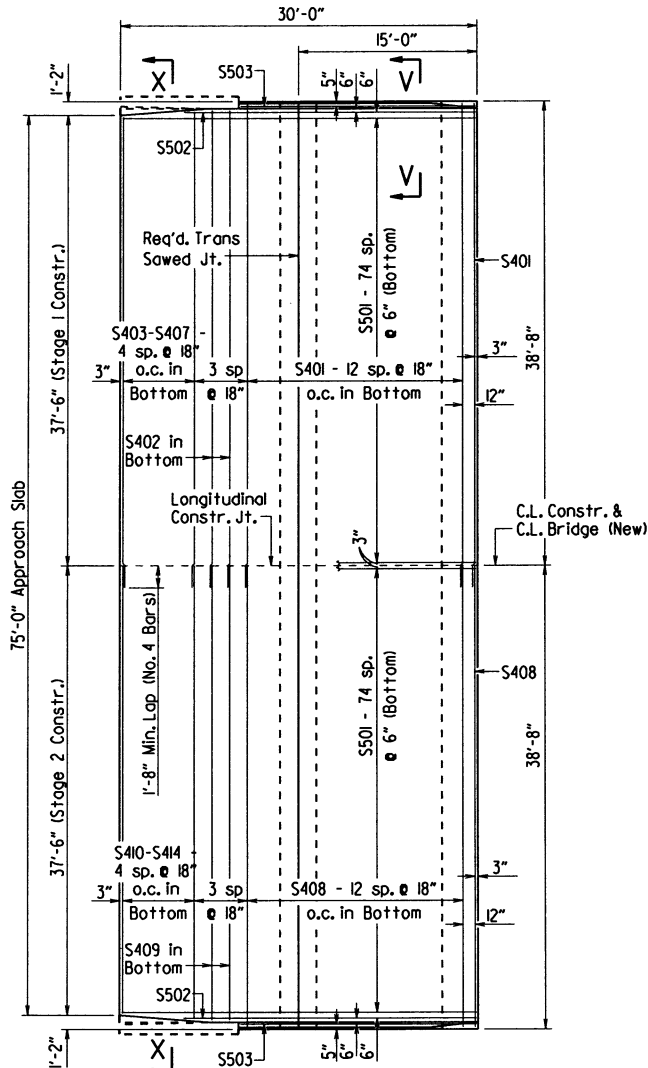
| Mark      | No. Req'd. | Length                 | Pin Dia. | Bending Diagram |
|-----------|------------|------------------------|----------|-----------------|
| S401      | 22         | 40'-2"                 | Str.     |                 |
| S402      | 2          | 39'-7"                 | Str.     |                 |
| S403-S407 | 1 ea.      | Var. 39'-6" to 39'-0"  | Str.     |                 |
| S408      | 22         | 38'-6"                 | Str.     |                 |
| S409      | 2          | 37'-11"                | Str.     |                 |
| S410-S414 | 1 ea.      | Var. 37'-10" to 37'-4" | Str.     |                 |
| S415      | 156        | 9'-10"                 | 2"       |                 |
| S501      | 150        | 29'-8"                 | Str.     |                 |
| S502      | 2          | 24'-5"                 | Str.     |                 |
| S503      | 2          | 19'-8"                 | Str.     |                 |

| Reinforcing Steel (lbs.) | Concrete (Cu. Yds.) |
|--------------------------|---------------------|
| 7,275                    | 95.80               |

### TABLE OF QUANTITIES FOR ONE APPROACH SLAB (TYPE SPECIAL)

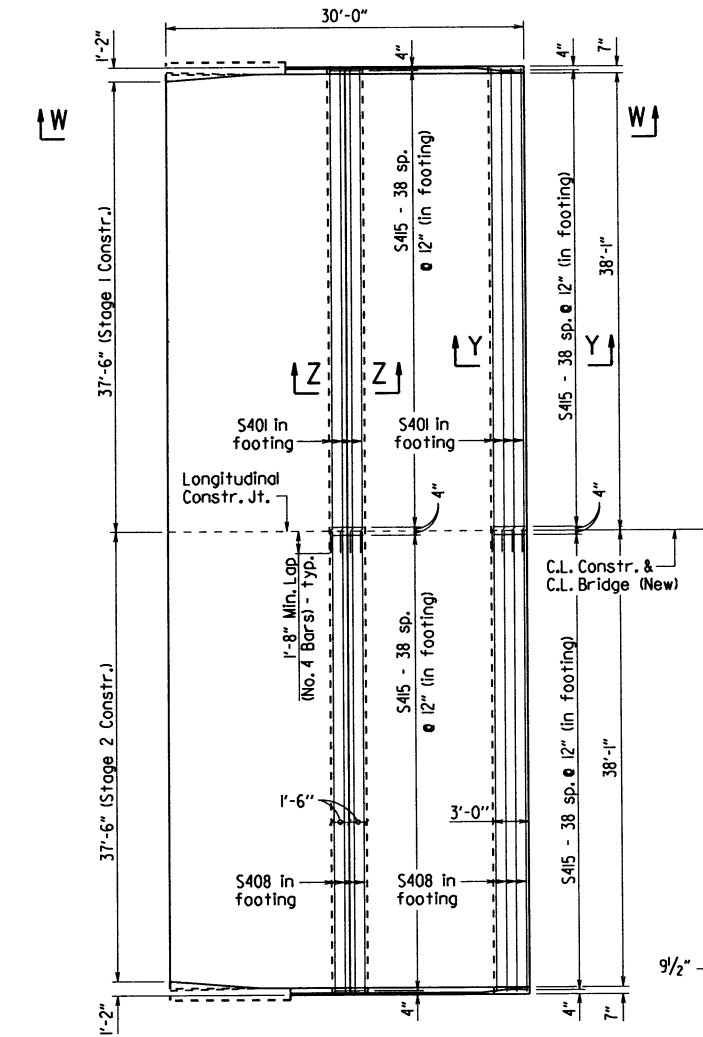


① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of slab.  
Construct gutter curb full height (no height-transition) if drop inlet is placed at end of slab. Curb height transition placed on drop inlet. See drop inlet details.



PLAN OF APPROACH SLAB (SHOWING SLAB REINFORCING)

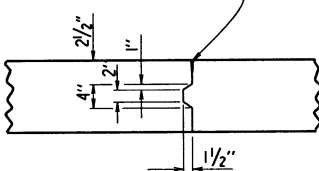
Note: Surface finish for Approach Slabs shall match that used on the bridge deck.  
1/8" = 1'-0"



PLAN OF APPROACH SLAB (SHOWING FOOTING REINFORCING)

1/8" = 1'-0"

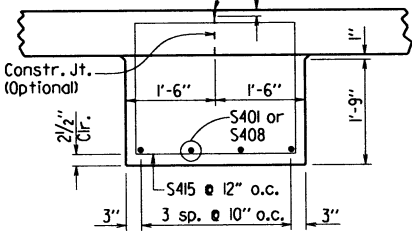
1/2" x 1" Poured Jt. Sealer (Type 3 or 4) per Subsection 501.02(h)(2). Backer rod is not required.



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

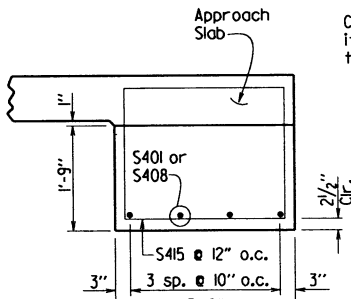
No Scale

1/2" x 1" Poured Jt. Sealer (Type 3 or 4) per Subsection 501.02(h)(2). Backer rod is not required.



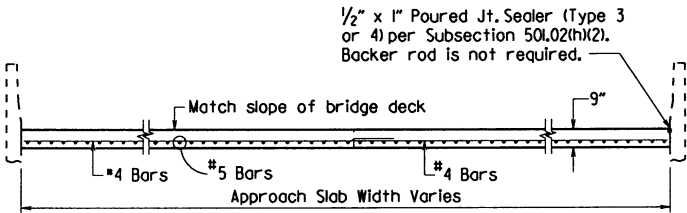
SECTION Z-Z

No Scale



SECTION Y-Y

No Scale



SECTION X-X

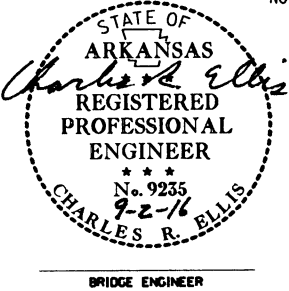
No Scale

### GENERAL NOTES

All concrete shall be Class S(AE) with a minimum 28 day compressive strength  $f'_c = 4,000$  psi and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Slabs will be measured and paid for in accordance with Section 504.

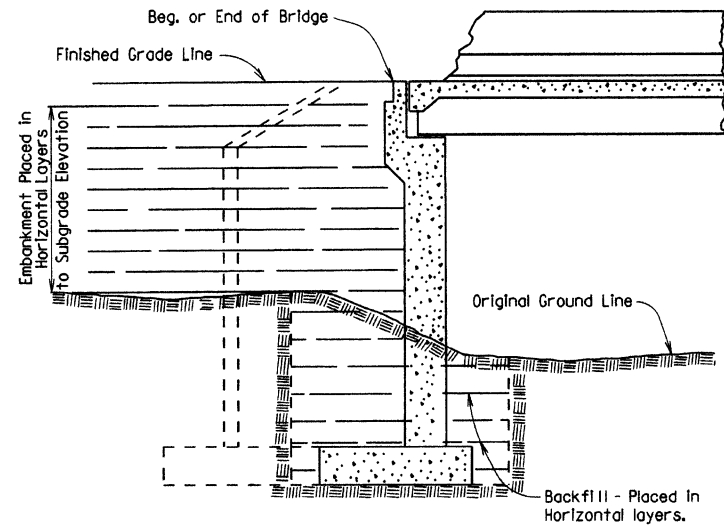


### DETAILS OF TYPE SPECIAL APPROACH SLAB

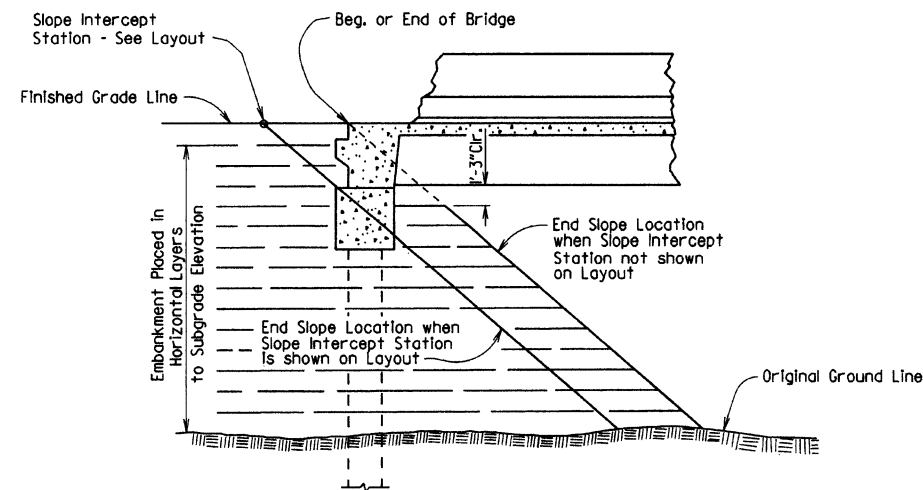
ROUTE SEC.  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

DRAWN BY: KKY DATE: 5/27/2014 FILENAME: b020534\_as.dgn  
CHECKED BY: ACP DATE: 8-19-16 SCALE: as noted  
DESIGNED BY: STD. DATE: —  
BRIDGE NO. 07321, 07322 & 07323 DRAWING NO. 56060

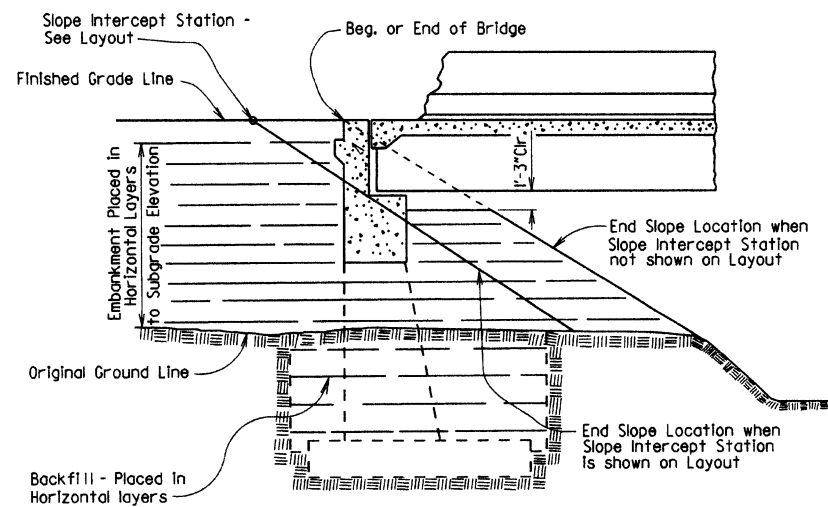
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO.           | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|-------------------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                             | ARK.  |                    | 28        |              |
|              |             |              |             | JOB NO.                       |       |                    |           |              |
|              |             |              |             | ① EMBANKMENT & BACKFILL 55000 |       |                    |           |              |



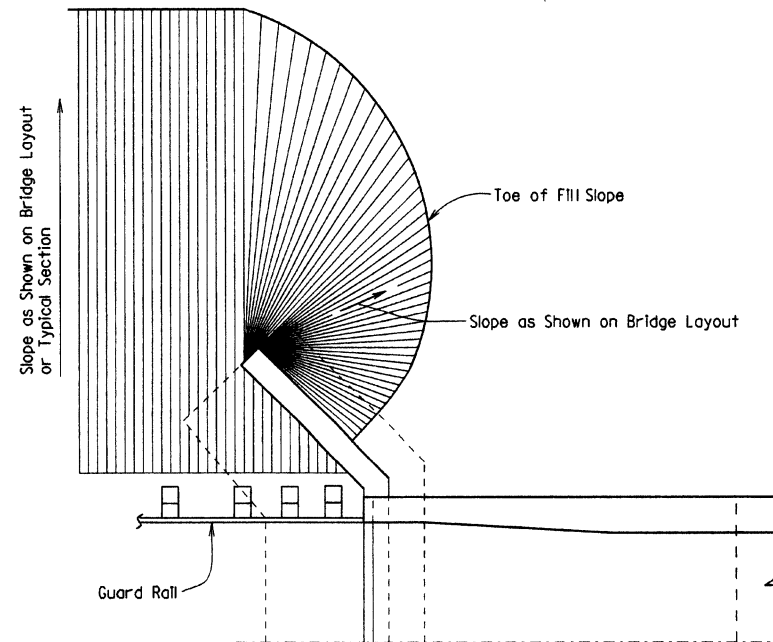
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL  
AT VERTICAL WALL ABUTMENTS



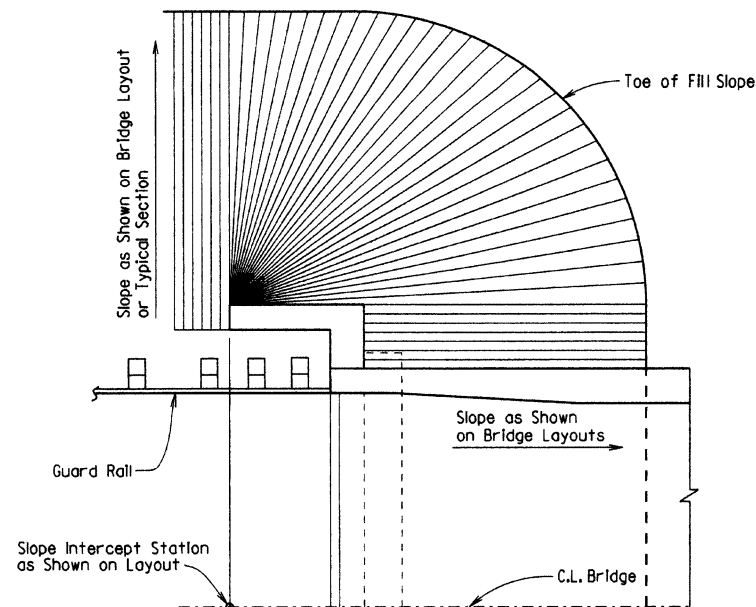
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH  
PILE END BENTS



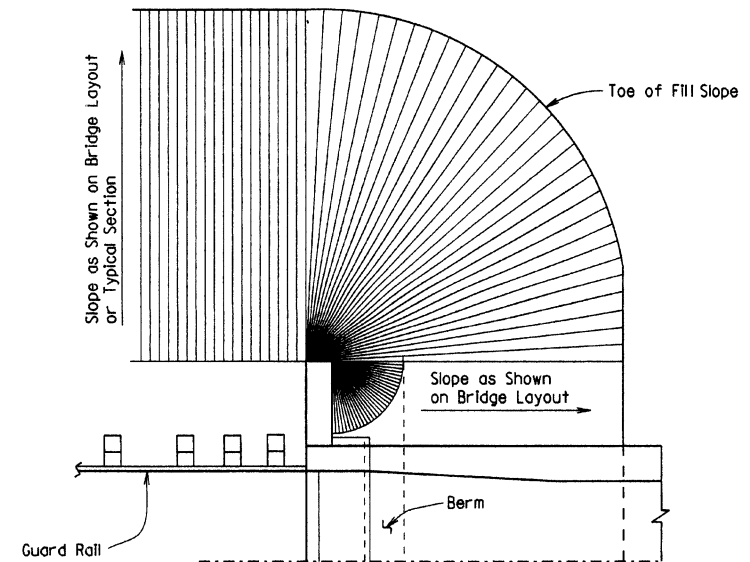
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL  
AT SPILL-THROUGH END BENTS



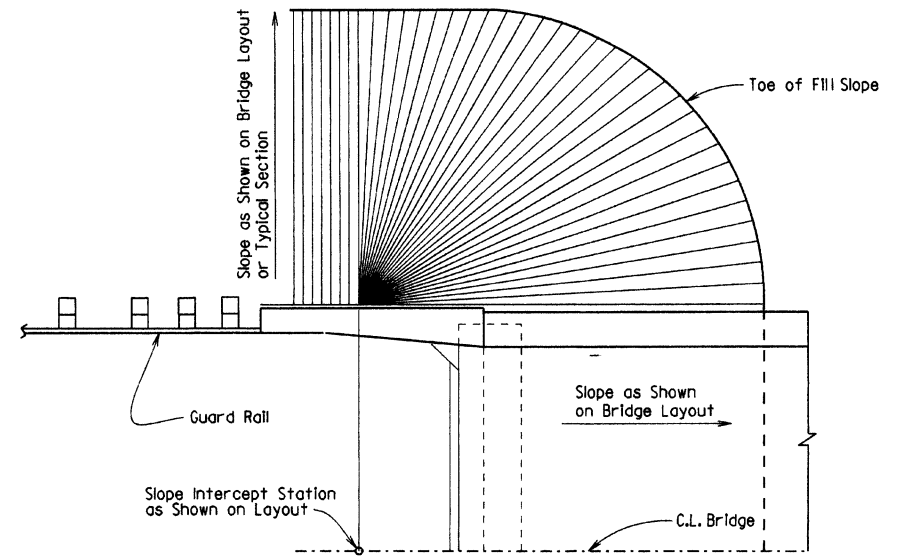
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

#### GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

#### STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

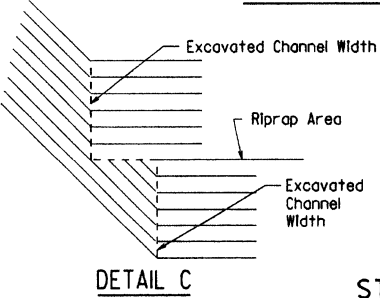
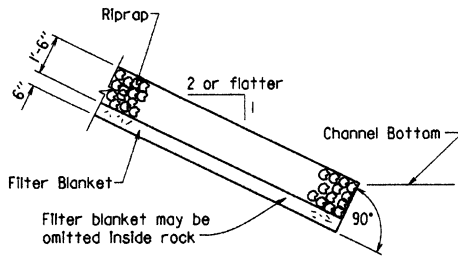
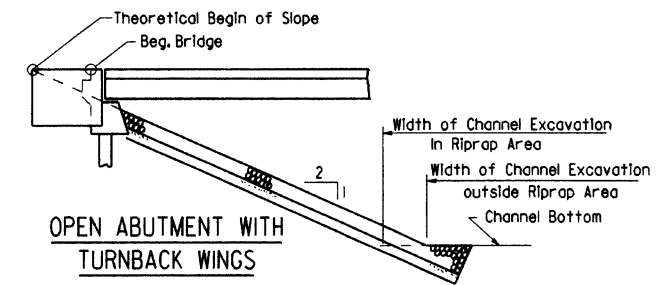
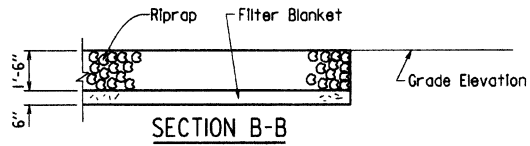
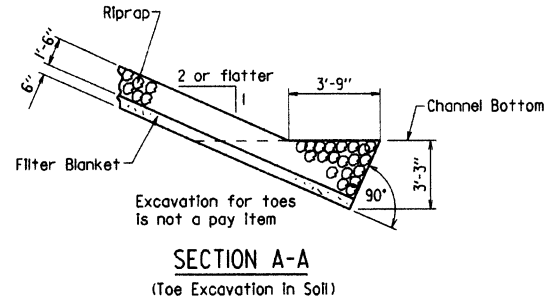
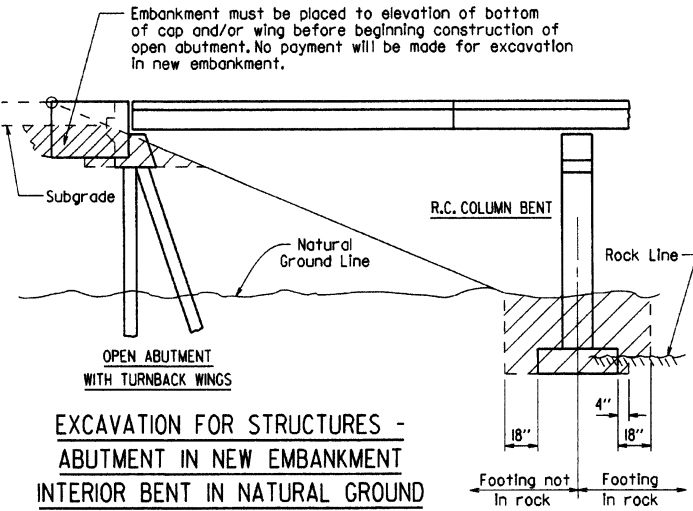
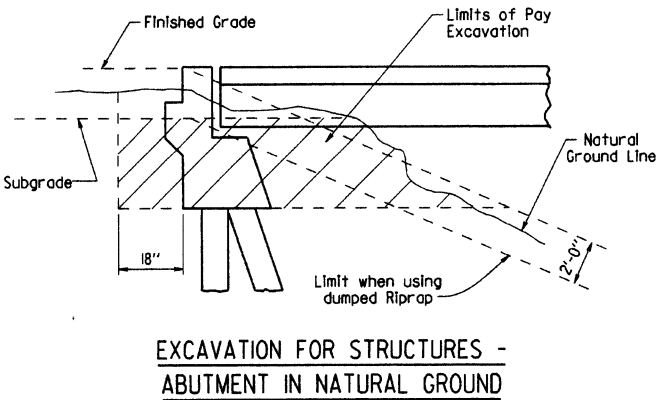
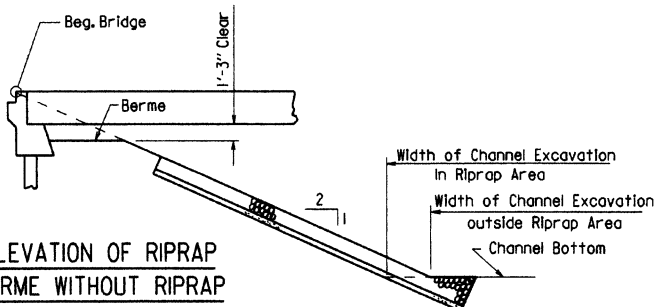
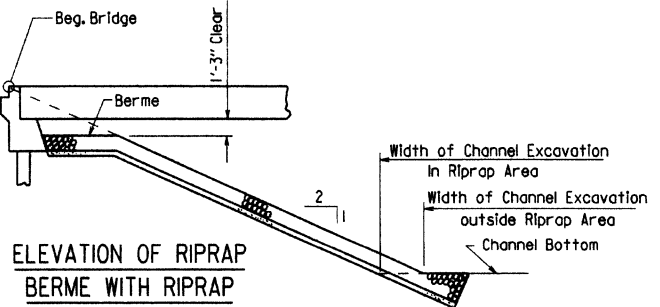
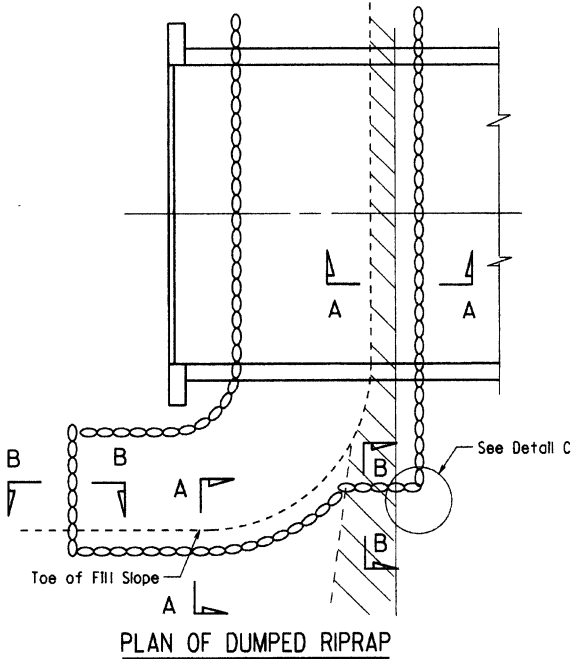
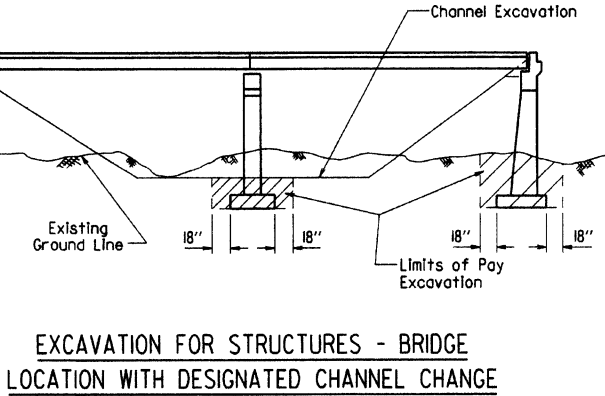
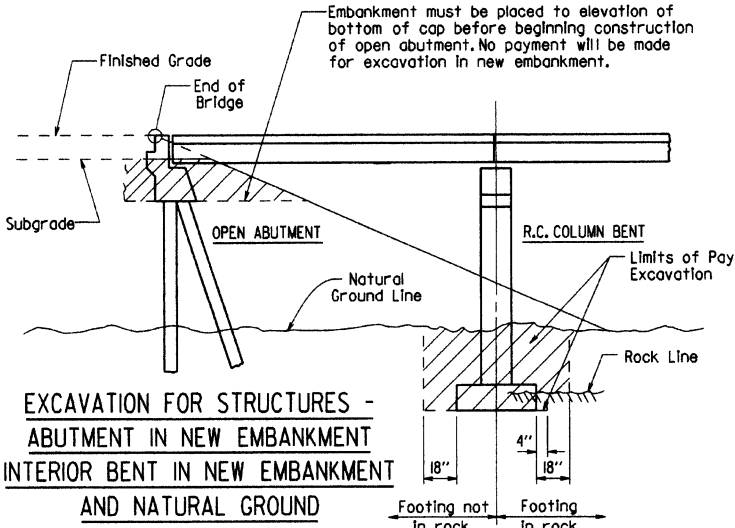
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55000.dgn  
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE  
DESIGNED BY: STD. DATE: -

DRAWING NO. 55000

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO.    | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|---------------------|-------|-----------------------|-----------|--------------|
|              |             |              |             | 6                   | ARK.  |                       | 129       |              |
|              |             |              |             | JOB NO.             |       |                       |           |              |
|              |             |              |             | 1                   |       | RIPRAP & EXCAV. 5500I |           |              |



Note: Use this type of toe when rock is encountered which is in a stable condition.

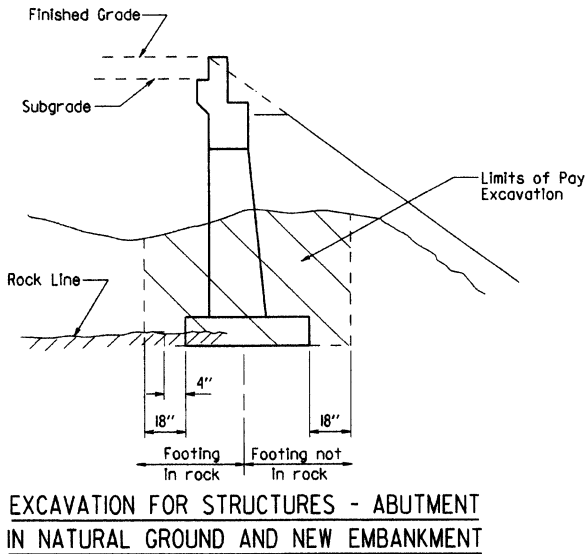
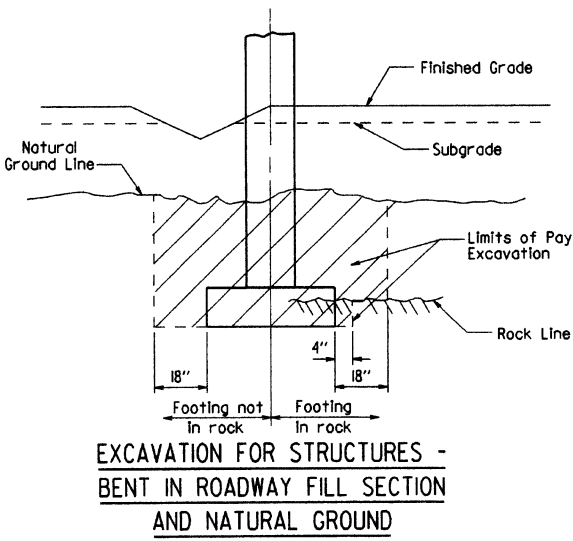
Note: In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 816.02(e) may be used.

Note: Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.

STANDARD DETAILS FOR  
DUMPED RIPRAP AND FILTER BLANKET  
AND COMPUTING  
EXCAVATION FOR STRUCTURES  
ARKANSAS STATE HIGHWAY COMMISSION  
LITTLE ROCK, ARK.

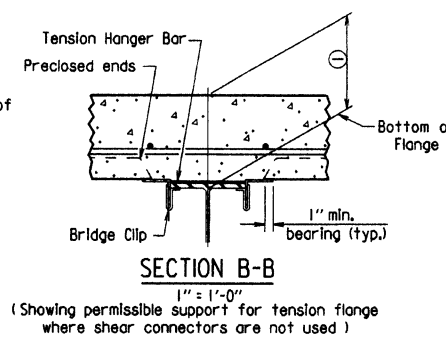
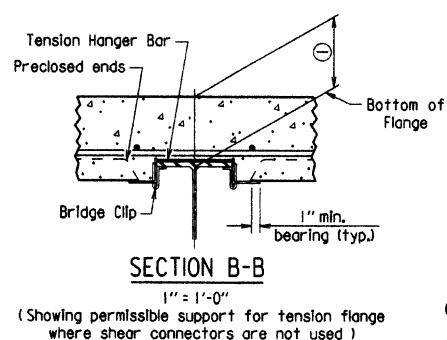
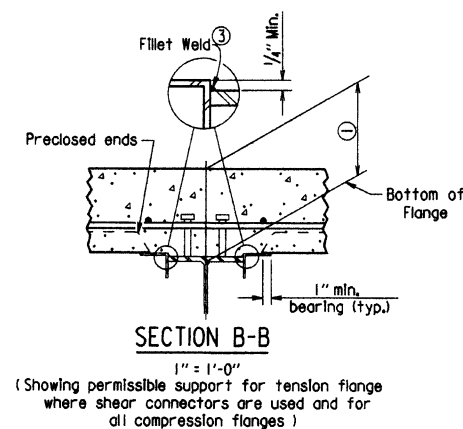
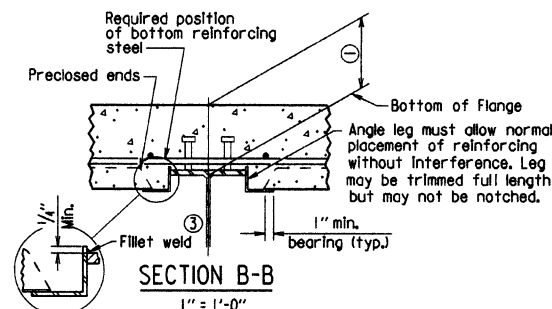
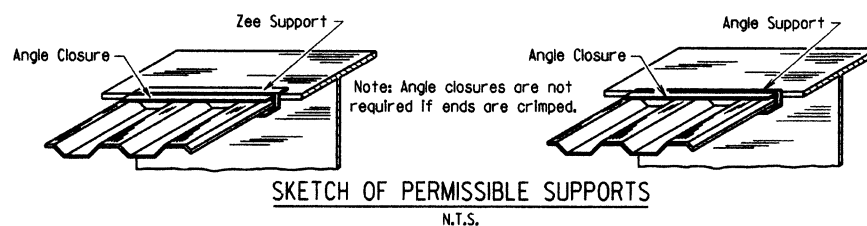
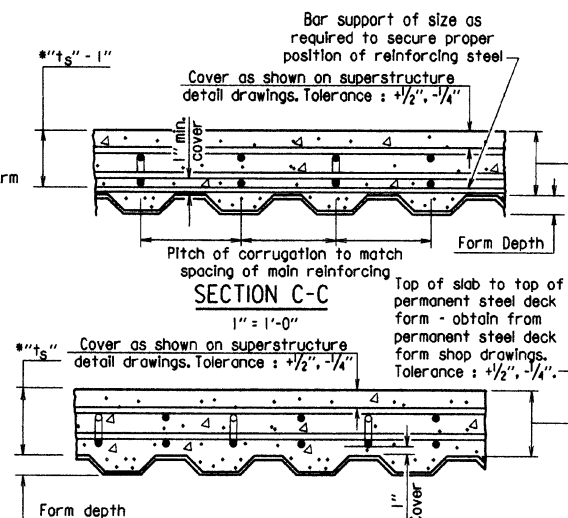
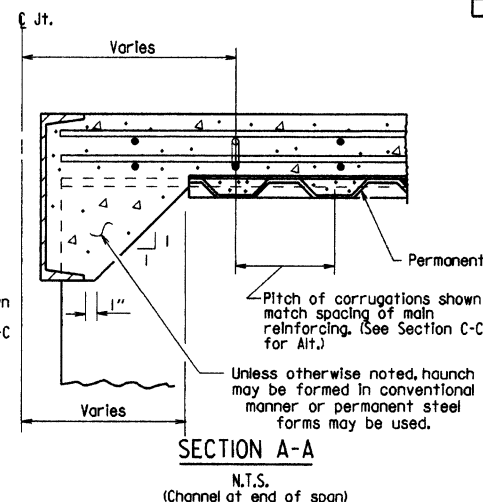
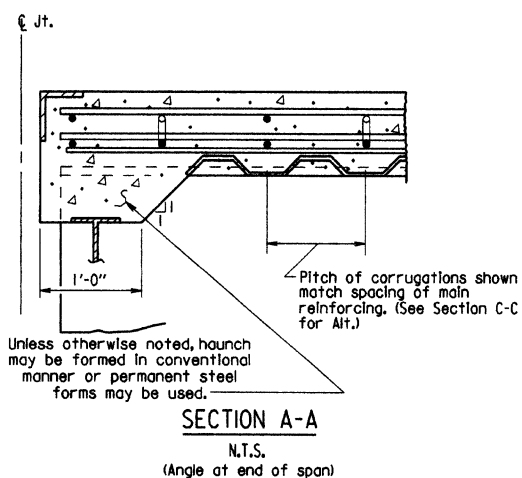
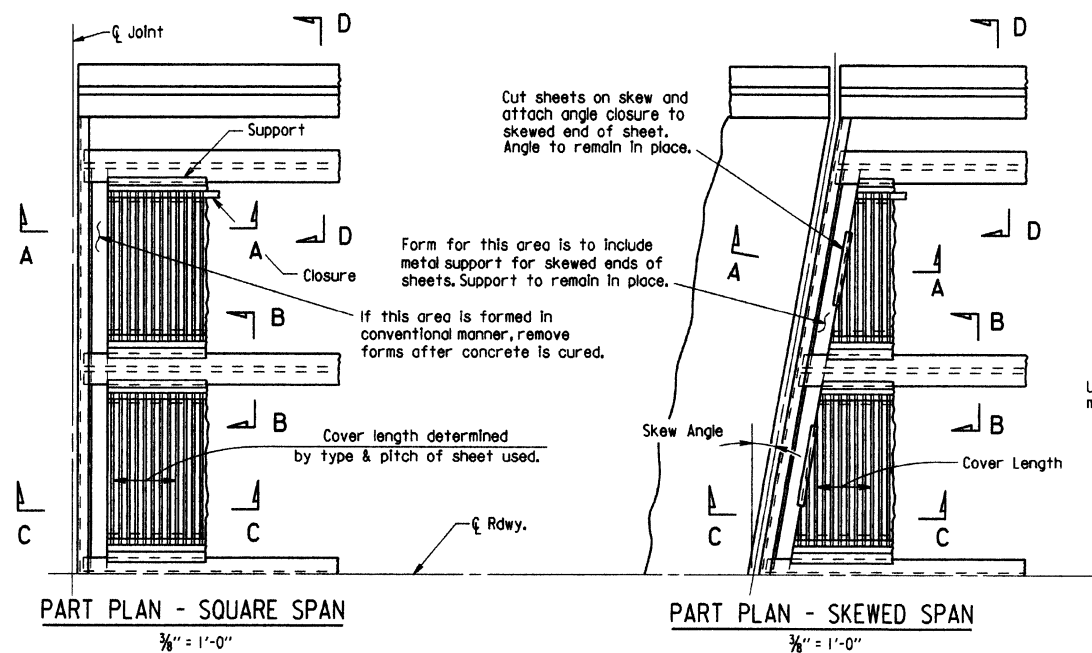
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b5500I.dgn  
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE  
DESIGNED BY: STD. DATE:

DRAWING NO. 5500I



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|---------------------|-------|--------------------|-----------|--------------|
| 3/24/16      |             |              |             | 6                   | ARK.  |                    | 130       |              |
|              |             |              |             |                     |       |                    | JOB NO.   |              |

BRIDGE DECK FORMS 55005

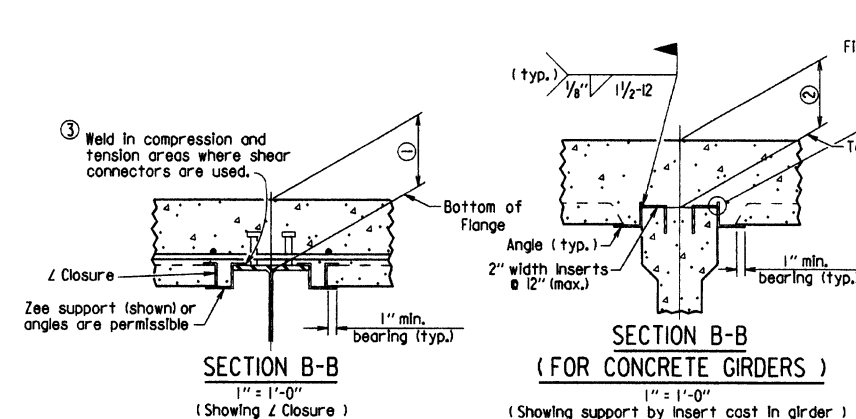


① Minimum weld: 1/4" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)

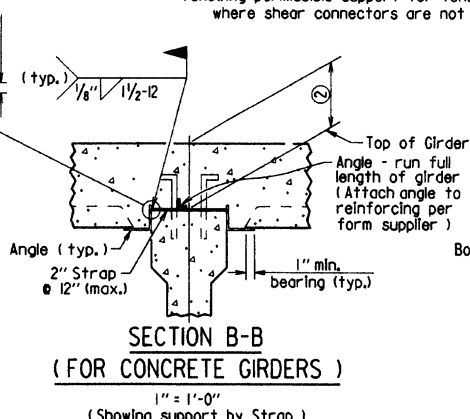
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)

(Showing permissible support for tension flange where shear connectors are not used)

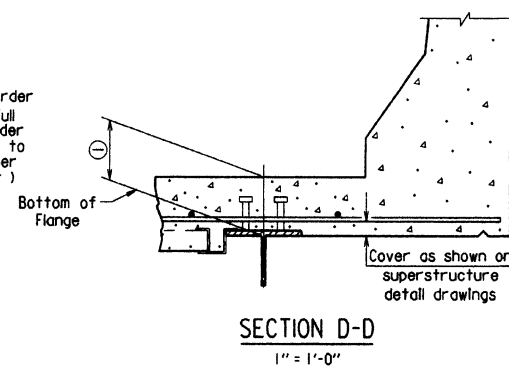
(Showing permissible support for tension flange where shear connectors are not used)



(Showing support by insert cast in girder)



(Showing support by Strap)



Note: Only Bottom Reinforcing is shown.

\*t<sub>s</sub> = slab thickness as shown on superstructure detail drawings.  
GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to Subsection 802.14(b). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or L supports to the flange must be approved by the Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition), with applicable Supplemental Specifications and Special Provisions.

## STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55005.dgn  
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NONE  
DESIGNED BY: STD. DATE: —

DRAWING NO. 55005

Revised weld dimension by KWH, Ck'd. by BEF, 3/24/16.







| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. ROAD<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO.      | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|------------------------|-------|--------------------|-------------------|-----------------|
| 3/24/16         |                |                 |                | 6                      | ARK.  |                    | 132               |                 |
|                 |                |                 |                | JOB NO.                |       |                    |                   |                 |
|                 |                |                 |                |                        |       |                    | STEEL SHELL PILES | 55021           |

#### GENERAL NOTES FOR PILE ENCASEMENTS:

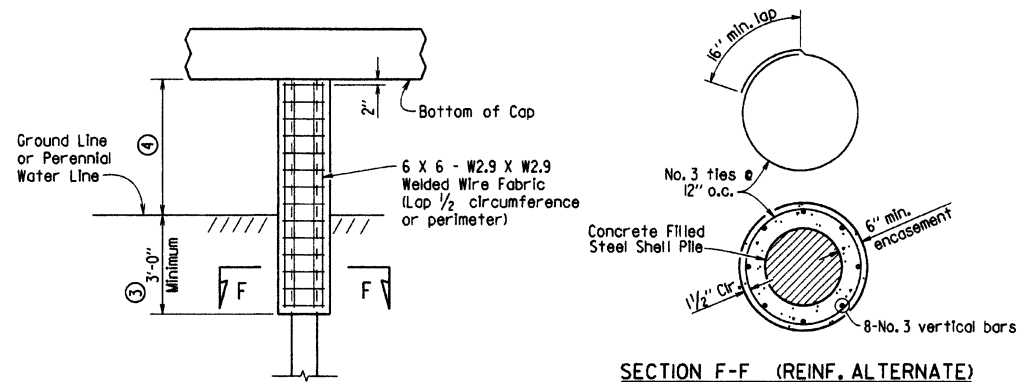
See Bridge Layout for additional notes, any pile encasement restrictions and required location of pile encasements.

Concrete shall be Class S with a minimum 28-day compressive strength,  $f'_c = 3,500$  psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A.

Welded wire fabric shall conform to AASHTO M 55 or M 221.

Concrete, welded wire fabric or reinforcing steel, and galvanized pipe shall not be paid for directly, but shall be considered subsidiary to the item "Pile Encasement".



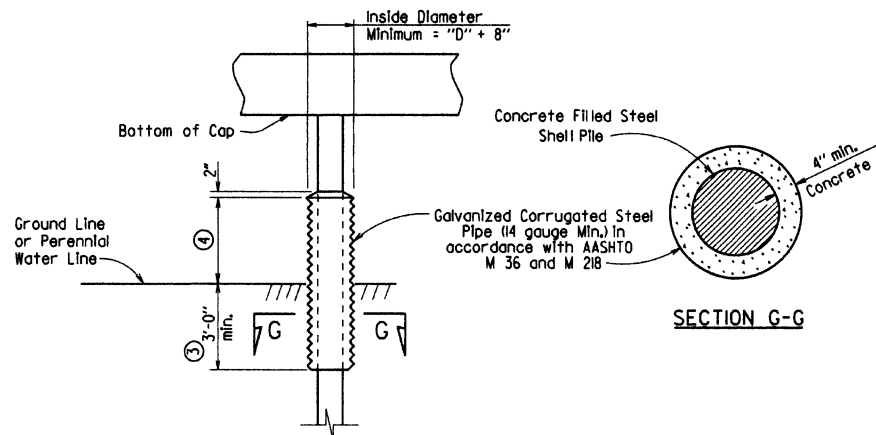
#### PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(Shown with Encasement to Bottom of Cap)

Unless otherwise noted on Bridge Layout.

See Bridge Layout for height of pile encasement (3'-0" Minimum).

Pile encasement, when not extended to bottom of cap, shall have 2" concrete taper for water runoff as shown in the detail for partial height encasement.



#### ALTERNATE PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(Shown with Partial Height Encasement)

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on March 24, 2016. This copy is not a signed and sealed document.



BRIDGE ENGINEER

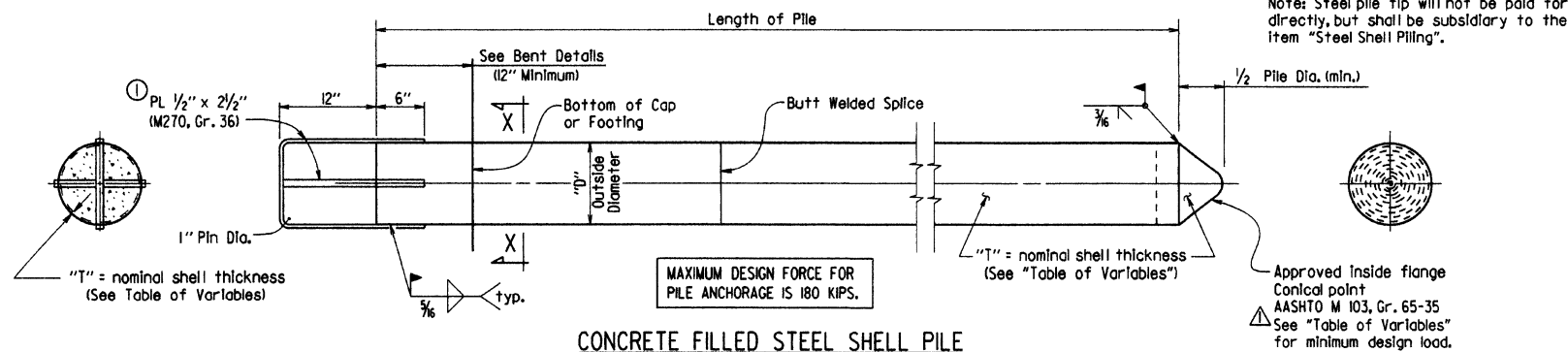
#### STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

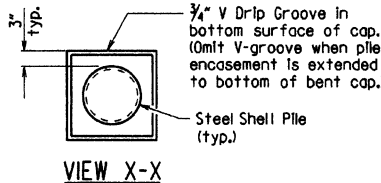
DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55021.dgn  
CHECKED BY: B.E.F. DATE: 2/27/2014 SCALE: NO SCALE  
DESIGNED BY: STD. DATE: —

DRAWING NO. 55021



#### CONCRETE FILLED STEEL SHELL PILE

- Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap or footing.
- Welding shall comply with ANSI/AWS D14 Structural Welding Code-Reinforcing Steel and applicable portions of ANSI/AWS D15 Bridge Welding Code.



#### GENERAL NOTES FOR CONCRETE FILLED STEEL SHELL PILES:

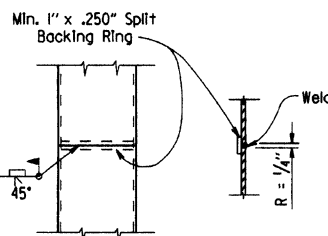
Steel shells shall conform ASTM A252, Grade 3 ( $F_y = 45,000$  psi).

Concrete used for filling of steel shell shall be Class S with a minimum 28-day compressive strength,  $f'_c = 3,500$  psi, and shall be poured in the dry.

Steel shell piling that extends above the ground and is not protected by pile encasement shall be painted in accordance with Subsection 805.02.

See Bridge Layout for size and estimated length of steel shell piles and for driving information.

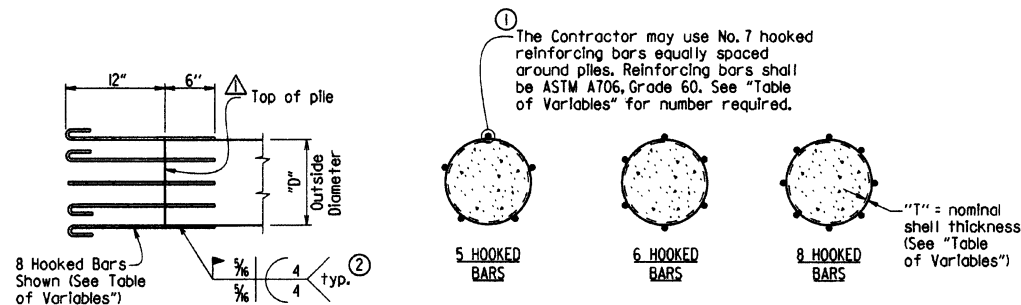
Concrete, structural steel, reinforcing steel (including welding), and painting shall not be paid for directly, but shall be considered subsidiary to the item "Steel Shell Piling".



#### TYPICAL SPLICE DETAILS

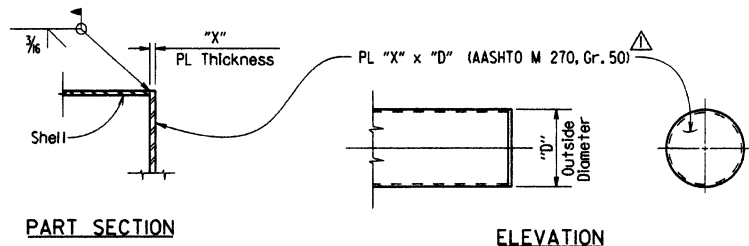
#### TABLE OF VARIABLES

| OUTSIDE DIAMETER "D" | NOMINAL SHELL THICKNESS "T" | PLATE THICKNESS "X" | PLATE THICKNESS "Y" | NO. OF HOOKED BARS FOR ALTERNATE PILE ANCHORAGE | MINIMUM CONICAL TIP DESIGN LOAD (KIPS) |
|----------------------|-----------------------------|---------------------|---------------------|-------------------------------------------------|----------------------------------------|
| 14"                  | 0.50"                       | 2 1/4"              | 1 1/2"              | 5                                               | 859                                    |
| 16"                  | 0.50"                       | 2 1/4"              | 1 1/2"              | 5                                               | 986                                    |
| 18"                  | 0.50"                       | 2 1/2"              | 1 1/2"              | 6                                               | 1,114                                  |
| 20"                  | 0.50"                       | 2 1/2"              | 1 3/4"              | 6                                               | 1,241                                  |
| 24"                  | 0.50"                       | 2 3/4"              | 1 3/4"              | 8                                               | 1,495                                  |



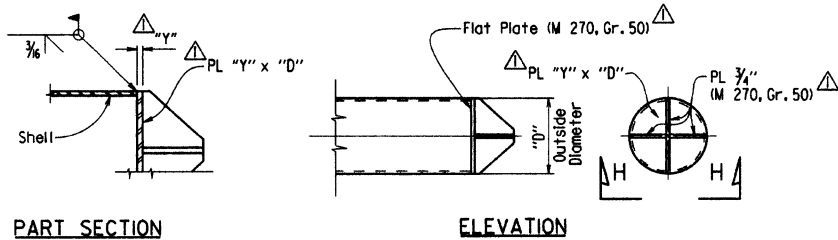
#### ALTERNATE PILE ANCHORAGE DETAIL

Note: Hooked bars shall be oriented to provide the required concrete clearances shown in the plans.

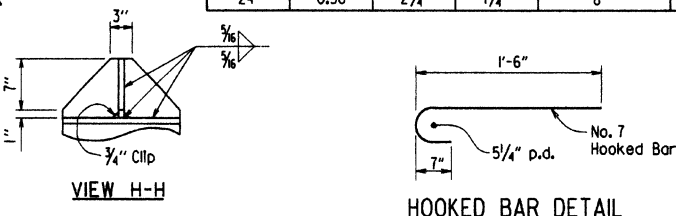


#### ALTERNATE FLAT TIP DETAIL

Note: The alternate flat tip detail shall not be used on steel shell piling to be driven through embankments constructed with internal geosynthetic reinforcement.



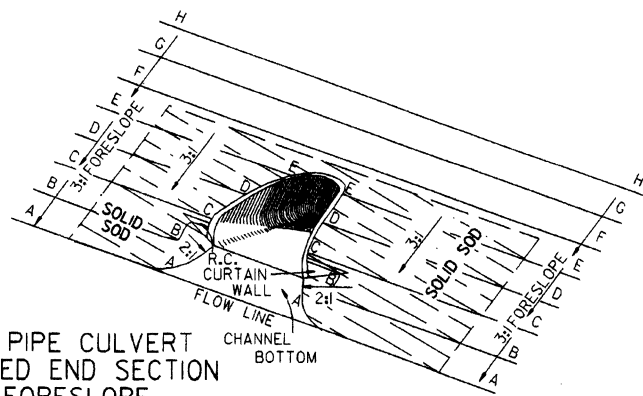
#### ALTERNATE VANED TIP DETAIL



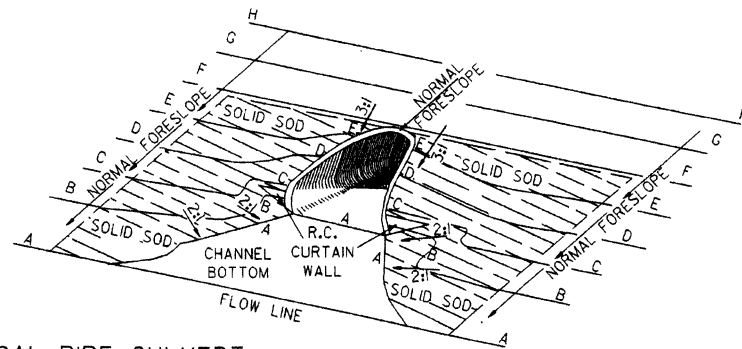
#### HOOKED BAR DETAIL

Revised and added various details by KMY, Ck'd by BEF, 3/24/16.

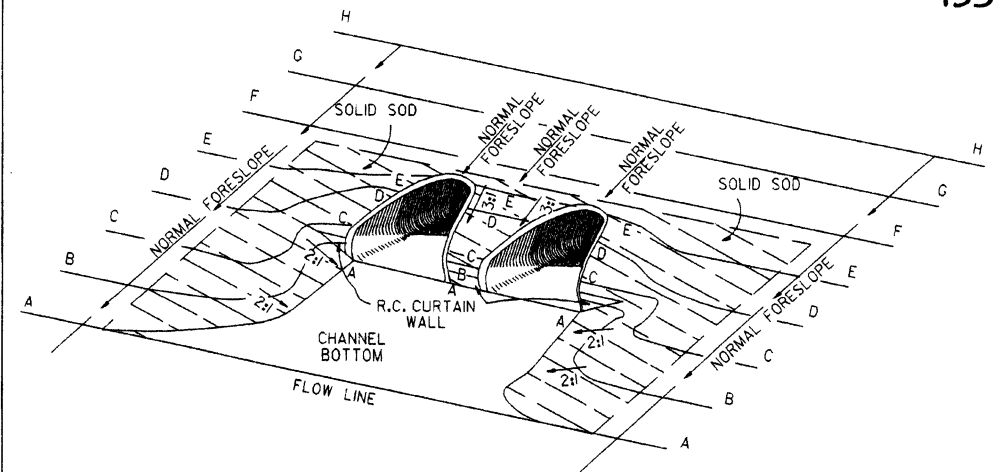
TYPICAL PIPE CULVERT  
WITH FLARED END SECTION  
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT  
WITH FLARED END SECTION  
& FLATTENED ADJACENT SLOPES



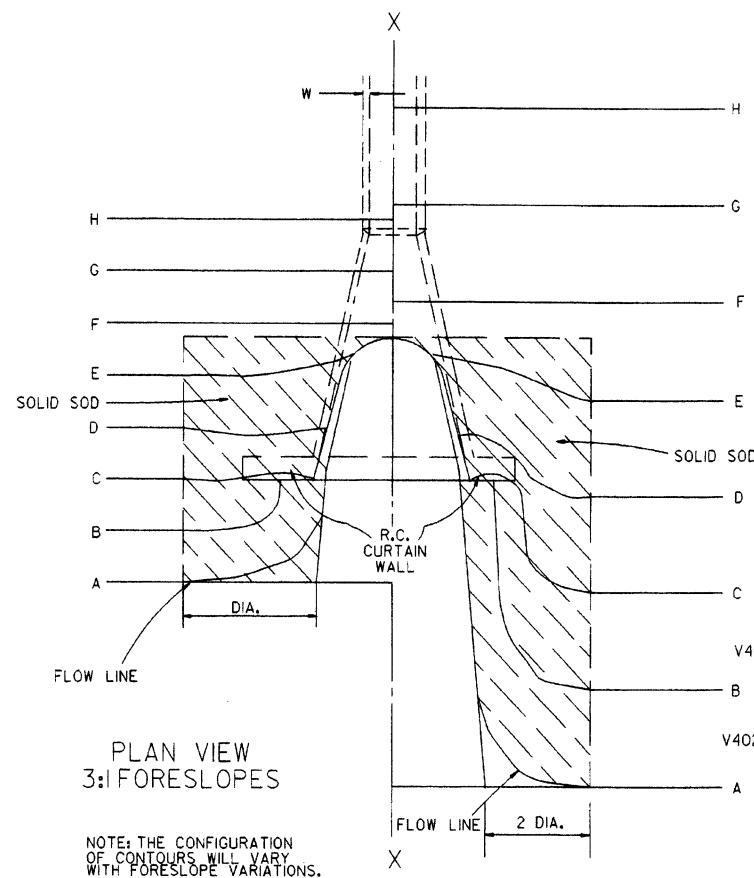
TYPICAL MULTIPLE PIPE CULVERT  
WITH FLARED END SECTIONS  
& FLATTENED ADJACENT SLOPES



R.C. CURTAIN WALL  
DIMENSIONS & QUANTITIES

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

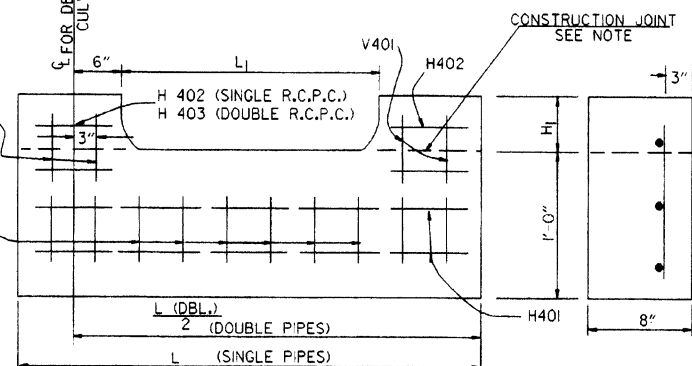
NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.



PLAN VIEW  
3:1 FORESLOPES

NOTE: THE CONFIGURATION  
OF CONTOURS WILL VARY  
WITH FORESLOPE VARIATIONS.

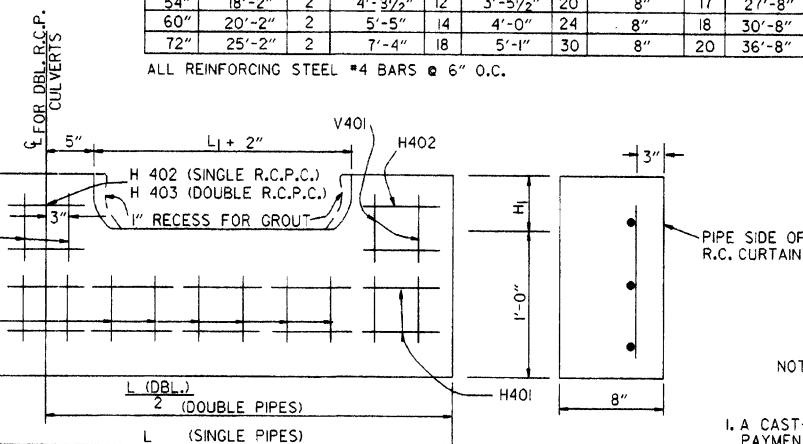
PLAN VIEW  
FLATTENED FORESLOPES



CAST-IN-PLACE

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

R.C. CURTAIN WALL DETAILS



PRECAST

NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

REINFORCING STEEL SCHEDULE

| PIPE DIA. | SINGLE R.C. PIPE CULVERT |     |            |     |            |     |      |     | DOUBLE R.C. PIPE CULVERT |     |            |     |      |     |            |     |
|-----------|--------------------------|-----|------------|-----|------------|-----|------|-----|--------------------------|-----|------------|-----|------|-----|------------|-----|
|           | H401                     |     | H402       |     | V401       |     | V402 |     | H401                     |     | H402       |     | H403 |     | V401       |     |
|           | 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  |
| 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  |
| 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  |
| 36"       | 12'-8"                   | 2   | 2'-10"     | 6   | 2'-3"      | 12  | 8"   | 14  | 20'-8"                   | 2   | 2'-10"     | 6   | 8"   | 3   | 2'-3"      | 14  |
| 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  |
| 48"       | 16'-8"                   | 2   | 4'-3"      | 10  | 3'-1"      | 18  | 8"   | 16  | 25'-8"                   | 2   | 4'-3"      | 10  | 8"   | 5   | 3'-1"      | 20  |
| 54"       | 18'-2"                   | 2   | 4'-3 1/2"  | 12  | 3'-5 1/2"  | 20  | 8"   | 17  | 27'-8"                   | 2   | 4'-9"      | 12  | 8"   | 6   | 3'-5 1/2"  | 22  |
| 60"       | 20'-2"                   | 2   | 5'-5"      | 14  | 4'-0"      | 24  | 8"   | 18  | 30'-8"                   | 2   | 5'-5"      | 14  | 8"   | 7   | 4'-0"      | 26  |
| 72"       | 25'-2"                   | 2   | 7'-4"      | 18  | 5'-1"      | 30  | 8"   | 20  | 36'-8"                   | 2   | 7'-4"      | 18  | 8"   | 9   | 5'-1"      | 33  |

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

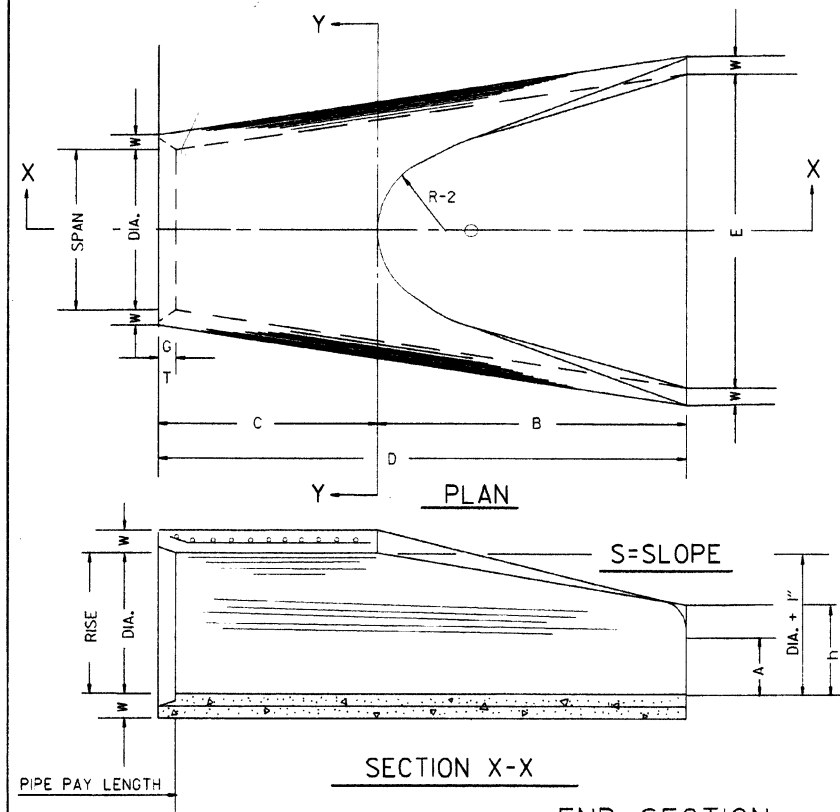
NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

- 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 PAYING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
  4. WELDED WIRE MESH 3 x 3 W/10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.

|          |                                                        |          |                                   |
|----------|--------------------------------------------------------|----------|-----------------------------------|
| 10-18-96 | ADDED NOTE TO SOLID SODDING                            | 10-18-96 | 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            |

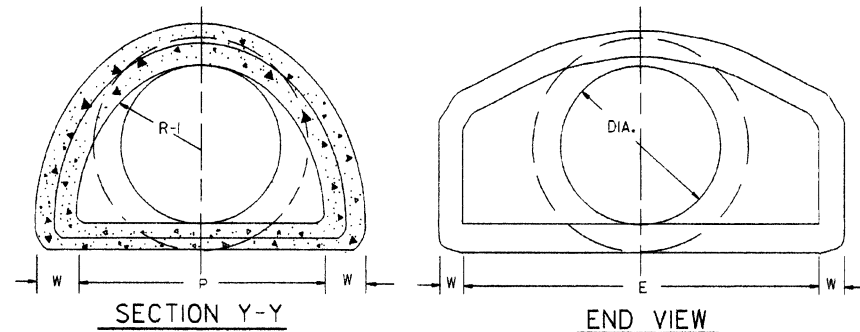
FLARED END SECTION

STANDARD DRAWING FES-1



END SECTION  
FOR REINFORCED CONCRETE PIPE CULVERTS

| TABLE OF DIMENSIONS |        |        |           |            |           |       |        |           |         |         |     |        |       |            |
|---------------------|--------|--------|-----------|------------|-----------|-------|--------|-----------|---------|---------|-----|--------|-------|------------|
| DIA.                | WALL   | A      | B         | C          | D         | E     | S      | DIA. + 1" | P       | R-1     | R-2 | G-T    | WT.   | h          |
| 18"                 | 2 1/2" | 9"     | 2'-3"     | 3'-10"     | 6'-1"     | 3'-0" | 3 1/2" | 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 1/2" | 25"       | 33 3/8" | 16 1/8" | 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 1/2" | 31"       | 37"     | 18 1/2" | 15" | 3 1/4" | 1940  | 1'-4 5/8"  |
| 36"                 | 4"     | 1'-3"  | 5'-3"     | 2'-10 1/4" | 8'-1 1/4" | 6'-0" | 3 1/2" | 37"       | 47 1/8" | 24 5/8" | 20" | 3 1/2" | 4100  | 1'-8"      |
| 42"                 | 4 1/2" | 1'-9"  | 5'-3"     | 2'-11"     | 8'-2"     | 6'-6" | 3 1/2" | 43"       | 53 1/4" | 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 1/2" | 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 1/2" | 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 1/2" | 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 1/2" | 73"       | 77 1/8" | 38 5/8" | 24" | 5"     | 13250 | 4'-6"      |

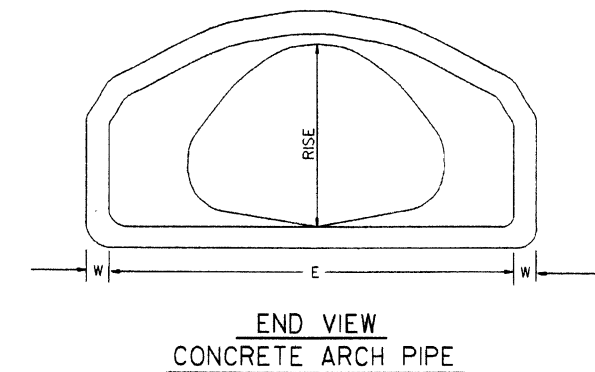


NOTE: TONGUE END ON UPSTREAM SECTION  
GROOVE END ON DOWNSTREAM SECTION

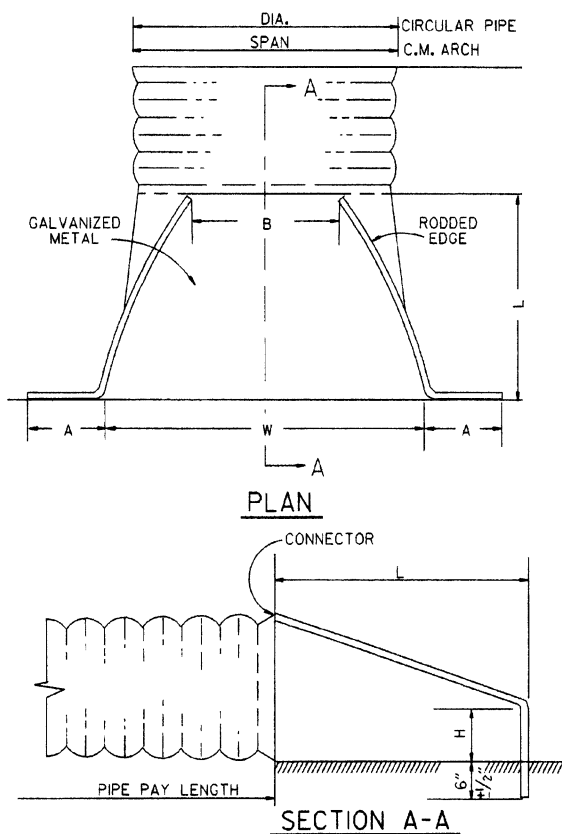
## ARCH PIPE

| EQUIV.<br>DIA. | • SPAN          |                | • RISE          |                | W      | A       | B     | C          | D         | E      | P       | R2  | G-T    | S       |
|----------------|-----------------|----------------|-----------------|----------------|--------|---------|-------|------------|-----------|--------|---------|-----|--------|---------|
|                | AASHTO<br>M 206 | AHD<br>NOMINAL | AASHTO<br>M 206 | AHD<br>NOMINAL |        |         |       |            |           |        |         |     |        |         |
| INCHES         |                 |                |                 |                |        |         |       |            |           |        |         |     |        |         |
| 15             | 18              | 18             | 11              | 11             | 2"     | 4"      | 2'-0" | 4'-0"      | 6'-0"     | 3'-0"  | 29"     | 12" | 1 1/2" | 2 1/2tl |
| 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 1/2tl |
| 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 1/2tl |
| 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 1/2tl |
| 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 1/2tl |
| 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 1/2tl |
| 42             | 51 1/8          | 51             | 31 3/8          | 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 1/2tl |
| 48             | 58 1/2          | 59             | 36              | 36             | 5"     | 1'-3"   | 5'-3" | 2'-10 3/4" | 8'-1 1/4" | 7'-10" | 70 1/8" | 24" | 4 1/4" | 2 1/2tl |
| 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 1/4tl |
| 60             | 73              | 73             | 45              | 45             | 6"     | 1'-10"  | 5'-6" | 2'-8"      | 8'-2"     | 9'-0"  | 77 1/8" | 24" | 5"     | 2 1/4tl |

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

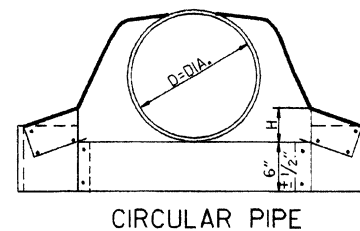


END VIEW  
CONCRETE ARCH PIPE

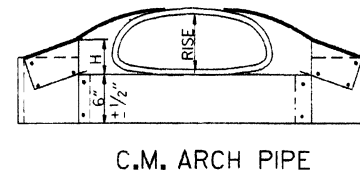


NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



CIRCULAR PIPE



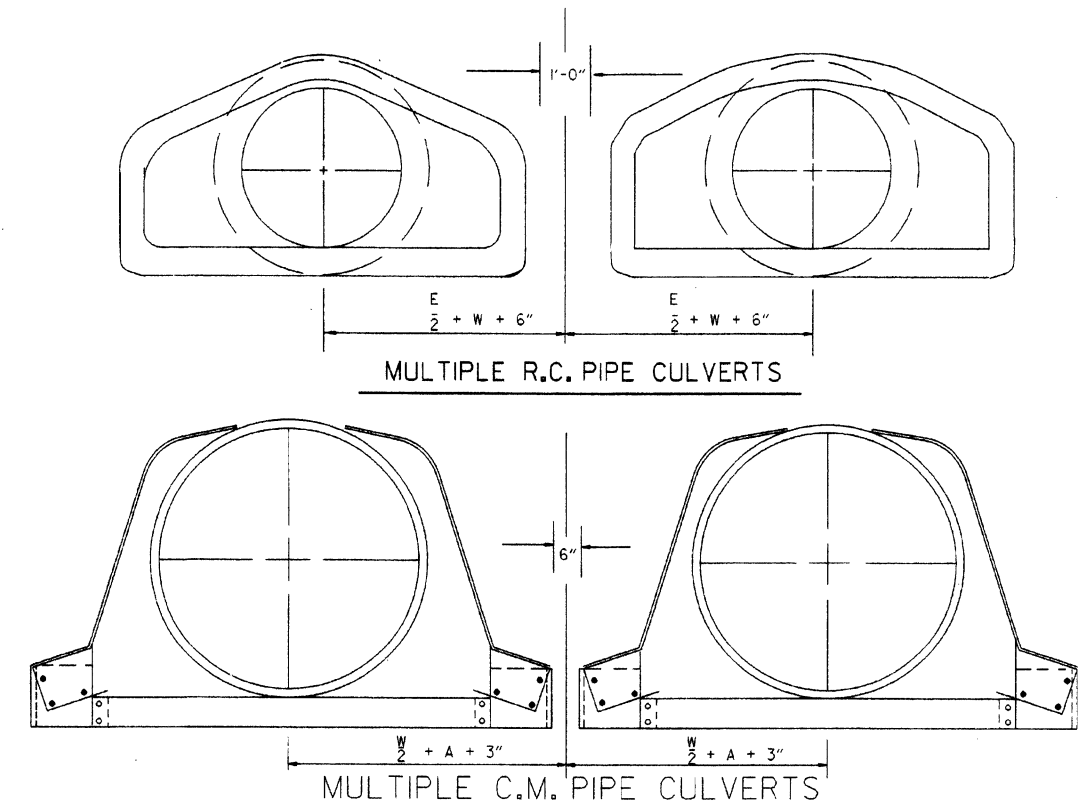
C.M. ARCH PIPE

## CIRCULAR PIPE

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

## C.M. ARCH PIPE

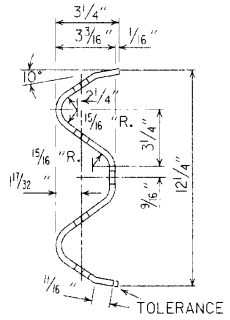
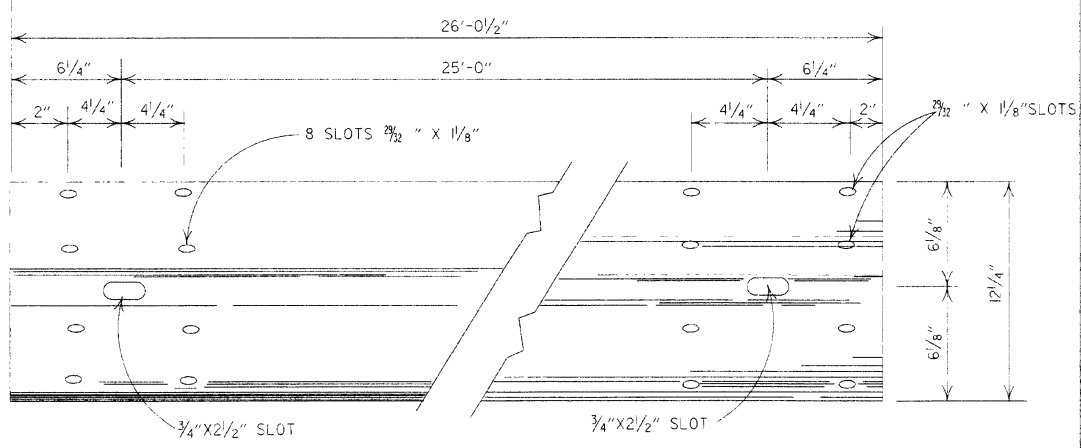
| EQUIV. DIA. | SPAN | RISE | A  | B. MAX. | H  | L  | W   | S       | GAUGE |
|-------------|------|------|----|---------|----|----|-----|---------|-------|
| INCHES      |      |      |    |         |    |    |     |         |       |
| 15"         | 17   | 13   | 7  | 9       | 6  | 19 | 30  | 2 1/2tl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



MULTIPLE R.C. PIPE CULVERTS

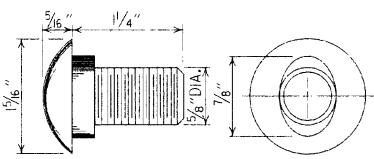
MULTIPLE C.M. PIPE CULVERTS

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

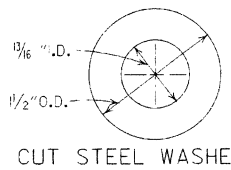


DETAILS OF W-BEAM GUARD RAIL

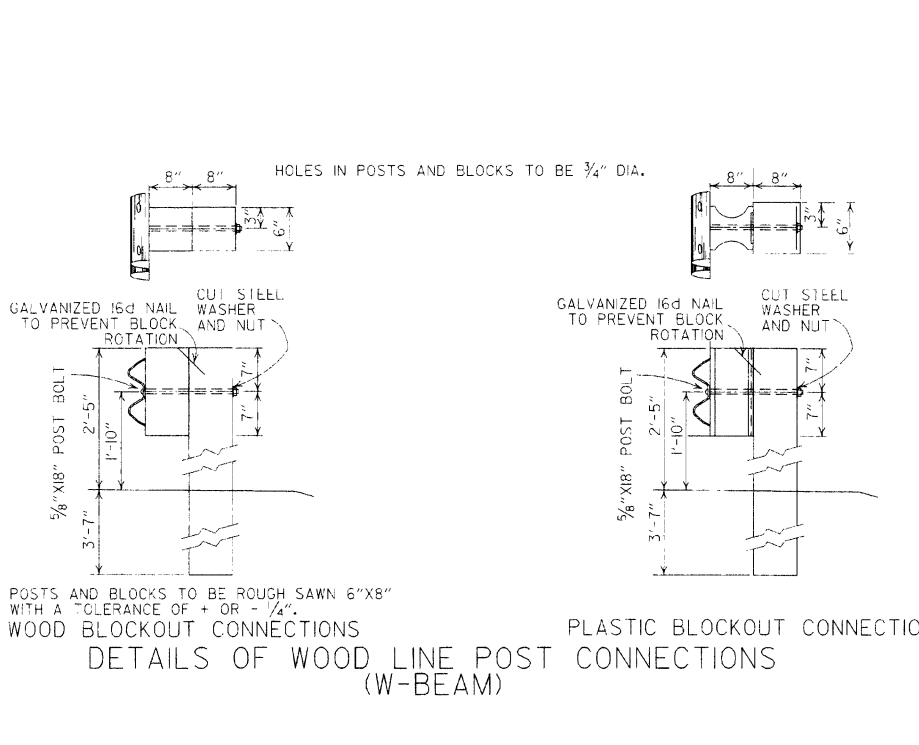
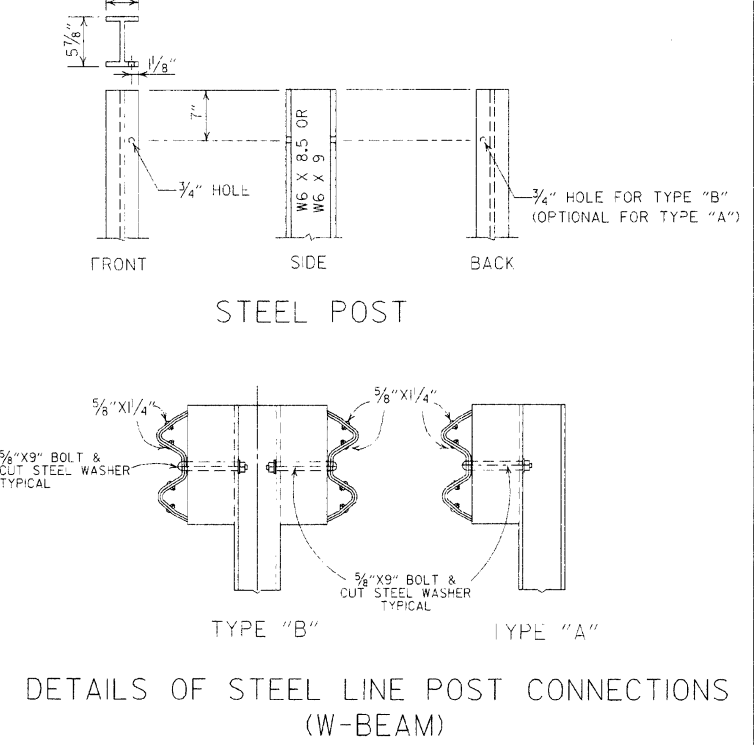
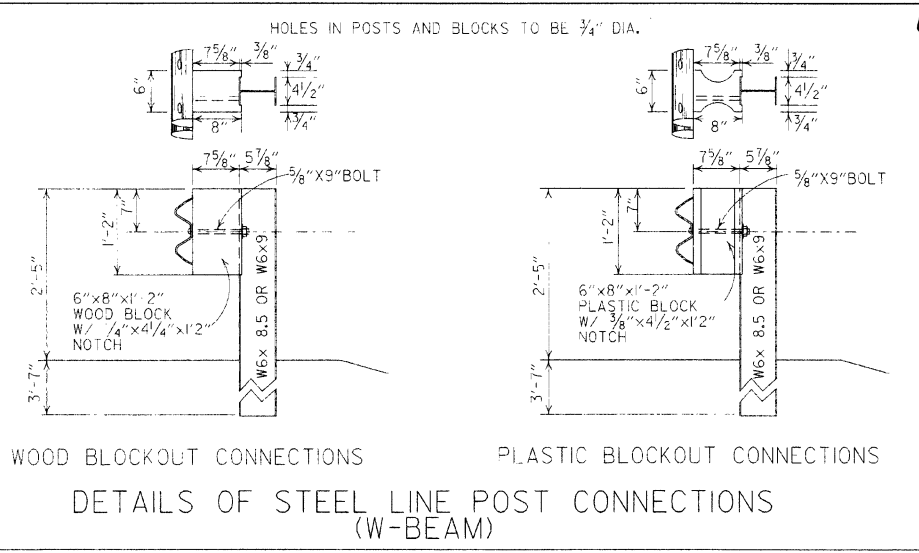
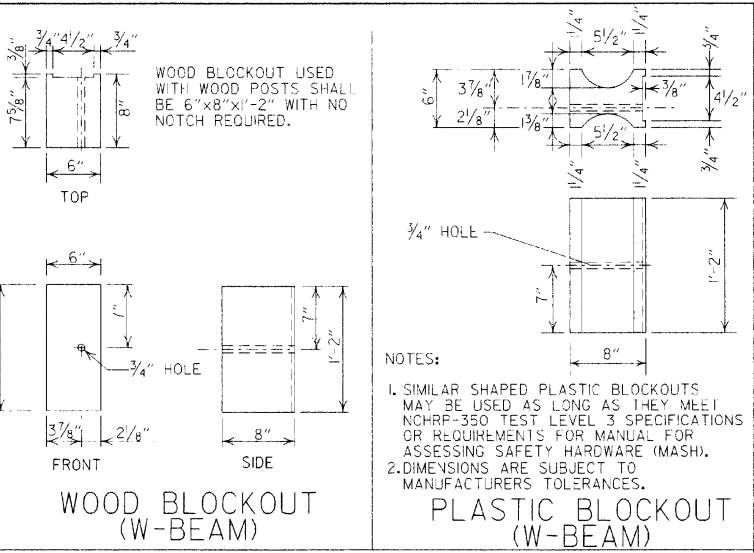
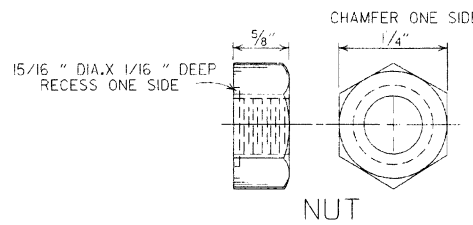
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



SPLICE BOLT  
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER



-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

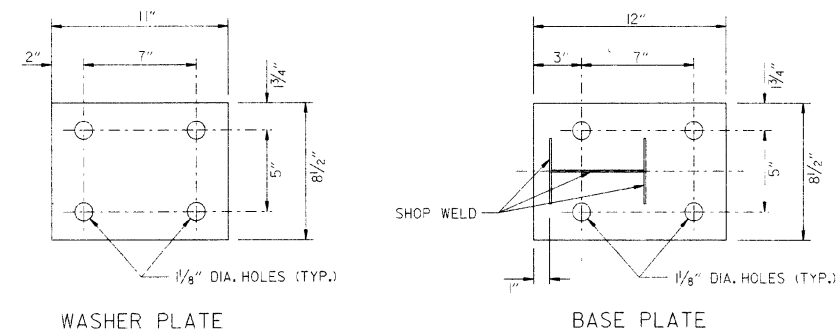
CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

|          |                                                                                                                                                                                                                                                        |              |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 7-14-10  | RAISED HEIGHT OF GUARD RAIL 1"                                                                                                                                                                                                                         |              |
| 10-5-09  | ADDED REFERENCE TO MASH                                                                                                                                                                                                                                |              |
| 4-10-02  | REVISED GENERAL NOTES                                                                                                                                                                                                                                  |              |
| 8-22-02  | REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST                                                                                                                                                                               |              |
| 11-6-01  | REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS                                                                                                                                                                                          |              |
| 3-30-00  | REMOVED GUARD RAIL AT BRIDGE ENDS                                                                                                                                                                                                                      |              |
| 1-12-00  | ADDED PLASTIC BLOCKOUT                                                                                                                                                                                                                                 |              |
| 8-12-98  | REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACEMENT BEHIND CURB & DET. OF POST PLACEMENT IN SOLID ROCK & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES |              |
| 4-3-97   | REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS                                                                                                                                                                                  |              |
| 10-18-96 | REVISED WOOD POST NOTE                                                                                                                                                                                                                                 |              |
| 6-2-94   | ADDED ALT. STEEL POST SIZE                                                                                                                                                                                                                             |              |
| 8-5-93   | REVISED STEEL POST SIZE                                                                                                                                                                                                                                | 8-5-93       |
| 10-1-92  | REDRAWN & REVISED                                                                                                                                                                                                                                      | 10-1-92      |
| 8-15-91  | REVISED WASHER NOTE                                                                                                                                                                                                                                    | 8-15-91      |
| 8-2-90   | REV. GEN. NOTE & DEPTH OF ANG. POST IN ROCK                                                                                                                                                                                                            | 8-2-90       |
| 7-15-88  | REVISED SECTION 3 & GENERAL NOTES                                                                                                                                                                                                                      |              |
| 3-4-88   | REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK                                                                                                                                                                                                           | 780-3-4-88   |
| 10-30-87 | REVISED WOOD LINE POST DETAIL                                                                                                                                                                                                                          | 546-10-30-87 |
| 10-9-87  | REDRAWN & REVISED                                                                                                                                                                                                                                      | 802-10-9-87  |
| DATE     | REVISION                                                                                                                                                                                                                                               | DATE FILED   |

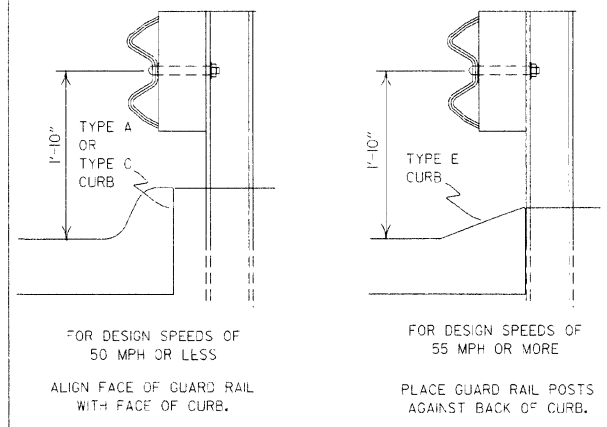
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-8

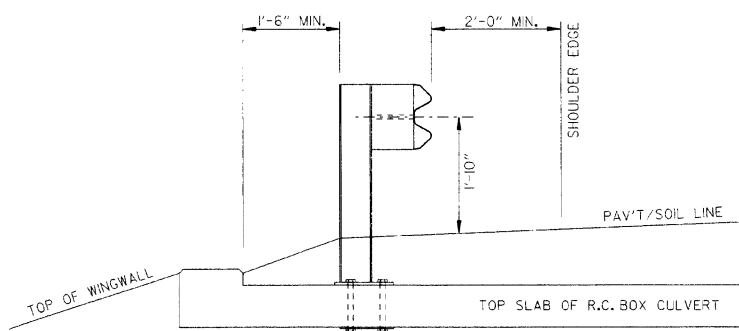


Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

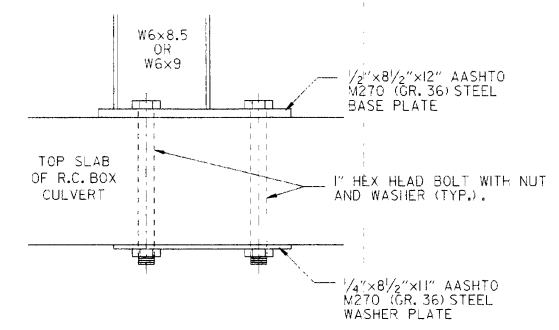


DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB (W-BEAM)

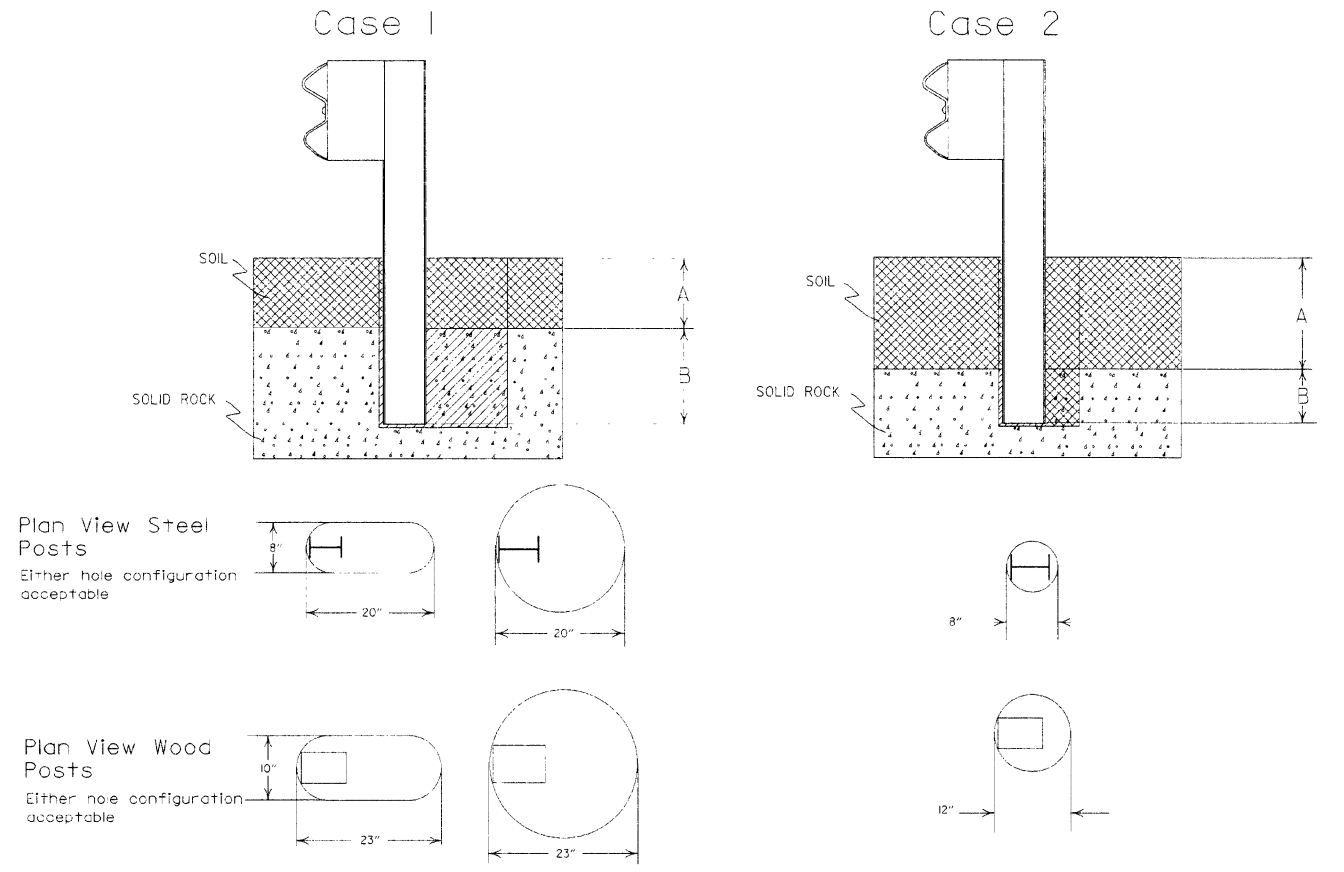
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A



DETAIL OF CONNECTION



Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

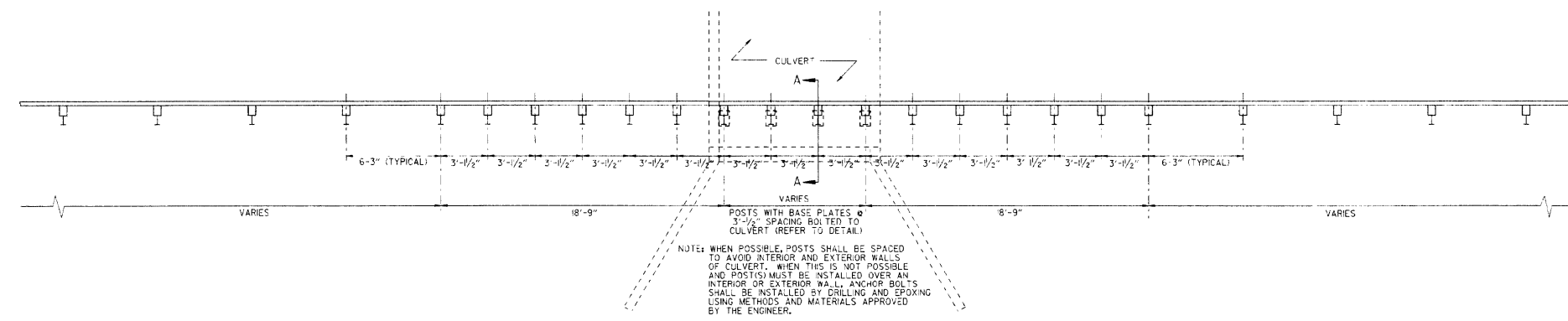
Zone A: Backfill according to Section 617.03(a).

Zone B: Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c). Alternate gradation, Compact to 95% maximum dry density per ASTM D-698.

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B: Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)



PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

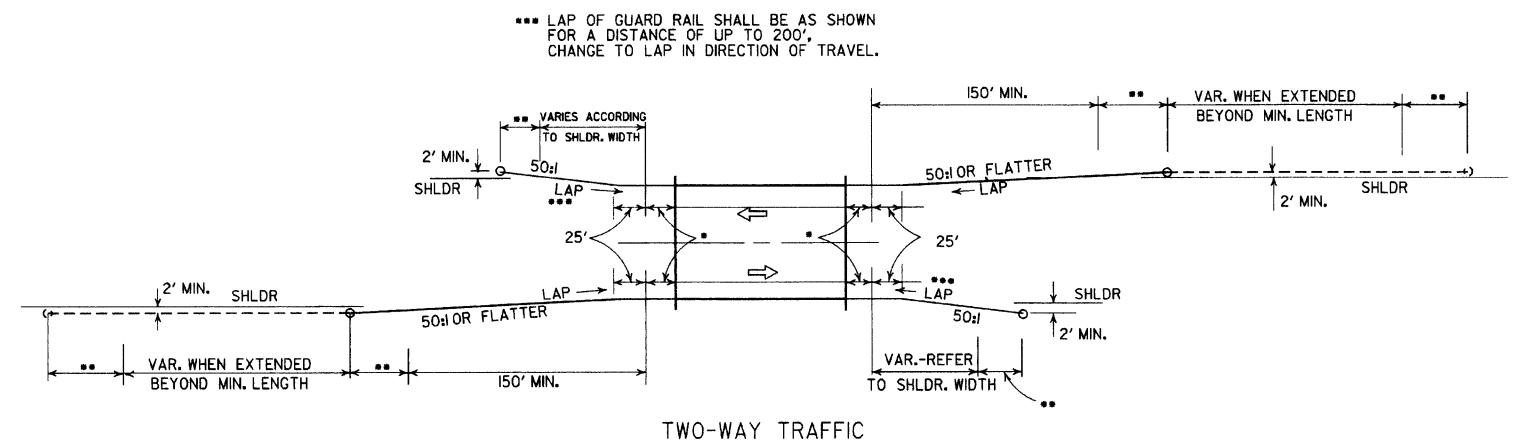
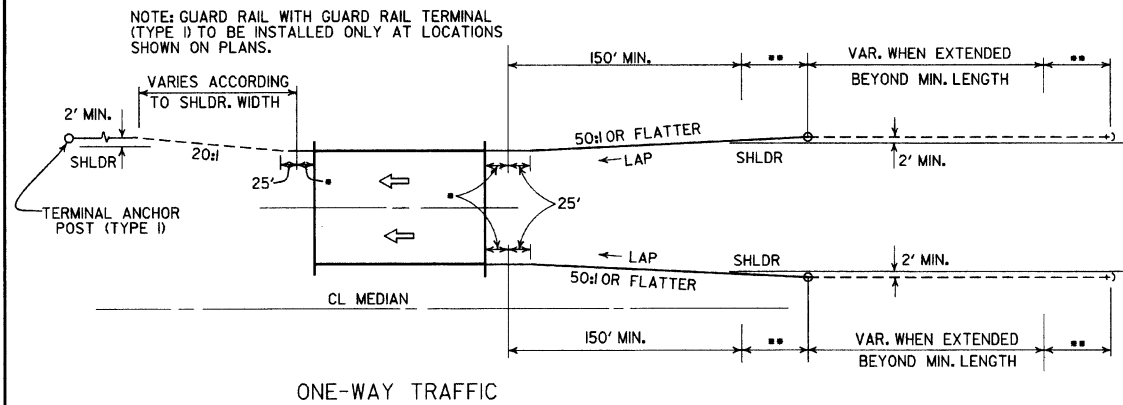
NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARD RAIL POSTS AS SHOWN ON STD. DRWG. GR-8.

|          |                                                                                                                                                                                                                               |               |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 7-14-10  | RAISED HEIGHT OF GUARD RAIL 1"                                                                                                                                                                                                |               |
| 4-12-07  | REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB                                                                                                                                                                            |               |
| 11-10-05 | ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION                                                                                                                                                          |               |
| 11-18-04 | REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS                                                                                                       |               |
| 3-30-00  | REMOVED CONCRETE INSERT ANCHOR                                                                                                                                                                                                |               |
| 8-12-98  | CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT; ADD. DET. OF GUARD RAIL CONNECTION TO "R.C. BOX CULVERT"; DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POST PLACE IN SOLID ROCK |               |
| 4-3-96   | PLACED ARROWS AT CUT STEEL WASHERS                                                                                                                                                                                            | 4-3-96        |
| 10-18-96 | REV. ASTM REF. TO AASHTO                                                                                                                                                                                                      |               |
| 11-22-95 | ADDED OPTIONAL HOLES                                                                                                                                                                                                          |               |
| 6-2-94   | REVISED ALTERNATE POST SIZE                                                                                                                                                                                                   |               |
| 8-5-93   | REVISED STEEL POST SIZE                                                                                                                                                                                                       |               |
| 10-1-92  | REDRAWN & REVISED                                                                                                                                                                                                             | 10-1-92       |
| 8-2-90   | DEL. WASHER ON ANCHOR ASSEMBLY                                                                                                                                                                                                | 8-2-90        |
| 7-15-88  | CONFORMED TO 1988 SPECS                                                                                                                                                                                                       |               |
| 3-4-88   | REVISED ANCHOR NOTE                                                                                                                                                                                                           |               |
| 10-30-87 | REVISED ANCHOR ASSEMBLY                                                                                                                                                                                                       | 7-2-10-30-87  |
| 10-30-87 | REVISED PLACEMENT BEHIND CURB                                                                                                                                                                                                 | 5-47-10-30-87 |
| 10-9-87  | REDRAWN & REVISED                                                                                                                                                                                                             | 803-10-9-87   |
| DATE     | REVISION                                                                                                                                                                                                                      | DATE FILM     |

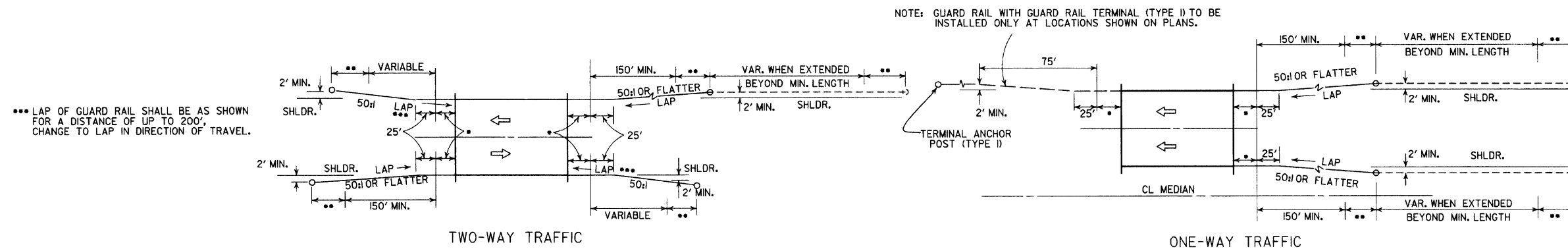
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-8A

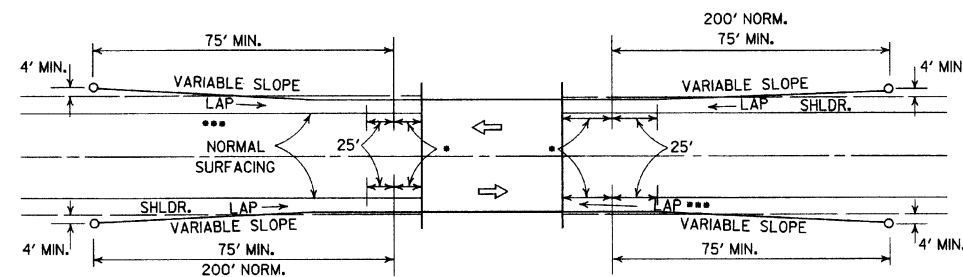


METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)



METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

\*\*\* LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.



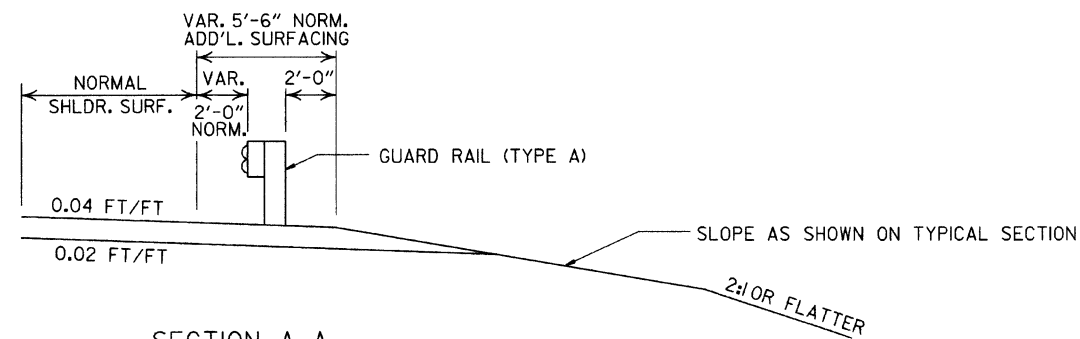
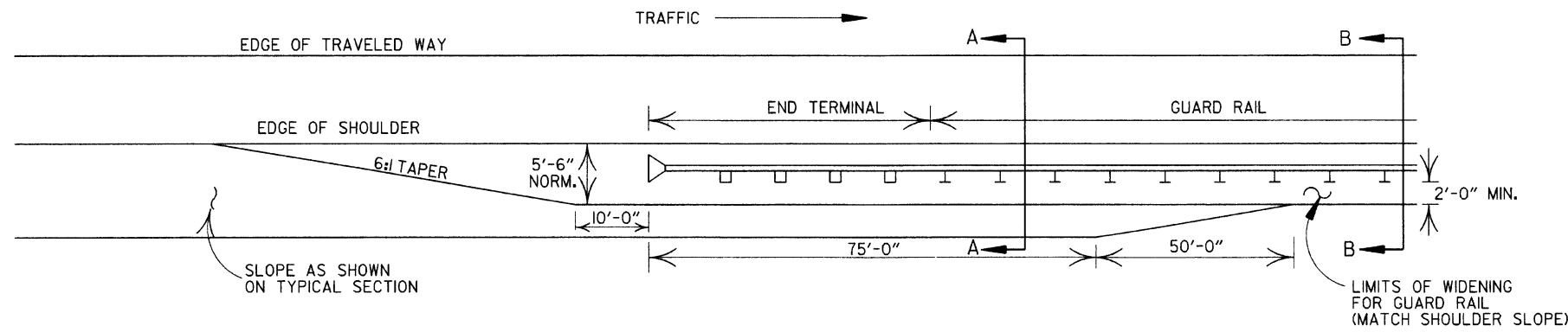
## LEGEND

- THRIE BEAM GUARD RAIL TERMINAL
- GUARD RAIL TERMINAL (TYPE 2)

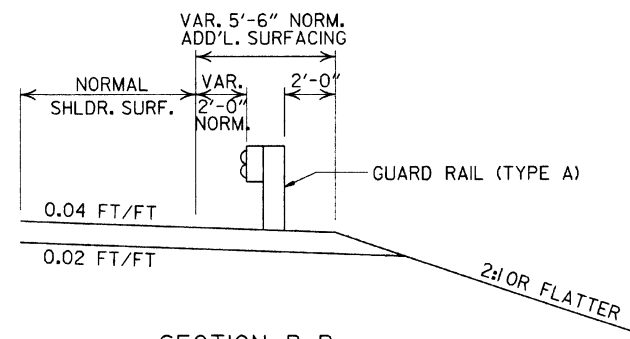
METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)

|                                   |                                                                                  |           |
|-----------------------------------|----------------------------------------------------------------------------------|-----------|
| ARKANSAS STATE HIGHWAY COMMISSION |                                                                                  |           |
| GUARD RAIL DETAILS                |                                                                                  |           |
| STANDARD DRAWING GR-9             |                                                                                  |           |
| 4-17-08                           | REVISED LAYOUTS                                                                  |           |
| 11-10-05                          | REMOVED GUARD RAIL NOTES AND DETAILS                                             |           |
| 11-16-01                          | DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. 1) |           |
| 1-12-00                           | ADDED CONSTRUCTION NOTE                                                          | 1-12-00   |
| 6-26-97                           | REVISED LAYOUT                                                                   |           |
| 10-1-92                           | REDRAWN & REVISED                                                                | 10-1-92   |
| 10-9-87                           | ADDED NOTE                                                                       |           |
| 10-9-87                           | REDRAWN & REVISED                                                                |           |
| DATE                              | REVISION                                                                         | DATE FILM |





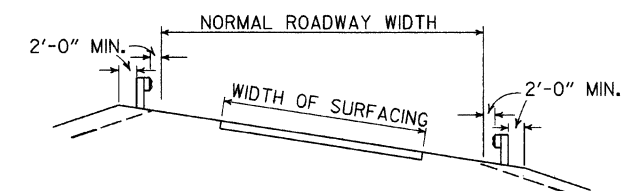
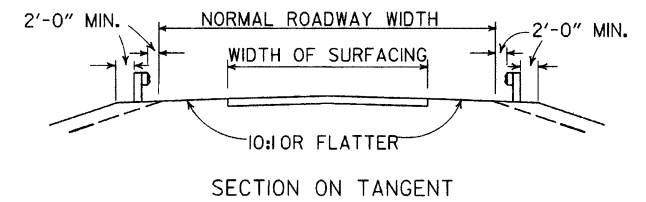
SECTION A-A



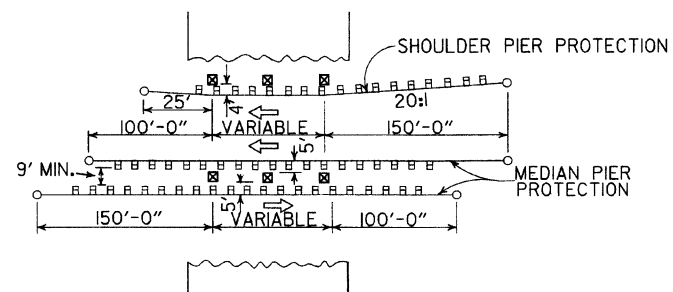
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.



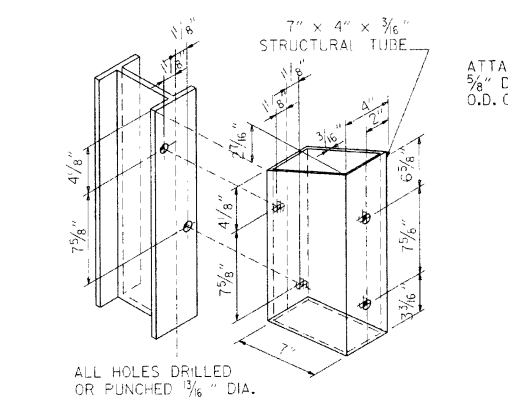
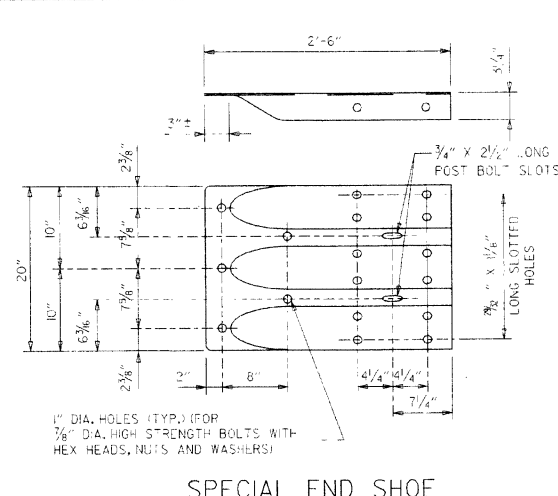
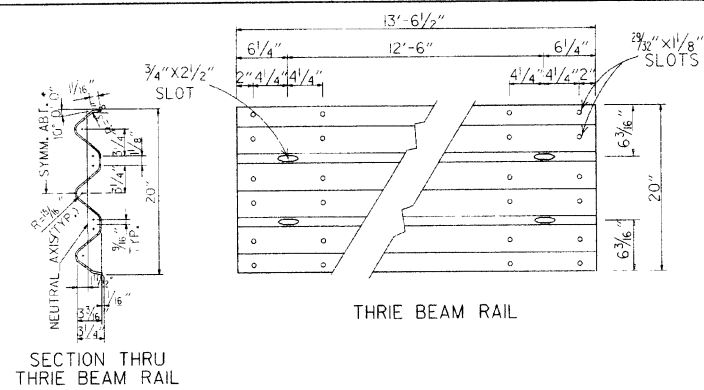
DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



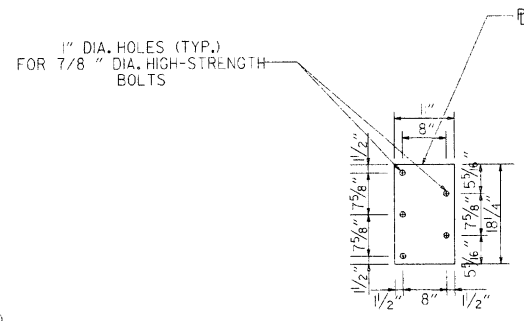
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

|                                   |                |      |      |
|-----------------------------------|----------------|------|------|
| ARKANSAS STATE HIGHWAY COMMISSION |                |      |      |
| GUARD RAIL DETAILS                |                |      |      |
| STANDARD DRAWING GR-9A            |                |      |      |
| 4-17-08                           | MINOR REVISION |      |      |
| 11-10-05                          | DRAWN          |      |      |
| DATE                              | REVISION       | DATE | FILM |

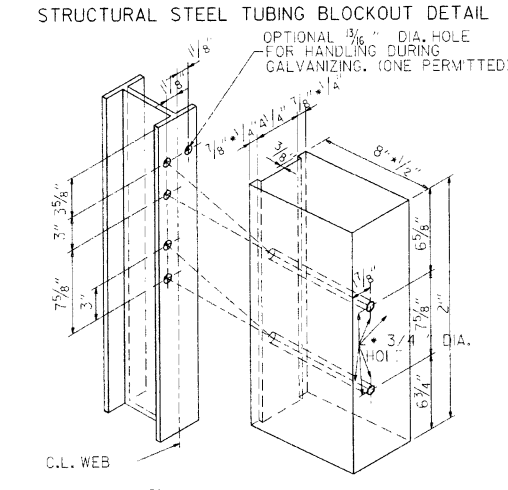




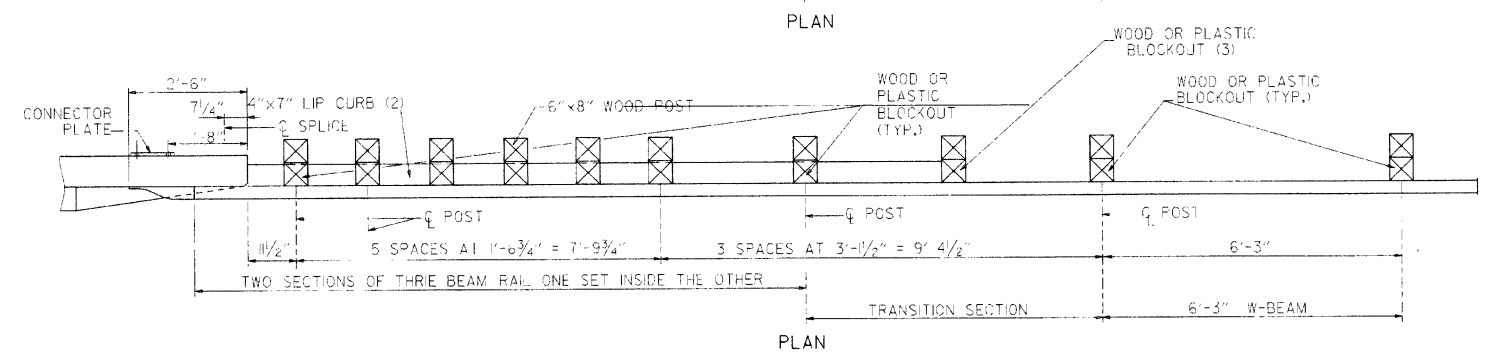
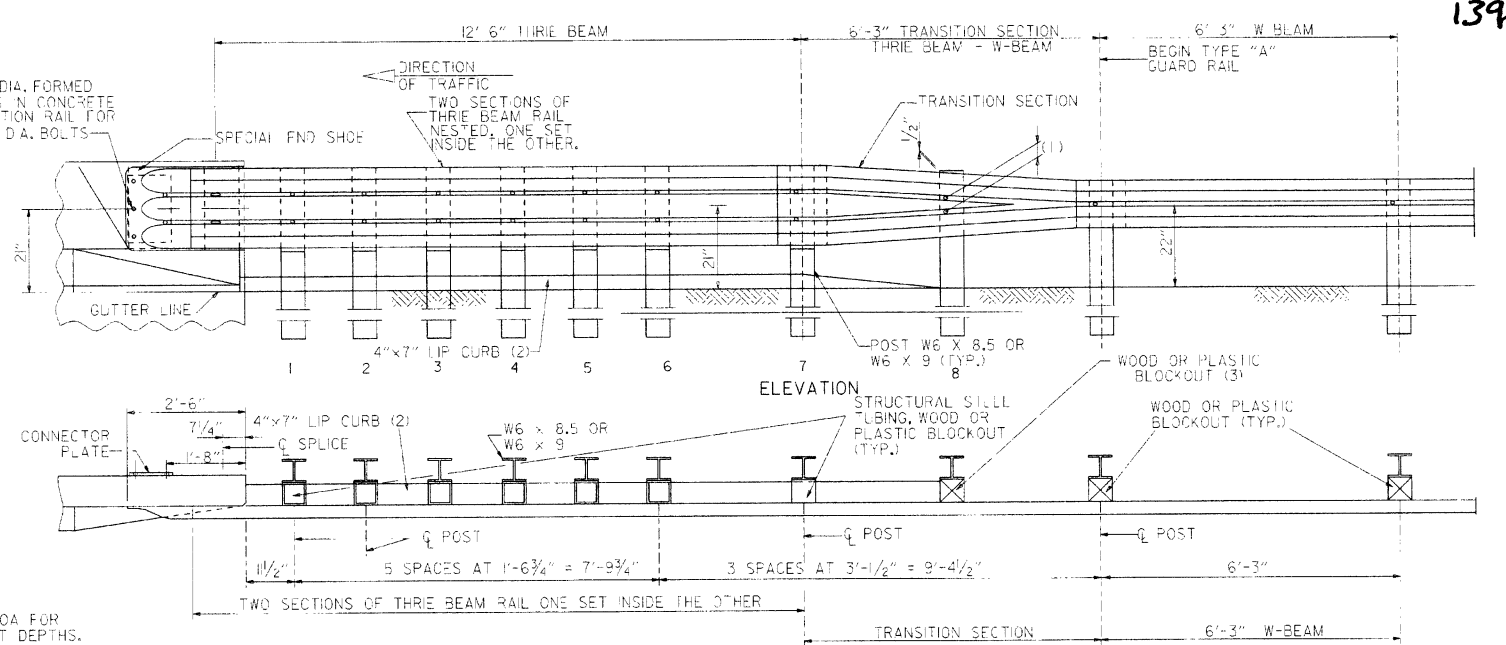
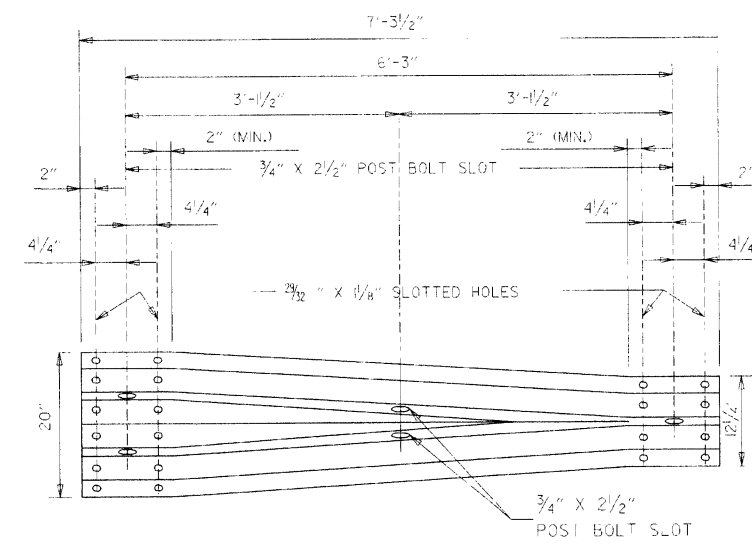
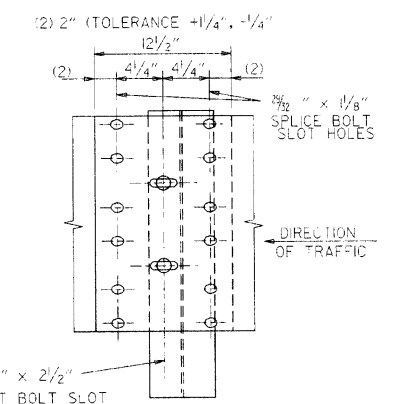
ATTACH BLOCKOUT TO POST USING 3/8" DIA. HEX HEAD BOLTS WITH 1/2" O.D. CUT STEEL WASHERS AND NUT.



CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.9 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING 3/8" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



- (1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
- (2) REFER TO APPROACH GUTTER DETAILS.
- (3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

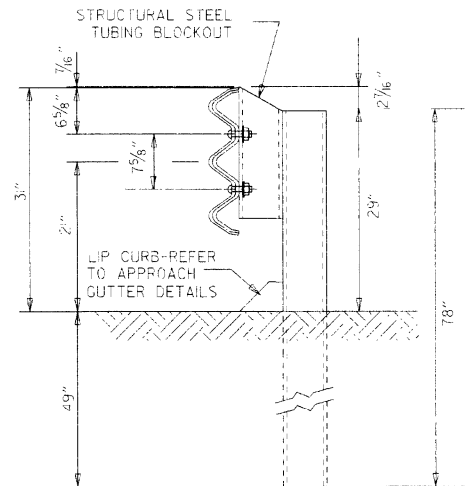
### THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

#### GENERAL NOTES:

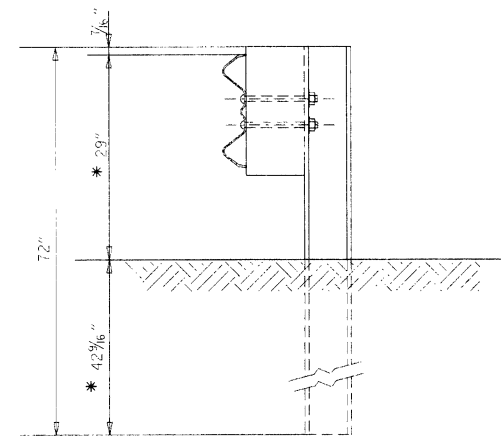
THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I. RAIL POSTS SHALL BE SELF-PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION. ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT. ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11. WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE. REFER TO STD. DRWG. GR-10A FOR POST DETAILS. USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

|          |                                         |            |
|----------|-----------------------------------------|------------|
| 7-14-10  | RAISED HEIGHT OF W-BEAM 1"              |            |
| 11-29-07 | ADDED PLASTIC BLOCKOUTS                 |            |
| 11-10-05 | ADDED NOTE FOR ATTACHING STEEL BLOCKOUT |            |
| 11-18-04 | REVISED GENERAL NOTES                   |            |
| 10-9-03  | REVISED GENERAL NOTES                   |            |
| 4-10-03  | REVISED GENERAL NOTES                   |            |
| 8-22-02  | REVISED NOTE (2)                        |            |
| 6-29-00  | MOVED DIMENSION LINES                   |            |
| 5-8-00   | ADDED NOTE                              |            |
| 3-30-00  | DRAWN & ISSUED                          |            |
| DATE     | REVISION                                | DATE FILED |

|                                   |
|-----------------------------------|
| ARKANSAS STATE HIGHWAY COMMISSION |
| GUARD RAIL DETAILS                |
| STANDARD DRAWING GR-10            |

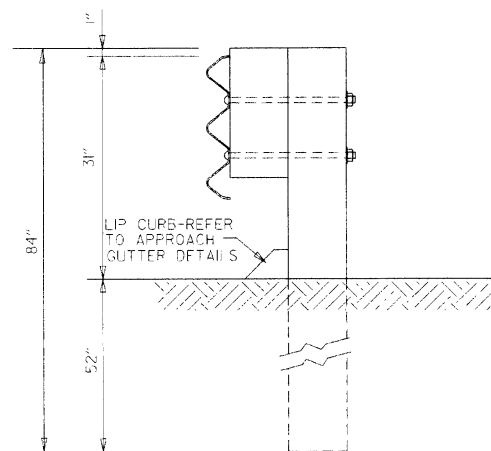


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT  
AND STEEL POST  
POSTS 1-7

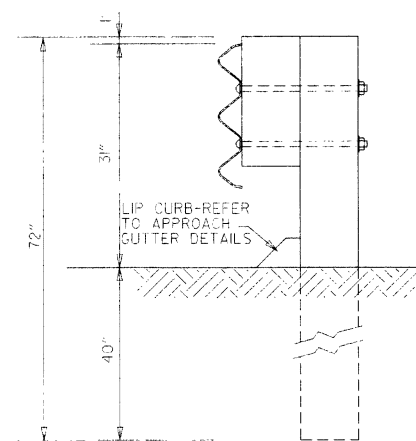


W-BEAM TO THRIE BEAM TRANSITION RAIL  
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST  
POST 8

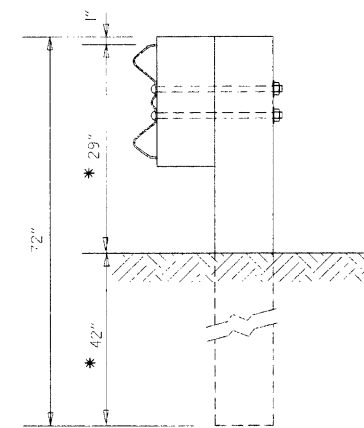
\* NOTE:  
THESE DIMENSIONS WILL NEED TO BE ADJUSTED  
IN THE FIELD TO MAKE THE TRANSITION FROM  
21" MID POINT OF THRIE BEAM TO 22" MID POINT  
OF W-BEAM.



THRIE BEAM RAIL  
WITH WOOD OR PLASTIC  
BLOCKOUTS & WOOD POSTS  
POSTS 1-6



THRIE BEAM RAIL  
WITH WOOD OR PLASTIC  
BLOCKOUT & WOOD POST  
POST 7



W-BEAM TO THRIE BEAM  
TRANSITION RAIL WITH WOOD OR  
PLASTIC BLOCKOUT & WOOD POST  
POST 8

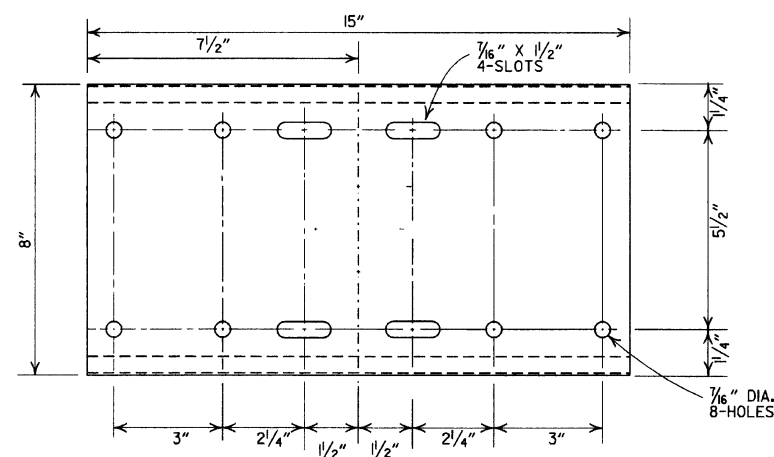
GENERAL NOTES:  
RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND  
VERTICALLY IN CROSS SECTION.  
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR  
BETTER 9.7F (400 F) OR NO. 1 (350 F) SOUTHERN PINE.

| DATE     | REVISION                  | DATE | FIRM |
|----------|---------------------------|------|------|
| 7-14-10  | REVISED POST 8 DIMENSIONS |      |      |
| 11-29-07 | ADDED PLASTIC BLOCKOUTS   |      |      |
| 8-22-02  | REVISED LIP CURB NOTE     |      |      |
| 3-30-00  | DRAWN & ISSUED            |      |      |

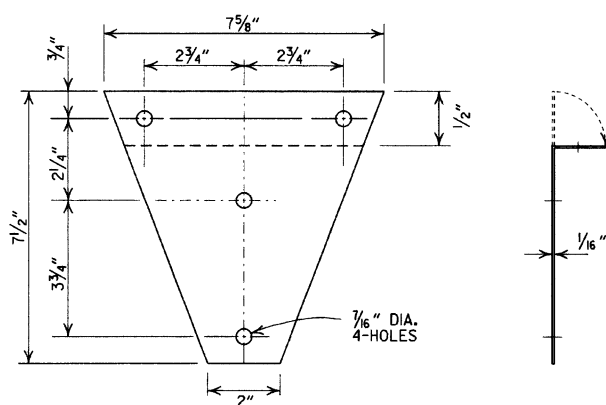
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

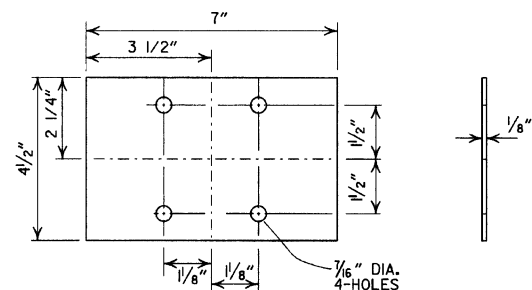
STANDARD DRAWING GR-10A



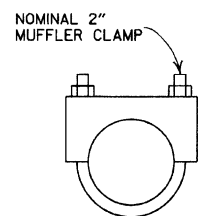
SHELF



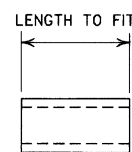
BRACKET



ANTI-TWIST PLATE

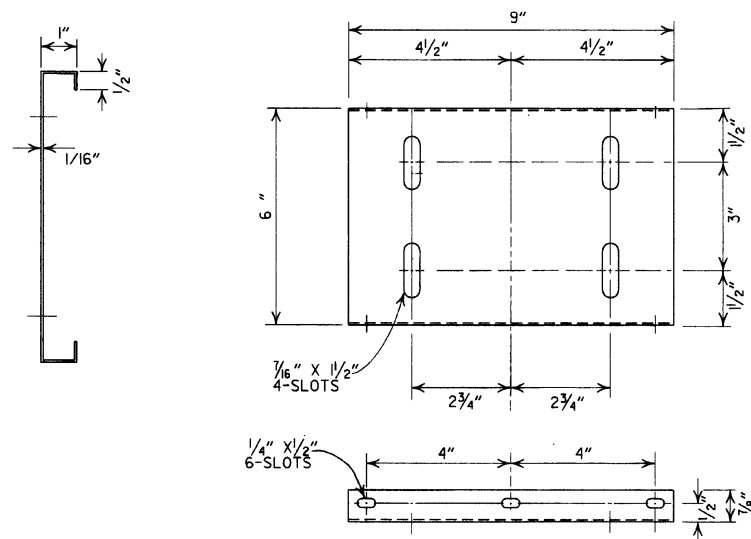


CLAMP

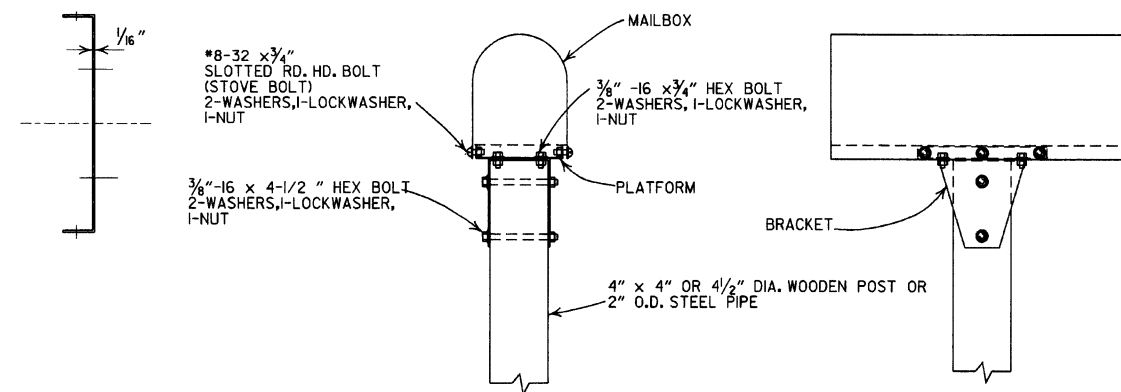


SPACER

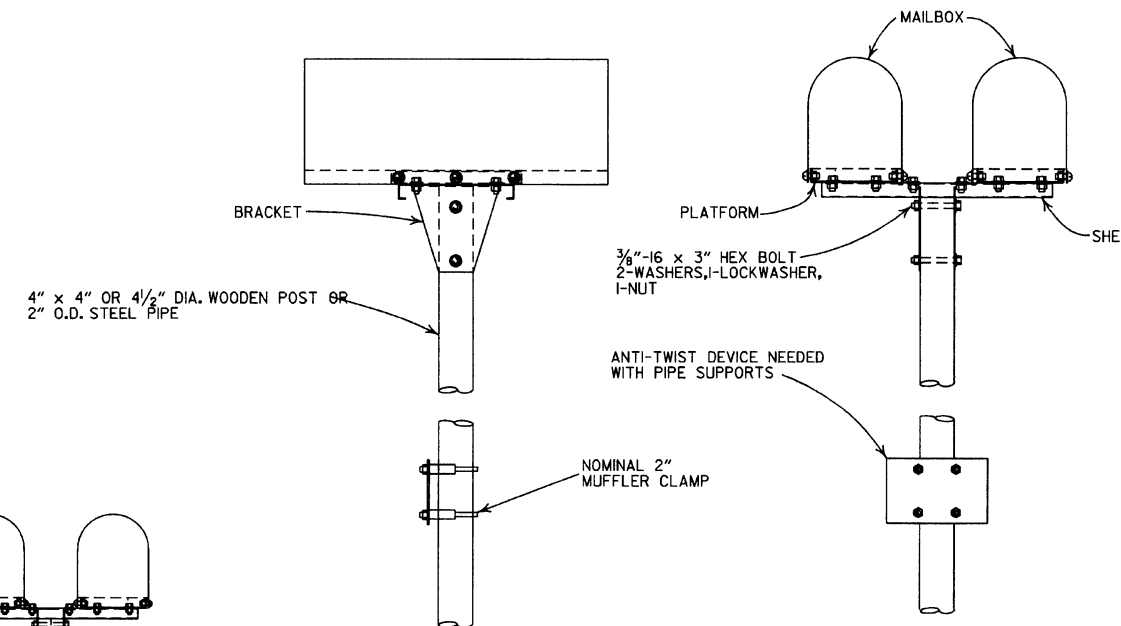
NOMINAL 1/2" STD. WT. PIPE



PLATFORM

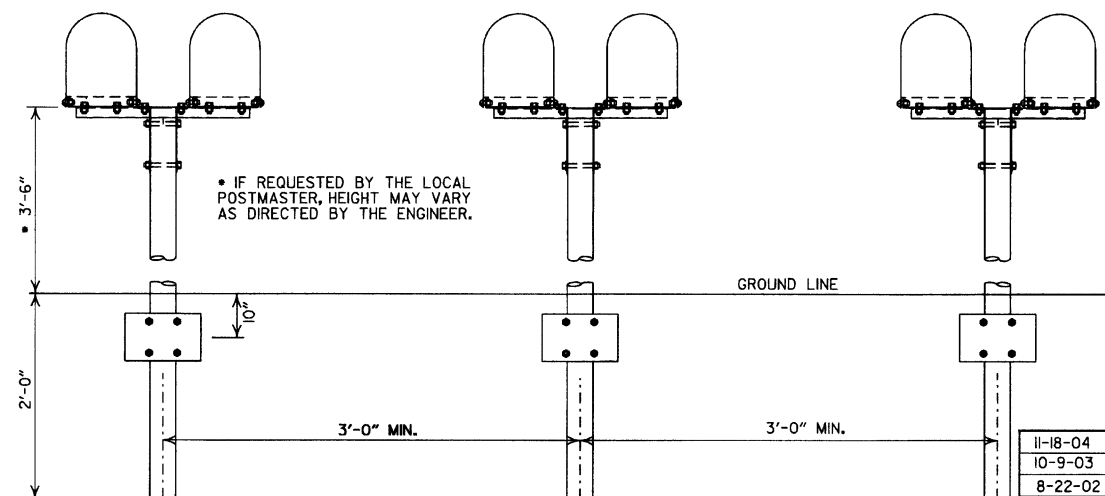


SINGLE INSTALLATION



DOUBLE INSTALLATION

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



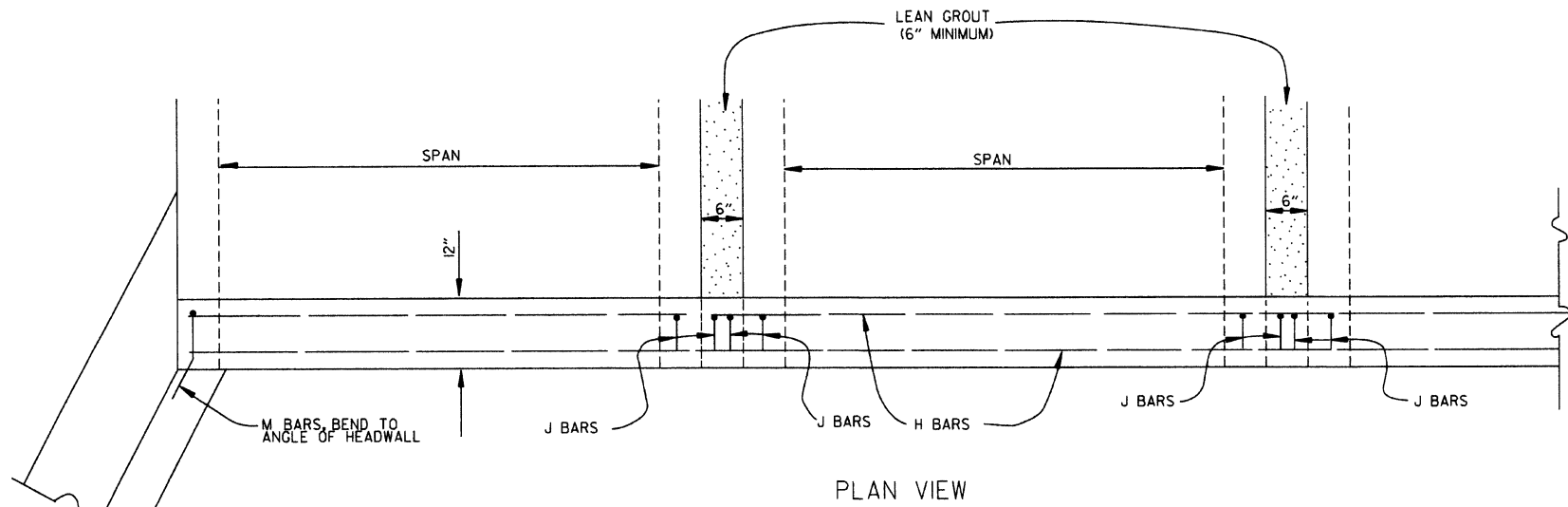
SPACING FOR MULTIPLE POST INSTALLATION

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

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1



| BAR LIST |     |      |        |                     |  |
|----------|-----|------|--------|---------------------|--|
| BAR      | NO. | SIZE | LENGTH | BAR BENDING DIAGRAM |  |
| H        | 2   | #4   | •      |                     |  |
| I        | •   | #4   | •      |                     |  |
| J        | •   | #4   | 1'-5"  |                     |  |
| L        | •   | #4   | 3'-2"  |                     |  |
| M        | •   | #4   | 1'-8"  |                     |  |

• NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

GENERAL NOTES

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

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE WING DRAWING. STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, MEMBRANE WATERPROOFING, DRAINAGE FILL MATERIAL, GEOTEXTILE FILTER FABRIC, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:  
PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.  
SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS. THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE. THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

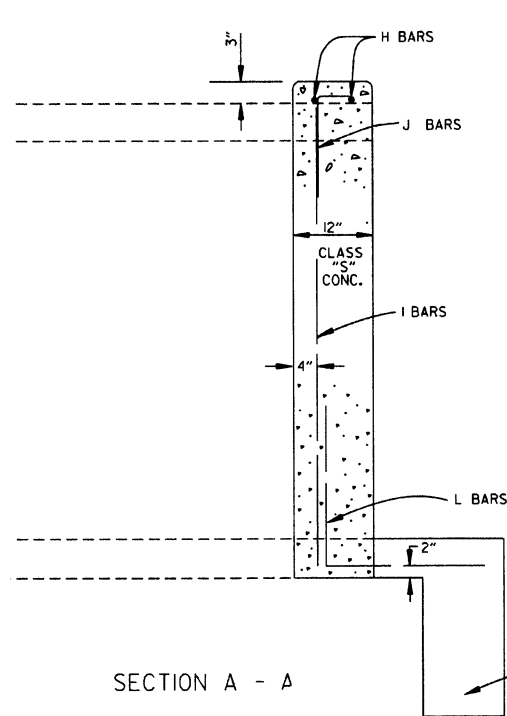
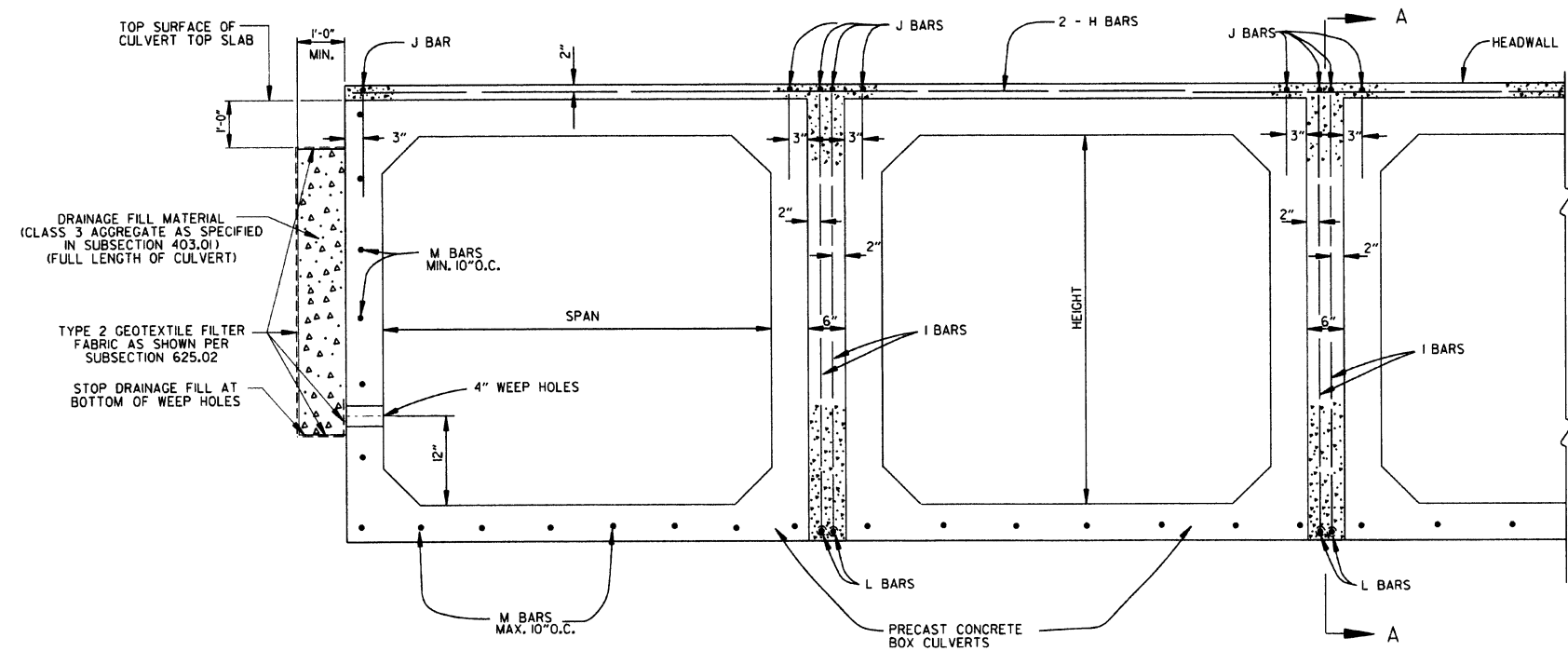
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

IN OUTER BARRELS, ONE WEEP HOLE IS REQUIRED IN EXTERIOR WALLS OF EACH PRECAST CULVERT SECTION. WEEP HOLES SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" IN THE ASSEMBLED CULVERT AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT. SEE DETAILS ON THIS DRAWING.

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.



|          |                                                   |             |
|----------|---------------------------------------------------|-------------|
| 1-28-15  | REVISED GEOTEXTILE FABRIC PLACEMENT               |             |
| 12-15-11 | ADDED NOTE & DTLs FOR WEEP HOLE AND DRAINAGE FILL |             |
| 10-15-09 | ADDED GENERAL NOTE                                |             |
| 11-10-05 | REVISED SPACING OF "M" BARS                       |             |
| 4-10-03  | REVISED GENERAL NOTES                             |             |
| 10-18-96 | CORRECTED AASHTO REF.                             |             |
| 10-1-92  | ADDED NOTE FOR MEMBRANE WATERPROOFING             |             |
| 8-15-91  | ADDED NOTE FOR LEAN GROUT                         |             |
| 11- 8-90 | REVISED FOR 1991 SPECS                            |             |
| 11-30-89 | ISSUED; JABE                                      |             |
| DATE     | REVISION                                          | DATE FILMED |

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE  
ARCH PIPE DIMENSIONS

| EQUIV.<br>DIA. | SPAN            |                 | RISE            |                 |
|----------------|-----------------|-----------------|-----------------|-----------------|
|                | AASHTO<br>M 206 | AHTD<br>NOMINAL | AASHTO<br>M 206 | AHTD<br>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             | 51½             | 51              | 31¾             | 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             | 87½             | 87              |
| 120            | 154             | 154             | 96¾             | 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.<br>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)(i).

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.

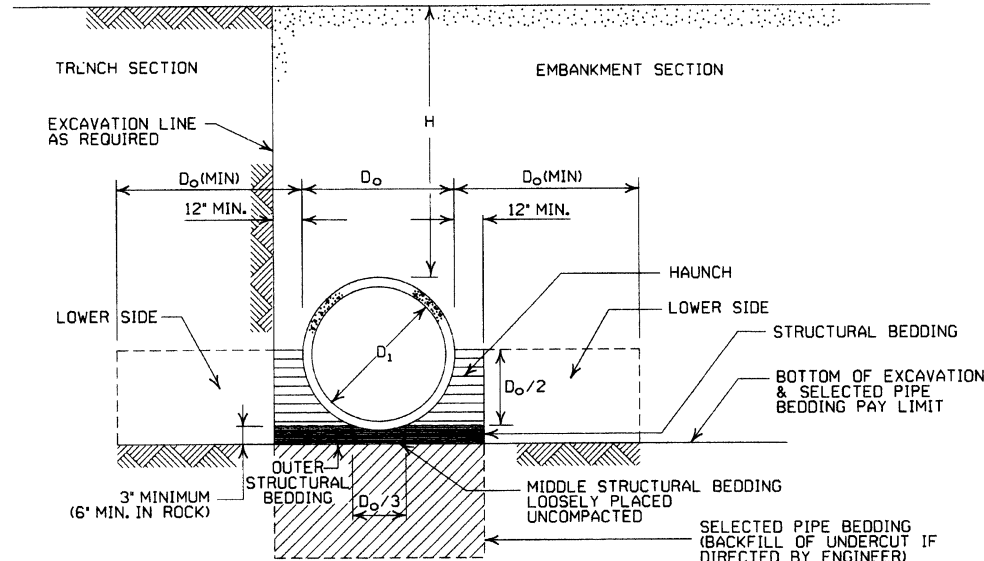
- LEGEND -

D<sub>i</sub> = NORMAL INSIDE DIAMETER OF PIPE  
D<sub>o</sub> = OUTSIDE DIAMETER OF PIPE  
H = FILL COVER HEIGHT OVER PIPE (FEET)  
MIN. = MINIMUM  
= UNDISTURBED SOIL

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

\* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS, UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606, CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H"  
OVER CIRCULAR R.C. PIPE CULVERTS

|                   | CLASS OF PIPE |        |          |         |
|-------------------|---------------|--------|----------|---------|
|                   | CLASS III     |        | CLASS IV | CLASS V |
| INSTALLATION TYPE | TYPE 1 OR 2   | TYPE 3 | ALL      | ALL     |
| PIPE ID (IN.)     | FEET          |        |          |         |
| 12-15             | 2             | 2.5    | 2        | 1       |
| 18-24             | 2.5           | 3      | 2        | 1       |
| 27-33             | 3             | 4      | 2        | 1       |
| 36-42             | 3.5           | 5      | 2        | 1       |
| 48                | 4.5           | 5.5    | 2        | 1       |
| 54-60             | 5             | 7      | 2        | 1       |
| 66-78             | 6             | 8      | 2        | 1       |
| 84-108            | 7.5           | 8      | 2        | 1       |

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

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.

| DATE     | REVISION                               | DATE FILMED |
|----------|----------------------------------------|-------------|
| 2-27-14  | REVISED GENERAL NOTE 1.                |             |
| 12-15-11 | REVISED FOR LRFD DESIGN SPECIFICATIONS |             |
| 5-18-00  | REVISED TYPE 3 BEDDING & ADDED NOTE    |             |
| 3-30-00  | REVISED INSTALLATIONS                  |             |
| 11-06-97 | ISSUED                                 |             |

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT  
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1



CORRUGATED STEEL PIPE (ROUND)

| PIPE DIAMETER (INCHES)                                                                              | ① 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<br>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<br>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    |

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.

CORRUGATED ALUMINUM PIPE (ROUND)

| PIPE<br>DIAMETER<br>(INCHES) | ① MINIMUM<br>COVER TOP OF<br>PIPE TO TOP<br>OF GROUND<br>"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<br>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    |

EQUIVALENT METAL THICKNESSES AND GAUGES

| METAL THICKNESS IN INCHES |          |          | GAUGE<br>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               |

CORRUGATED METAL PIPE ARCHES

| EQUIV. DIA.<br>(INCHES) | PIPE DIMENSION<br>SPAN X RISE<br>(INCHES) | MINIMUM CORNER RADIUS<br>(INCHES) | STEEL                                                                                       |                                  |        |                                | ALUMINUM                                                           |                                  |        |                                |
|-------------------------|-------------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------|----------------------------------|--------|--------------------------------|--------------------------------------------------------------------|----------------------------------|--------|--------------------------------|
|                         |                                           |                                   | MIN. THICKNESS<br>REQUIRED<br>INCHES                                                        | ① MIN. HEIGHT OF FILL, "H" (FT.) |        | MAX. HEIGHT OF FILL, "H" (FT.) | MIN. THICKNESS<br>REQUIRED<br>INCHES                               | ① MIN. HEIGHT OF FILL, "H" (FT.) |        | MAX. HEIGHT OF FILL, "H" (FT.) |
|                         |                                           |                                   |                                                                                             | INSTALLATION                     |        |                                |                                                                    | INSTALLATION                     |        |                                |
|                         |                                           |                                   |                                                                                             | TYPE 1                           | TYPE 1 |                                |                                                                    | TYPE 1                           | TYPE 1 |                                |
|                         |                                           |                                   | 2 3/4 INCH BY 1/2 INCH CORRUGATION<br>RIVETED, WELDED, OR HELICAL LOCK-SEAM                 |                                  |        |                                | 2 3/4 INCH BY 1/2 INCH CORRUGATION<br>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                                     | 3 1/2                             | 0.079                                                                                       | 3                                |        | 12                             | 0.105                                                              | 3                                |        | 12                             |
| 42                      | 49x33                                     | 4                                 | 0.079                                                                                       | 3                                |        | 12                             | 0.105                                                              | 3                                |        | 12                             |
| 48                      | 57x38                                     | 5                                 | 0.109                                                                                       | 3                                |        | 13                             | 0.135                                                              | 3                                |        | 13                             |
| 54                      | 64x43                                     | 6                                 | 0.109                                                                                       | 3                                |        | 14                             | 0.135                                                              | 3                                |        | 14                             |
| 60                      | 71x47                                     | 7                                 | 0.138                                                                                       | 3                                |        | 15                             | 0.164                                                              | 3                                |        | 15                             |
| 66                      | 77x52                                     | 8                                 | 0.168                                                                                       | 3                                |        | 15                             |                                                                    |                                  |        |                                |
| 72                      | 83x57                                     | 9                                 | 0.168                                                                                       | 3                                |        | 15                             |                                                                    |                                  |        |                                |
|                         |                                           |                                   | ② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION<br>RIVETED, WELDED, OR HELICAL LOCK-SEAM |                                  |        |                                |                                                                    |                                  |        |                                |
|                         |                                           |                                   | INSTALLATION                                                                                |                                  |        |                                | INSTALLATION                                                       |                                  |        |                                |
|                         |                                           |                                   | TYPE 2                                                                                      |                                  | TYPE 1 |                                | TYPE 2                                                             |                                  | TYPE 1 |                                |
| 36                      | 40x31                                     | 5                                 | 0.079                                                                                       | 3                                | 2      | 12                             | 0.079                                                              | 3                                | 2      | 15                             |
| 42                      | 46x36                                     | 6                                 | 0.079                                                                                       | 3                                | 2      | 13                             | 0.079                                                              | 3                                | 2      | 15                             |
| 48                      | 53x41                                     | 7                                 | 0.079                                                                                       | 3                                | 2      | 13                             | 0.079                                                              | 3                                | 2      | 15                             |
| 54                      | 60x46                                     | 8                                 | 0.079                                                                                       | 3                                | 2      | 13                             | 0.079                                                              | 3                                | 2      | 15                             |
| 60                      | 66x51                                     | 9                                 | 0.079                                                                                       | 3                                | 2      | 13                             | 0.079                                                              | 3                                | 2      | 15                             |
| 66                      | 73x55                                     | 12                                | 0.079                                                                                       | 3                                | 2      | 15                             | 0.079                                                              | 3                                | 2      | 15                             |
| 72                      | 81x59                                     | 14                                | 0.079                                                                                       | 3                                | 2      | 15                             | 0.079                                                              | 3                                | 2      | 15                             |
| 78                      | 87x63                                     | 14                                | 0.079                                                                                       | 3                                | 2      | 15                             | 0.079                                                              | 3                                | 2      | 15                             |
| 84                      | 95x67                                     | 16                                | 0.109                                                                                       | 3                                | 2      | 15                             | 0.109                                                              | 3                                | 2      | 15                             |
| 90                      | 103x71                                    | 16                                | 0.109                                                                                       | 3                                | 2      | 15                             | 0.109                                                              | 3                                | 2      | 15                             |
| 96                      | 112x75                                    | 18                                | 0.109                                                                                       | 3                                | 2      | 15                             | 0.109                                                              | 3                                | 2      | 15                             |
| 102                     | 117x79                                    | 18                                | 0.109                                                                                       | 3                                | 2      | 15                             | 0.109                                                              | 3                                | 2      | 15                             |
| 108                     | 128x83                                    | 18                                | 0.138                                                                                       | 3                                | 2      | 15                             | 0.138                                                              | 3                                | 2      | 15                             |

① FOR MINIMUM COVER VALUES, "H" SHALL

② WHERE THE STANDARD 2 2/3" x 1/2" COR  
WITH A 3" x 1" OR 5" x 1" CORRUGATION  
OR GREATER THAN THE MAXIMUM FILL

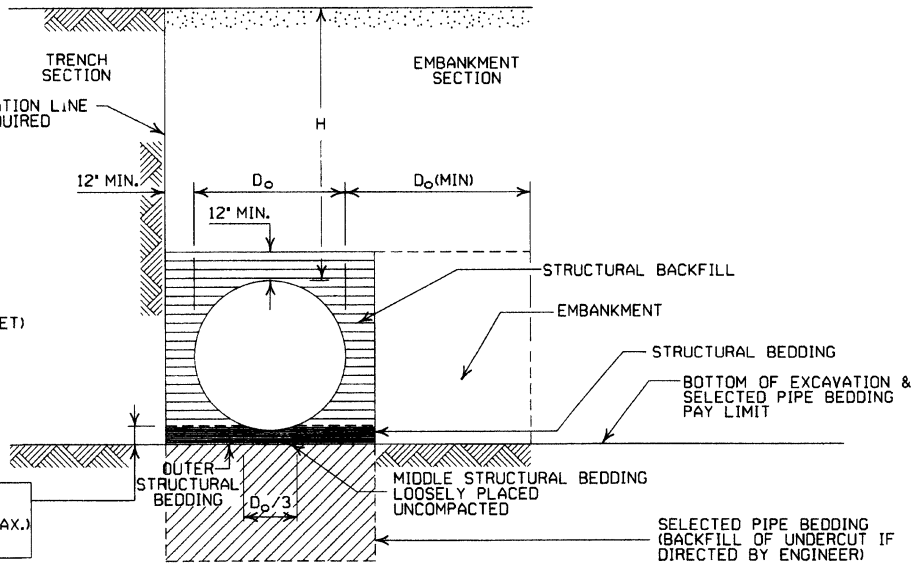
① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

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.

- LEGEND -

- D<sub>o</sub> = 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 STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS, UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

|          |                               |             |
|----------|-------------------------------|-------------|
| 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"          |

①NOTE:  
18" MIN. (18" - 30" DIAMETERS)  
24" MIN. (36" - 48" DIAMETERS)  
MINIMUM COVER VALUES, "H"  
SHALL INCLUDE A MINIMUM 12"  
OF PAVEMENT AND/OR BASE.

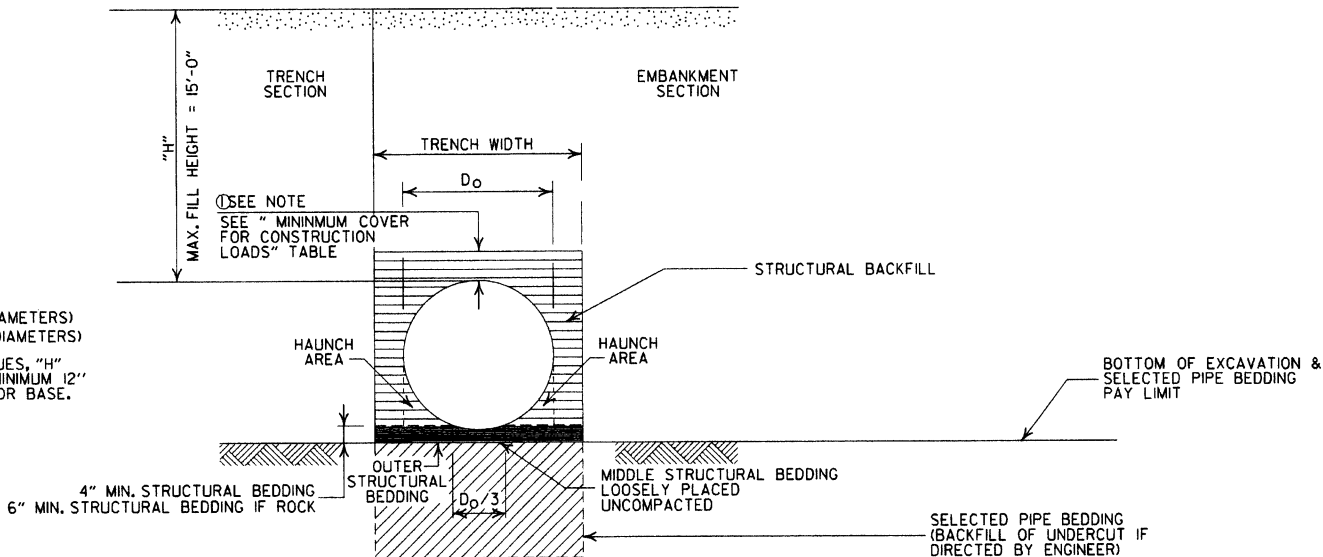
MULTIPLE INSTALLATION OF  
HIGH DENSITY POLYETHYLENE PIPES

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

MINIMUM COVER FOR  
CONSTRUCTION LOADS

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

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



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 AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

|          |                                            |             |
|----------|--------------------------------------------|-------------|
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|          |                                            |             |
|          |                                            |             |
| 2-27-14  | REVISED GENERAL NOTE 1.                    |             |
| 12-15-11 | REVISED GENERAL NOTES & MINIMUM COVER NOTE |             |
| 11-17-10 | ISSUED                                     |             |
| DATE     | REVISION                                   | DATE FILMED |

|                                                     |
|-----------------------------------------------------|
| ARKANSAS STATE HIGHWAY COMMISSION                   |
| PLASTIC PIPE CULVERT<br>(HIGH DENSITY POLYETHYLENE) |
| STANDARD DRAWING PCP-1                              |





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

- AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

- STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

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

#### MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

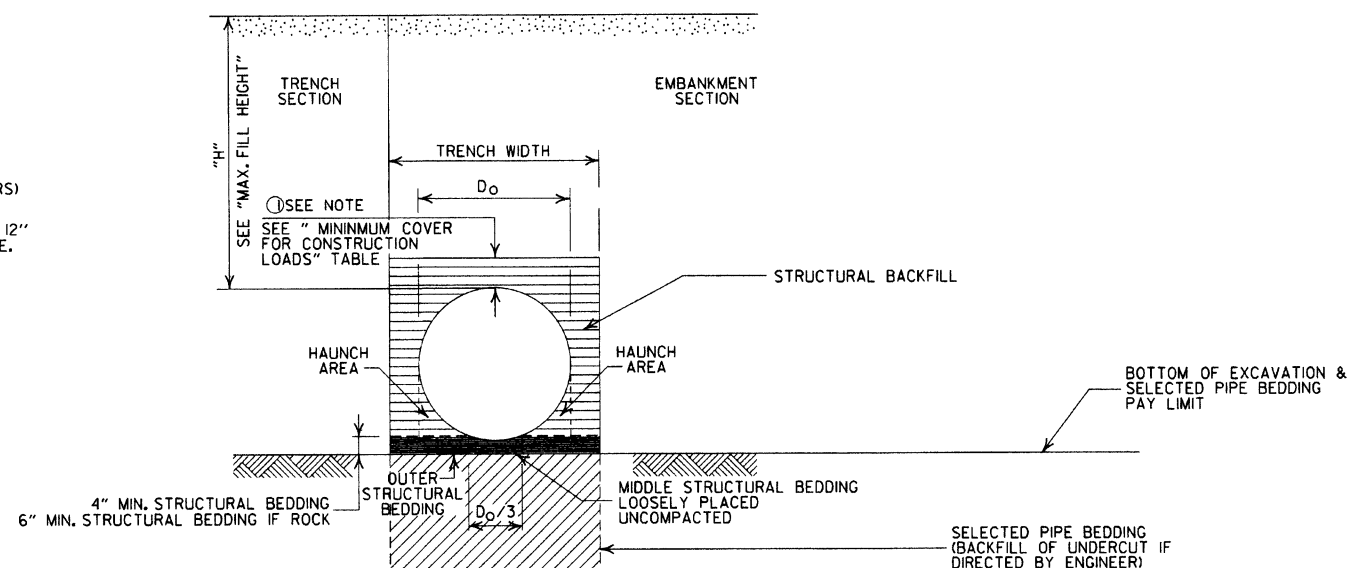
#### MULTIPLE INSTALLATION OF PVC PIPES

| 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<sub>o</sub> = 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 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 |

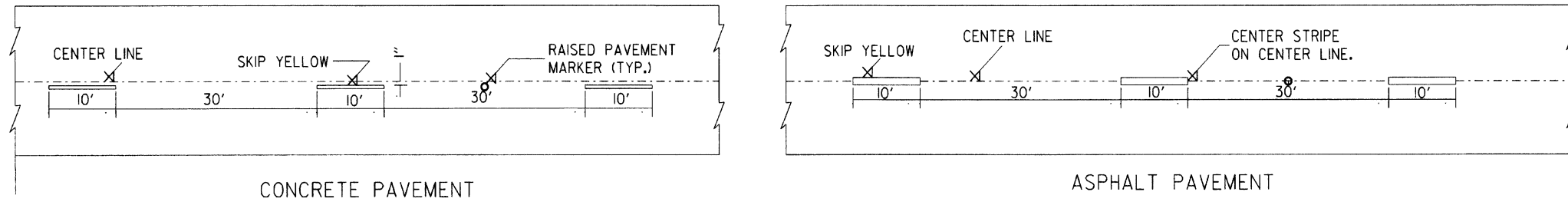
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT  
(PVC F949)

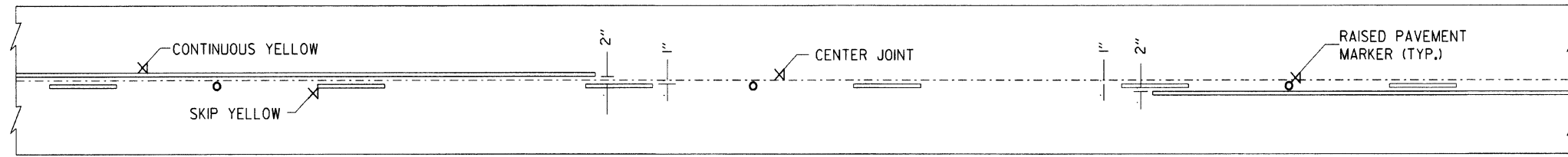
STANDARD DRAWING PCP-2



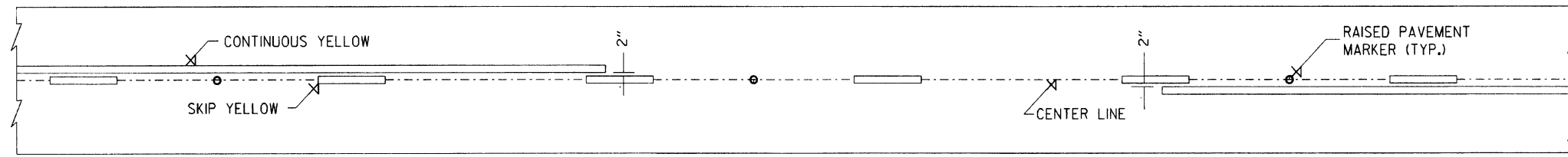
- NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
  2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
  3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN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



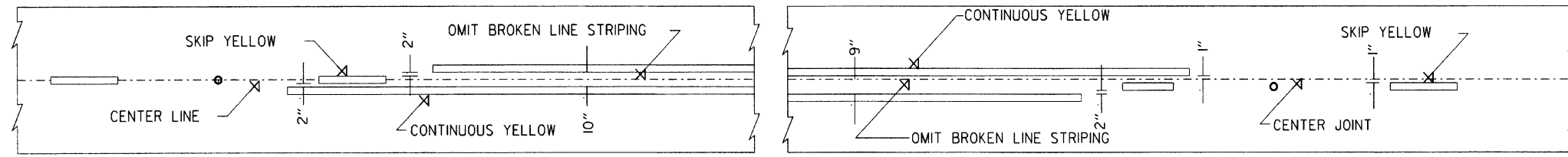
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT

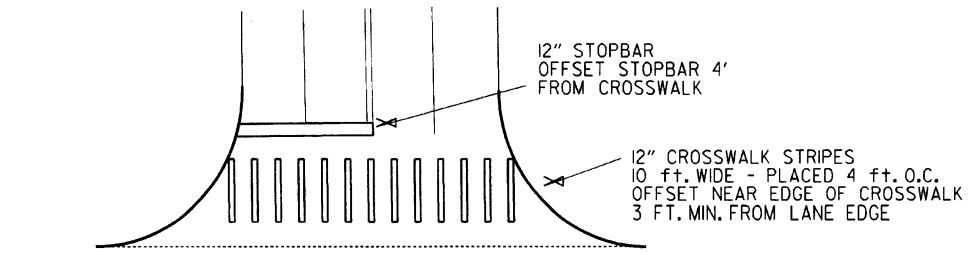


SOLID LINE STRIPING ON ASPHALT PAVEMENT

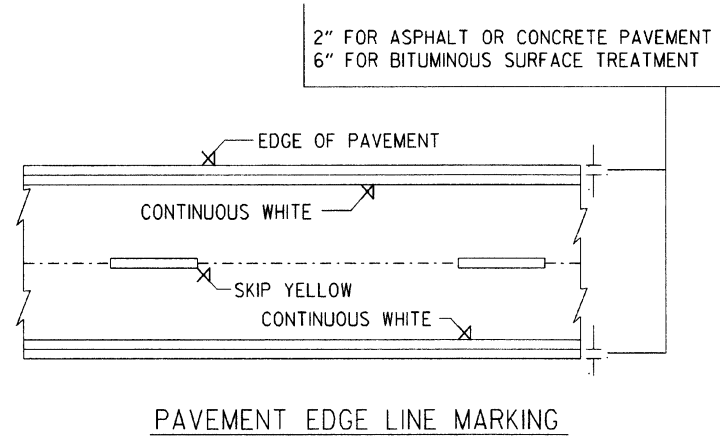


ASPHALT PAVEMENT CONCRETE PAVEMENT

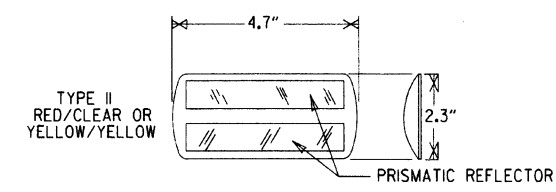
STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS



PAVEMENT EDGE LINE MARKING



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

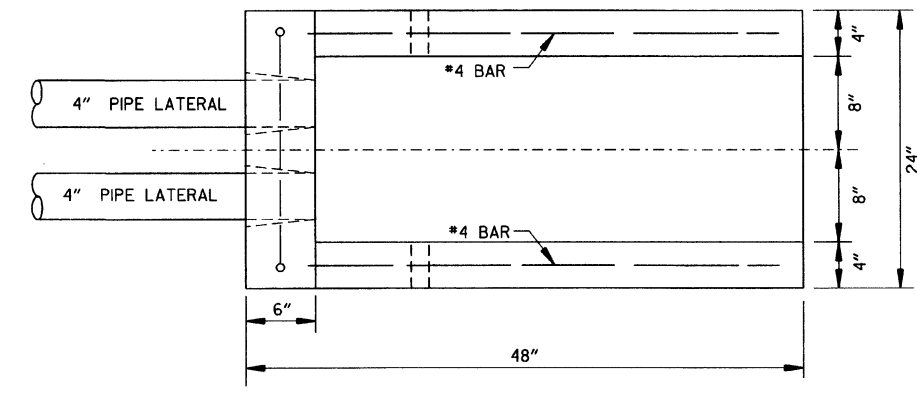
DETAIL OF STANDARD RAISED PAVEMENT MARKERS

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

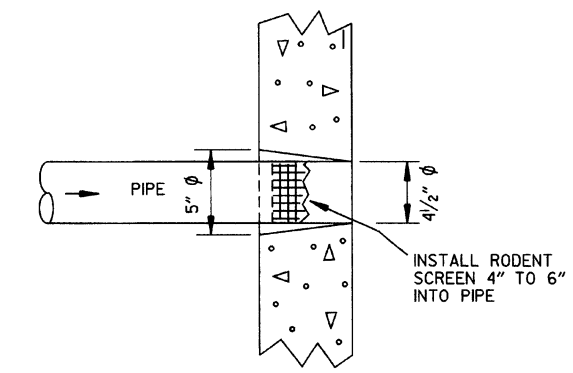
|          |                                                     |           |
|----------|-----------------------------------------------------|-----------|
| 5-12-16  | REVISED LINE WIDTHS, SPACING, & NOTES               |           |
| 9-12-13  | REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS  |           |
| 11-17-10 | REVISED GENERAL NOTES & REMOVED PLOWABLE 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             |

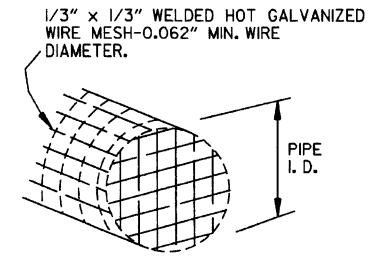
NOTE:  
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.  
2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.  
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, LAP FABRIC 12" OR THE WIDTH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



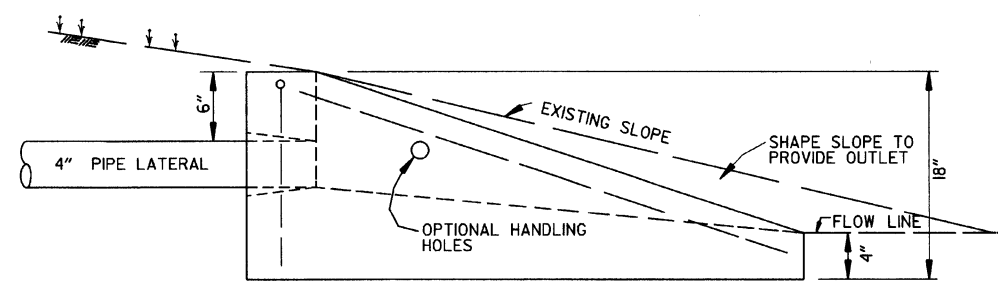
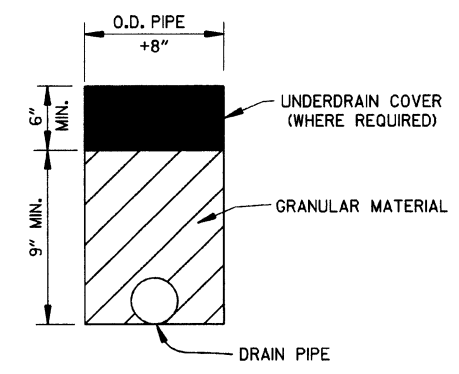
PLAN VIEW



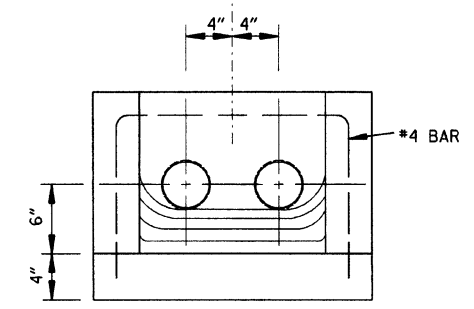
DETAIL OF HOLE FOR 4" PIPE



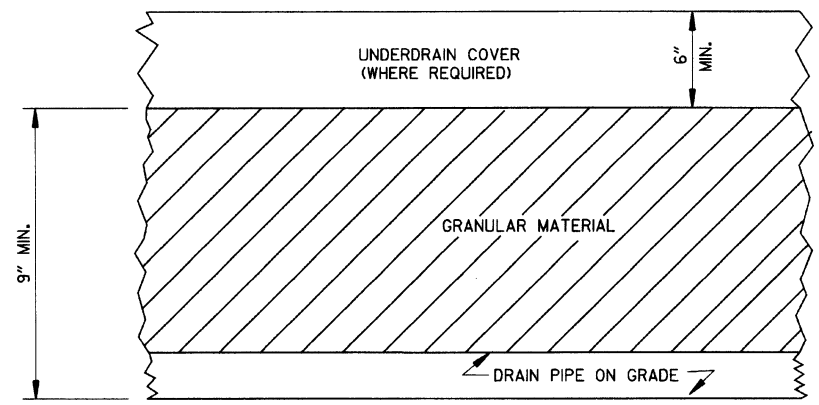
DETAIL OF RODENT SCREEN



SIDE VIEW



FRONT VIEW

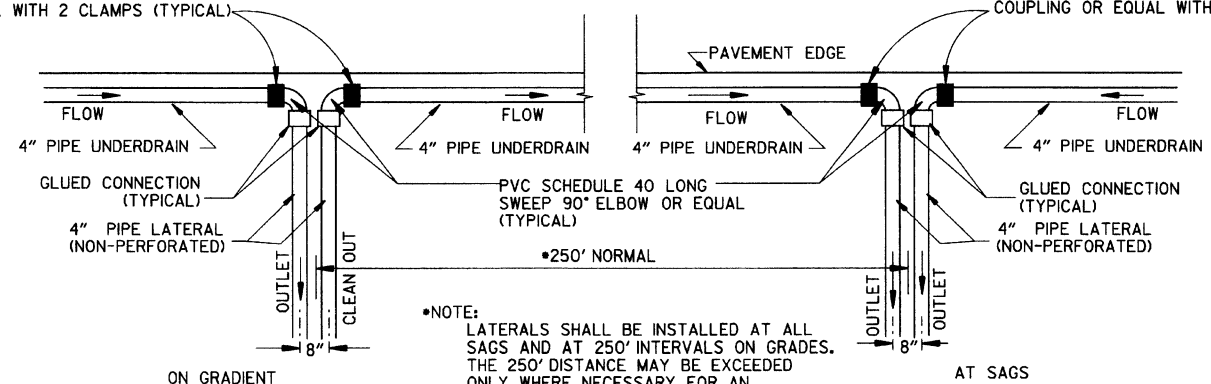


DETAILS OF PIPE UNDERDRAIN

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

UNDERDRAIN OUTLET PROTECTORS

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



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

DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

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

ARKANSAS STATE HIGHWAY COMMISSION

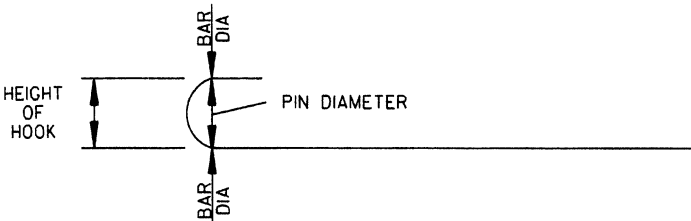
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

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

| BAR SIZE | PIN DIAMETER | HOOK EXTENSION "K" |
|----------|--------------|--------------------|
| 3        | 2 1/4"       | 4"                 |
| 4        | 3 "          | 4 1/2"             |
| 5        | 3 3/4"       | 5"                 |
| 6        | 4 1/2"       | 6"                 |
| 7        | 5 1/4"       | 7"                 |
| 8        | 6"           | 8"                 |

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2 3/4 INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

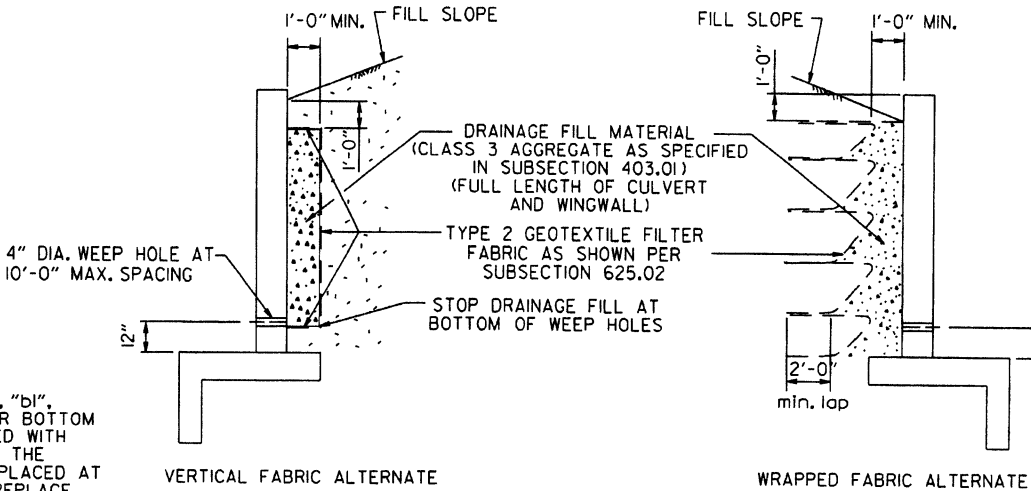
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

| BAR SIZE:<br>"b", "b1", "b2" OR "b3" | LENGTH OF<br>HOOKED BAR | LENGTH OF<br>STRAIGHT BAR |
|--------------------------------------|-------------------------|---------------------------|
| #4                                   | L + 1' - 0"             | SEE "c" BAR LENGTH        |
| #5                                   | L + 1' - 2"             | SEE "c" BAR LENGTH        |
| #6                                   | L + 1' - 4"             | SEE "c" BAR LENGTH        |
| #7                                   | L + 1' - 8"             | SEE "c" BAR LENGTH        |
| #8                                   | L + 1' - 10"            | SEE "c" BAR LENGTH        |
| #9                                   | L + 2' - 6"             | SEE "c" BAR LENGTH        |

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. REINFORCING STEEL SHALL BE AASHTO M 31OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL & CULVERT DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

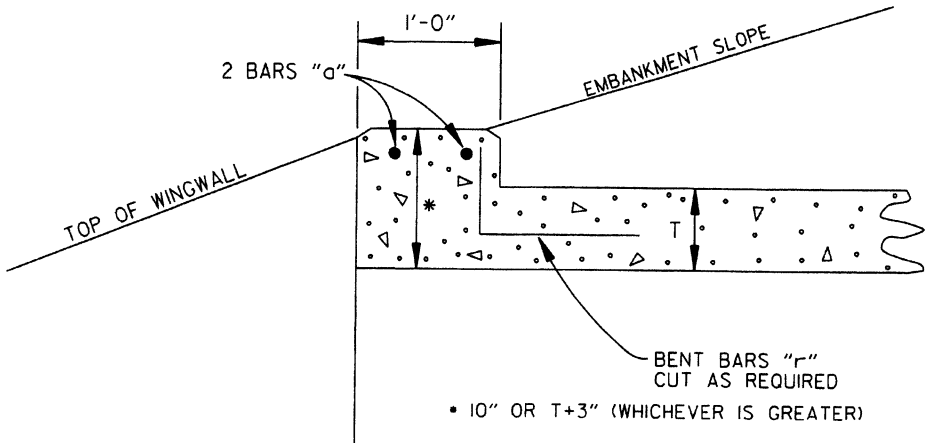
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS 1/2 INCH.

WEEP HOLES IN BOX CULVERT WALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE BOTTOM SLAB.

WEEP HOLES IN WINGWALLS SHALL HAVE A MAXIMUM HORIZONTAL SPACING OF 10'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THERE SHALL BE A MINIMUM OF TWO (2) WEEP HOLES IN EACH WINGWALL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND SHALL BE PLACED 12" ABOVE THE TOP OF THE WINGWALL FOOTING.

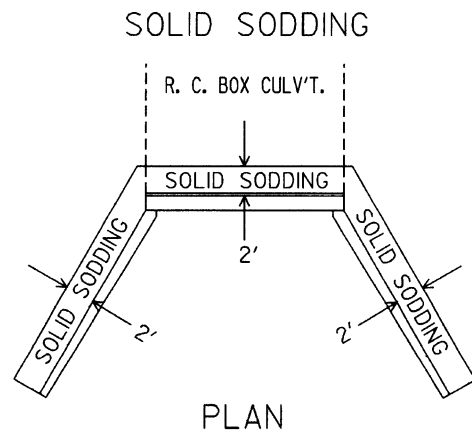
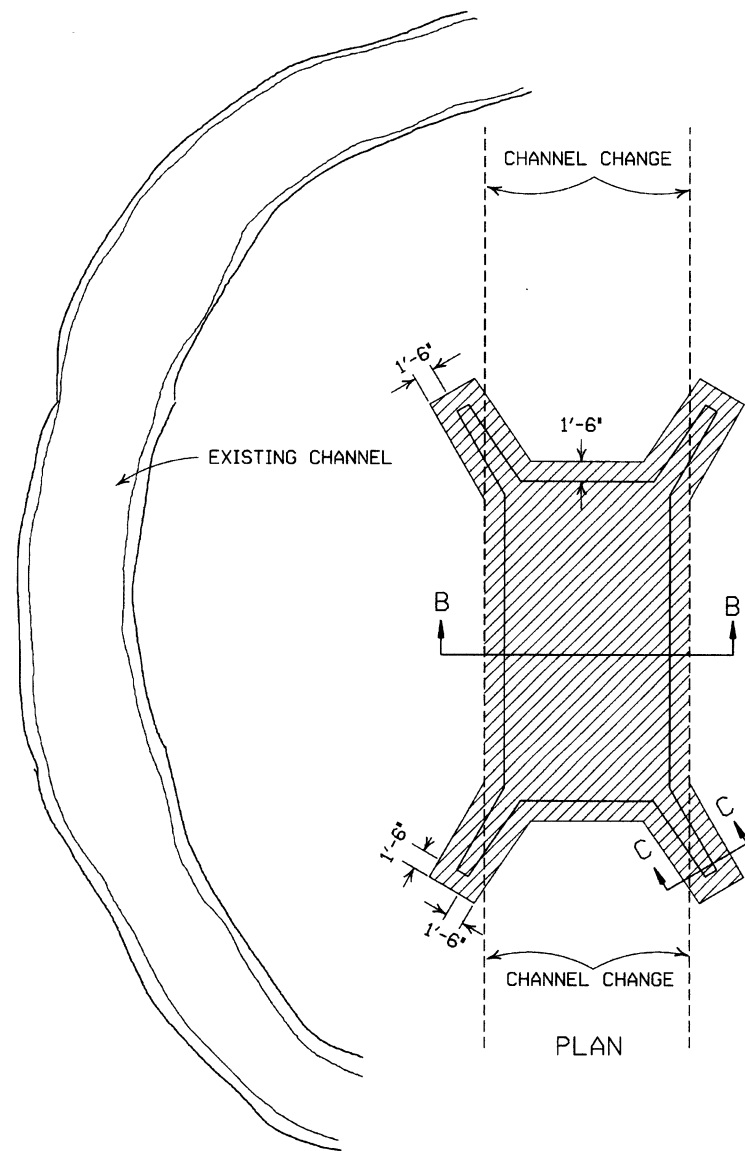
THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

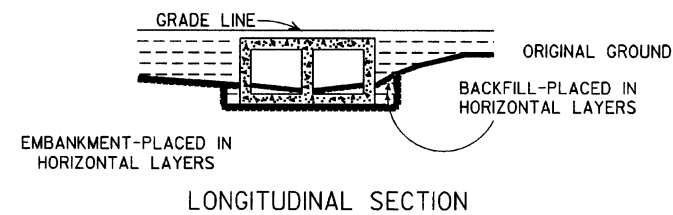
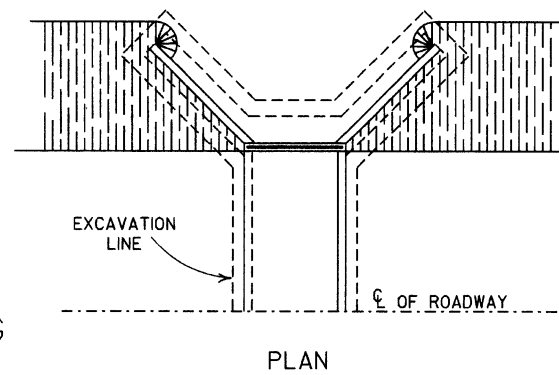
R.C. BOX CULVERT HEADWALL MODIFICATIONS

|          |                                                         |             |                                            |
|----------|---------------------------------------------------------|-------------|--------------------------------------------|
| 7/26/12  | REV. DRAINAGE FILL MATERIAL & DETAIL                    |             | ARKANSAS STATE HIGHWAY COMMISSION          |
| 12/15/11 | REQUIRE WEEP HOLES IN BOX CULVERT WALLS                 |             |                                            |
| 5-25-06  | REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM |             |                                            |
| 11-16-01 | ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES        |             |                                            |
| 10-18-96 | REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM            |             | REINFORCED CONCRETE BOX<br>CULVERT DETAILS |
| 10-12-95 | MOVED SOLID SODDING DETAIL TO RCB-2                     |             |                                            |
| 6-2-94   | ADDED SOLID SODDING PLAN DETAIL                         |             | STANDARD DRAWING RCB-1                     |
| 8-5-93   | REVISED PIN DIAMETER TO SPECS.                          |             |                                            |
| 8-15-91  | DRAWN AND ISSUED                                        |             |                                            |
| DATE     | REVISION                                                | DATE FILMED |                                            |

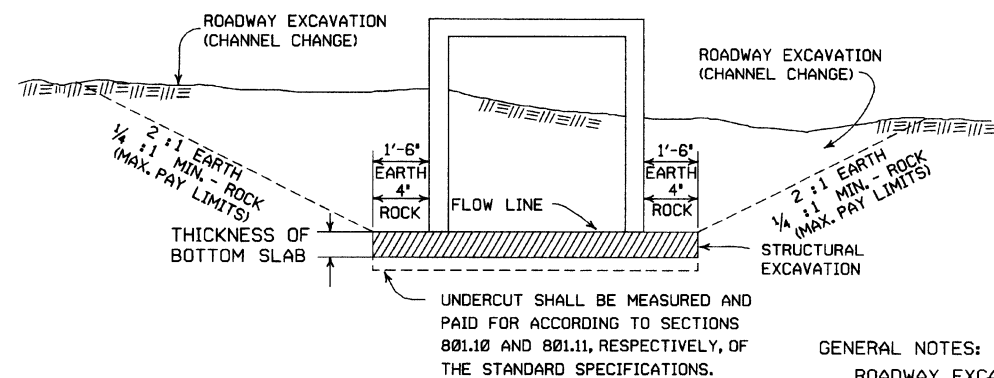
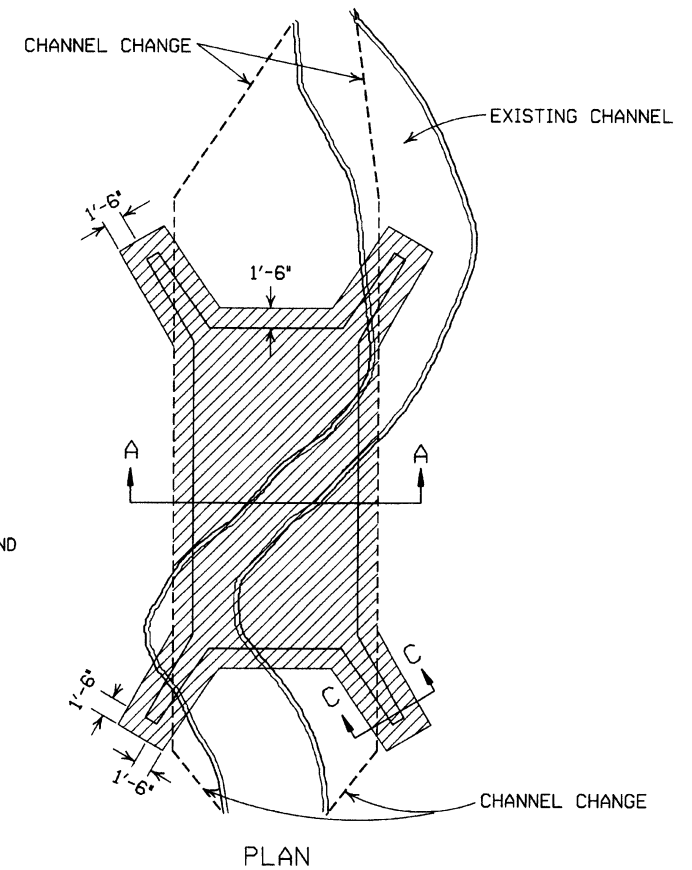


PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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



BACKFILL DETAILS FOR BOX CULVERT



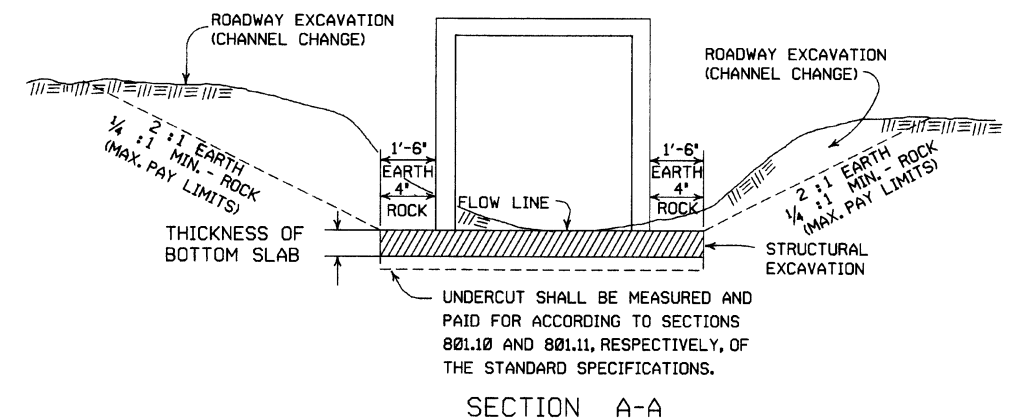
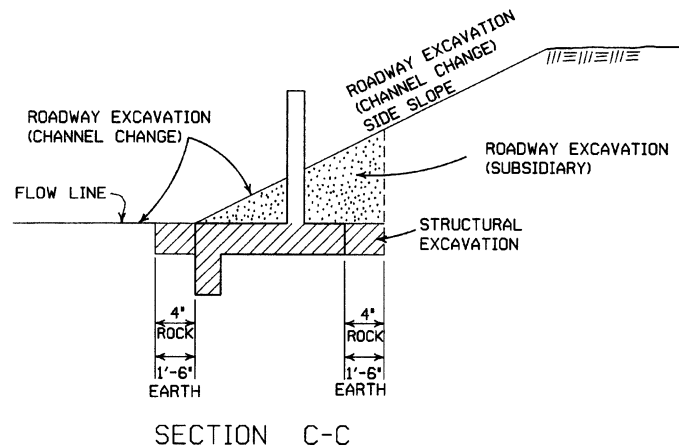
DETAILS FOR NEW CHANNELS

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

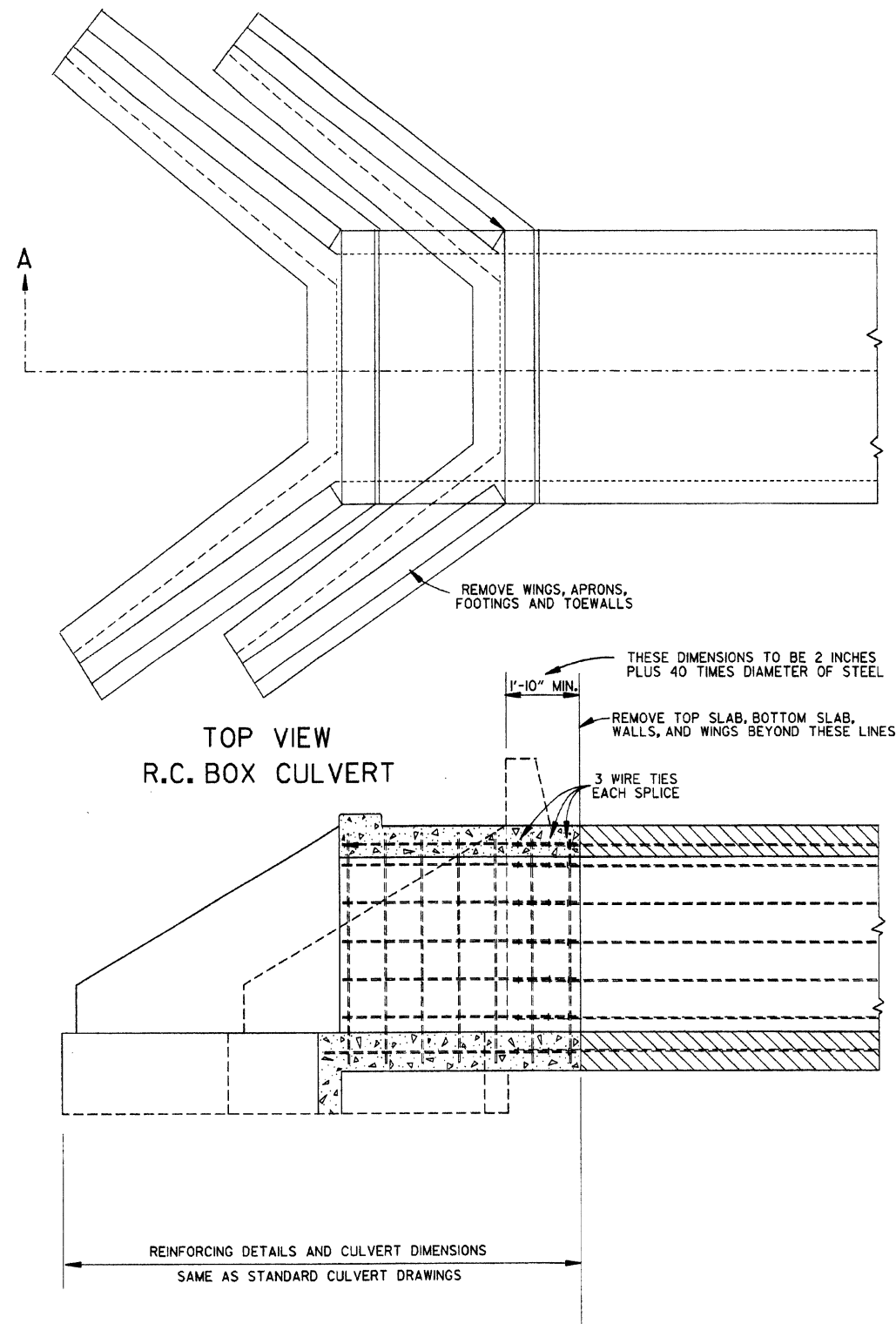
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.



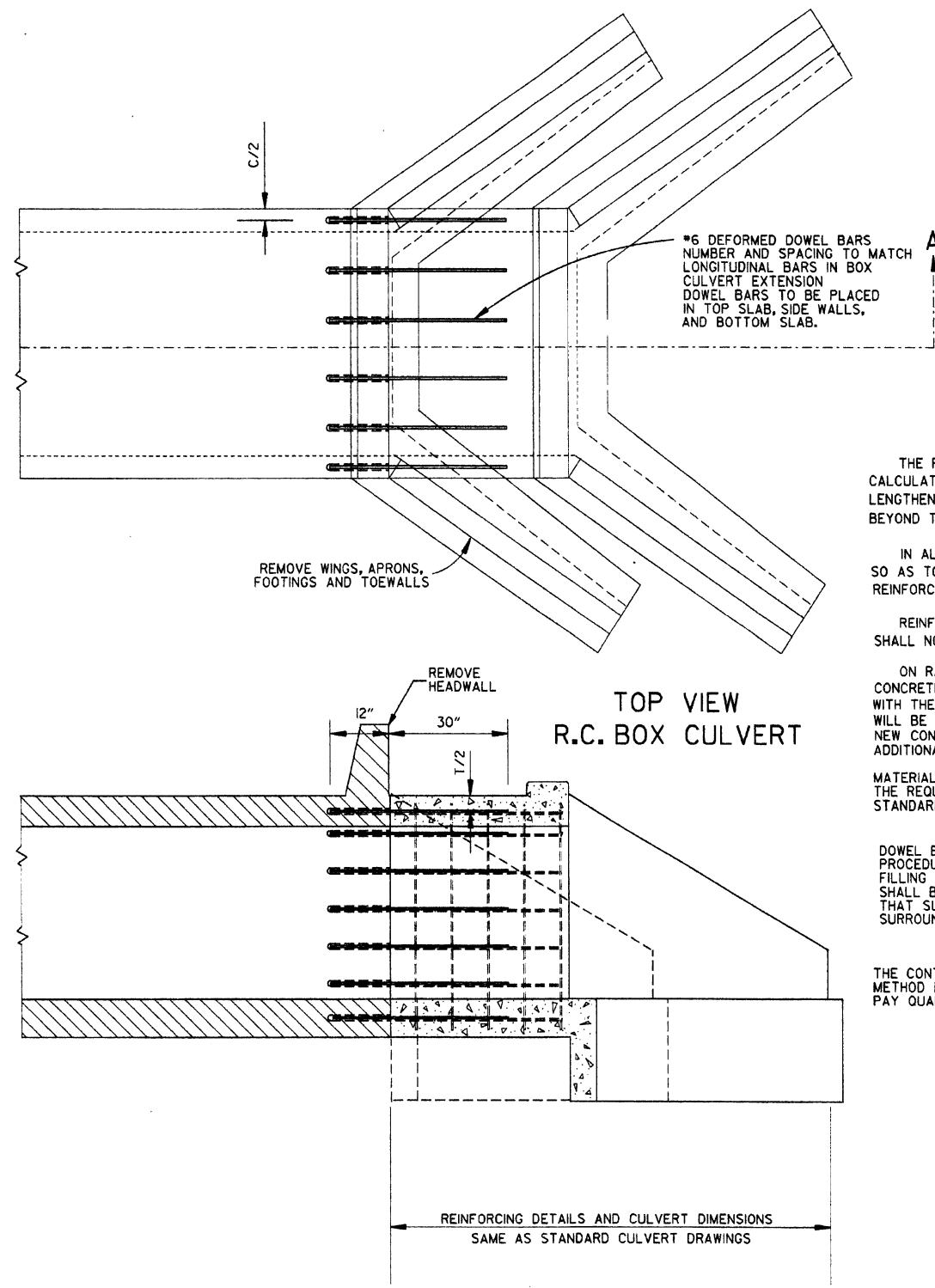
DETAILS THROUGH EXISTING CHANNELS

|          |                          |              |
|----------|--------------------------|--------------|
| 11-20-03 | REVISED SECTION A-A NOTE |              |
| 8-22-02  | REVISED SECTION B-B NOTE |              |
| 10-12-95 | COMBINED 1891B AND 1888A |              |
| 1-4-83   | REVISED GENERAL NOTES    | 674-1-4-83   |
|          | AND ADDED MAXIMUM PAY    |              |
|          | LIMIT NOTES:             |              |
| 2-2-76   | EXCAV. PAY LIMITS        | 917-2-2-76   |
| 10-2-72  | REVISED AND REDRAWN      | 564-10-16-72 |
| DATE     | REVISION                 | FILMED       |

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



SECTION A-A  
METHOD 1



SECTION A-A  
METHOD 2

- GENERAL NOTES
- |                                                                                                                                                                                                                                                                                                                 |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.                                                                                                                                           | 1   |
| IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.                                                                                                                                                                                                        | 1   |
| REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.                                                                                                                                                                                                                | 1&2 |
| ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON, THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.                   | 1&2 |
| MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.                                                                                                                                                                                                 | 2   |
| DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER, AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES. | 2   |
| THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2, REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.                                                                                                                                             | 1&2 |

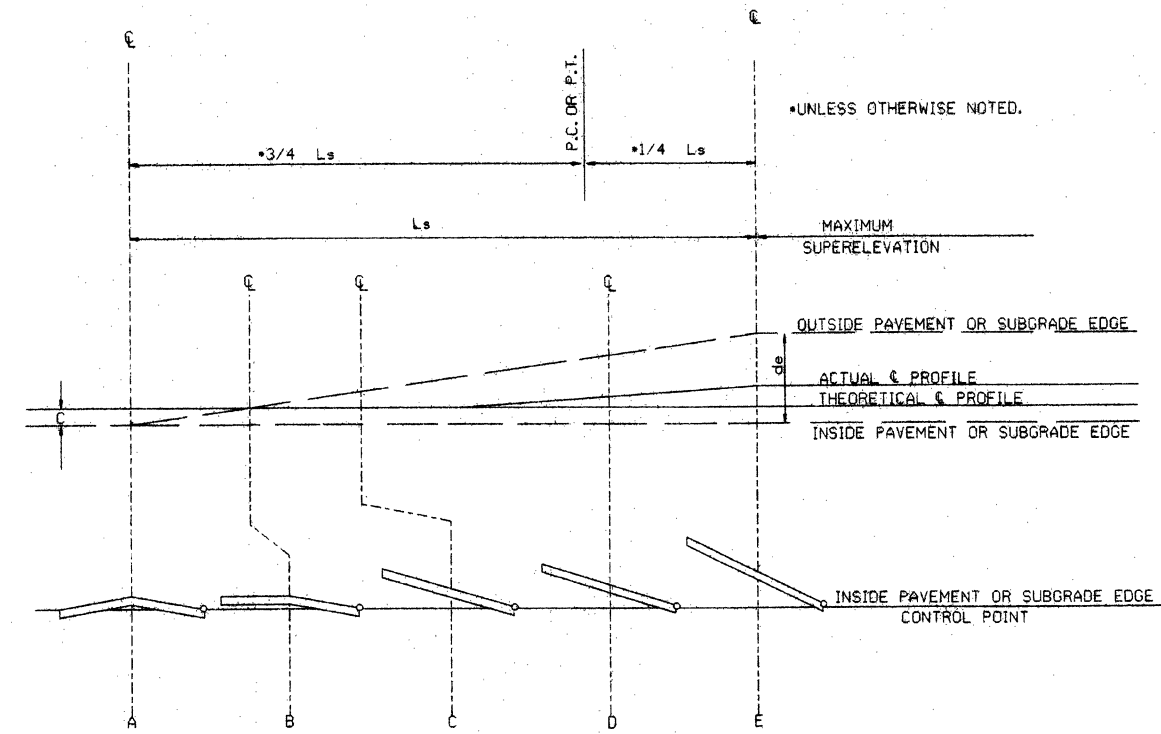
NOTE:  
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.  
SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

|                                                |                                |           |
|------------------------------------------------|--------------------------------|-----------|
| ARKANSAS STATE HIGHWAY COMMISSION              |                                |           |
| METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS |                                |           |
| STANDARD DRAWING RCB-3                         |                                |           |
| 10-12-95                                       | CHANGED DRAWING * FROM 144-A   |           |
| 4-1-93                                         | ADDED GENERAL NOTE             |           |
| 10-1-92                                        | ADDED ALT. METHOD OF EXTENSION |           |
| 11-30-89                                       | REDRAWN                        |           |
| 1-4-83                                         | ELIMINATED CONCRETE CLASS      |           |
| 12-20-56                                       | RETRACED                       |           |
| DATE                                           | REVISION                       | DATE FILM |



SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

| DEGREE OF CURVE | 30 MPH  |           | 40 MPH  |           | 50 MPH  |           | 55 MPH  |           | 60 MPH  |           | 70 MPH  |           |
|-----------------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
|                 | Ls (FT) |           | Ls (FT) |           | Ls (FT) |           | Ls (FT) |           | Ls (FT) |           | Ls (FT) |           |
|                 | MINIMUM | DESIRABLE | MINIMUM | DESIRABLE | MINIMUM | DESIRABLE | MINIMUM | DESIRABLE | MINIMUM | DESIRABLE | MINIMUM | DESIRABLE |
| 0° 15'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 0° 30'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 0° 45'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 1° 00'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 1° 15'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 1° 30'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 1° 45'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 2° 00'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 2° 15'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 2° 30'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 2° 45'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 3° 00'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 3° 15'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 3° 30'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 3° 45'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 4° 00'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 4° 15'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 4° 30'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 4° 45'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 5° 00'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 5° 15'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 5° 30'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 5° 45'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 6° 00'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 6° 15'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 6° 30'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 6° 45'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 7° 00'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 7° 15'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 7° 30'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 7° 45'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 8° 00'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 8° 15'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 8° 30'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 8° 45'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 9° 00'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 9° 15'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 9° 30'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 9° 45'          | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 10° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 10° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 10° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 10° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 11° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 11° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 11° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 11° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 12° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 12° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 12° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 12° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 13° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 13° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 13° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 13° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 14° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 14° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 14° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 14° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 15° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 15° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 15° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 15° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 16° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 16° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 16° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 16° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 17° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 17° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 17° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 17° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 18° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 18° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 18° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 18° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 19° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 19° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 19° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 19° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 20° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 20° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 20° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 20° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 21° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 21° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 21° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 21° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 22° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 22° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 22° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 22° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 23° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 23° 15'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 23° 30'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 23° 45'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |
| 24° 00'         | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           | N.C.    |           |



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

ABBREVIATIONS

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

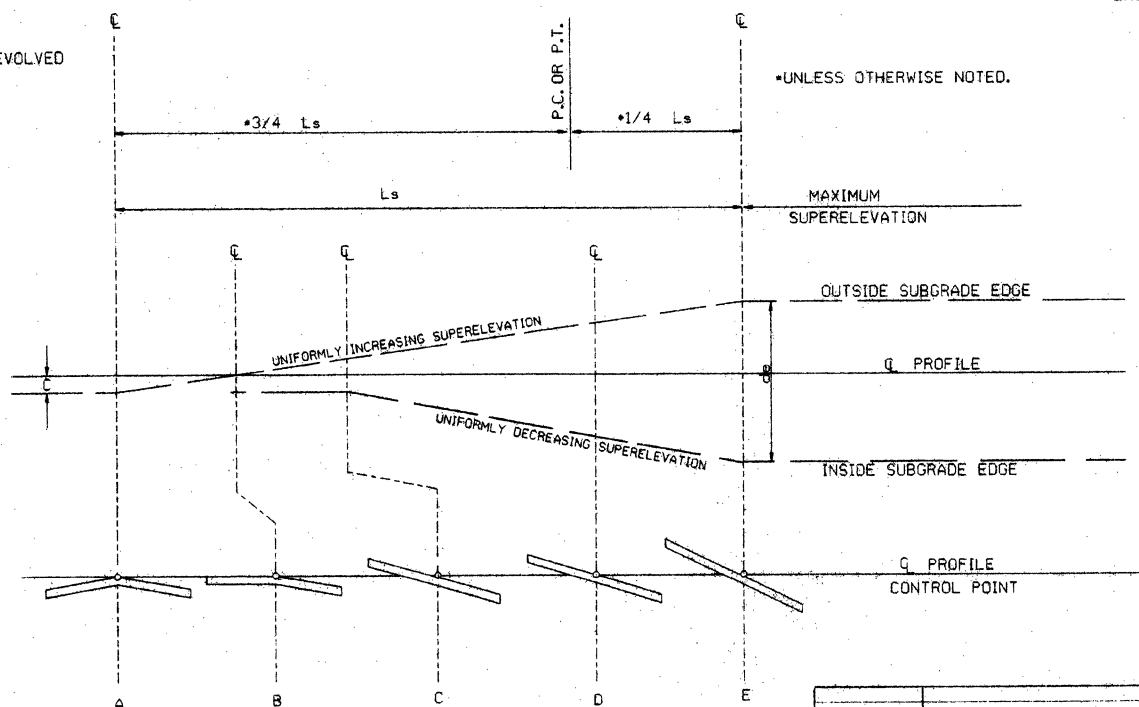
GENERAL NOTES

- 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.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

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

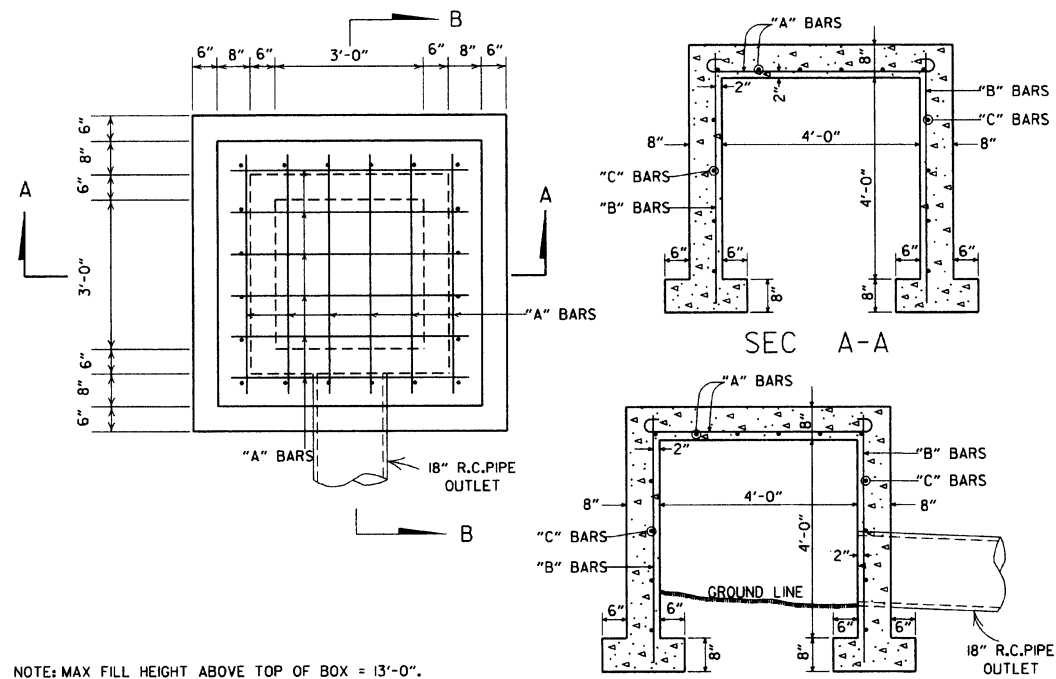
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

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

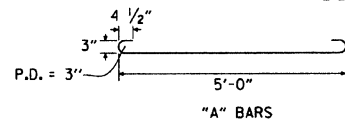




NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

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

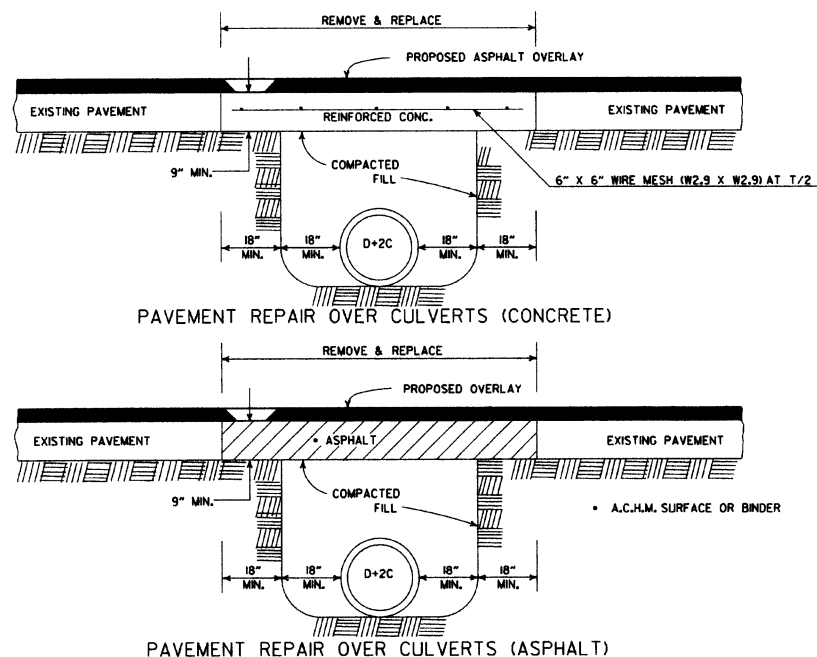
ALL STEEL TO BE #4 BARS



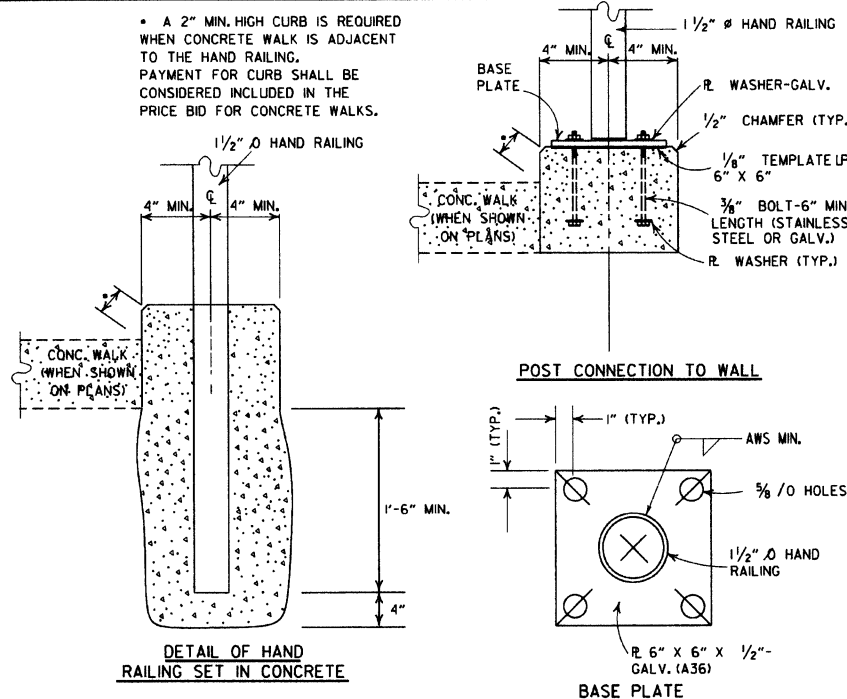
QUANTITIES  
CONCRETE 3.31 CU. YDS.  
REINFORCING STEEL 168 LB.

GENERAL NOTE:  
THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES  
SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED,  
REINFORCING STEEL, EXCAVATION FOR STRUCTURES  
AND 18" R.C. PIPE CULVERT.

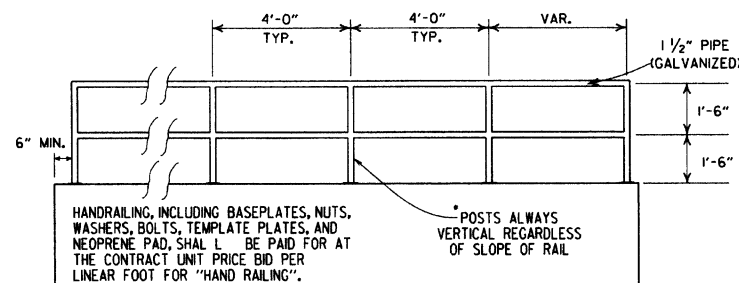
### REINFORCED CONCRETE SPRING BOX



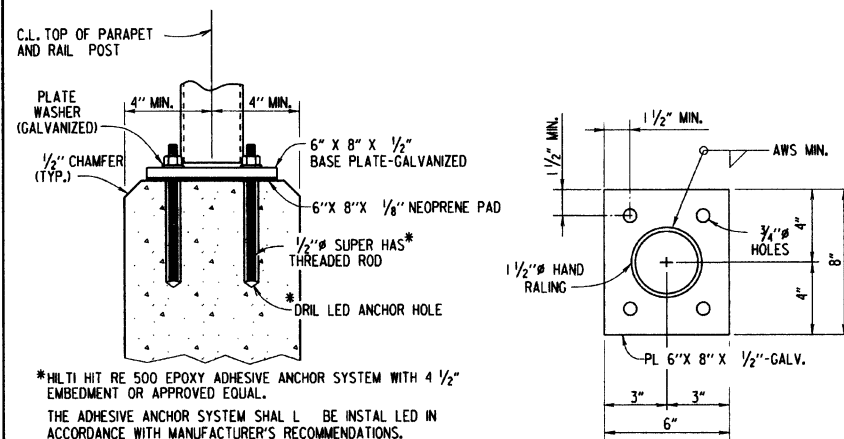
DETAIL SHOWING REPAIR OF EXISTING  
PAVEMENT AT CULVERT INSTALLATIONS



### POST CONNECTION DETAILS



HAND RAILING SHALL CONFORM TO SECTION 633.

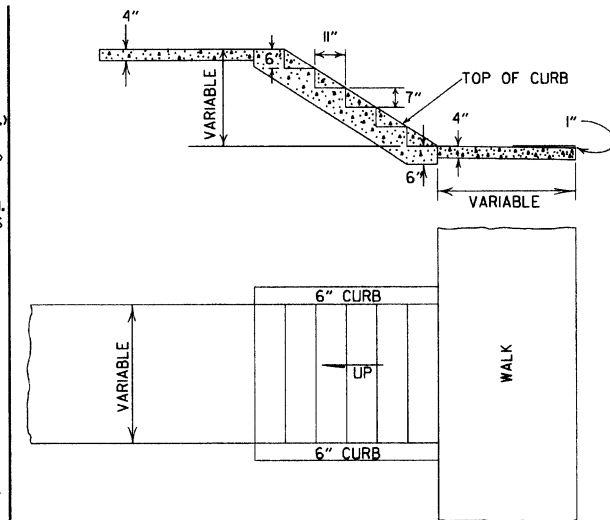


### POST CONNECTION TO WALL

### BASE PLATE

### DETAILS OF ALTERNATE POST ANCHOR SYSTEM (EPOXY ADHESIVE ANCHORS)

### HAND RAILING DETAILS



### DETAILS OF CONCRETE STEPS & WALKS

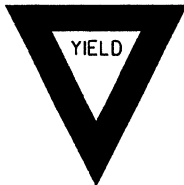
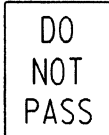
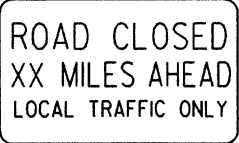
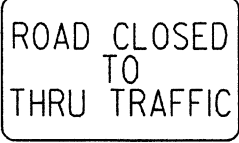
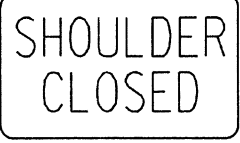
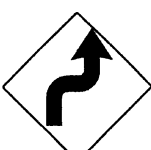
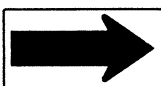
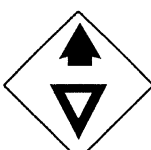
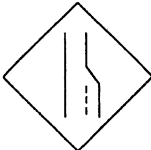
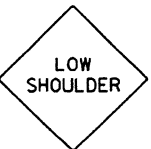
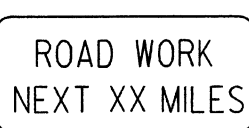
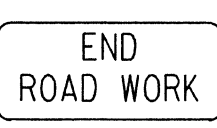
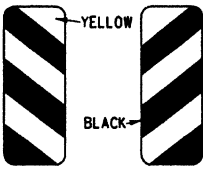
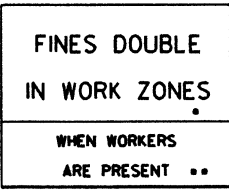
- GENERAL NOTES
1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 12" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
  2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

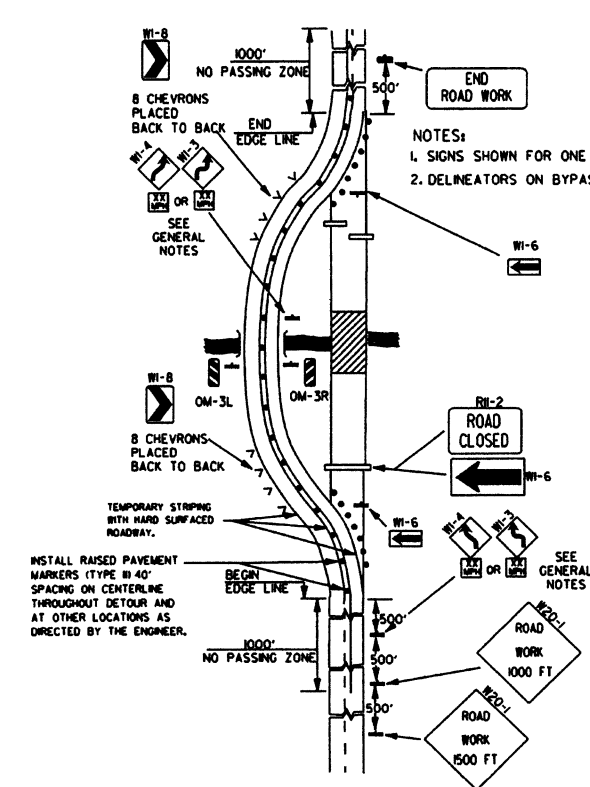
|          |                                                               |                 |
|----------|---------------------------------------------------------------|-----------------|
| 9-12-13  | REVISED REINFORCED CONCRETE SPRING BOX                        |                 |
| 7-26-12  | REMOVED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

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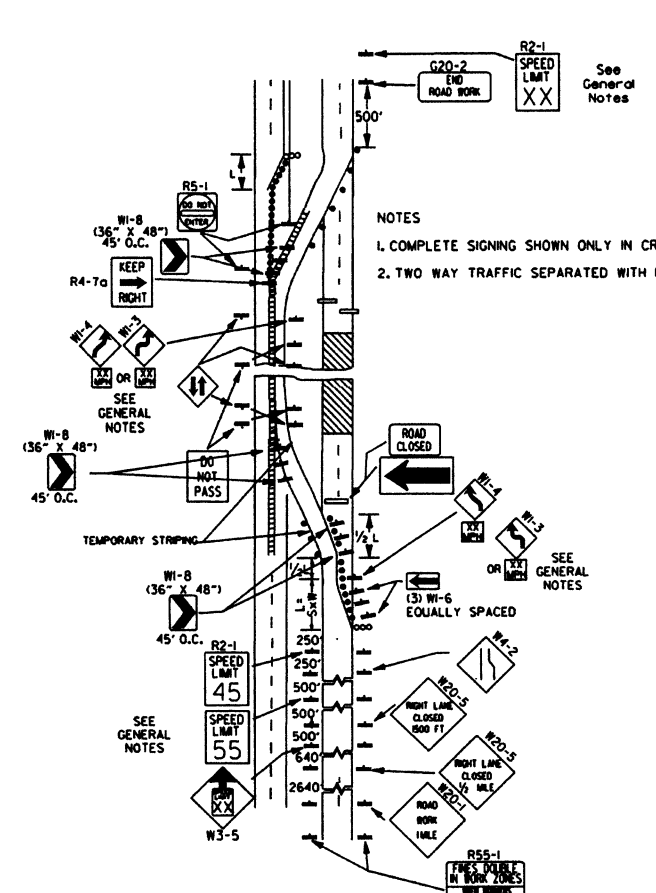
### DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

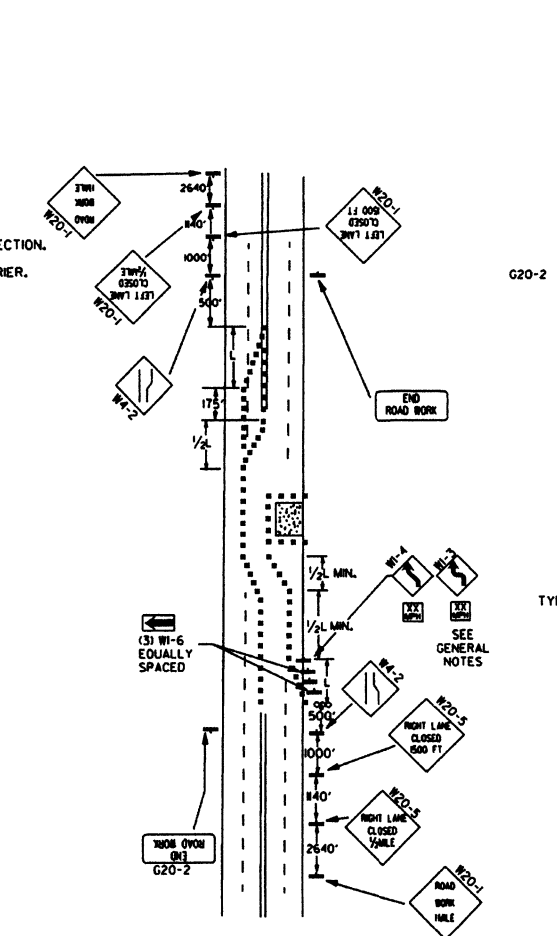
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                                                                                           |                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------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| <div>RI-1</div> <div></div> <div>STANDARD 30"x30"<br/>EXPRESSWAY 36"x36"<br/>SPECIAL 48"x48"</div> | <div>RI-2</div> <div></div> <div>STD. 36"x36"x36"<br/>EXPWY. 48"x48"x48"<br/>FWY. 60"x60"x60"</div> | <div>R2-1</div> <div></div> <div>STD. 24"x30"<br/>EXPWY. 36"x48"<br/>FWY. 48"x60"</div>            | <div>W3-5</div> <div></div> <div>STD. 36"x36"<br/>EXPWY. 48"x48"<br/>FWY. 48"x48"</div>                     | <div>W3-5a</div> <div></div> <div>STD. 36"x36"<br/>EXPWY. 48"x48"<br/>FWY. 48"x48"</div> | <div>R4-1</div> <div></div> <div>STD. 24"x30"<br/>EXPWY. 36"x48"<br/>FWY. 48"x60"</div>       | <div>R4-2</div> <div></div> <div>STD. 24"x30"<br/>EXPWY. 36"x48"<br/>FWY. 48"x60"</div> | <div>ADVANCE DISTANCES (XXXX)</div> <div>500 FT 1/2 MILE<br/>1000 FT 3/4 MILE<br/>1500 FT 1 MILE AHEAD</div> <div>154</div> <div>GENERAL NOTES:<br/>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.<br/>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.<br/>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.<br/>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.<br/>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.<br/>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.<br/>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.<br/>8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.<br/>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.<br/>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.<br/>• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 &amp; 5 BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.</div> |
| <div>R5-1</div> <div></div> <div>STD. 30"x30"<br/>EXPWY. 36"x36"<br/>SPECIAL 48"x48"</div>         | <div>R11-2</div> <div></div> <div>48"x30"</div>                                                     | <div>R11-3A</div> <div></div> <div>60"x30"</div>                                                   | <div>R11-4</div> <div></div> <div>60"x30"</div>                                                             | <div>RSP-1</div> <div></div> <div>48"x30"</div>                                          | <div>W1-1</div> <div></div> <div>STD. 36"x36"<br/>FWY. 48"x48"</div>                          | <div>W1-2</div> <div></div> <div>STD. 36"x36"<br/>FWY. 48"x48"</div>                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <div>W1-3</div> <div></div> <div>STD. 48"x48"</div>                                                | <div>W1-4</div> <div></div> <div>STD. 48"x48"</div>                                                 | <div>W1-6</div> <div></div> <div>STD. 48"x24"<br/>SPECIAL 60"x30"</div>                            | <div>W1-8</div> <div></div> <div>STD. 18"x24"<br/>SPECIAL 24"x30"<br/>EXPWY. 30"x36"<br/>FWY. 36"x48"</div> | <div>W3-1</div> <div></div> <div>STD. 36"x36"<br/>SPECIAL 48"x48"</div>                  | <div>W3-2</div> <div></div> <div>STD. 36"x36"<br/>SPECIAL 48"x48"</div>                       | <div>W4-2</div> <div></div> <div>STD. 36"x36"<br/>FWY. 48"x48"</div>                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <div>W5-1</div> <div></div> <div>STD. 36"x36"<br/>SPECIAL 48"x48"</div>                           | <div>W6-3</div> <div></div> <div>EXPWY. 36"x36"<br/>SPECIAL 48"x48"</div>                          | <div>W8-7</div> <div></div> <div>EXPWY. 36"x36"<br/>FWY. 48"x48"</div>                            | <div>W9-2</div> <div></div> <div>STD. 36"x36"<br/>FWY. 48"x48"</div>                                       | <div>W13-1</div> <div></div> <div>STD. 24"x24"</div>                                    | <div>W20-1</div> <div></div> <div>STD. 48"x48"</div>                                         | <div>W20-2</div> <div></div> <div>STD. 48"x48"</div>                                   | <div>W20-3</div> <div></div> <div>STD. 48"x48"</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <div>W20-4</div> <div></div> <div>STD. 48"x48"</div>                                             | <div>W20-5</div> <div></div> <div>STD. 48"x48"</div>                                              | <div>W20-7a</div> <div><br/>500 FEET 24"<br/>W2-2</div> <div>STD. 36"x36"<br/>FWY. 48"x48"</div> | <div>W21-2</div> <div></div> <div>STD. 30"x30"<br/>SPECIAL 36"x36"</div>                                  | <div>W21-5</div> <div></div> <div>STD. 30"x30"<br/>SPECIAL 36"x36"</div>               | <div>W24-1</div> <div></div> <div>STD. 36"x36"</div>                                        | <div>W1-4b</div> <div></div> <div>STD. 48"x48"</div>                                  | <div>R56-1</div> <div></div> <div>STD. 18"x18"</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <div>W8-11</div> <div></div> <div>STD. 36"x36"<br/>FWY. 48"x48"</div>                            | <div>W8-9</div> <div></div> <div>STD. 36"x36"<br/>FWY. 48"x48"</div>                              | <div>G20-1</div> <div></div> <div>60"x24"</div>                                                  | <div>G20-2</div> <div></div> <div>48"x24"</div>                                                           | <div>OM-3L OM-3R</div> <div></div> <div>12"x36"</div>                                  | <div>M4-9</div> <div></div> <div>STD. 30"x24"<br/>SPECIAL 48"x36"<br/>SPECIAL 60"x48"</div> | <div>M4-10</div> <div></div> <div>48"x18"</div>                                       | <div>R55-1</div> <div></div> <div>36"x60"<br/>• USE 6" C LETTERS<br/>• USE 4" D LETTERS</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |



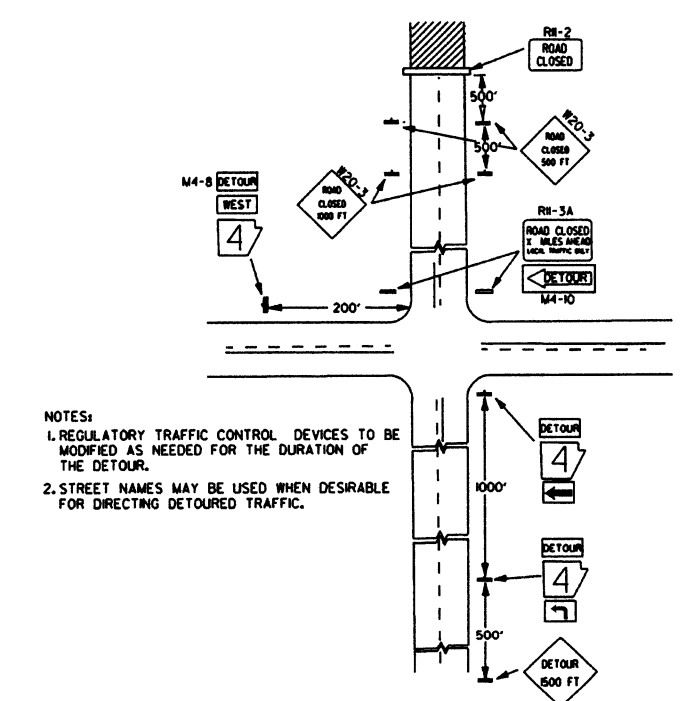
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



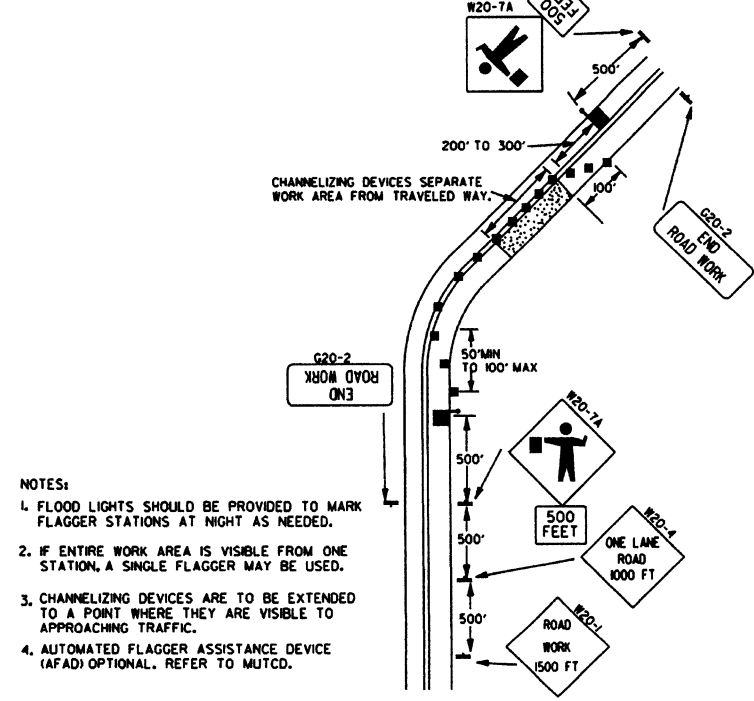
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



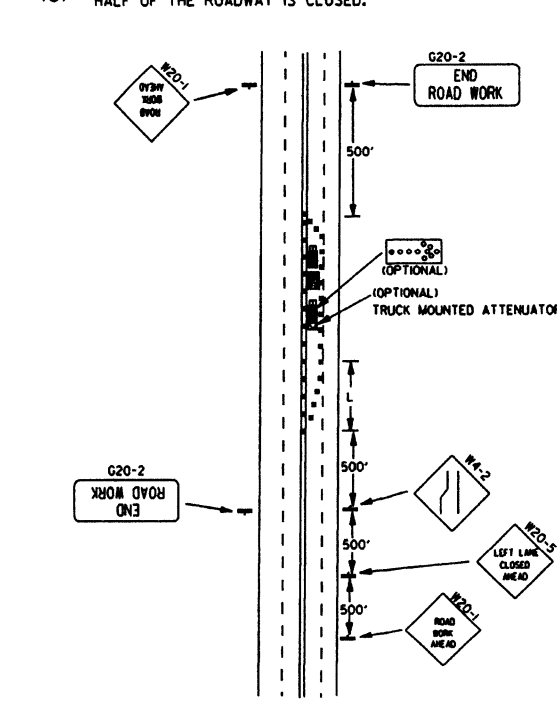
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



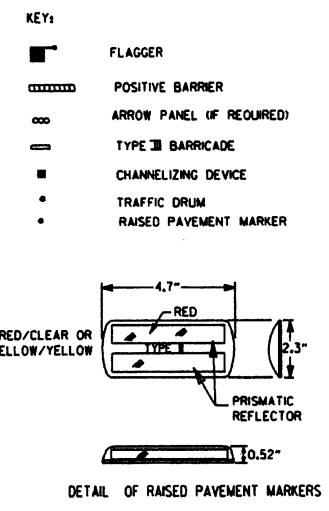
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



(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.

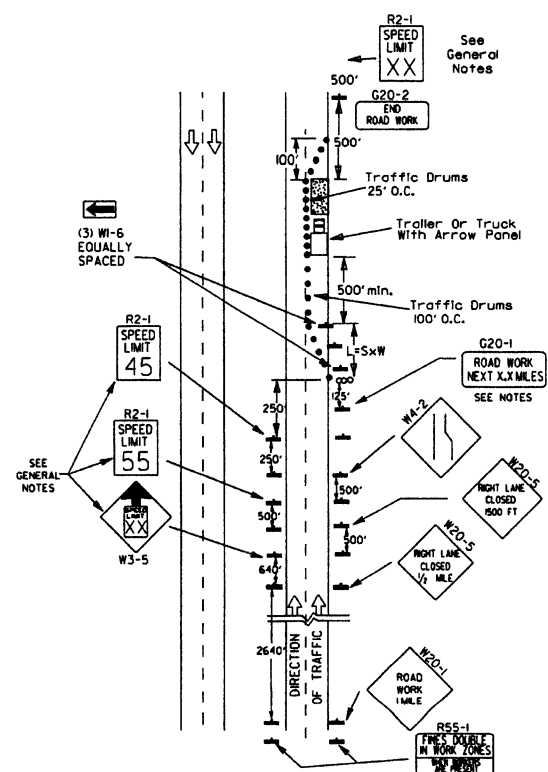


TAPER FORMULAE:  
 $L = SXW$  FOR SPEEDS OF 45MPH OR MORE.  
 $L = \frac{WS^2}{60}$  FOR SPEEDS OF 40MPH OR LESS.  
WHERE:  
L = MINIMUM LENGTH OF TAPER.  
S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.  
W = WIDTH OF OFFSET.

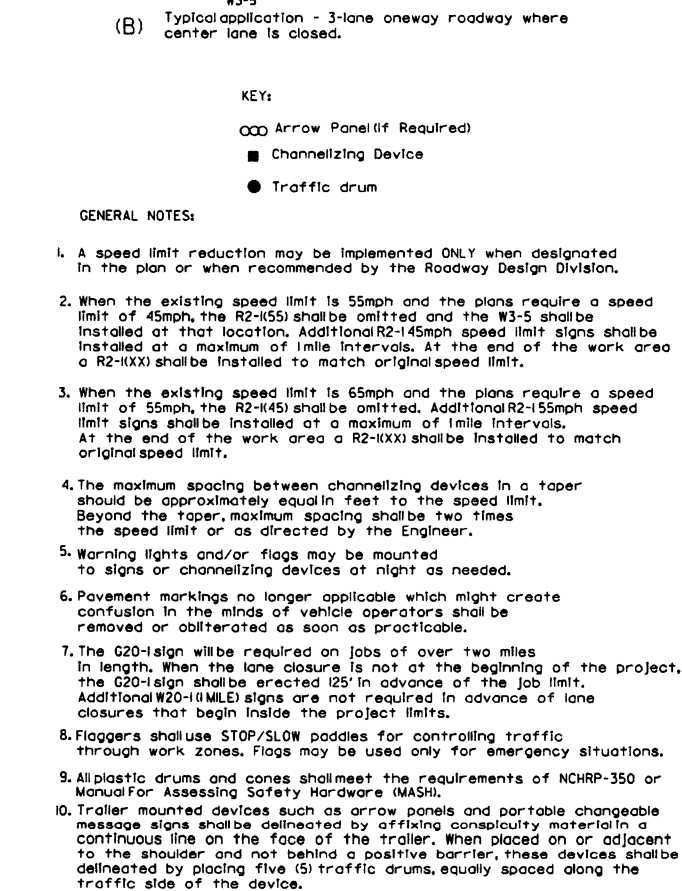
- GENERAL NOTES:
- ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
  - WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-K55 SHALL BE OMITTED AND THE W3-5 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.
  - WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-K45 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.
  - THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
  - WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
  - PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
  - TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING 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.
  - DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

|          |                                                                              |        |
|----------|------------------------------------------------------------------------------|--------|
| 9-2-95   | REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5 |        |
| 9-12-95  | REVISED DETAIL OF RAISED PAVEMENT MARKERS                                    |        |
| 3-8-90   | ADDED (AFAD)                                                                 |        |
| 8-20-08  | REVISED SIGN DESIGNATIONS                                                    |        |
| 8-18-04  | ADDED GENERAL NOTE                                                           |        |
| 10-18-96 | ADDED R55-1                                                                  |        |
| 4-26-96  | CORRECTED (a) BEHIND G20-2                                                   |        |
| 6-8-95   | CORRECTED SIGN IDENT. ON W1-4A                                               | 6-8-95 |
| 2-2-95   | REVISED PER PART VI, MUTCD, SEPT. 3, 1993                                    |        |
| 8-15-91  | DRAWN AND PLACED IN USE                                                      |        |
| DATE     | REVISION                                                                     | FILED  |

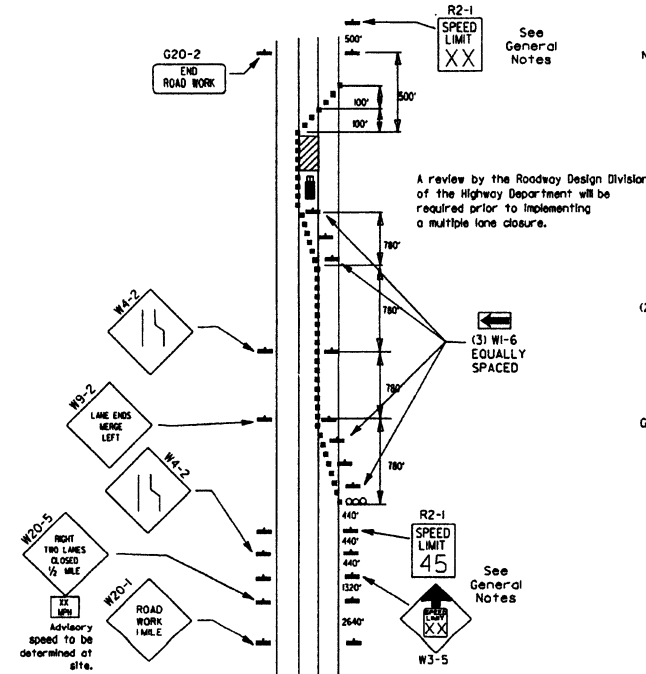
(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



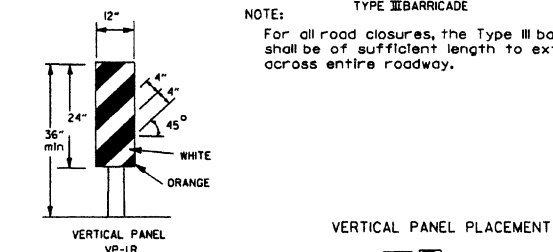
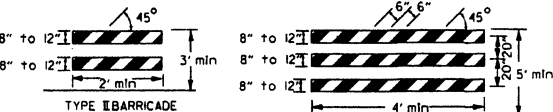
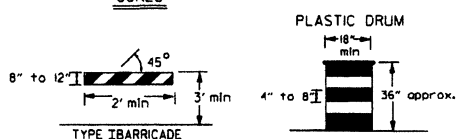
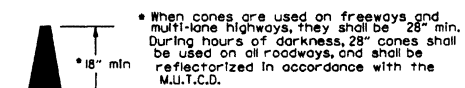
(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.



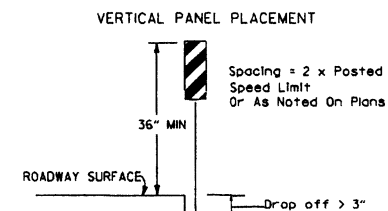
(D) Typical application - closing multiple lanes of a multilane highway.



## Channelizing devices

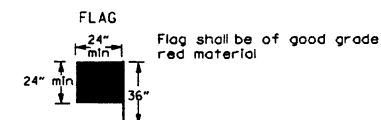


**NOTE:**  
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

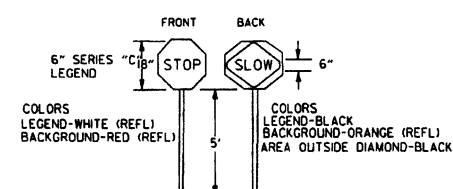
TRAFFIC CONTROL DEVICES  
FOR  
VERTICAL PAVEMENT DIFFERENTIALS

| VERTICAL DIFFERENTIAL | LOCATIONS              | TRAFFIC CONTROL                                       |
|-----------------------|------------------------|-------------------------------------------------------|
| 1" to 3"              | Centerline, lane lines | W8-11                                                 |
| 1" to 3"              | Edge of shoulder       | W8-9                                                  |
| Greater than 3"       | Lane lines             | Standard lane closure required                        |
| Greater than 3"       | Edge of traveled lane  | *RSP-1 and vertical panels, drums or concrete barrier |
| Greater than 3"       | Edge of shoulder       | *Vertical panels, drums or concrete barrier           |

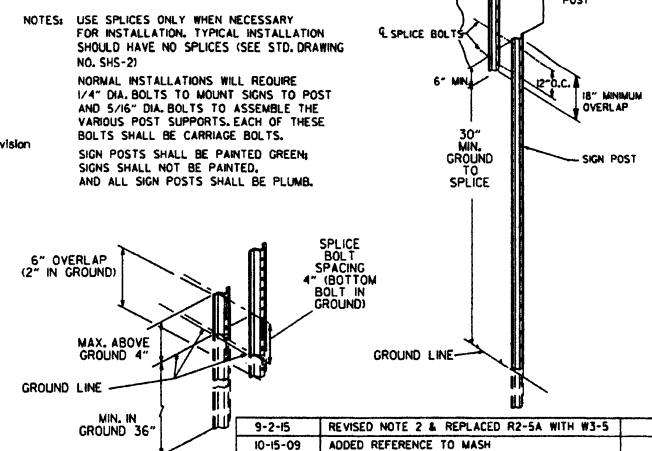
\* When shown on the plans concrete barrier will be used.  
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



## STOP SLOW PADDLE



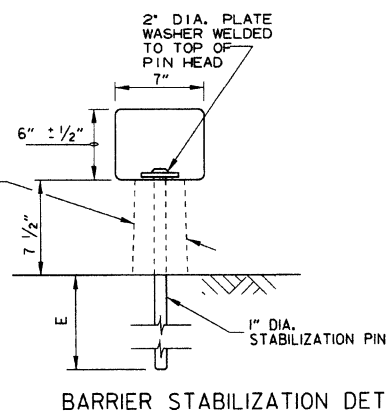
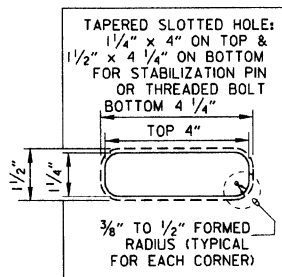
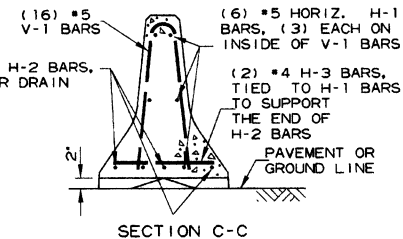
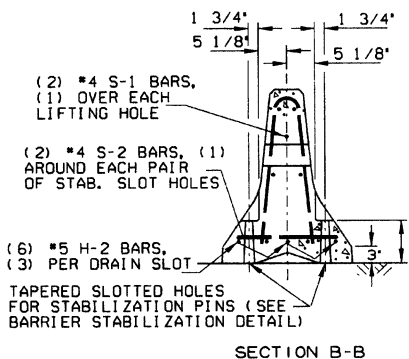
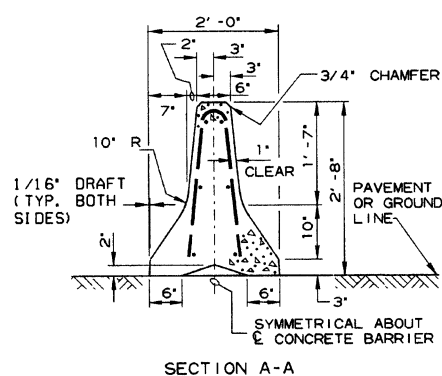
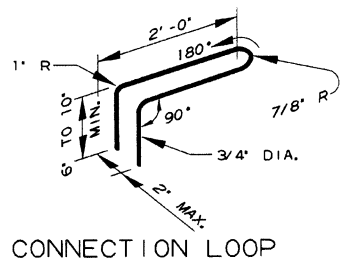
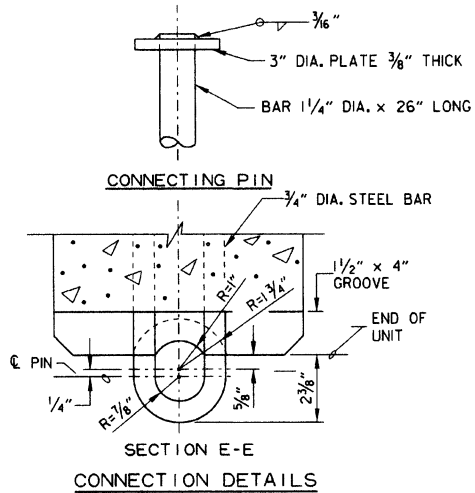
## DETAIL OF SPICES



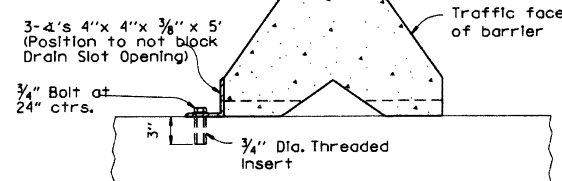
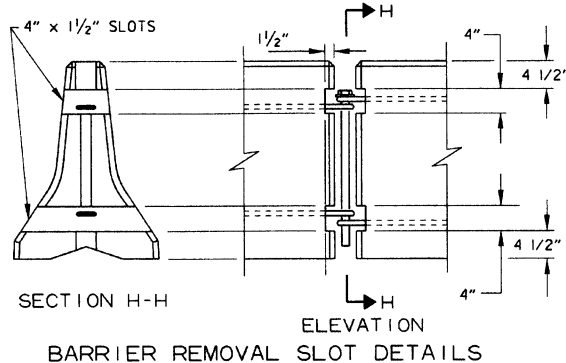
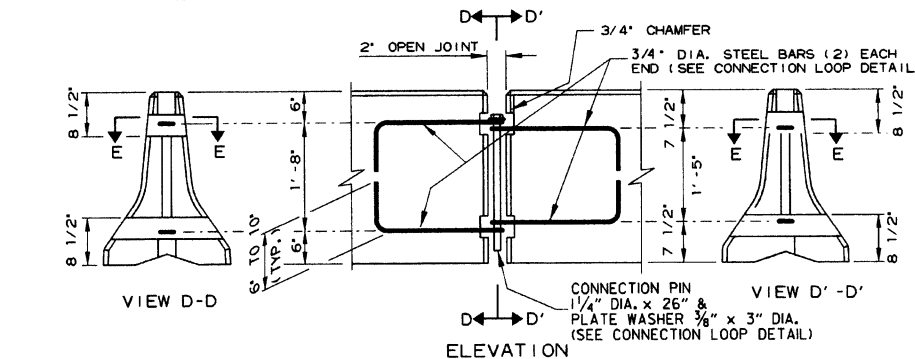
| DATE     | REVISION                                                  | FILMED |
|----------|-----------------------------------------------------------|--------|
| 9-2-15   | REVISED NOTE 2 & REPLACED R2-5A WITH W3-5                 |        |
| 10-15-09 | ADDED REFERENCE TO MASH                                   |        |
| 11-20-08 | REVISED SIGN DESIGNATIONS                                 |        |
| 11-18-04 | ADDED NOTE                                                |        |
| 10-1-98  | ADDED NOTE                                                |        |
| 4-03-97  | ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE |        |
| 10-18-96 | ADDED R55-1                                               |        |
| 10-12-95 | MOVED UPPER SPICE                                         |        |
| 6-8-95   | REVISED SPICE DETAIL, TEXT                                | 6-8-95 |
| 2-2-95   | REVISED PER PART VI, MUTCD, SEPT. 3, 1993                 |        |
| 8-15-91  | DRAWN AND PLACED IN USE                                   |        |

ARKANSAS STATE HIGHWAY COMMISSION  
STANDARD TRAFFIC CONTROLS  
FOR HIGHWAY CONSTRUCTION  
STANDARD DRAWING TC-3

| REINFORCING BAR TABLE PER BARRIER UNIT |                                                            |          |            |                                                                                          |
|----------------------------------------|------------------------------------------------------------|----------|------------|------------------------------------------------------------------------------------------|
| MARK                                   | LOCATION                                                   | BAR SIZE | (NO. BARS) | SKETCH                                                                                   |
| H-1                                    | HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS                 | #5       | (6)        | 19'-3"                                                                                   |
| H-2                                    | CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY            | #5       | (6)        | 6'-6"                                                                                    |
| H-3                                    | TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1            | #4       | (2)        | 1'-6"                                                                                    |
| S-1                                    | OVER LIFT HOLES                                            | #4       | (2)        | 2'-6" 90° 3 3/8" R                                                                       |
| S-2                                    | HORIZ. AROUND SLOTS BETWEEN V-1'S & DRAIN SLOTS            | #4       | (2)        | 1 1/2" R 5'-1" BAR W/ (4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP 1'-6" 1" MIN. CLEAR TO BAR |
| V-1                                    | VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS | #5       | (16)       | 2 3/16" R 12" 4 3/8" 2'-1 3/8" 1 1/2"                                                    |

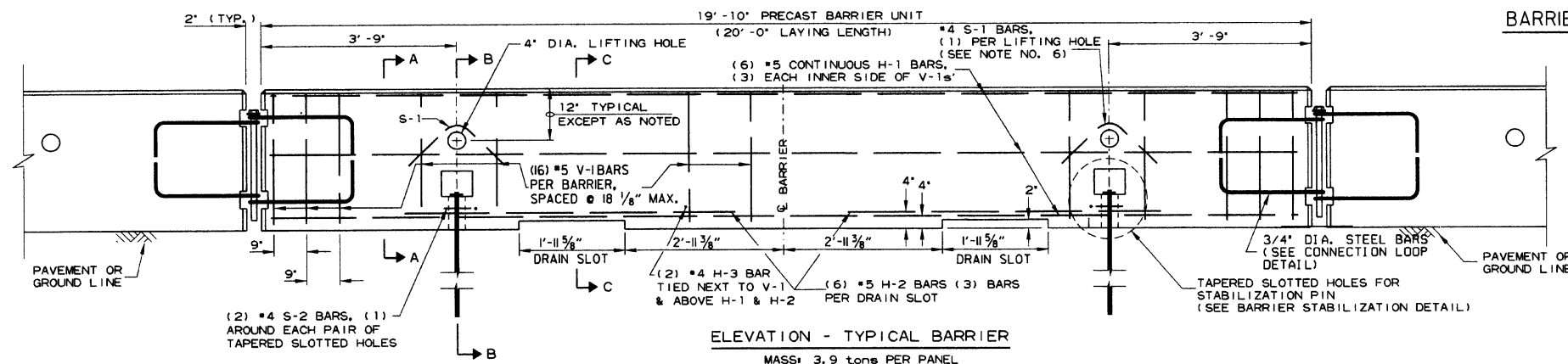


BARRIER STABILIZATION DETAIL  
ROADWAY SECTION  
(E) 4" - Concrete Pavement  
8" - Asphalt Pavement  
12" - Shoulder Areas



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL  
BRIDGE DECKS



- General Notes**
- The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.
  - Materials shall meet the following minimum requirements:  
Concrete: 2500 psi compressive strength at 28 days.  
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60  
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.  
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.
  - In applications where barrier walls within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers. Delineator color shall be in accordance with the Manual Uniform Traffic Control Devices. Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.
  - Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.
  - Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.
  - Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.
  - A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

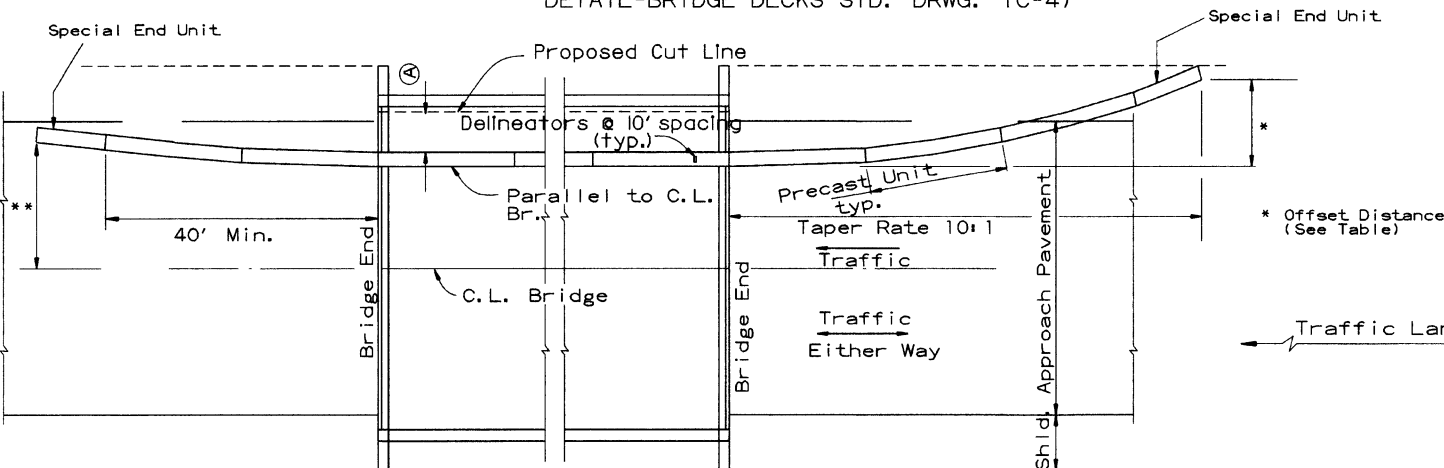
|          |                                                   |        |
|----------|---------------------------------------------------|--------|
| 2-27-14  | REVISED BARRIER STABILIZATION DETAIL              |        |
| 10-15-09 | ADDED REFERENCE TO MASH                           |        |
| 8-5-09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

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS  
FOR HIGHWAY CONSTRUCTION -  
TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

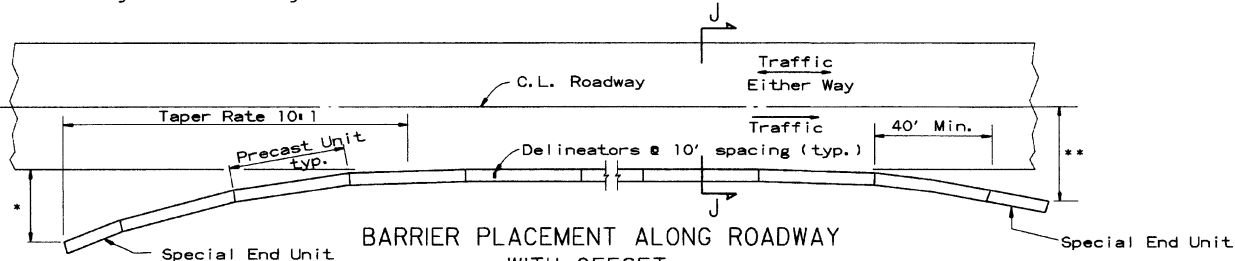
(A) 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

\*\* Offset Distance for Two Way Traffic Only



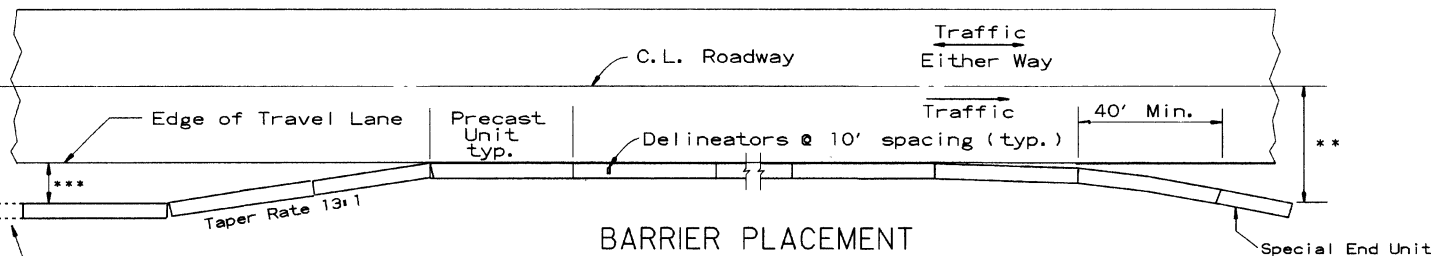
BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

\*\* Offset Distance for Two Way Traffic Only

| Speed (MPH) | Offset Distance (FT.) |
|-------------|-----------------------|
| ≤ 45        | 12                    |
| > 45        | 18                    |

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.

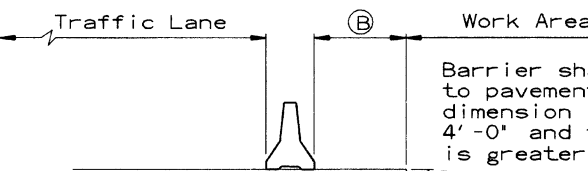


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

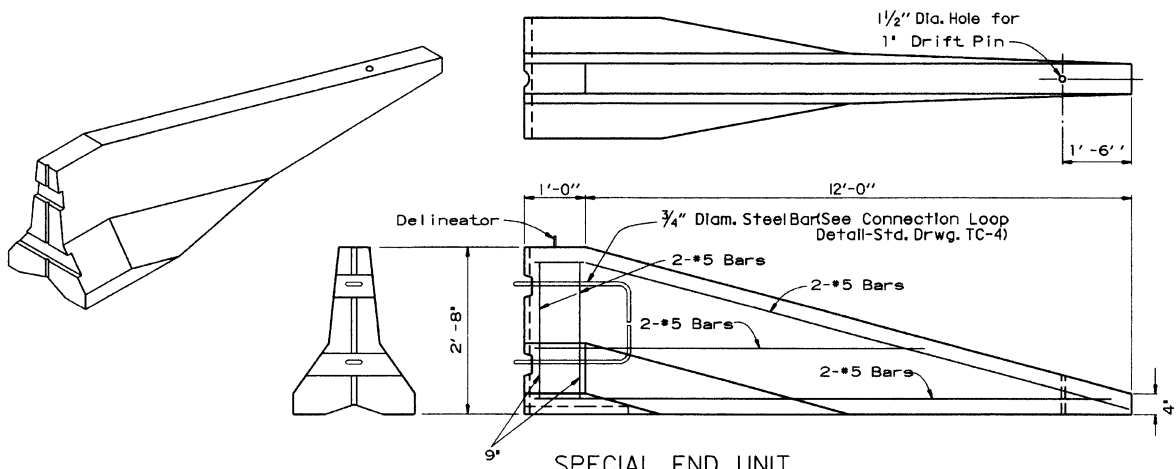
\*\*\*Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

\*\* Offset Distance for Two Way Traffic Only



SECTION J-J

No Scale



SPECIAL END UNIT

No Scale

General Notes

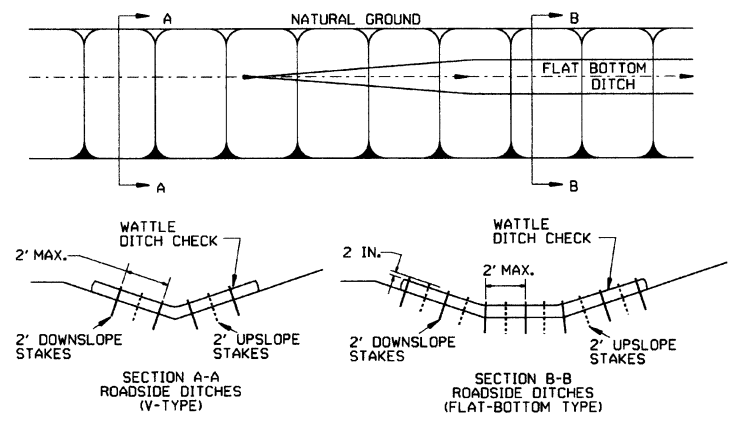
When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

|                                                                                |                           |       |
|--------------------------------------------------------------------------------|---------------------------|-------|
| ARKANSAS STATE HIGHWAY COMMISSION                                              |                           |       |
| STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER |                           |       |
| STANDARD DRAWING TC-5                                                          |                           |       |
| 10-15-09                                                                       | ADDED REFERENCE TO MASH   |       |
| 5-25-06                                                                        | REVISED BARRIER PLACEMENT |       |
| 8-22-02                                                                        | ISSUED NEW DRAWING        |       |
| DATE                                                                           | REVISION                  | FILED |



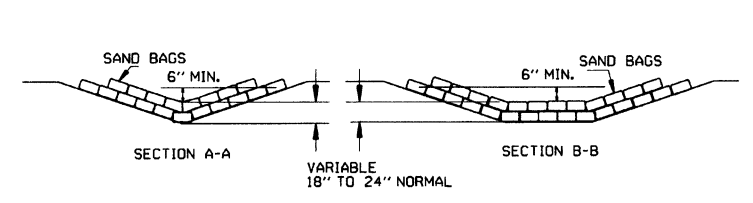
GENERAL NOTES

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



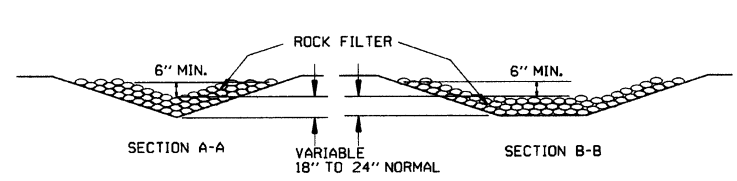
WATTLE DITCH CHECK (E-1)

NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS. PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW.

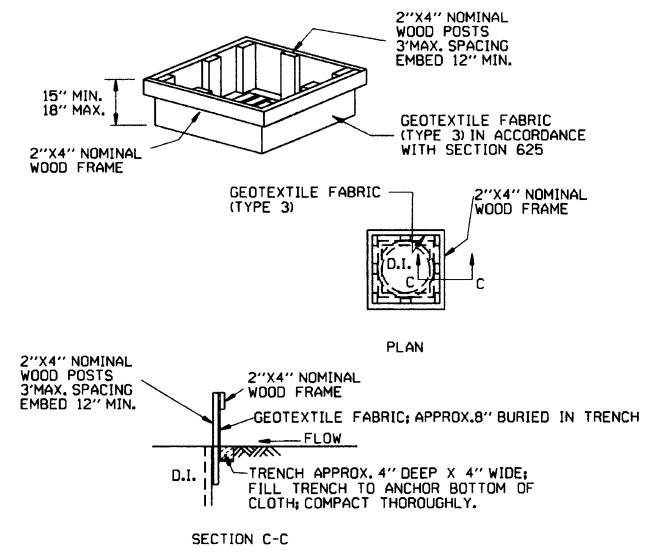


SAND BAG DITCH CHECK (E-5)

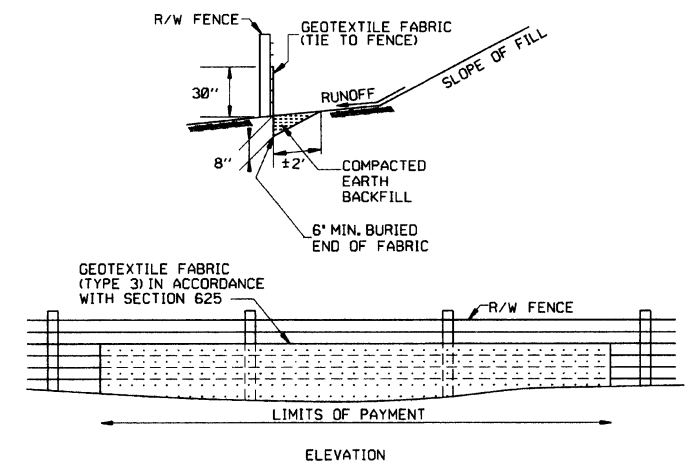
APPROX. 2:1 SLOPE. PLACE ROCK AT BASE OF DITCH CHECK IN AREA OF OVERFLOW.



ROCK DITCH CHECK (E-6)



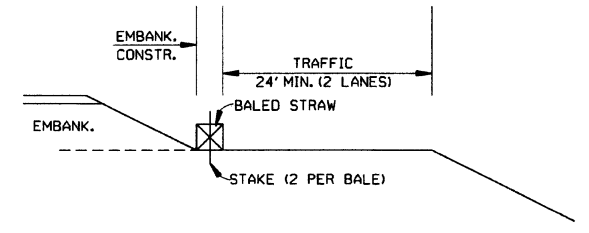
DROP INLET SILT FENCE (E-7)



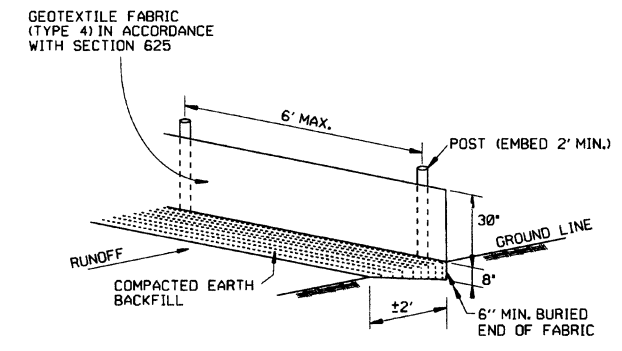
SILT FENCE ON R/W FENCE (E-4)

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.

- 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)

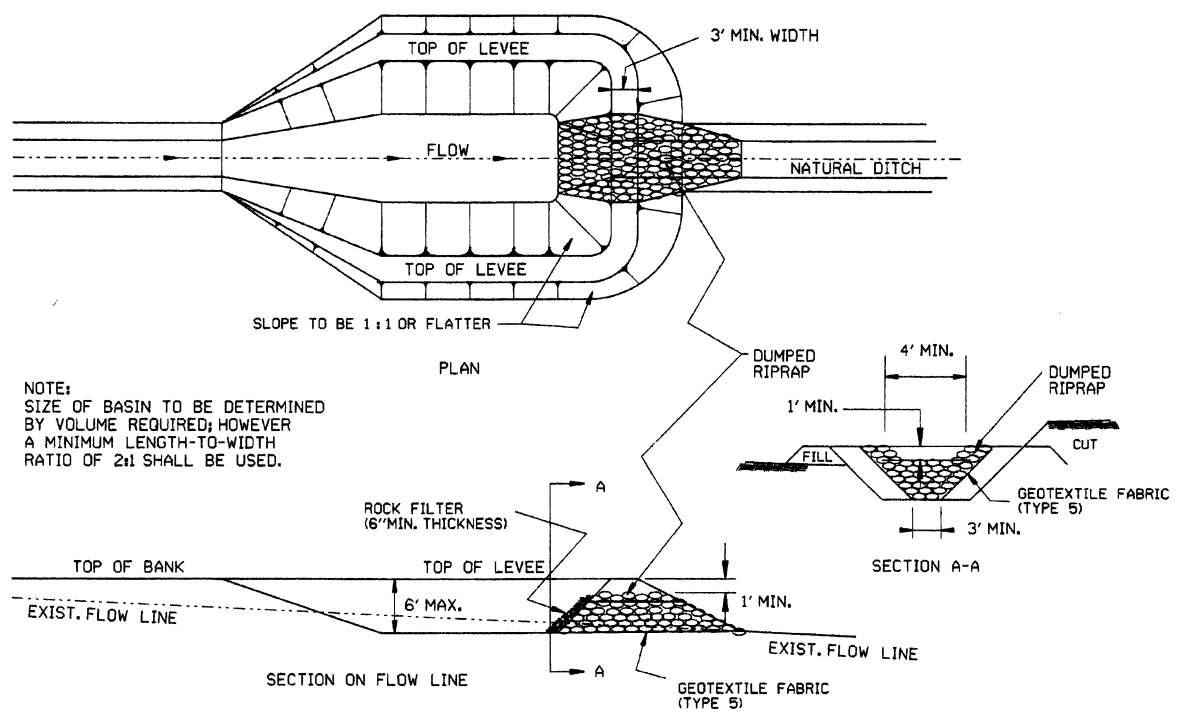


SILT FENCE (E-11)

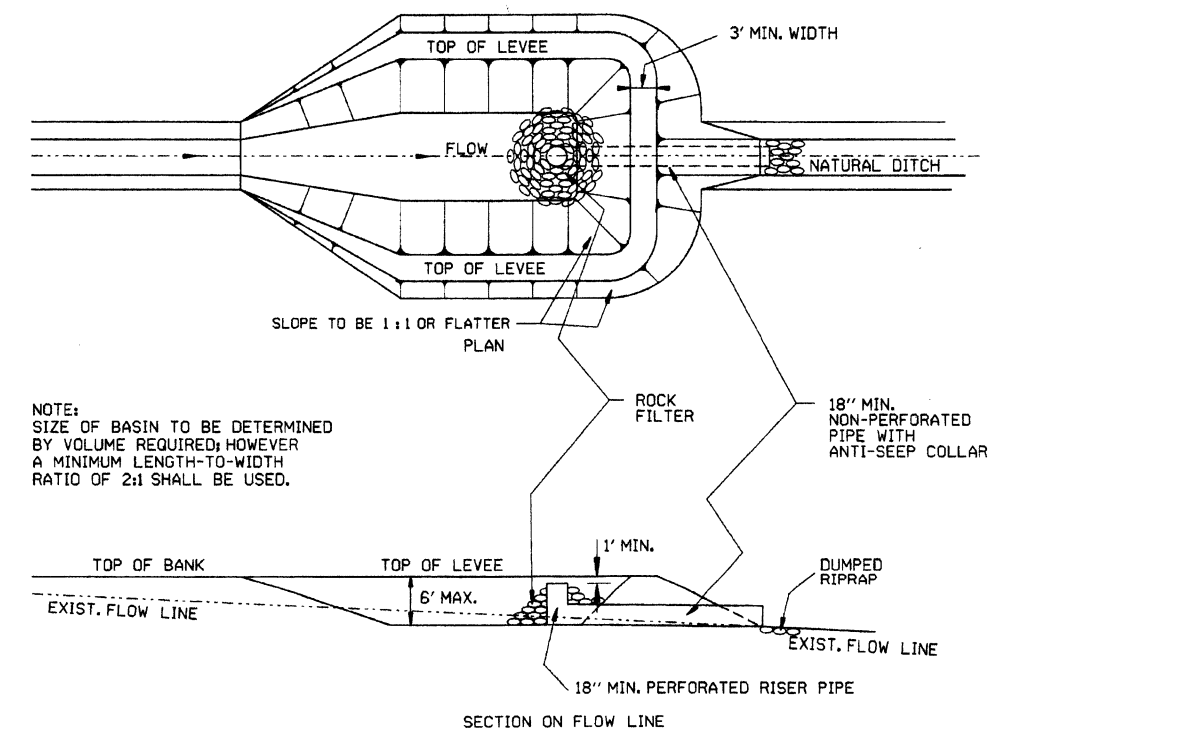
GENERAL NOTES  
GEOTEXTILE FABRIC SHALL BE SPICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

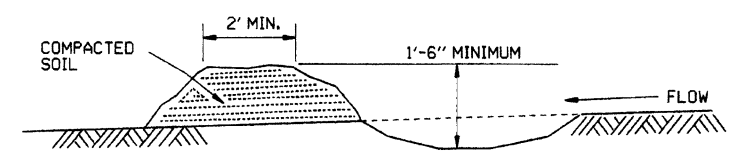




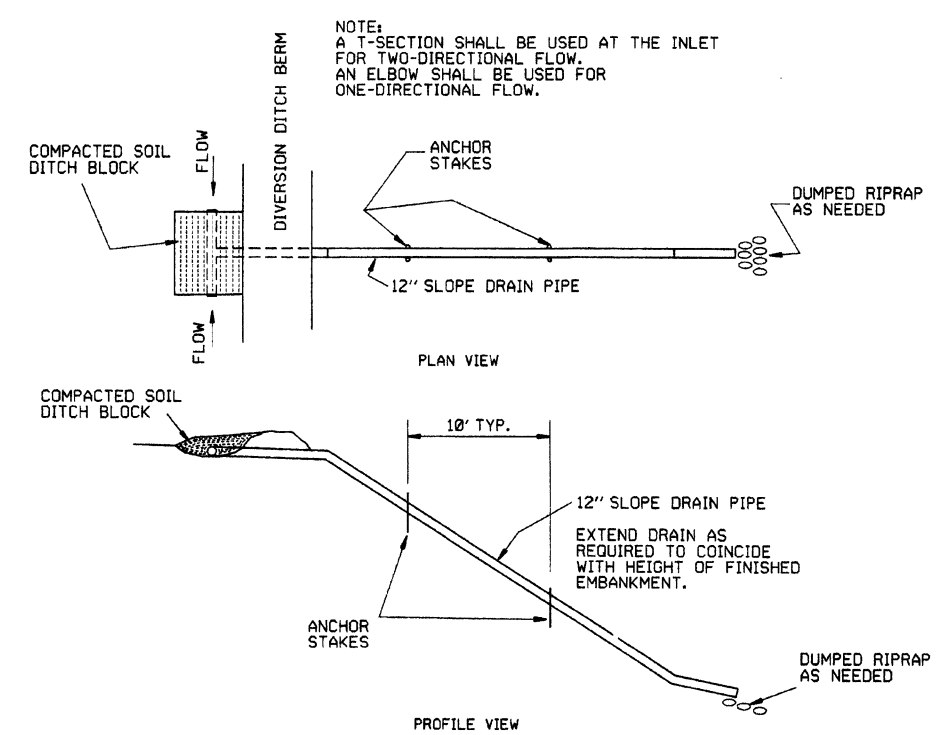
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



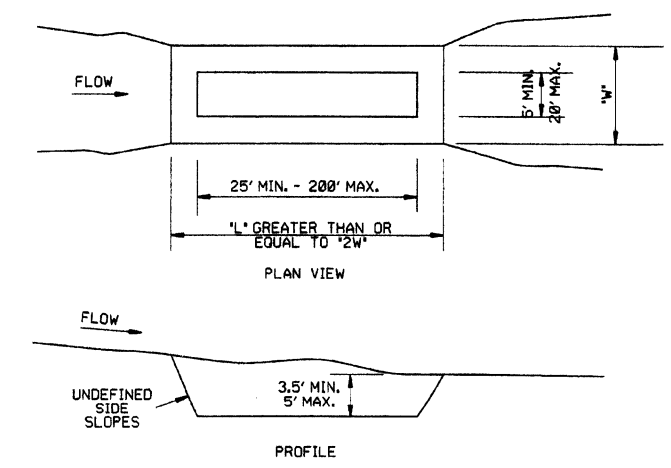
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



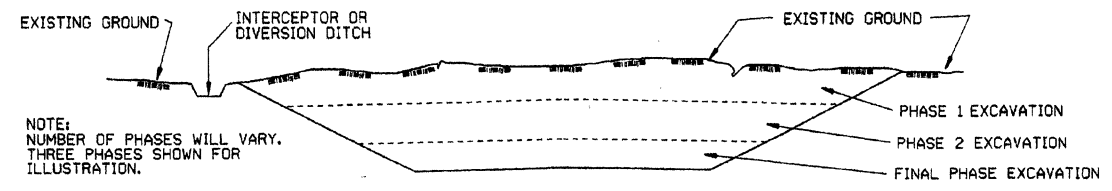
SEDIMENT BASIN (E-14)

|                                   |                                               |        |
|-----------------------------------|-----------------------------------------------|--------|
| 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

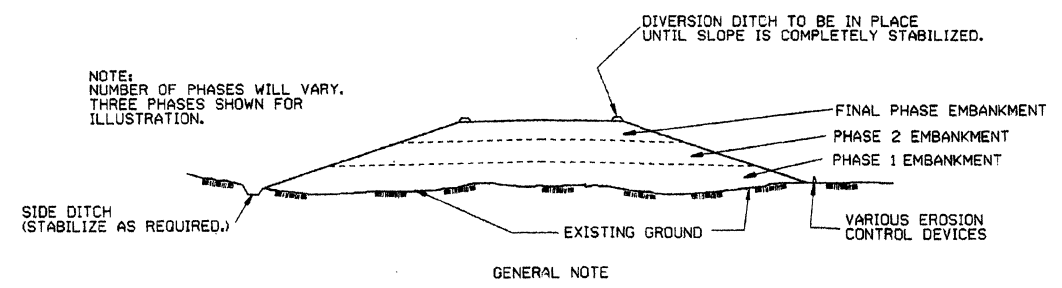


GENERAL NOTE

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

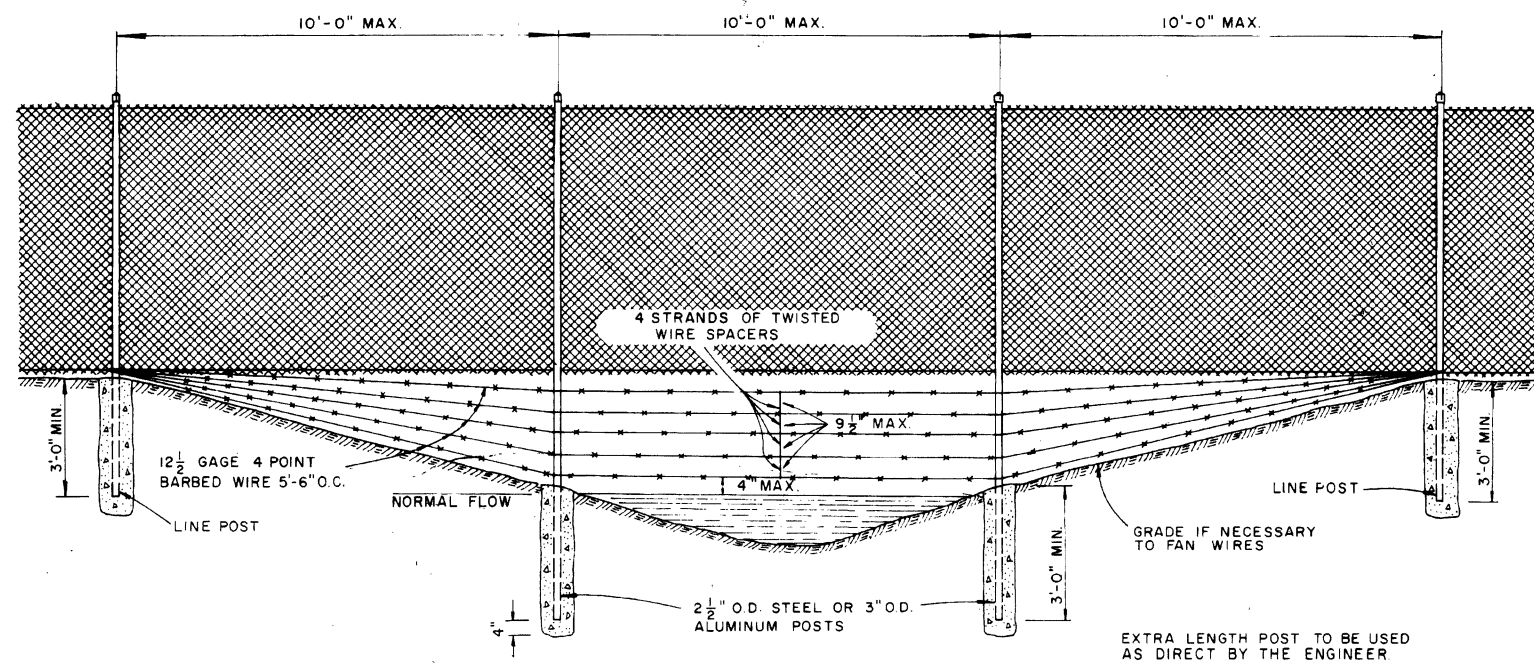
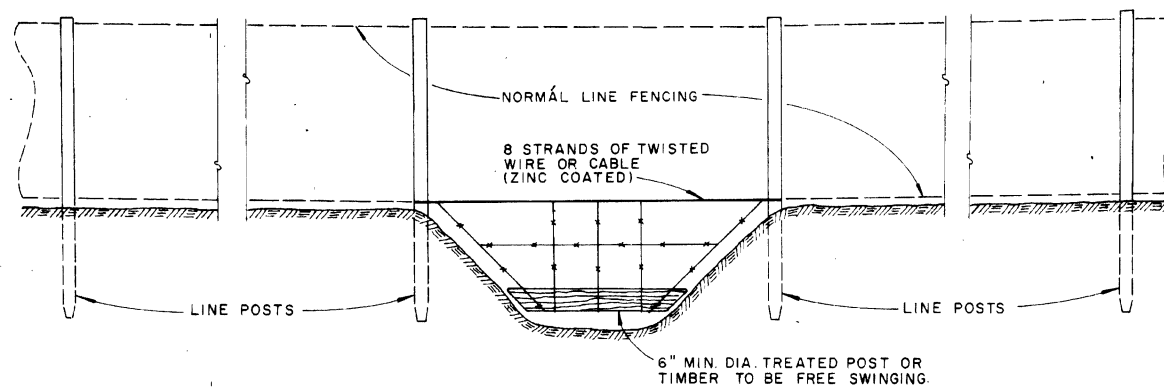
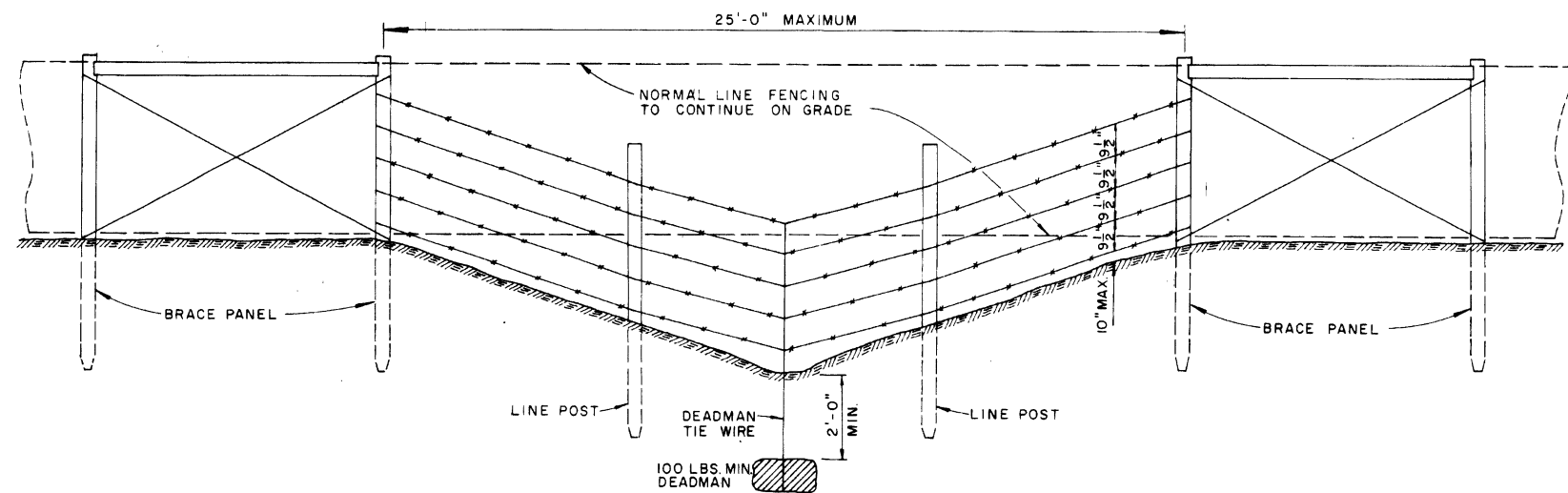


GENERAL NOTE

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:

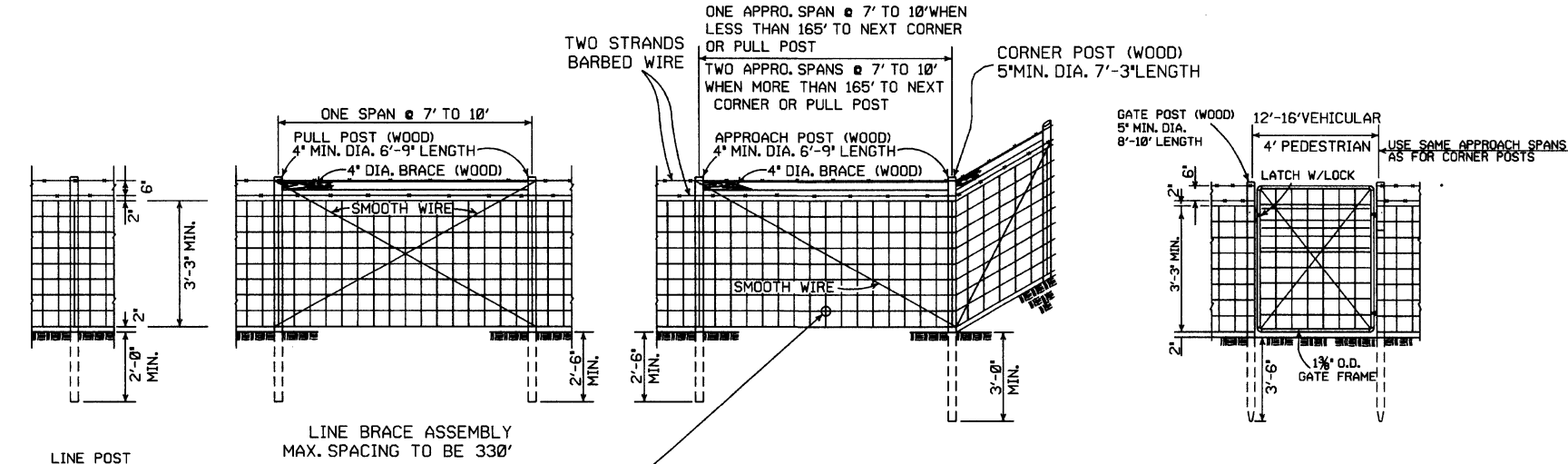
THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.

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

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

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

|                                   |                                 |             |
|-----------------------------------|---------------------------------|-------------|
| ARKANSAS STATE HIGHWAY COMMISSION |                                 |             |
| WIRE FENCE WATER GAPS             |                                 |             |
| STANDARD DRAWING                  |                                 |             |
| WF-2                              |                                 |             |
| 4-20-79                           | REVISED TOP RAIL & TENSION WIRE | 674-4-20-79 |
| 10-2-72                           | REVISED & REDRAWN               | 529-10-2-72 |
| DATE                              | REVISION                        | DATE FILMD  |

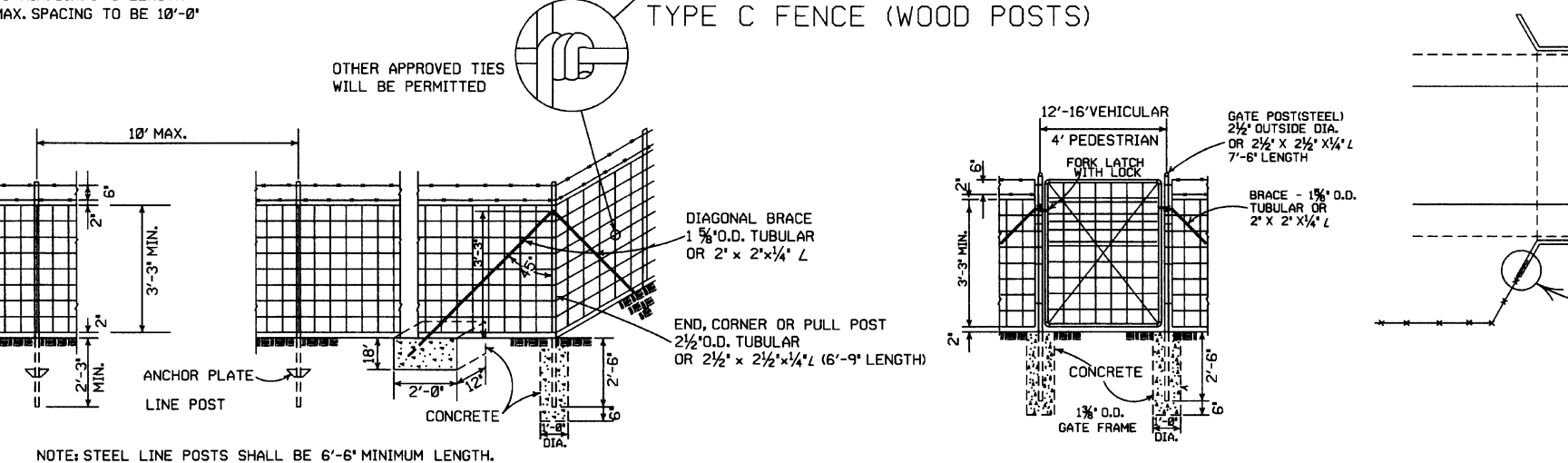


GENERAL NOTES:  
STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED.  
TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE.  
AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS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

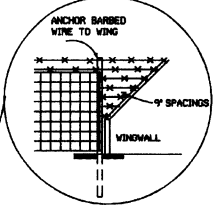
THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

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.



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

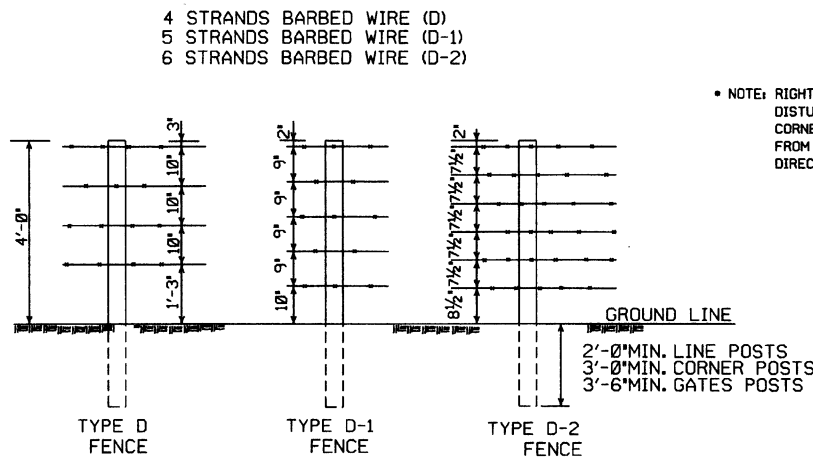


SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF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

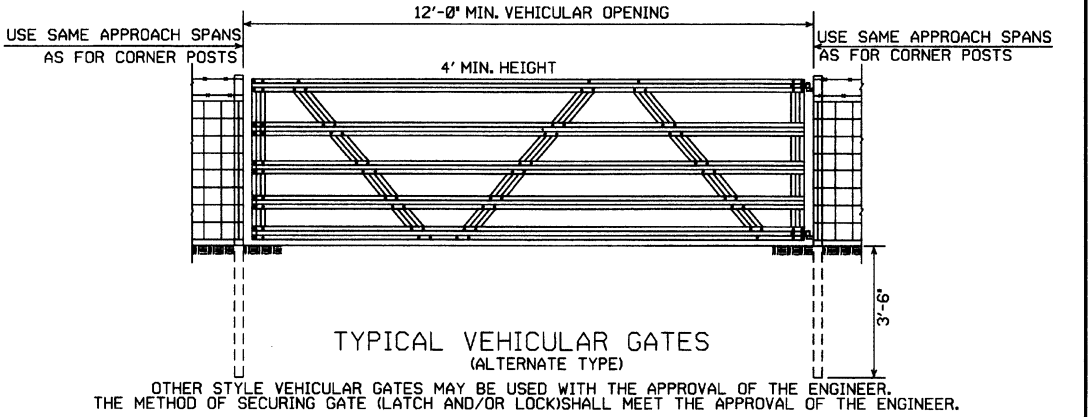
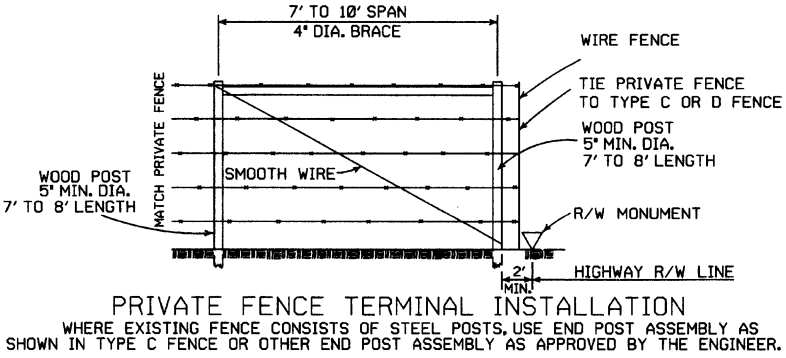
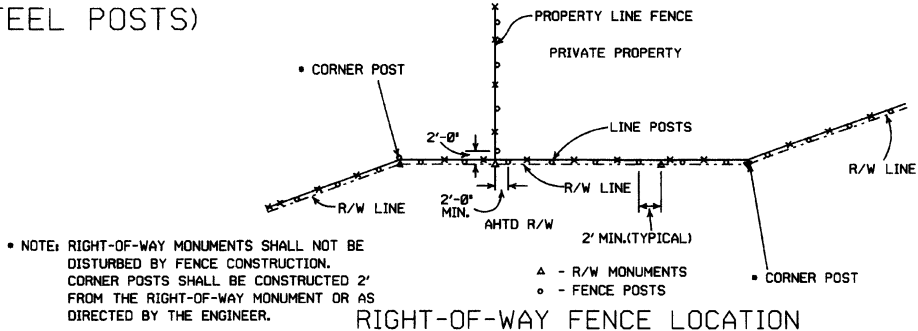
SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE 'WESTERN UNION METHOD' AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

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

TYPE C FENCE (STEEL POSTS)



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.



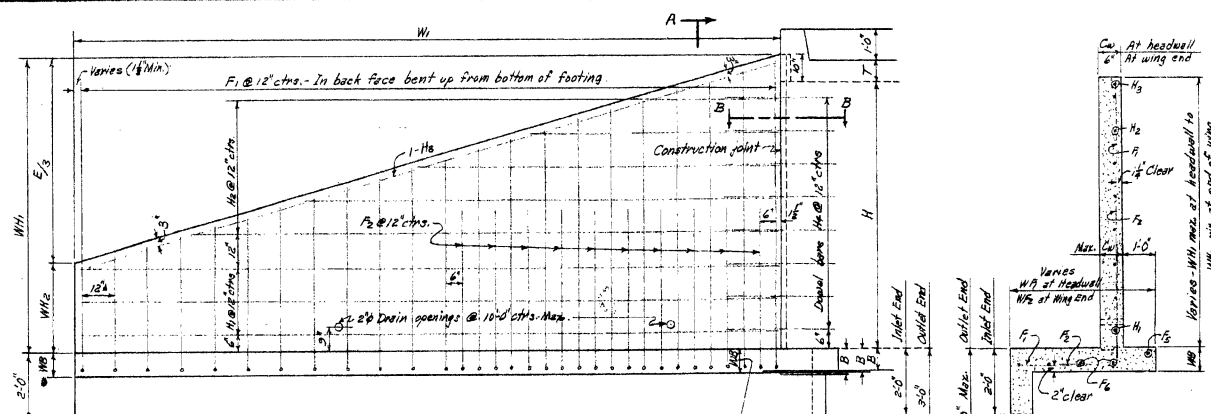
| DATE     | REVISION                                      | FILMED       |
|----------|-----------------------------------------------|--------------|
| 8-22-82  | REVISED GENERAL NOTES                         |              |
| 10-18-96 | REVISED AASHTO                                |              |
| 11-22-95 | REVISED R-O-W LOCATION DETAIL                 |              |
| 6-2-94   | REVISED BARB WIRE AND ADDED CORNER POST NOTES | 6-2-94       |
| 8-5-93   | REVISED R/W INSTALLATION FENCE                | 8-5-93       |
| 10-1-92  | ADDED STAPLE NOTE                             | 10-1-92      |
| 8-15-91  | ADDED TYPE D-2 FENCE                          | 8-15-91      |
| 11-30-89 | DELETED CLASS CONCRETE                        | 11-30-89     |
| 7-15-88  | ADDED SPLICE NOTE                             | 700-7-15-88  |
| 10-30-87 | GENERAL REVISIONS                             | 549-10-30-87 |
| 11-1-84  | MAX. POST SPACING MIN. WIRE GAUGE             | 507-11-1-84  |
| 1-4-83   | MIN. DIA. LINE POST                           | 648-1-4-83   |
| 3-2-81   | TOLERANCE FOR POST LENGTH                     | 722-3-2-81   |
| 12-1-72  | ADDED D-1 & FENCE INSTALLATION                | 564-12-1-72  |
| 10-2-72  | REVISED AND REDRAWN                           | 540-10-2-72  |

ARKANSAS STATE HIGHWAY COMMISSION

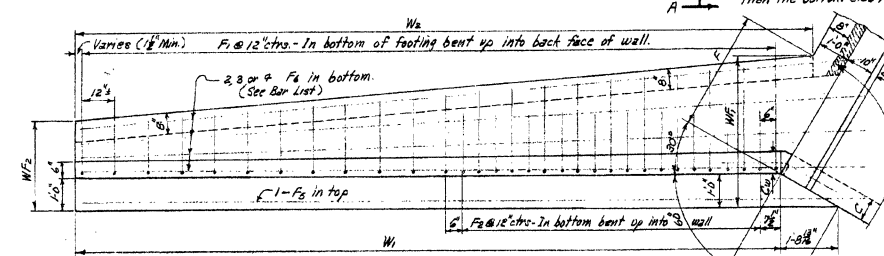
WIRE FENCE  
TYPE C AND D

STANDARD DRAWING WF-4

| FILE NO. | DATE | BY | CHKD. | APP'D. | TOTAL |
|----------|------|----|-------|--------|-------|
| 164      |      |    |       |        |       |
| JOB NO.  |      |    |       |        |       |



REAR ELEVATION OF WING - SHOWING BACK FACE REINF.



PLAN OF WING - SHOWING FOOTING REINF.

SECTION A-A

END VIEW OF WING

SECTION B-B THRU CONSTRUCTION JOINT

DETAIL AT TOP OF WING

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

| WING DIMENSIONS        |                              |                                      |                     |                      |                            |                      |                                    |               |                                                     |                |                                |              |                        |
|------------------------|------------------------------|--------------------------------------|---------------------|----------------------|----------------------------|----------------------|------------------------------------|---------------|-----------------------------------------------------|----------------|--------------------------------|--------------|------------------------|
| CLEAR HEIGHT<br>OF BOX | THICKNESS OF<br>WING FOOTING | THICKNESS OF WING<br>AT HEADWALL = C | WINGWALL<br>HEIGHTS |                      | WIDTHS OF WING<br>FOOTINGS |                      | PERPENDICULAR<br>FOOTING DIMENSION |               | PERPENDICULAR<br>DIST. FROM HWALL<br>TO END OF WING |                | LENGTH OF<br>WING WALLS        |              | * QUANTITY<br>PER WING |
|                        |                              |                                      | AT<br>HEADWALL      | AT<br>END<br>OF WING | AT<br>HEADWALL             | AT<br>END<br>OF WING | PERPENDICULAR                      | PERPENDICULAR | PERPENDICULAR                                       | PERPENDICULAR  | INSIDE<br>FOOTING<br>DIMENSION | INLET<br>END |                        |
| H                      | WB                           | CW                                   | WH <sub>1</sub>     | WH <sub>2</sub>      | W <sub>1</sub>             | W <sub>2</sub>       | F                                  | E             | N <sub>1</sub>                                      | N <sub>2</sub> | CUYD                           |              |                        |
| 2'                     | 7"                           | 6"                                   | 2'-0"               | 0'-8"                | 2'-4"                      | 2'-0"                | 0'-10"                             | 6'-6"         | 7'-6"                                               | 7'-1/2"        | 0.889                          | 0            |                        |
| 3'                     | 7"                           | 6"                                   | 3'-0"               | 1'-0"                | 3'-8"                      | 2'-4"                | 1'-4"                              | 8'-6"         | 9'-8"                                               | 9'-2 1/2"      | 1.338                          | 1            |                        |
| 4'                     | 7"                           | 6"                                   | 4'-0"               | 1'-8"                | 4'-8"                      | 3'-0"                | 1'-9"                              | 10'-6"        | 12'-1/2"                                            | 12'-1 1/2"     | 1.868                          | 2            |                        |
| 5'                     | 7"                           | 6"                                   | 5'-0"               | 1'-8"                | 5'-4"                      | 3'-4"                | 2'-5"                              | 12'-6"        | 14'-5 1/2"                                          | 14'-7 1/2"     | 2.478                          | 2            |                        |
|                        |                              | 7"                                   | 5'-10"              | 1'-8"                | 5'-8"                      | 3'-8"                | 2'-11/2"                           | 12'-6"        | 14'-5 1/2"                                          | 14'-7 1/2"     | 2.582                          | 2            |                        |
| 6'                     | 8"                           | 7"                                   | 6'-0"               | 2'-0"                | 6'-8"                      | 4'-0"                | 2'-6"                              | 14'-6"        | 16'-9"                                              | 17'-1 1/2"     | 3.440                          | 3            |                        |
|                        |                              | 7 1/2"                               | 6'-10"              | 2'-0"                | 6'-8"                      | 4'-0"                | 2'-6"                              | 14'-6"        | 16'-9"                                              | 17'-1 1/2"     | 3.511                          | 3            |                        |
|                        |                              | 8"                                   | 6'-0"               | 2'-0"                | 6'-8"                      | 4'-0"                | 2'-6"                              | 14'-6"        | 16'-9"                                              | 17'-1 1/2"     | 3.582                          | 3            |                        |
| 7'                     | 8 1/2"                       | 7 1/2"                               | 7'-0"               | 2'-4"                | 7'-4"                      | 4'-2"                | 2'-7 1/2"                          | 16'-6"        | 19'-0 1/2"                                          | 19'-8 1/2"     | 4.505                          | 4            |                        |
|                        |                              | 8"                                   | 7'-10"              | 2'-4"                | 7'-4"                      | 4'-2"                | 2'-7 1/2"                          | 16'-6"        | 19'-0 1/2"                                          | 19'-8 1/2"     | 4.597                          | 4            |                        |
| 8'                     | 9"                           | 8"                                   | 8'-0"               | 2'-8"                | 8'-8"                      | 5'-0"                | 3'-8"                              | 18'-6"        | 21'-4"                                              | 22'-4"         | 5.761                          | 6            |                        |

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

| APRON DIMENSION W3 = (CW-2F) |              |                               |                                  |                       |       |                       |        |                       |            |                          |       |                          |    |
|------------------------------|--------------|-------------------------------|----------------------------------|-----------------------|-------|-----------------------|--------|-----------------------|------------|--------------------------|-------|--------------------------|----|
| CLEAR SPAN                   | CLEAR HEIGHT | THICKNESS OF WING AT HEADWALL | THICKNESS OF WING AT END OF WING | SINGLE BARREL CULVERT |       | DOUBLE BARREL CULVERT |        | TRIPLE BARREL CULVERT |            | QUADRUPLE BARREL CULVERT |       | QUINTUPLE BARREL CULVERT |    |
|                              |              |                               |                                  | W3                    | W4    | W3                    | W4     | W3                    | W4         | W3                       | W4    | W3                       | W4 |
| 2'                           | 7"           | 6"                            | 2'-0"                            | 0'-8"                 | 2'-4" | 2'-0"                 | 0'-10" | 6'-6"                 | 7'-6"      | 7'-1/2"                  | 0.889 | 0.986                    |    |
| 3'                           | 7"           | 6"                            | 3'-0"                            | 1'-0"                 | 3'-8" | 2'-4"                 | 1'-4"  | 8'-6"                 | 9'-8"      | 9'-2 1/2"                | 1.338 | 1.446                    |    |
| 4'                           | 7"           | 6"                            | 4'-0"                            | 1'-8"                 | 4'-8" | 3'-0"                 | 1'-9"  | 10'-6"                | 12'-1/2"   | 12'-1 1/2"               | 1.868 | 2.027                    |    |
| 5'                           | 7"           | 6"                            | 5'-0"                            | 1'-8"                 | 5'-4" | 3'-4"                 | 2'-5"  | 12'-6"                | 14'-5 1/2" | 14'-7 1/2"               | 2.478 | 2.648                    |    |
| 6'                           | 8"           | 7"                            | 6'-0"                            | 2'-0"                 | 6'-8" | 4'-0"                 | 2'-6"  | 14'-6"                | 16'-9"     | 17'-1 1/2"               | 3.440 | 3.661                    |    |
| 7'                           | 8"           | 7"                            | 7'-0"                            | 2'-4"                 | 7'-4" | 4'-4"                 | 3'-4"  | 16'-6"                | 18'-9"     | 19'-8"                   | 4.505 | 4.758                    |    |
| 8'                           | 9"           | 8"                            | 8'-0"                            | 2'-8"                 | 8'-8" | 5'-0"                 | 4'-0"  | 18'-6"                | 21'-4"     | 22'-4"                   | 5.761 | 6.097                    |    |

QUANTITIES

| CLEAR SPAN | CLEAR HEIGHT | THICKNESS OF WING AT HEADWALL | THICKNESS OF WING AT END OF WING | CLASS S CONCRETE - 4 WINGS                          |                       |                       |                       |                          |                          |
|------------|--------------|-------------------------------|----------------------------------|-----------------------------------------------------|-----------------------|-----------------------|-----------------------|--------------------------|--------------------------|
|            |              |                               |                                  | HEADWALLS, WINGWALLS, FOOTINGS, TOEWALLS AND APRONS | SINGLE BARREL CULVERT | DOUBLE BARREL CULVERT | TRIPLE BARREL CULVERT | QUADRUPLE BARREL CULVERT | QUINTUPLE BARREL CULVERT |
| S          | H            | CW                            | WB                               | WH1                                                 | WH2                   | W1                    | W2                    | W3                       | W4                       |
| 2'         | 7"           | 6"                            | 2'-0"                            | 0'-8"                                               | 2'-4"                 | 2'-0"                 | 0'-10"                | 6'-6"                    | 7'-6"                    |
| 3'         | 7"           | 6"                            | 3'-0"                            | 1'-0"                                               | 3'-8"                 | 2'-4"                 | 1'-4"                 | 8'-6"                    | 9'-8"                    |
| 4'         | 7"           | 6"                            | 4'-0"                            | 1'-8"                                               | 4'-8"                 | 3'-0"                 | 1'-9"                 | 10'-6"                   | 12'-1/2"                 |
| 5'         | 7"           | 6"                            | 5'-0"                            | 1'-8"                                               | 5'-4"                 | 3'-4"                 | 2'-5"                 | 12'-6"                   | 14'-5 1/2"               |
| 6'         | 8"           | 7"                            | 6'-0"                            | 2'-0"                                               | 6'-8"                 | 4'-0"                 | 2'-6"                 | 14'-6"                   | 16'-9"                   |
| 7'         | 8"           | 7"                            | 7'-0"                            | 2'-4"                                               | 7'-4"                 | 4'-4"                 | 3'-4"                 | 16'-6"                   | 18'-9"                   |
| 8'         | 9"           | 8"                            | 8'-0"                            | 2'-8"                                               | 8'-8"                 | 5'-0"                 | 4'-0"                 | 18'-6"                   | 21'-4"                   |

\* For reinforcing steel in headwalls and aprons, see details of standard barrel sections for the desired span and height.

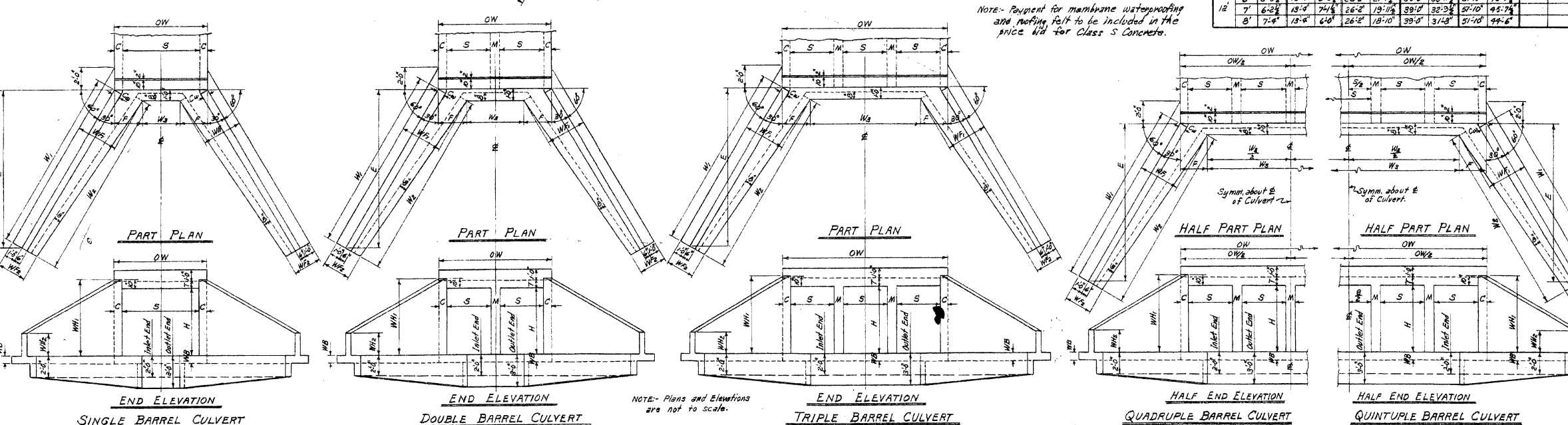
**GENERAL NOTES:-**  
 CONCRETE:- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have 1/2 chamfers.  
 REINFORCING STEEL:- Reinforcing steel to be deformed bars of intermediate or hard grade.  
 CONSTRUCTION JOINTS:- Construction joints between wingwall, footings and side walls shall be only where shown on plans.  
 SPECIFICATIONS:- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.  
**UNIT STRESSES:-**  
 Class S Concrete (f'c=10) 1200 psi  
 Reinforcing Steel 20000 psi

NOTE:- This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos. as listed below.

| SINGLES  | DOUBLES  | TRIPLES  | QUADRUPLES | QUINTUPLES |
|----------|----------|----------|------------|------------|
| R-100X-0 | R-200X-0 | R-300X-0 | R-400X-0   | R-500X-0   |
| R-100X-1 | R-200X-1 | R-300X-1 | R-400X-1   | R-500X-1   |
| R-100X-2 | R-200X-2 | R-300X-2 | R-400X-2   | R-500X-2   |
|          | R-200X-3 | R-300X-3 |            |            |

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION  
 DETAILS OF STANDARD WINGS  
 FOR  
 REINFORCED CONCRETE BOX CULVERTS  
 4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS  
 3:1 SLOPES  
 SINGLES, DOUBLES, TRIPLES, ALL DEPTHS OF COVER  
 QUADRUPLES & QUINTUPLES. FOR H=8'-0" OR LESS  
 STANDARD DRAWING NO. W-X003-1



BAR LIST FOR ONE WING - 4 REQUIRED

| BAR LIST FOR ONE WING - 4 REQUIRED |                                                                               |      |         |          |             |        |        |        |         |          |                                                                                      |   |    |      |         |                                           |        |        |         |          |                                             |      |         |          |        |                                  |         |          |        |        |                                                          |          | BAR BENDING DIAGRAMS |      |         |                                       |        |       |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |
|------------------------------------|-------------------------------------------------------------------------------|------|---------|----------|-------------|--------|--------|--------|---------|----------|--------------------------------------------------------------------------------------|---|----|------|---------|-------------------------------------------|--------|--------|---------|----------|---------------------------------------------|------|---------|----------|--------|----------------------------------|---------|----------|--------|--------|----------------------------------------------------------|----------|----------------------|------|---------|---------------------------------------|--------|-------|--|--|---------------------------------------------|--|--|--|--|-------------------------------------|-----|---------------------------------------------------------------------------------------|
| CLEAR HEIGHT                       | F <sub>1</sub>                                                                |      |         |          |             |        |        |        |         |          | F <sub>2</sub>                                                                       |   |    |      |         | F <sub>3</sub>                            |        |        |         |          | F <sub>4</sub>                              |      |         |          |        | H <sub>1</sub>                   |         |          |        |        | H <sub>2</sub>                                           |          |                      |      |         | H <sub>3</sub>                        |        |       |  |  | H <sub>4</sub>                              |  |  |  |  | QUANTITY REINFORCING STEEL PER WING | LB. |  |
|                                    | BENT                                                                          |      |         |          |             |        |        |        |         |          | BENT                                                                                 |   |    |      |         | STRAIGHT                                  |        |        |         |          | STRAIGHT                                    |      |         |          |        | STRAIGHT                         |         |          |        |        | BENT                                                     |          |                      |      |         |                                       |        |       |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |
|                                    | In bottom of footing, bent up into back face of wing. One bar of each length. |      |         |          |             |        |        |        |         |          | In bottom of footing, bent up into back face of wing. Alt. with F <sub>1</sub> bars. |   |    |      |         | Longitudinal in top of wing footing heel. |        |        |         |          | Longitudinal in bottom of wing footing toe. |      |         |          |        | Horizontal in back face of wing. |         |          |        |        | Horizontal in back face of wing. One bar of each length. |          |                      |      |         | In back face of wing at top-on slope. |        |       |  |  | Dowels thru construction joint at headwall. |  |  |  |  |                                     |     |                                                                                       |
|                                    | H                                                                             | SIZE | SPACING | NO REQ'D | LENGTH VARY | X      | Y      | SIZE   | SPACING | NO REQ'D | LENGTH                                                                               | X | Y  | SIZE | SPACING | NO REQ'D                                  | LENGTH | SIZE   | SPACING | NO REQ'D | LENGTH                                      | SIZE | SPACING | NO REQ'D | LENGTH | SIZE                             | SPACING | NO REQ'D | LENGTH | SIZE   | SPACING                                                  | NO REQ'D | LENGTH               | SIZE | SPACING | NO REQ'D                              | LENGTH | X     |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |
|                                    |                                                                               |      | MIN.    | MAX.     | MIN.        | MAX.   |        |        |         |          |                                                                                      |   |    |      |         |                                           |        |        |         |          |                                             |      |         |          |        |                                  |         |          |        |        |                                                          |          |                      |      |         |                                       |        |       |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |
| 2'                                 | #3                                                                            | 12"  | 8       | 1'-6"    | 3'-0"       | 0'-8"  | 1'-0"  | 0'-11" | 2'-11"  |          |                                                                                      |   | #3 | 12"  | 8       | 1'-6"                                     | 3'-0"  | 0'-8"  | 1'-0"   | 0'-11"   | 2'-11"                                      |      |         |          | #3     | 12"                              | 8       | 1'-6"    | 3'-0"  | 0'-8"  | 1'-0"                                                    | 0'-11"   | 2'-11"               |      |         |                                       |        | 27.0  |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |
| 3'                                 | #3                                                                            | 12"  | 10      | 2'-2"    | 5'-8"       | 0'-8"  | 1'-5"  | 1'-5"  | 4'-0"   |          |                                                                                      |   | #3 | 12"  | 10      | 2'-2"                                     | 5'-8"  | 0'-8"  | 1'-5"   | 1'-5"    | 4'-0"                                       |      |         |          | #3     | 12"                              | 10      | 2'-2"    | 5'-8"  | 0'-8"  | 1'-5"                                                    | 1'-5"    | 4'-0"                |      |         |                                       |        | 41.1  |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |
| 4'                                 | #3                                                                            | 12"  | 13      | 2'-9"    | 6'-6"       | 0'-11" | 1'-9"  | 1'-6"  | 5'-0"   |          |                                                                                      |   | #3 | 12"  | 13      | 2'-9"                                     | 6'-6"  | 0'-11" | 1'-9"   | 1'-6"    | 5'-0"                                       |      |         |          | #3     | 12"                              | 13      | 2'-9"    | 6'-6"  | 0'-11" | 1'-9"                                                    | 1'-6"    | 5'-0"                |      |         |                                       |        | 63.7  |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |
| 5'                                 | #3                                                                            | 12"  | 15      | 2'-11"   | 7'-10"      | 1'-1"  | 1'-11" | 1'-11" | 6'-0"   |          |                                                                                      |   | #3 | 12"  | 15      | 2'-11"                                    | 7'-10" | 1'-1"  | 1'-11"  | 1'-11"   | 6'-0"                                       |      |         |          | #3     | 12"                              | 15      | 2'-11"   | 7'-10" | 1'-1"  | 1'-11"                                                   | 1'-11"   | 6'-0"                |      |         |                                       |        | 89.5  |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |
| 6'                                 | #4                                                                            | 12"  | 17      | 3'-6"    | 9'-3"       | 1'-2"  | 2'-5"  | 2'-5"  | 7'-0"   |          |                                                                                      |   | #4 | 12"  | 17      | 3'-6"                                     | 9'-3"  | 1'-2"  | 2'-5"   | 2'-5"    | 7'-0"                                       |      |         |          | #4     | 12"                              | 17      | 3'-6"    | 9'-3"  | 1'-2"  | 2'-5"                                                    | 2'-5"    | 7'-0"                |      |         |                                       |        | 145.8 |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |
| 7'                                 | #4                                                                            | 12"  | 20      | 3'-9"    | 10'-5"      | 1'-3"  | 2'-9"  | 2'-7"  | 8'-1"   |          |                                                                                      |   | #4 | 12"  | 20      | 3'-9"                                     | 10'-5" | 1'-3"  | 2'-9"   | 2'-7"    | 8'-1"                                       |      |         |          | #4     | 12"                              | 20      | 3'-9"    | 10'-5" | 1'-3"  | 2'-9"                                                    | 2'-7"    | 8'-1"                |      |         |                                       |        | 283.7 |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |
| 8'                                 | #4                                                                            | 12"  | 22      | 4'-4"    | 12'-5"      | 1'-5"  | 3'-2"  | 3'-0"  | 9'-2"   |          |                                                                                      |   | #4 | 12"  | 22      | 4'-4"                                     | 12'-5" | 1'-5"  | 3'-2"   | 3'-0"    | 9'-2"                                       |      |         |          | #4     | 12"                              | 22      | 4'-4"    | 12'-5" | 1'-5"  | 3'-2"                                                    | 3'-0"    | 9'-2"                |      |         |                                       |        | 356.4 |  |  |                                             |  |  |  |  |                                     |     |                                                                                       |

MEMBRANE:- A membrane waterproofing 12" wide, consisting of three mappings of waterproofing asphalt and two alternate layers of treated cotton fabric shall be applied to the back face of wing to cover the construction joints in wings.

REVISIONS:- Membrane added. 5-10-66 W.G.H.

Designed By: M.C.H. 5-20-62. Checked By: R.W.S. 1-9-63  
 Drawn By: M.C.H. 12-9-62. Checked By: R.W.S. 1-31-63  
 Quantity: R.W.S. 12-14-62. Checked By: R.W.S. 1-31-63  
 Resigned By: R.W.S. 3-23-63



9

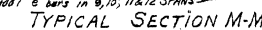
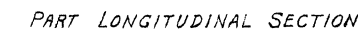
|                        |          |                     |         |
|------------------------|----------|---------------------|---------|
| Designed by:- W.C.H.   | 1-17-63. | Checked by:- P.W.S. | 5-14-63 |
| Drawn by:- W.C.H.      | 2-15-63. | Checked by:- P.W.S. | 5-24-63 |
| Quantities by:- W.C.H. | 2-19-63. | Checked by:- P.W.S. | 5-24-63 |



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

DIMENSIONS                      QUANTITIES

NOTE:- For details of wings and bar list see Drawing Nos. W-X002-1 or W-X002-2, W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2.



NOTE:- Dimensions are to centers of bars. ( $b'$  and  $b_2'$ )

A diagram showing a corner with a 45-degree angle. A rectangular block is placed in the corner. The vertical side of the block is labeled  $X/2$  and the horizontal side is labeled  $X$ .

**CONCRETE:-** All concrete to be Class S, and shall be poured in the dry.  
All exposed corners to have 3/4" chamfers.

**REINFORCING STEEL:-** Reinforcing to be deformed bars of intermediate or hard grade.

**BAR LAP:-** In computing the quantities of steel from the tables add one lap for each additional 33'0" length of barrel over 32'0". Lap longitudinal bars 30 diameters.

**CONSTRUCTION JOINTS:-** Construction joints between wingwalls, sidewalls, division walls and slabs shall be only where shown on plans.

**SPECIFICATIONS:-** Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

NOTE: This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X003-1 or W-X003-2 and W-X004-1 or W-X004-2. Also Drawing Nos. W-X002-1 or W-X002-2.

CLASS S CONCRETE

ARKANSAS STATE HIGHWAY COMMISSION  
DETAILS OF STANDARD BARREL SECTIONS  
FOR  
REINFORCED CONCRETE BOX CULVERTS  
4, 5, 6, 7, 8, 9, 10, 11, 12 SPANS      3:1 OR 4:1 SLOPES  
QUADRUPLES      UNDER 5'-0" COVER  
STANDARD DRAWING NO. R-400X-0

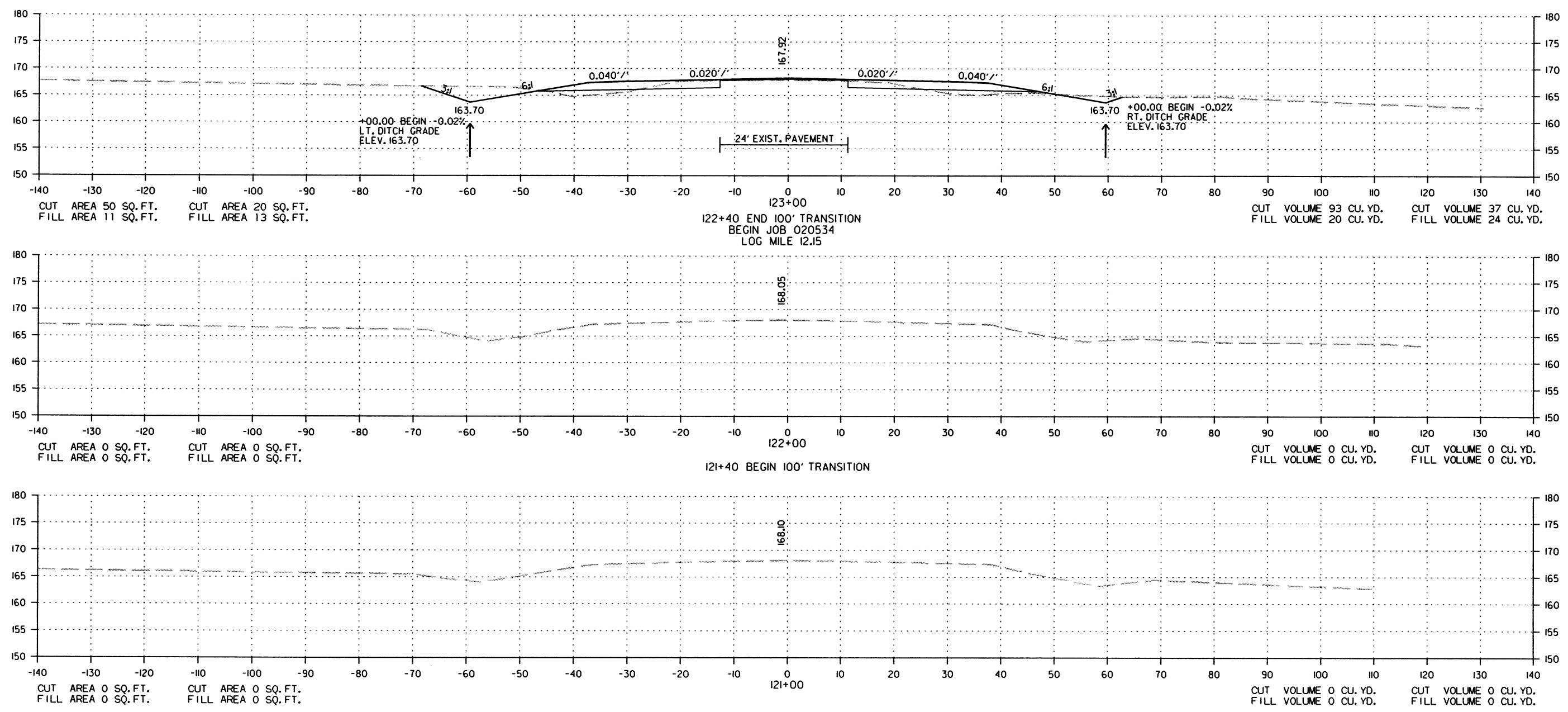
|                        |          |                                |         |
|------------------------|----------|--------------------------------|---------|
| Designed By:- W.C.H.   | 1-23-63. | Checked By:- <del>W.C.H.</del> | 5-21-63 |
| Drawn By:- W.C.H.      | 3-18-63. | Checked By:- B.H.S.            | 5-24-63 |
| Quantities By:- W.C.H. | 3-20-63. | Checked By:- B.H.S.            | 5-24-63 |

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 168          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



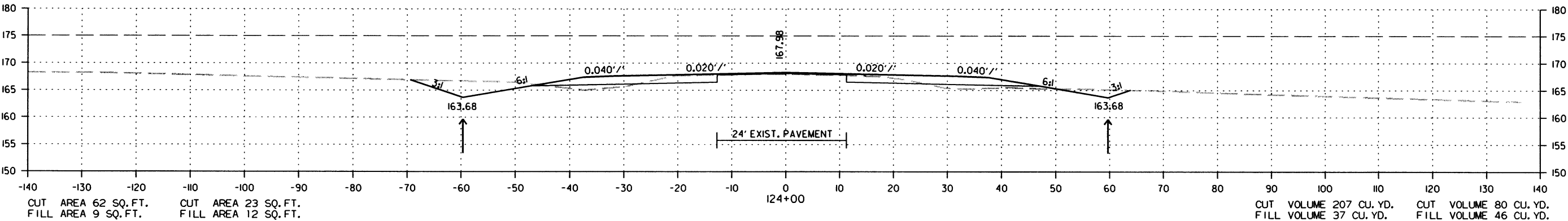
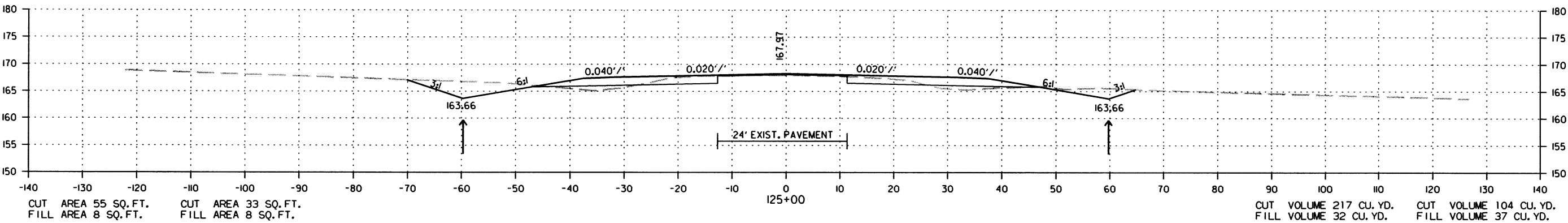
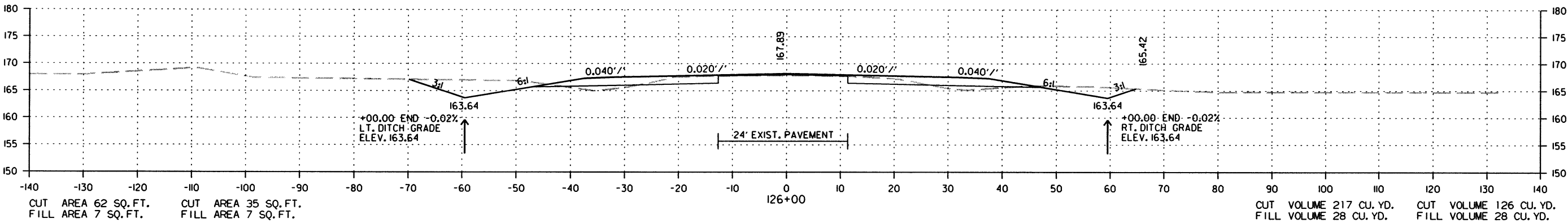
CROSS SECTION STA. 121+00 TO STA. 123+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 169          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 124+00 TO STA. 126+00

7/18/2016

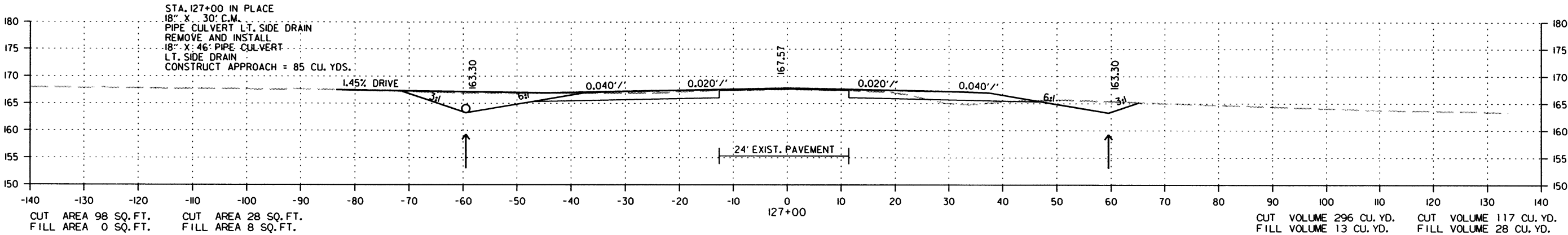
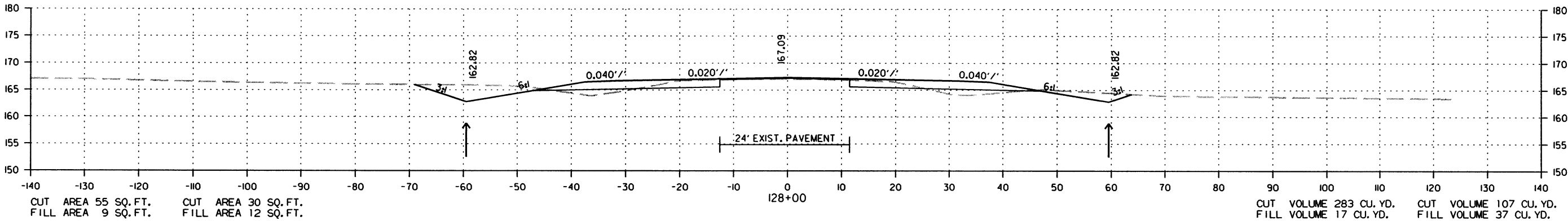
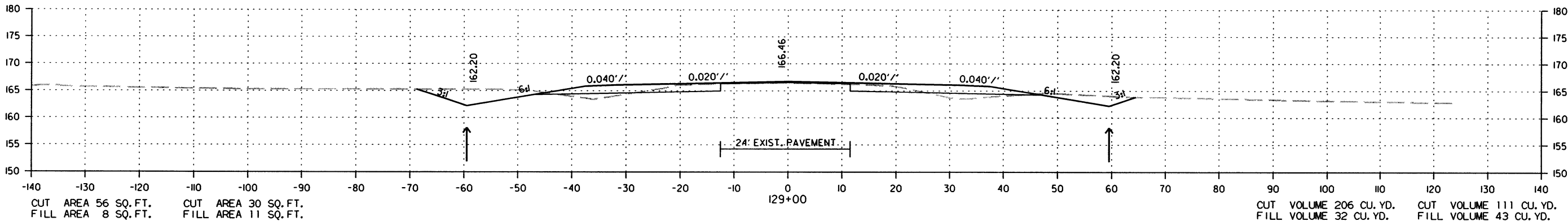
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 170          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



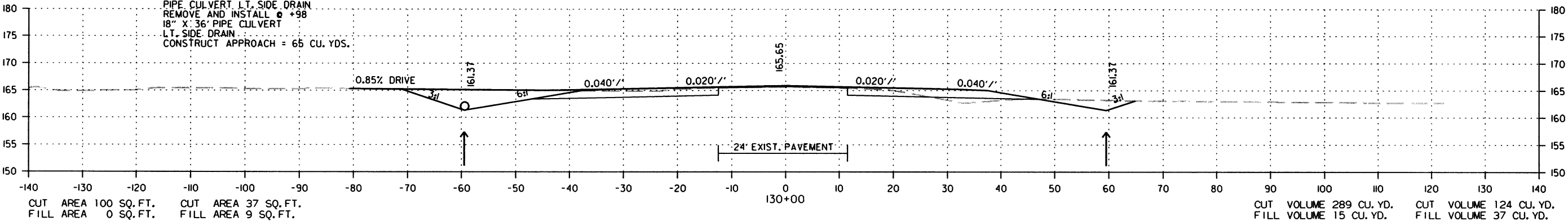
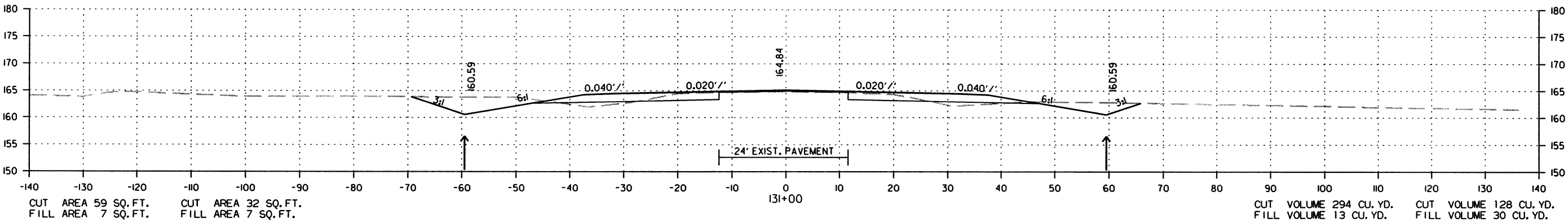
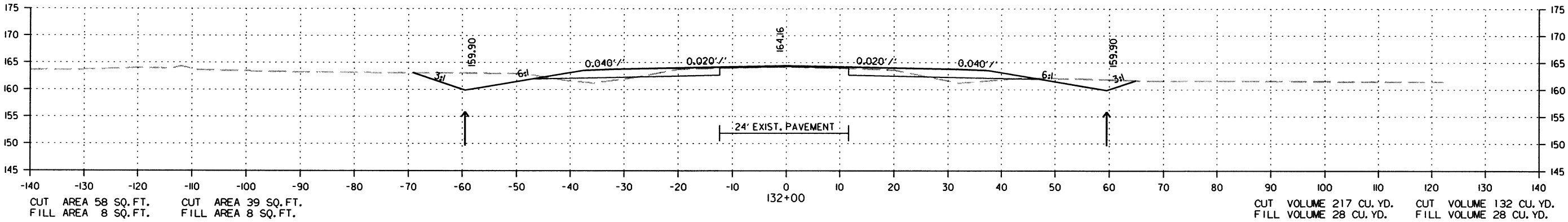
CROSS SECTION STA. 127+00 TO STA. 129+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 171          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 130+00 TO STA. 132+00

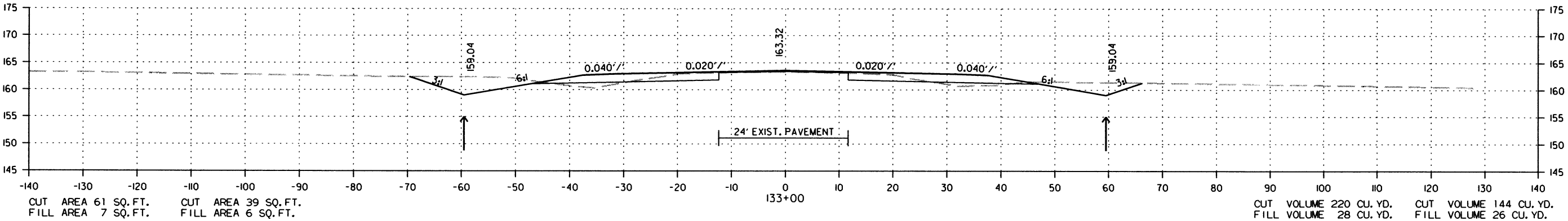
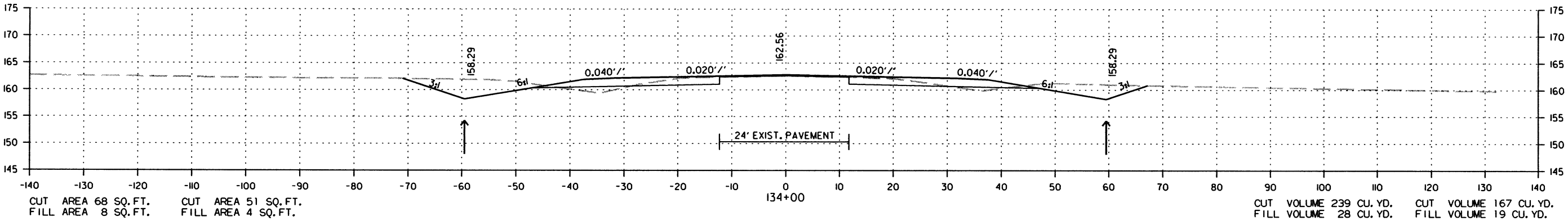
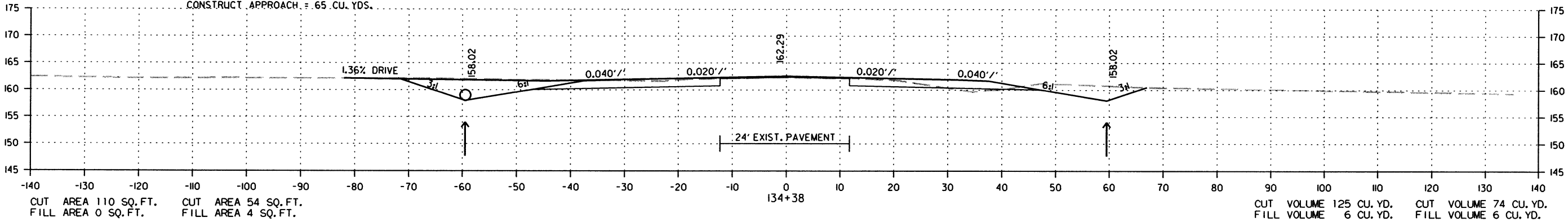
| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 172          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2

STA. 134+38 IN PLACE  
24" X 24' C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 34' PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 65 CU. YDS.



CROSS SECTION STA. 133+00 TO STA. 134+38

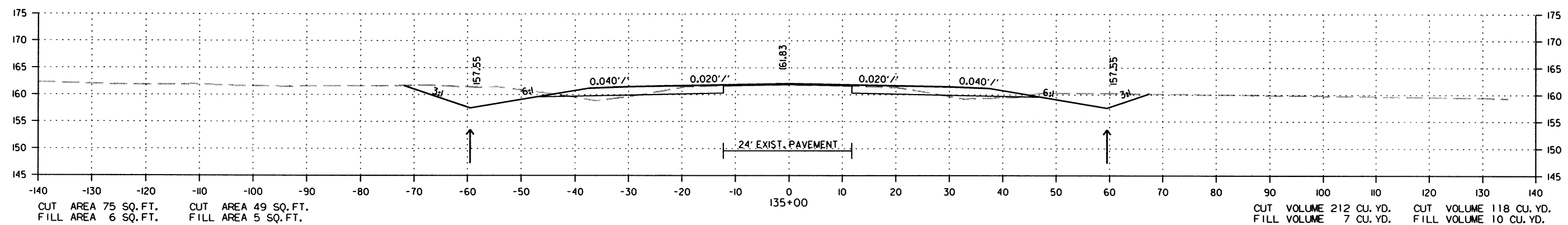
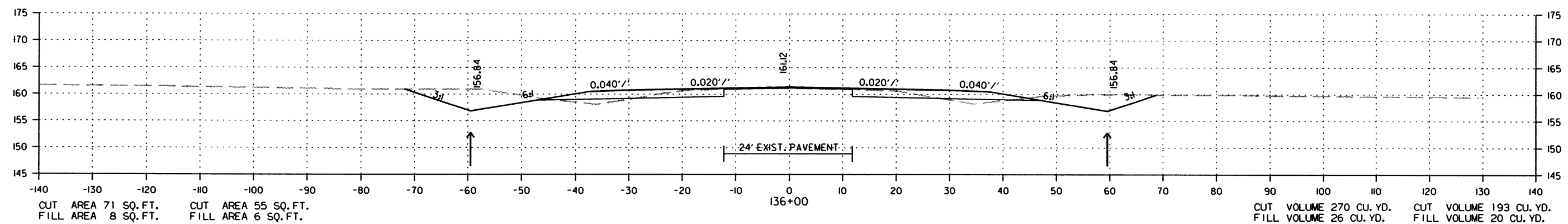
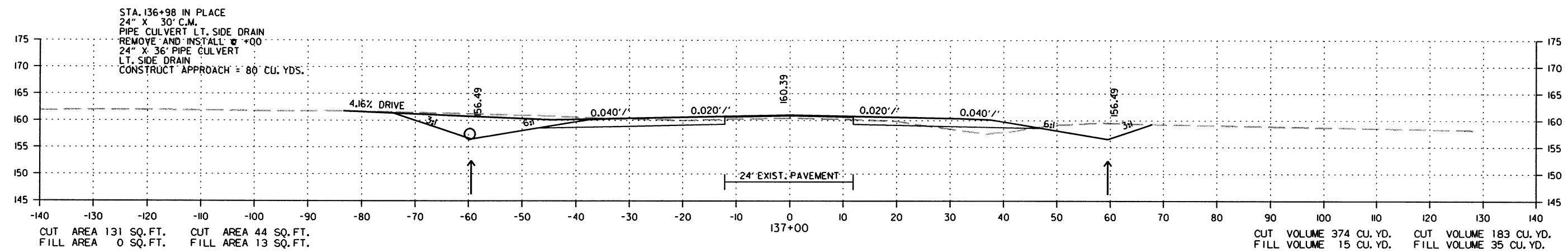


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 173          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 135+00 TO STA. 137+00

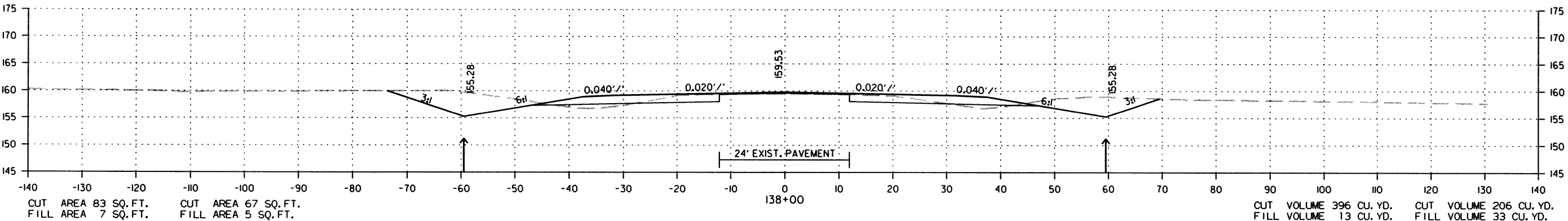
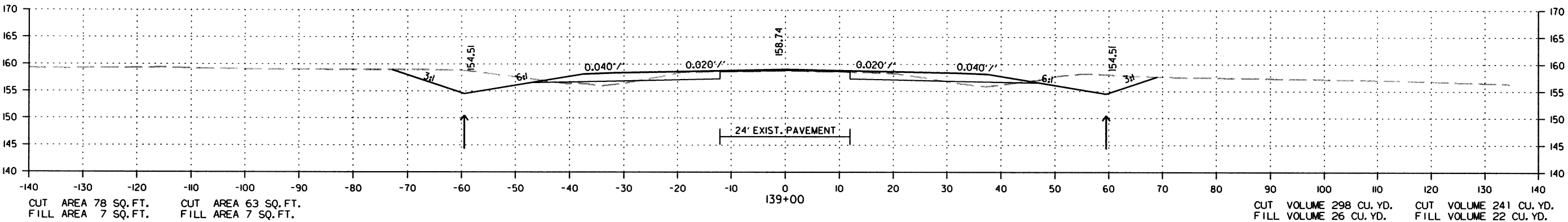
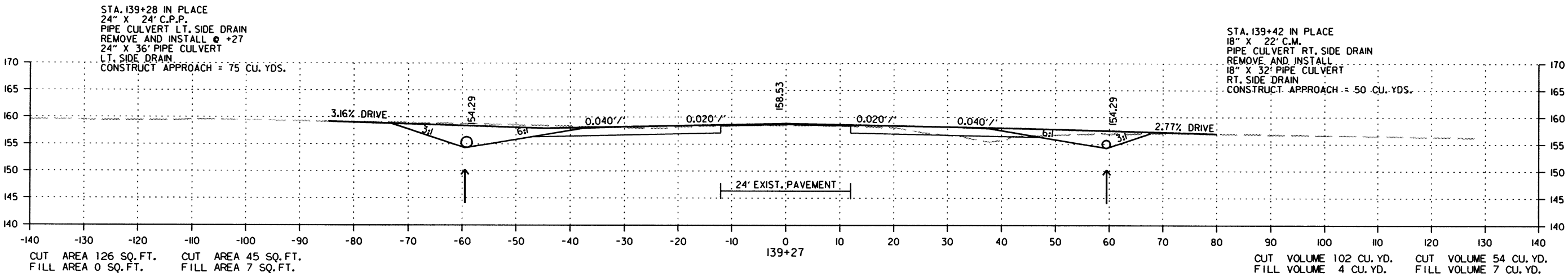


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 174          | 287             |

2 CROSS SECTIONS

STAGE I   STAGE 2

STAGE I   STAGE 2



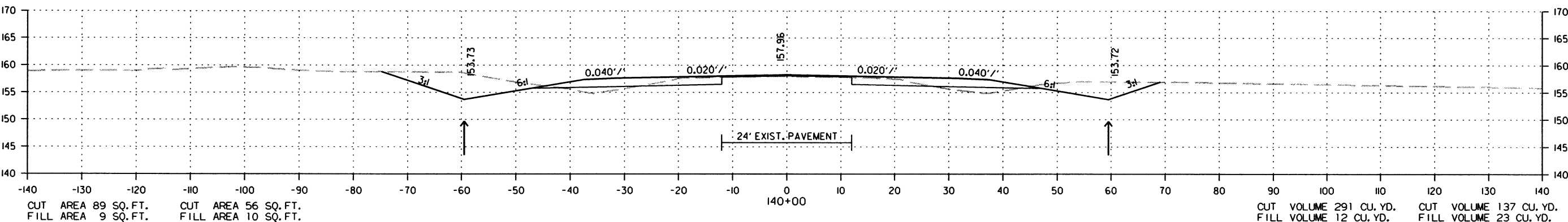
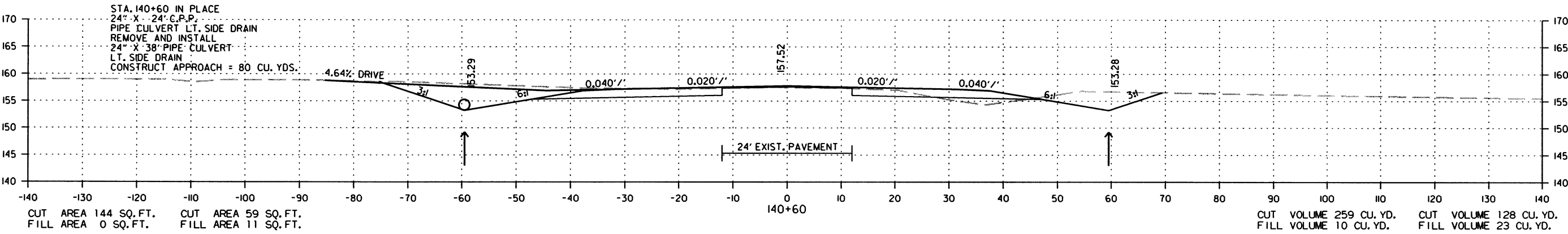
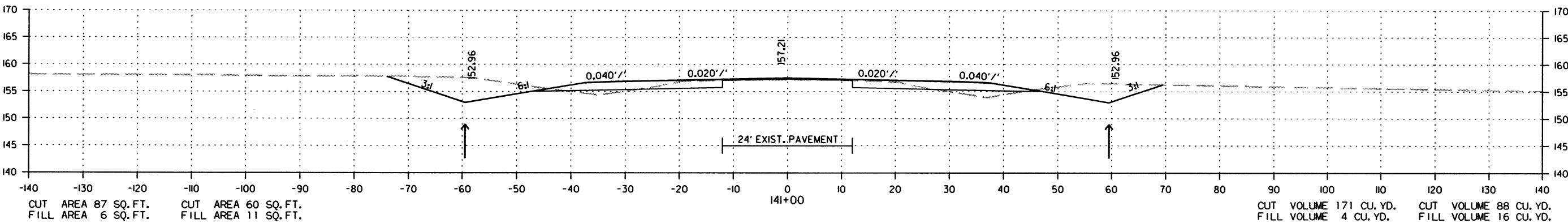
CROSS SECTION STA. 138+00 TO STA. 139+27

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 175          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



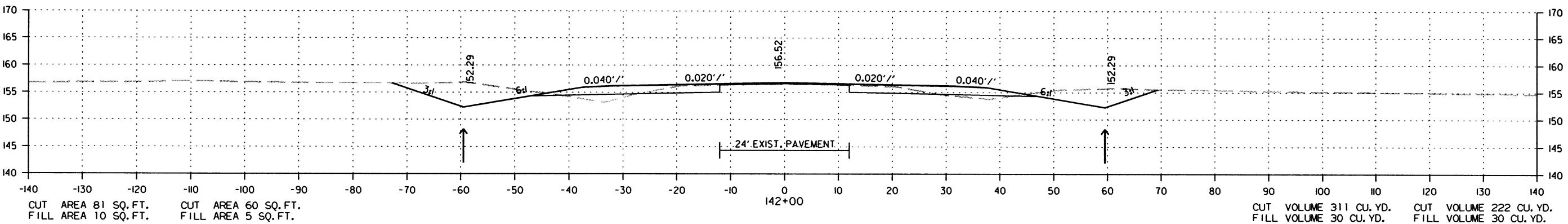
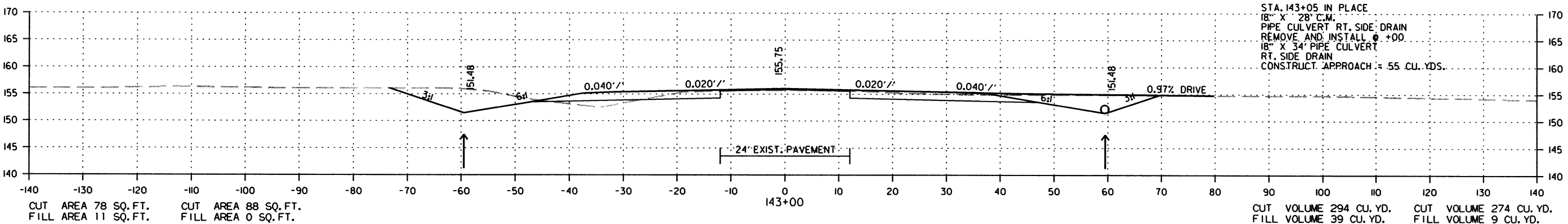
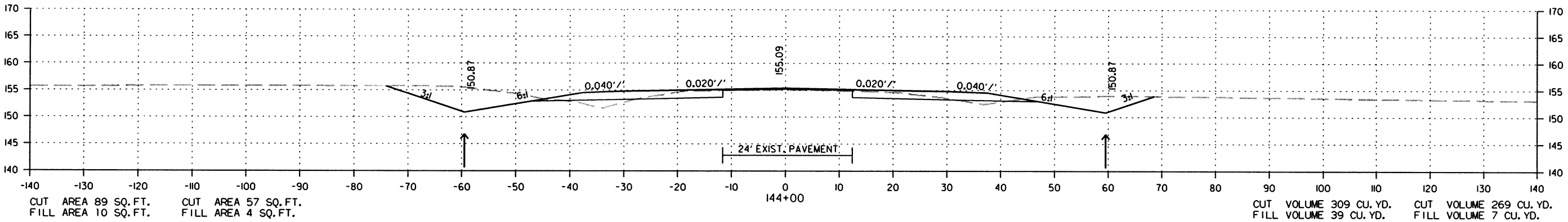
CROSS SECTION STA. 140+00 TO STA. 141+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 176          | 287             |

2 CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



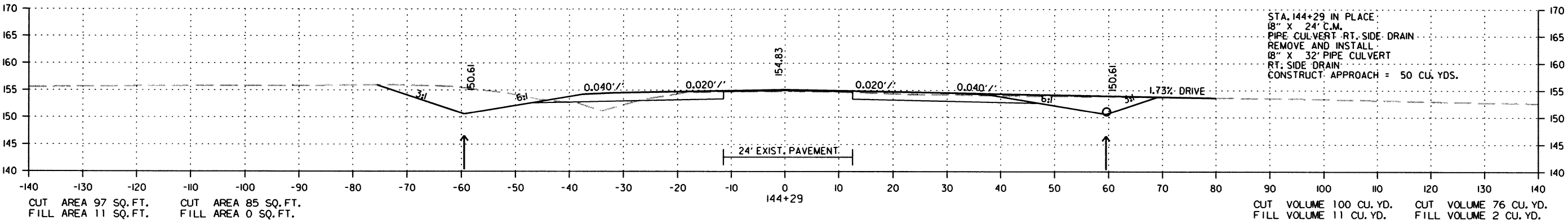
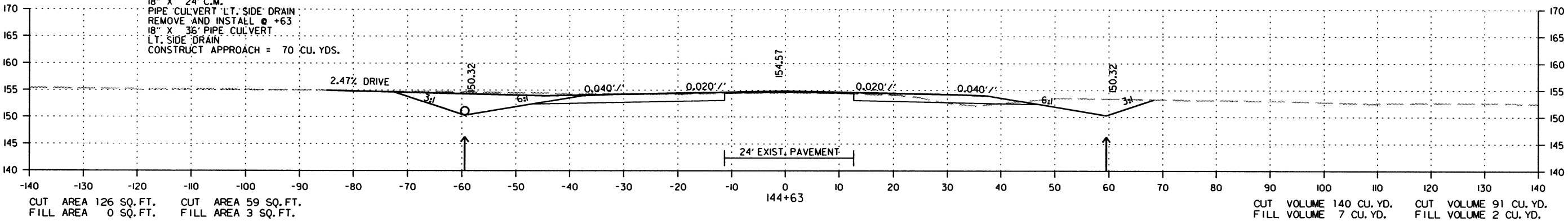
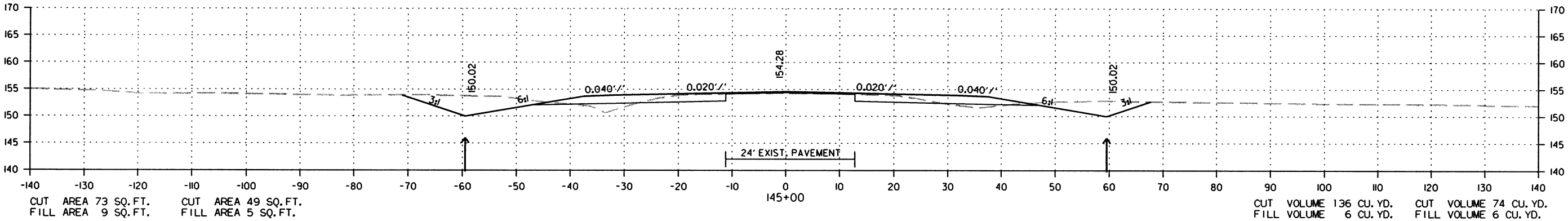
CROSS SECTION STA. 142+00 TO STA. 144+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 177          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 144+29 TO STA. 145+00

7/18/2016

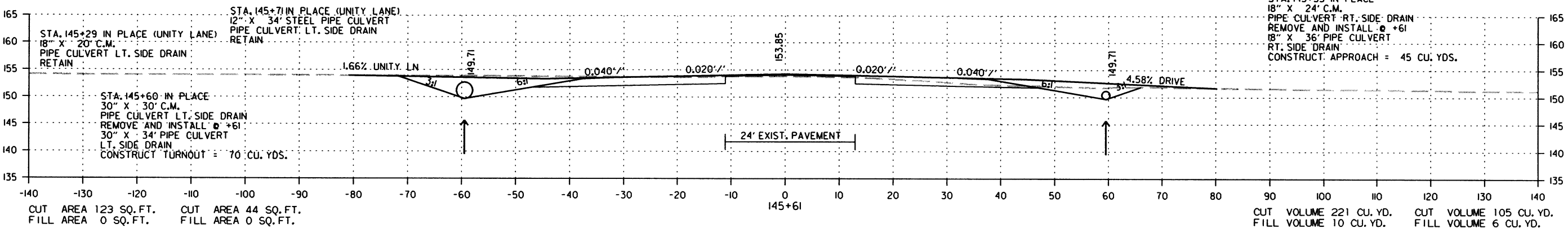
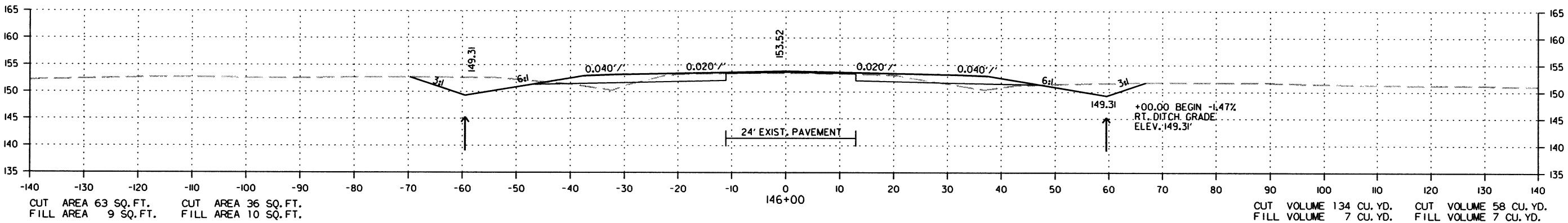
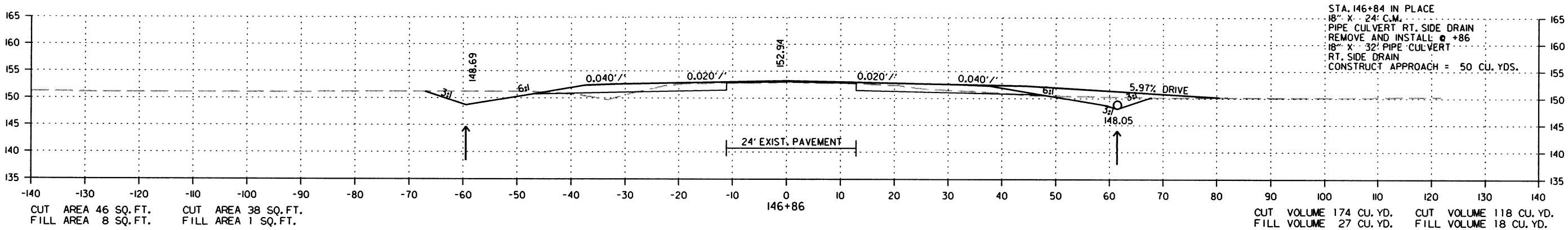
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 178          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 145+61 TO STA. 146+86

7/18/2016

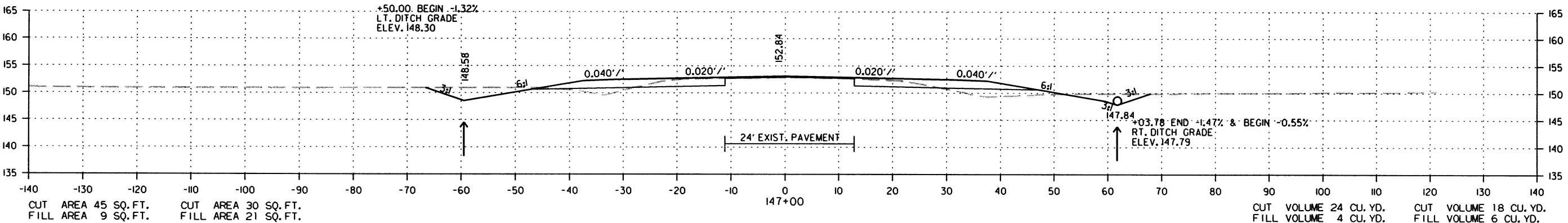
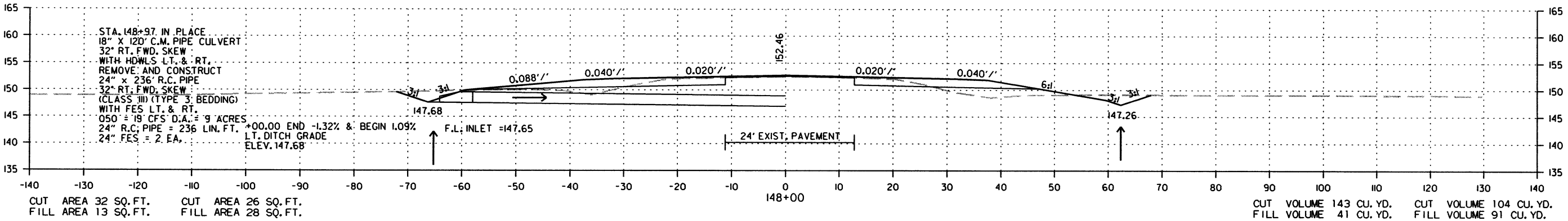
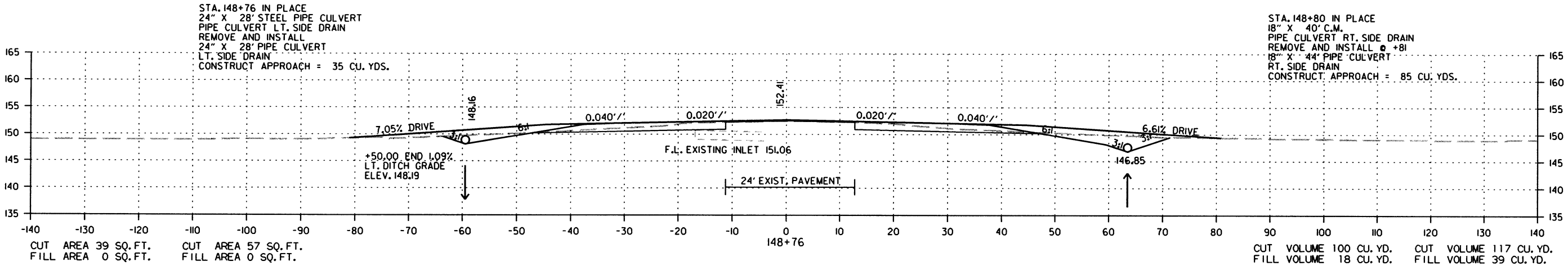
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 179          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 147+00 TO STA. 148+76

7/18/2016

R020534.DGN



| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 180          | 287             |

2 CROSS SECTIONS

STAGE 1   STAGE 2

STAGE 1   STAGE 2

STA. 148+97 IN PLACE  
18" X 120' C.M. PIPE CULVERT  
32' RT. FWD. SKEW  
WITH HDWLS. LT. & RT.  
REMOVE AND CONSTRUCT  
24" X 236' R.C. PIPE  
32' RT. FWD. SKEW  
(CLASS III) (TYPE 3 BEDDING)  
WITH FES. LT. & RT.  
050 = 19 CFS D.A. = 9 ACRES  
24" R.C. PIPE = 236 LIN. FT.  
24" FES. = 2 EA.

+94.00 END: -0.55% & BEGIN -0.87%  
RT. DITCH GRADE  
ELEV. 146.20

CUT VOLUME 111 CU. YD.  
FILL VOLUME 52 CU. YD.

CUT VOLUME 80 CU. YD.  
FILL VOLUME 121 CU. YD.

STA. 149+12 IN PLACE  
24" X 18' STEEL PIPE CULVERT  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 28' PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 40 CU. YDS.

+40.00 BEGIN -1.63%  
LT. DITCH GRADE  
ELEV. 148.10

F.L. EXISTING OUTLET 149.51

CUT VOLUME 17 CU. YD.  
FILL VOLUME 3 CU. YD.

CUT VOLUME 13 CU. YD.  
FILL VOLUME 11 CU. YD.

CUT VOLUME 32 CU. YD.  
FILL VOLUME 5 CU. YD.

CUT VOLUME 39 CU. YD.  
FILL VOLUME 10 CU. YD.

CROSS SECTION STA. 149+00 TO STA. 150+00

7/18/2016

R020534.DGN

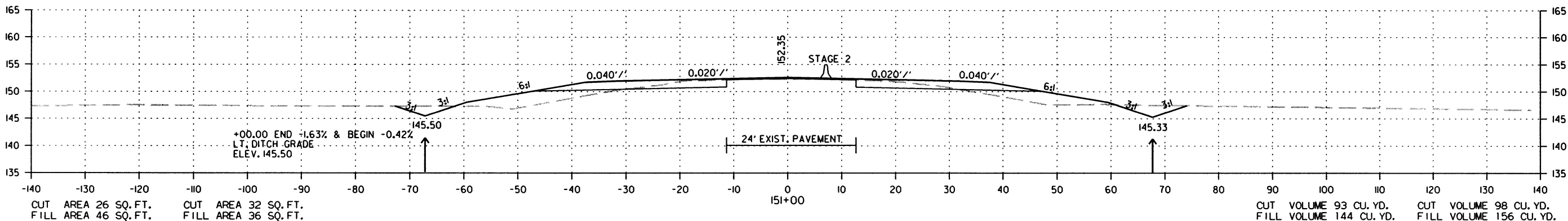
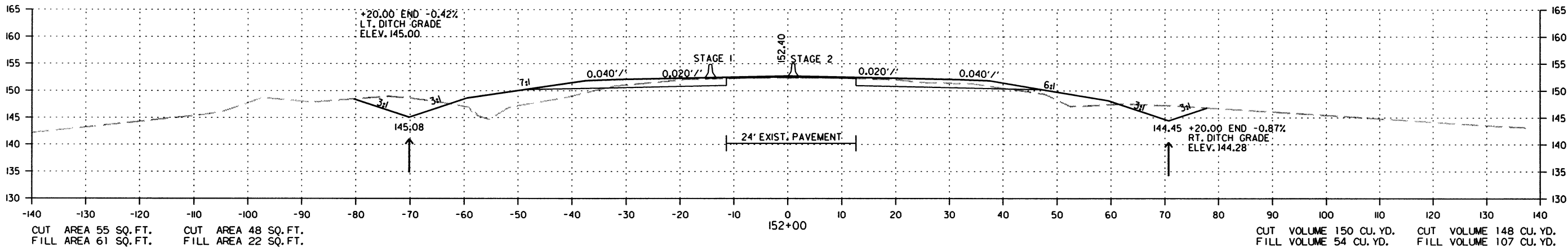
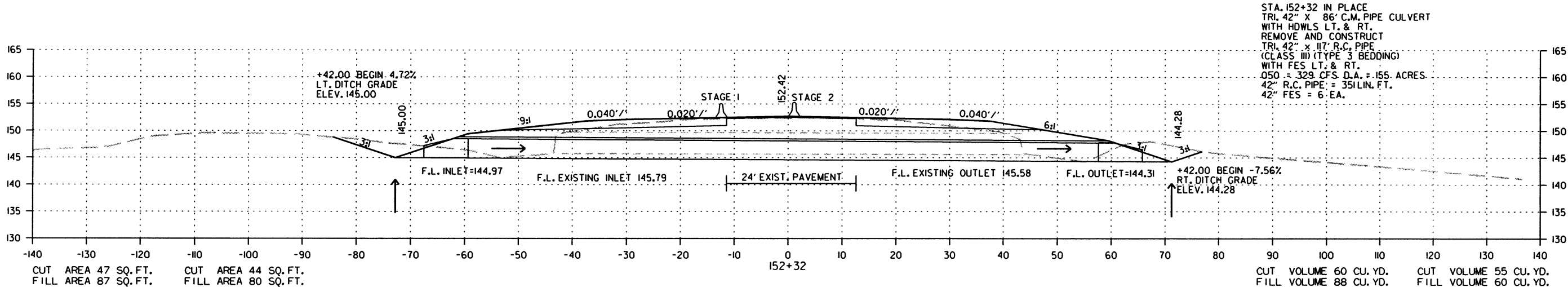


| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 181       | 287          |

2 CROSS SECTIONS

STAGE I    STAGE 2

STAGE I    STAGE 2



CROSS SECTION STA. 151+00 TO STA. 152+32

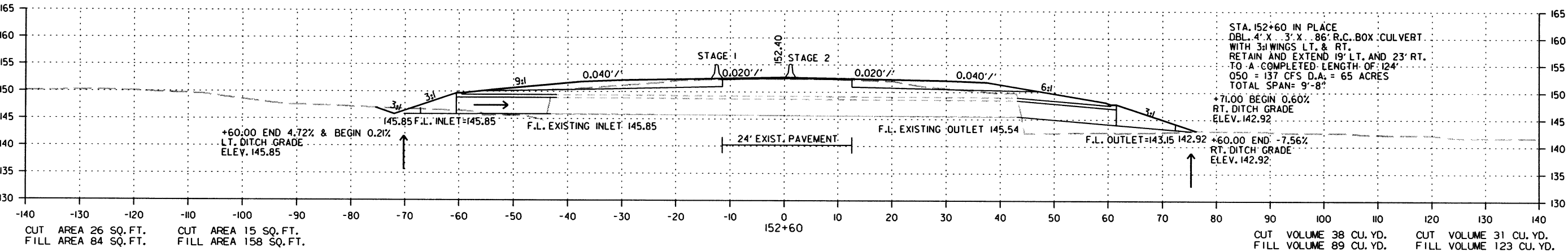
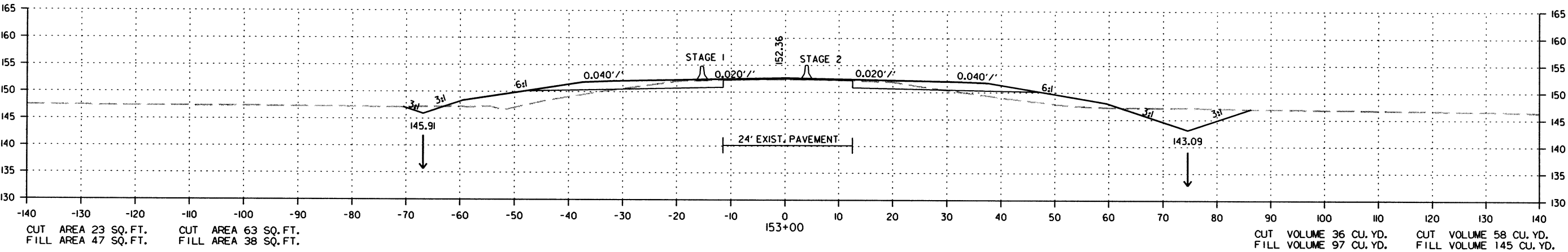
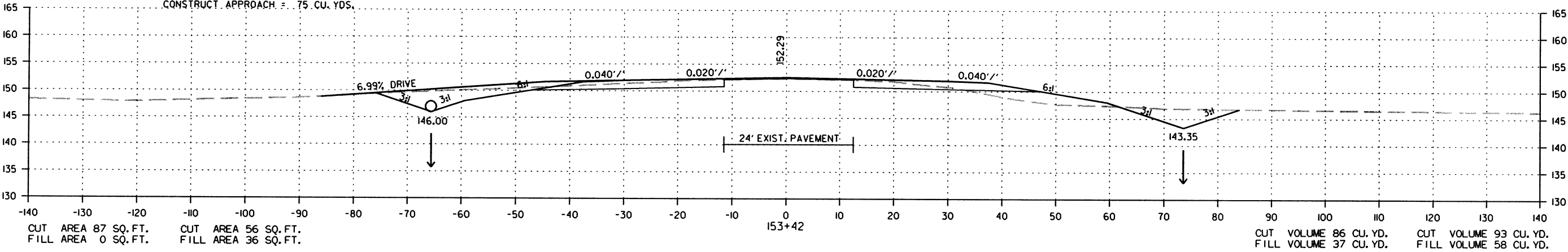
| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 182          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2

STA. 153+42 IN PLACE  
24" X 42' STEEL PIPE CULVERT  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
24" X 36' PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT. APPROACH = .75 CU. YDS.



CROSS SECTION STA. 152+60 TO STA. 153+42

7/18/2016

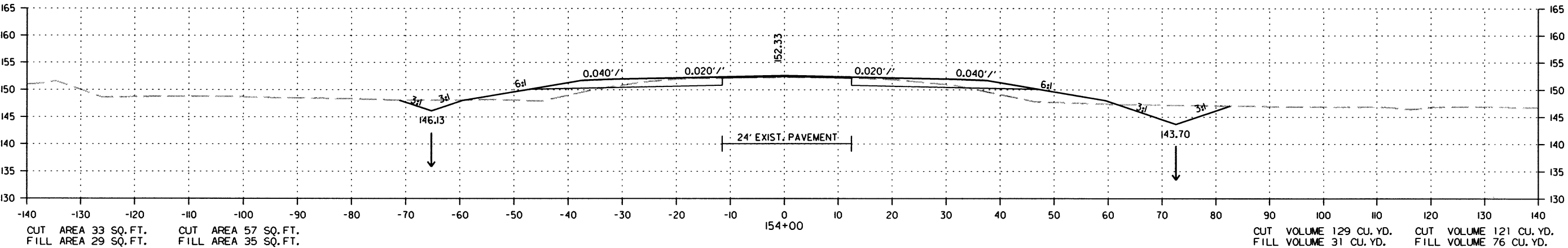
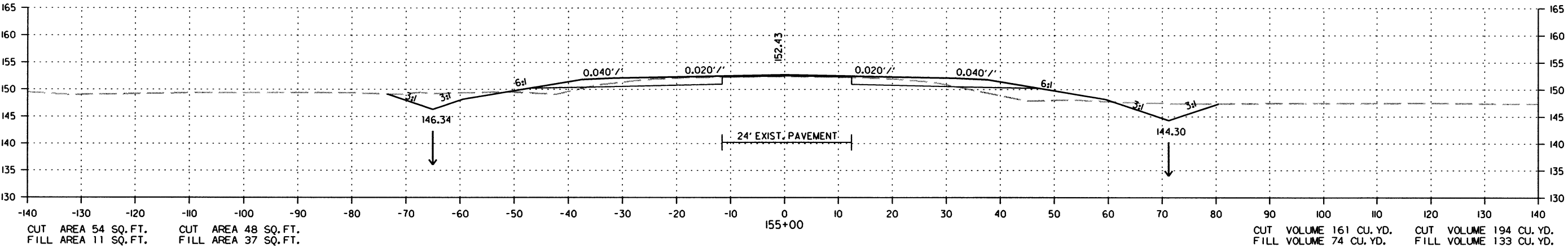
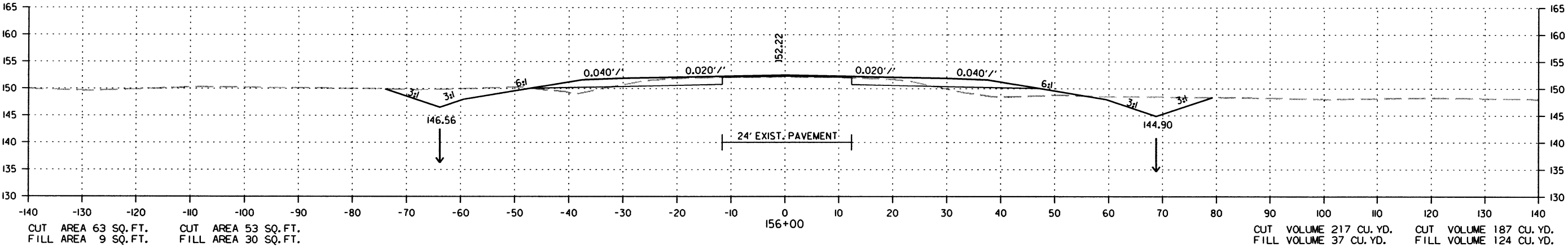
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 183          | 287             |

2 CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



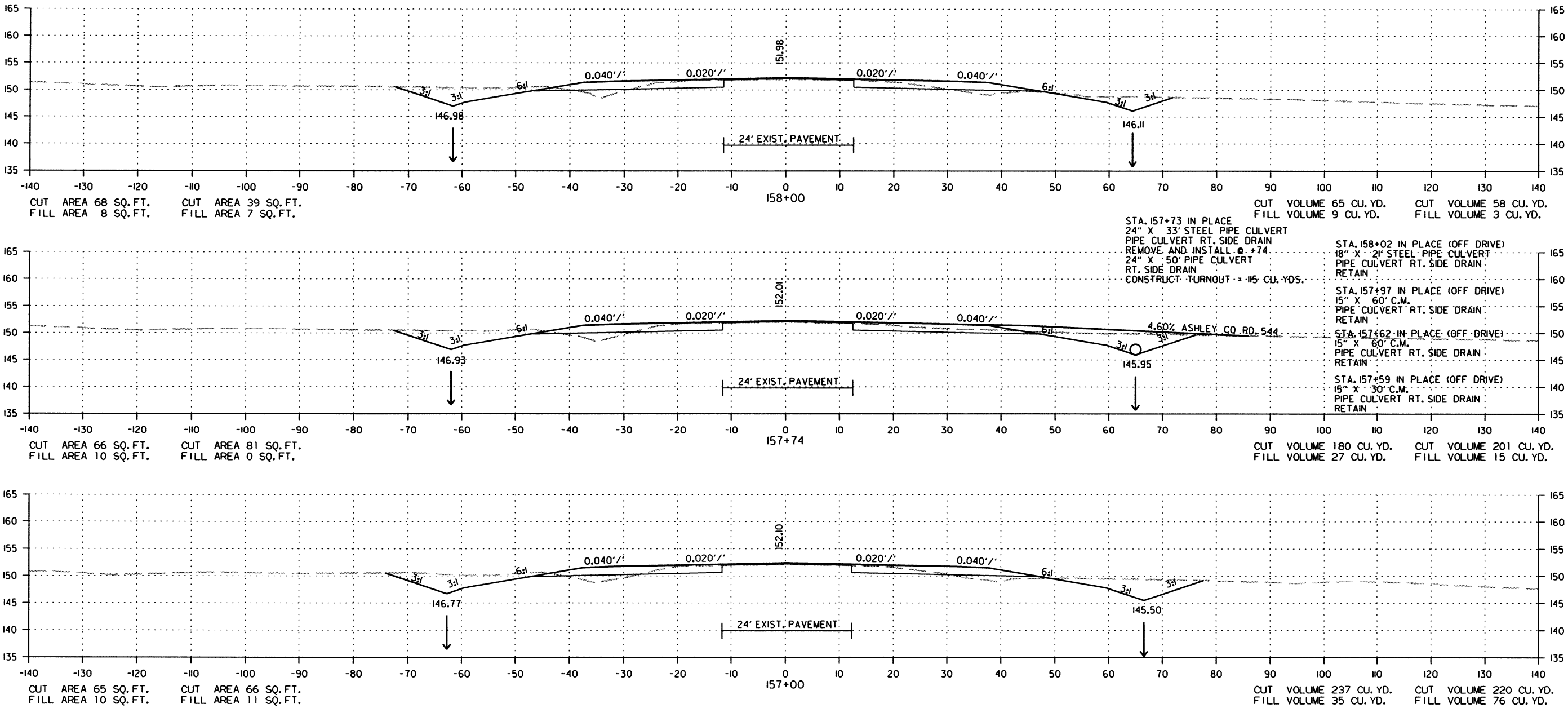
CROSS SECTION STA. 154+00 TO STA. 156+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 184          | 287             |

2 CROSS SECTIONS

STAGE I    STAGE 2

STAGE I    STAGE 2



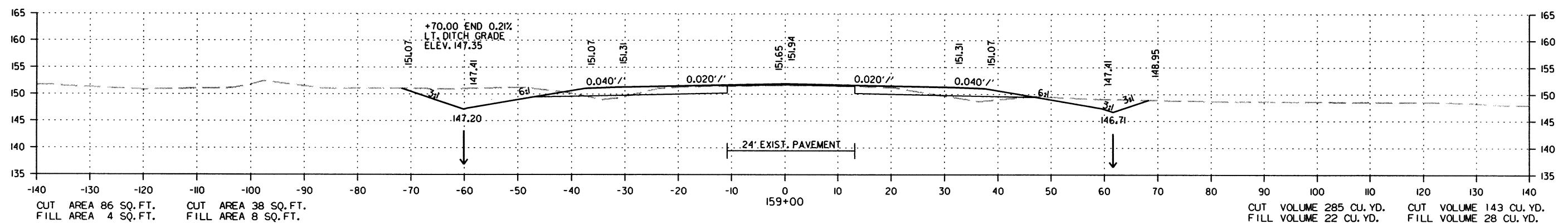
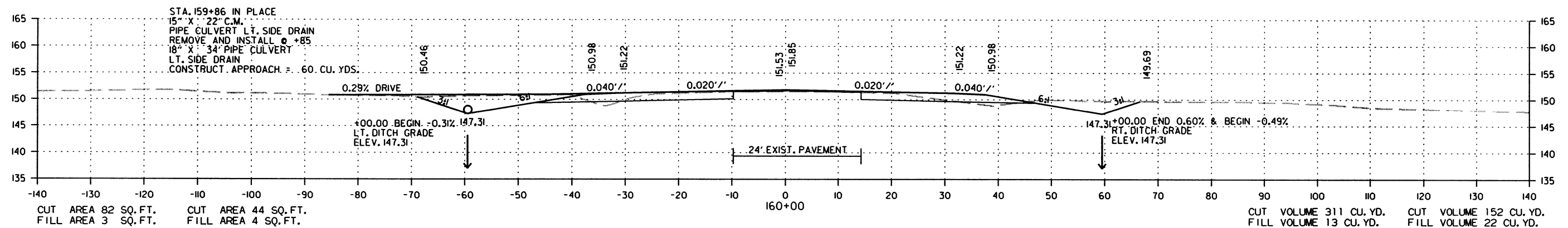
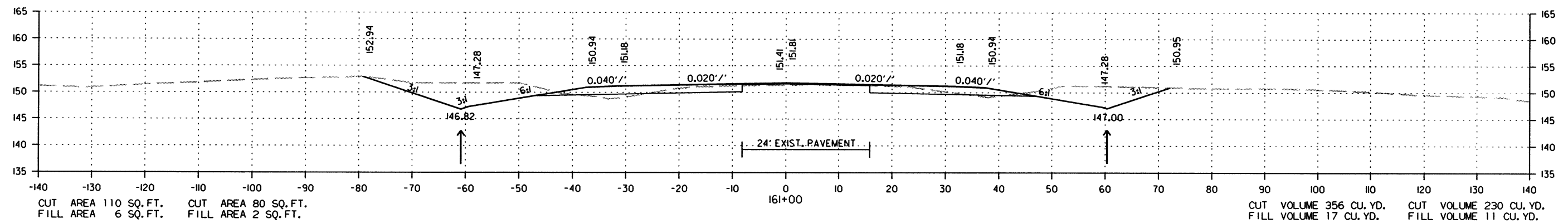
CROSS SECTION STA. 157+00 TO STA. 158+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 185          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



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

7/18/2016

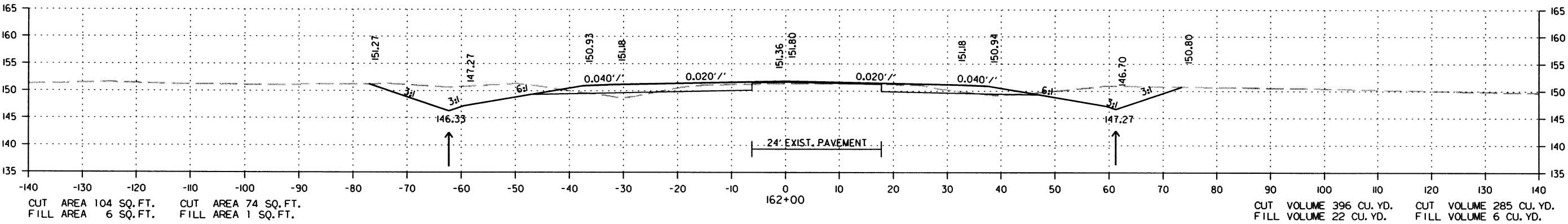
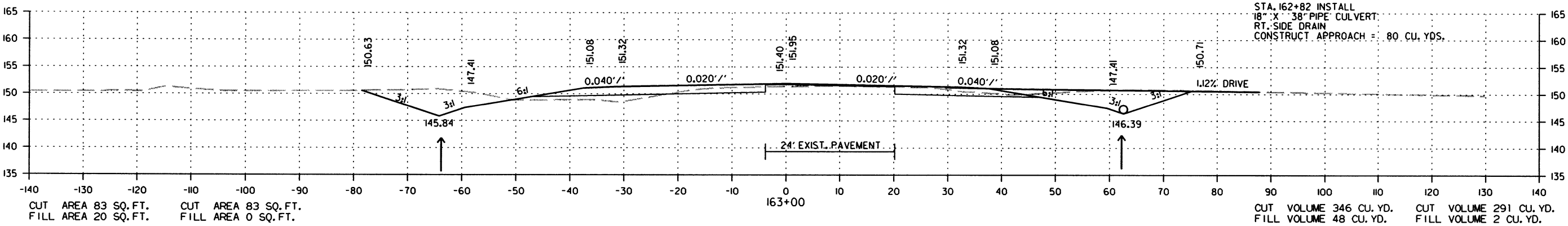
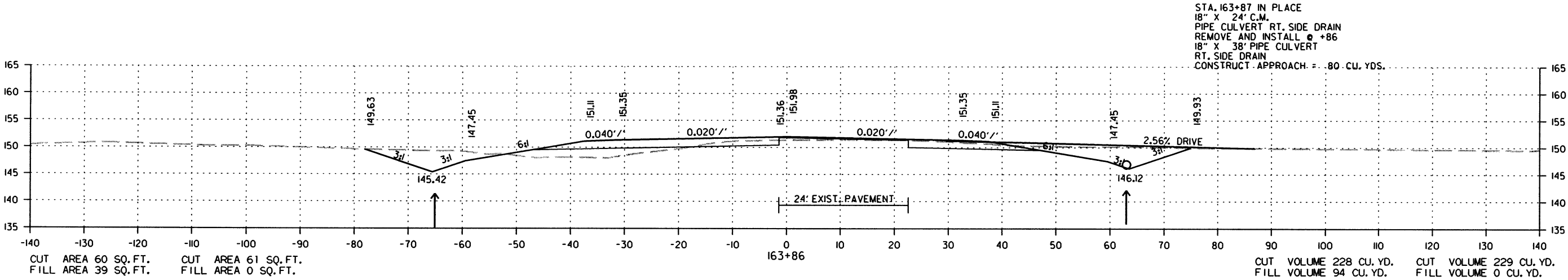
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 186          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 162+00 TO STA. 163+86

7/18/2016

R020534.DGN

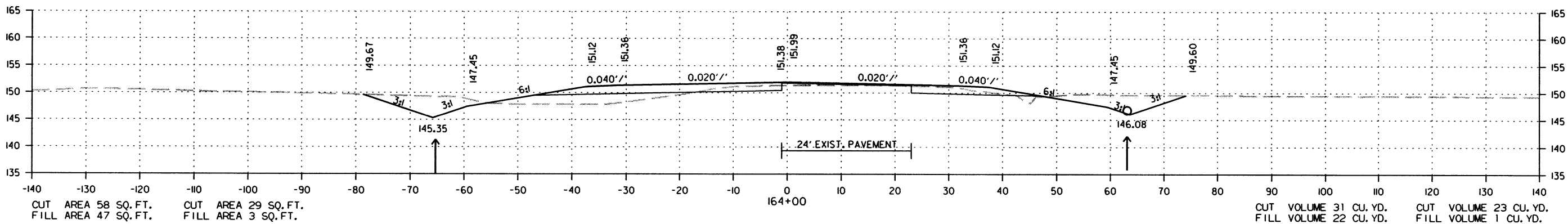
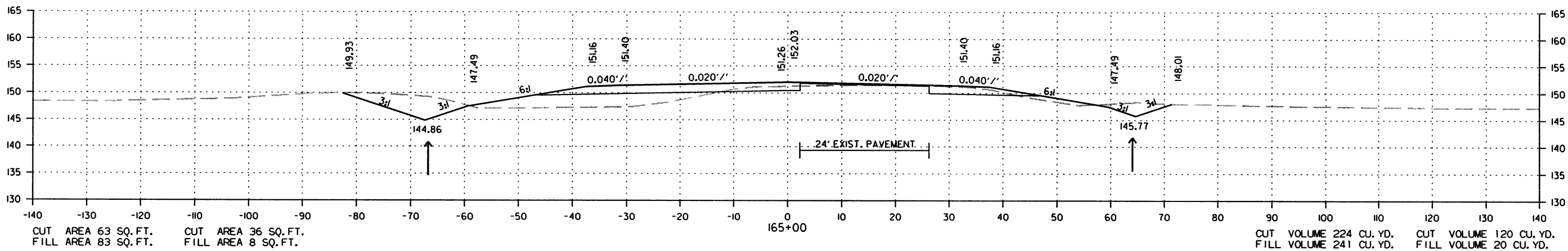
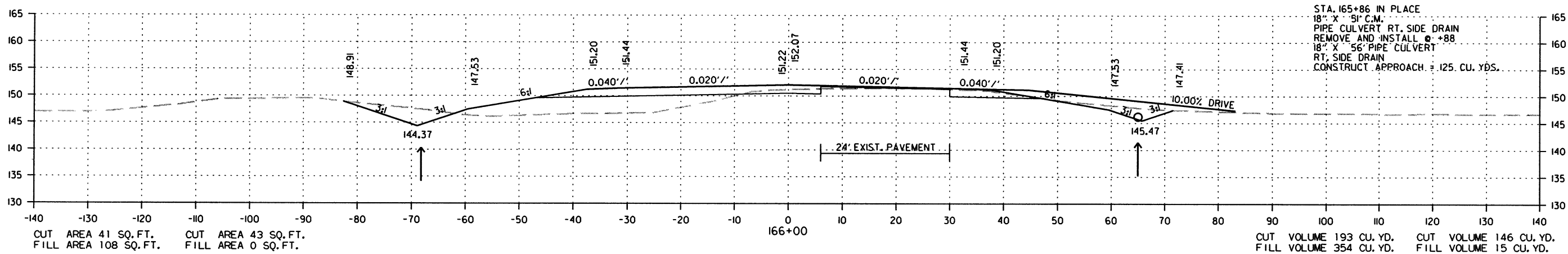


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 187          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 164+00 TO STA. 166+00

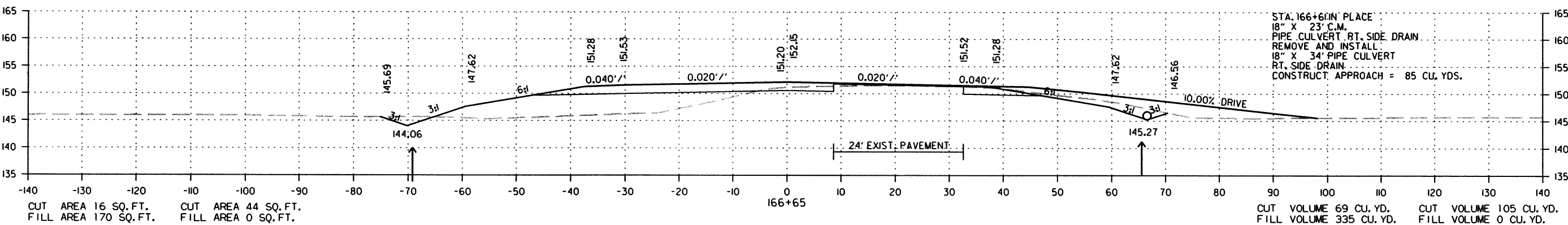
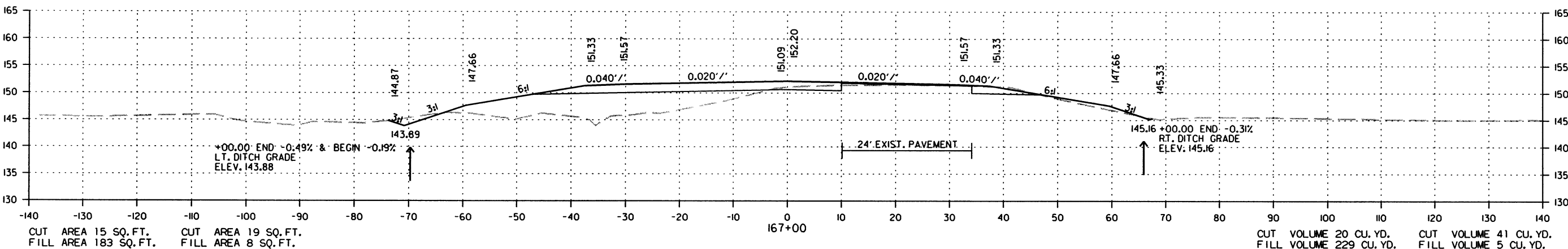
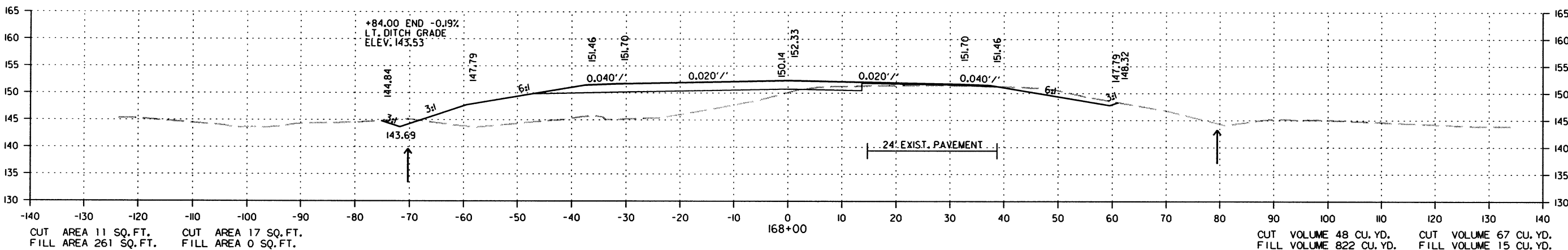


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 188          | 287             |

② CROSS SECTIONS

STAGE I   STAGE 2

STAGE I   STAGE 2



CROSS SECTION STA. 166+65 TO STA. 168+00

7/18/2016

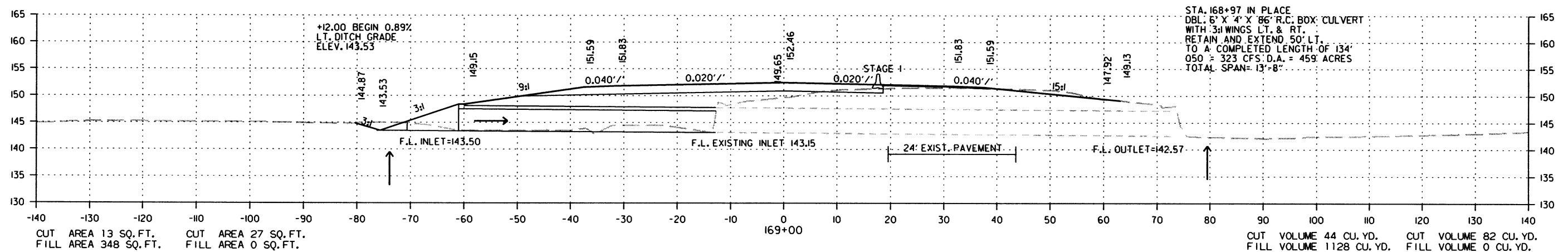
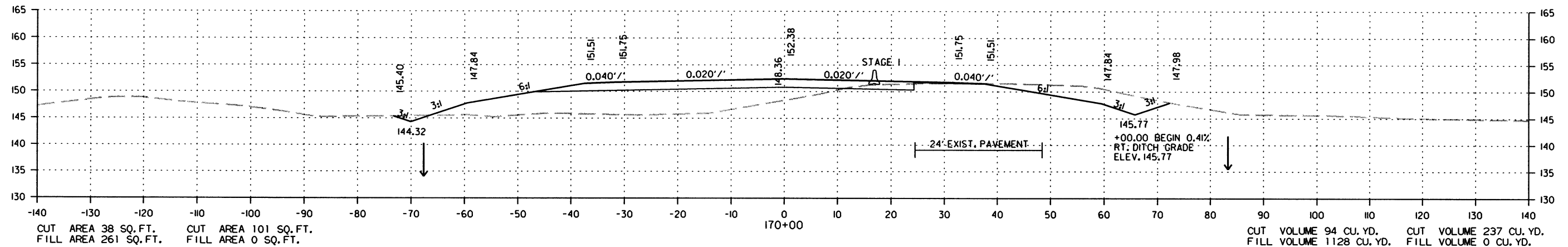
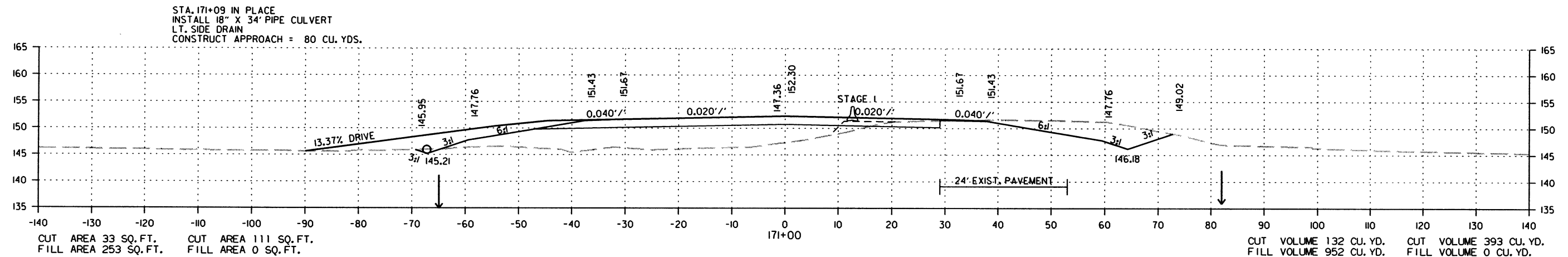
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 189          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 169+00 TO STA. 171+00

7/18/2016

R020534.DGN

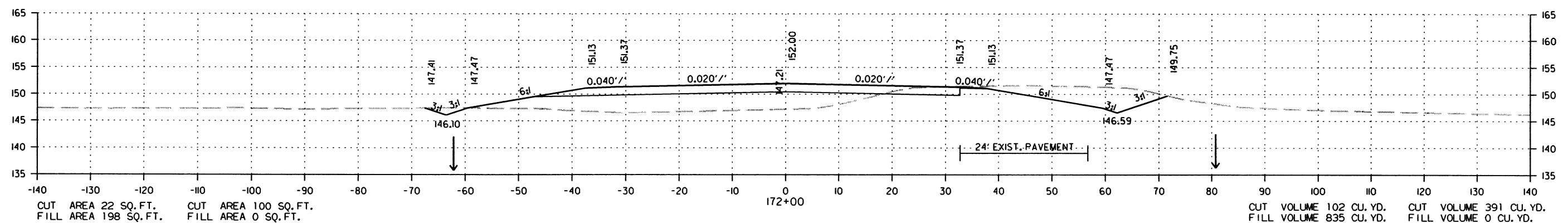
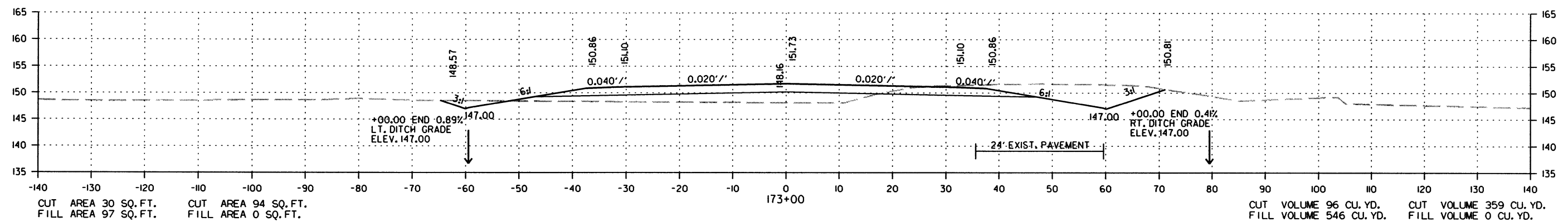
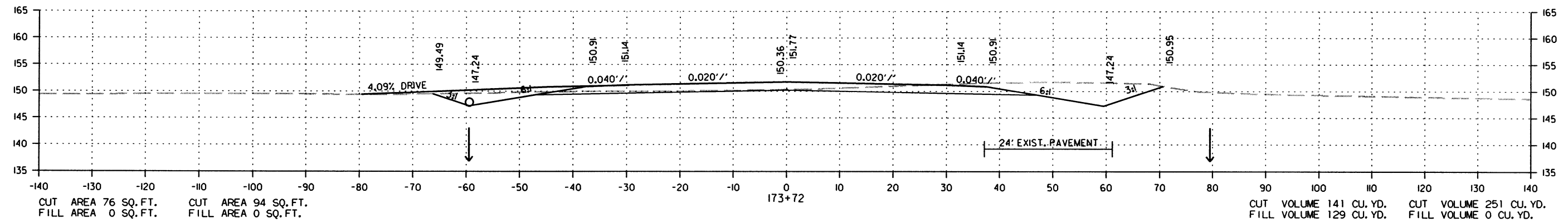
| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 190          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2

STA. 173+72 INSTALL  
18" X 30' PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 45 CU. YDS.



CROSS SECTION STA. 172+00 TO STA. 173+72

7/18/2016

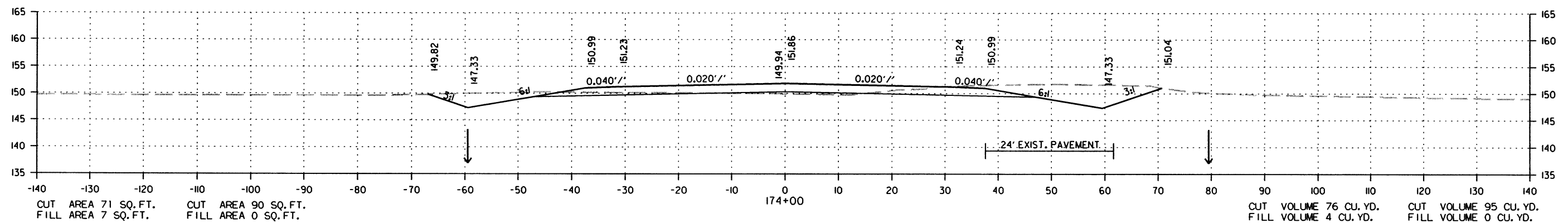
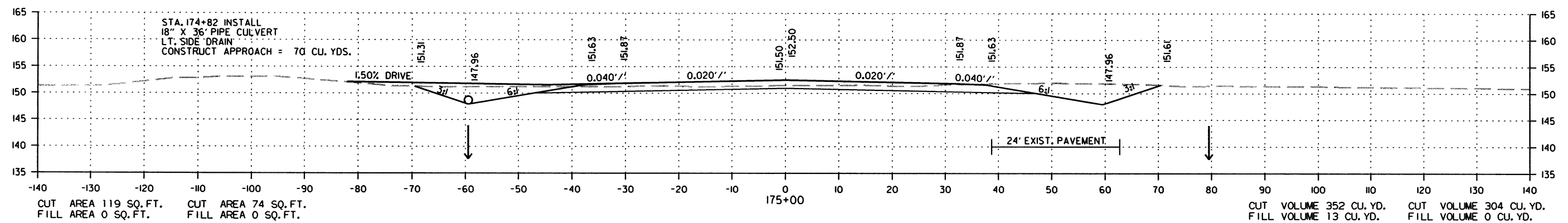
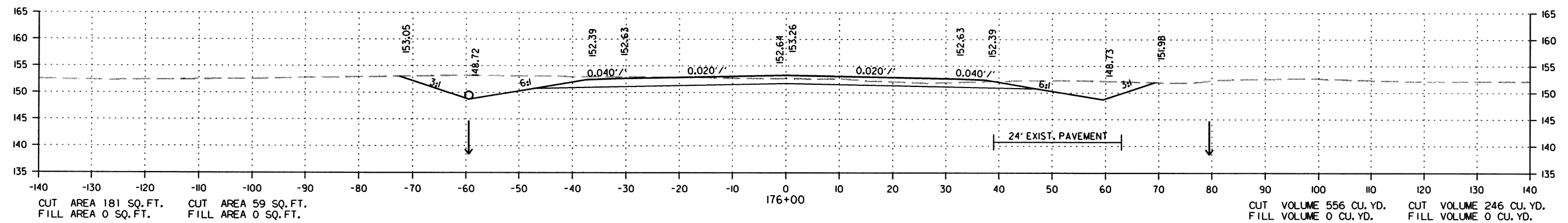
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 191          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 174+00 TO STA. 176+00

7/18/2016

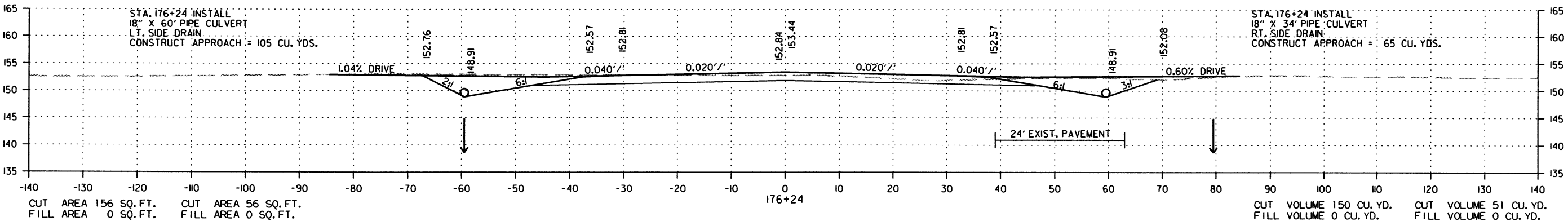
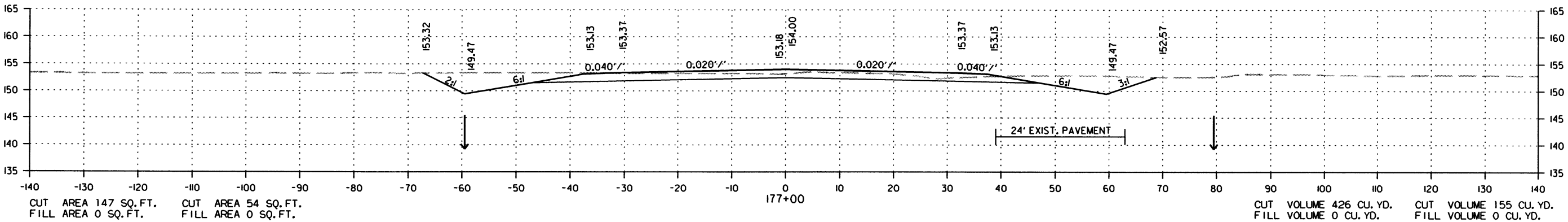
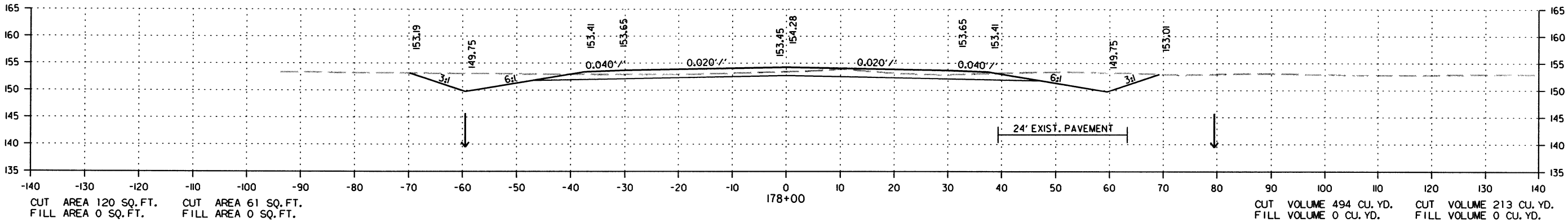
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 192          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 176+24 TO STA. 178+00

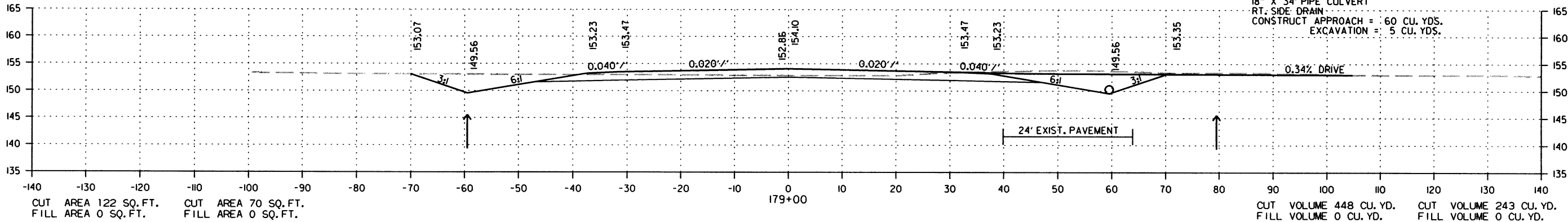
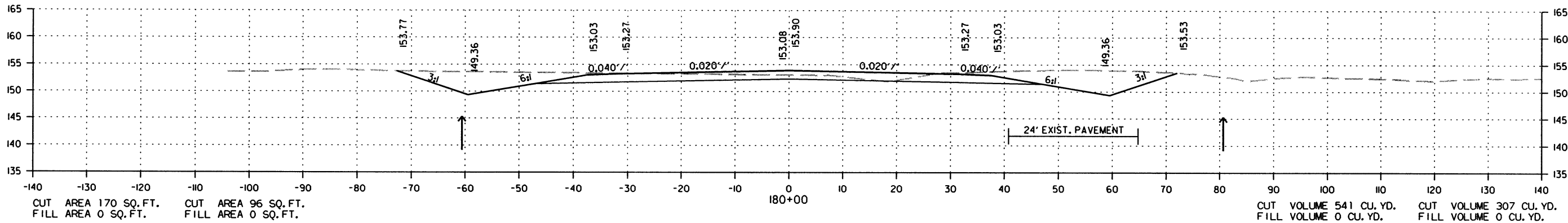
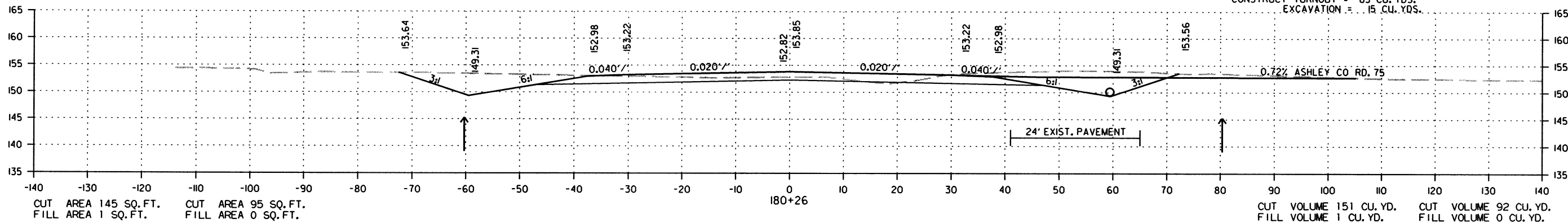
| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 193          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2

STA. 180+27 IN PLACE (OFF DRIVE)  
12" X 20' C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +26  
18" X 46' PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT TURNOUT = 85 CU. YDS.  
EXCAVATION = 15 CU. YDS.



CROSS SECTION STA. 179+00 TO STA. 180+26

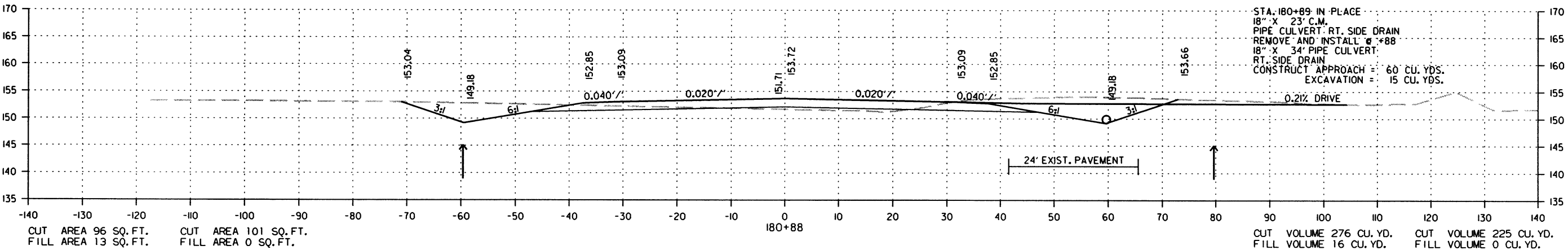
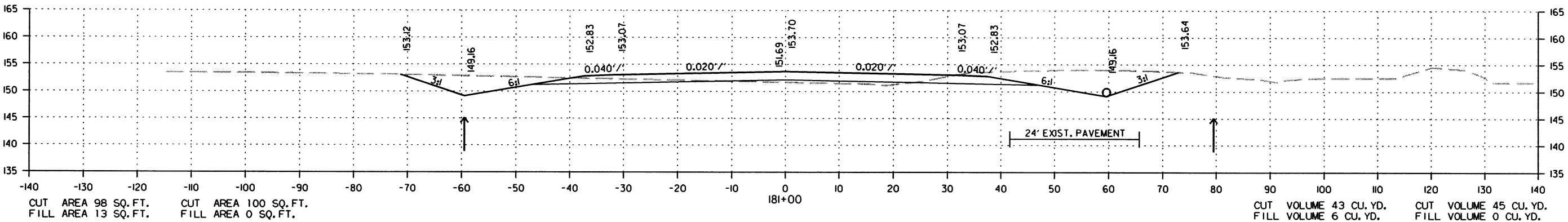
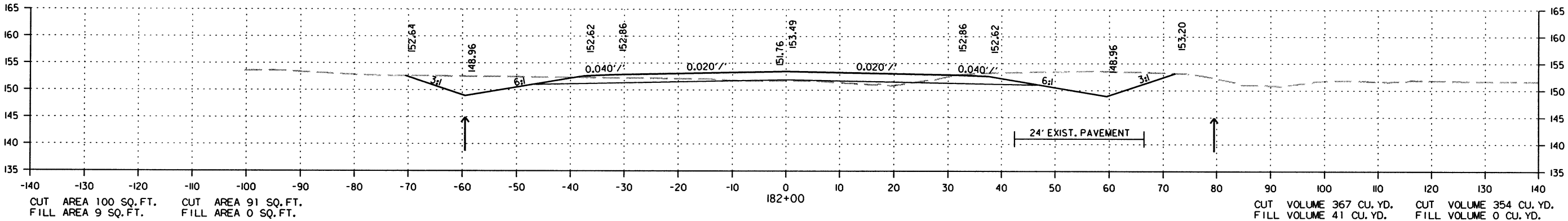


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 194          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 180+88 TO STA. 182+00

7/18/2016

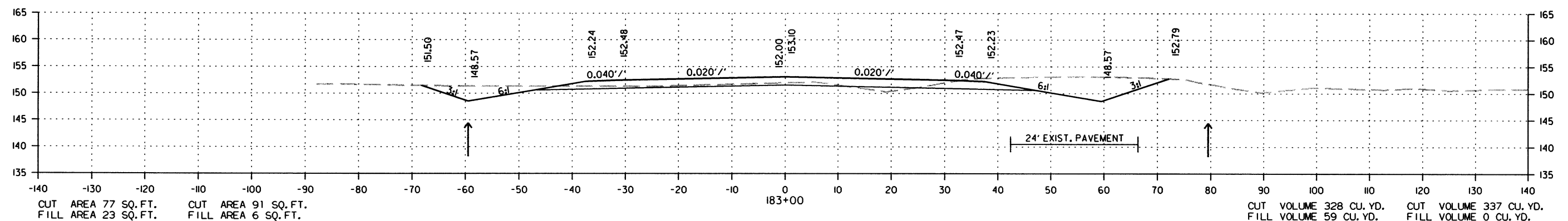
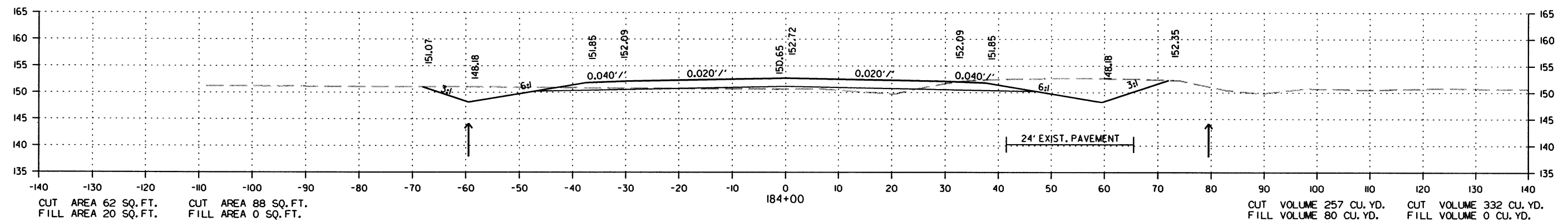
R020534.DGN



| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. NO. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 | 195                | 287       |              |

STAGE 1   STAGE 2

STA. 184+89 IN PLACE  
18" X 23' C.M.  
PIPE CULVERT LT. SIDE DRAIN  
REMOVE AND INSTALL  
18" X 34' PIPE CULVERT  
LT. SIDE DRAIN  
CONSTRUCT APPROACH = 60 CU. YDS.



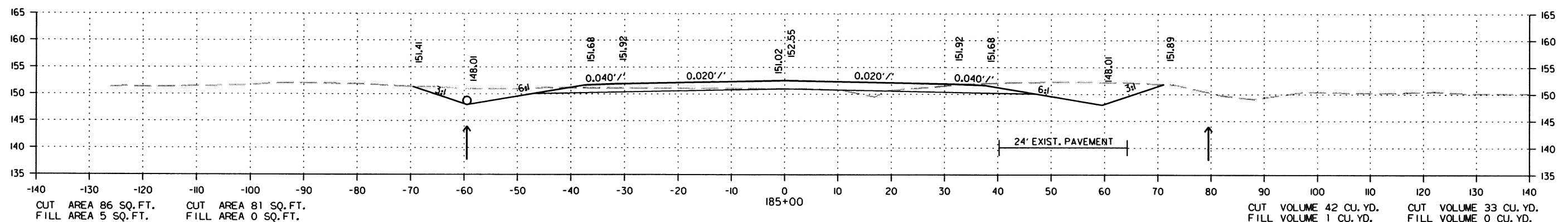
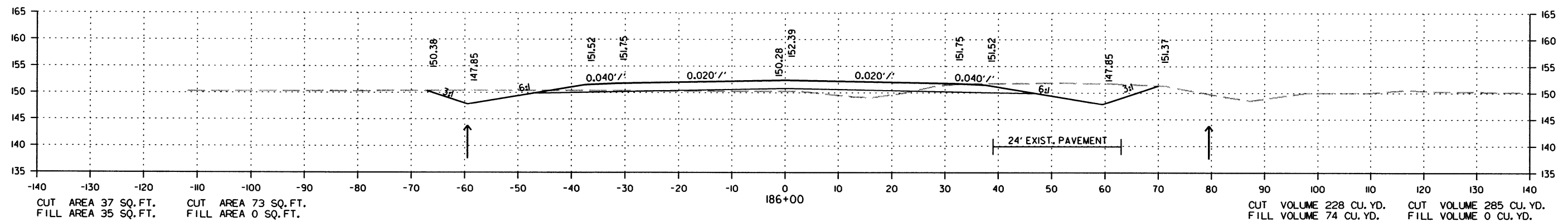
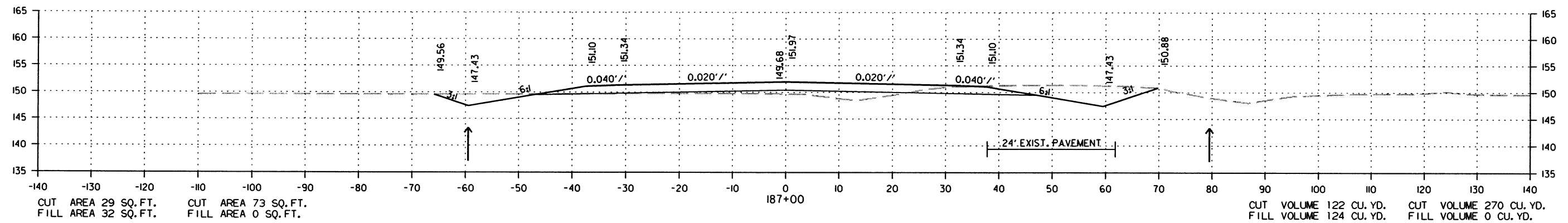
CROSS SECTION STA. 183+00 TO STA. 184+89

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO. 020534        |       |                    | 196          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 185+00 TO STA. 187+00

7/18/2016

R020534.DGN

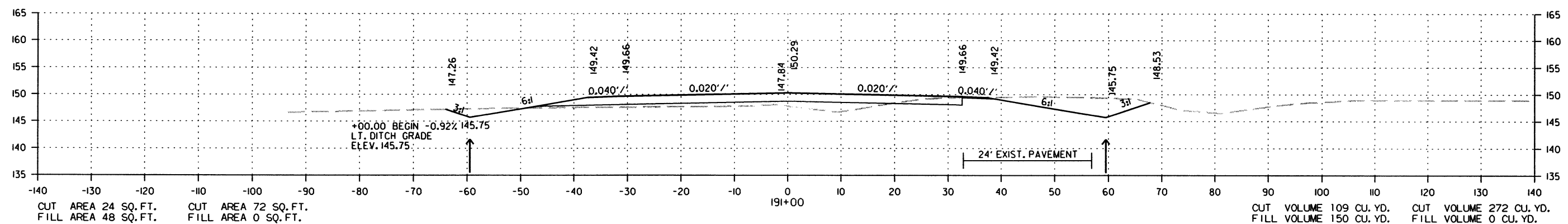
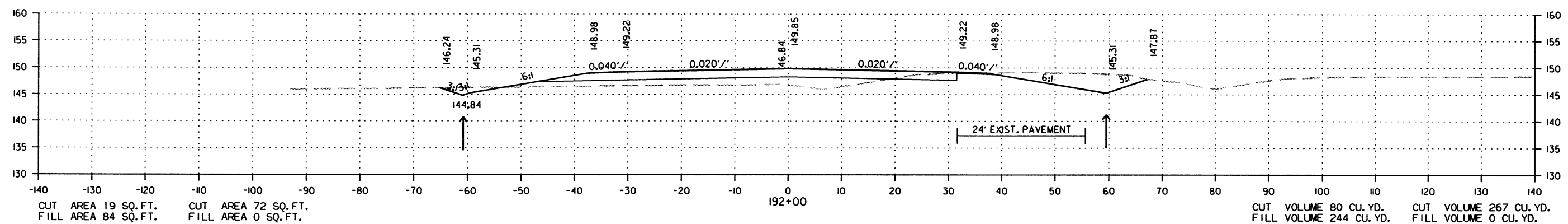
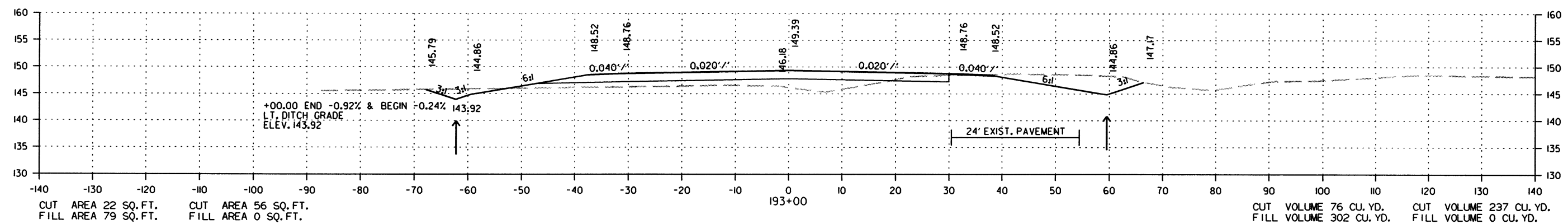


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 198          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 191+00 TO STA. 193+00

7/18/2016

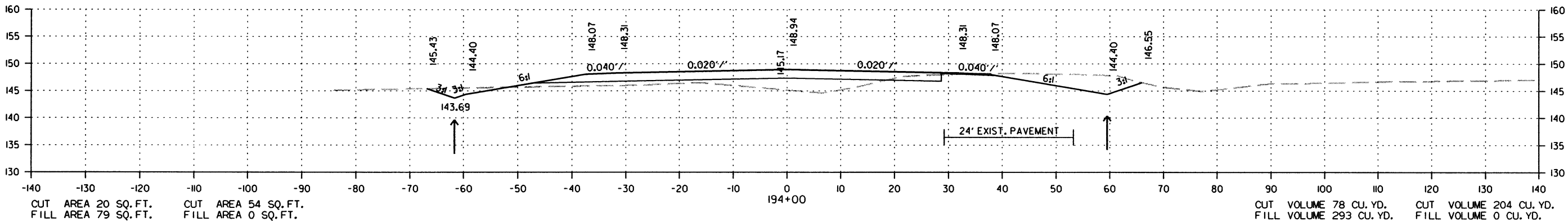
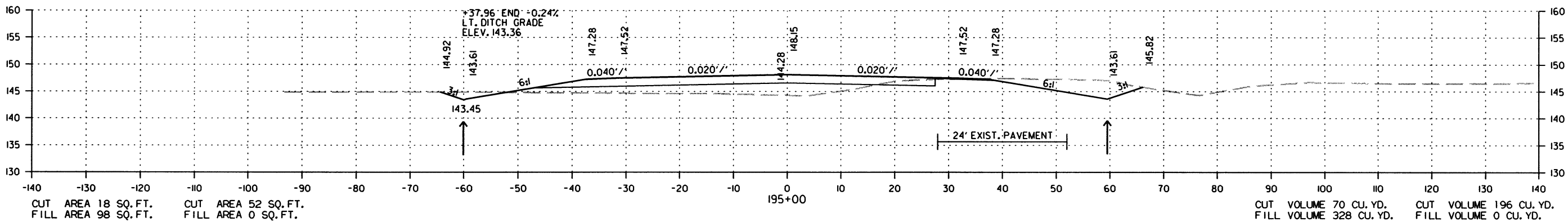
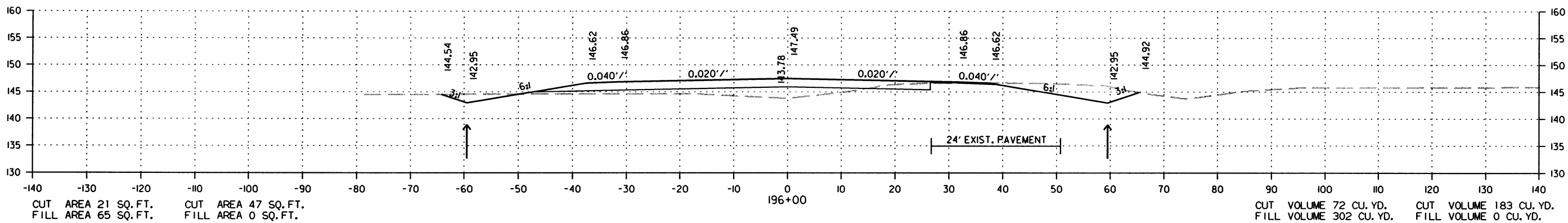
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 199          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



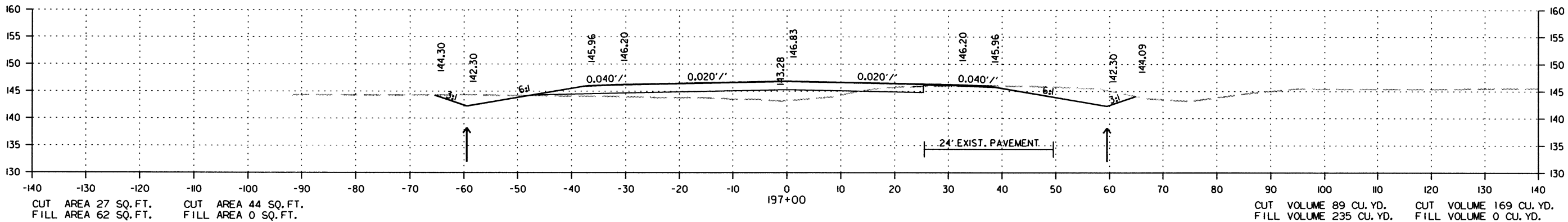
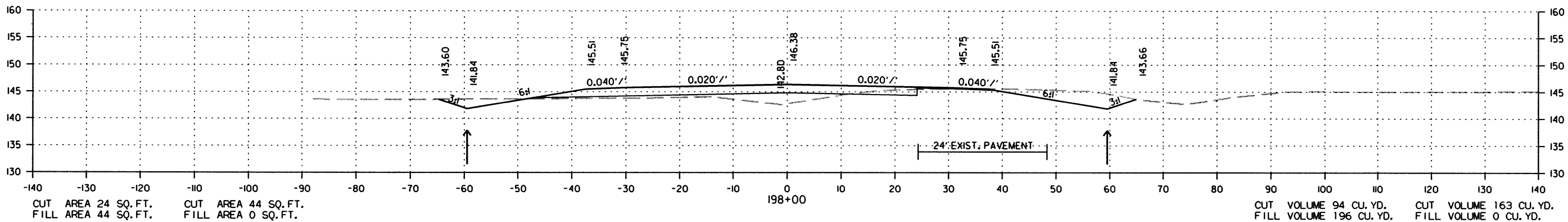
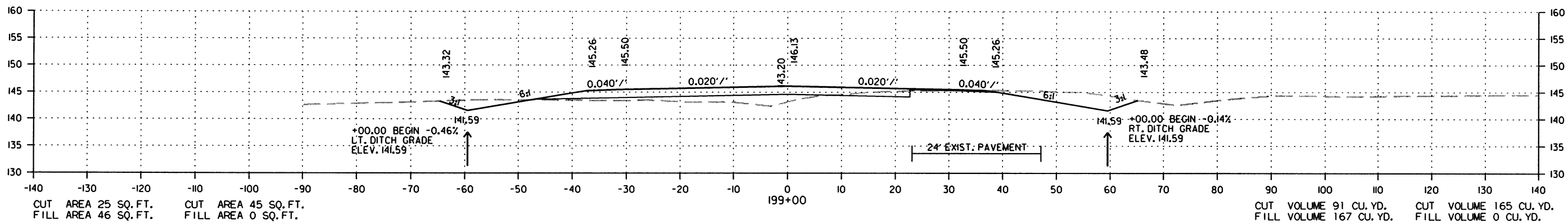
CROSS SECTION STA. 194+00 TO STA. 196+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 200          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 197+00 TO STA. 199+00

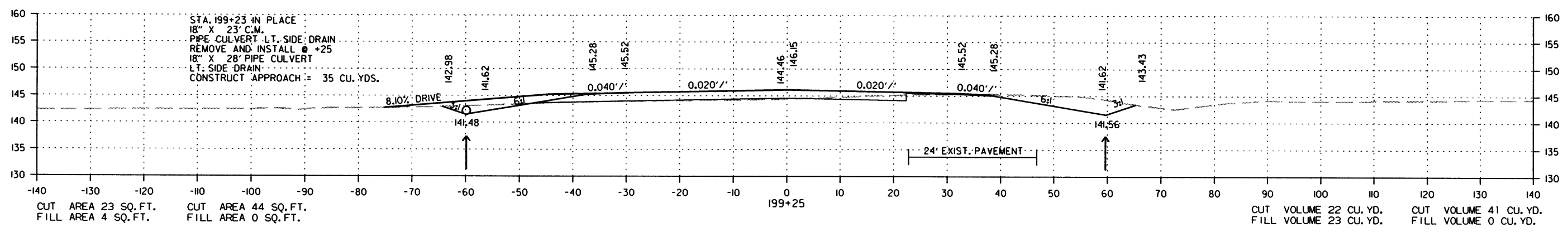
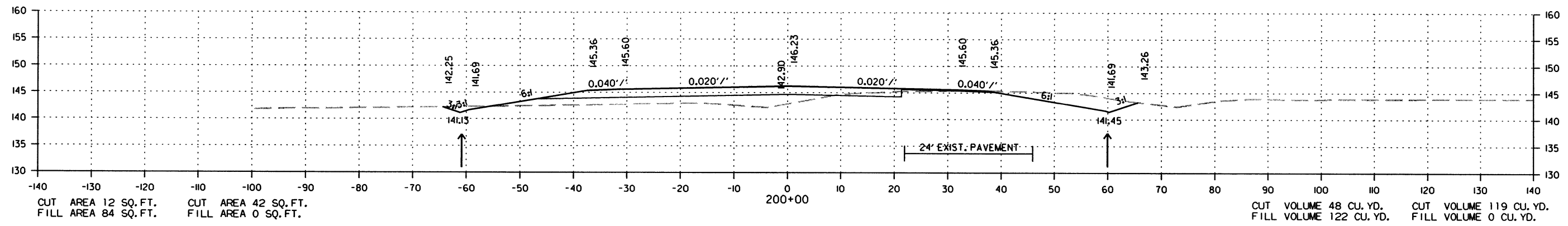
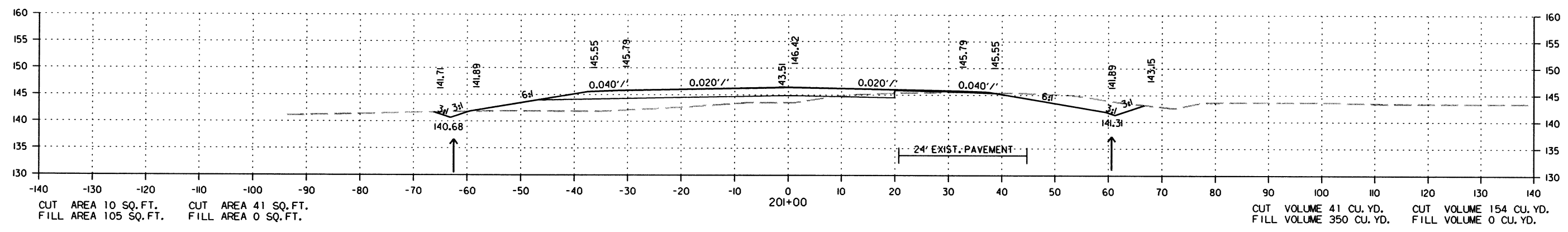


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 201          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 199+25 TO STA. 201+00

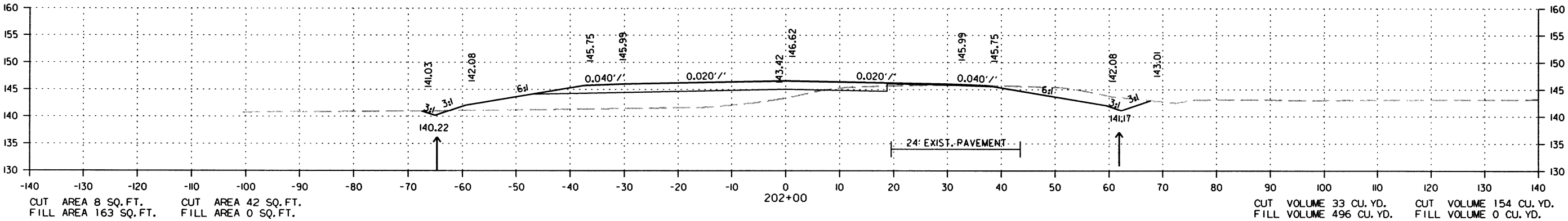
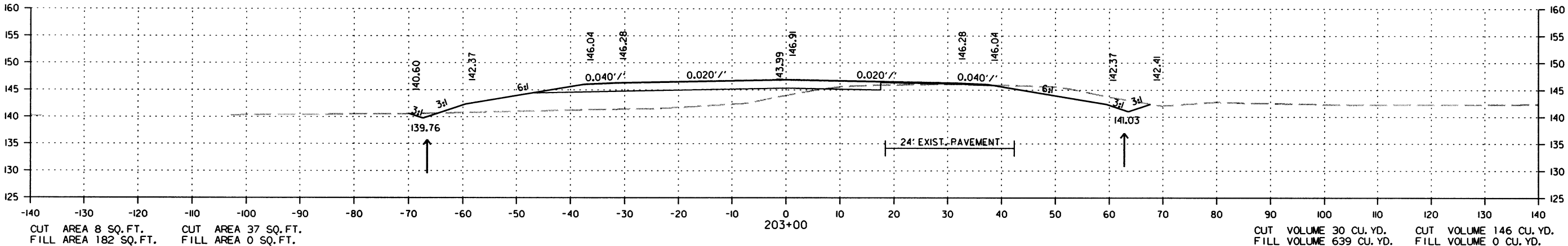
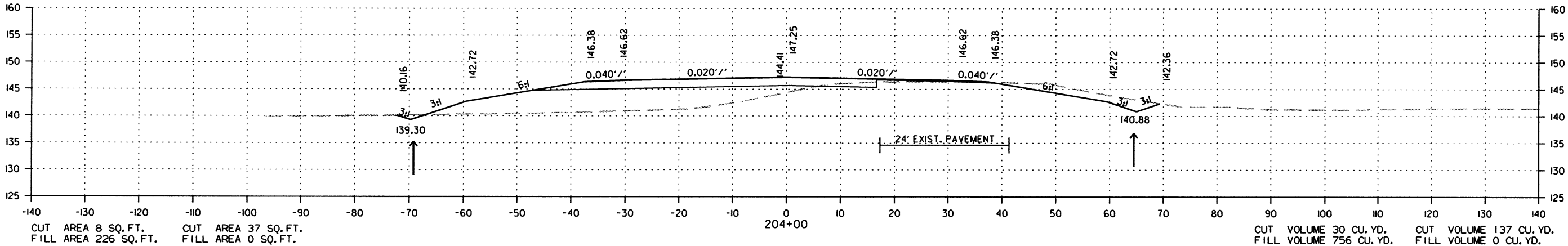


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 202          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



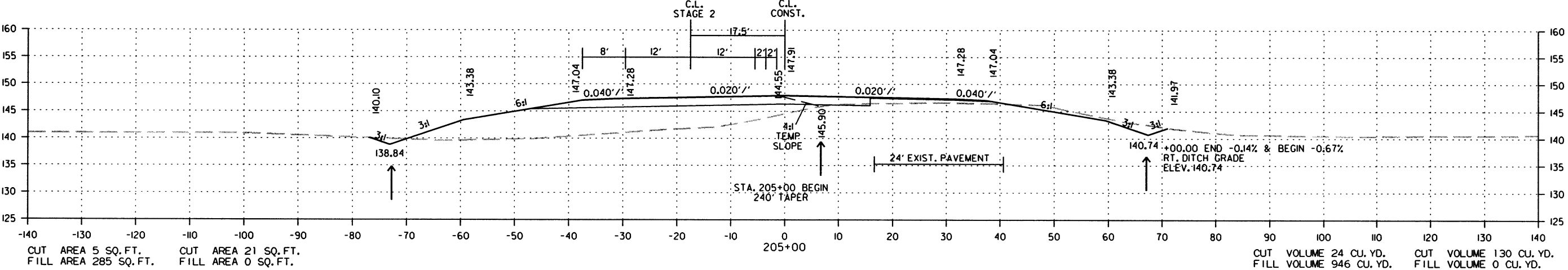
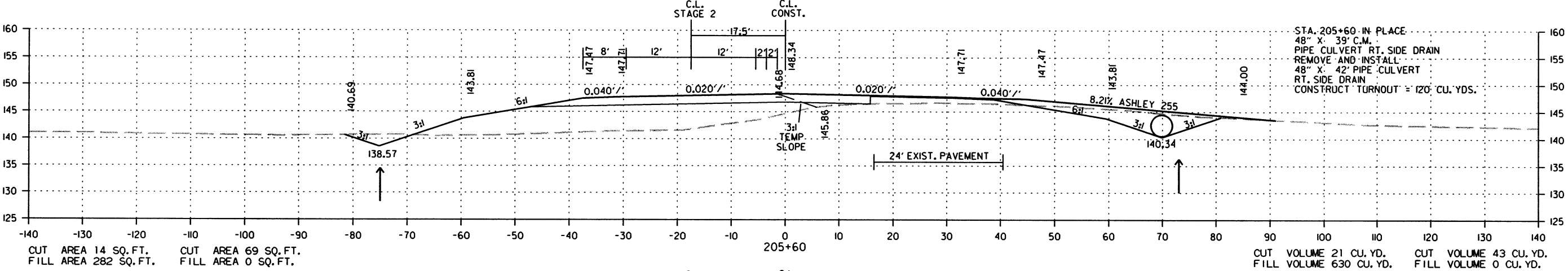
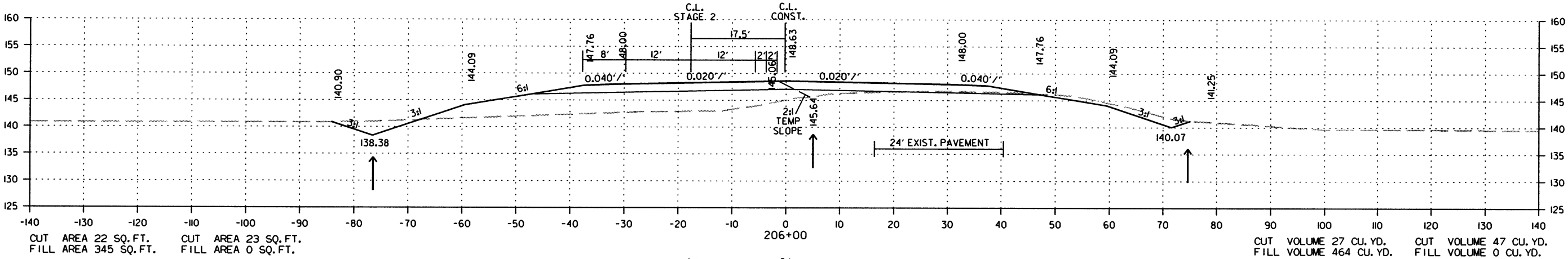
CROSS SECTION STA. 202+00 TO STA. 204+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 203          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



CROSS SECTION STA. 205+00 TO STA. 206+00

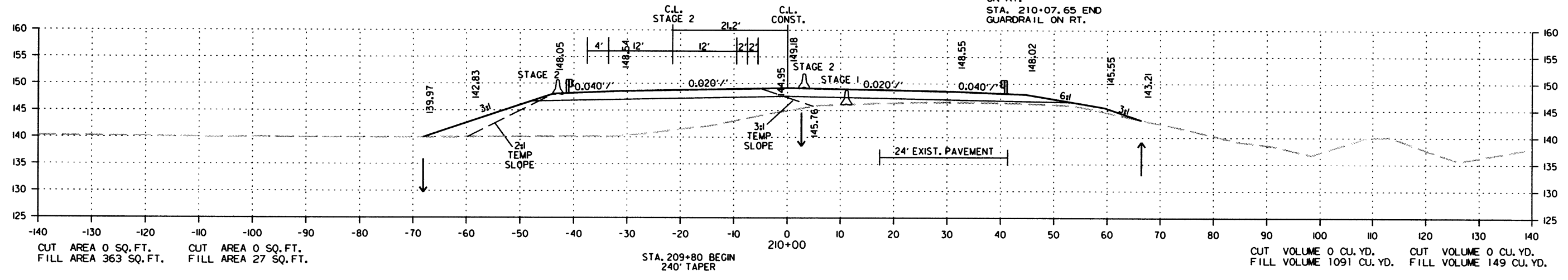
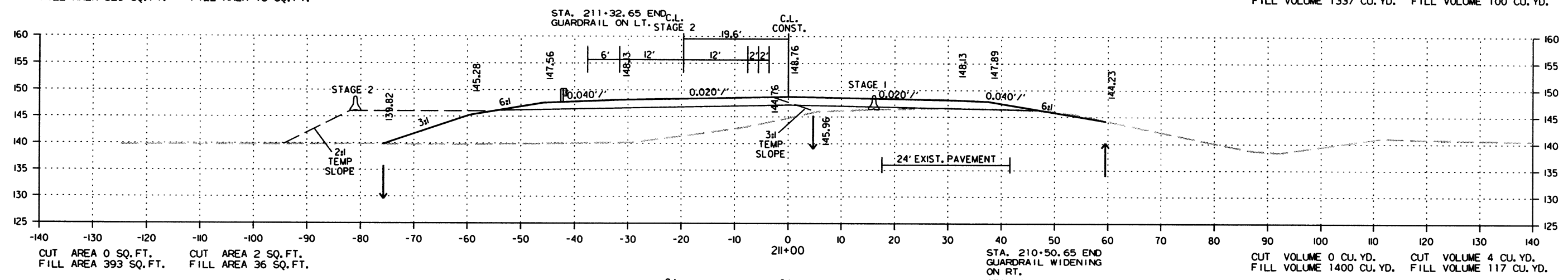
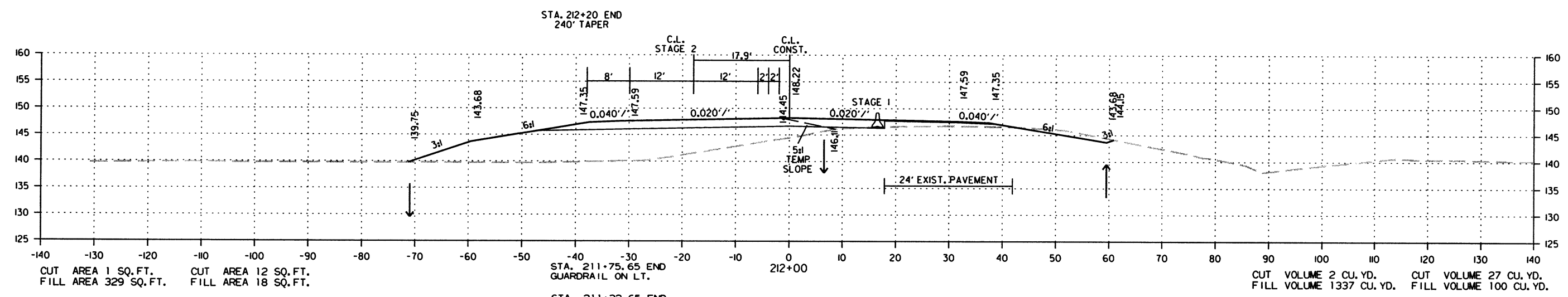


| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|--------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.   |                    |           |              |
|              |             |              |             | JOB NO.            | 020534 |                    | 205       | 287          |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2

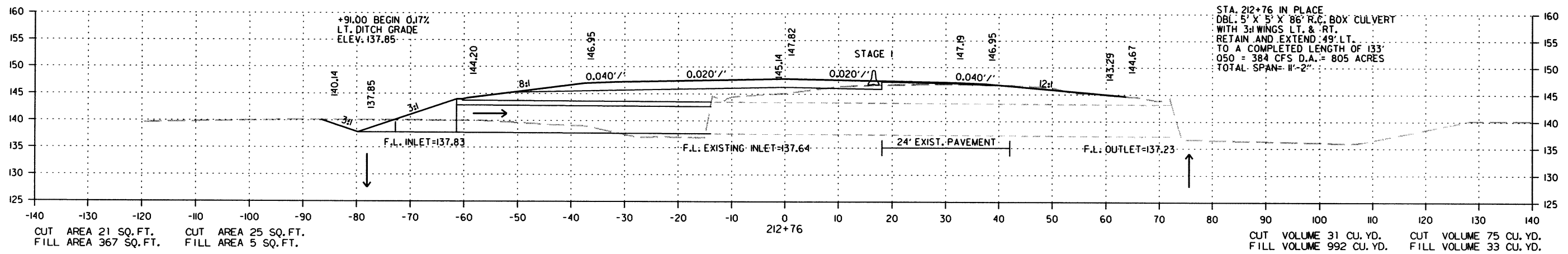
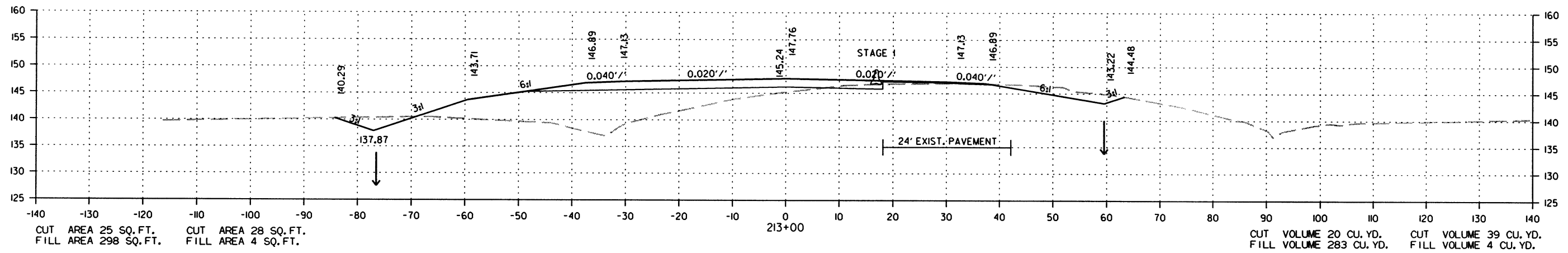
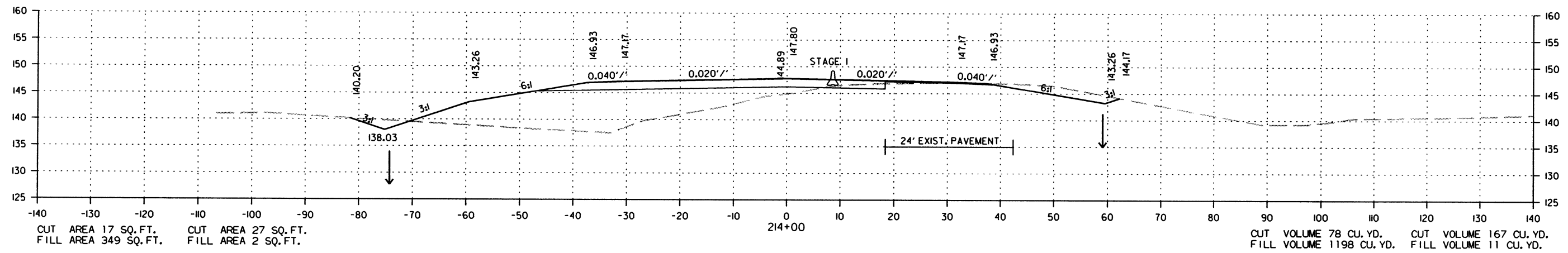


CROSS SECTION STA. 210+00 TO STA. 212+00

| DATE<br>REVISED  | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                  |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                  |                |                 |                |                       |       | JOB NO. 020534     | 206          | 287             |
| 2 CROSS SECTIONS |                |                 |                |                       |       |                    |              |                 |

STAGE 1 STAGE 2

STAGE 1 STAGE 2



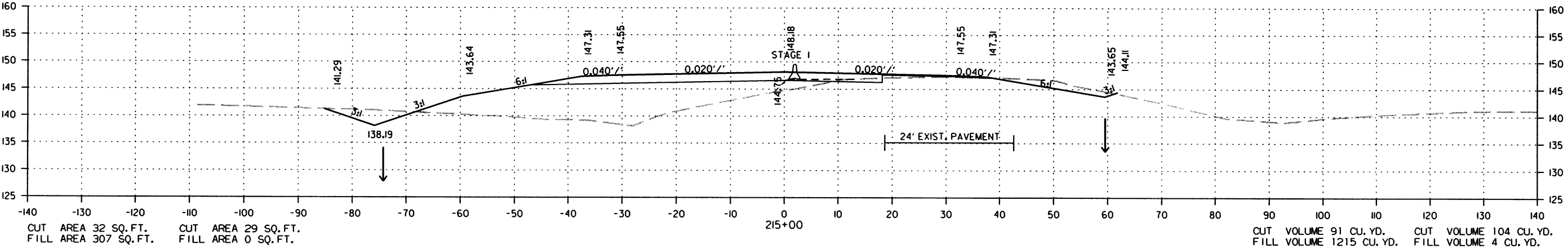
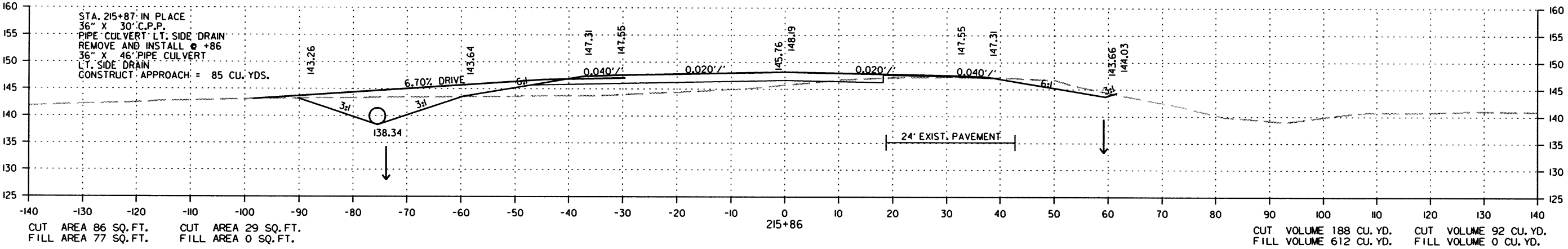
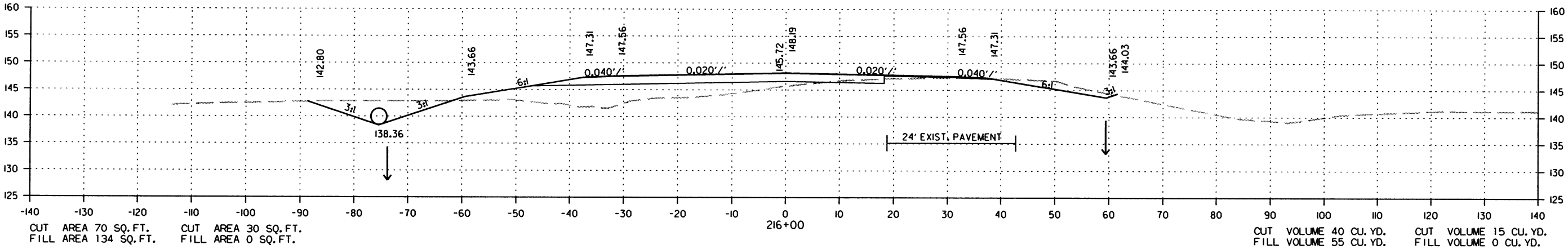
CROSS SECTION STA. 212+77 TO STA. 214+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 207          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



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

7/18/2016

R020534.DGN

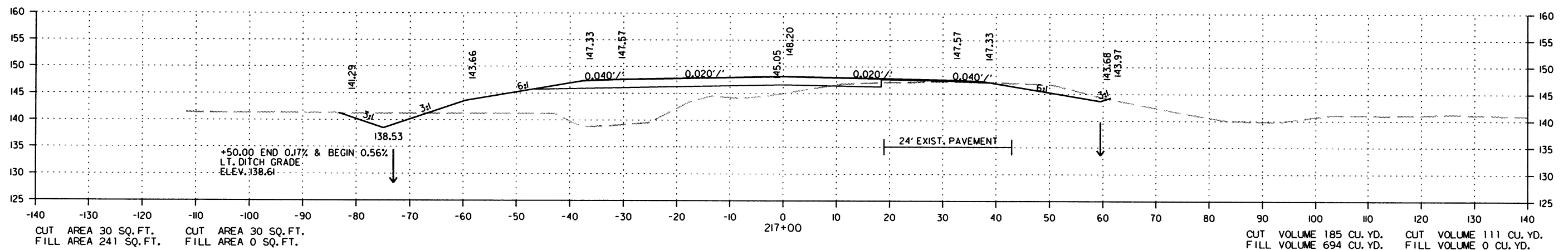
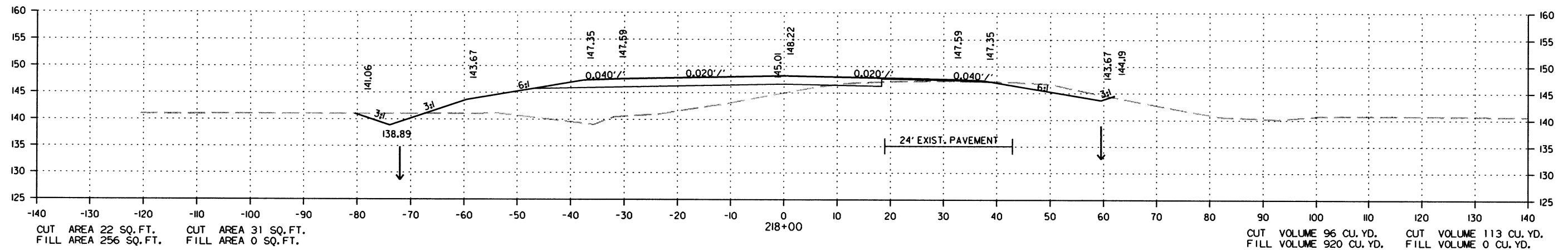
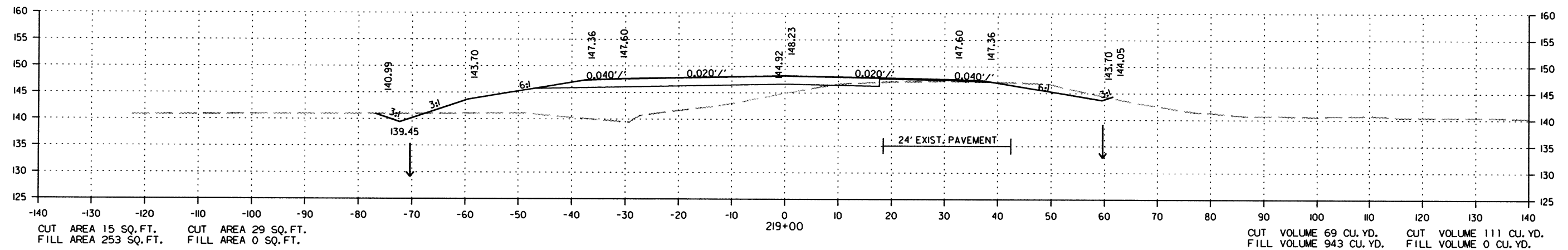


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 208          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 217+00 TO STA. 219+00

7/18/2016

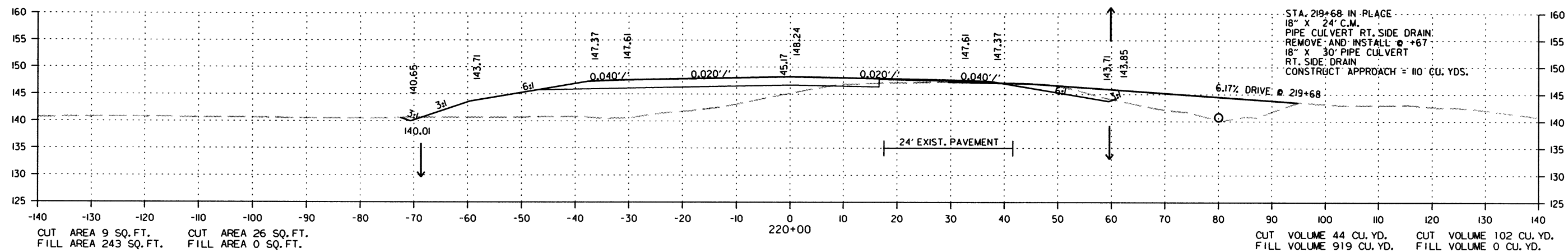
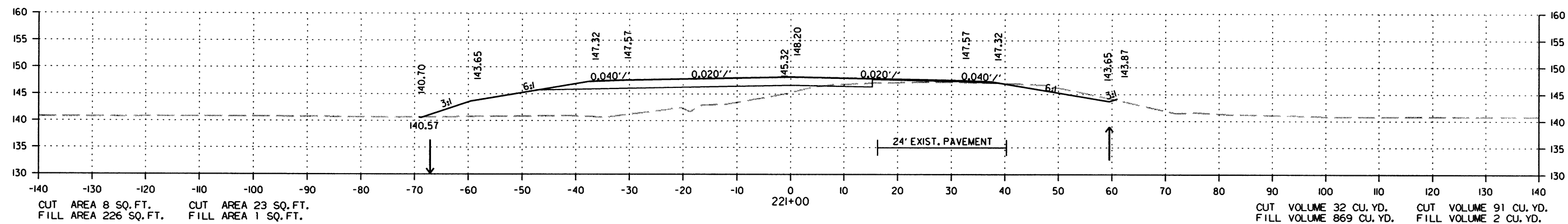
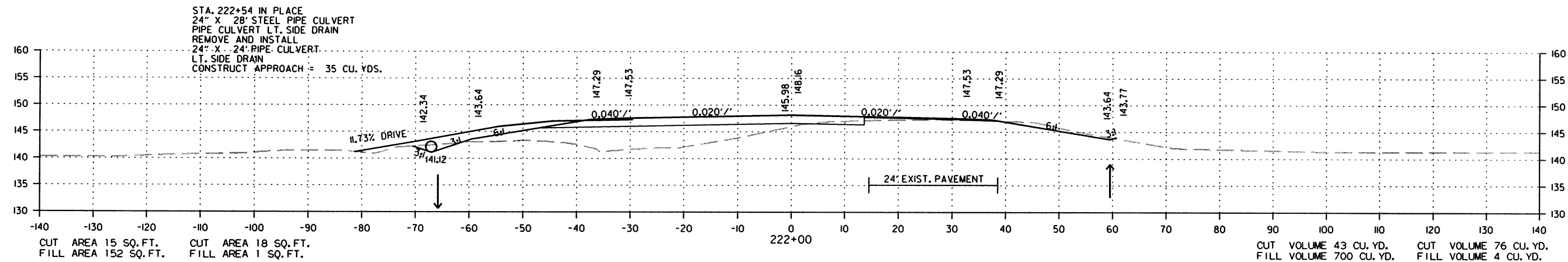
R020534.DGN



| DATE<br>REVISED  | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                  |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                  |                |                 |                |                       |       | JOB NO. 020534     | 209          | 287             |
| ② CROSS SECTIONS |                |                 |                |                       |       |                    |              |                 |

STAGE I STAGE 2

STAGE I STAGE 2



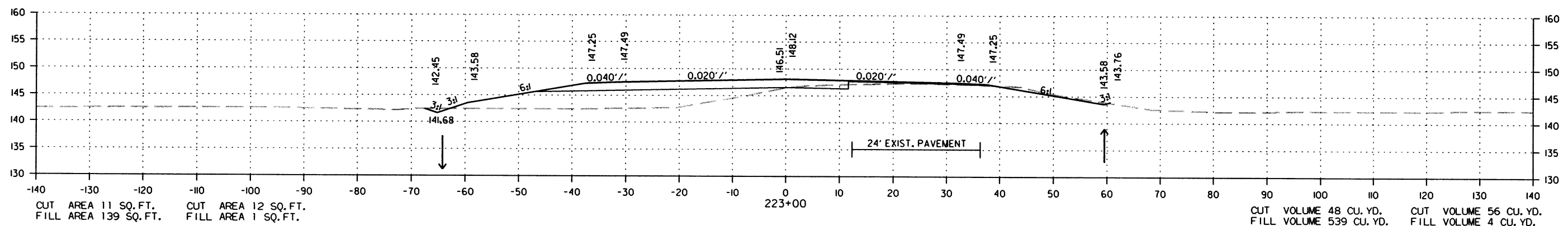
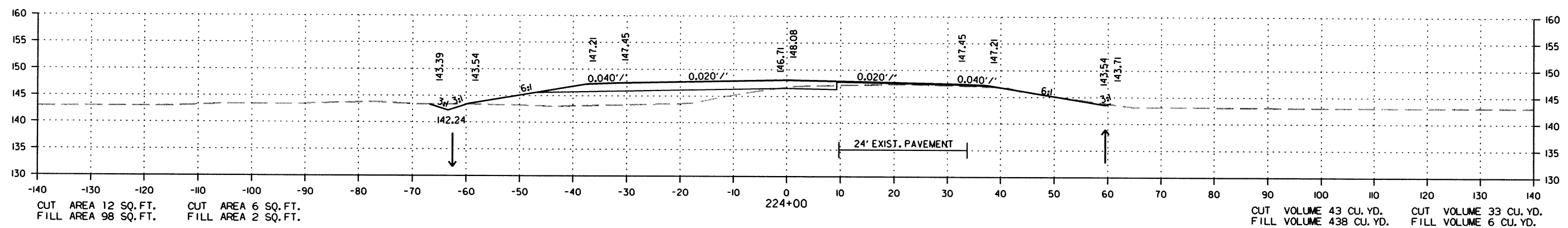
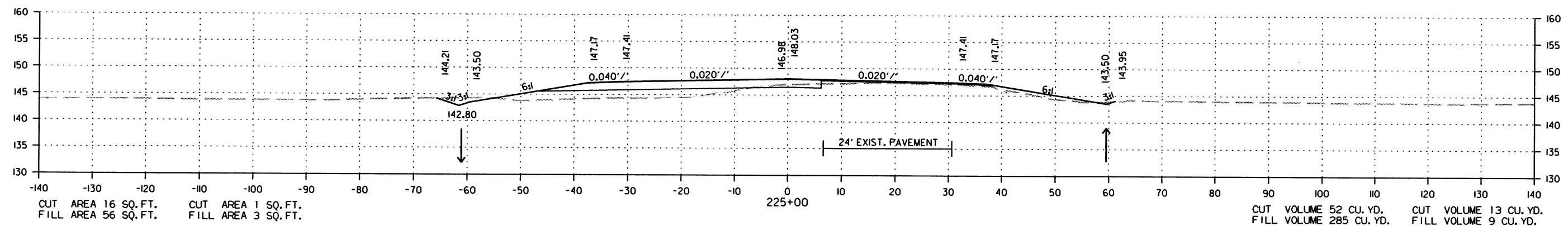
CROSS SECTION STA. 220+00 TO STA. 222+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 210          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



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

7/18/2016

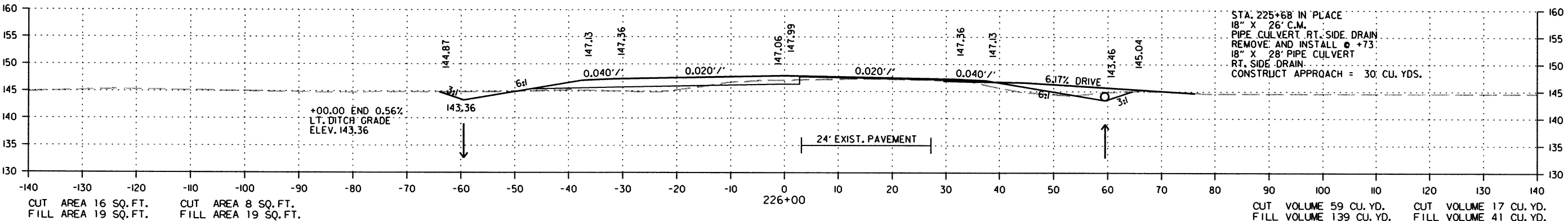
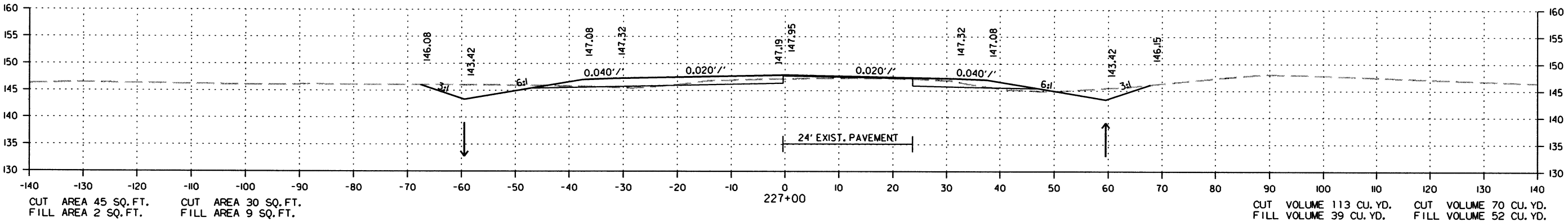
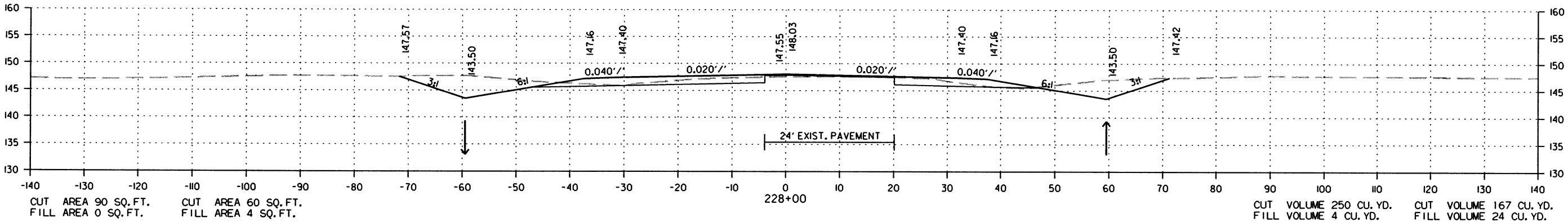
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|-----------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                       |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534        | 211          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



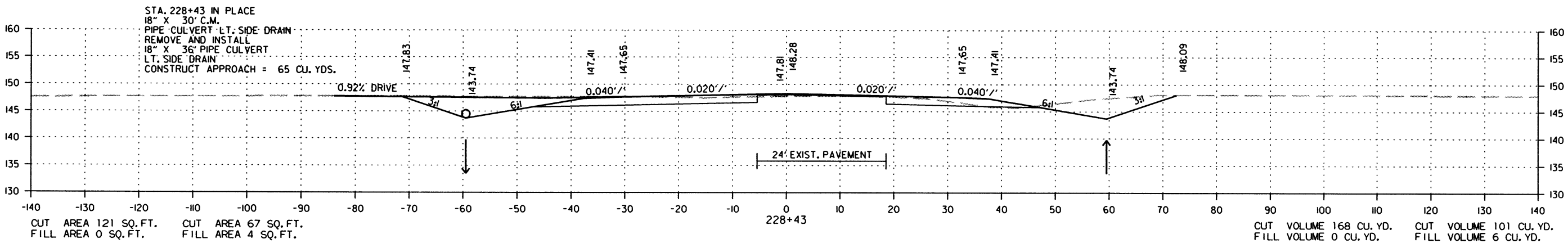
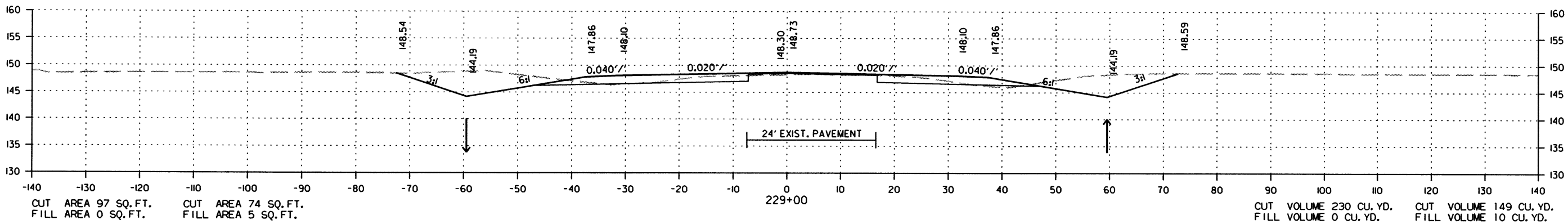
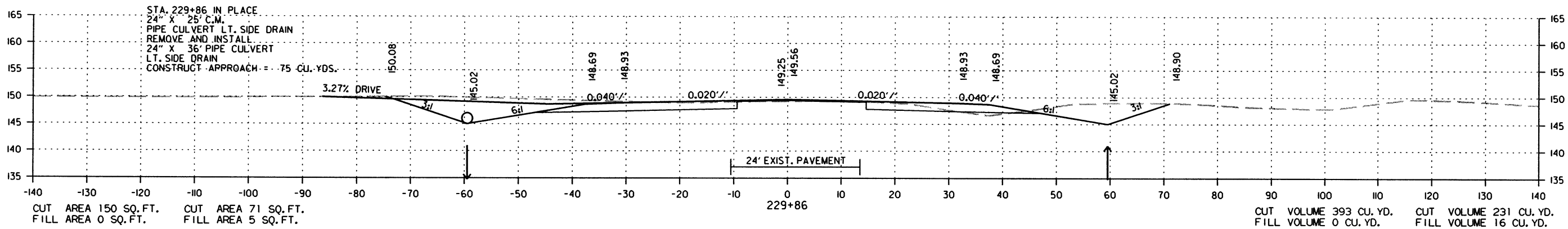
CROSS SECTION STA. 226+00 TO STA. 228+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 212          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 228+43 TO STA. 229+86

7/18/2016

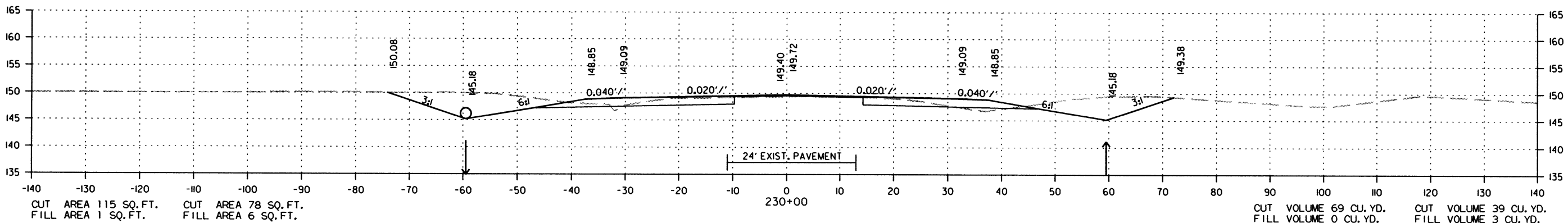
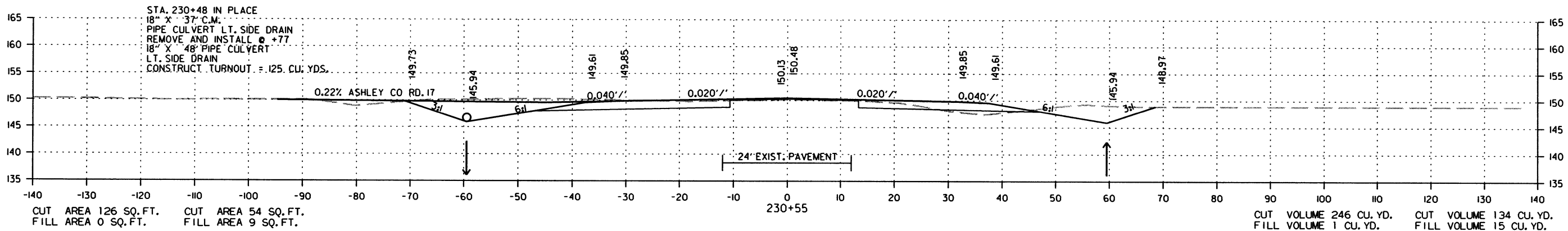
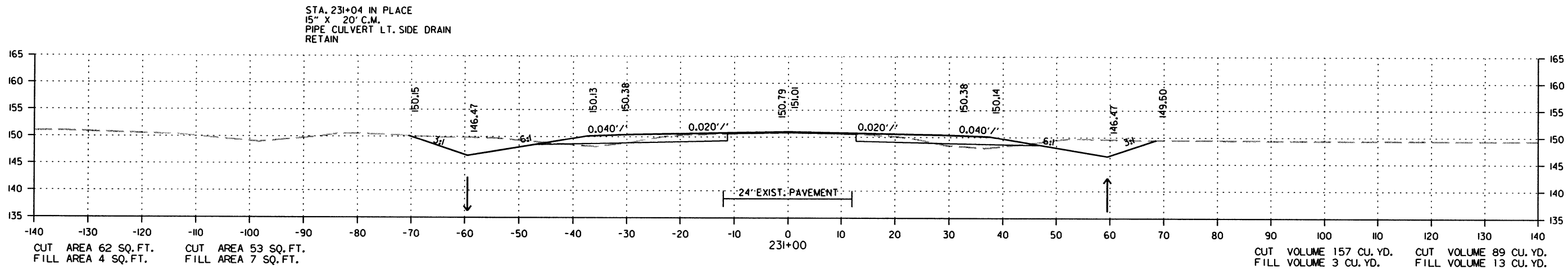
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 213          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



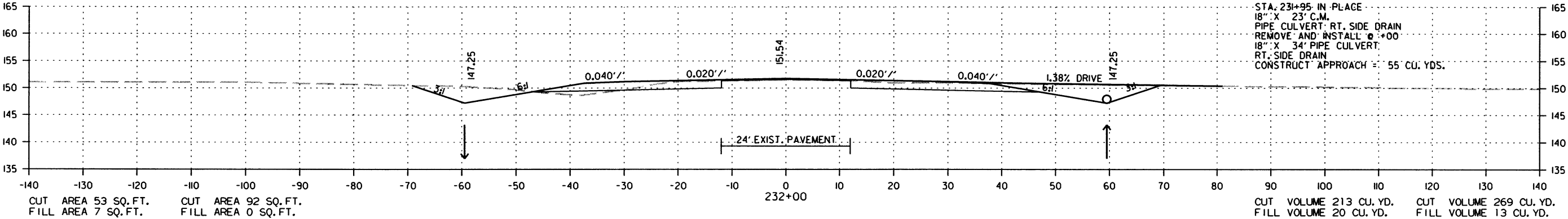
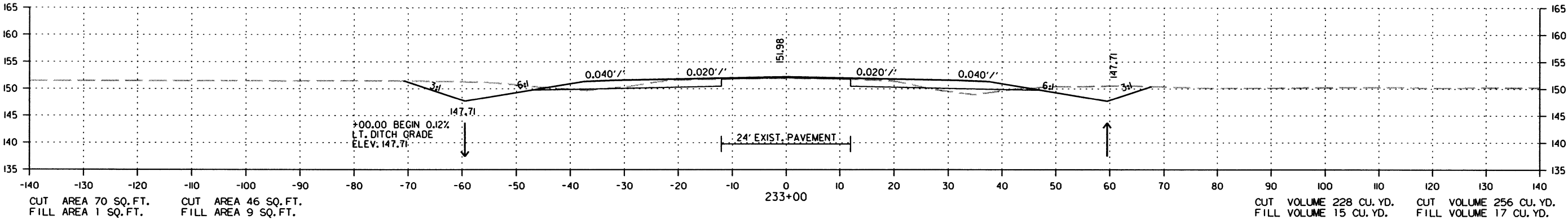
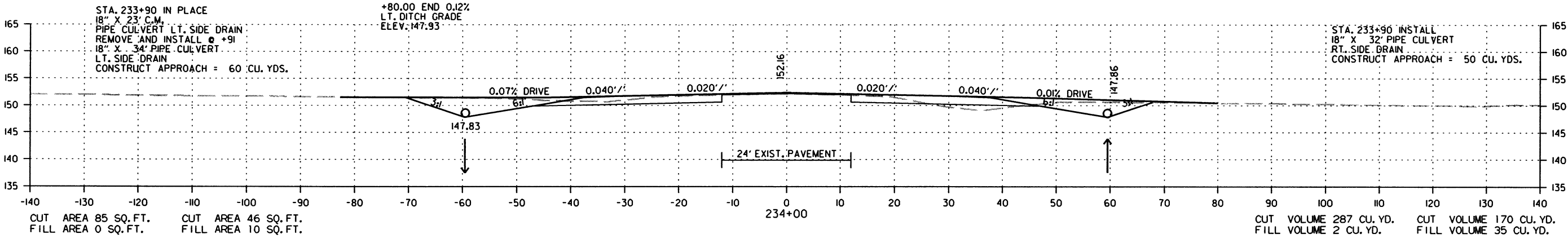
CROSS SECTION STA. 230+00 TO STA. 231+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 214          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



CROSS SECTION STA. 232+00 TO STA. 234+00

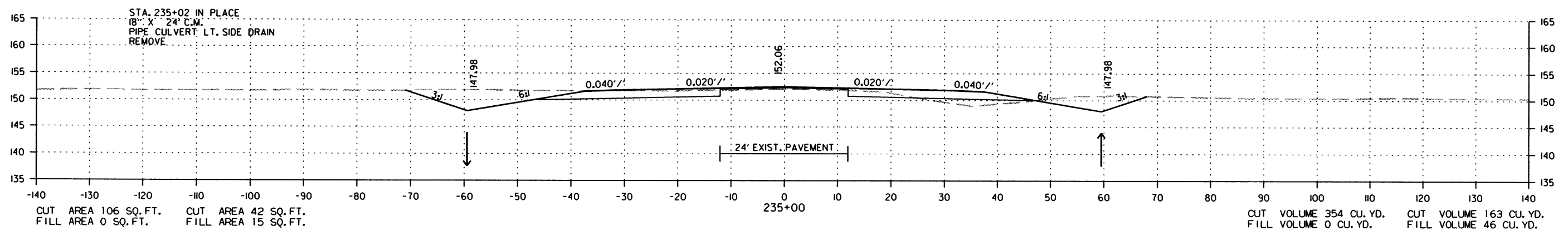
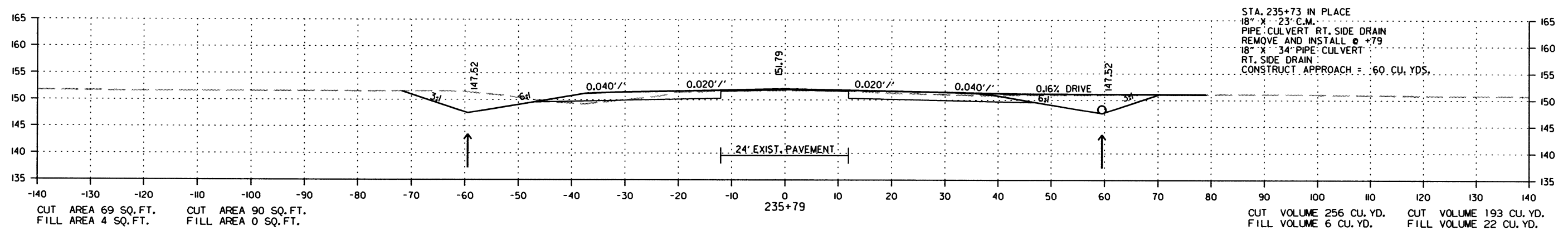
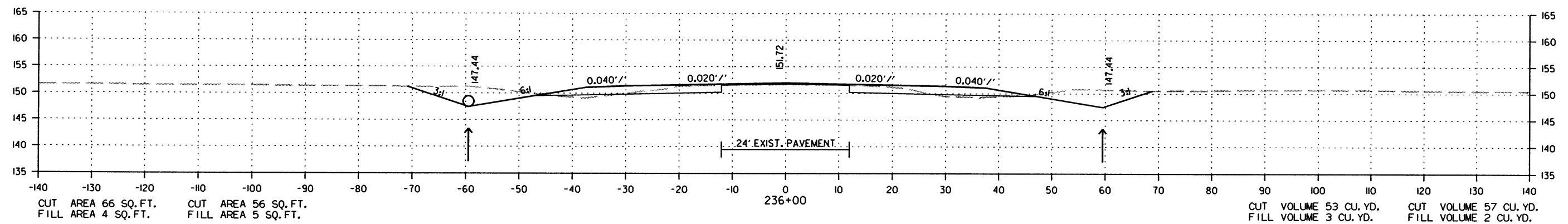


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE  | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|--------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.   |                    |              |                 |
|                 |                |                 |                | JOB NO.               | 020534 |                    | 215          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 235+00 TO STA. 236+00

7/18/2016

R020534.DGN

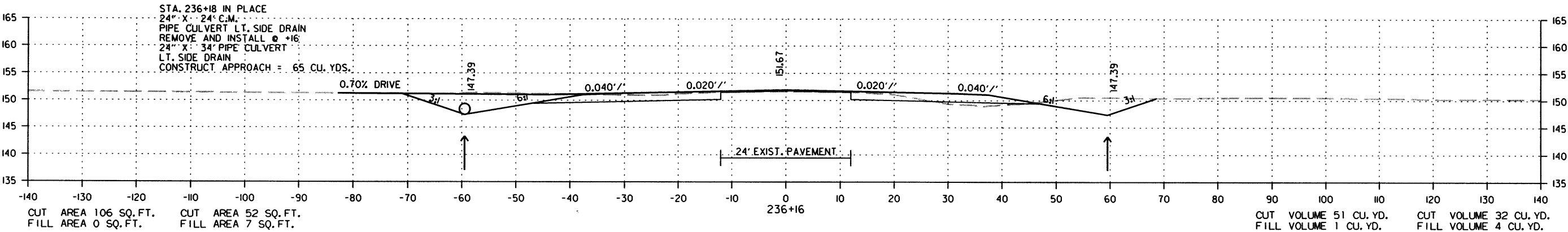
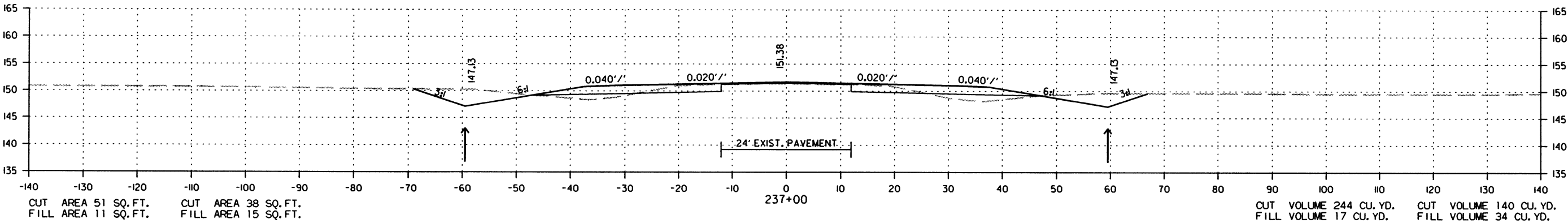
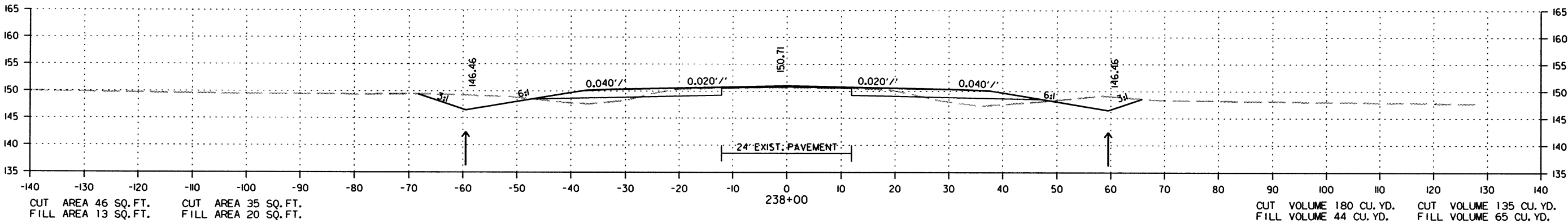


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 216          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



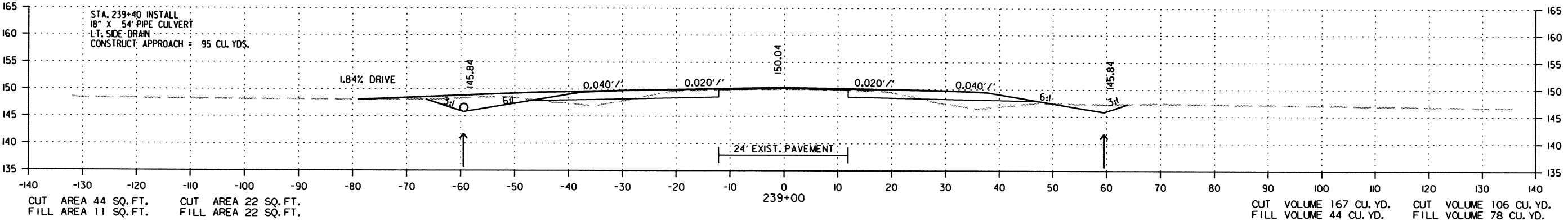
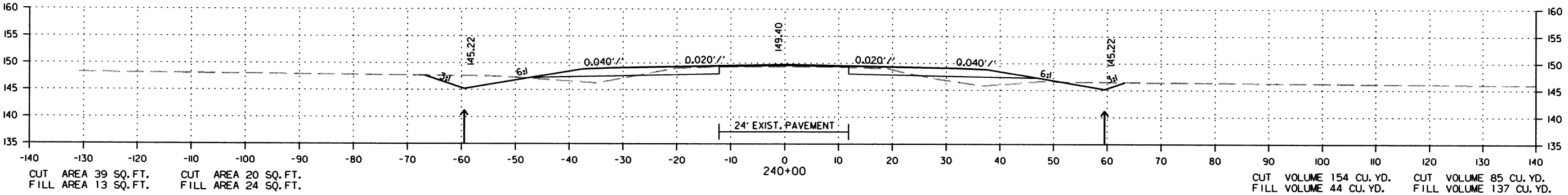
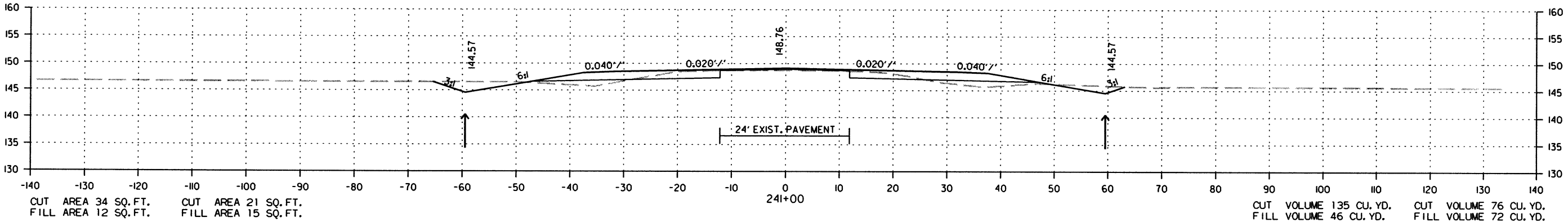
CROSS SECTION STA. 236+16 TO STA. 238+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 217          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



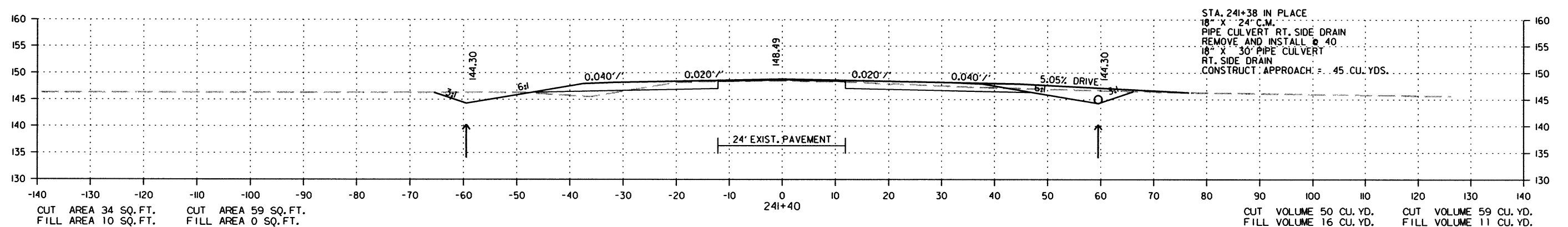
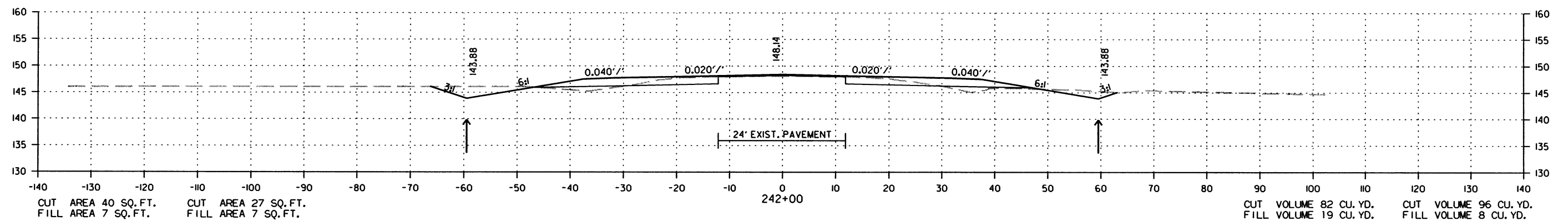
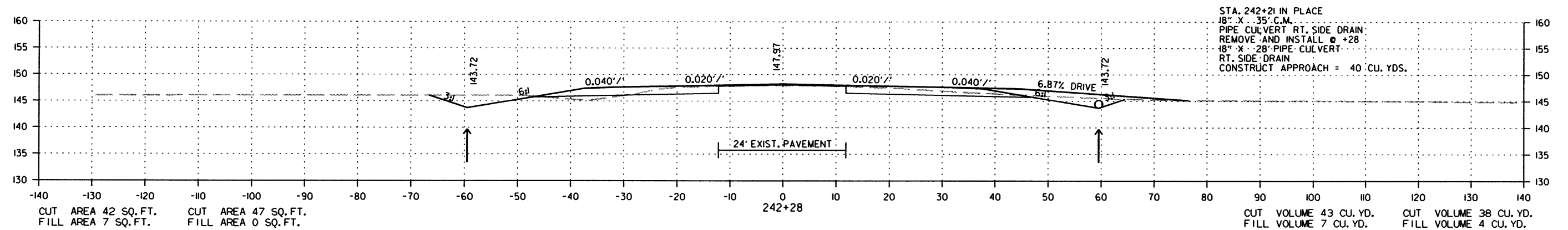
CROSS SECTION STA. 239+00 TO STA. 241+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 218          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 241+40 TO STA. 242+28

7/18/2016

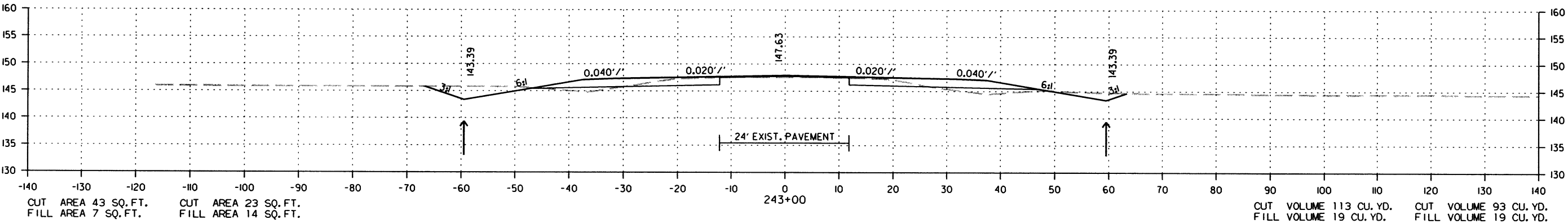
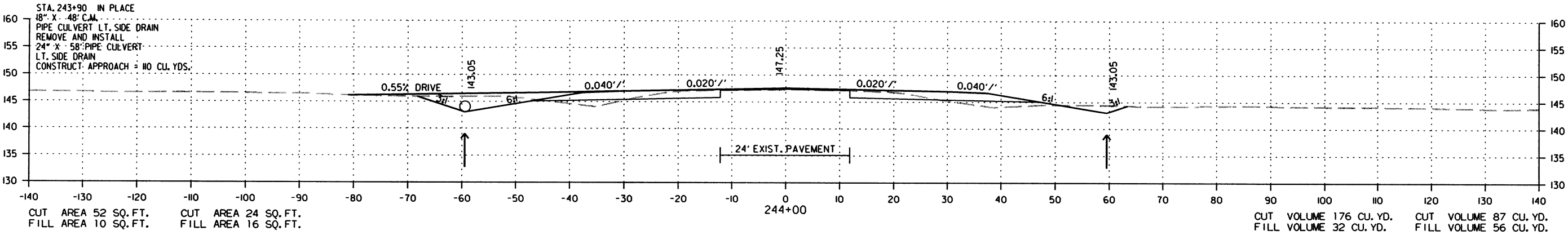
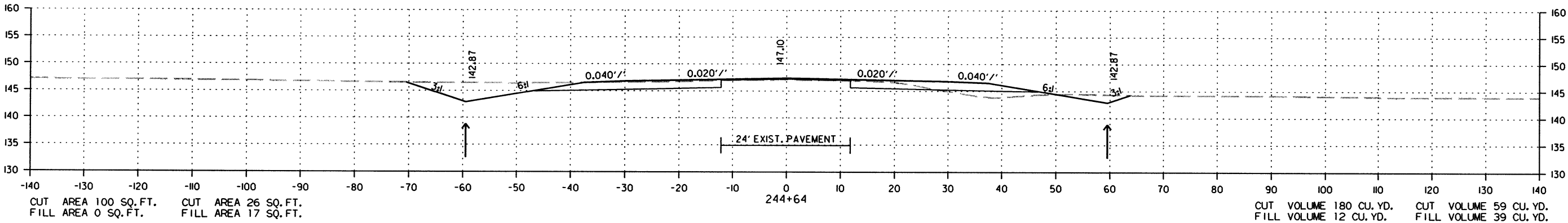
R020534.DGN

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO.            |       | 020534             | 219       | 287          |

2 CROSS SECTIONS

STAGE I   STAGE 2

STAGE I   STAGE 2



CROSS SECTION STA. 243+00 TO STA. 244+64

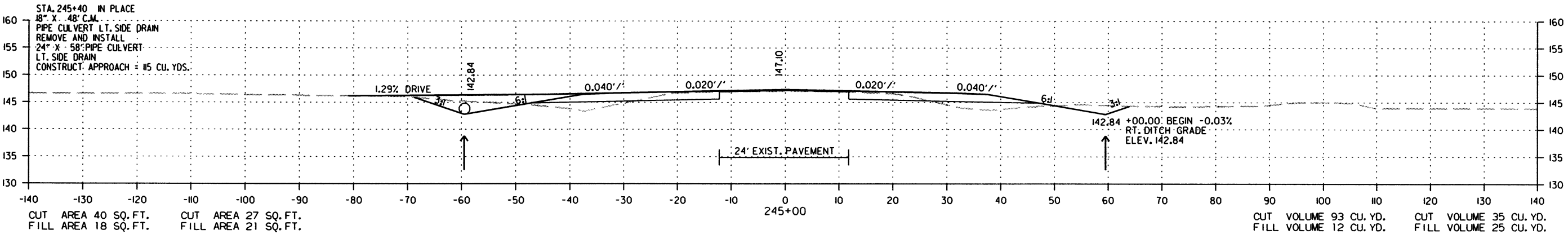
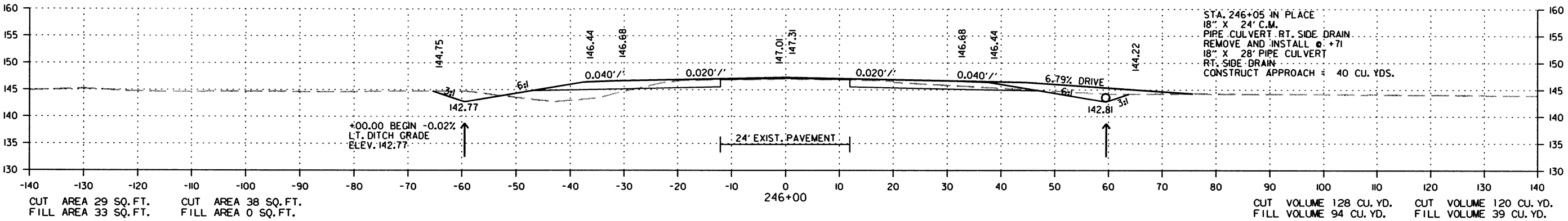
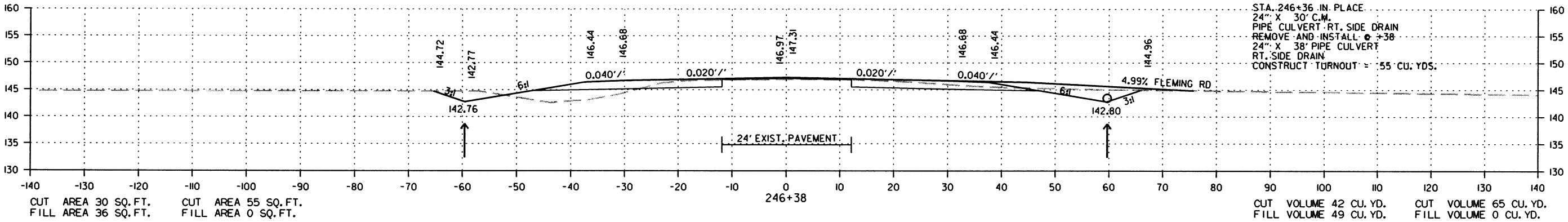
| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 220          | 287             |

2 CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2

STA. 246+32 IN PLACE (OFF ROAD)  
12" X 65' C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL  
18" X XX' PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH = XX CU. YDS.



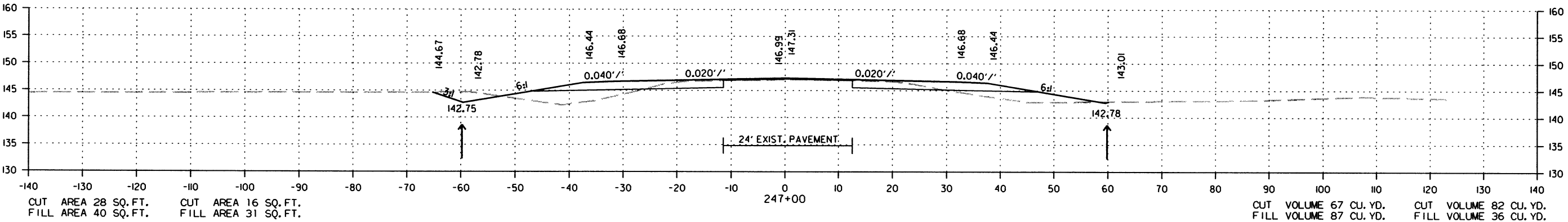
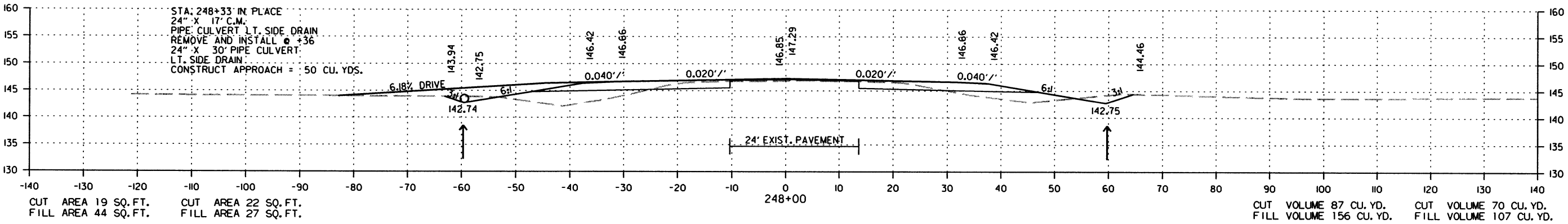
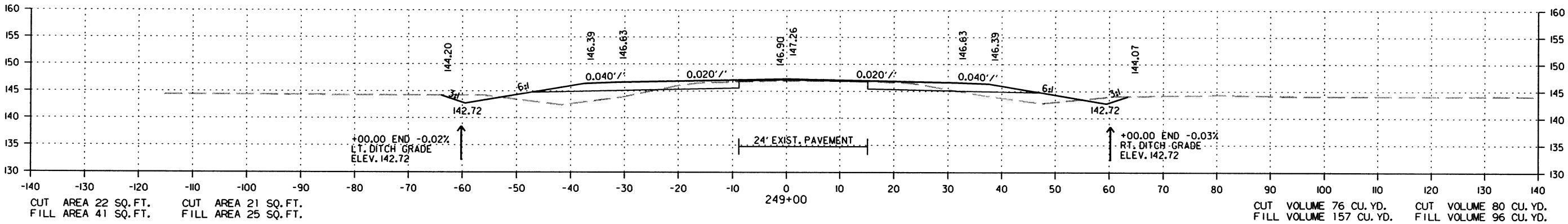
CROSS SECTION STA. 245+00 TO STA. 246+38

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 221          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 247+00 TO STA. 249+00

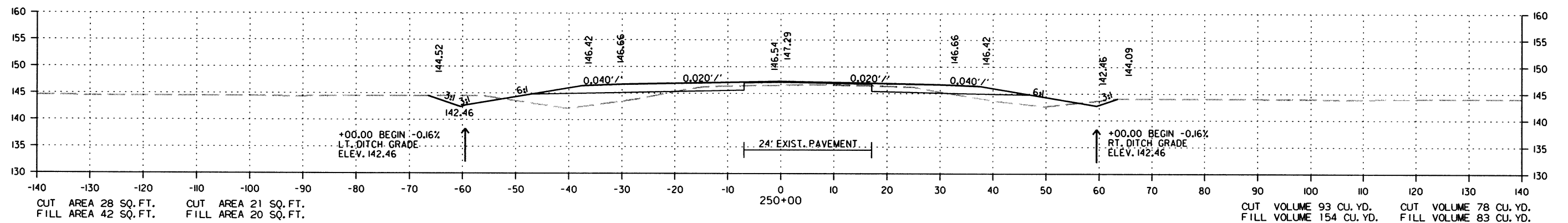
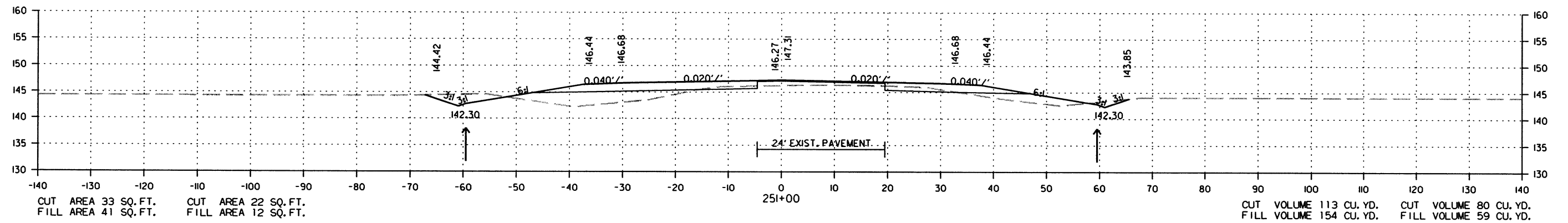
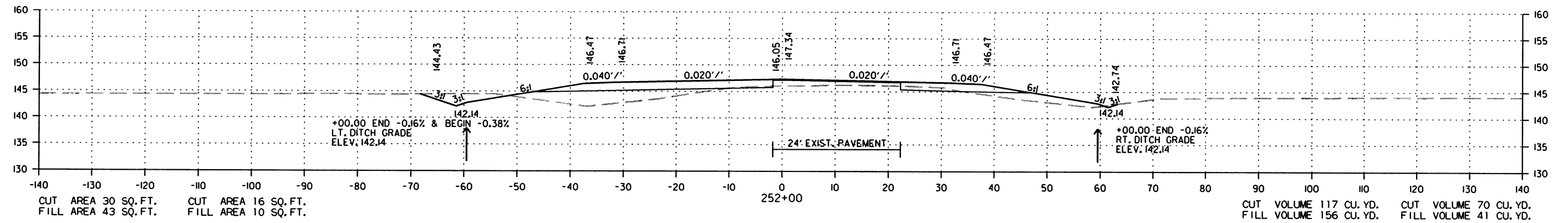


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|-----------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                       |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534        | 222          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 250+00 TO STA. 252+00

7/18/2016

R020534.DGN

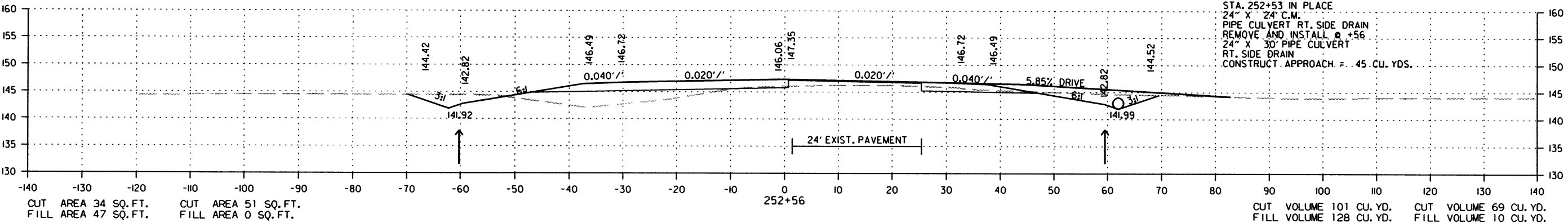
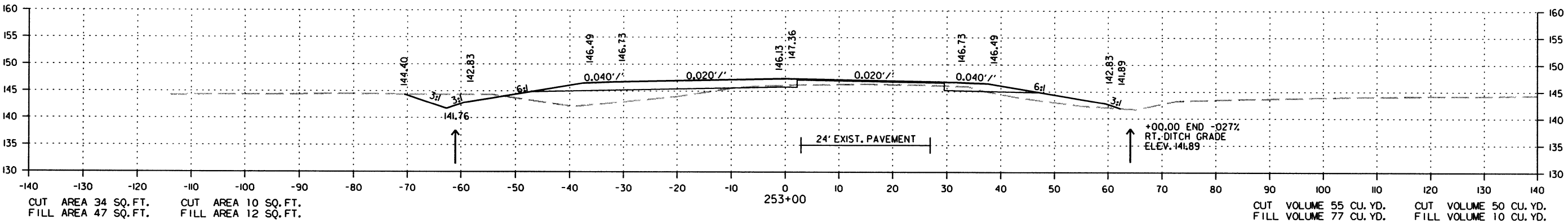
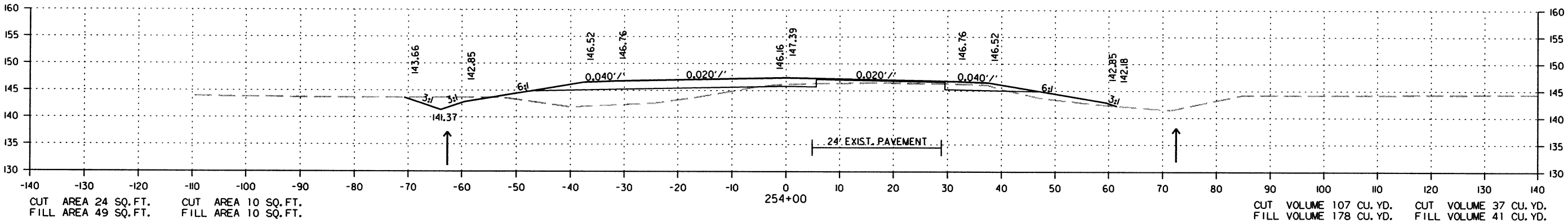


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 223          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



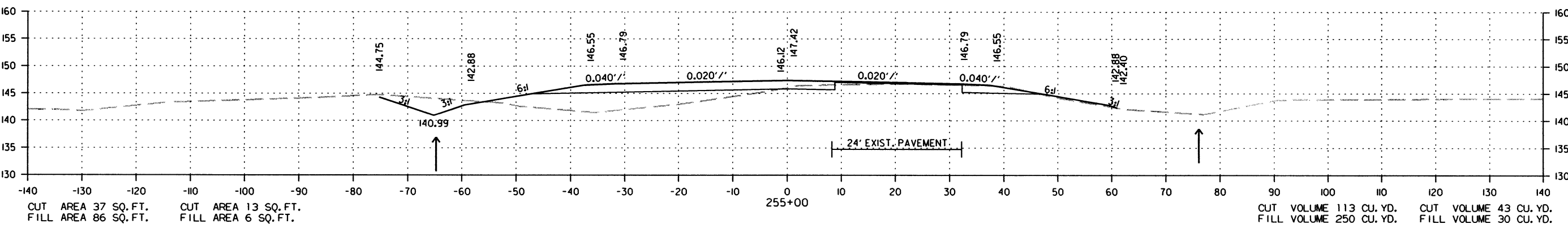
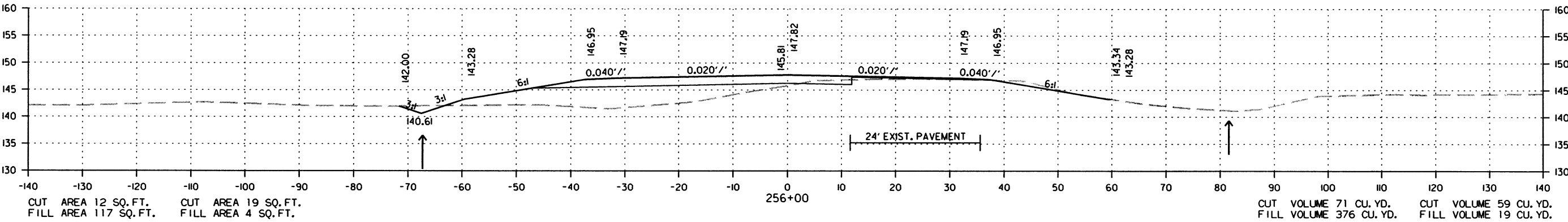
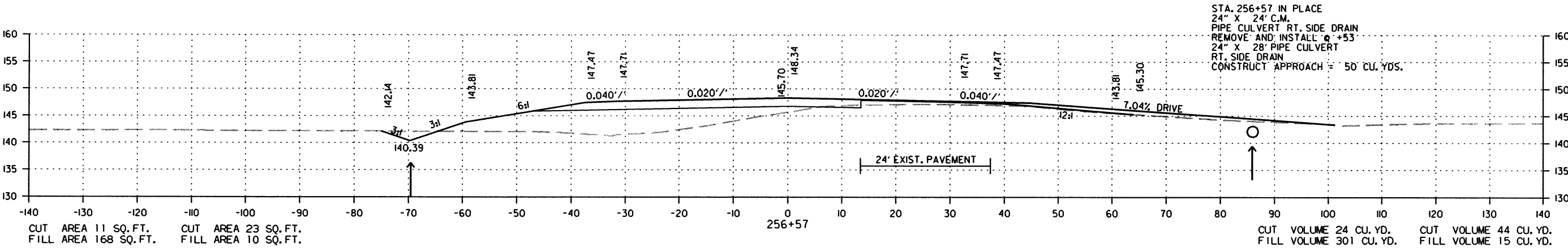
CROSS SECTION STA. 252+56 TO STA. 254+00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             |                    |       | 020534             | 224       | 287          |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



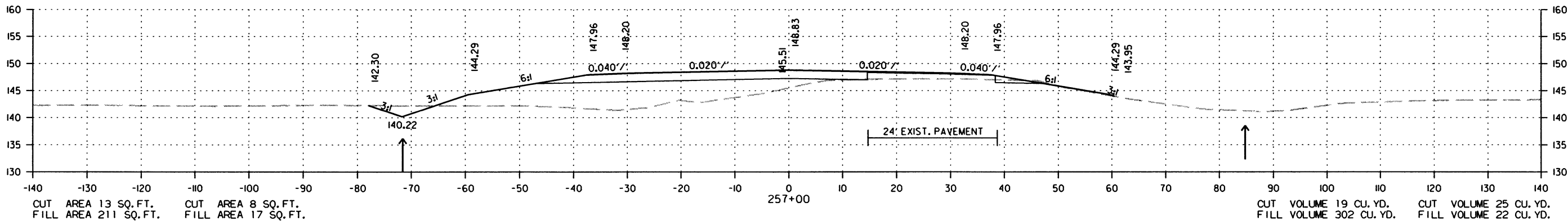
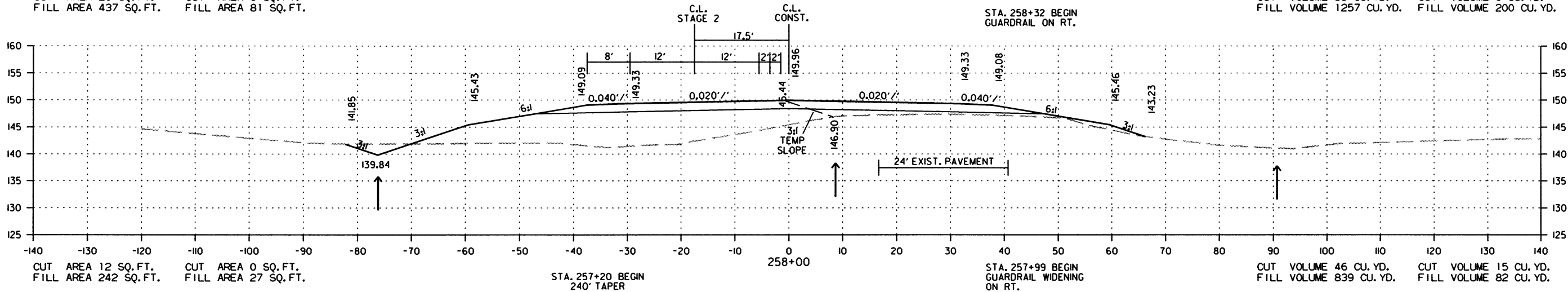
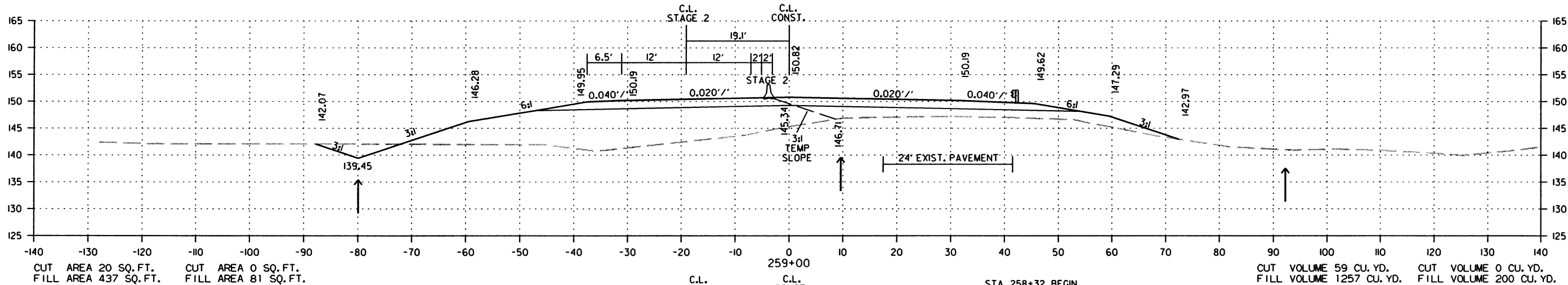
CROSS SECTION STA. 255+00 TO STA. 256+57

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 225          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



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

7/18/2016

R020534.DGN

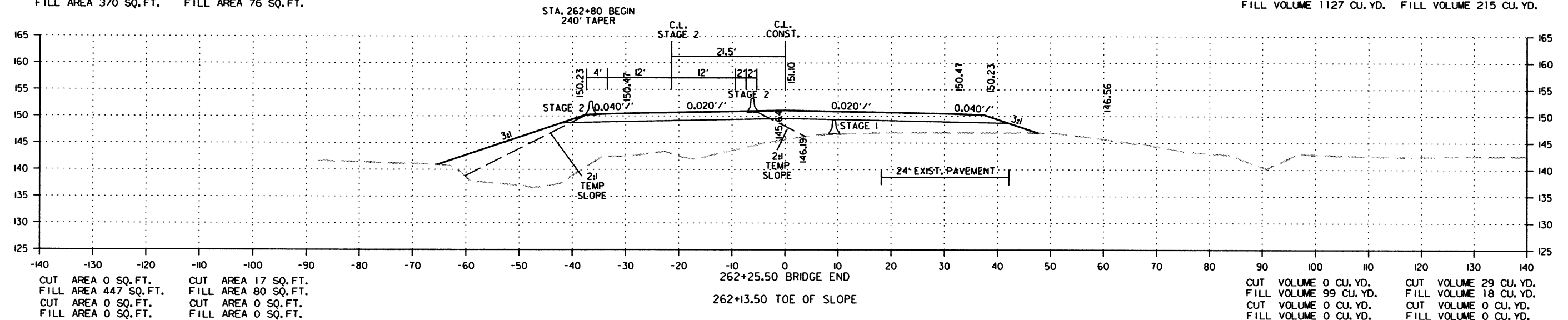
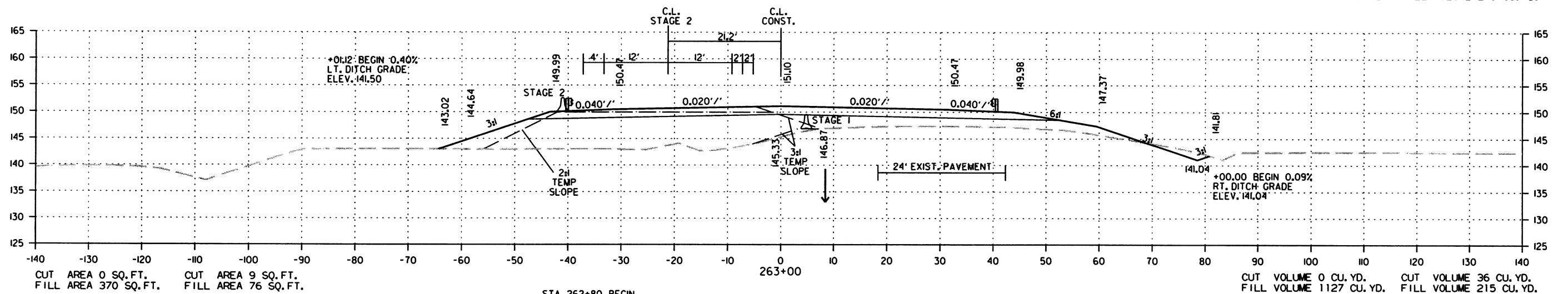
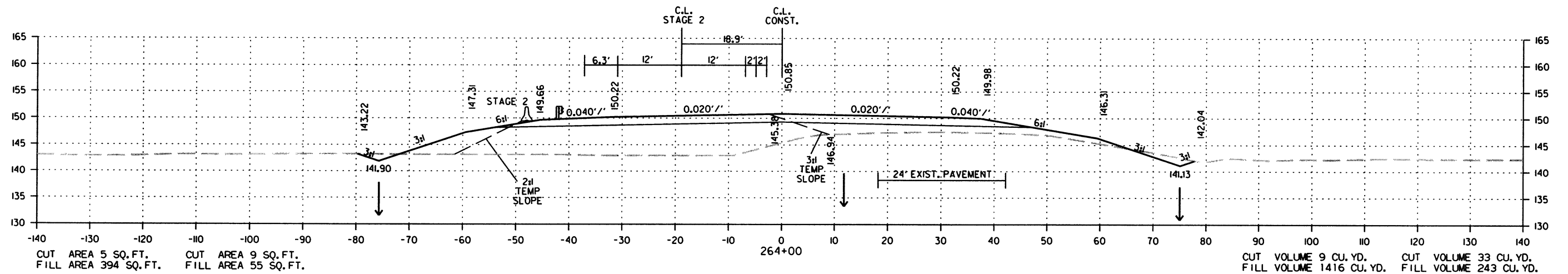


| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|----------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6              | ARK.  |                    |           |              |
|              |             |              |             |                |       | JOB NO. 020534     | 227       | 287          |

## 2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 262+00 TO STA. 264+00

7/18/2016

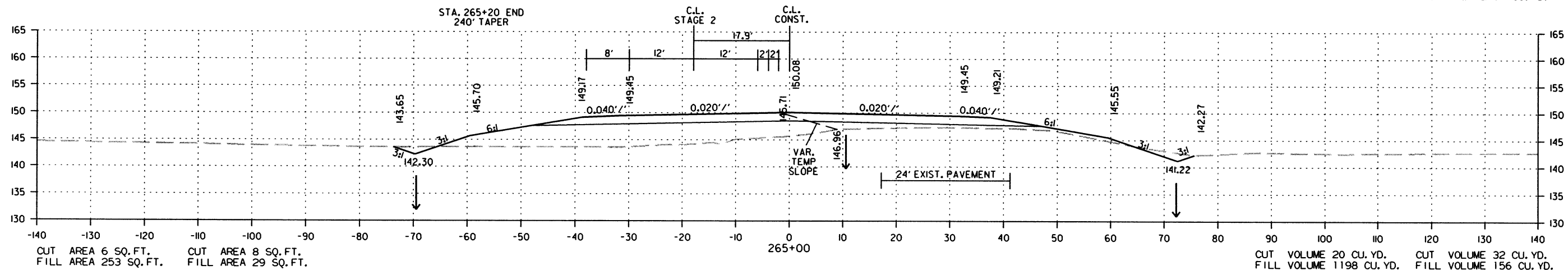
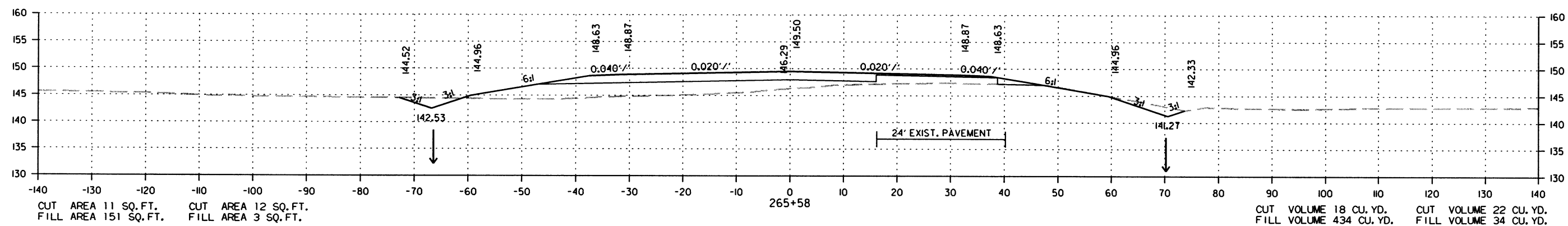
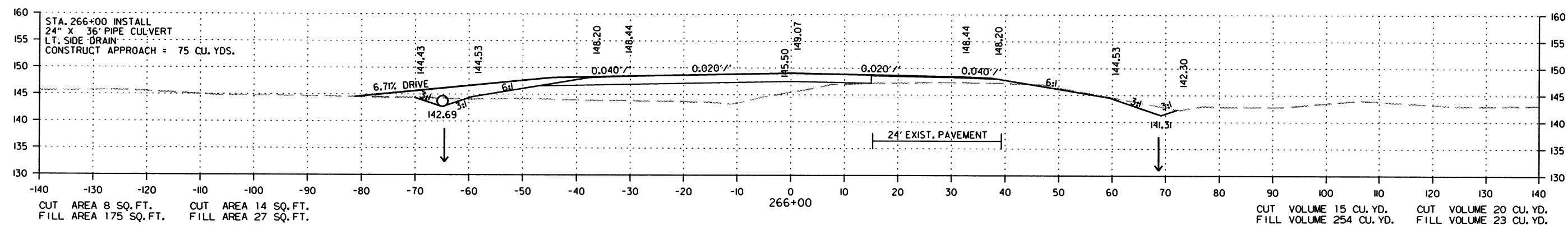
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 228          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 265+00 TO STA. 266+00

7/18/2016

R020534.DGN

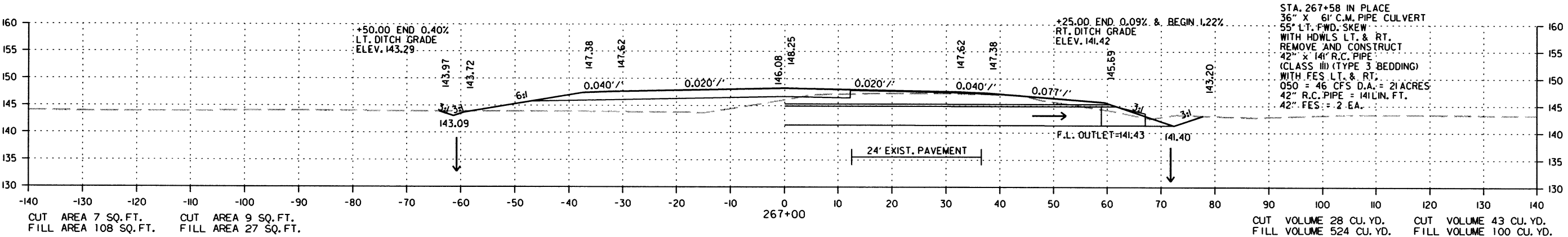
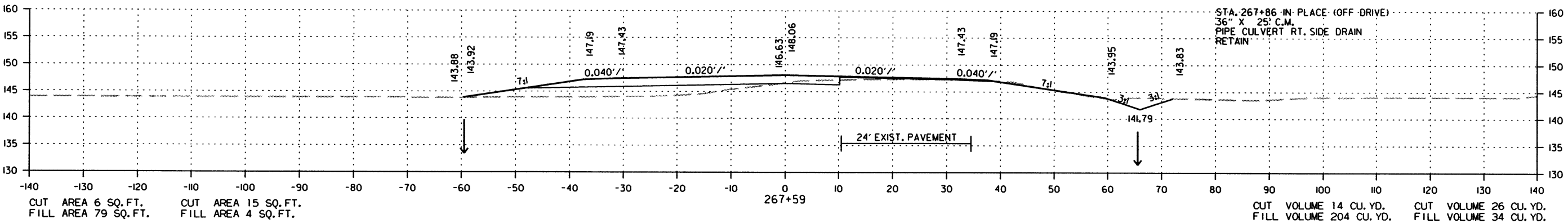
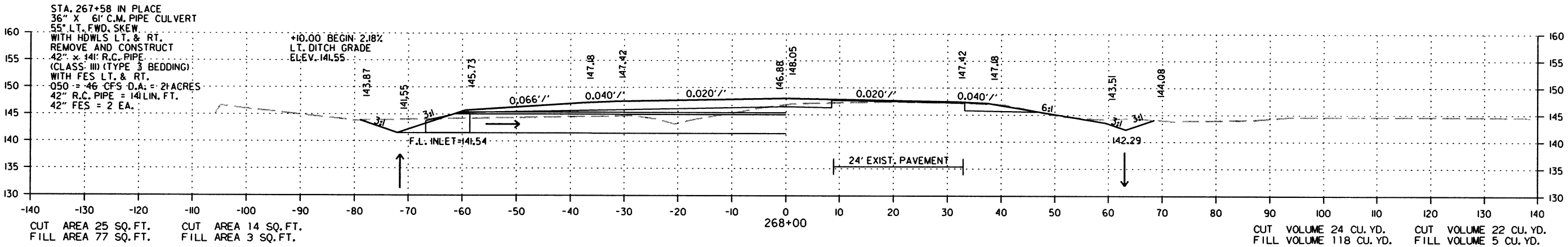


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 229          | 287             |

2 CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 267+00 TO STA. 268+00

7/18/2016

R020534.DGN

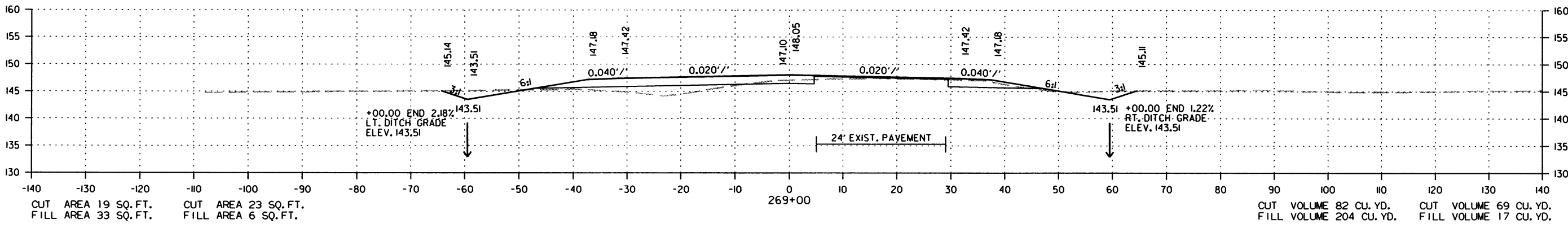
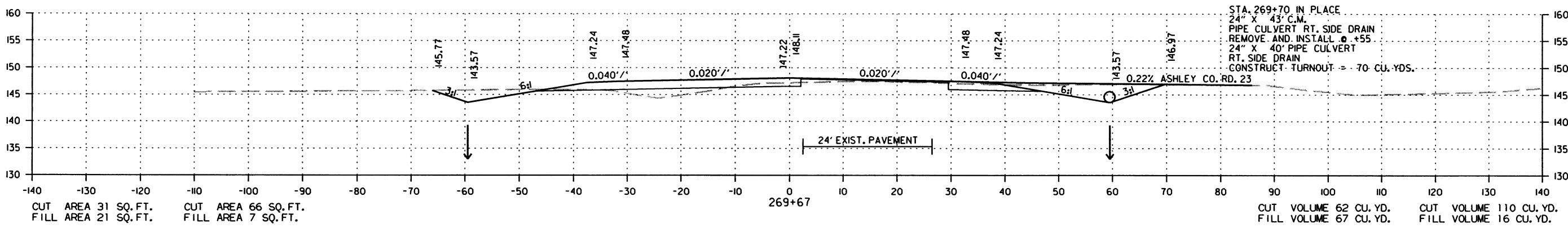
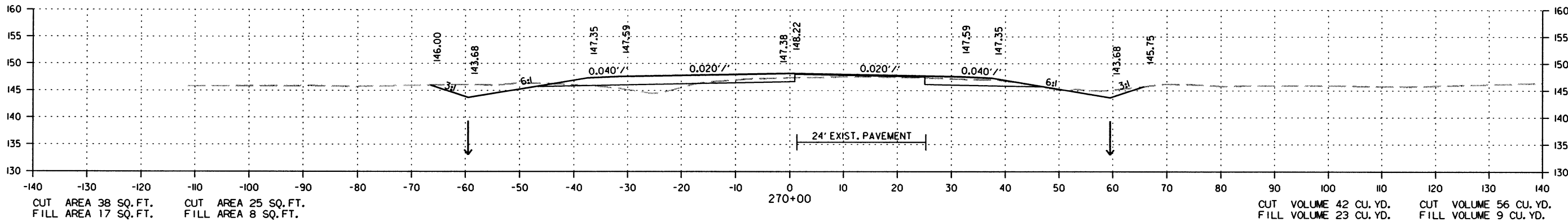


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 230          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



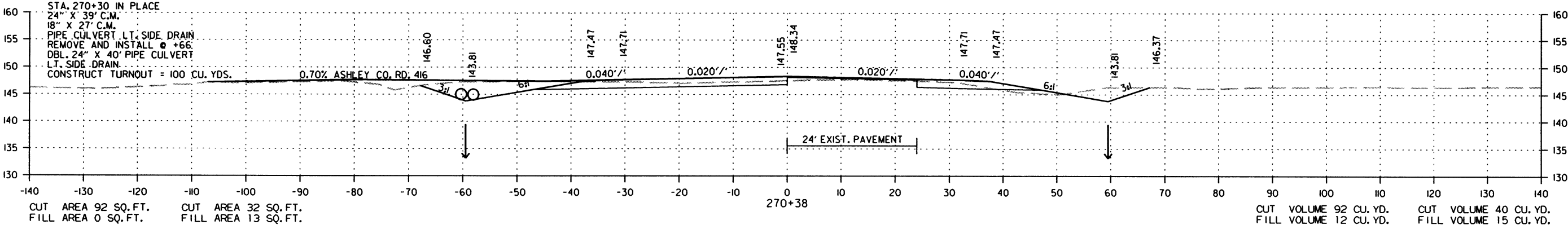
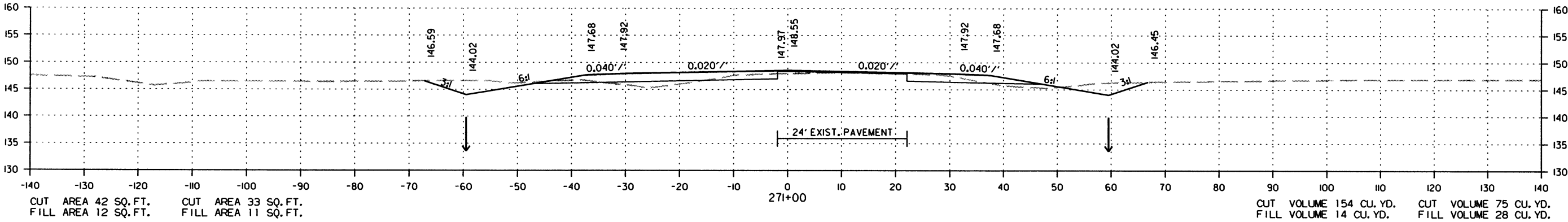
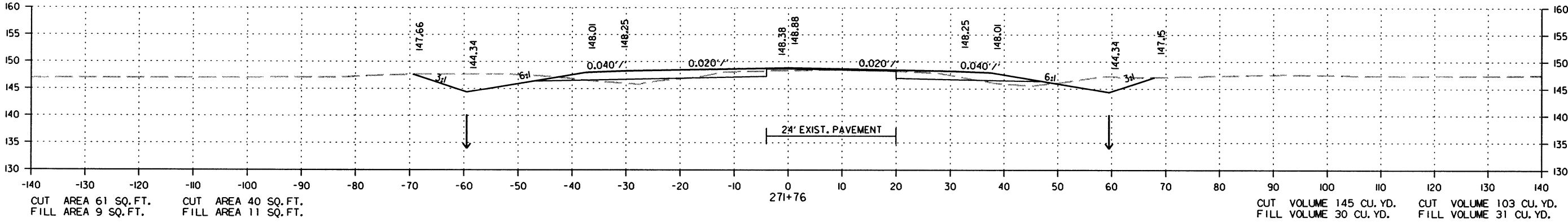
CROSS SECTION STA. 269+00 TO STA. 270+00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             |                    |       | JOB NO. 020534     | 231       | 287          |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 270+38 TO STA. 271+76

7/18/2016

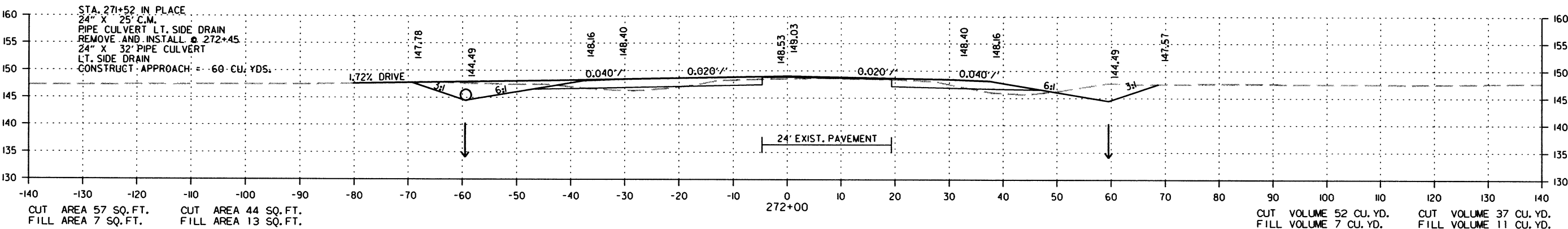
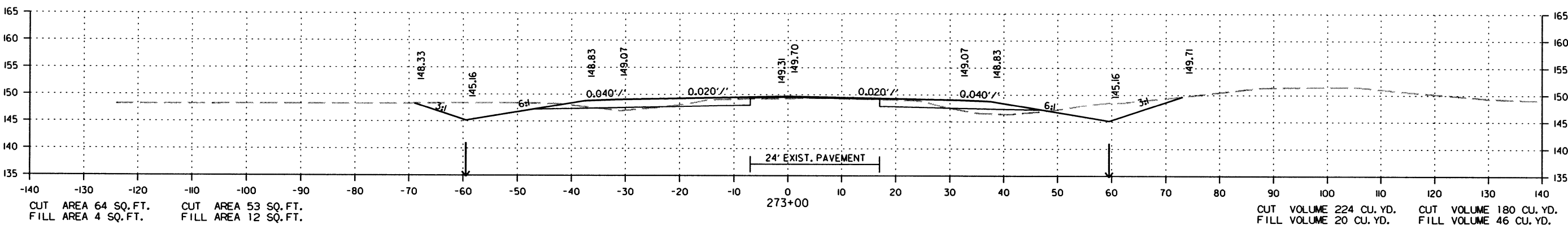
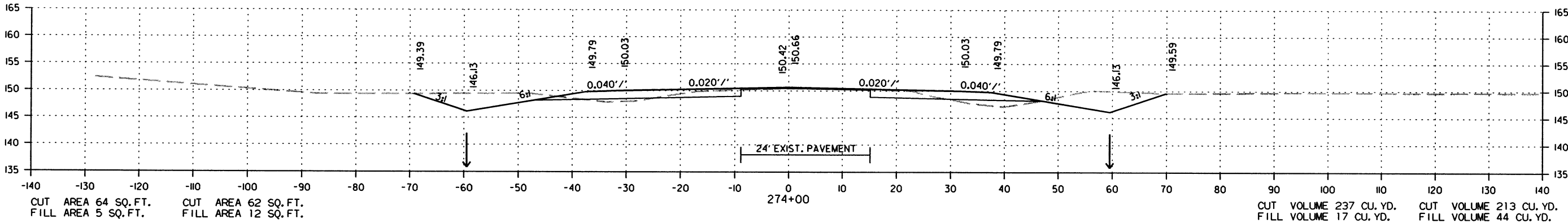
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO. 020534        |       |                    | 232          | 287             |

2 CROSS SECTIONS

STAGE I   STAGE 2

STAGE I   STAGE 2



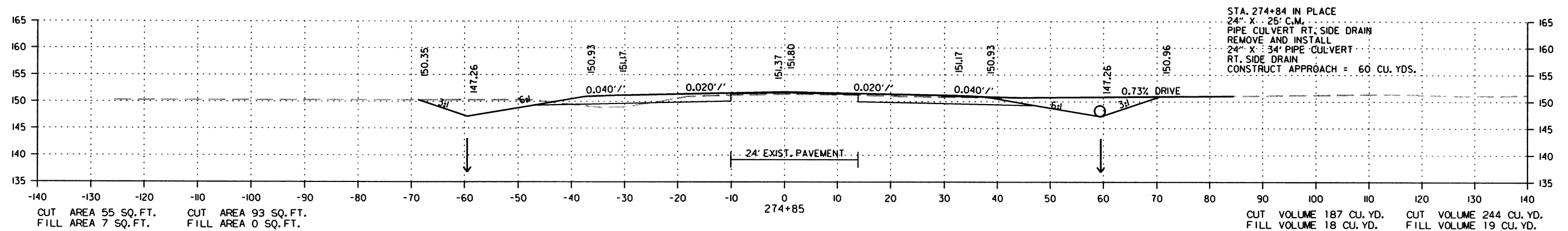
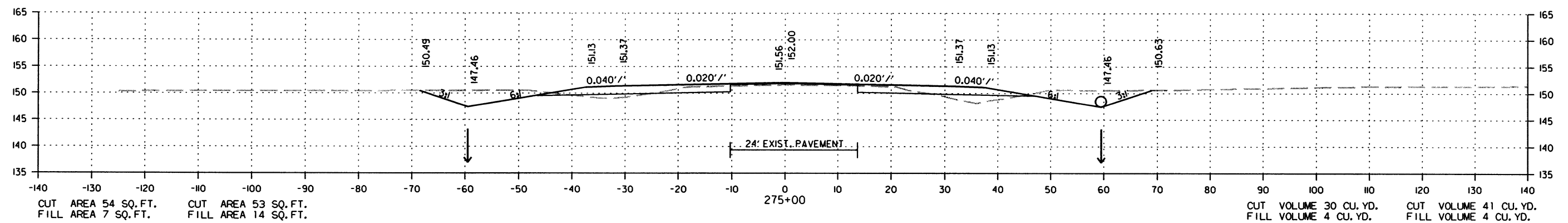
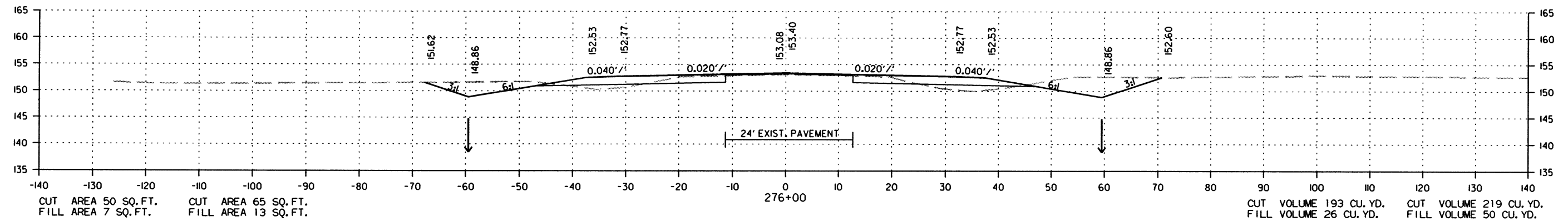
CROSS SECTION STA. 272+00 TO STA. 274+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 233          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 274+85 TO STA. 276+00

7/18/2016

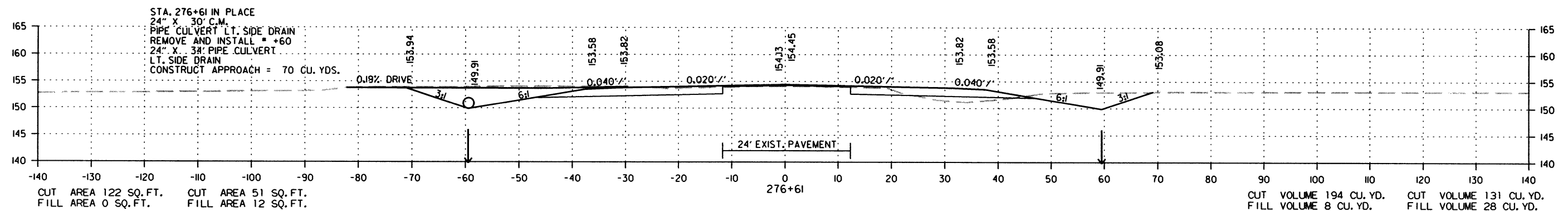
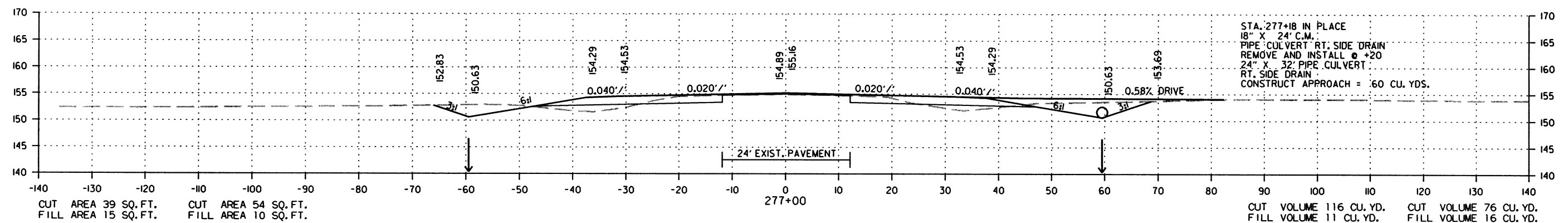
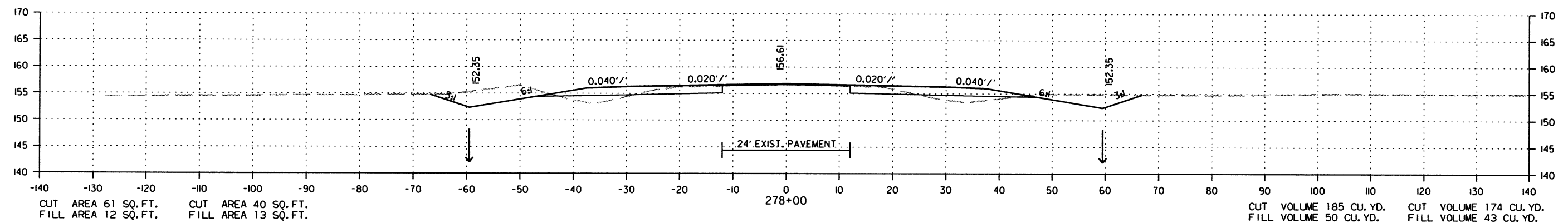
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 234          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 276+61 TO STA. 278+00

7/18/2016

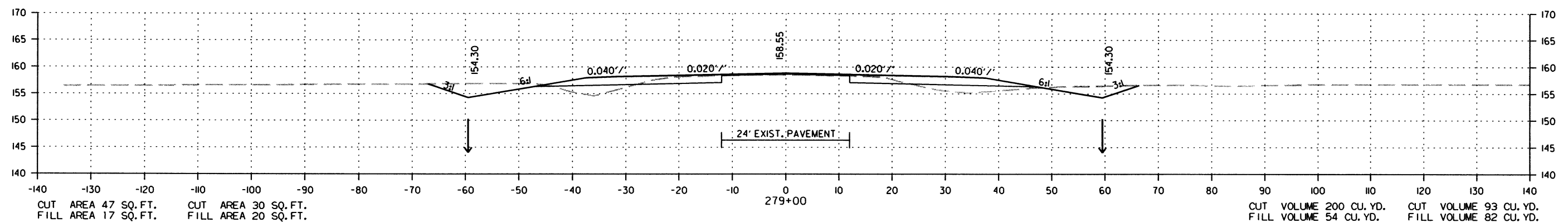
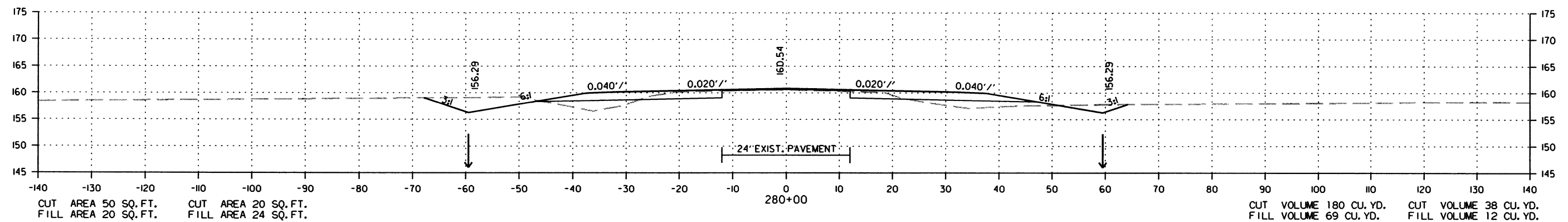
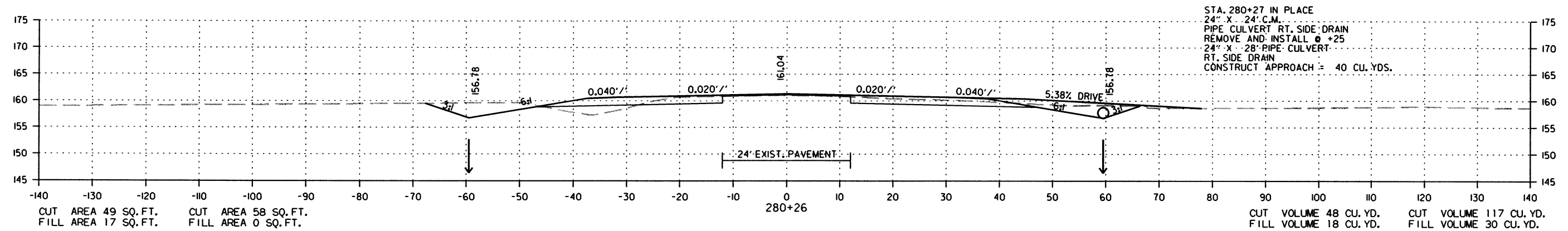
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 235          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 279+00 TO STA. 280+26

7/18/2016

R020534.DGN

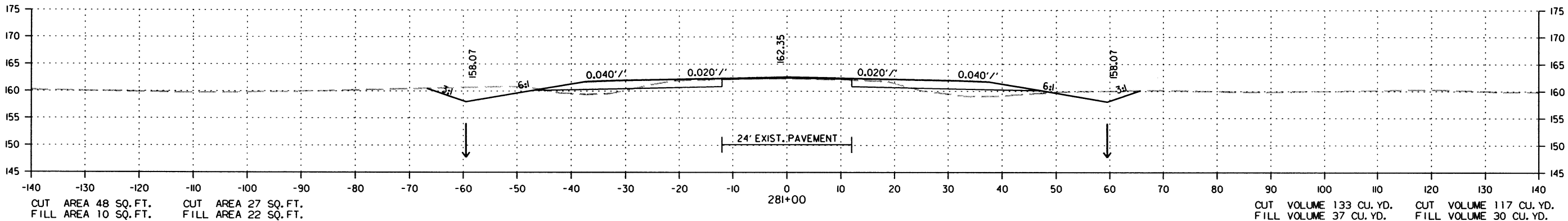
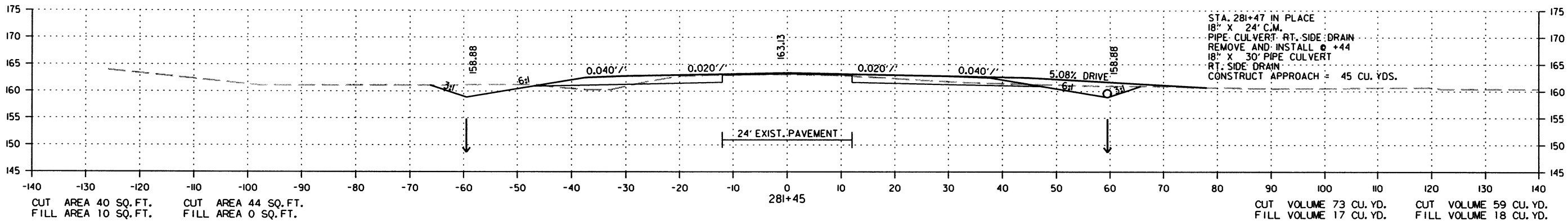
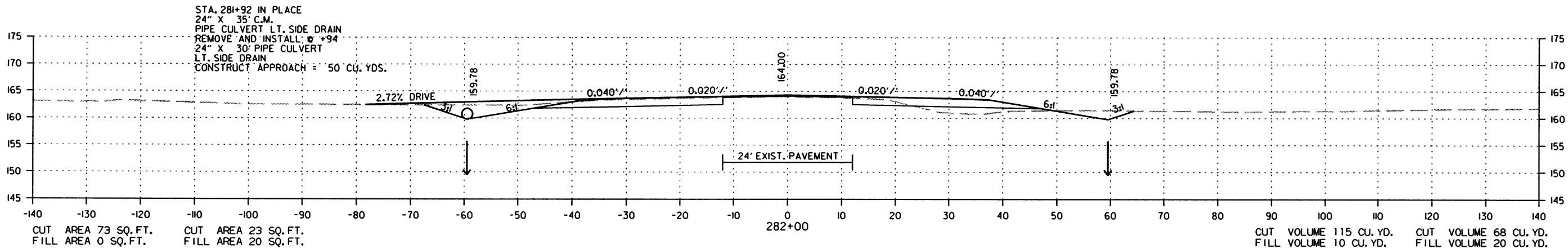


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 236          | 287             |

2 CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 281+00 TO STA. 282+00

7/18/2016

R020534.DGN

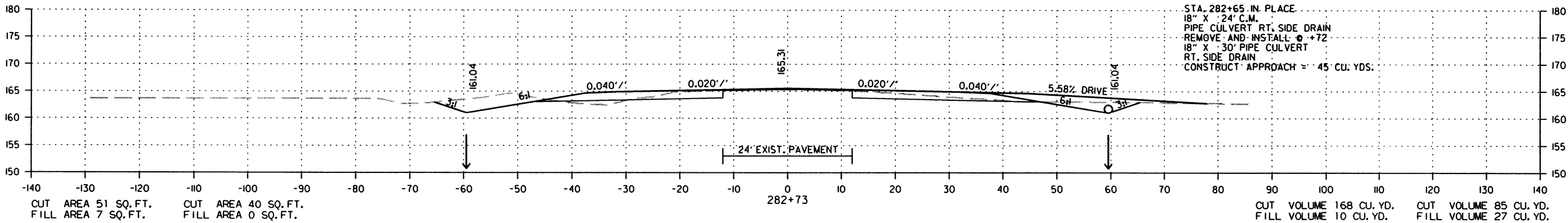
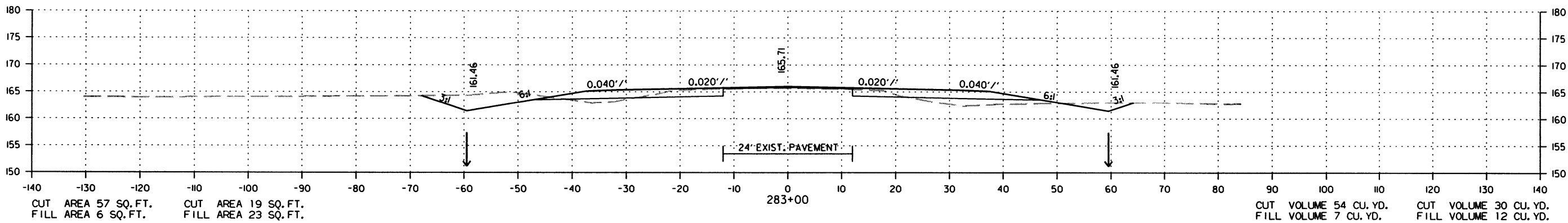
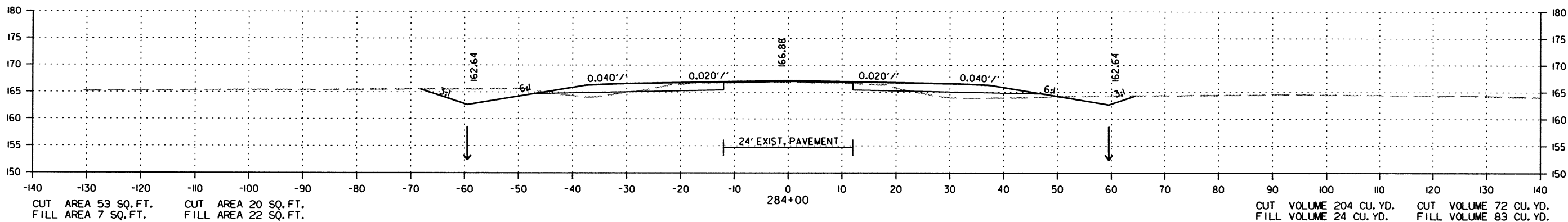


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 237          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



STA. 282+65 IN. PLACE  
18" X 24' C.M.  
PIPE CULVERT RT. SIDE DRAIN  
REMOVE AND INSTALL @ +72  
18" X 30' PIPE CULVERT  
RT. SIDE DRAIN  
CONSTRUCT APPROACH ≈ 45' CU. YDS.

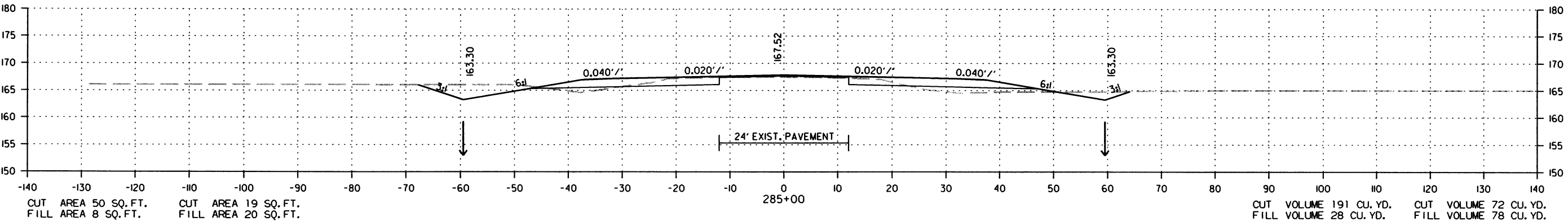
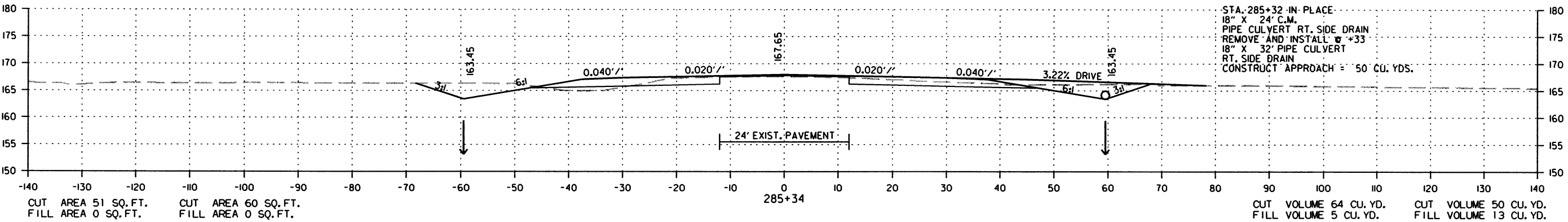
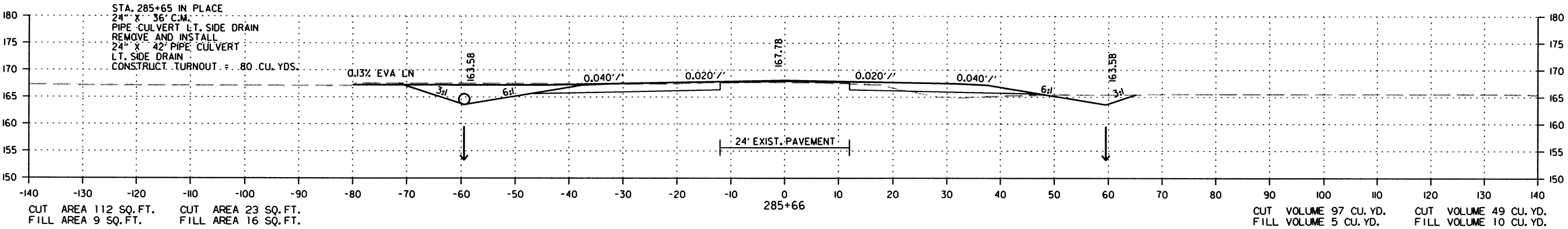
CROSS SECTION STA. 282+73 TO STA. 284+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 238          | 287             |

2 CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 285+00 TO STA. 285+66

7/18/2016

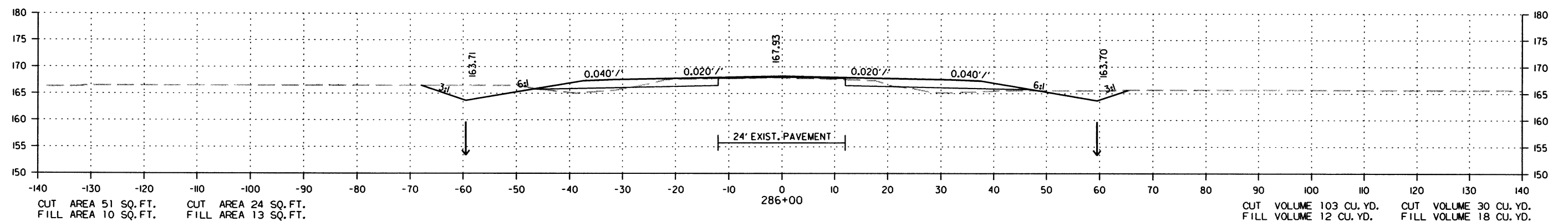
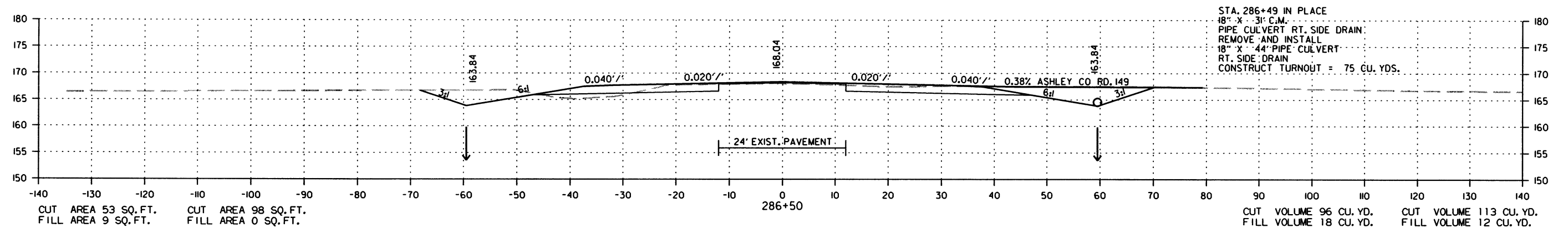
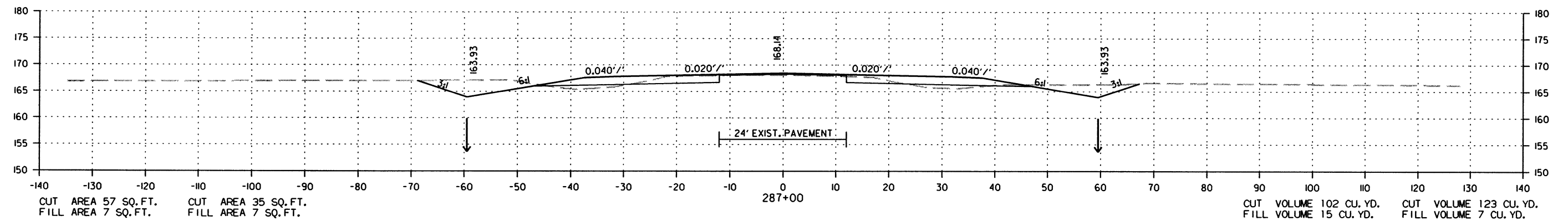
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 239          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 286+00 TO STA. 287+00

7/18/2016

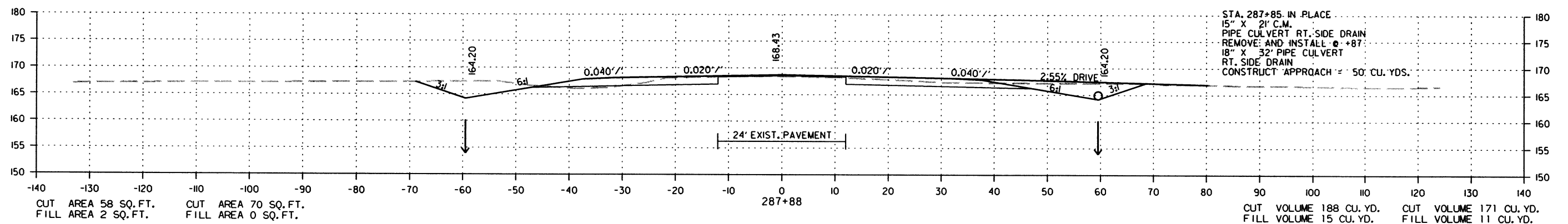
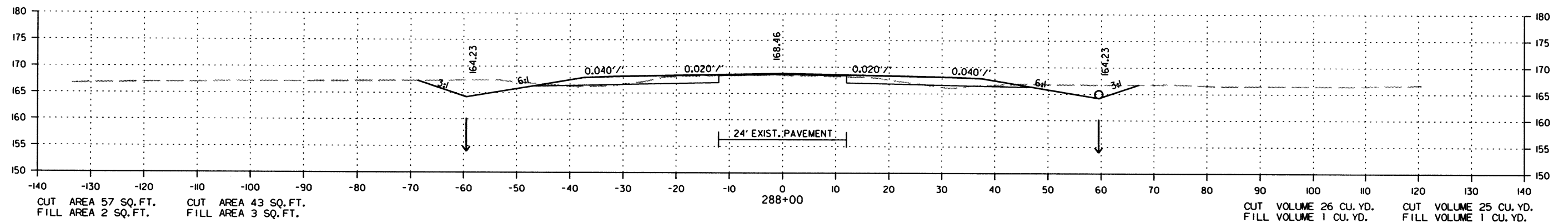
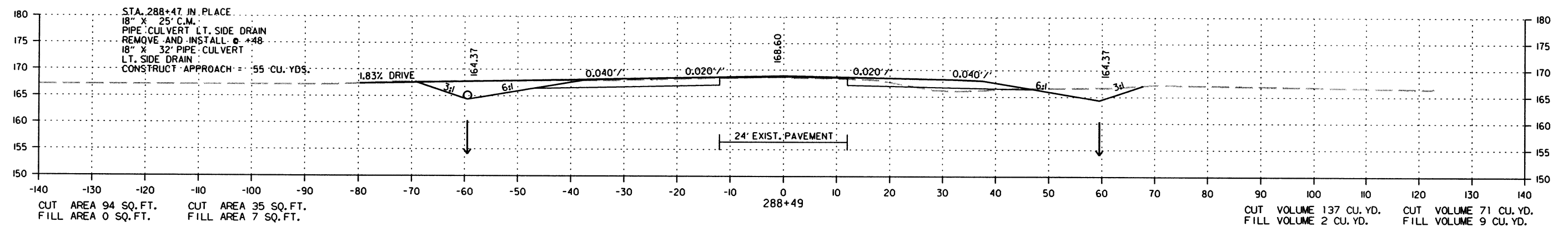
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO. 020534        |       |                    | 240          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 287+88 TO STA. 288+49

7/18/2016

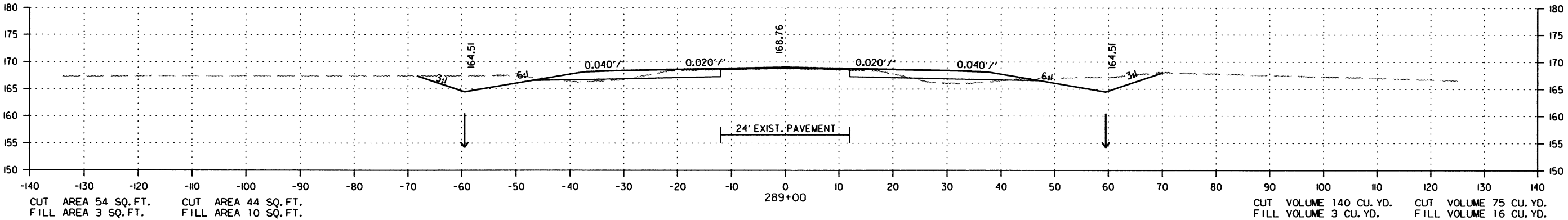
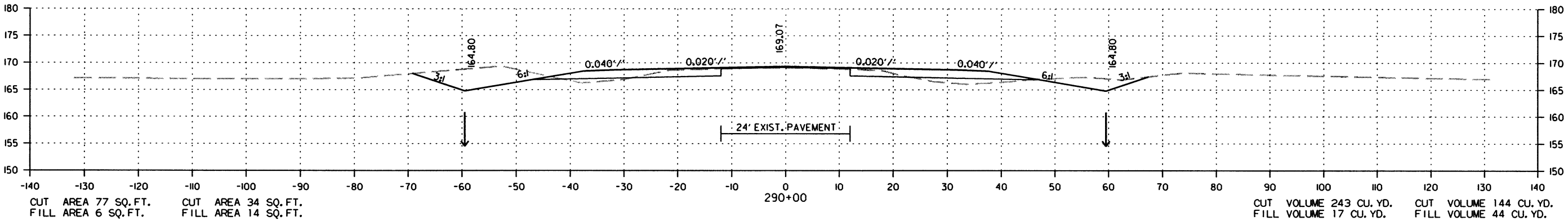
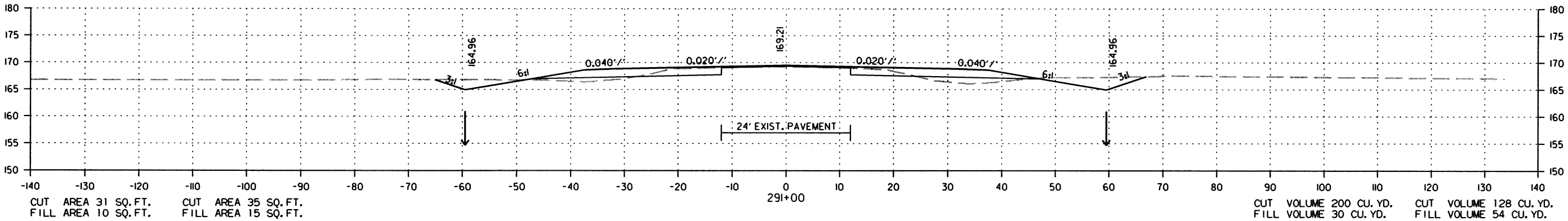
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 241          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



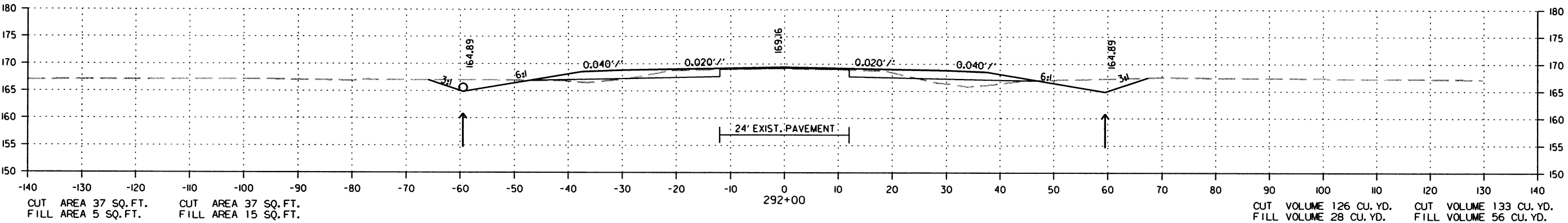
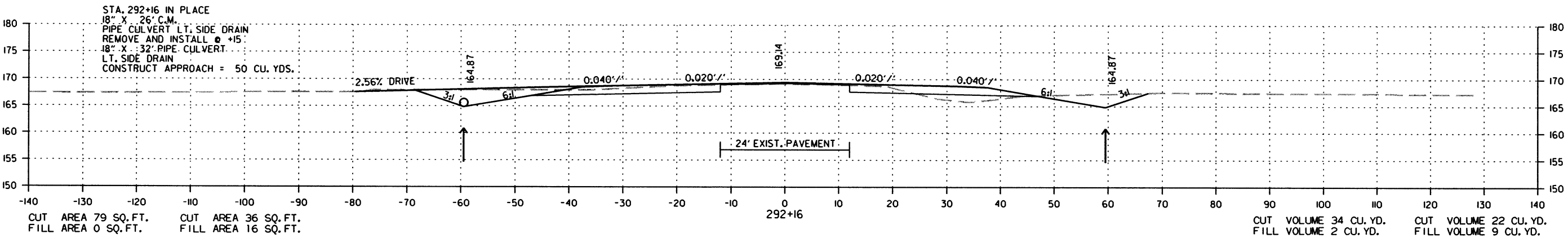
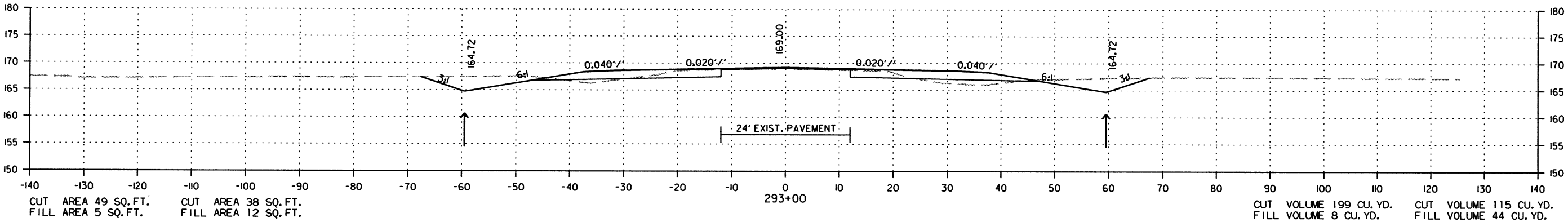
CROSS SECTION STA. 289+00 TO STA. 291+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 242          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 292+00 TO STA. 293+00

7/18/2016

R020534.DGN

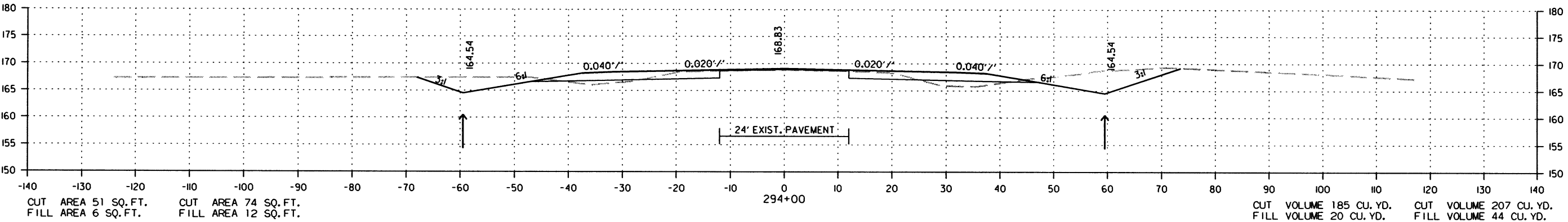
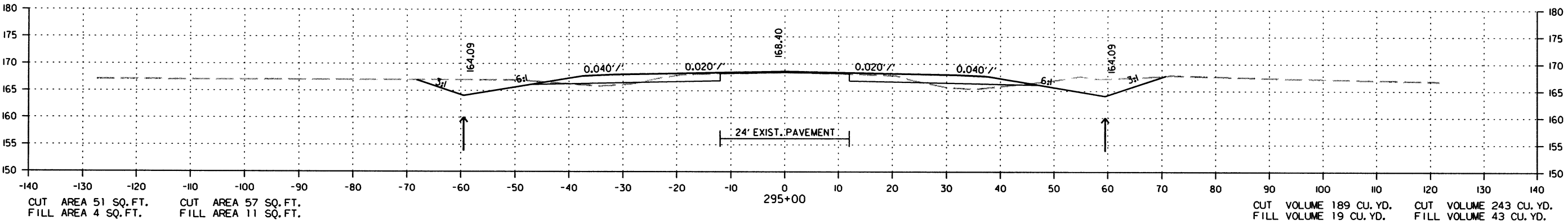
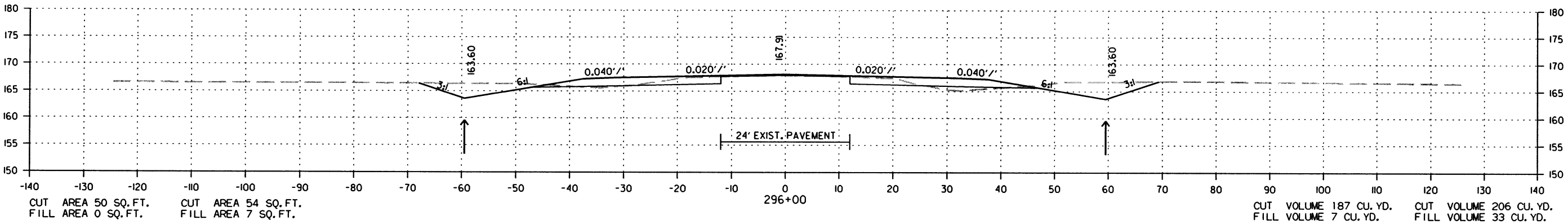


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 243          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



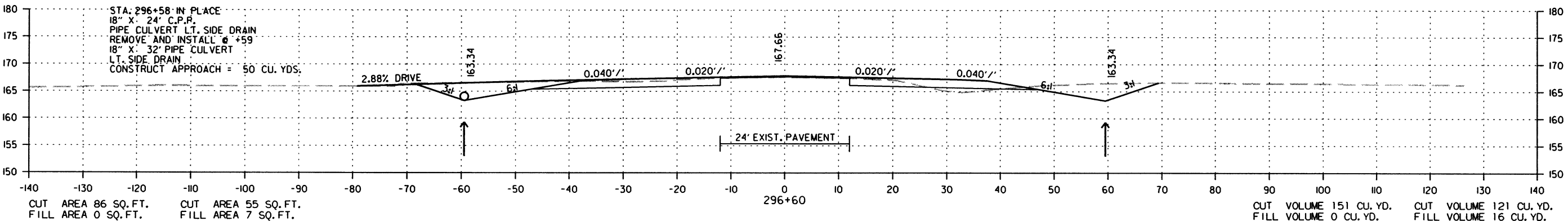
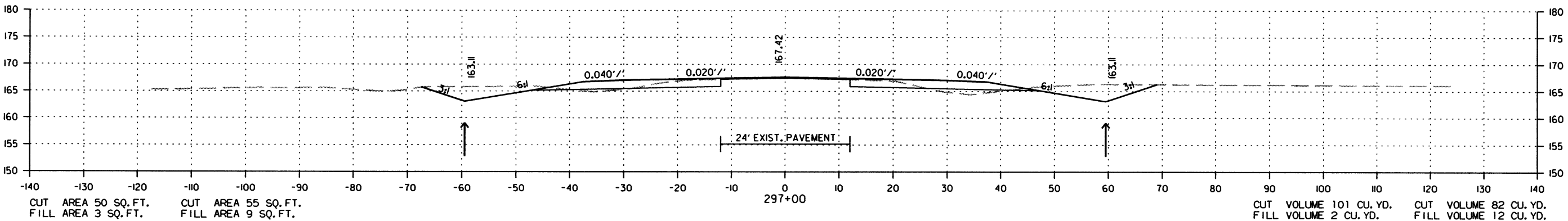
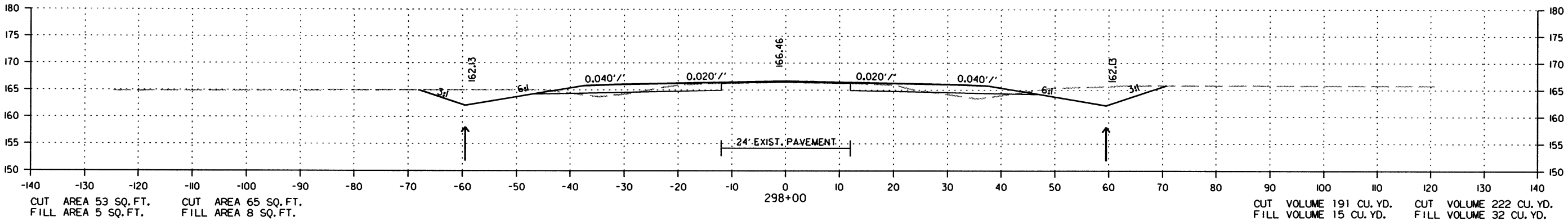
CROSS SECTION STA. 294+00 TO STA. 296+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 244          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



CROSS SECTION STA. 296+60 TO STA. 298+00

7/18/2016

R020534.DGN

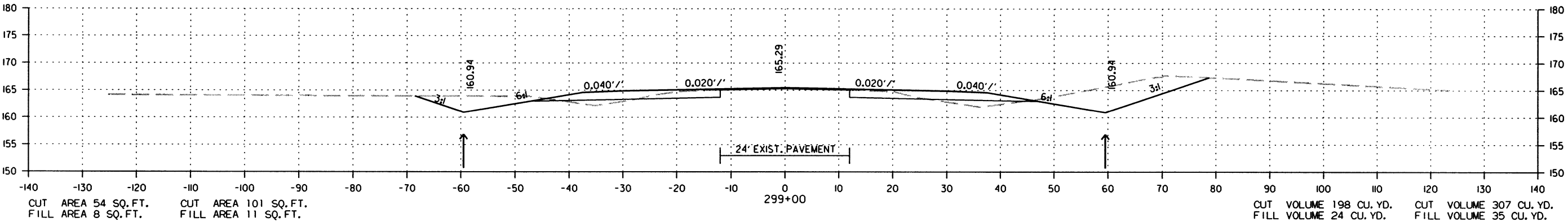
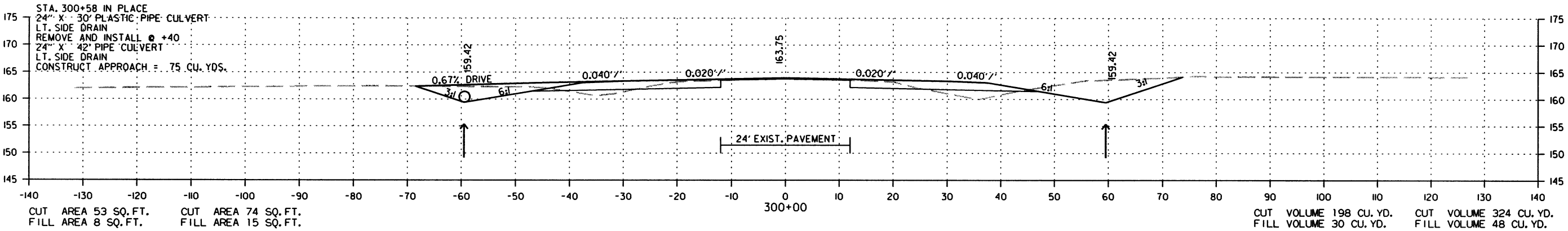
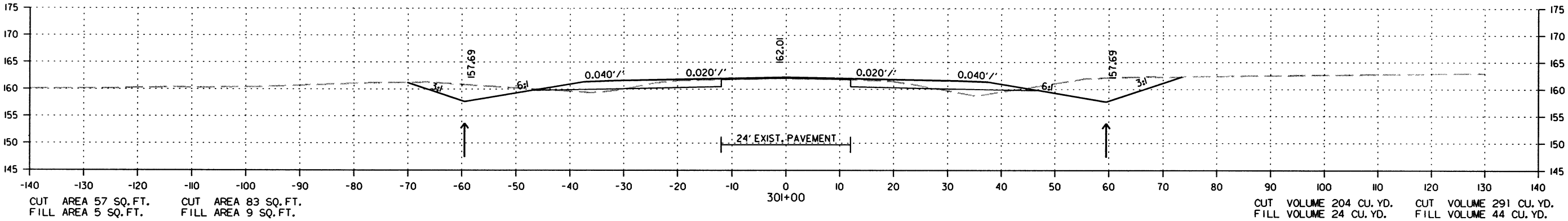


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 245          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 299+00 TO STA. 301+00

7/18/2016

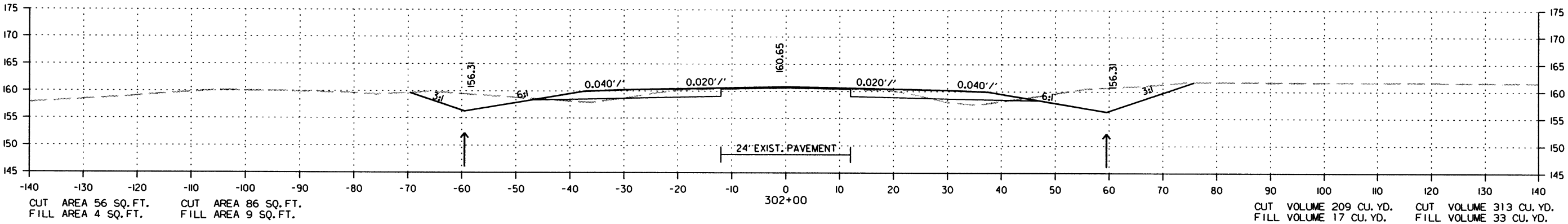
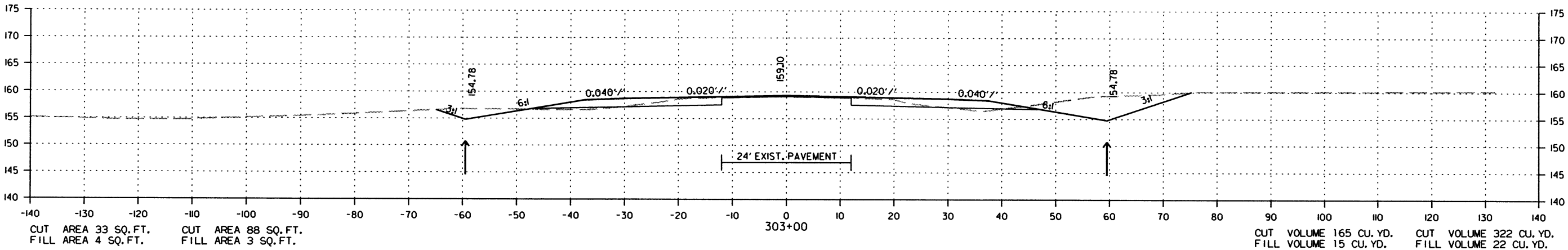
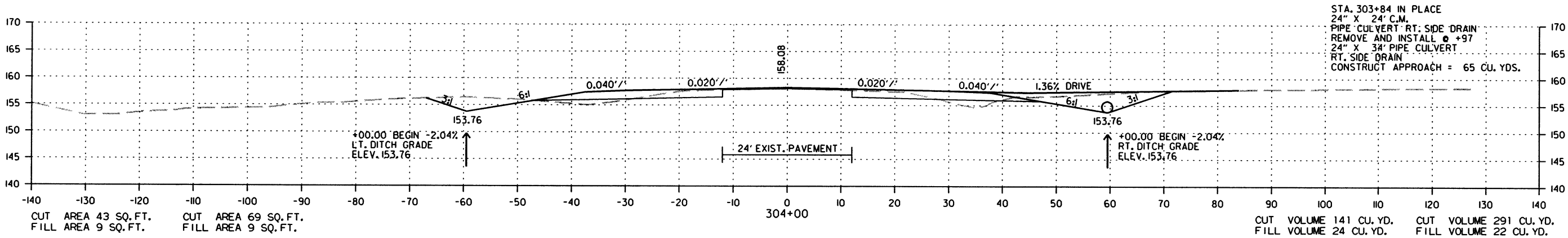
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 246          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



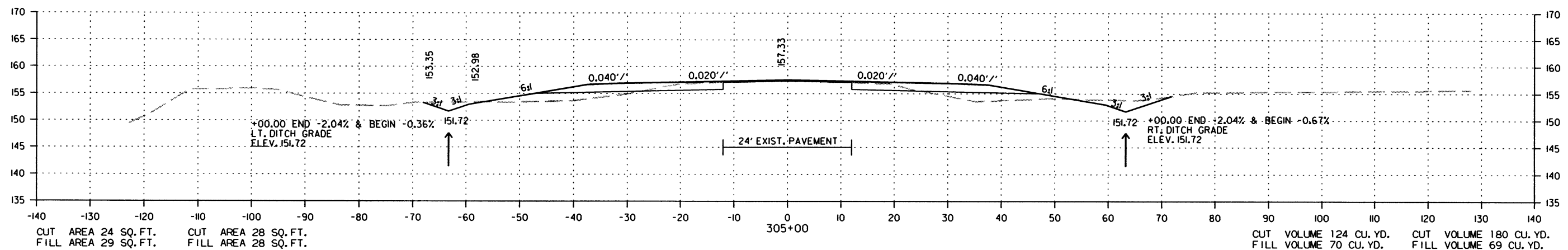
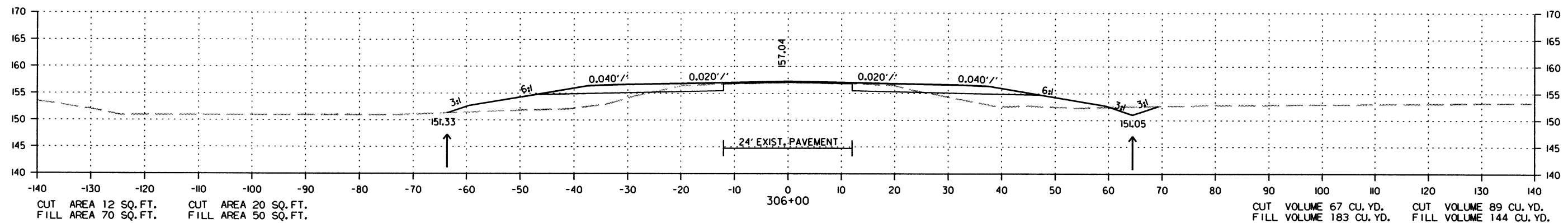
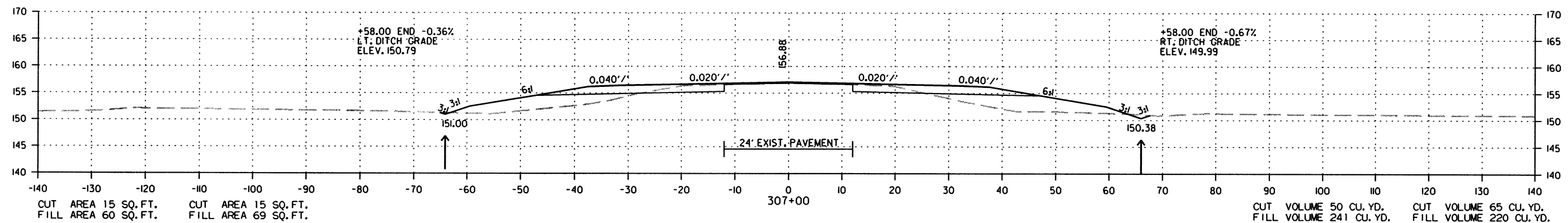
CROSS SECTION STA. 302+00 TO STA. 304+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 247          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 305+00 TO STA. 307+00

7/18/2016

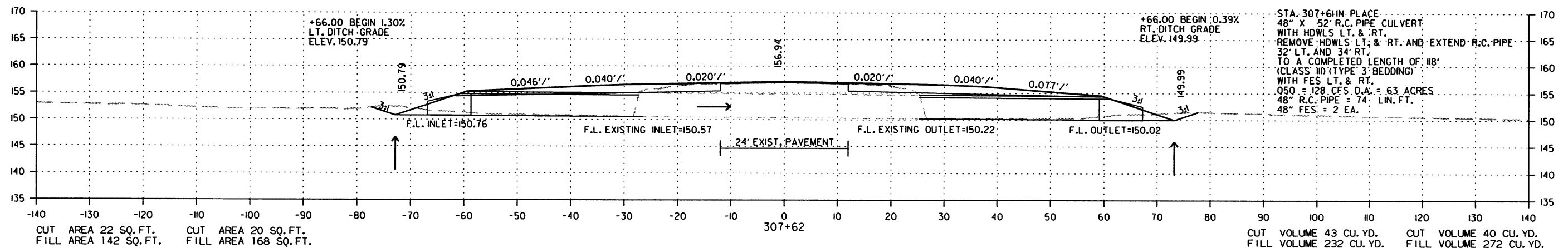
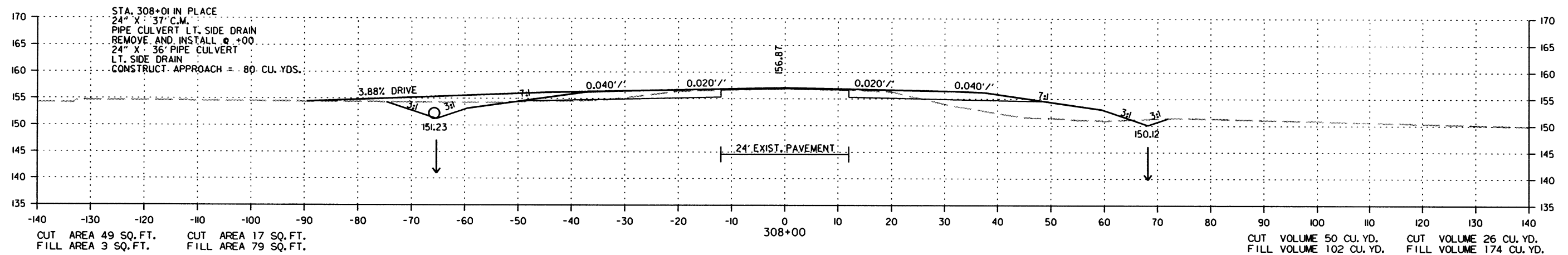
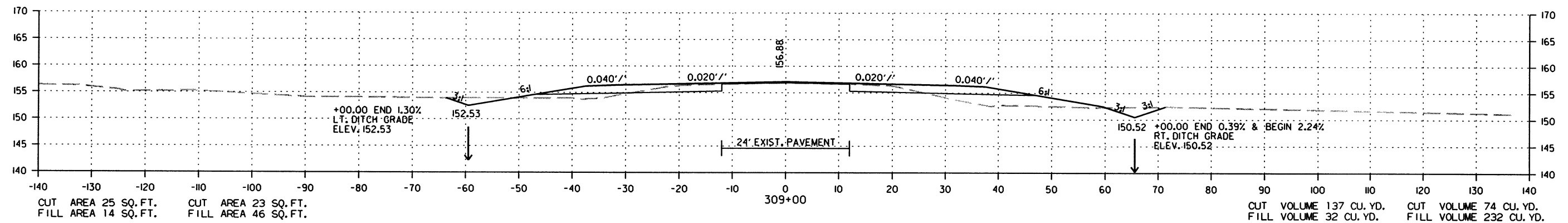
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 248          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 307+62 TO STA. 309+00

7/18/2016

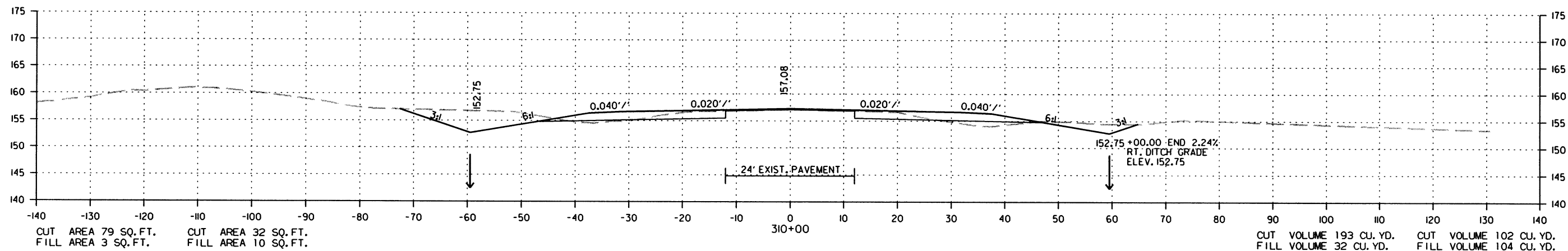
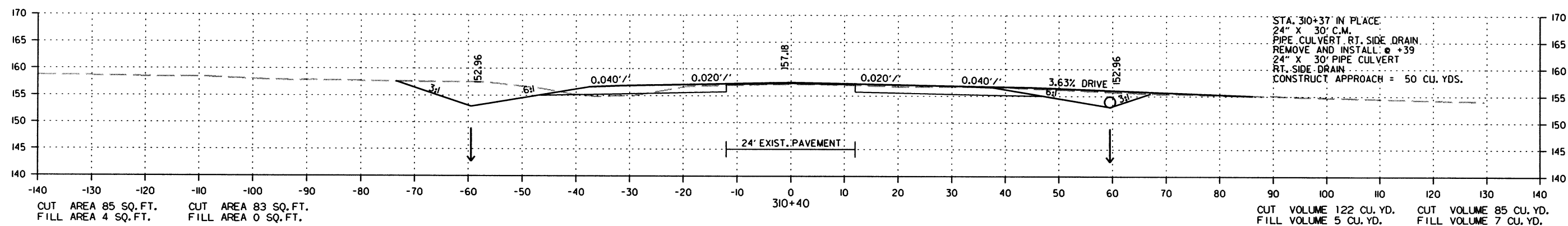
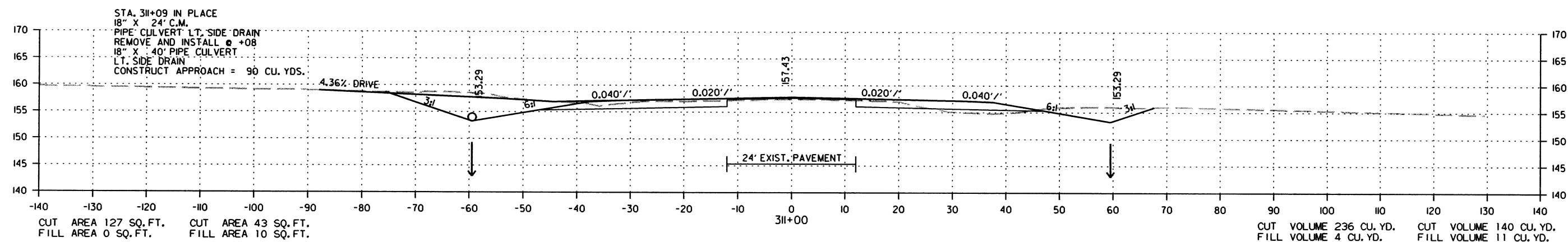
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 249          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



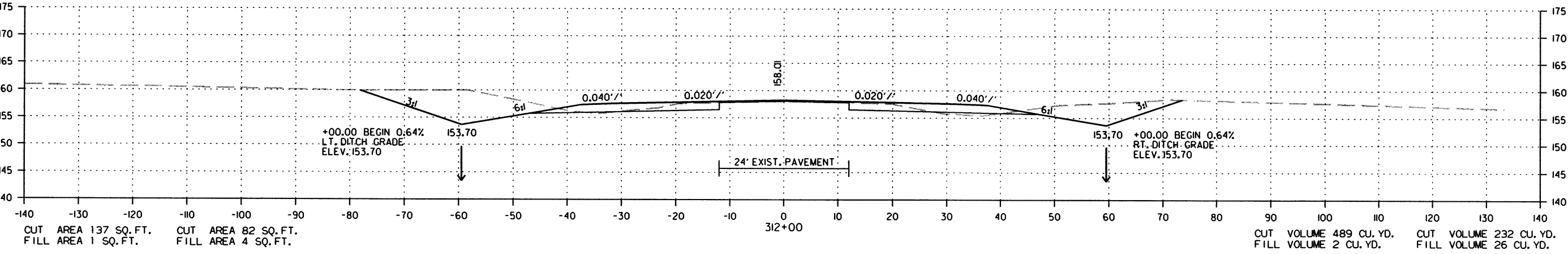
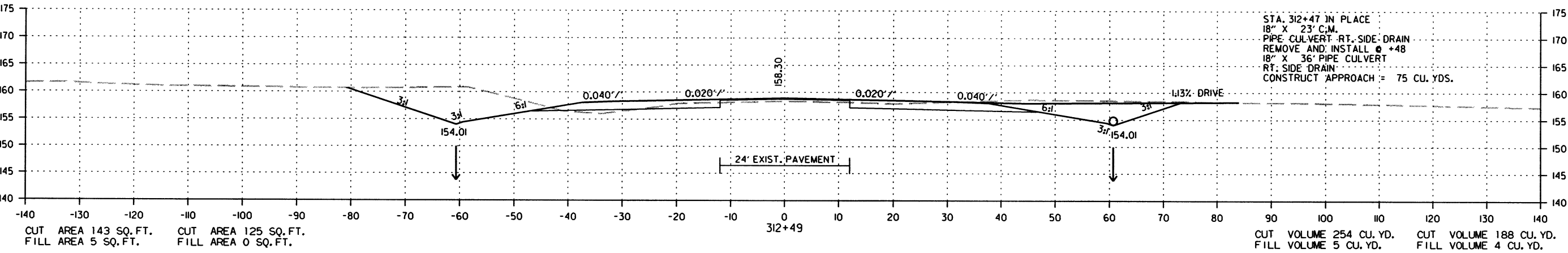
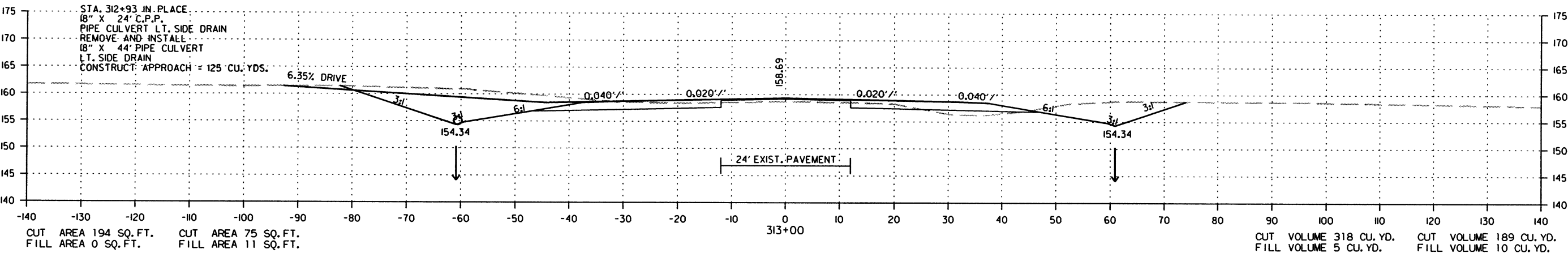
CROSS SECTION STA. 310+00 TO STA. 311+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 250          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 312+00 TO STA. 313+00

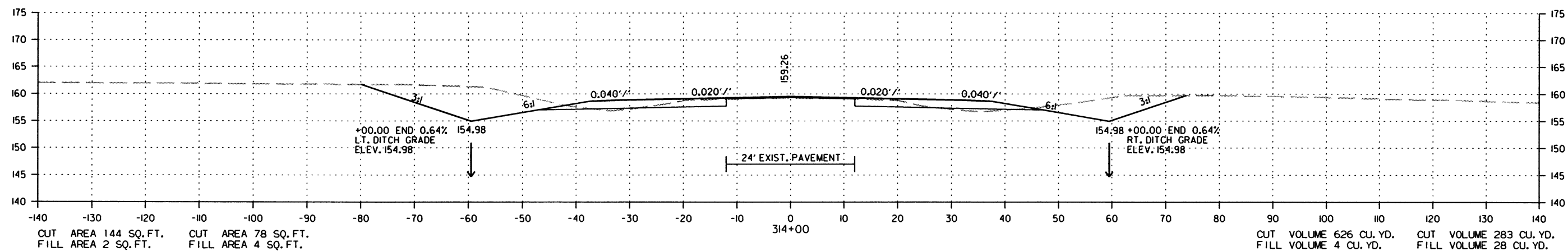
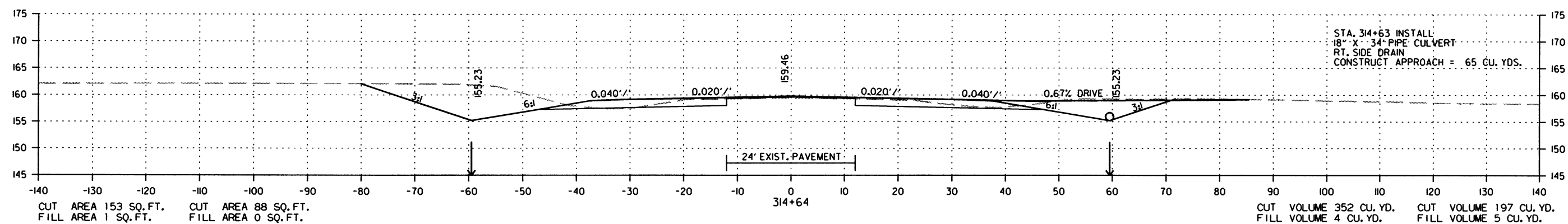
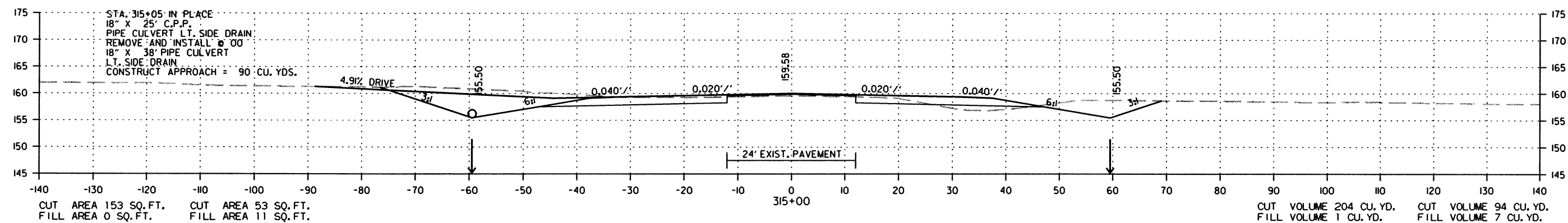


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO.               |       | 020534             | 251          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 314+00 TO STA. 315+00

7/18/2016

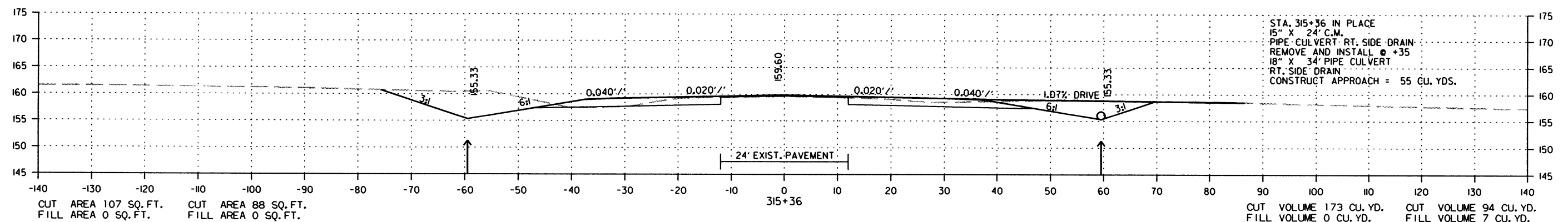
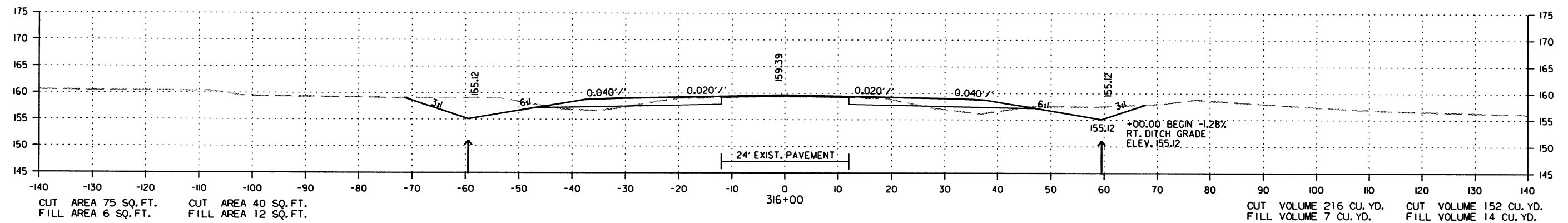
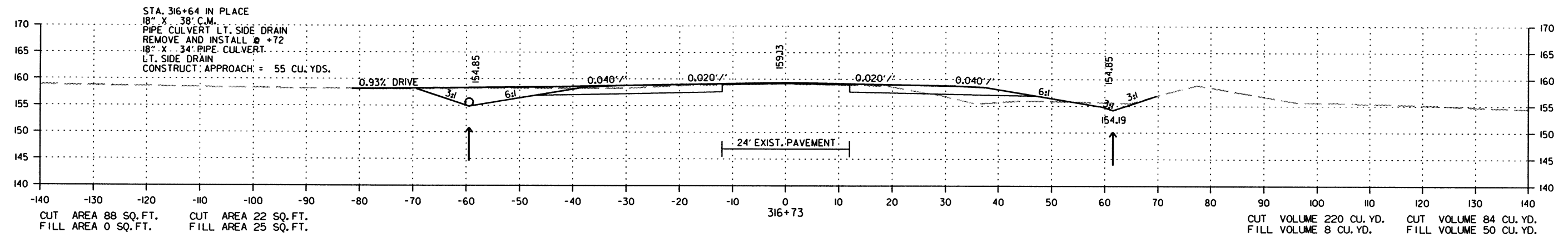
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 252          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 315+36 TO STA. 316+73

7/18/2016

R020534.DGN

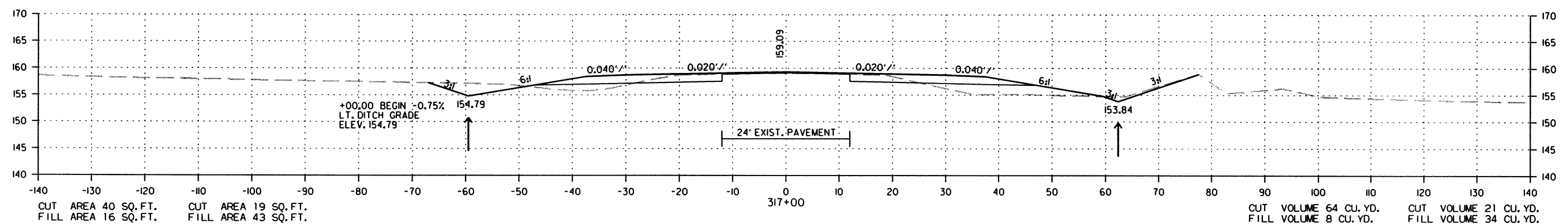
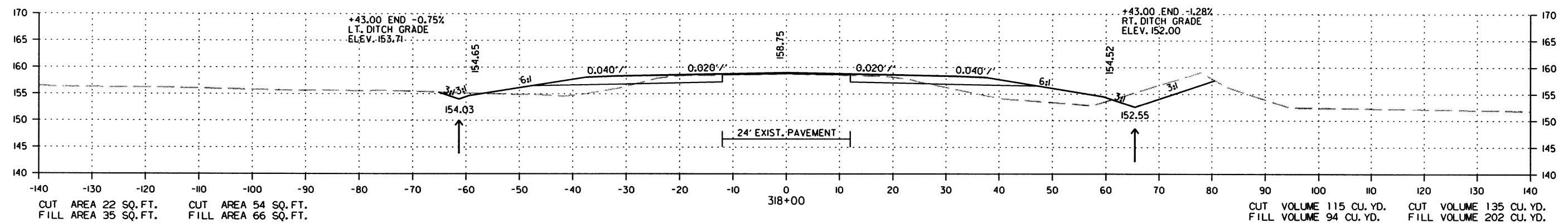
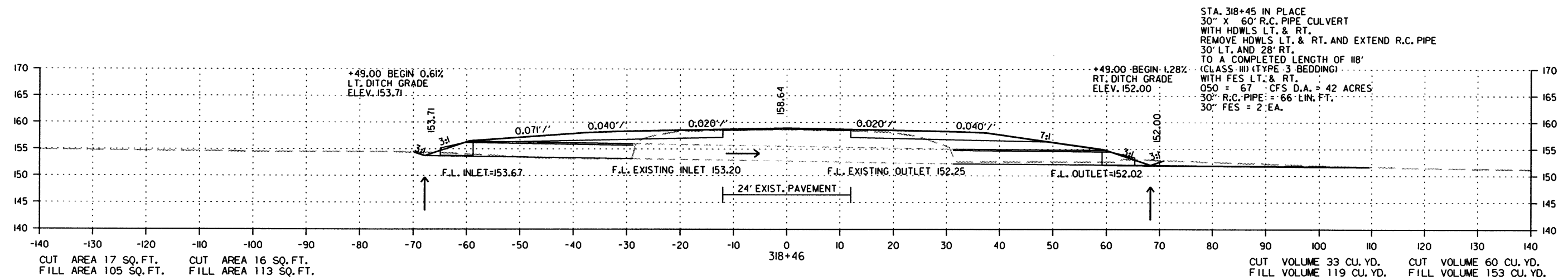


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 253          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 317+00 TO STA. 318+46

7/18/2016

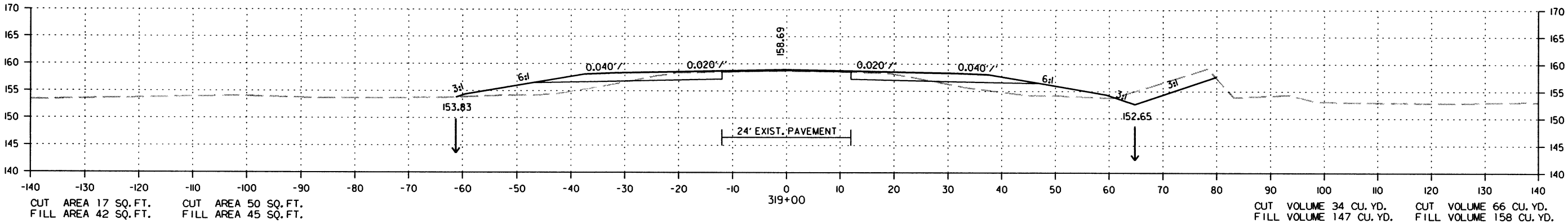
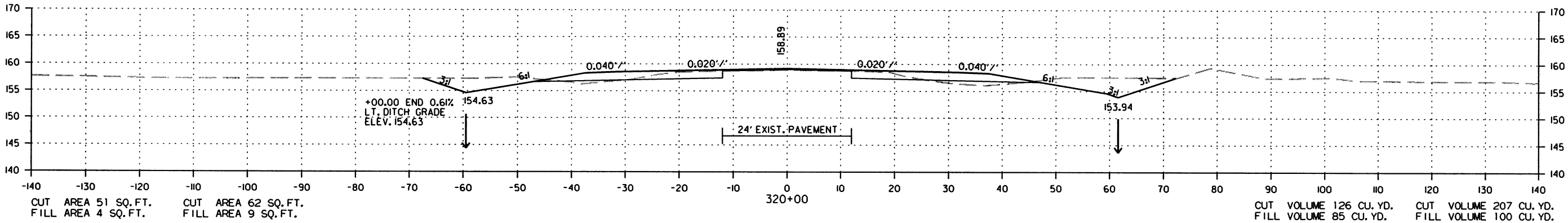
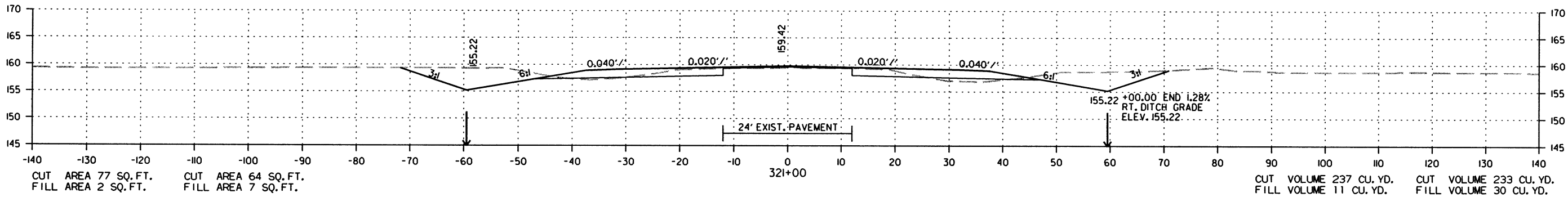
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 254          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



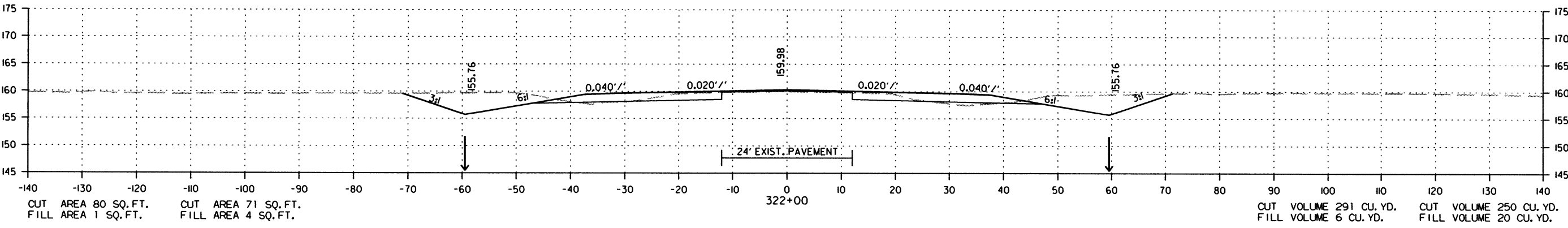
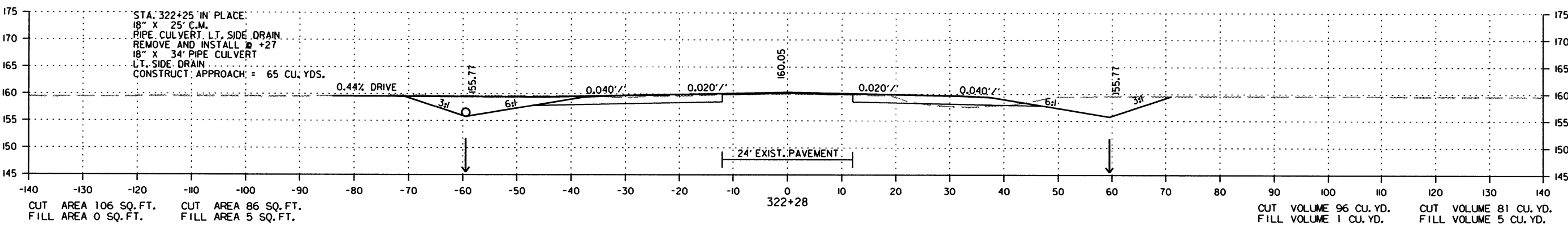
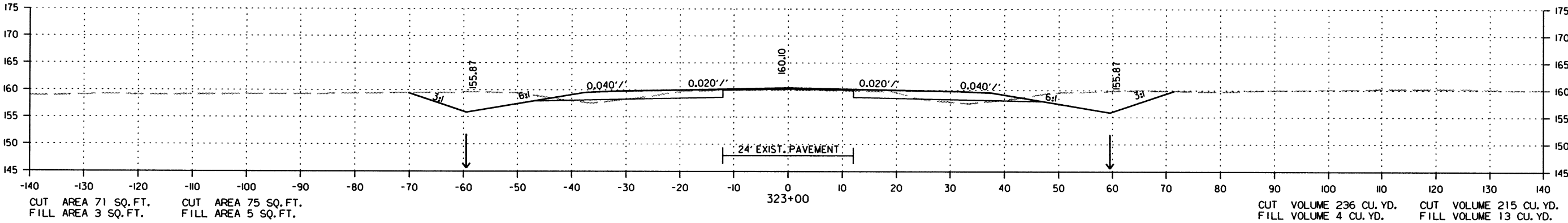
CROSS SECTION STA. 319+00 TO STA. 321+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 255          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



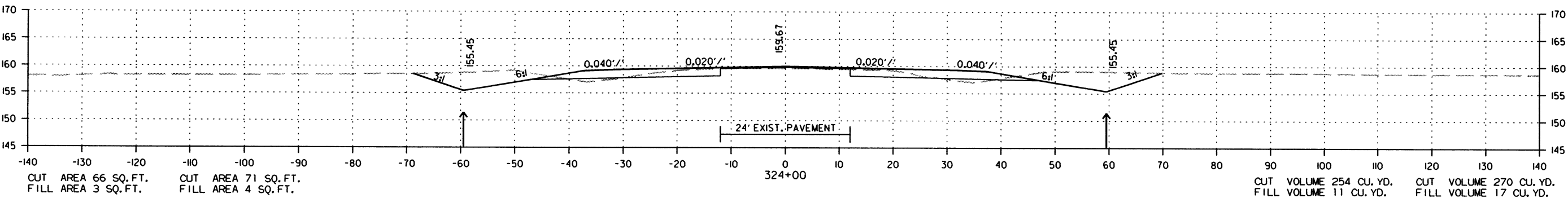
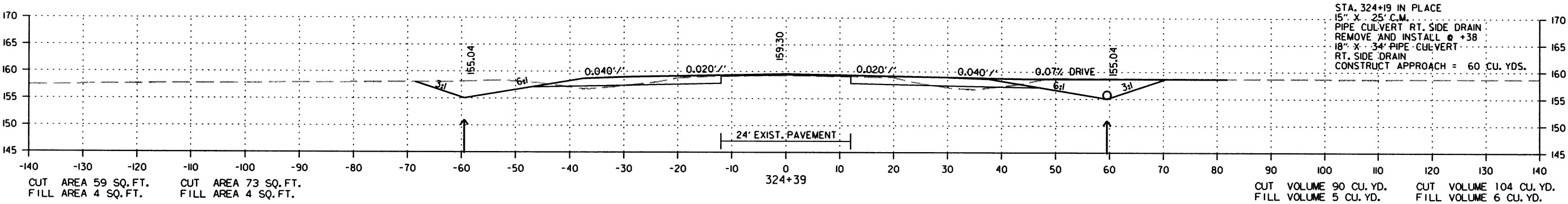
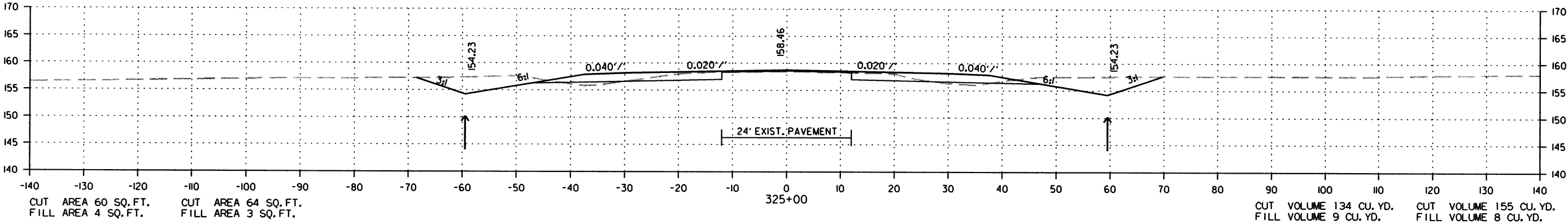
CROSS SECTION STA. 322+00 TO STA. 323+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 256          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



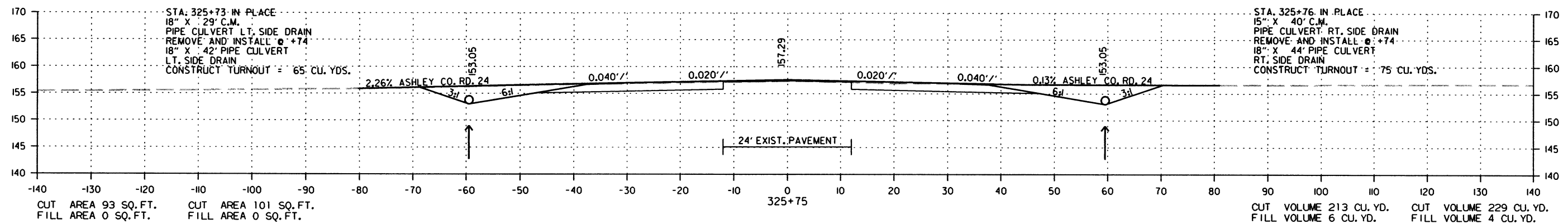
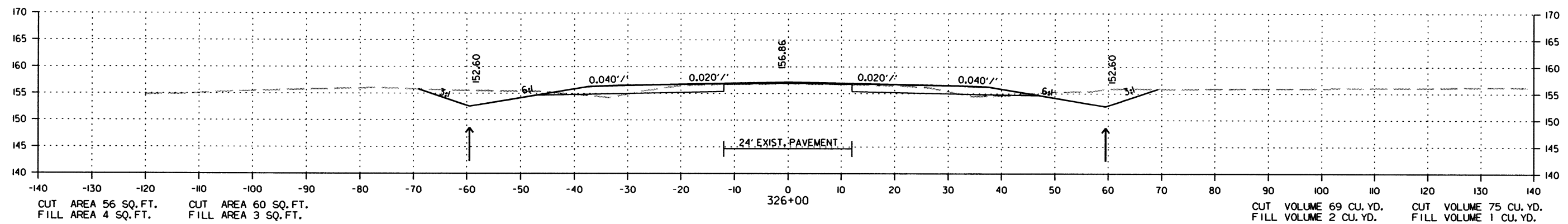
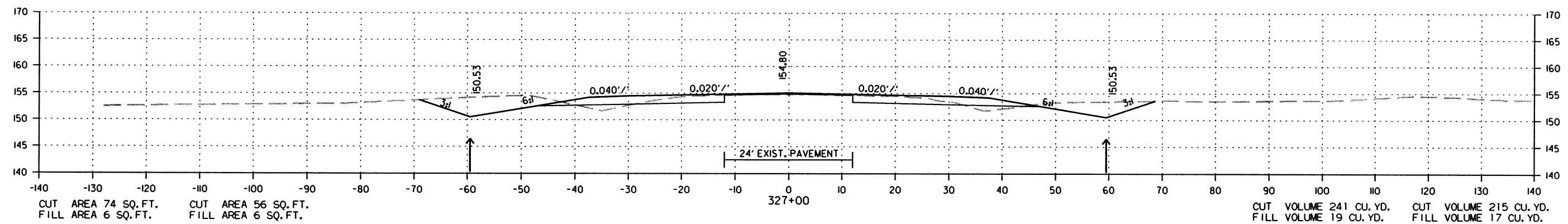
CROSS SECTION STA. 324+00 TO STA. 325+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 257          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 325+75 TO STA. 327+00

7/18/2016

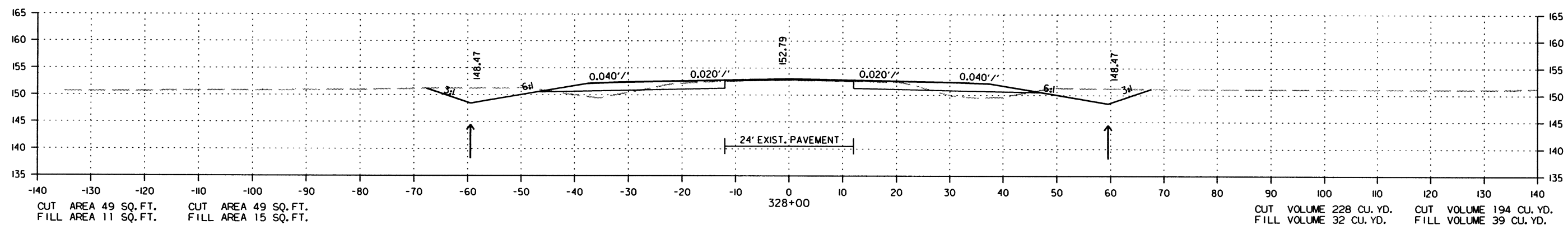
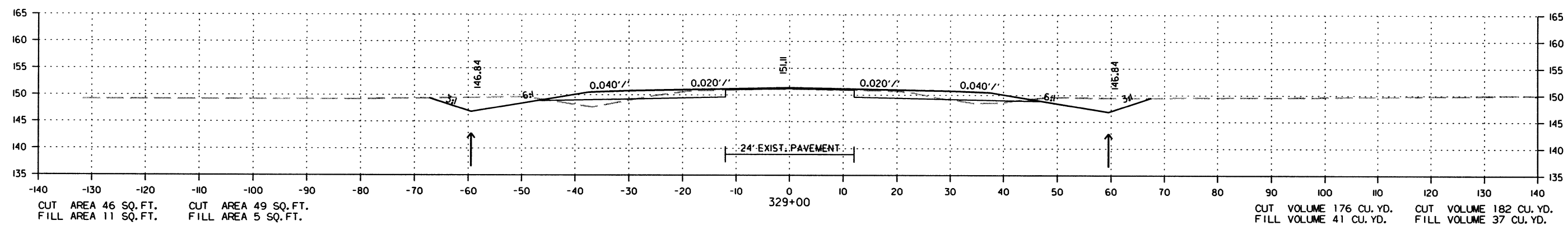
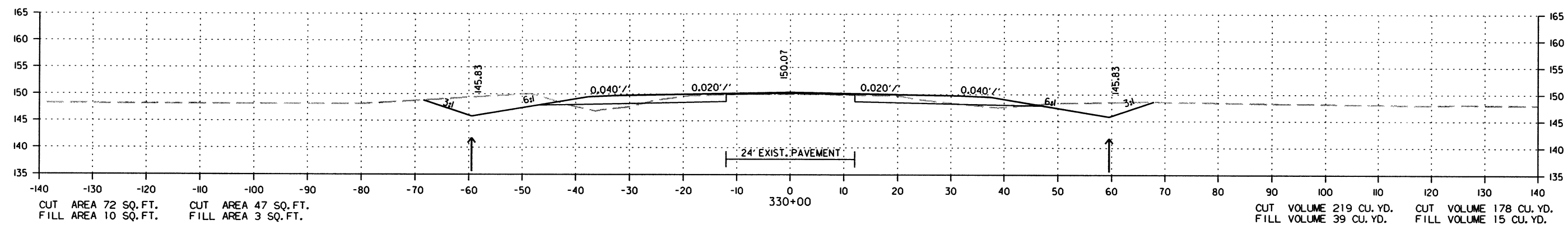
R020534.DGN

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             |                    |       | JOB NO. 020534     | 258       | 287          |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



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

7/18/2016

R020534.DGN

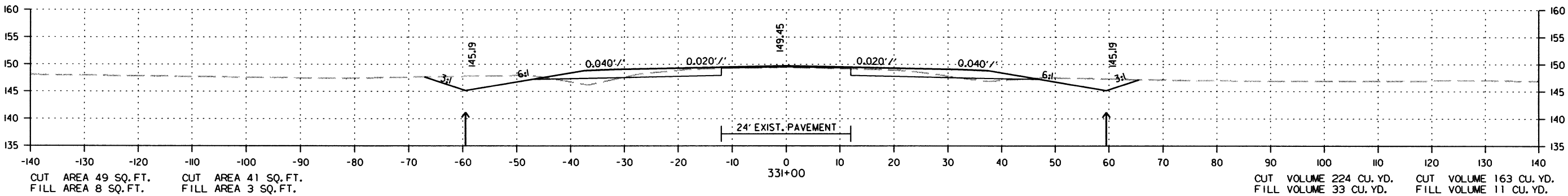
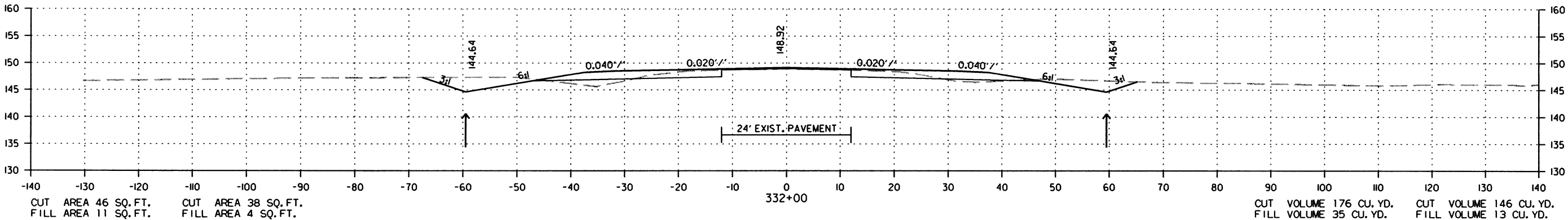
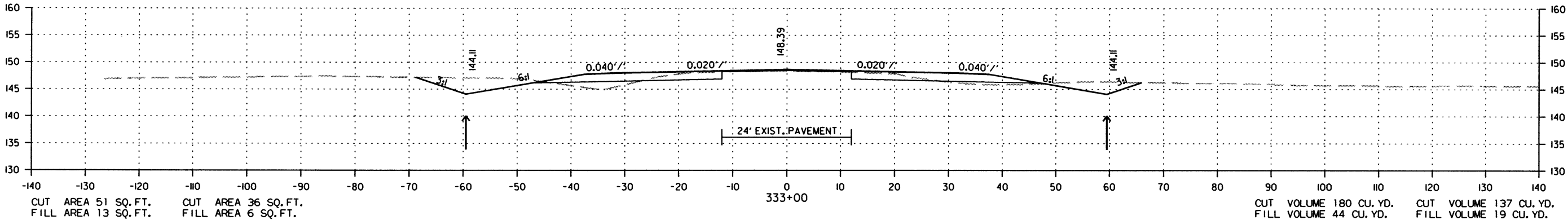


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 259          | 287             |

2 CROSS SECTIONS

STAGE I   STAGE 2

STAGE I   STAGE 2



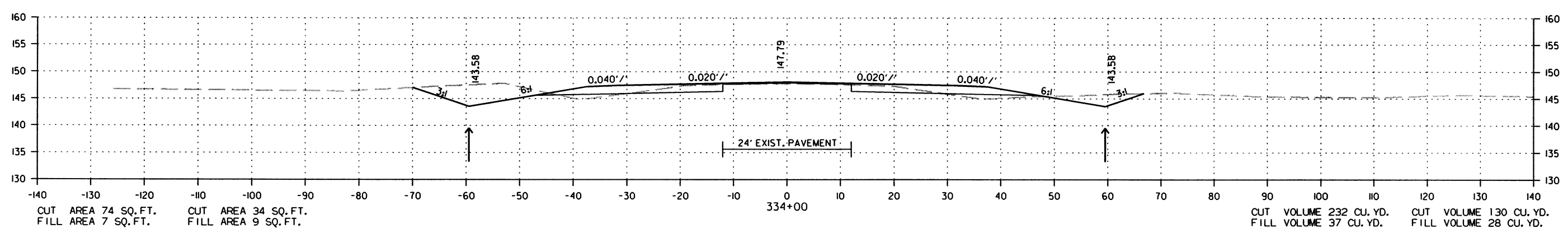
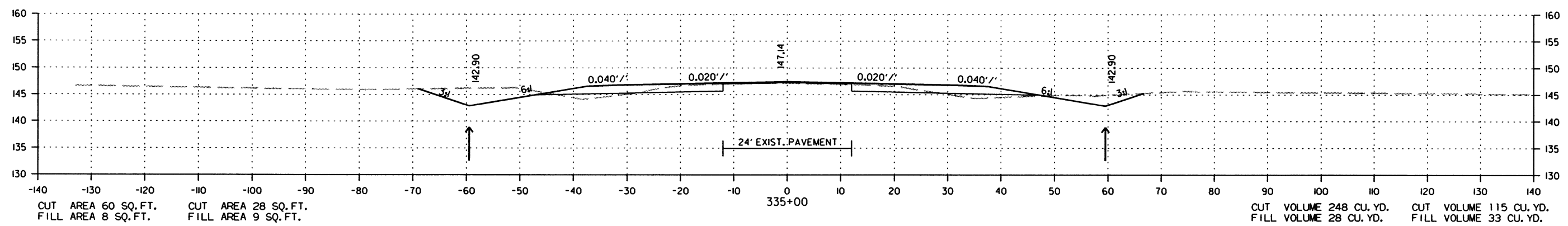
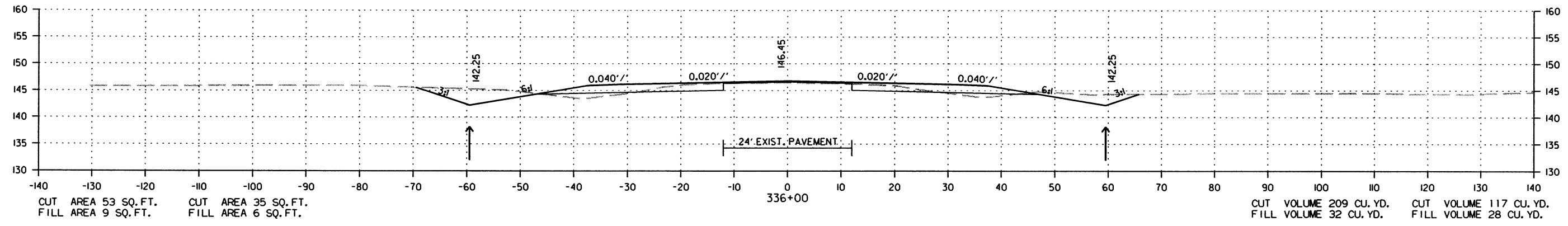
CROSS SECTION STA. 331+00 TO STA. 333+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 260          | 287             |

2 CROSS SECTIONS

STAGE 1   STAGE 2

STAGE 1   STAGE 2



CROSS SECTION STA. 334+00 TO STA. 336+00

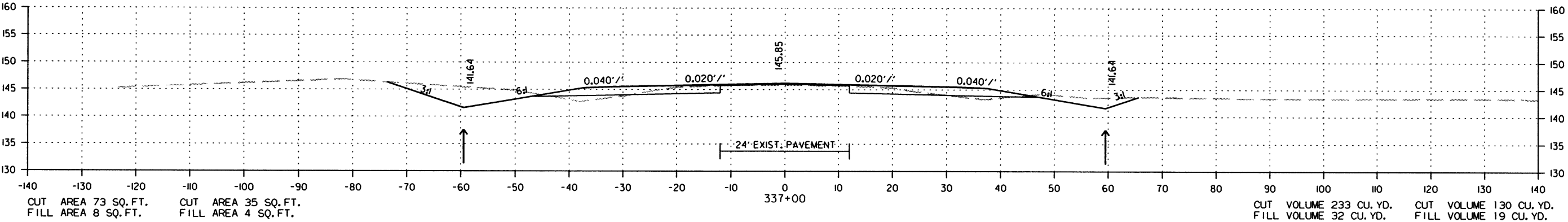
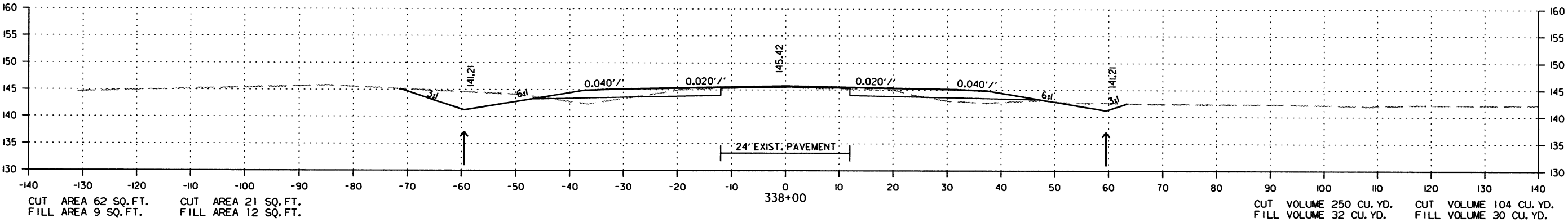
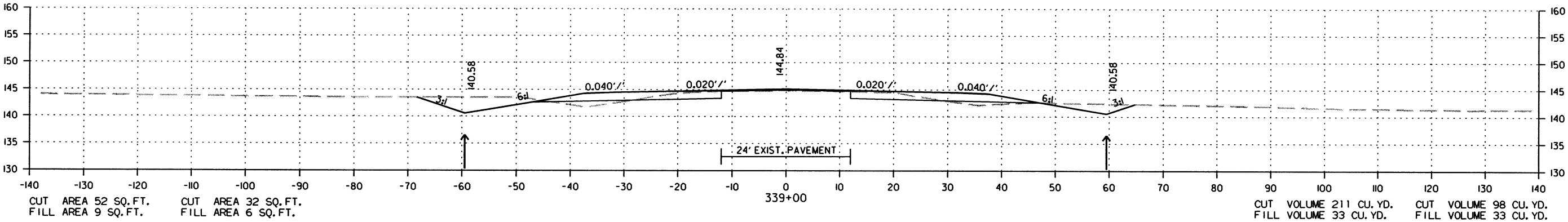


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 261          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



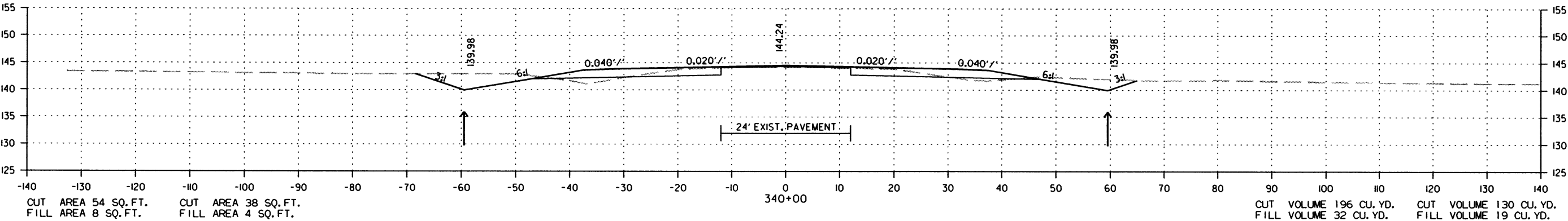
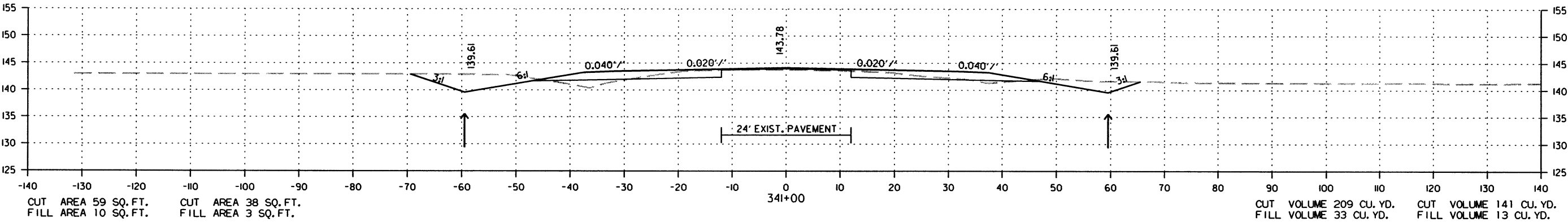
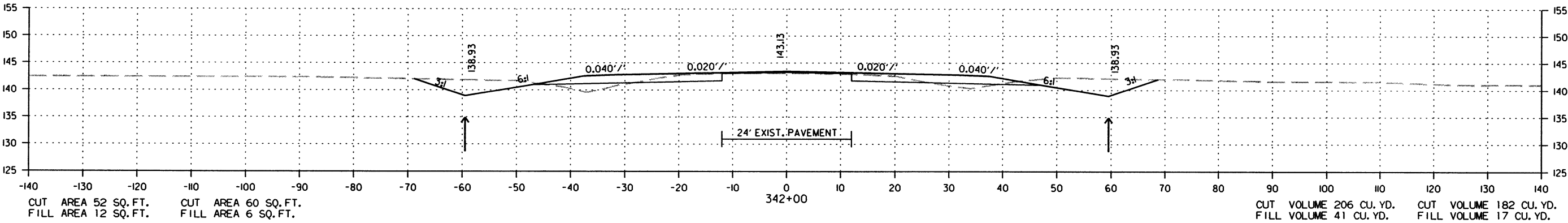
CROSS SECTION STA. 337+00 TO STA. 339+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 262          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



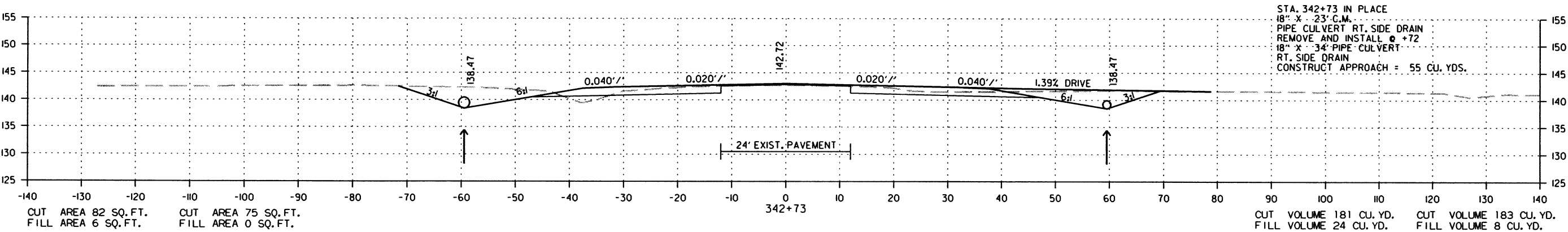
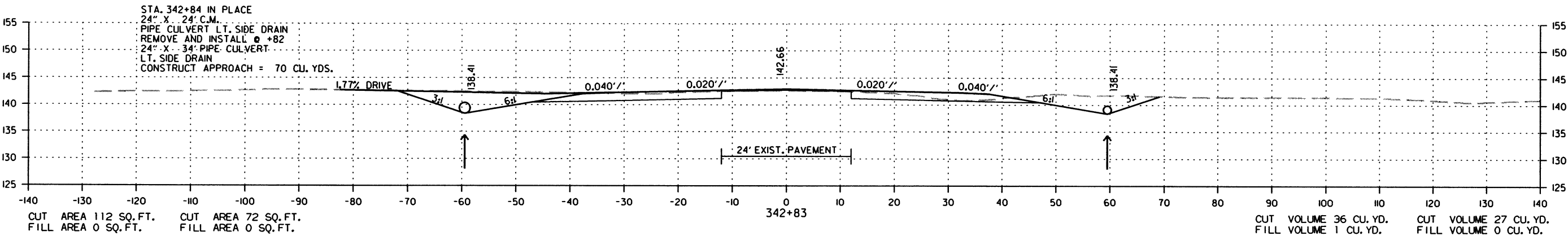
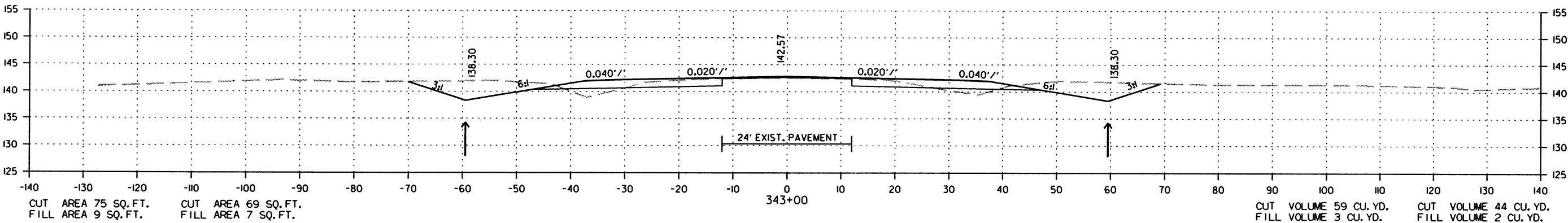
CROSS SECTION STA. 340+00 TO STA. 342+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 263          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



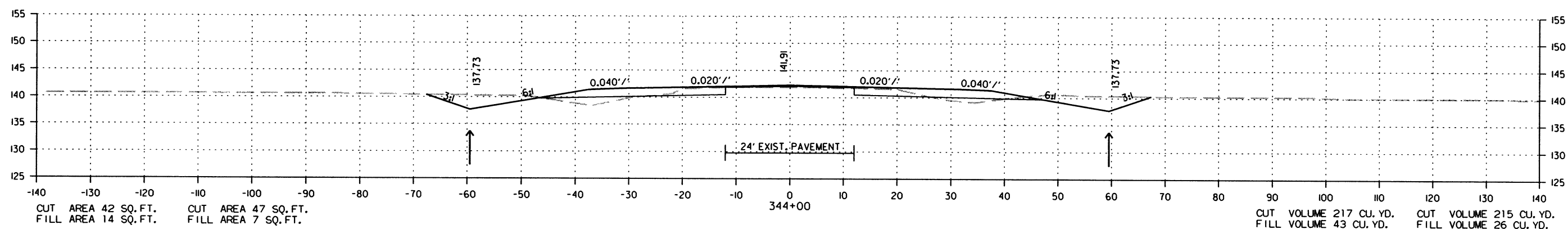
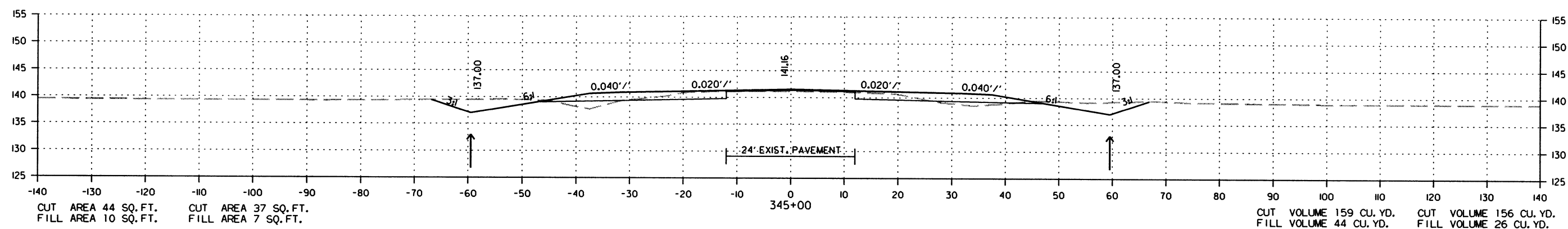
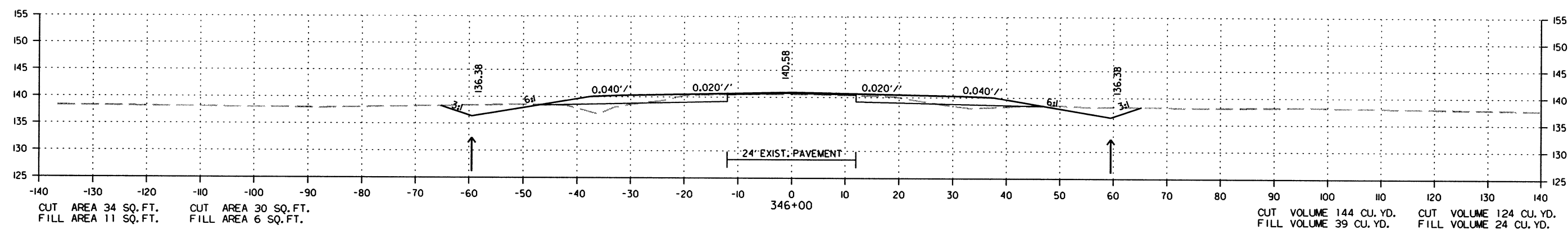
CROSS SECTION STA. 342+73 TO STA. 343+00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             | JOB NO. 020534     |       |                    | 264       | 287          |

2 CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 344+00 TO STA. 346+00

7/18/2016

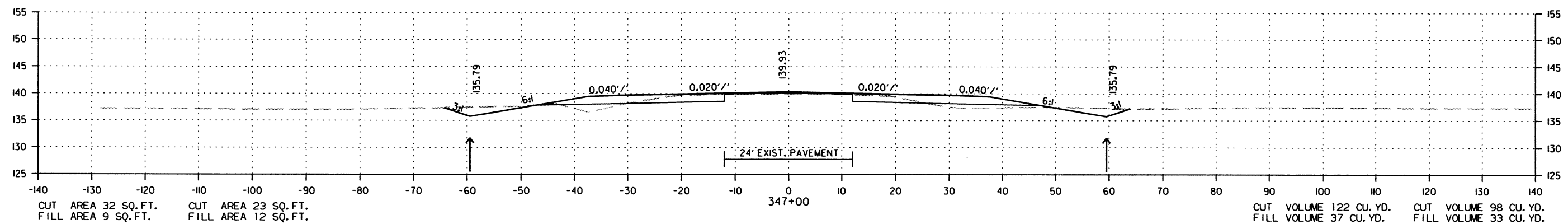
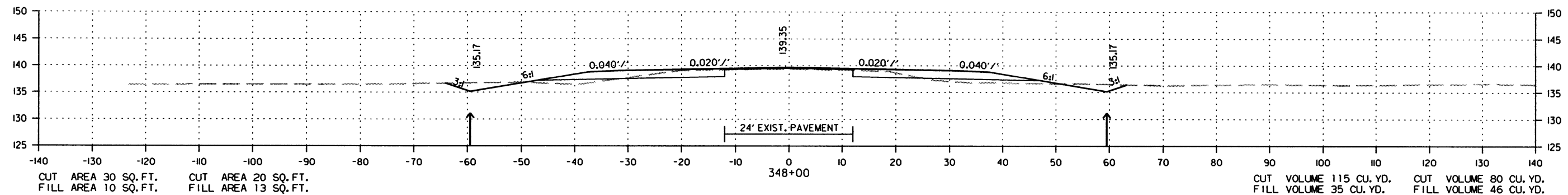
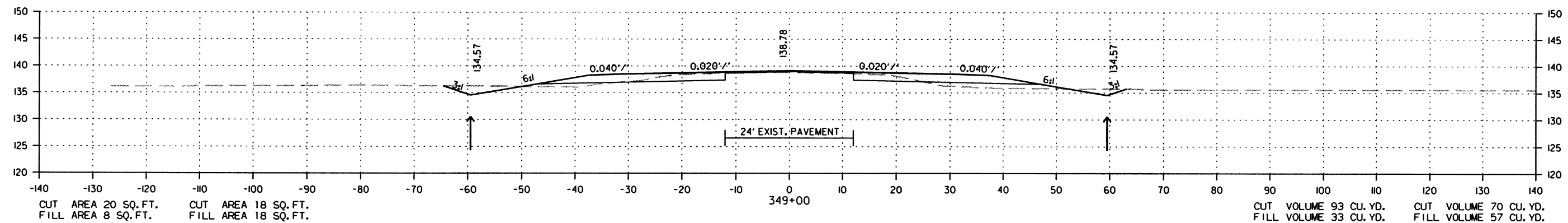
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 265          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



CROSS SECTION STA. 347+00 TO STA. 349+00

7/18/2016

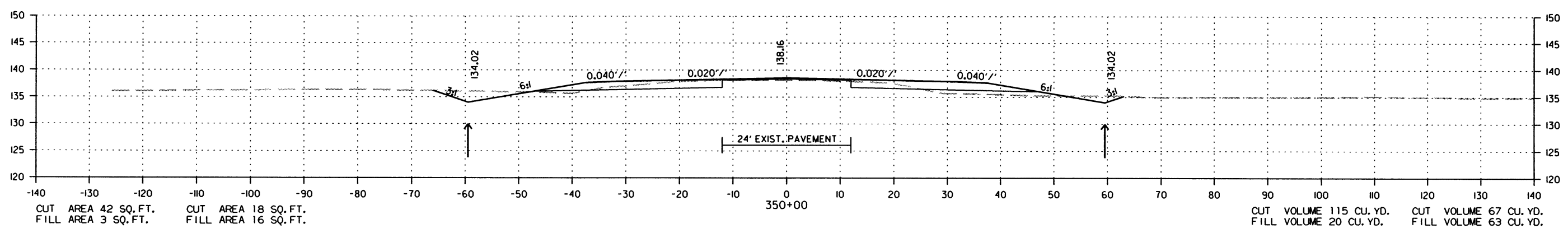
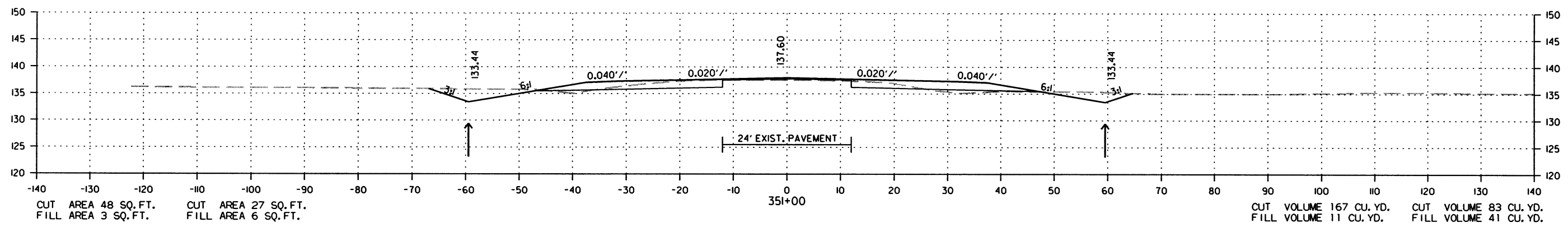
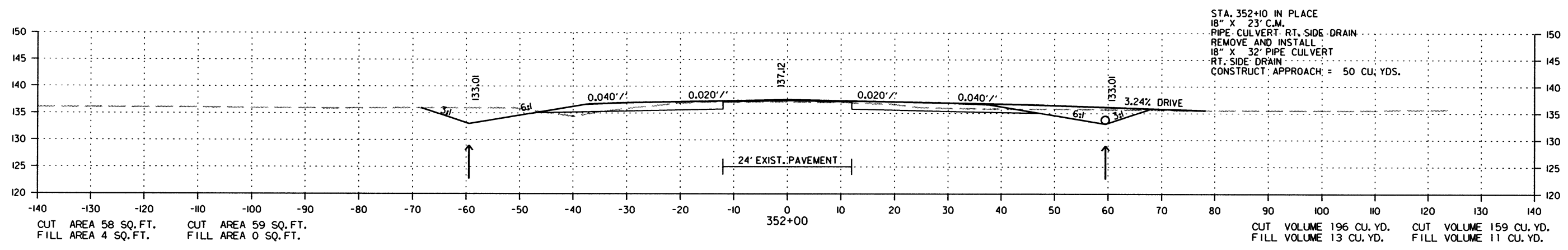
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 266          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



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

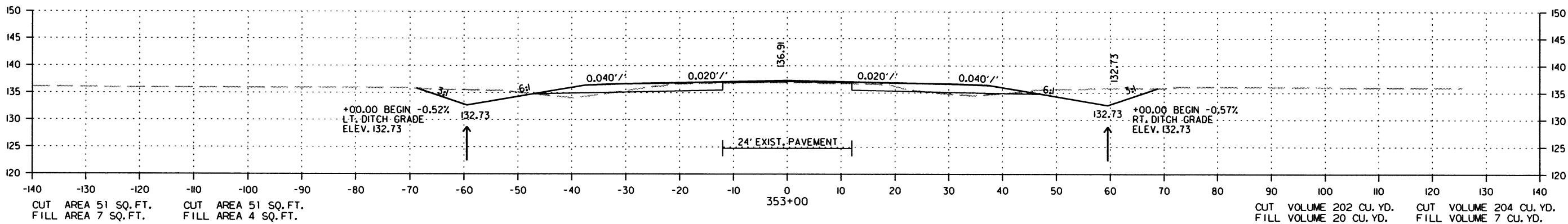
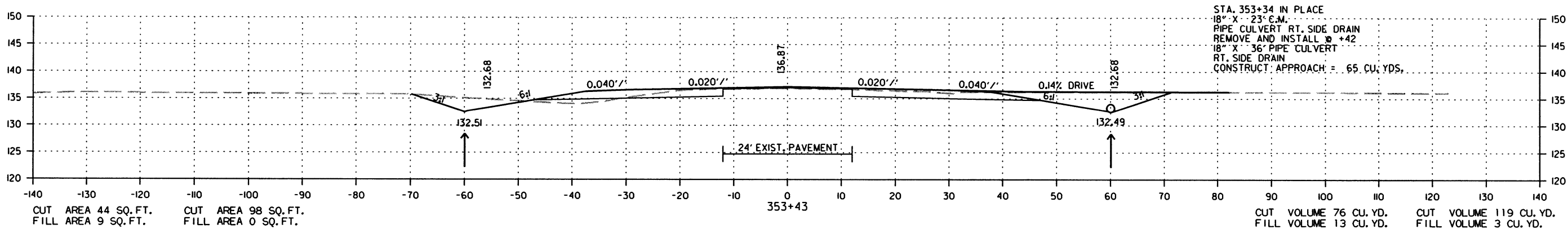
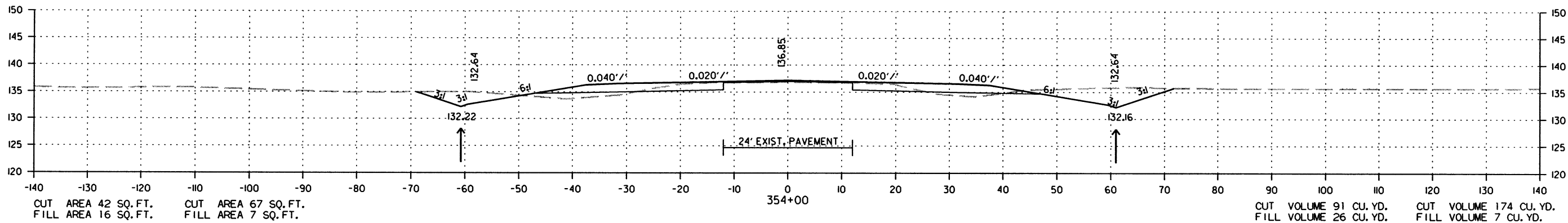


| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             |                    |       | JOB NO. 020534     | 267       | 287          |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 353+00 TO STA. 354+00

7/18/2016

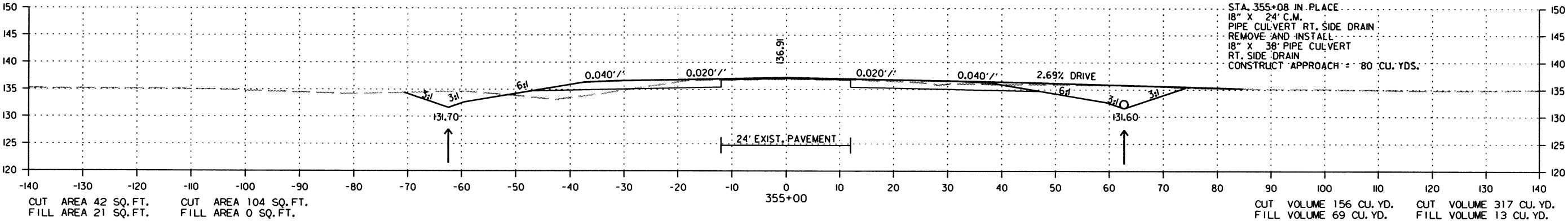
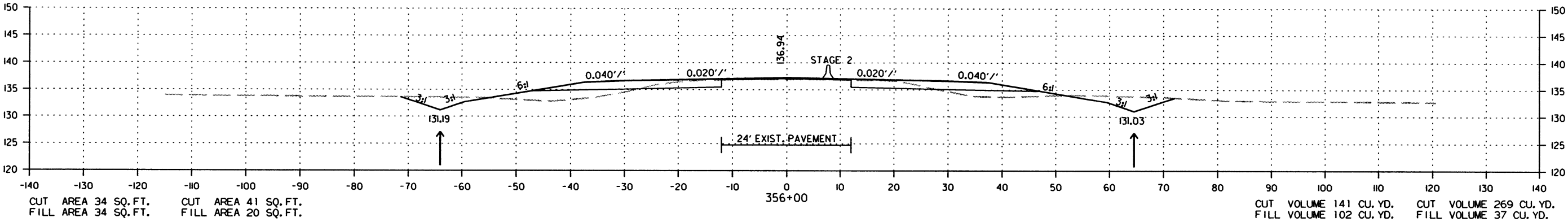
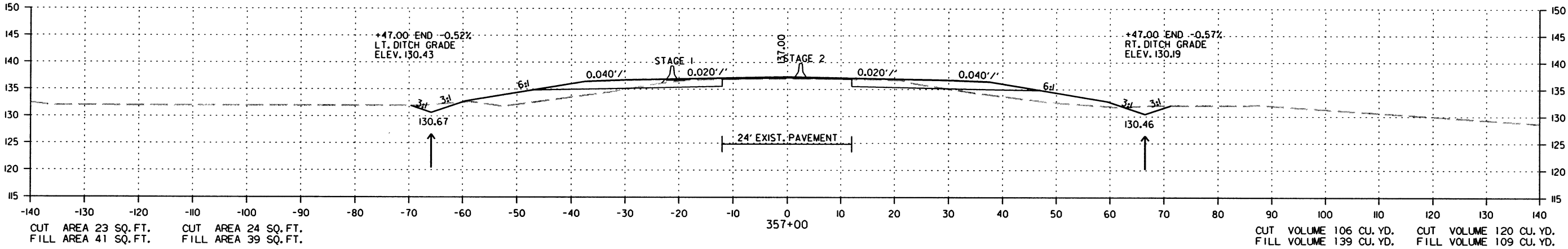
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 268          | 287             |

2 CROSS SECTIONS

STAGE I    STAGE 2

STAGE I    STAGE 2



CROSS SECTION STA. 355+00 TO STA. 357+00

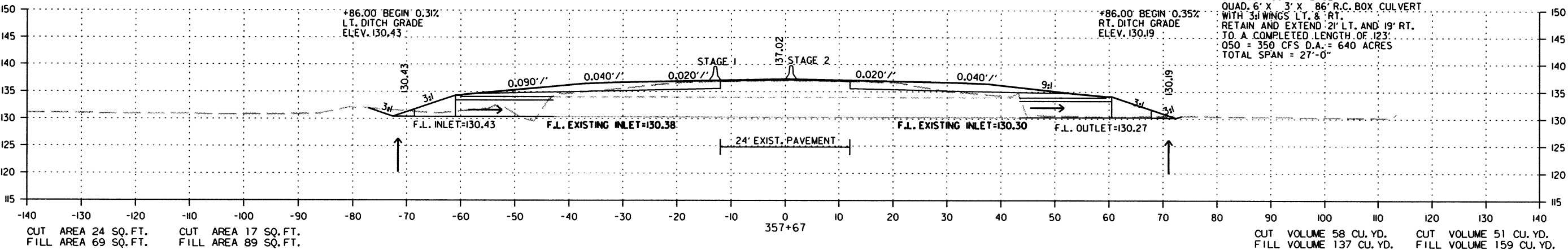
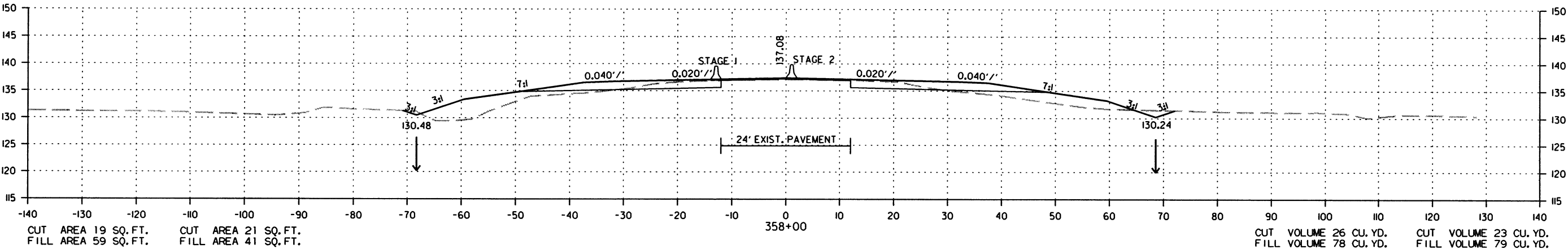
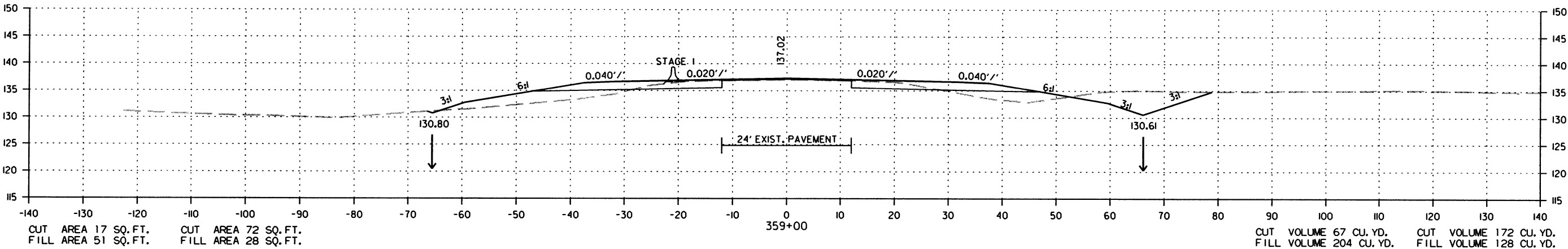


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 269          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



CROSS SECTION STA. 357+67 TO STA. 359+00

7/18/2016

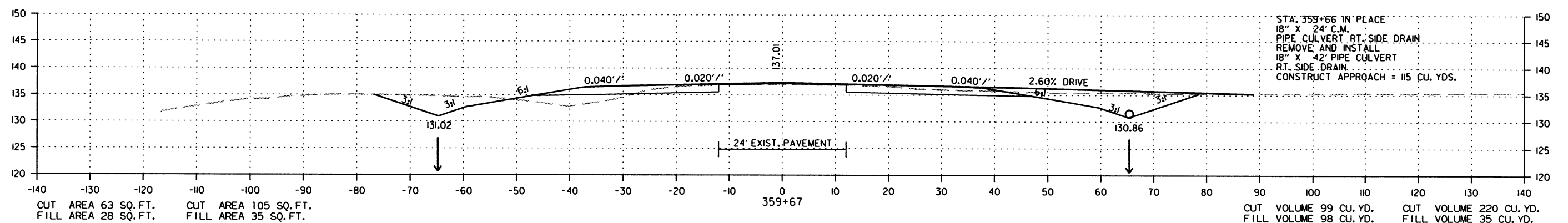
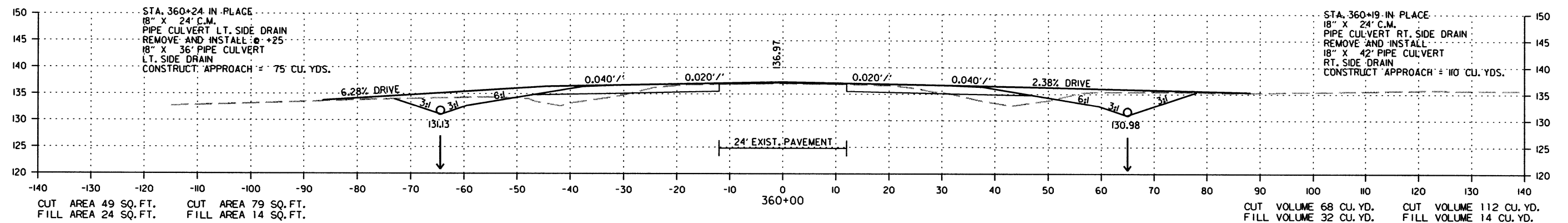
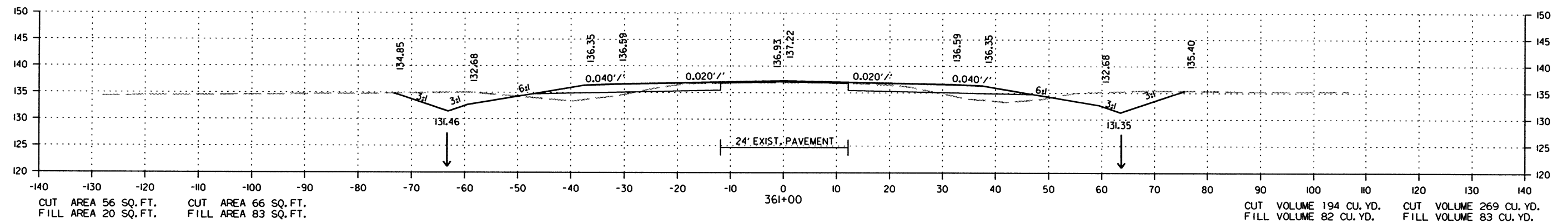
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 270          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 359+67 TO STA. 361+00

7/18/2016

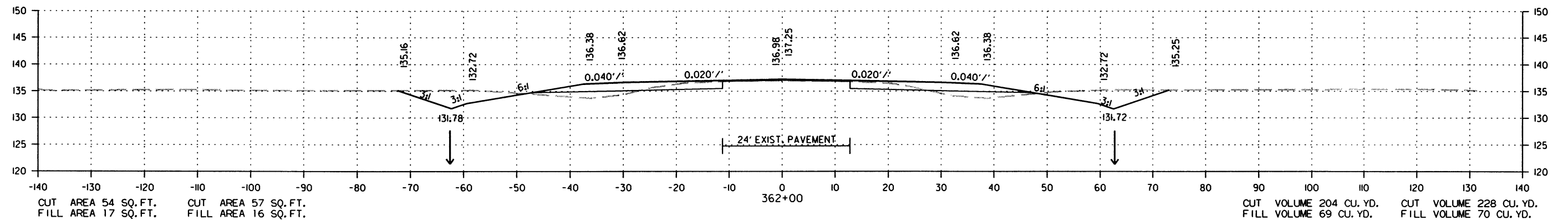
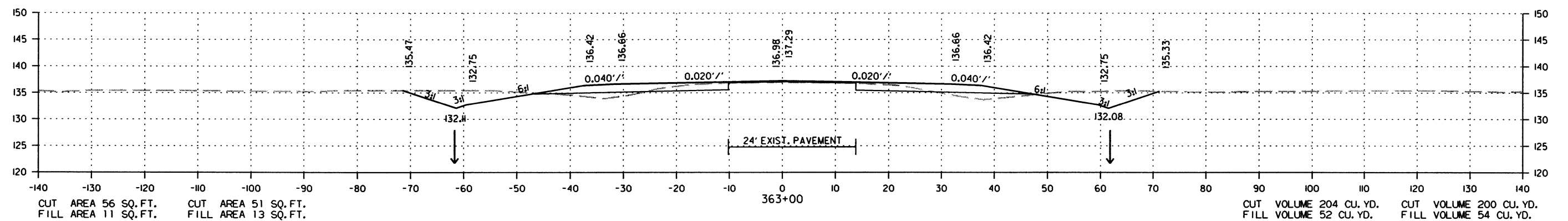
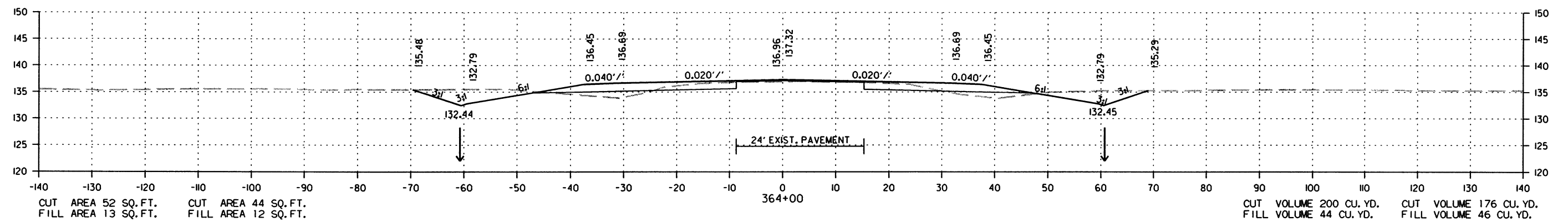
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 271          | 287             |

② CROSS SECTIONS

STAGE I STAGE 2

STAGE I STAGE 2



CROSS SECTION STA. 362+00 TO STA. 364+00

7/18/2016

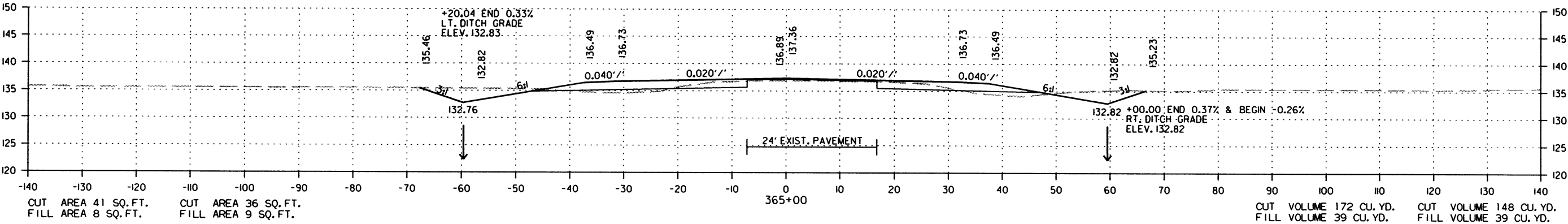
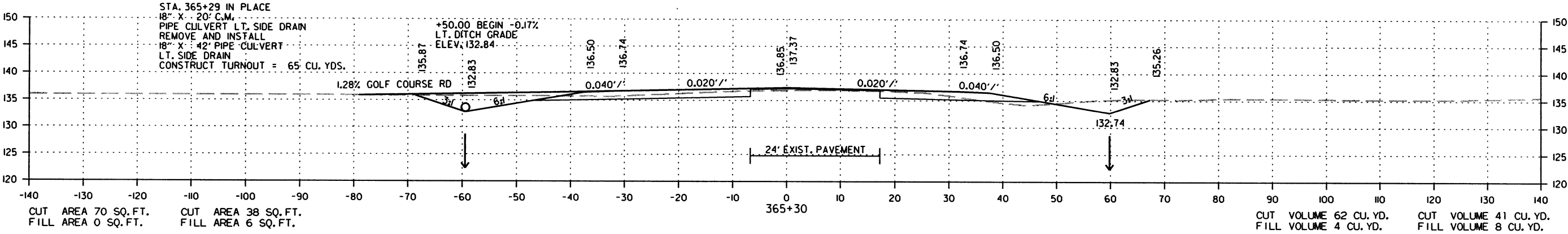
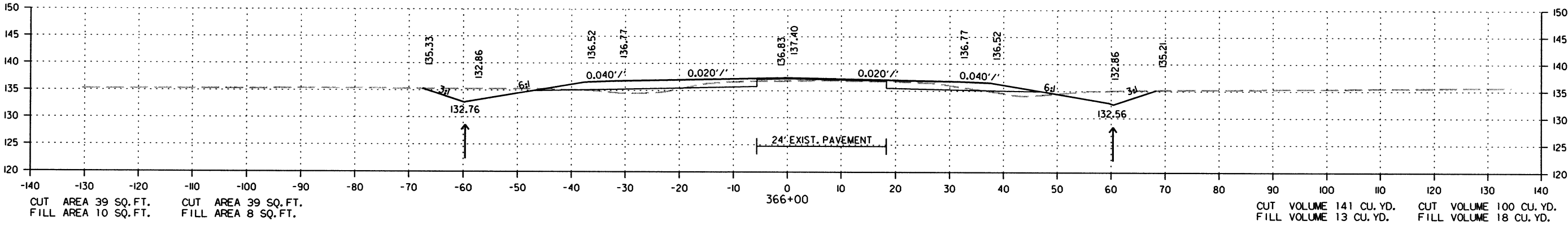
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 272          | 287             |

② CROSS SECTIONS

STAGE I    STAGE 2

STAGE I    STAGE 2



CROSS SECTION STA. 365+00 TO STA. 366+00

7/18/2016

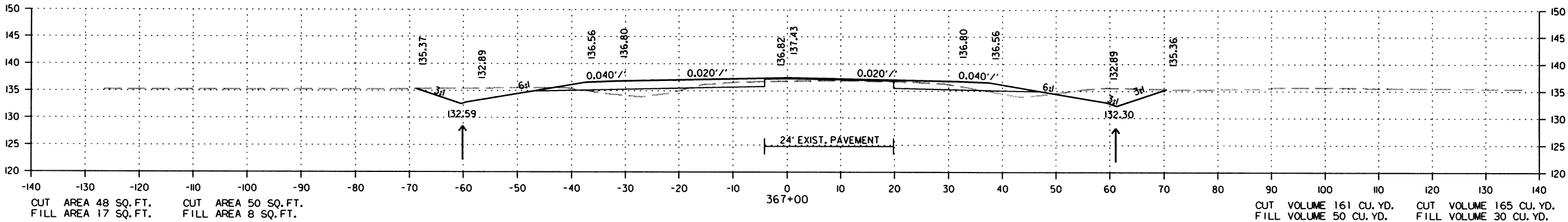
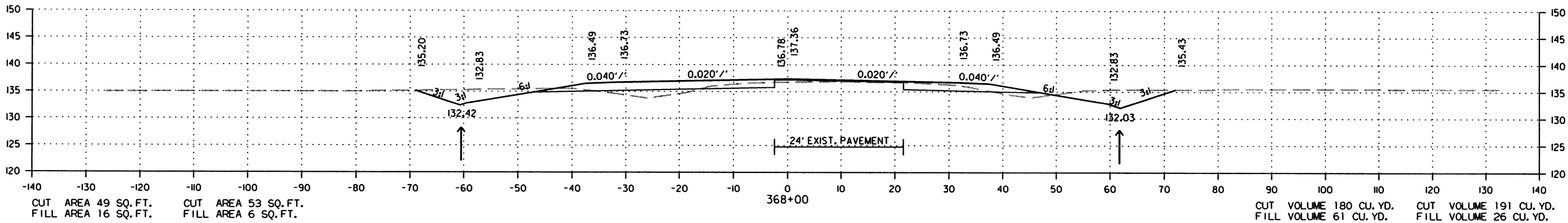
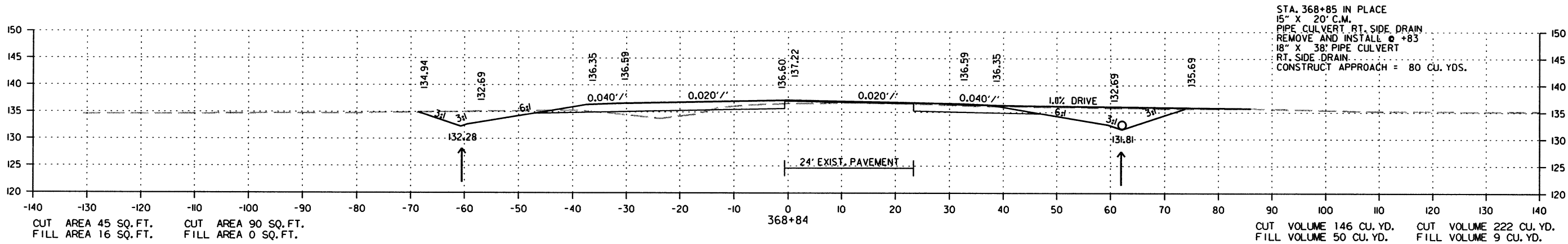
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 273          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



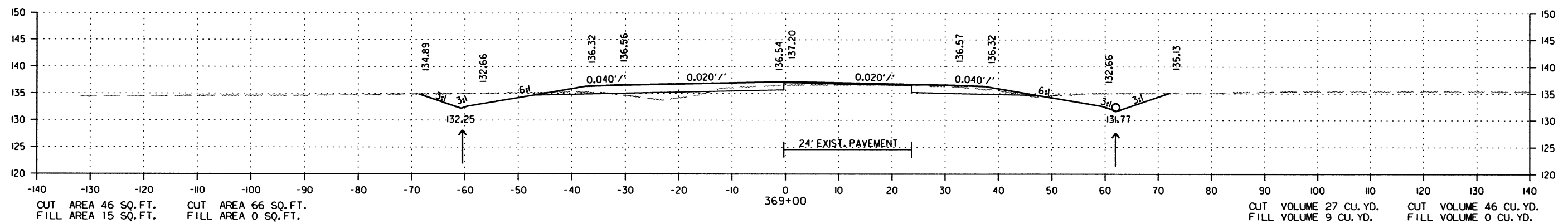
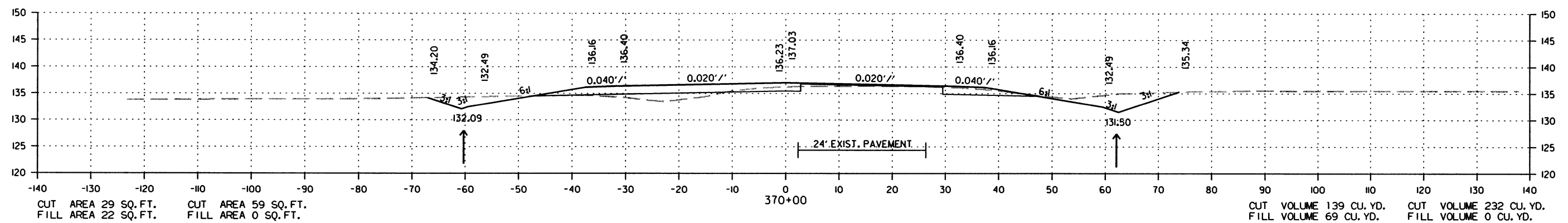
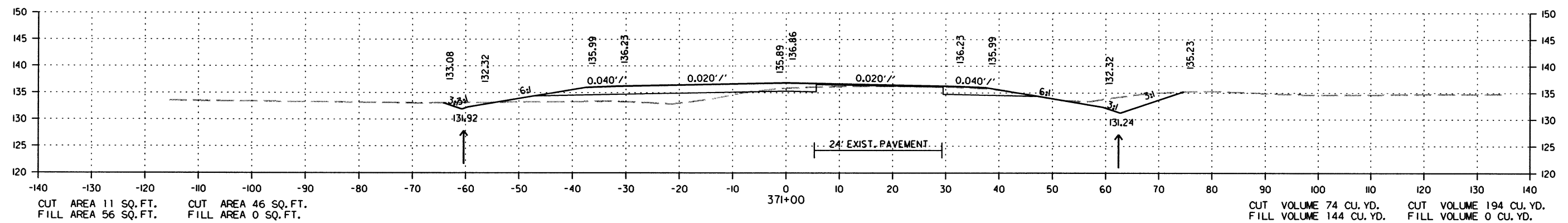
CROSS SECTION STA. 367+00 TO STA. 368+84

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 274          | 287             |

2 CROSS SECTIONS

STAGE I    STAGE 2

STAGE I    STAGE 2



CROSS SECTION STA. 369+00 TO STA. 371+00

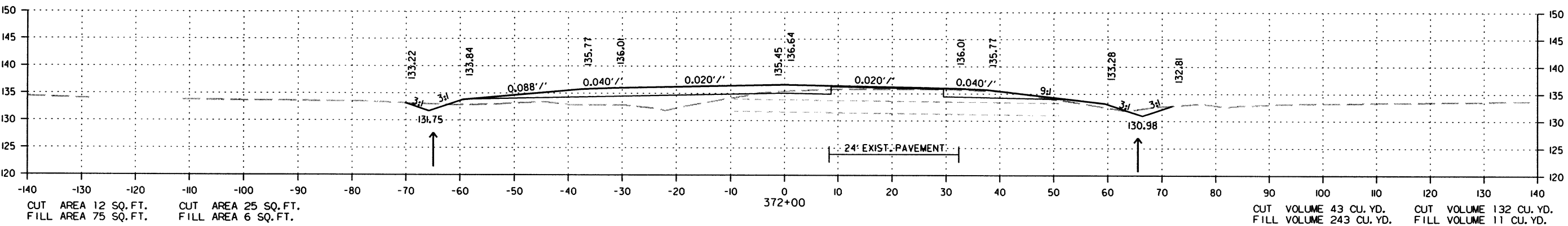
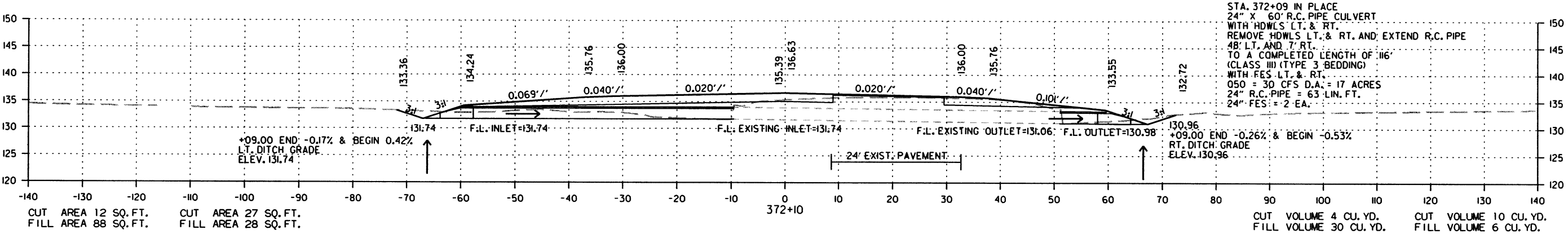
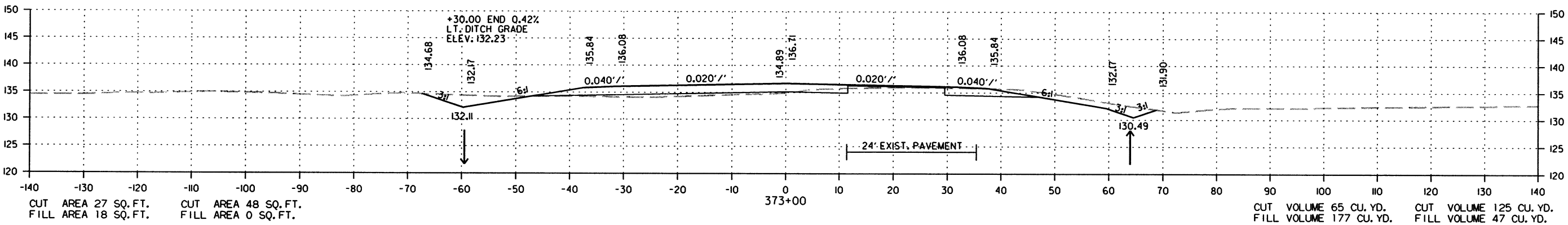


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 275          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



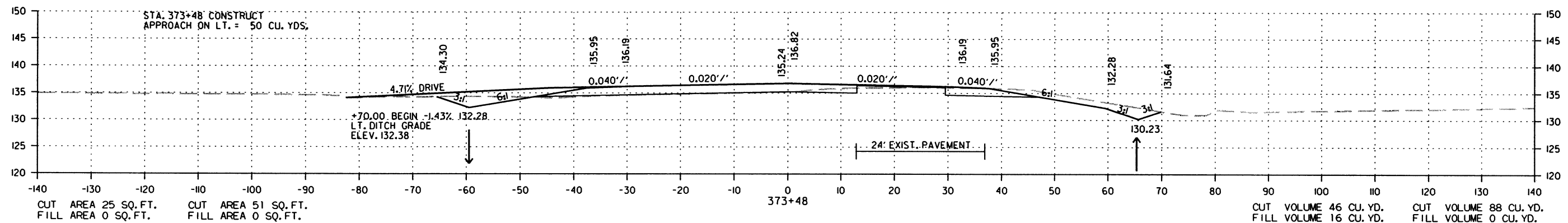
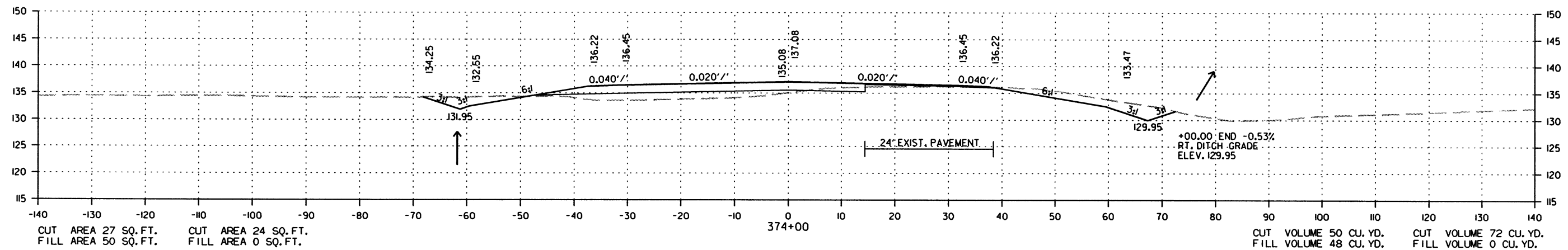
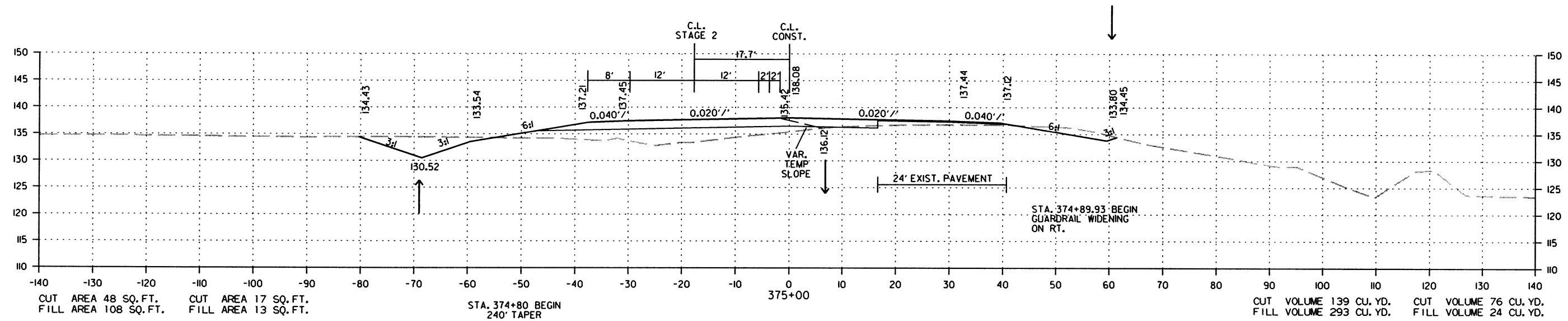
CROSS SECTION STA. 372+00 TO STA. 373+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 276          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 373+48 TO STA. 375+00

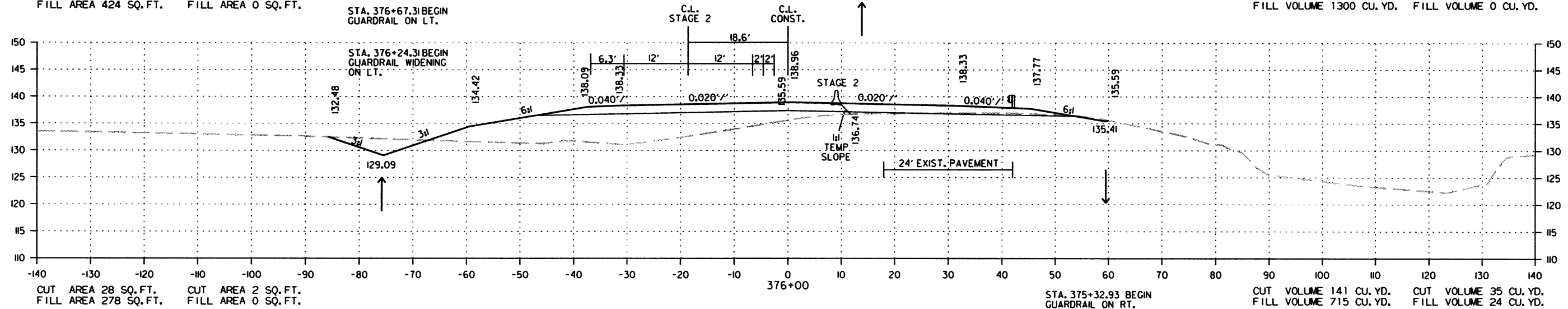
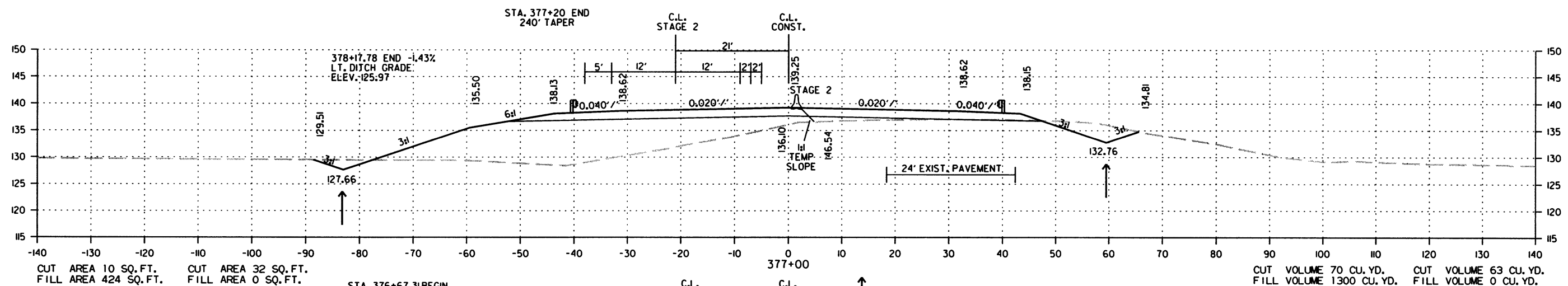
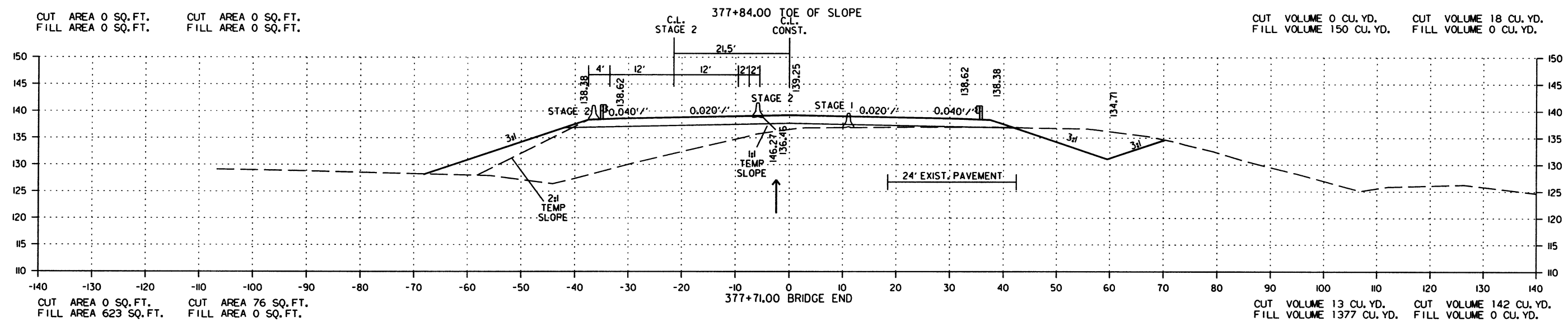


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 277          | 287             |

## 2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 376+00 TO STA. 378+00

7/18/2016

R020534.DGN

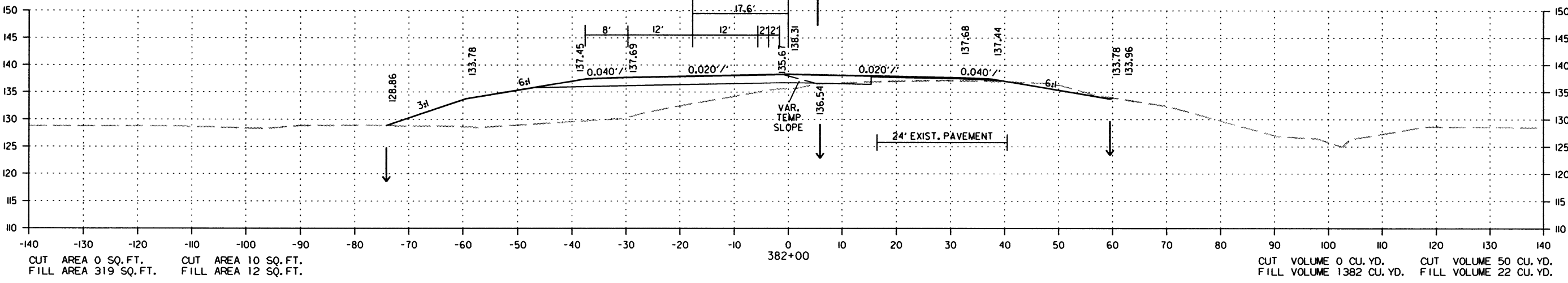
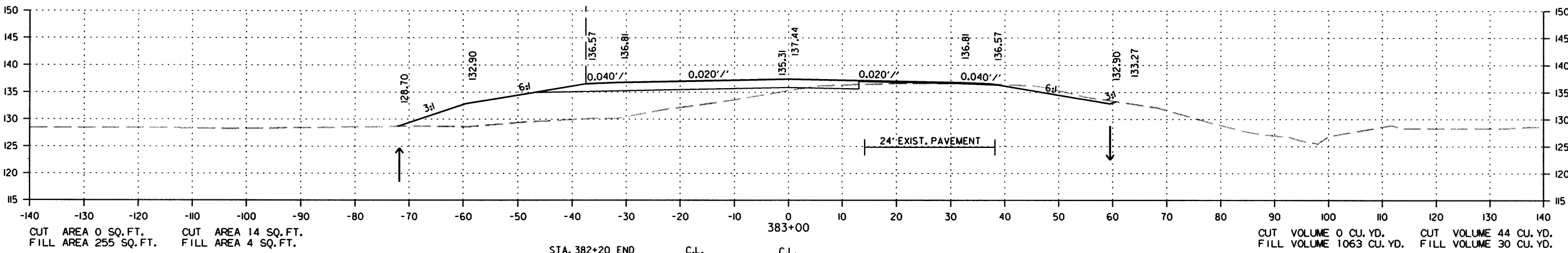
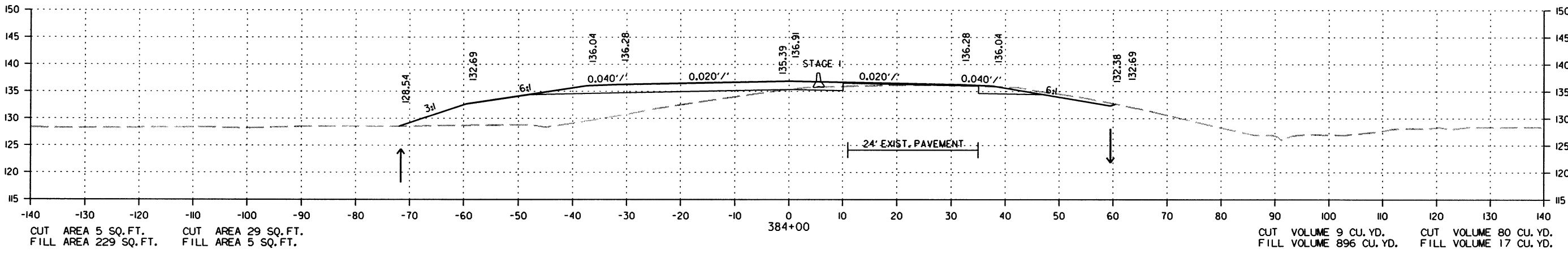


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 279          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



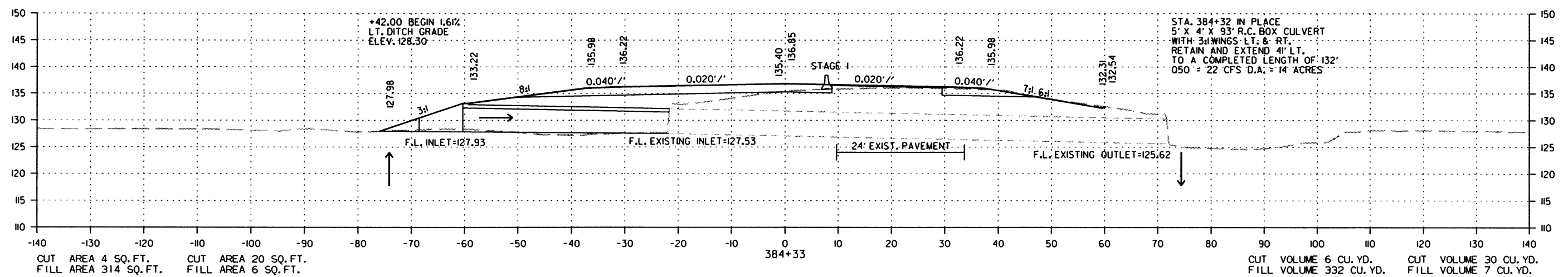
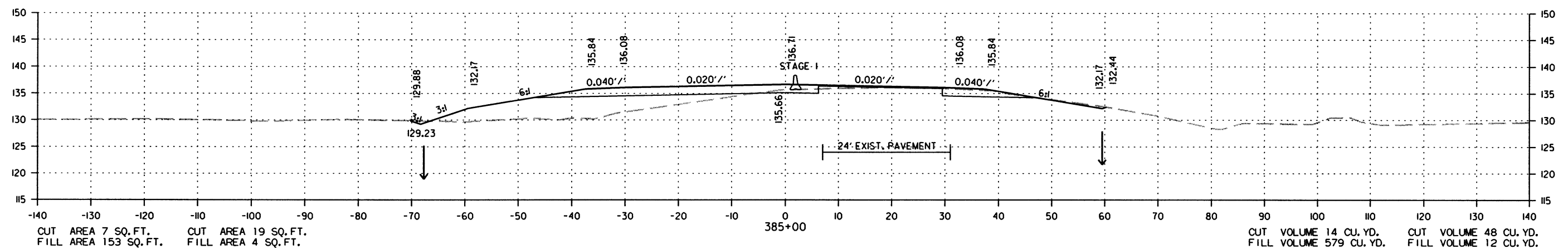
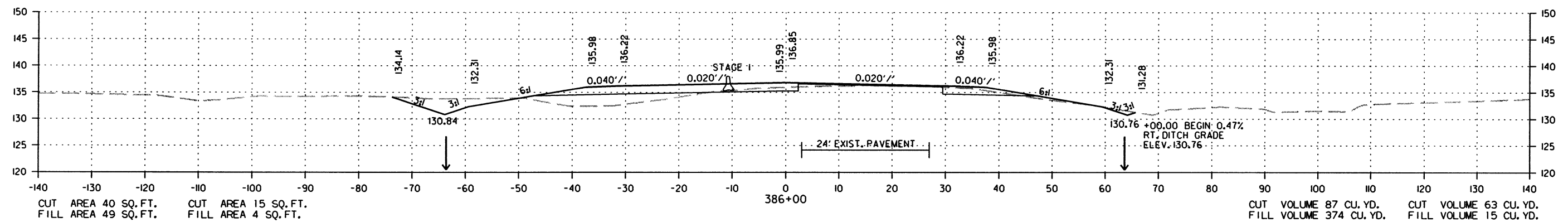
CROSS SECTION STA. 382+00 TO STA. 384+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 280          | 287             |

② CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 384+33 TO STA. 386+00

7/18/2016

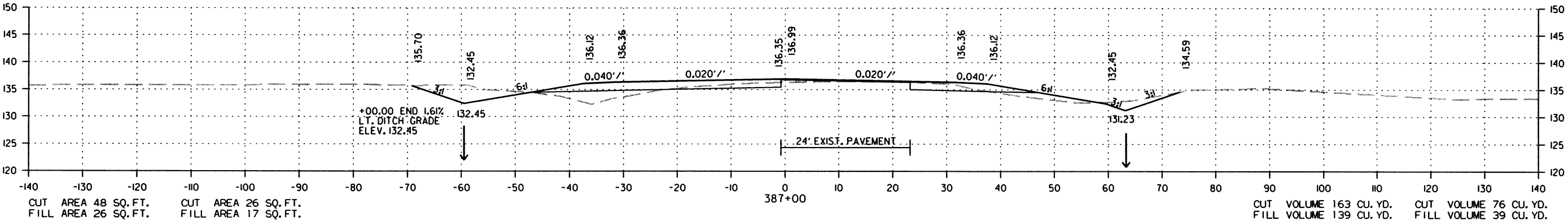
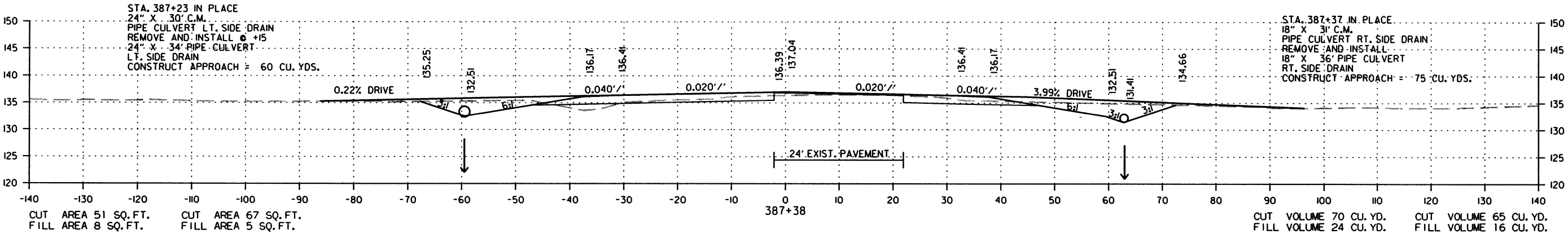
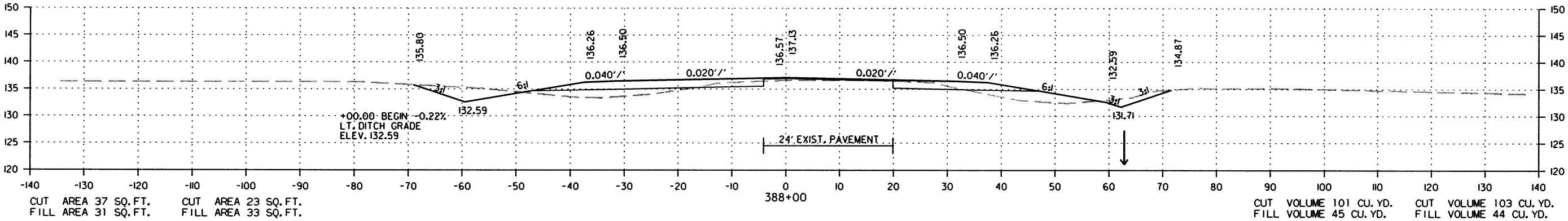
R020534.DGN

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 281          | 287             |

2 CROSS SECTIONS

STAGE 1    STAGE 2

STAGE 1    STAGE 2



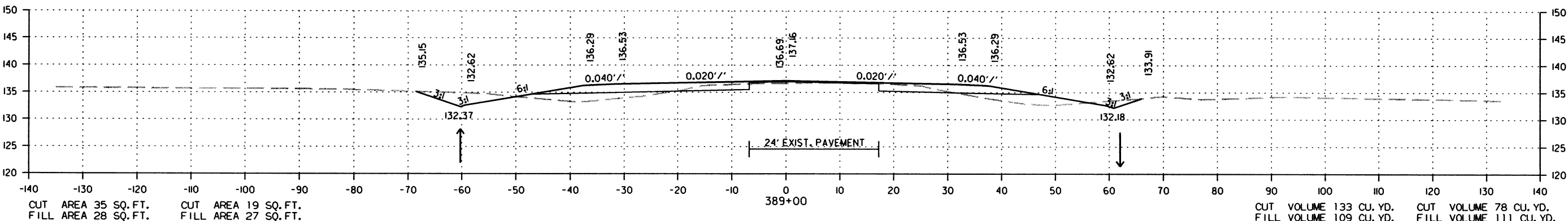
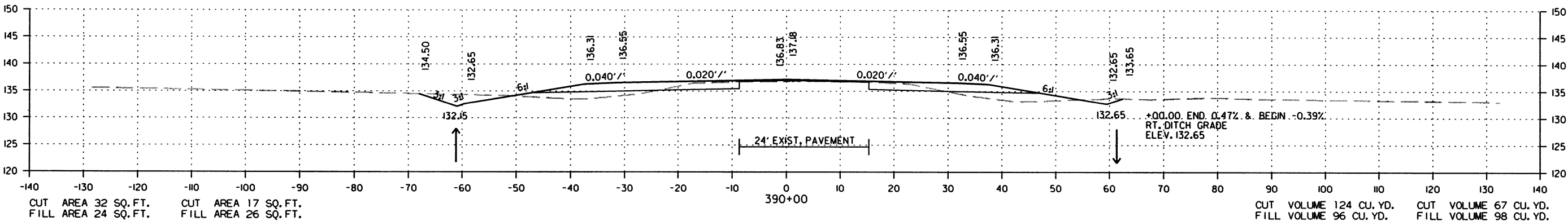
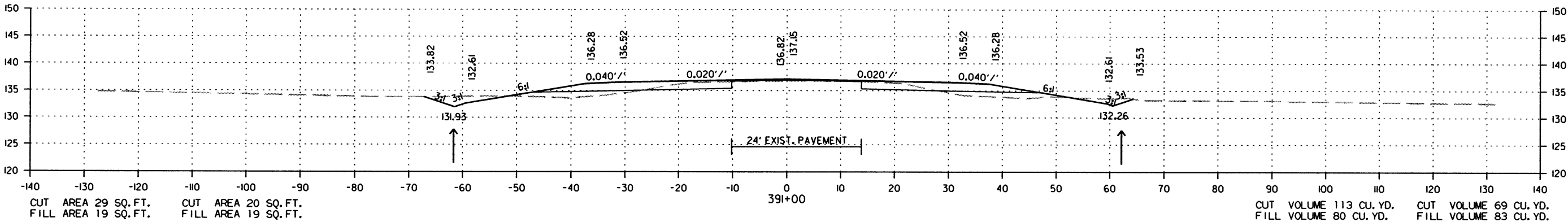
CROSS SECTION STA. 387+00 TO STA. 388+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 282          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 389+00 TO STA. 391+00

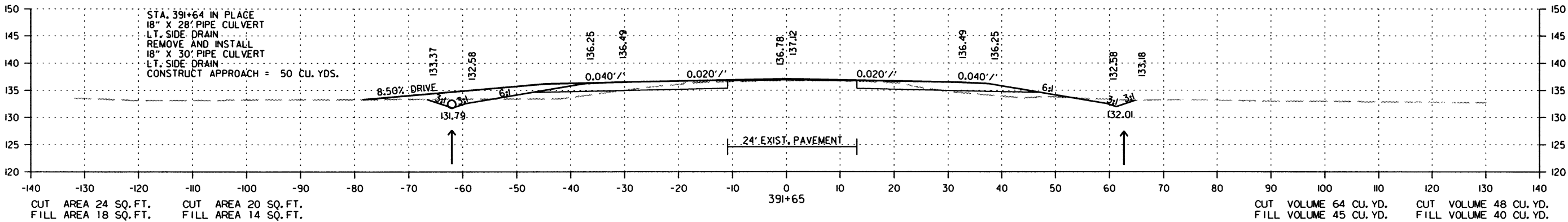
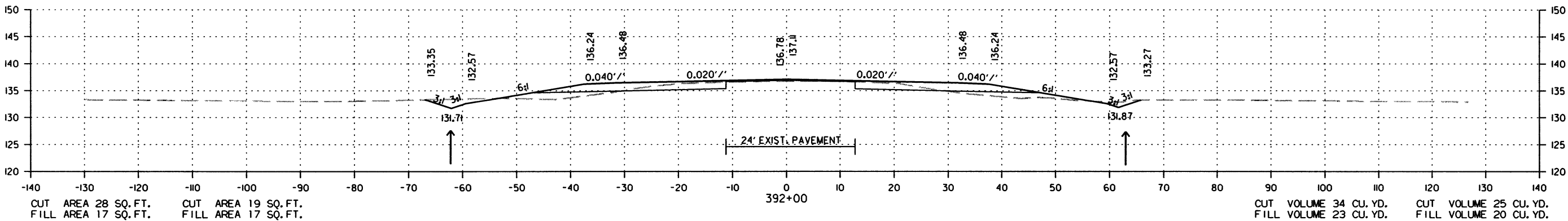
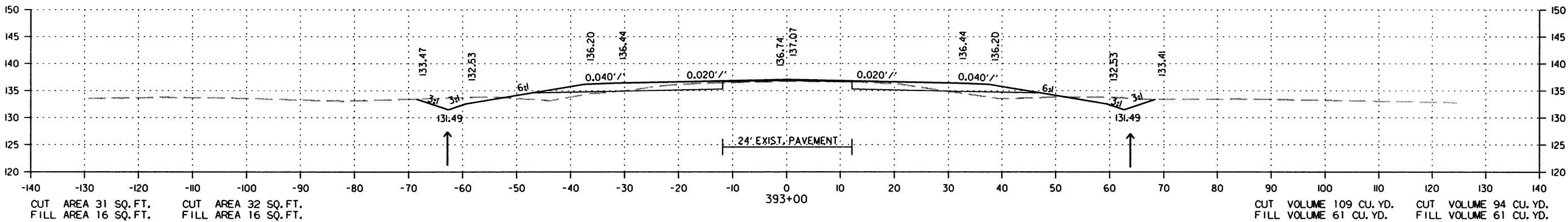


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 283          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 391+65 TO STA. 393+00

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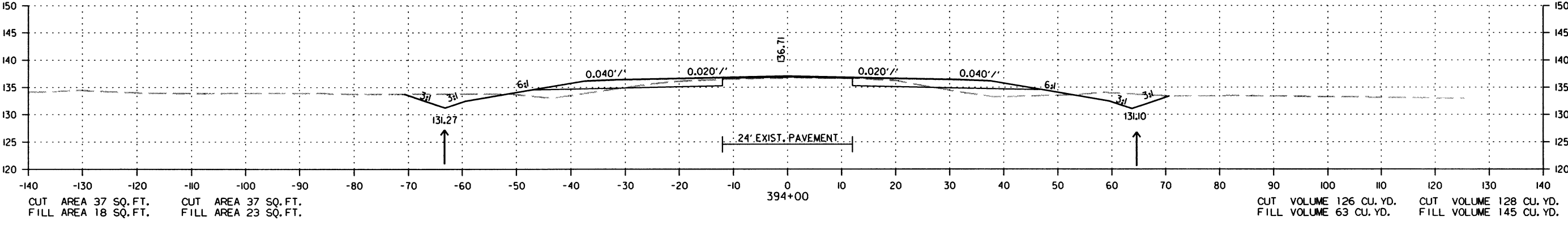
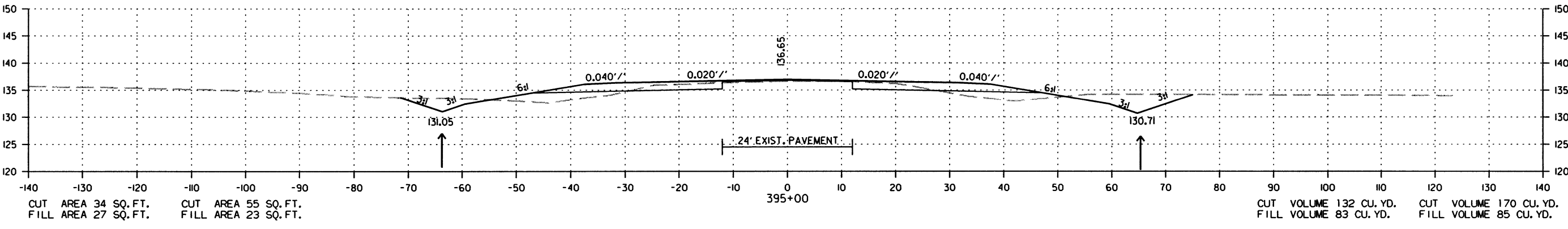
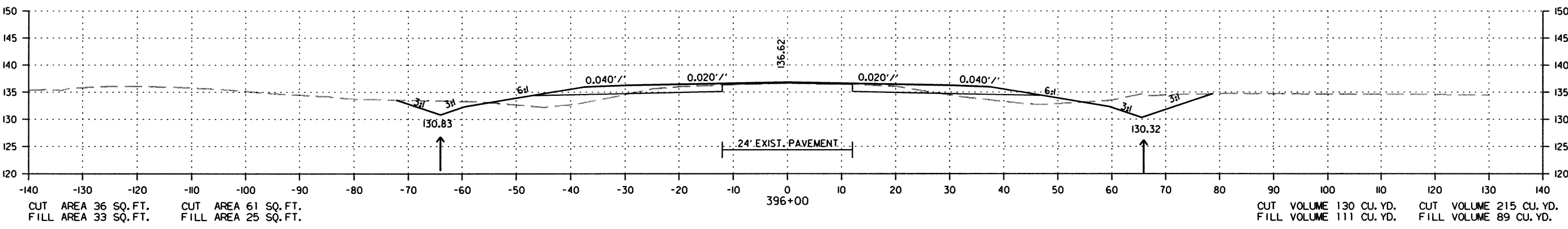
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| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                | JOB NO. 020534        |       |                    | 284          | 287             |

2 CROSS SECTIONS

STAGE I    STAGE 2

STAGE I    STAGE 2



CROSS SECTION STA. 394+00 TO STA. 396+00

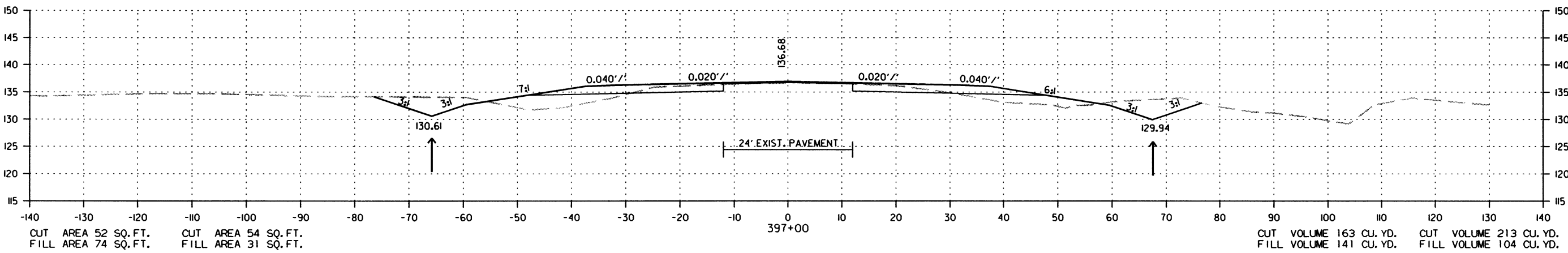
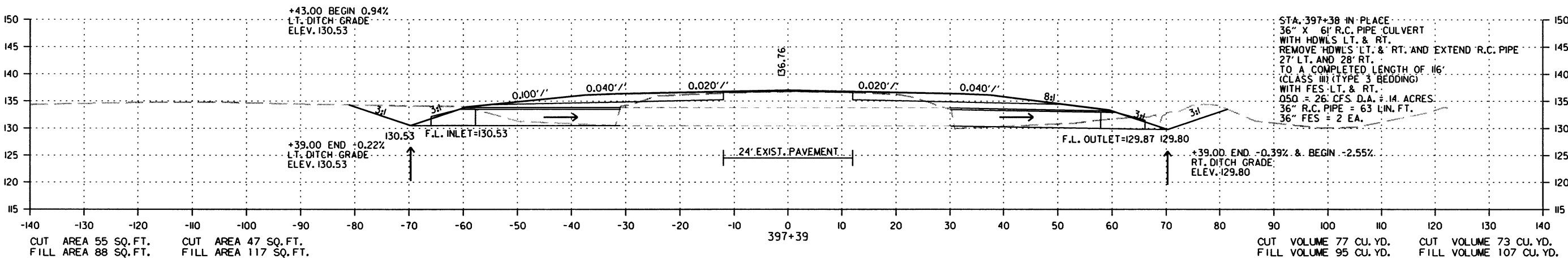
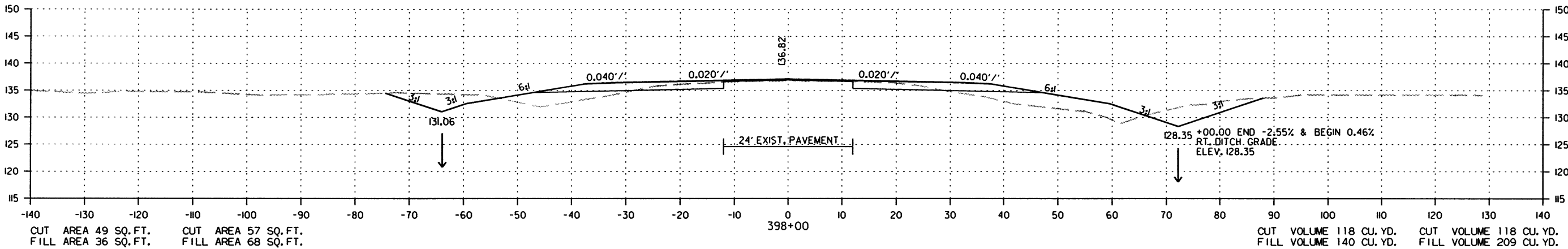


| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | JOB NO. 020534     | 285          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



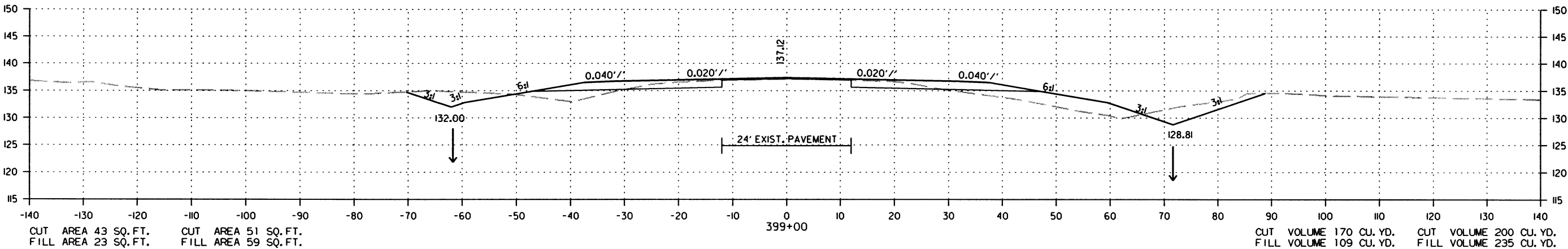
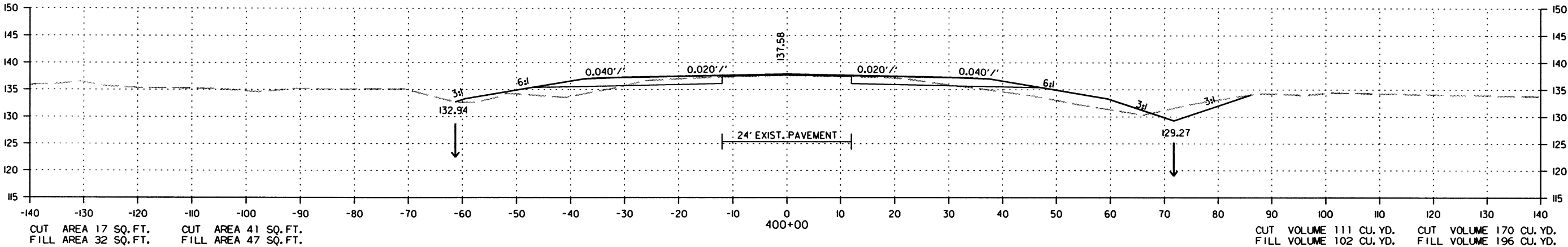
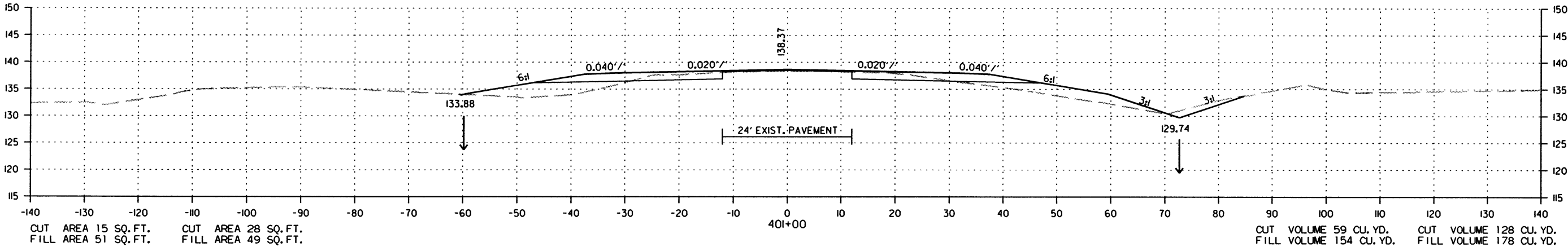
CROSS SECTION STA. 397+00 TO STA. 398+00

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|--------------|-------------|--------------|-------------|--------------------|-------|--------------------|-----------|--------------|
|              |             |              |             | 6                  | ARK.  |                    |           |              |
|              |             |              |             |                    |       | 020534             | 286       | 287          |

2 CROSS SECTIONS

STAGE I    STAGE 2

STAGE I    STAGE 2



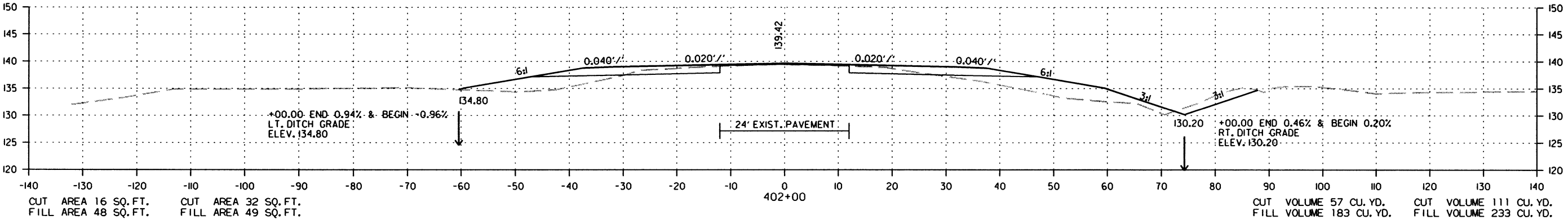
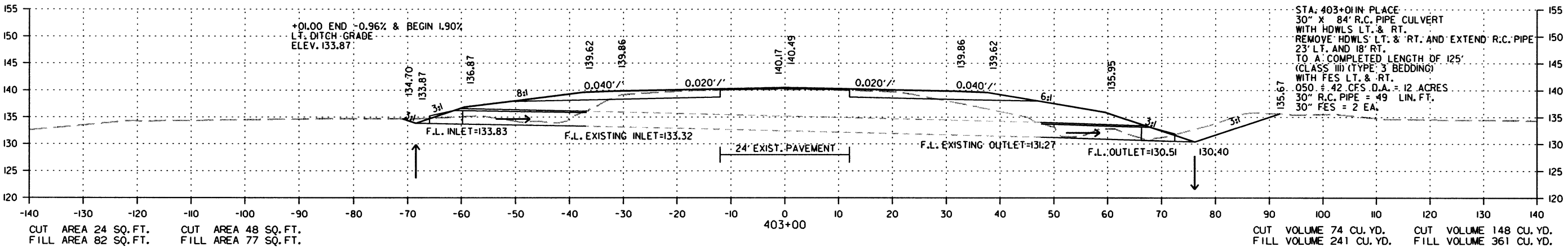
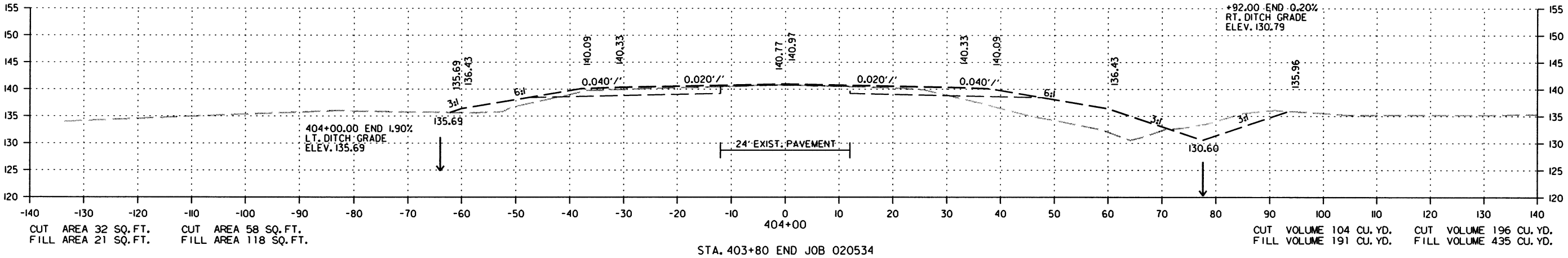
CROSS SECTION STA. 399+00 TO STA. 401+00

| DATE<br>REVISED | DATE<br>FILMED | DATE<br>REVISED | DATE<br>FILMED | FED. RD.<br>DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET<br>NO. | TOTAL<br>SHEETS |
|-----------------|----------------|-----------------|----------------|-----------------------|-------|--------------------|--------------|-----------------|
|                 |                |                 |                | 6                     | ARK.  |                    |              |                 |
|                 |                |                 |                |                       |       | 020534             | 287          | 287             |

2 CROSS SECTIONS

STAGE 1 STAGE 2

STAGE 1 STAGE 2



CROSS SECTION STA. 402+00 TO STA. 404+00

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