| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 1 | 207 |
| | | | | (2) | HWY. 71 - HWY. 22 (BASE & SURF.) (S) | | | |

# "A FULLY CONTROLLED ACCESS FACILITY"

## ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

## CONSTRUCTION PLANS FOR STATE HIGHWAY

# HWY. 71 - HWY. 22 (BASE & SURF.) (S)

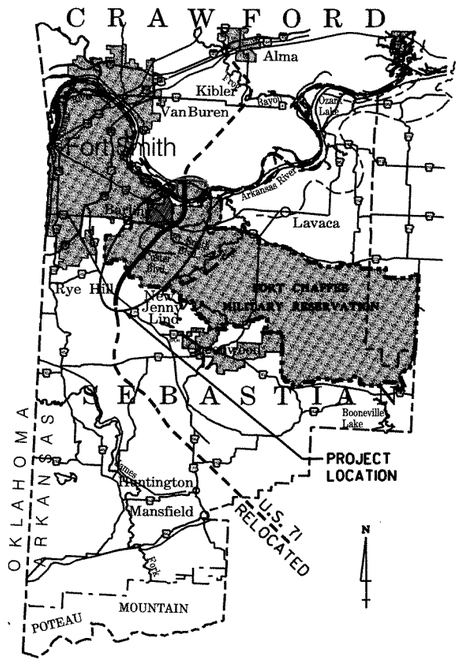
## SEBASTIAN COUNTY

## ROUTE 71 SECTION 14

## F.A.P. NH-HPP2 - 1514(1)

# JOB 040376

**NOT TO SCALE**




## VICINITY MAP

U.S. 71 RELOCATION

PROJECTS LIMITS

SEE SHEET 2
FOR FUTURE & EXISTING
BRIDGE INFORMATION

TOTAL LENGTH OF EXCEPTIONS = 1434.47 FT.
(COMPUTED ALONG ℄ MEDIAN)

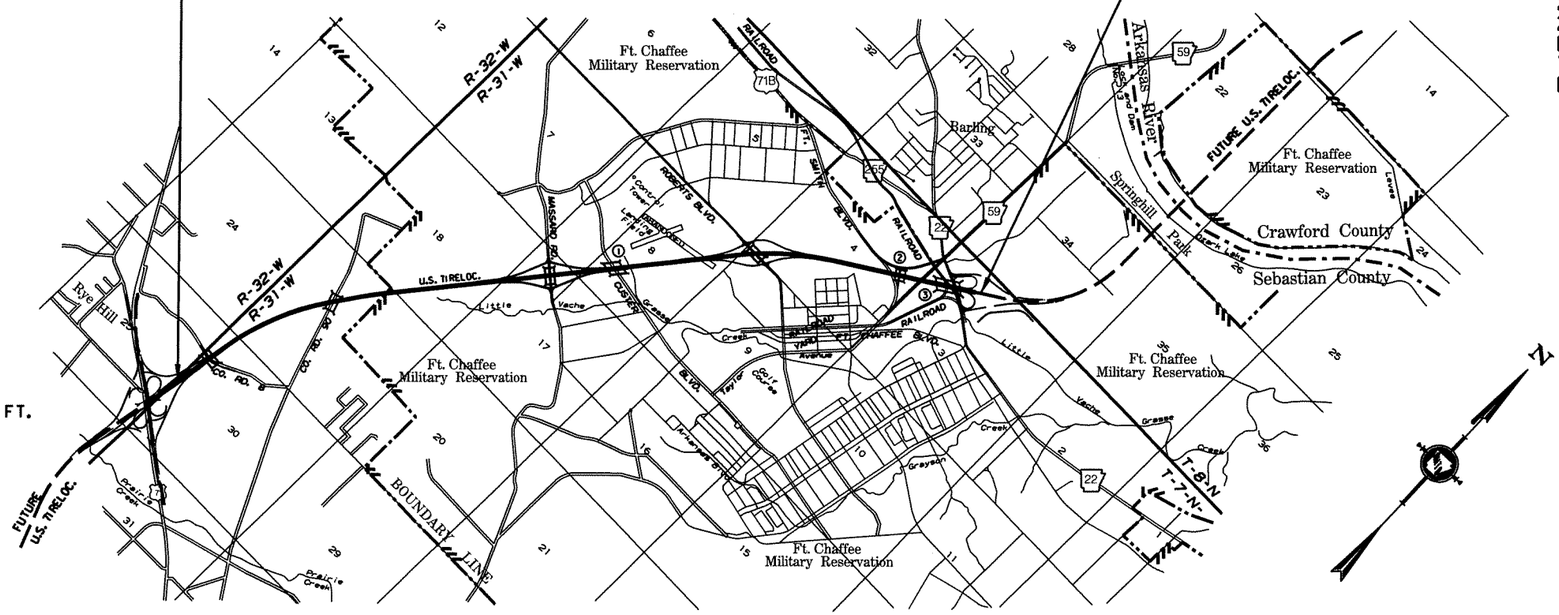
BEGIN-POINT OF PROJECT
LAT. 35°15'35"N
LONG. 94°21'13"W

MID-POINT OF PROJECT
LAT. 35°17'30"N
LONG. 94°19'24"W

END-POINT OF PROJECT
LAT. 35°19'25"N
LONG. 94°17'35"W

STA. 1874+50.00
BEGIN JOB 040376

STA. 2179+00.00
END JOB 040376

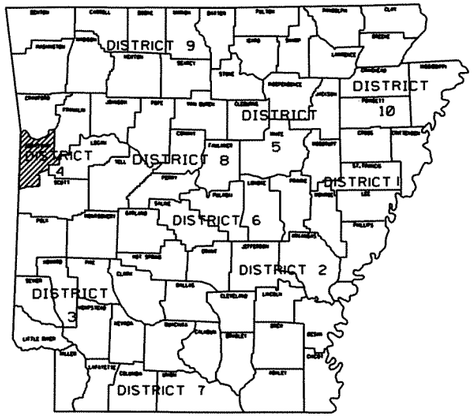



LEGEND

- FUTURE CONSTRUCTION
- PROPOSED CONSTRUCTION
- FORT CHAFFEE MILITARY RESERVE

LENGTH COMPUTED ALONG ℄ MEDIAN

| | | |
|---|---|---|
| GROSS LENGTH OF PROJECT | 30450.00 FT. | OR 5.767 MI. |
| NET LENGTH OF ROADWAY | 29015.53 FT. | OR 5.495 MI. |
| NET LENGTH OF BRIDGES | 0.00 FT. | OR 0.00 MI. |
| NET LENGTH OF PROJECT | 29015.53 FT. | OR 5.495 MI. |




ARK. HWY. DIST. NO. 4

## DESIGN TRAFFIC DATA

| | | |
|---|---|---|
| DESIGN YEAR | | 2032 |
| 2012 | ADT | 23900 |
| 2032 | ADT | 42300 |
| 2032 | DHV | 4653 |
| DIRECTIONAL DISTRIBUTION | | 60% |
| TRUCKS | | 21% |
| DESIGN SPEED | | 70 MPH |

P.E. JOB 040373
NON-PART.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 9808
JAMES L. BARR
8/2/12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 2 | 207 |

(2) EXISTING & FUTURE BRIDGE INFORMATION - MAIN LANES

# EXISTING & FUTURE BRIDGE INFORMATION - MAIN LANES

(FOR INFORMATION ONLY - NOT IN THIS CONTRACT)

**EXISTING**

STA. 2040+32.51 - BR. END
BRIDGE NO. A7082
48'-0" CL. RDWY. - MAIN LANES
28° 24' RT. FWD. SKEW
319' - 6⅛" TOTAL LENGTH
317'-0" CONT. PLATE GIRDER UNIT
STA. 2043+52.03 - BR. END

STA. 2040+75.77 - BR. END
BRIDGE NO. B7082
48'-0" CL. RDWY. - MAIN LANES
28° 24' RT. FWD. SKEW
319' - 6⅛" TOTAL LENGTH
317'-0" CONT. PLATE GIRDER UNIT
STA. 2043+95.29 - BR. END

STA. 2148+51.62 - BR. END
BRIDGE NO. A&B7064
40'-0" CL. RDWY. - MAIN LANES
NO SKEW
197' - 2½" TOTAL LENGTH
195'-0" CONT. COMP. W-BEAM
STA. 2150+48.83 - BR. END

**FUTURE**

STA. 1857+06.67 - BR. END
BRIDGE NO. A (N.I.C.)
40'-0" CL. RDWY. - MAIN LANES
34'-0" CL. RDWY. - CD ROAD
28° LT. FWD SKEW
322' - 6" TOTAL LENGTH
320'-0" CONT. PLATE GIRDER UNIT
STA. 1860+29.17 - BR. END

STA. 1856+64.46 - BR. END
BRIDGE NO. B (N.I.C.)
40'-0" CL. RDWY. - MAIN LANES
34'-0" CL. RDWY. - CD ROAD
28° LT. FWD SKEW
322' - 6" TOTAL LENGTH
320'-0" CONT. PLATE GIRDER UNIT
STA. 1859+86.95 - BR. END

**EXISTING**

STA. 2163+39.56 - BR. END
BRIDGE NO. B7065
48'-0" CL. RDWY. - MAIN LANES
34° RT. FWD. SKEW
939' - 8⅞" TOTAL LENGTH
588'-0" & 349'-0" CONT. PLATE GIRDER UNIT
STA. 2172+79.30 - BR. END

STA. 2163+29.40 - BR. END
BRIDGE NO. A7065
48'-0" CL. RDWY. - MAIN LANES
34° RT. FWD. SKEW
895' - 8⅞" TOTAL LENGTH
544'-0" & 349'-0" CONT. PLATE GIRDER UNIT
STA. 2172+25.14 - BR. END

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/9/12

EXISTING & FUTURE BRIDGE INFORMATION - MAIN LANES (NOT IN THIS CONTRACT)

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 10/12/12 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 3 | 207 |

(2) INDEX, GOV. SPECS & GEN. NOTES

# INDEX OF SHEETS


| SHEET NO. | TITLE | BRIDGE NO. | DRWG. NO. | DATE |
|---|---|---|---|---|
| 1 | TITLE SHEET | | | |
| 2 | EXISTING AND FUTURE BRIDGE INFORMATION - MAIN LANES | | | |
| 3 | INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND GENERAL NOTES | | | |
| 4-14 | TYPICAL SECTIONS OF IMPROVEMENT | | | |
| 15-21 | SPECIAL DETAILS | | | |
| 22-23 | TEMPORARY EROSION CONTROL DETAILS | | | |
| 24-32 | MAINTENANCE OF TRAFFIC | | | |
| 33-36A | PAVEMENT MARKING DETAILS | | | |
| 37-51 | QUANTITY SHEETS | | | |
| 52 | SUMMARY OF QUANTITIES AND REVISIONS | | | |
| 53-61 | SURVEY CONTROL DETAILS | | | |
| 62-109 | PLAN AND PROFILE SHEETS | | | |
| 110 | SUMMARY OF TRAFFIC SIGNAL QUANTITIES AND NOTES | | | |
| 111-116 | SIGNALIZATION PLAN SHEETS | | | |
| 117-122 | SIGNALIZATION DETAILS | | | |
| 123-124 | NOT USED | | | |
| 125 | LAYOUT OF U.S. ROUTE 71 RELOCATED FUTURE BRIDGE A ALT. 1 OVER U.S. ROUTE 71 EXISTING (FOR INFORMATION ONLY) | | | 48628 |
| 126 | LAYOUT OF U.S. ROUTE 71 RELOCATED FUTURE BRIDGE B ALT. 1 OVER U.S. ROUTE 71 EXISTING (FOR INFORMATION ONLY) | | | 48629 |
| 127 | NOT USED | | | NOT USED |
| 128 | NOT USED | | | NOT USED |
| 129 | LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE A ALT. 1 OVER CUSTER BLVD. (FOR INFORMATION ONLY) | A7082 | | 49346 |
| 130 | LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE B ALT. 1 OVER CUSTER BLVD. (FOR INFORMATION ONLY) | B7082 | | 49348 |
| 131 | NOT USED | | | NOT USED |
| 132 | NOT USED | | | NOT USED |
| 133 | LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE A ALT. 1 OVER FT. SMITH CONN. (FOR INFORMATION ONLY) | A7064 | | 48053 |
| 134 | LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE B ALT. 1 OVER FT. SMITH CONN. (FOR INFORMATION ONLY) | A7064 | | 48055 |
| 135 | NOT USED | | | NOT USED |
| 136 | NOT USED | | | NOT USED |
| 137 | LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE A OVER S.H. 22 AND UNION PACIFIC RR (FOR INFORMATION ONLY) | A7065 | | 48076 |
| 138 | LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE A OVER S.H. 22 AND UNION PACIFIC RR (FOR INFORMATION ONLY) | A7065 | | 48077 |
| 139 | LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE B OVER S.H. 22 AND UNION PACIFIC RR (FOR INFORMATION ONLY) | B7065 | | 48080 |
| 140 | LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE B OVER S.H. 22 AND UNION PACIFIC RR (FOR INFORMATION ONLY) | B7065 | | 48081 |
| 141 | DETAILS OF STANDARD TYPE C APPROACH GUTTERS | | 2016C | 07/14/10 |
| 142 | DETAILS OF APPROACH SLABS | | 2018 | 07/14/10 |
| 143 | CONCRETE DITCH PAVING | | CDP-1 | 11/17/10 |
| 143A | CURBING DETAILS | | CG-1 | 11/29/07 |
| 144 | TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED) | | CPTJ-6A | 05/25/06 |
| 145 | DETAILS OF DRIVEWAYS & ISLANDS | | DR-1 | 11/29/07 |
| 146 | DETAILS OF DROP INLETS & JUNCTION BOXES | | FPC-9 | 07/26/12 |
| 147 | DETAILS OF DROP INLETS | | FPC-9D | 08/22/02 |
| 148 | DETAILS OF DROP INLETS AND SPILLWAY OUTLET | | FPC-9N | 07/02/98 |
| 149 | DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST) | | FPC-9S | 07/26/12 |
| 150 | GUARD RAIL DETAILS | | GR-8 | 07/14/10 |
| 151 | GUARD RAIL DETAILS | | GR-8A | 07/14/10 |
| 152 | GUARD RAIL DETAILS | | GR-9 | 04/17/08 |
| 153 | GUARD RAIL DETAILS | | GR-9A | 04/17/08 |
| 154 | GUARD RAIL DETAILS | | GR-10 | 07/14/10 |
| 155 | GUARD RAIL DETAILS | | GR-10A | 07/14/10 |
| 156 | GUARD RAIL DETAILS | | GRT-1 | 07/14/10 |
| 157 | CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING | | PCC-1 | 12/15/11 |
| 158 | METAL PIPE CULVERT FILL HEIGHTS & BEDDING | | PCM-1 | 12/15/11 |
| 158A | PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE) | | PCP-1 | 12/15/11 |
| 158B | PLASTIC PIPE CULVERT (PVC F949) | | PCP-2 | 12/15/11 |
| 159 | PAVEMENT MARKINGS DETAILS | | PM-1 | 11/17/10 |
| 160 | PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS | | PM-2 | 07/26/12 |
| 161 | DETAILS OF PIPE UNDERDRAIN | | PU-1 | 04/10/03 |
| 162 | TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC | | SE-1 | 01/09/87 |
| 163 | TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC | | SE-2 | 10/18/96 |
| 164 | SAFETY END SECTION FOR CIRCULAR AND ARCH PIPES | | SES-1 | 10/18/96 |
| 165 | STANDARD HIGHWAY SIGNS AND SUPPORTS ASSEMBLIES | | SHS-1 | 04/17/08 |
| 166 | U-CHANNEL POST ASSEMBLIES | | SHS-2 | 10/09/03 |
| 167 | DETAILS OF SPECIAL ITEMS | | SI-1 | 07/26/12 |
| 168 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | | TC-1 | 12/15/11 |
| 169 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | | TC-2 | 03/11/10 |
| 170 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION | | TC-3 | 10/15/09 |
| 171 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER | | TC-4 | 10/15/09 |
| 172 | STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER | | TC-5 | 10/15/09 |
| 173 | TEMPORARY EROSION CONTROL DEVICES | | TEC-1 | 12/15/11 |
| 174 | TEMPORARY EROSION CONTROL DEVICES | | TEC-2 | 06/02/94 |
| 175 | TEMPORARY EROSION CONTROL DEVICES | | TEC-3 | 11/03/94 |
| 176 | DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMP (NON-REINFORCED) | | TR-1A | 08/22/02 |
| 177-207 | CROSS SECTIONS | | | |


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

## GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. 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.
6. THE CONTRACTOR SHALL CONTACT ALL FIBER OPTIC COMPANIES INVOLVED ON THIS PROJECT AT LEAST 5 WORKING DAYS BEFORE CONSTRUCTION, INCLUDING REMOVING AND INSTALLING ANY FENCING, AND TAKE EVERY PRECAUTION NECESSARY TO AVOID CONFLICT WITH THE FIBER OPTIC CABLES. THE CONTRACTOR SHALL TELEPHONE ARKANSAS ONE-CALL SYSTEM AT 800-482-8998 TO DETERMINE THE LOCATION OF THE BURIED FIBER OPTIC CABLES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCES MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. THIS PROJECT IS COVERED UNDER A NATIONWIDE 14 SECTION 404 PERMIT. REFER TO SECTION 110 OF STANDARD SPECIFICATIONS, EDITION 2003, FOR PERMIT REQUIREMENTS.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER ITEM NO. 210 UNCLASSIFIED EXCAVATION.

## GOVERNING SPECIFICATIONS

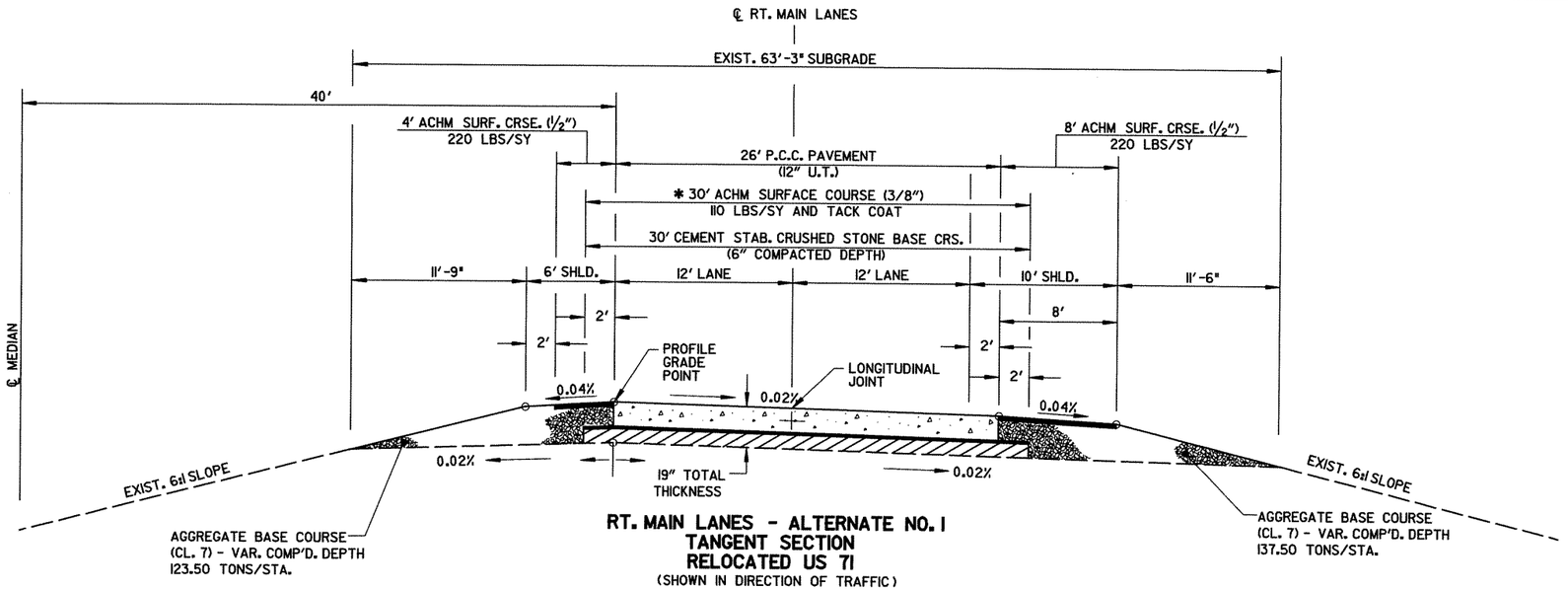
ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

| NUMBER | TITLE |
|---|---|
| ERRATA | ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS |
| FHWA-1273 | REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS |
| FHWA-1273 | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS |
| FHWA-1273 | SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140) |
| FHWA-1273 | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES |
| FHWA-1273 | SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS |
| FHWA-1273 | SUPPLEMENT - TRAINING PROGRAM - JOB 040376 |
| FHWA-1273 | SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS |
| FHWA-1273 | SUPPLEMENT - WAGE RATE DETERMINATION |
| 100-2 | MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) |
| 102-1 | BIDDING REQUIREMENTS AND CONDITIONS |
| 103-1 | DETERMINATION OF DBE PARTICIPATION |
| 105-1 | CONSTRUCTION CONTROL MARKINGS |
| 105-2 | EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES |
| 105-3 | CONTROL OF WORK |
| 107-1 | WORKER VISIBILITY |
| 108-1 | LIQUIDATED DAMAGES |
| 110-1 | PROTECTION OF WATER QUALITY AND WETLANDS |
| 303-1 | AGGREGATE BASE COURSE |
| 404-1 | PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX |
| 404-2 | DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES |
| 409-1 | MINERAL AGGREGATES |
| 410-3 | DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS |
| 501-1 | INSTALLATION OF TIE BARS |
| 600-1 | WATER FOR VEGETATION |
| 603-1 | MAINTENANCE OF TRAFFIC |
| 604-1 | RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES |
| 604-2 | INSPECTION OF TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES |
| 606-1 | PIPE CULVERTS FOR SIDE DRAINS |
| 606-2 | PIPE CULVERTS |
| 711-1 | CONCRETE PULL BOX |
| 714-1 | DESIGN AND MATERIAL REQUIREMENTS FOR TRAFFIC SIGNAL MAST ARMS AND POLES |
| 718-2 | REFLECTORIZED PAINT PAVEMENT MARKINGS |
| 719-2 | THERMOPLASTIC PAVEMENT MARKING MATERIAL |
| 804-1 | INSTALLATION OF DOWEL BARS AND TIE BARS |
| JOB 040376 | ASPHALT CONCRETE HOT MIX SURFACE COURSE SURFACE TOLERANCE AND INCENTIVE PAYMENTS |
| JOB 040376 | BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT |
| JOB 040376 | BROADBAND INTERNET SERVICE FOR FIELD OFFICE |
| JOB 040376 | CABINET DRAWER ASSEMBLY |
| JOB 040376 | CLOSED LOOP TRAFFIC SYSTEM |
| JOB 040376 | COMMUNICATION CABLE-FIBER |
| JOB 040376 | COMPLETING DROP INLETS |
| JOB 040376 | CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS |
| JOB 040376 | COORDINATION OF WORK |
| JOB 040376 | ELECTRICAL CONDUCTORS-IN-CONDUIT |
| JOB 040376 | ELECTRICAL CONDUCTORS FOR LUMINAIRES |
| JOB 040376 | GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION |
| JOB 040376 | HIGH PERFORMANCE PAVEMENT MARKING |
| JOB 040376 | INTERNET BIDDING |
| JOB 040376 | LED TRAFFIC SIGNAL HEAD |
| JOB 040376 | LOOP WIRING-CLASSIFIED |
| JOB 040376 | LUMINAIRE ASSEMBLY (CUTOFF TYPE) |
| JOB 040376 | NESTING SITES OF MIGRATORY BIRDS |
| JOB 040376 | OFF-SITE RESTRAINING CONDITIONS FOR AMERICAN BURYING BEETLE |
| JOB 040376 | PARTNERING REQUIREMENTS |
| JOB 040376 | PLASTIC PIPE |
| JOB 040376 | SERVICE POINT ASSEMBLY |
| JOB 040376 | SHAPING DITCH |
| JOB 040376 | SOIL STABILIZATION |
| JOB 040376 | STORM WATER POLLUTION PREVENTION PLAN |
| JOB 040376 | SUBGRADE PREPARATION |
| JOB 040376 | SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS |
| JOB 040376 | TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES |
| JOB 040376 | TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES LEFT IN PLACE |
| JOB 040376 | UTILITY ADJUSTMENTS |
| JOB 040376 | VALUE ENGINEERING |
| JOB 040376 | WARM MIX ASPHALT |

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/12/12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 4 | 207 |

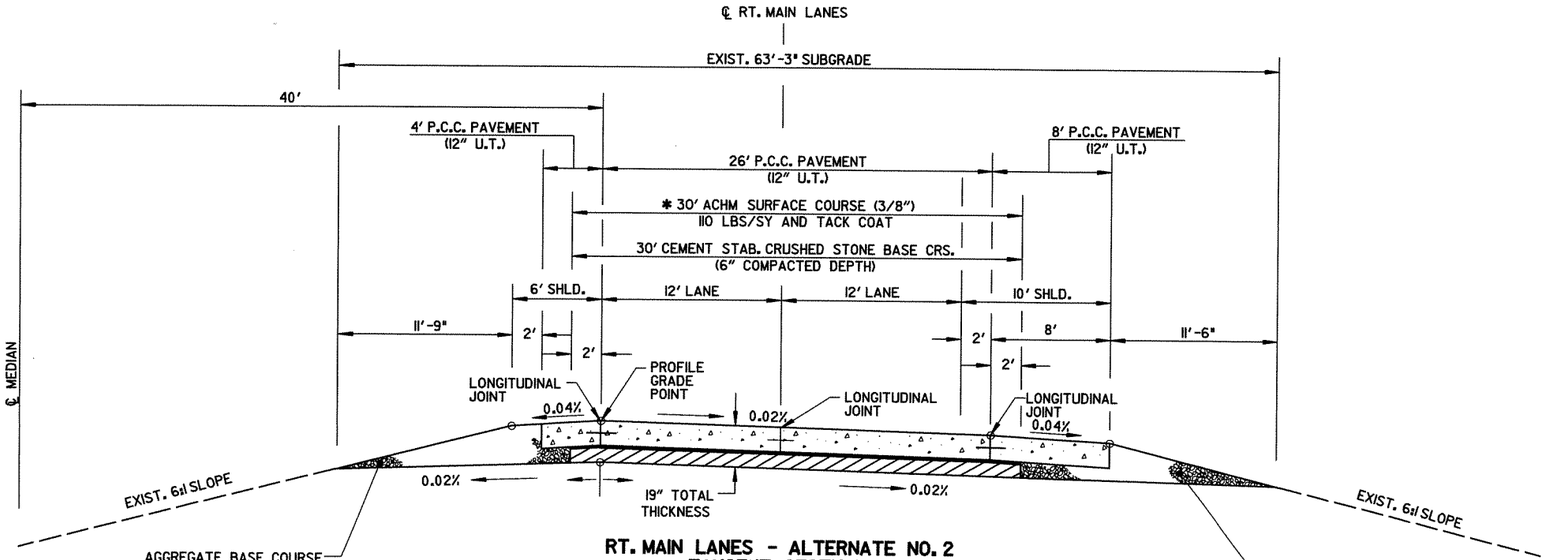
(2) **TYPICAL SECTIONS OF IMPROVEMENT**




**RT. MAIN LANES - ALTERNATE NO. 1**
**TANGENT SECTION**
**RELOCATED US 71**
(SHOWN IN DIRECTION OF TRAFFIC)
(REVERSE FOR LEFT MAIN LANES)

STA. 1875+00.00 TO STA. 1989+91.44 LT. MAIN LANES
STA. 1894+34.50 TO STA. 2035+79.83 RT. MAIN LANES
STA. 1999+91.44 TO STA. 2035+55.45 LT. MAIN LANES
STA. 2047+79.83 TO STA. 2111+35.48 RT. MAIN LANES
STA. 2048+91.41 TO STA. 2065+84.22 LT. MAIN LANES
STA. 2075+84.22 TO STA. 2148+15.12 LT. MAIN LANES
STA. 2150+85.33 TO STA. 2158+80.40 LT. MAIN LANES
STA. 2121+35.48 TO STA. 2148+15.12 RT. MAIN LANES
STA. 2150+85.33 TO STA. 2160+67.42 RT. MAIN LANES
STA. 2175+30.40 TO STA. 2178+50.00 LT. MAIN LANES
STA. 2176+17.42 TO STA. 2178+50.00 RT. MAIN LANES

*DENSITY REQUIREMENTS WAIVED




**RT. MAIN LANES - ALTERNATE NO. 2**
**TANGENT SECTION**
**RELOCATED US 71**
(SHOWN IN DIRECTION OF TRAFFIC)
(REVERSE FOR LEFT MAIN LANES)

STA. 1875+00.00 TO STA. 1989+91.44 LT. MAIN LANES
STA. 1894+34.50 TO STA. 2035+79.83 RT. MAIN LANES
STA. 1999+91.44 TO STA. 2035+55.45 LT. MAIN LANES
STA. 2047+79.83 TO STA. 2111+35.48 RT. MAIN LANES
STA. 2048+91.41 TO STA. 2065+84.22 LT. MAIN LANES
STA. 2075+84.22 TO STA. 2148+15.12 LT. MAIN LANES
STA. 2150+85.33 TO STA. 2158+80.40 LT. MAIN LANES
STA. 2121+35.48 TO STA. 2148+15.12 RT. MAIN LANES
STA. 2150+85.33 TO STA. 2160+67.42 RT. MAIN LANES
STA. 2175+30.40 TO STA. 2178+50.00 LT. MAIN LANES
STA. 2176+17.42 TO STA. 2178+50.00 RT. MAIN LANES

*DENSITY REQUIREMENTS WAIVED

NOTES:

1. AFTER FINAL SHAPING OF BASE COURSE, THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

2. THE REMOVAL AND DISPOSAL OF EXISTING GRASS AND ORGANIC MATERIALS FROM THE SUBGRADE AND THE REPLACEMENT OF SUBGRADE MATERIAL REMOVED BY SCALPING THESE AREAS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED INCLUDED IN THE PRICE BID PER STATION FOR "SUBGRADE PREPARATION". REFER TO SPECIAL PROVISION "SUBGRADE PREPARATION".

3. PROFILE GRADE SHOWN ON PLAN AND PROFILE SHEETS IS 22" ABOVE SUBGRADE. USE 1":100' TRANSITION IN SUBGRADE TO MEET RAMP TERMINALS AND BRIDGE ENDS. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN PRICE BID PER STATION FOR "SUBGRADE PREPARATION".

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
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5/1/12

TYPICAL SECTIONS OF IMPROVEMENT

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 5 | 207 |

(2) TYPICAL SECTION OF IMPROVEMENT

NOTES:

1. AFTER FINAL SHAPING OF BASE COURSE, THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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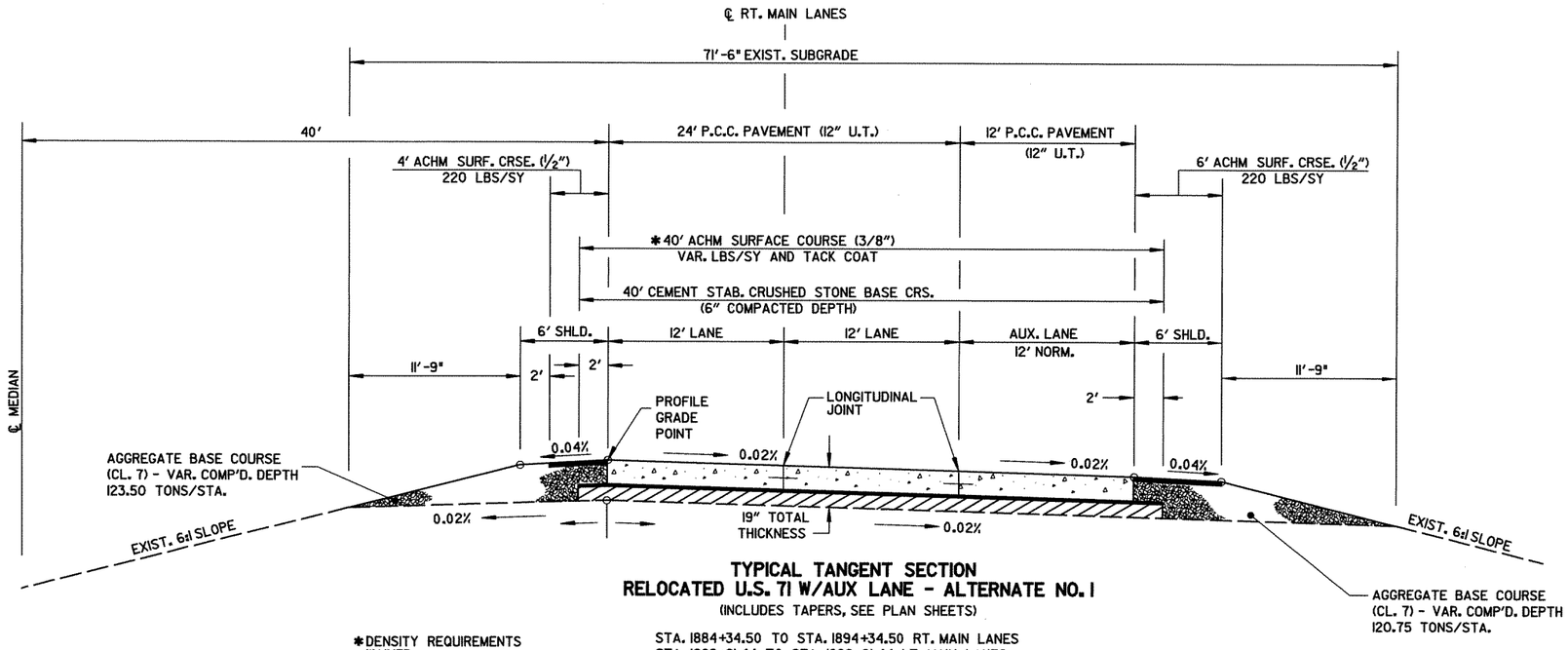



## TYPICAL TANGENT SECTION
## RELOCATED U.S. 71 W/AUX LANE - ALTERNATE NO. 1

(INCLUDES TAPERS, SEE PLAN SHEETS)

*DENSITY REQUIREMENTS WAIVED

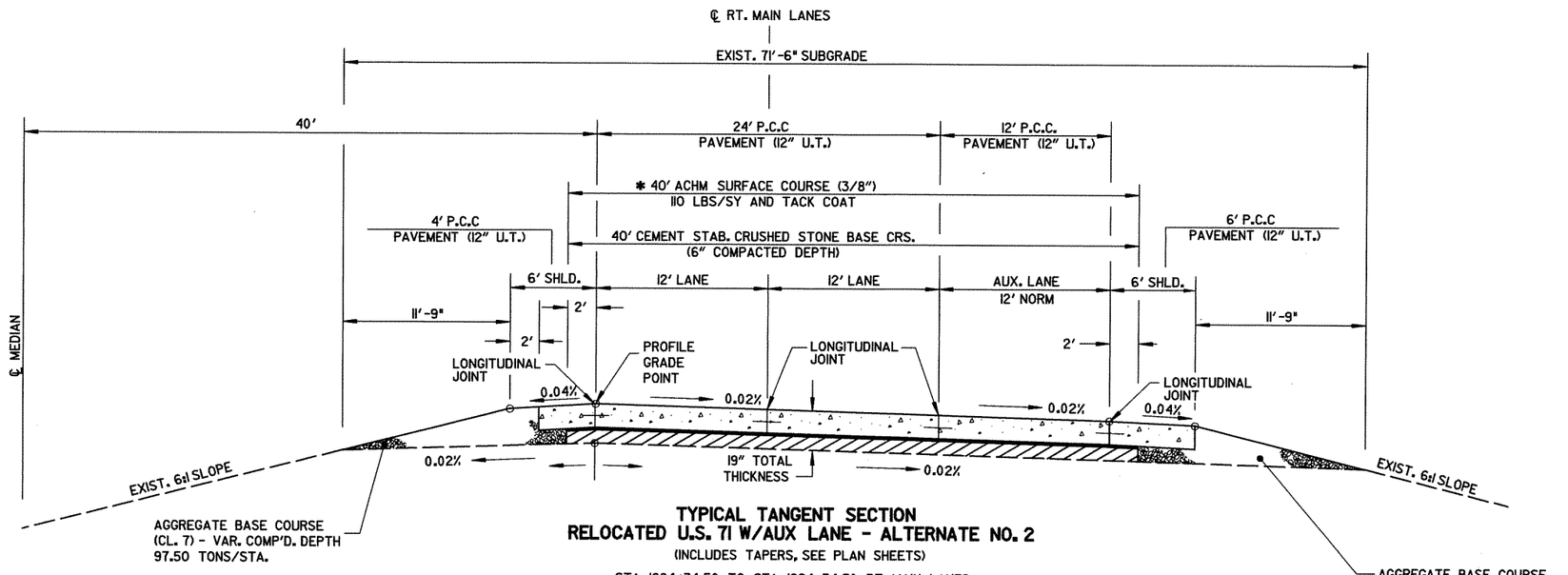
STA. 1884+34.50 TO STA. 1894+34.50 RT. MAIN LANES
STA. 1989+91.44 TO STA. 1999+91.44 LT. MAIN LANES
STA. 2035+55.45 TO STA. 2039+86.28 LT. MAIN LANES
STA. 2035+79.83 TO STA. 2040+49.00 RT. MAIN LANES
STA. 2043+78.80 TO STA. 2048+91.41 LT. MAIN LANES
STA. 2044+41.52 TO STA. 2047+79.83 RT. MAIN LANES
STA. 2065+84.22 TO STA. 2075+84.22 LT. MAIN LANES
STA. 2111+35.48 TO STA. 2121+35.48 RT. MAIN LANES
STA. 2158+80.40 TO STA. 2162+80.76 LT. MAIN LANES
STA. 2160+67.42 TO STA. 2163+15.20 RT. MAIN LANES
STA. 2172+49.50 TO STA. 2175+30.40 LT. MAIN LANES
STA. 2173+27.94 TO STA. 2176+17.42 RT. MAIN LANES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 5/1/12

TYPICAL SECTION OF IMPROVEMENT

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 6 | 207 |

(2) **TYPICAL SECTION OF IMPROVEMENT**




## TYPICAL TANGENT SECTION
## RELOCATED U.S. 71 W/AUX LANE - ALTERNATE NO. 2

(INCLUDES TAPERS, SEE PLAN SHEETS)

STA. 1884+34.50 TO STA. 1894+34.50 RT. MAIN LANES
STA. 1989+91.44 TO STA. 1999+91.44 LT. MAIN LANES
STA. 2035+55.45 TO STA. 2039+86.28 LT. MAIN LANES
STA. 2035+79.83 TO STA. 2040+49.00 RT. MAIN LANES
STA. 2043+78.80 TO STA. 2048+91.41 LT. MAIN LANES
STA. 2044+41.52 TO STA. 2047+79.83 RT. MAIN LANES
STA. 2065+84.22 TO STA. 2075+84.22 LT. MAIN LANES
STA. 2111+35.48 TO STA. 2121+35.48 RT. MAIN LANES
STA. 2158+80.40 TO STA. 2162+80.76 LT. MAIN LANES
STA. 2160+67.42 TO STA. 2163+15.20 RT. MAIN LANES
STA. 2172+49.50 TO STA. 2175+30.40 LT. MAIN LANES
STA. 2173+27.94 TO STA. 2176+17.42 RT. MAIN LANES

*DENSITY REQUIREMENTS WAIVED

NOTES:

1. AFTER FINAL SHAPING OF BASE COURSE, THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

2. THE REMOVAL AND DISPOSAL OF EXISTING GRASS AND ORGANIC MATERIALS FROM THE SUBGRADE AND THE REPLACEMENT OF SUBGRADE MATERIAL REMOVED BY SCALPING THESE AREAS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED INCLUDED IN THE PRICE BID PER STATION FOR "SUBGRADE PREPARATION". REFER TO SPECIAL PROVISION "SUBGRADE PREPARATION".

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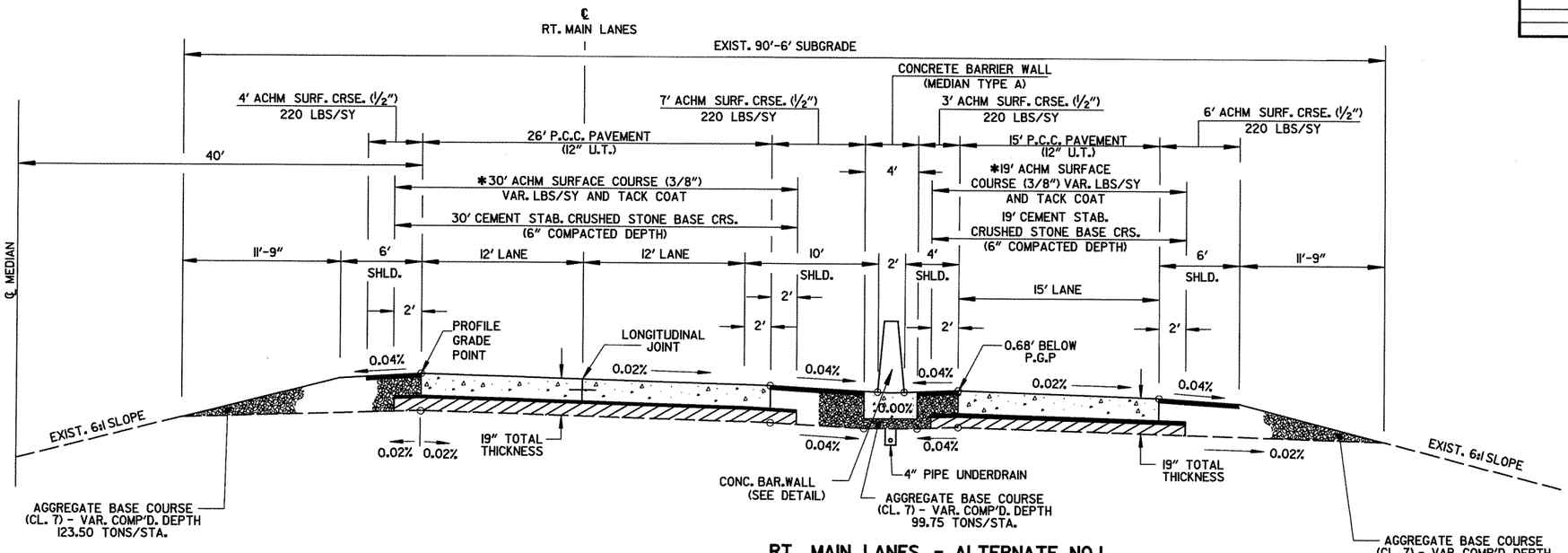
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 6A | 207 |

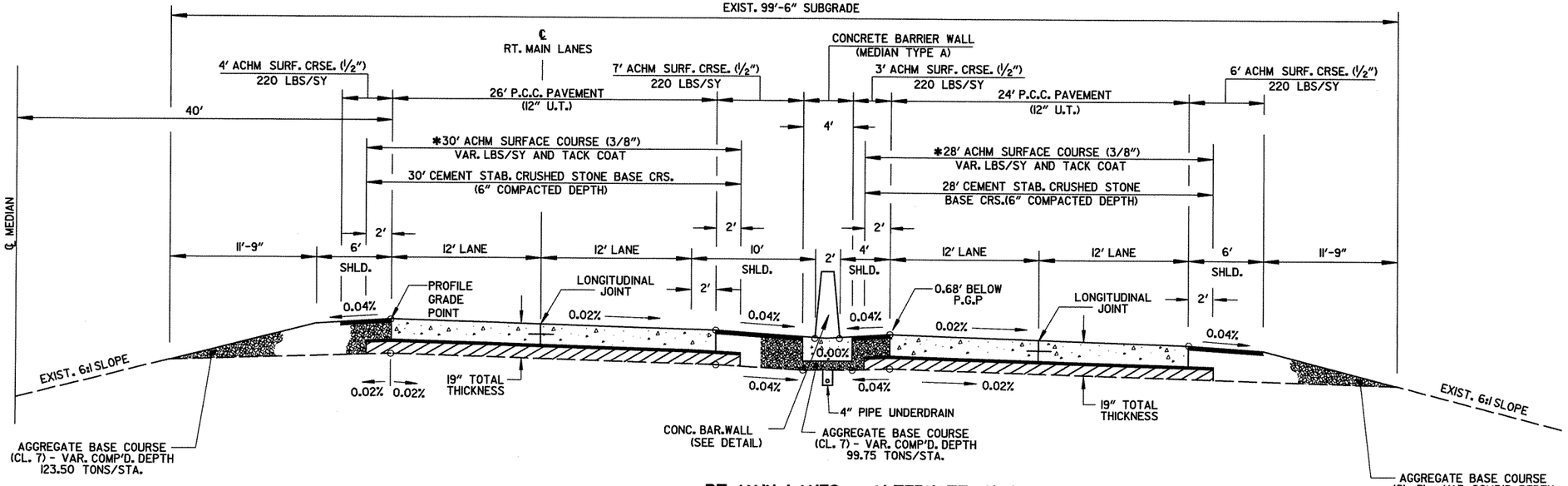
(2) **TYPICAL SECTIONS OF IMPROVEMENT**




*DENSITY REQUIREMENTS WAIVED

## RT. MAIN LANES - ALTERNATE NO.1 TANGENT SECTION (WITH C/D ROAD) RELOCATED U.S. 71

(SHOWN IN DIRECTION OF TRAFFIC)
STA. 1875+00.00 TO STA. 1876+32.82




## RT. MAIN LANES - ALTERNATE NO. 1 TANGENT SECTION (WITH 2 LANE C/D ROAD) RELOCATED U.S. 71

(SHOWN IN DIRECTION OF TRAFFIC)
STA. 1876+32.82 TO STA. 1878+33.62

NOTES:

1. PAVING EQUIPMENT SHALL NOT BE ALLOWED TO TRACK ON TOP OF EDGE DRAINS.
2. AFTER FINAL SHAPING OF BASE COURSE, THE EXISTING FORESLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
3. 4" PIPE UNDERDRAINS SHALL BE CONSTRUCTED LONGITUDINALLY UNDER THE BARRIER WALL AND CONNECTED TO THE TYPE ST DROP INLETS. TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.
4. THE REMOVAL AND DISPOSAL OF EXISTING GRASS AND ORGANIC MATERIALS FROM THE SUBGRADE AND THE REPLACEMENT OF SUBGRADE MATERIAL REMOVED BY SCALPING THESE AREAS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED INCLUDED IN THE PRICE BID PER STATION FOR "SUBGRADE PREPARATION". REFER TO SPECIAL PROVISION "SUBGRADE PREPARATION".
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## ALTERNATE NO. 1 TYPICAL SECTIONS OF IMPROVEMENT

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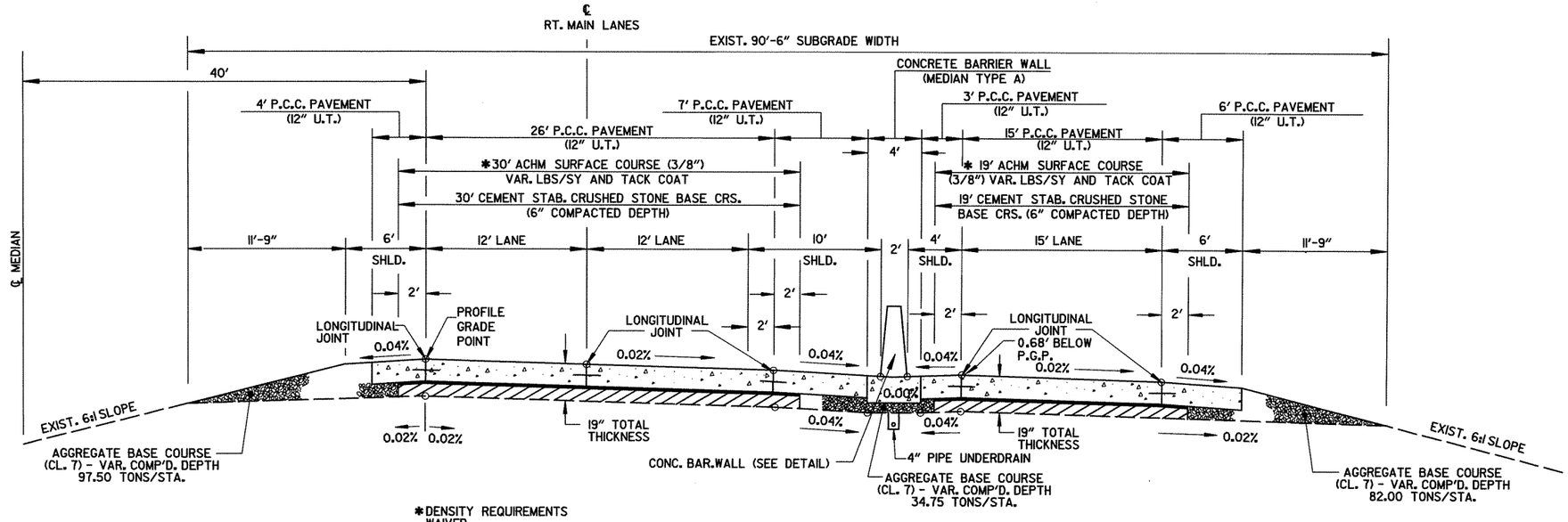
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 68 | 207 |

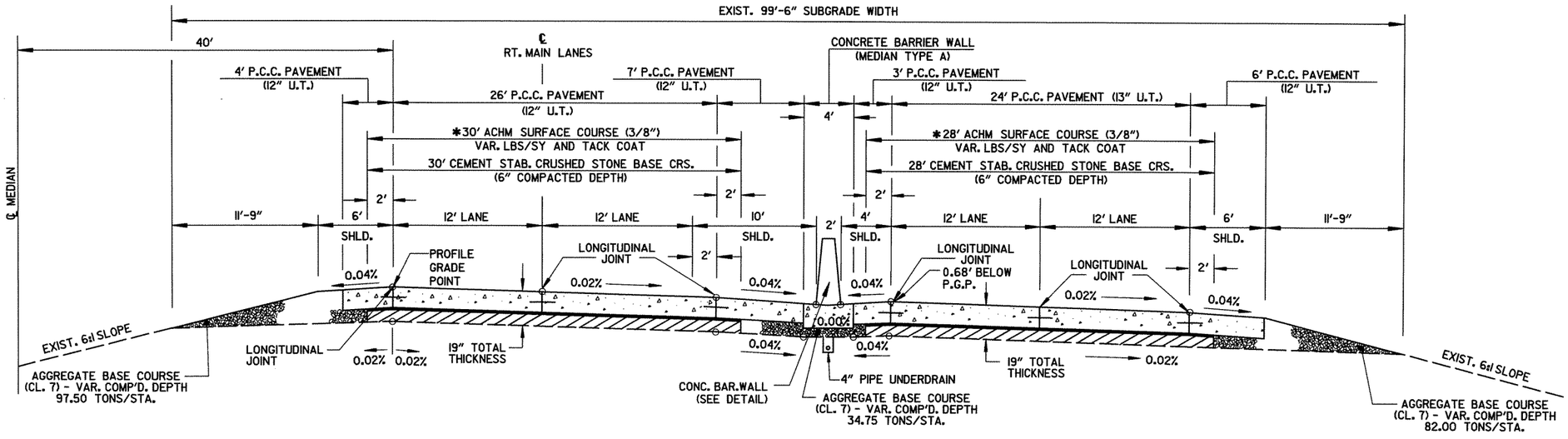
(2) **TYPICAL SECTIONS OF IMPROVEMENT**




*DENSITY REQUIREMENTS WAIVED

## RT. MAIN LANES - ALTERNATE NO.2 TANGENT SECTION (WITH C/D ROAD) RELOCATED U.S. 71

(SHOWN IN DIRECTION OF TRAFFIC)
STA. 1875+00.00 TO STA. 1876+32.82




## RT. MAIN LANES - ALTERNATE NO. 2 TANGENT SECTION (WITH 2 LANE C/D ROAD) RELOCATED U.S. 71

(SHOWN IN DIRECTION OF TRAFFIC)
STA. 1876+32.82 TO STA. 1878+33.62

NOTES:

1. PAVING EQUIPMENT SHALL NOT BE ALLOWED TO TRACK ON TOP OF EDGE DRAINS.
2. AFTER FINAL SHAPING OF BASE COURSE, THE EXISTING FORESLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
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5/1/12

## ALTERNATE NO. 2 TYPICAL SECTIONS OF IMPROVEMENT

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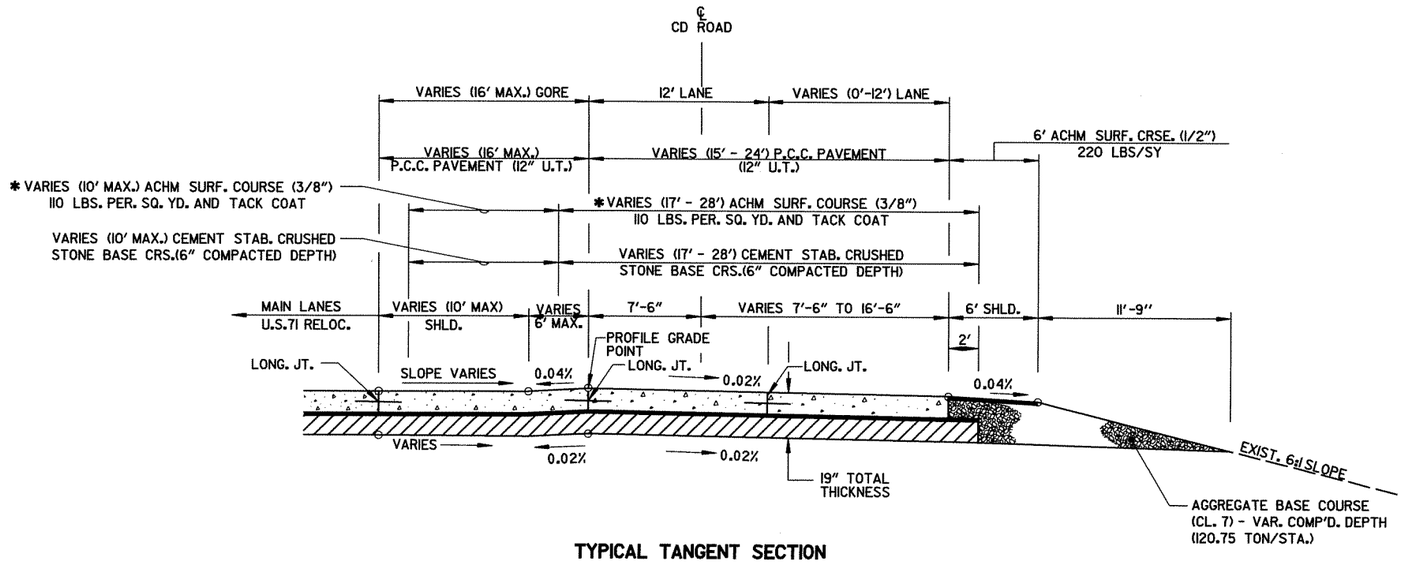
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 7 | 207 |

(2) **TYPICAL SECTIONS OF IMPROVEMENT**




**TYPICAL TANGENT SECTION**
**CD ROAD GORE AREA - ALTERNATE NO. 1**

(SHOWN IN DIRECTION OF TRAFFIC)
(INCLUDES TRANSITIONS & TAPERS, SEE PLAN SHEETS)

STA. 1878+33.62 TO STA. 1884+34.50 RT. MAIN LANES

NOTES:

1. AFTER FINAL SHAPING OF BASE COURSE, THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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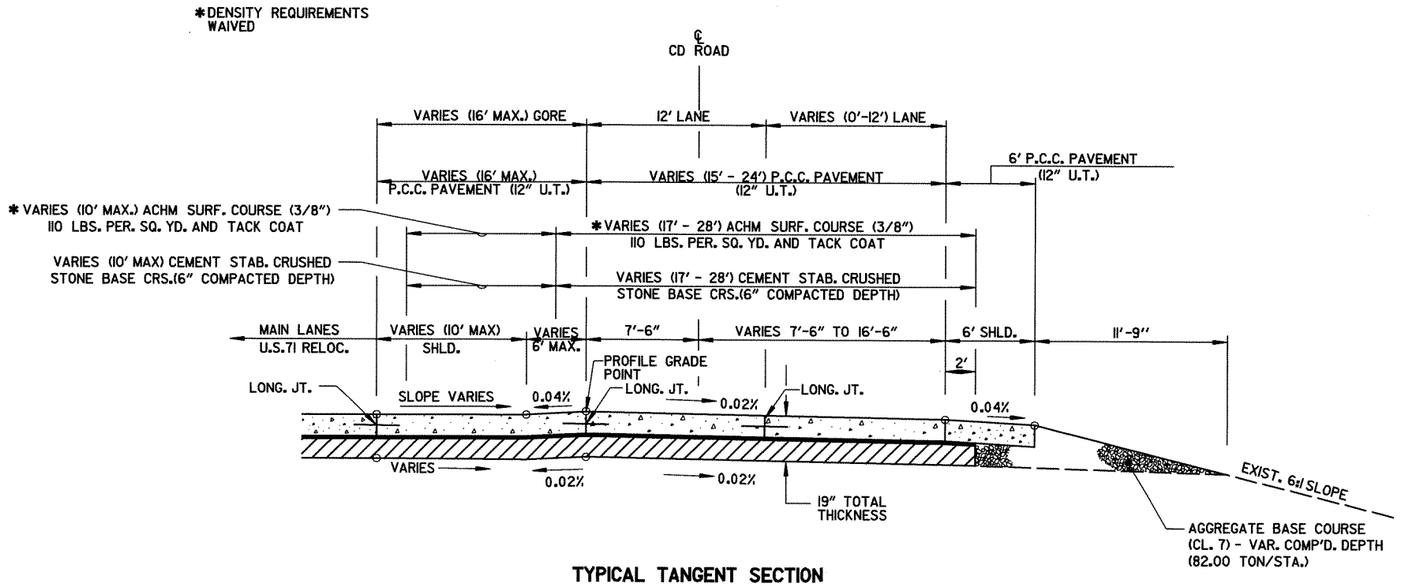


**TYPICAL TANGENT SECTION**
**CD ROAD GORE AREA - ALTERNATE NO. 2**

(SHOWN IN DIRECTION OF TRAFFIC)
(INCLUDES TRANSITIONS & TAPERS, SEE PLAN SHEETS)

STA. 1878+33.62 TO STA. 1884+34.50 RT. MAIN LANES

STATE OF ARKANSAS
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TYPICAL SECTIONS OF IMPROVEMENT

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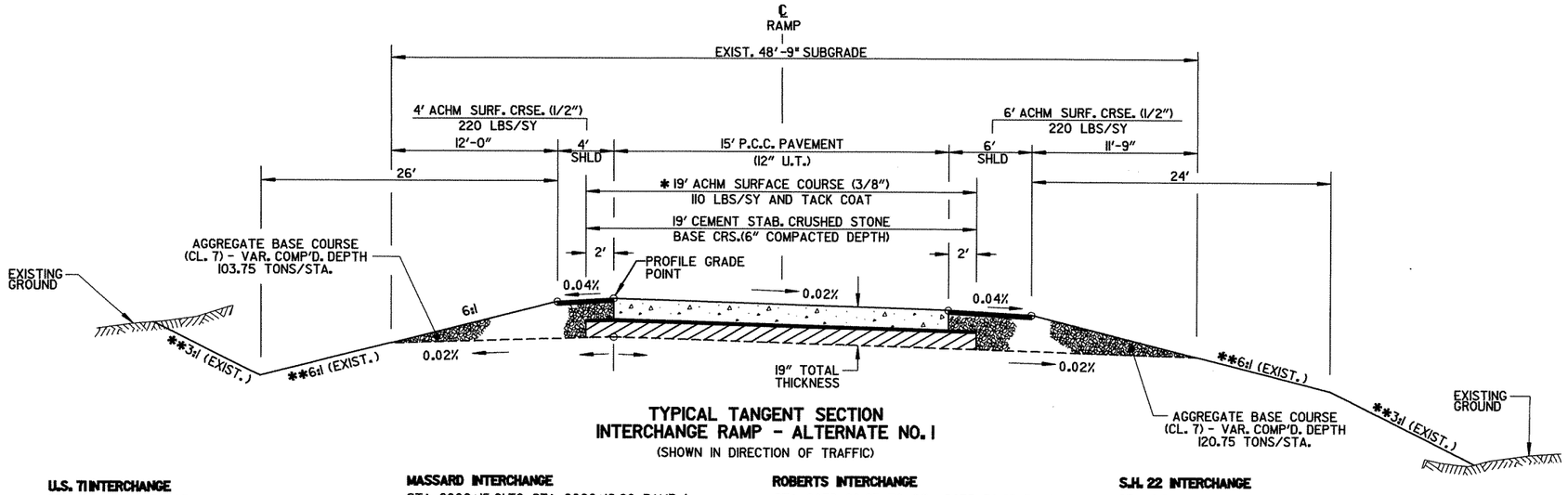
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 8 | 207 |

(2) **TYPICAL SECTIONS OF IMPROVEMENT**




## TYPICAL TANGENT SECTION
## INTERCHANGE RAMP - ALTERNATE NO. 1

(SHOWN IN DIRECTION OF TRAFFIC)

**U.S. 71 INTERCHANGE**
STA. 1854+17.33 TO STA. 1865+55.81 RAMP 4
STA. 1884+28.54 TO STA. 1885+46.02 S.B. CD

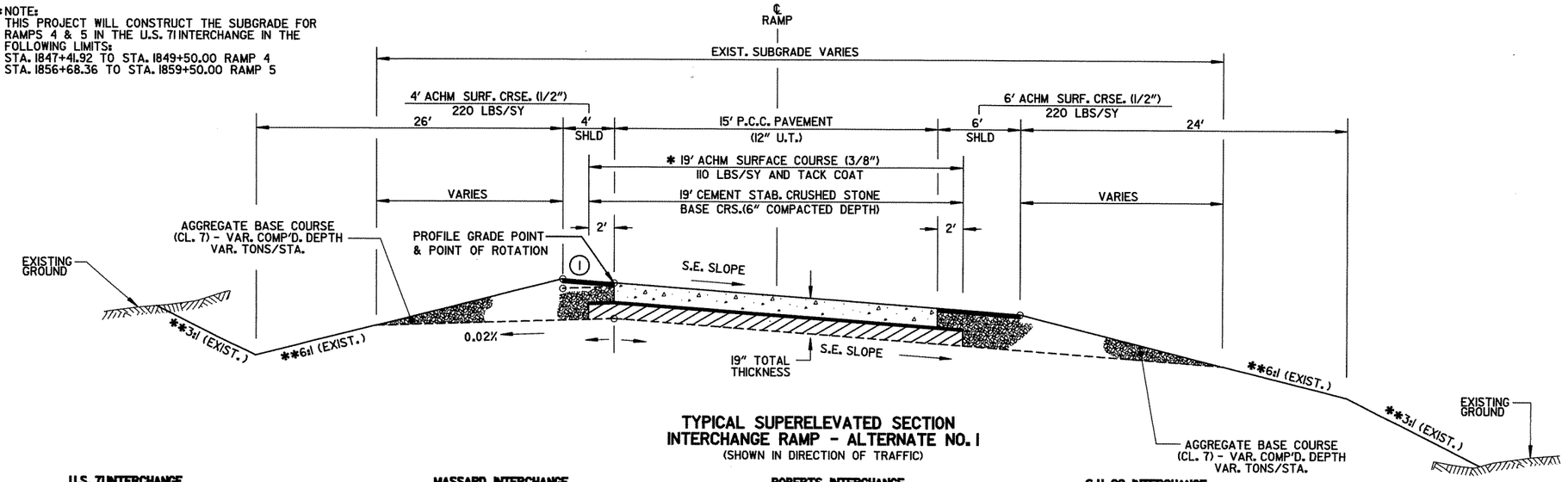
**MASSARD INTERCHANGE**
STA. 2000+15.01 TO STA. 2000+16.90 RAMP 1
STA. 2008+71.20 TO STA. 2012+30.89 RAMP 1
STA. 2026+21.95 TO STA. 2027+83.67 RAMP 2
STA. 2025+49.67 TO STA. 2025+80.71 RAMP 3
STA. 2035+48.63 TO STA. 2035+55.66 RAMP 3
STA. 2006+85.52 TO STA. 2012+04.13 RAMP 4

**ROBERTS INTERCHANGE**
STA. 2075+60.63 TO STA. 2075+76.83 RAMP 1
STA. 2082+55.11 TO STA. 2092+87.00 RAMP 1
STA. 2098+60.51 TO STA. 2100+27.94 RAMP 3
STA. 2110+19.80 TO STA. 2111+21.76 RAMP 3
STA. 2085+28.99 TO STA. 2089+95.55 RAMP 4

**S.H. 22 INTERCHANGE**
STA. 2156+51.58 TO STA. 2158+19.27 RAMP 4
STA. 2160+52.19 TO STA. 2161+68.03 RAMP 4

*DENSITY REQUIREMENTS WAIVED

**NOTE:
THIS PROJECT WILL CONSTRUCT THE SUBGRADE FOR RAMPS 4 & 5 IN THE U.S. 71 INTERCHANGE IN THE FOLLOWING LIMITS:
STA. 1847+41.92 TO STA. 1849+50.00 RAMP 4
STA. 1856+68.36 TO STA. 1859+50.00 RAMP 5




## TYPICAL SUPERELEVATED SECTION
## INTERCHANGE RAMP - ALTERNATE NO. 1

(SHOWN IN DIRECTION OF TRAFFIC)

**U.S. 71 INTERCHANGE**
STA. 1847+41.92 TO STA. 1854+17.33 RAMP 4
STA. 1865+55.81 TO STA. 1876+33.42 RAMP 4
STA. 1856+68.36 TO STA. 1876+74.78 RAMP 5
STA. 1874+50.00 TO STA. 1884+28.54 S.B. CD

**MASSARD INTERCHANGE**
STA. 2000+16.90 TO STA. 2008+71.20 RAMP 1
STA. 2012+30.89 TO STA. 2013+28.00 RAMP 1
STA. 2017+41.99 TO STA. 2026+21.95 RAMP 2
STA. 2027+83.67 TO STA. 2035+80.43 RAMP 2
STA. 2023+22.00 TO STA. 2025+49.67 RAMP 3
STA. 2025+80.71 TO STA. 2035+48.63 RAMP 3
STA. 1999+90.83 TO STA. 2006+85.52 RAMP 4
STA. 2012+04.13 TO STA. 2019+08.36 RAMP 4

**ROBERTS INTERCHANGE**
STA. 2075+76.83 TO STA. 2082+55.11 RAMP 1
STA. 2097+69.75 TO STA. 2111+37.21 RAMP 2
STA. 2093+22.00 TO STA. 2098+60.51 RAMP 3
STA. 2100+27.94 TO STA. 2110+19.80 RAMP 3
STA. 2075+83.70 TO STA. 2085+28.99 RAMP 4

**S.H. 22 INTERCHANGE**
STA. 2176+17.59 TO STA. 2187+15.41 RAMP 1
STA. 2161+68.03 TO STA. 2173+74.33 RAMP 4

NOTES:

1. ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8.0%.

2. AFTER FINAL SHAPING OF BASE COURSE, THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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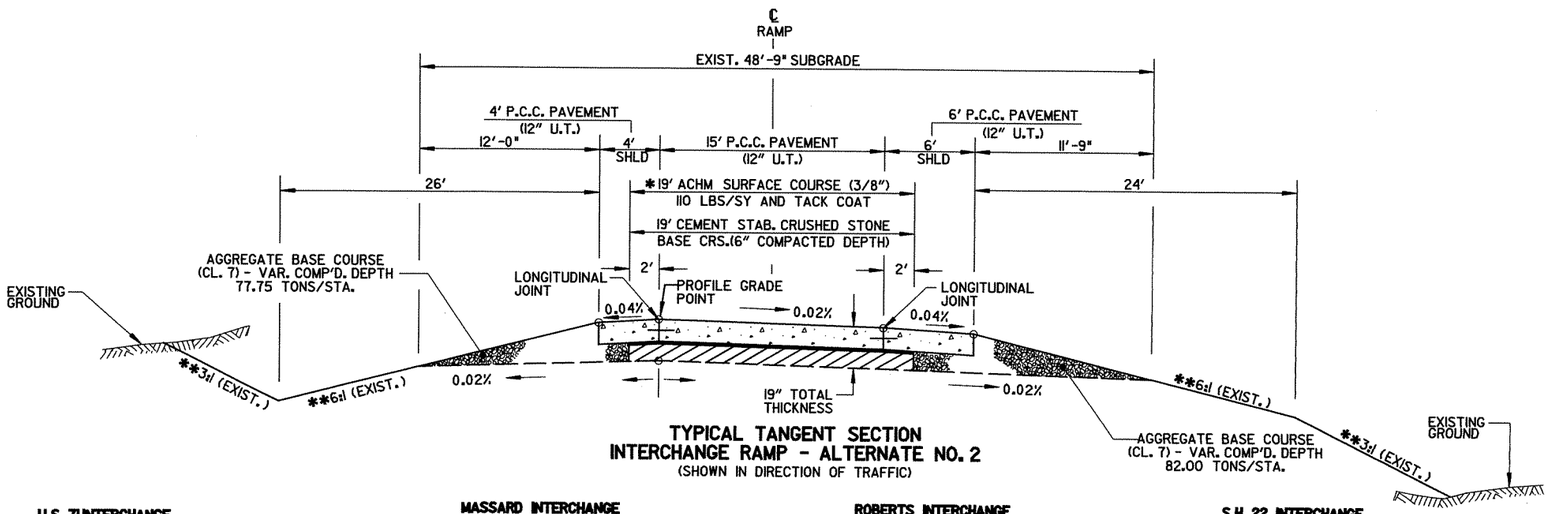
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 9 | 207 |

(2) TYPICAL SECTIONS OF IMPROVEMENT




## TYPICAL TANGENT SECTION INTERCHANGE RAMP - ALTERNATE NO. 2

(SHOWN IN DIRECTION OF TRAFFIC)

**U.S. 71 INTERCHANGE**
STA. 1854+17.33 TO STA. 1865+55.81 RAMP 4
STA. 1884+28.54 TO STA. 1885+46.02 S.B. CD

**MASSARD INTERCHANGE**
STA. 2000+15.01 TO STA. 2000+16.90 RAMP 1
STA. 2008+71.20 TO STA. 2012+30.89 RAMP 1
STA. 2026+21.95 TO STA. 2027+83.67 RAMP 2
STA. 2025+49.67 TO STA. 2025+80.71 RAMP 3
STA. 2035+48.63 TO STA. 2035+55.66 RAMP 3
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STA. 2075+60.63 TO STA. 2075+76.83 RAMP 1
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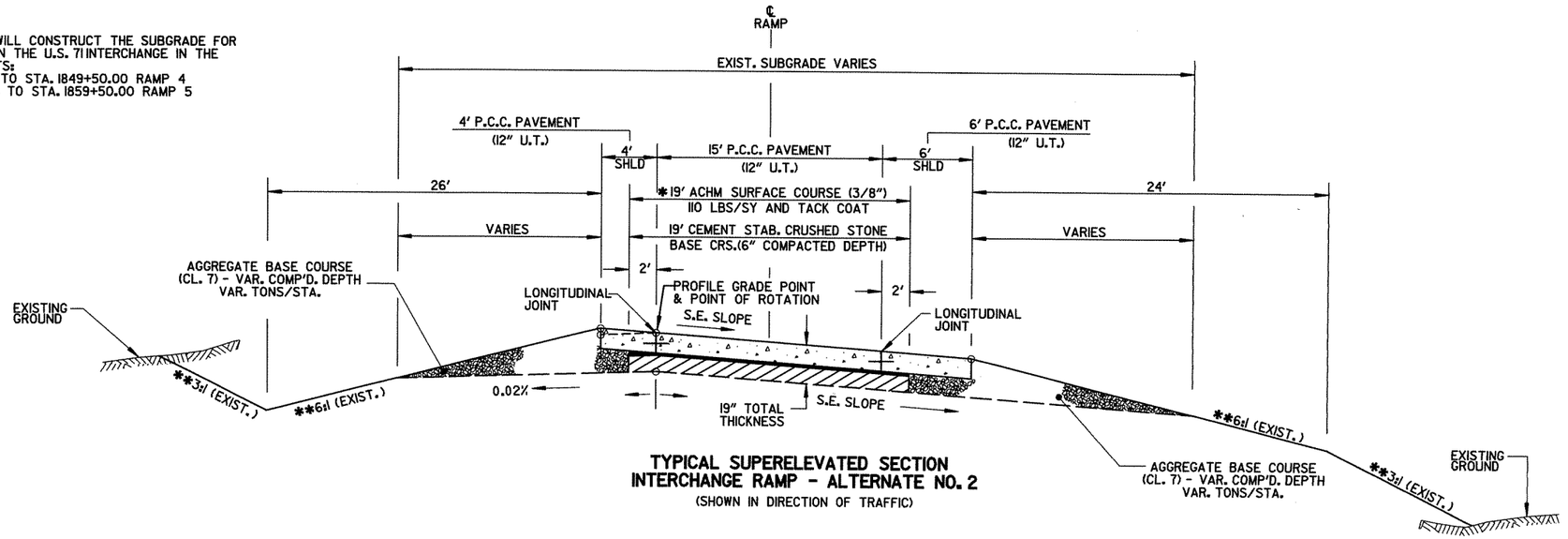
STA. 2098+60.51 TO STA. 2100+27.94 RAMP 3
STA. 2110+19.80 TO STA. 2111+21.76 RAMP 3
STA. 2085+28.99 TO STA. 2089+95.55 RAMP 4

**S.H. 22 INTERCHANGE**
STA. 2156+51.58 TO STA. 2158+19.27 RAMP 4
STA. 2160+52.19 TO STA. 2161+68.03 RAMP 4

*DENSITY REQUIREMENTS WAIVED

**NOTE:
THIS PROJECT WILL CONSTRUCT THE SUBGRADE FOR RAMPS 4 & 5 IN THE U.S. 71 INTERCHANGE IN THE FOLLOWING LIMITS:
STA. 1847+41.92 TO STA. 1849+50.00 RAMP 4
STA. 1856+68.36 TO STA. 1859+50.00 RAMP 5




## TYPICAL SUPERELEVATED SECTION INTERCHANGE RAMP - ALTERNATE NO. 2

(SHOWN IN DIRECTION OF TRAFFIC)

**U.S. 71 INTERCHANGE**
STA. 1847+41.92 TO STA. 1854+17.33 RAMP 4
STA. 1865+55.81 TO STA. 1876+33.42 RAMP 4
STA. 1856+68.36 TO STA. 1876+74.78 RAMP 5
STA. 1874+50.00 TO STA. 1884+28.54 S.B. CD

**MASSARD INTERCHANGE**
STA. 2000+16.90 TO STA. 2008+71.20 RAMP 1
STA. 2012+30.89 TO STA. 2013+28.00 RAMP 1
STA. 2017+41.99 TO STA. 2026+21.95 RAMP 2
STA. 2027+83.67 TO STA. 2035+80.43 RAMP 2
STA. 2023+22.00 TO STA. 2025+49.67 RAMP 3
STA. 2025+80.71 TO STA. 2035+48.63 RAMP 3
STA. 1999+90.83 TO STA. 2006+85.52 RAMP 4
STA. 2012+04.13 TO STA. 2019+08.36 RAMP 4

**ROBERTS INTERCHANGE**
STA. 2075+76.83 TO STA. 2082+55.11 RAMP 1
STA. 2097+69.75 TO STA. 2111+37.21 RAMP 2
STA. 2093+22.00 TO STA. 2098+60.51 RAMP 3
STA. 2100+27.94 TO STA. 2110+19.80 RAMP 3
STA. 2075+83.70 TO STA. 2085+28.99 RAMP 4

**S.H. 22 INTERCHANGE**
STA. 2176+17.59 TO STA. 2187+15.41 RAMP 1
STA. 2161+68.03 TO STA. 2173+74.33 RAMP 4

NOTES:

1. ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8.0%.

2. AFTER FINAL SHAPING OF BASE COURSE, THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

3. THE REMOVAL AND DISPOSAL OF EXISTING GRASS AND ORGANIC MATERIALS FROM THE SUBGRADE AND THE REPLACEMENT OF SUBGRADE MATERIAL REMOVED BY SCALPING THESE AREAS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED INCLUDED IN THE PRICE BID PER STATION FOR "SUBGRADE PREPARATION". REFER TO SPECIAL PROVISION "SUBGRADE PREPARATION".

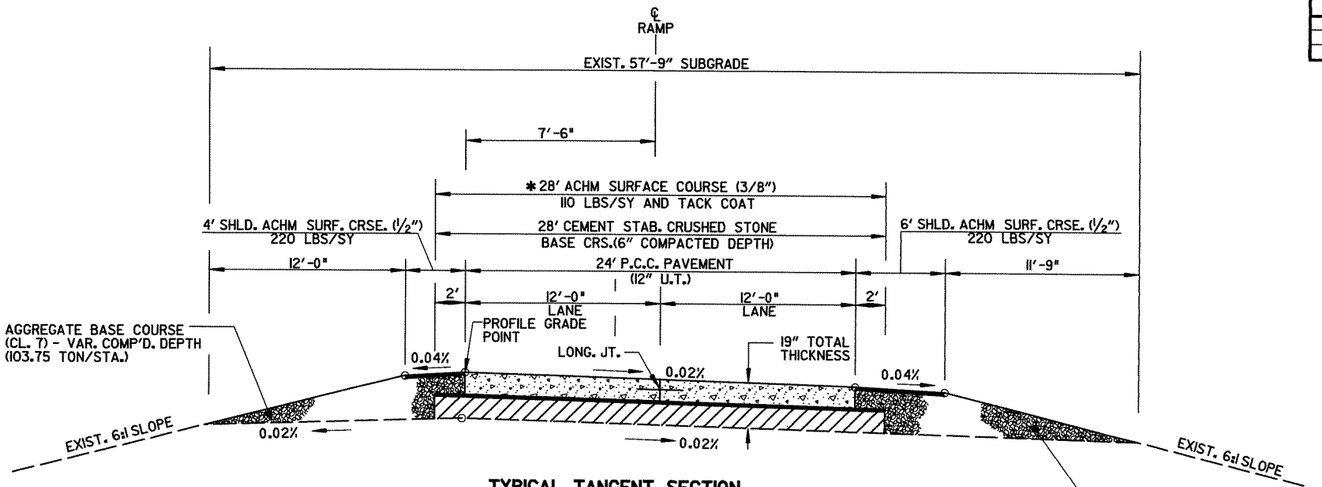
4. PROFILE GRADE SHOWN ON PLAN AND PROFILE SHEETS IS 22" ABOVE SUBGRADE. USE 1":100' TRANSITION IN SUBGRADE TO MEET RAMP TERMINALS AND BRIDGE ENDS. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN PRICE BID PER STATION FOR "SUBGRADE PREPARATION".

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

TYPICAL SECTIONS OF IMPROVEMENT

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 10 | 207 |

## (2) TYPICAL SECTIONS OF IMPROVEMENT




### TYPICAL TANGENT SECTION
### TWO LANE INTERCHANGE RAMP - ALTERNATE NO. 1
(SHOWN IN DIRECTION OF TRAFFIC)
(INCLUDES TAPERS, SEE PLAN SHEETS)

**ROBERTS INTERCHANGE**
STA. 2092+87.00 TO STA. 2093+46.55 RAMP 1

**S.H. 22 INTERCHANGE**
STA. 2158+19.27 TO STA. 2160+52.19 RAMP 4

NOTES:

1. ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8.0%.

2. AFTER FINAL SHAPING OF BASE COURSE, THE EXISTING SUBGRADE SLOPE AT THE TOE OF THE BASE COURSE SHALL BE REDRESSED AS DIRECTED BY THE ENGINEER PRIOR TO SEEDING IN ORDER TO MAINTAIN A UNIFORM SUBGRADE SLOPE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

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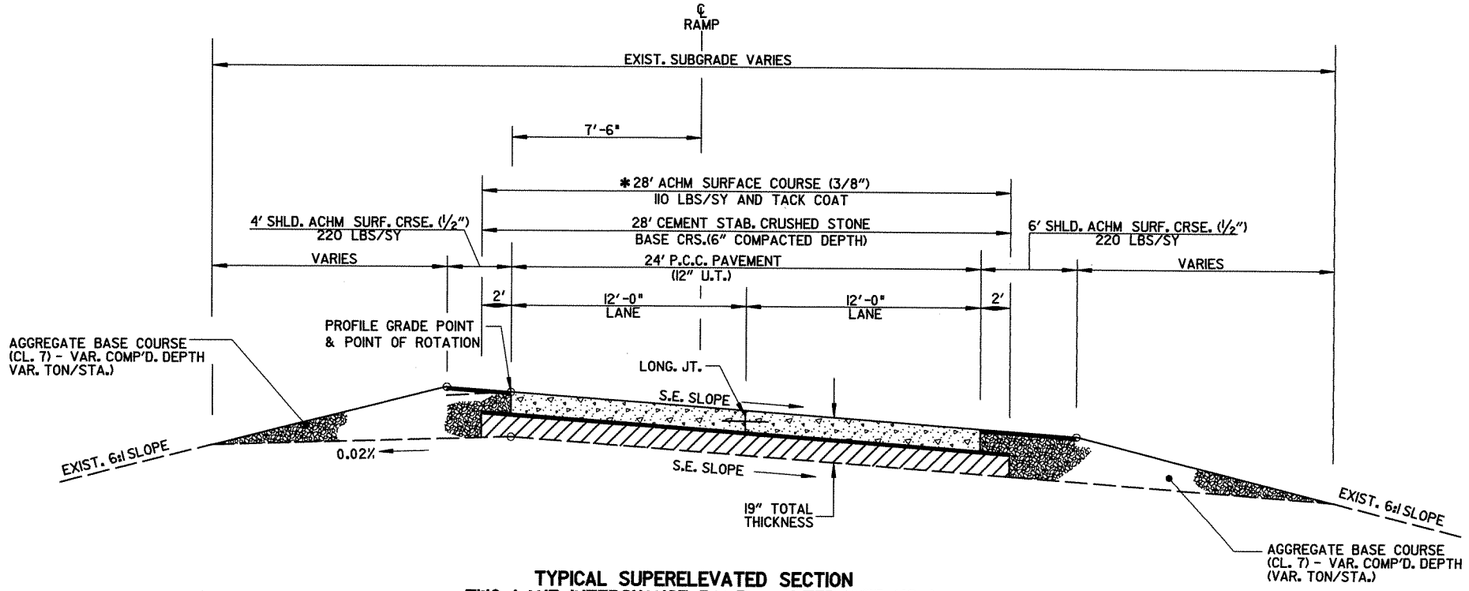
*DENSITY REQUIREMENTS WAIVED




### TYPICAL SUPERELEVATED SECTION
### TWO LANE INTERCHANGE RAMP - ALTERNATE NO. 1
(SHOWN IN DIRECTION OF TRAFFIC)
(INCLUDES SE TRANSITIONS & TAPERS, SEE PLAN SHEETS)

**MASSARD INTERCHANGE**
STA. 2013+28.00 TO STA. 2018+75.06 RAMP 1
STA. 2017+75.43 TO STA. 2023+22.00 RAMP 3

**ROBERTS INTERCHANGE**
STA. 2093+46.55 TO STA. 2097+95.66 RAMP 1
STA. 2087+65.35 TO STA. 2093+22.00 RAMP 3

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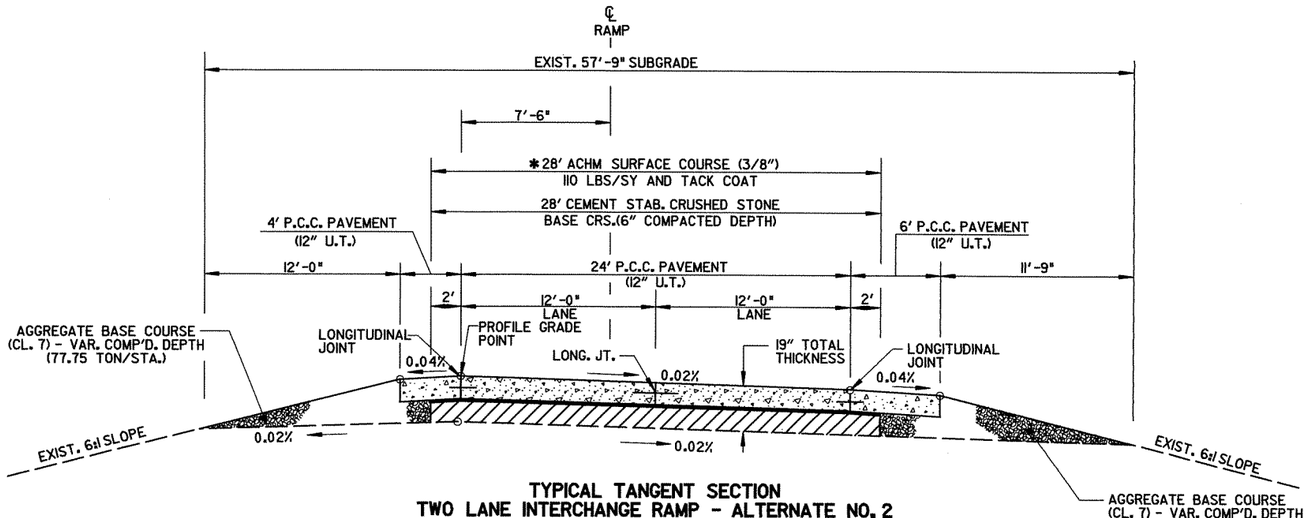
| | | | | JOB NO. | | 040376 | 11 | 207 |

(2) **TYPICAL SECTIONS OF IMPROVEMENT**




## TYPICAL TANGENT SECTION
## TWO LANE INTERCHANGE RAMP - ALTERNATE NO. 2

(SHOWN IN DIRECTION OF TRAFFIC)
(INCLUDES TAPERS, SEE PLAN SHEETS)

**ROBERTS INTERCHANGE**
STA. 2092+87.00 TO STA. 2093+46.55 RAMP 1

**S.H. 22 INTERCHANGE**
STA. 2158+19.27 TO STA. 2160+52.19 RAMP 4

NOTES:

1. ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8.0%.

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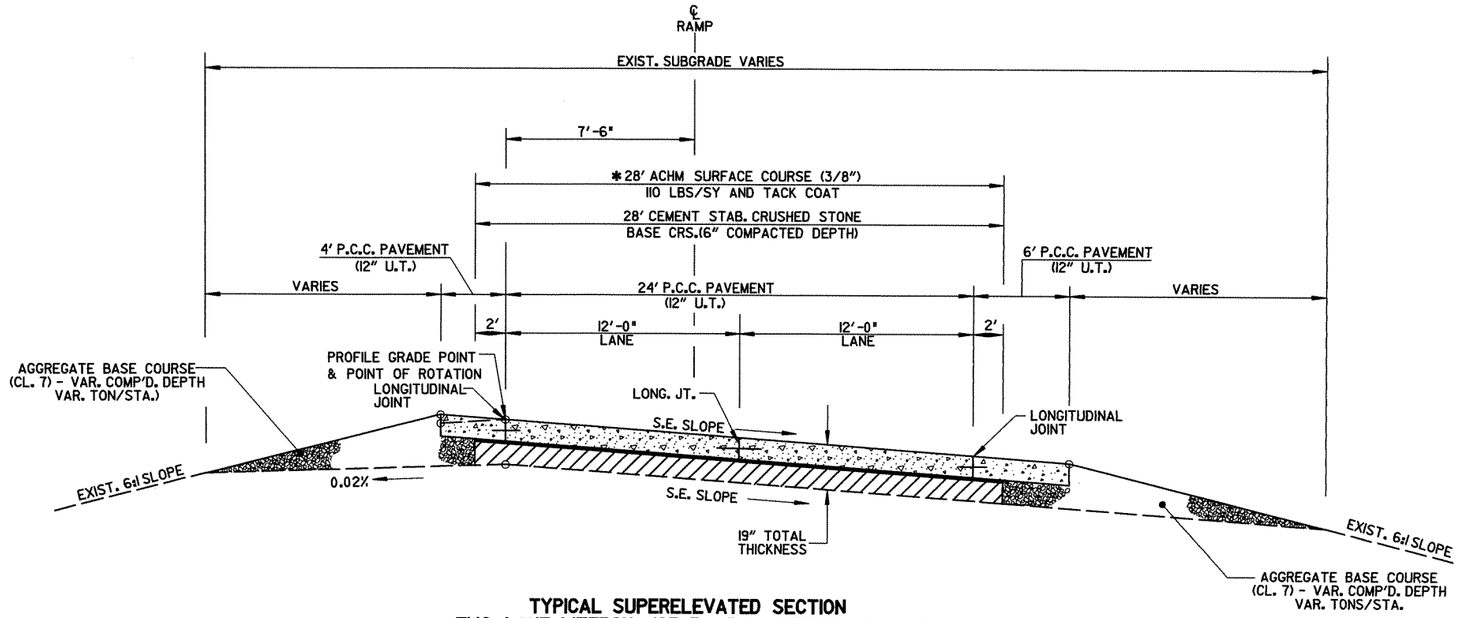


## TYPICAL SUPERELEVATED SECTION
## TWO LANE INTERCHANGE RAMP - ALTERNATE NO. 2

(SHOWN IN DIRECTION OF TRAFFIC)
(INCLUDES SE TRANSITIONS & TAPERS, SEE PLAN SHEETS)

**MASSARD INTERCHANGE**
STA. 2013+28.00 TO STA. 2018+75.06 RAMP 1
STA. 2017+75.43 TO STA. 2023+22.00 RAMP 3

**ROBERTS INTERCHANGE**
STA. 2093+46.55 TO STA. 2097+95.66 RAMP 1
STA. 2087+65.35 TO STA. 2093+22.00 RAMP 3

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TYPICAL SECTIONS OF IMPROVEMENT

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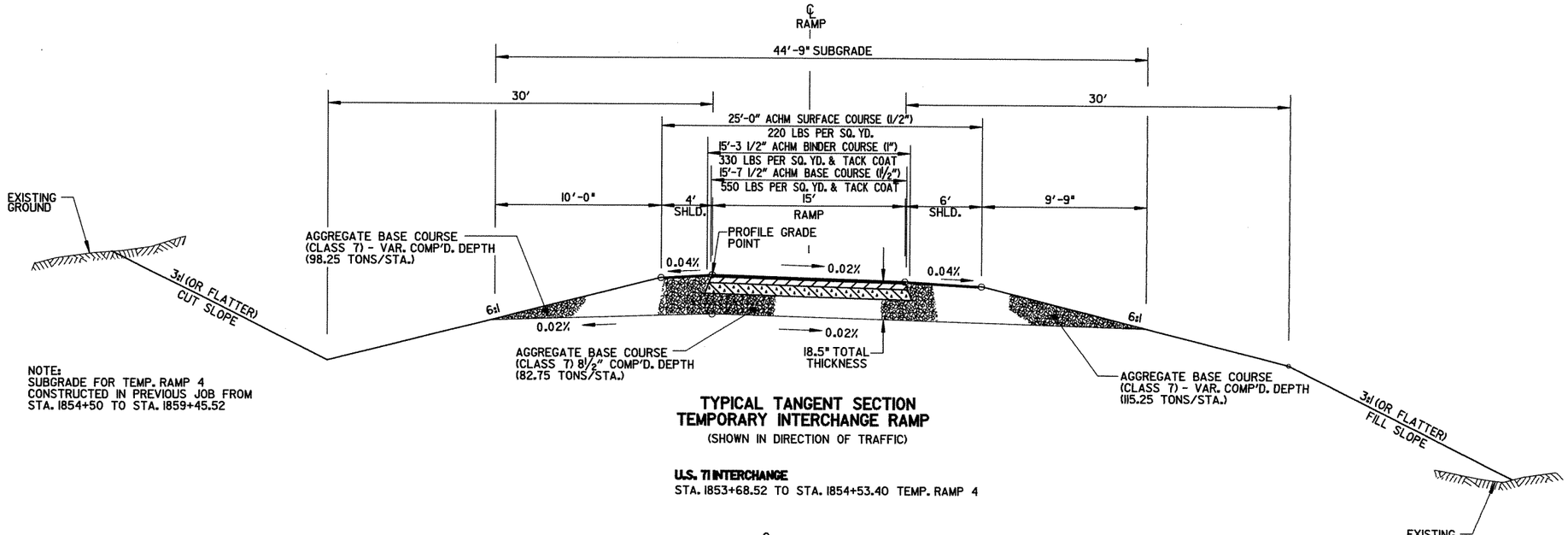
| | | | | JOB NO. | | 040376 | 12 | 207 |

(2) **TYPICAL SECTIONS OF IMPROVEMENT**

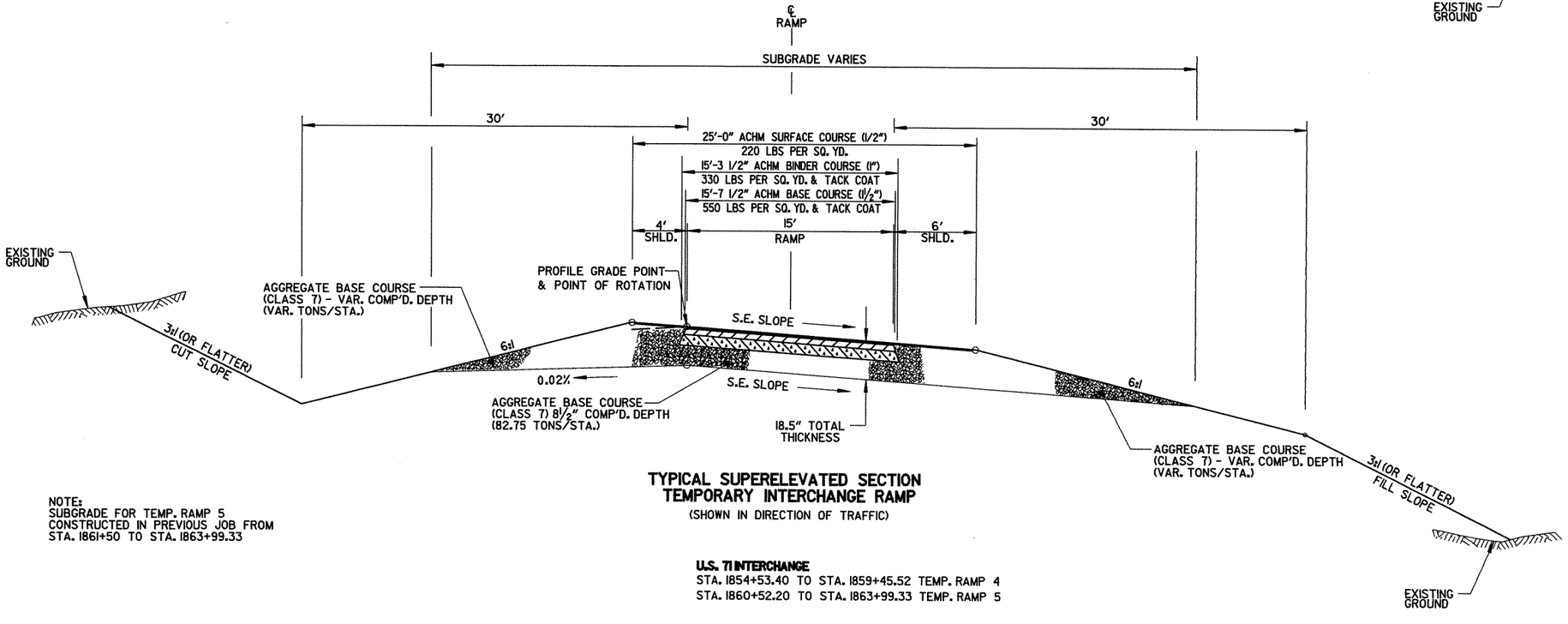



NOTE:
SUBGRADE FOR TEMP. RAMP 4
CONSTRUCTED IN PREVIOUS JOB FROM
STA. 1854+50 TO STA. 1859+45.52

## TYPICAL TANGENT SECTION TEMPORARY INTERCHANGE RAMP

(SHOWN IN DIRECTION OF TRAFFIC)

**U.S. 71 INTERCHANGE**
STA. 1853+68.52 TO STA. 1854+53.40 TEMP. RAMP 4




NOTE:
SUBGRADE FOR TEMP. RAMP 5
CONSTRUCTED IN PREVIOUS JOB FROM
STA. 1861+50 TO STA. 1863+99.33

## TYPICAL SUPERELEVATED SECTION TEMPORARY INTERCHANGE RAMP

(SHOWN IN DIRECTION OF TRAFFIC)

**U.S. 71 INTERCHANGE**
STA. 1854+53.40 TO STA. 1859+45.52 TEMP. RAMP 4
STA. 1860+52.20 TO STA. 1863+99.33 TEMP. RAMP 5

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8.0%.
4. THE REMOVAL AND DISPOSAL OF EXISTING GRASS AND ORGANIC MATERIALS FROM THE SUBGRADE AND THE REPLACEMENT OF SUBGRADE MATERIAL REMOVED BY SCALPING THESE AREAS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED INCLUDED IN THE PRICE BID PER STATION FOR "SUBGRADE PREPARATION". REFER TO SPECIAL PROVISION "SUBGRADE PREPARATION".
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5/1/12

TYPICAL SECTIONS OF IMPROVEMENT

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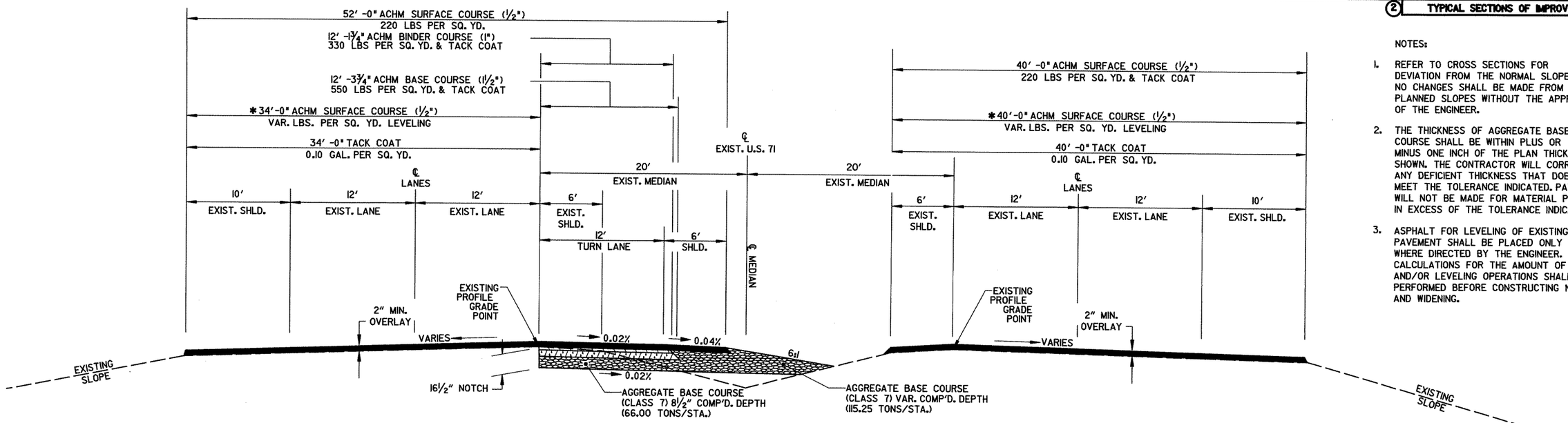
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 13 | 207 |

(2) **TYPICAL SECTIONS OF IMPROVEMENT**

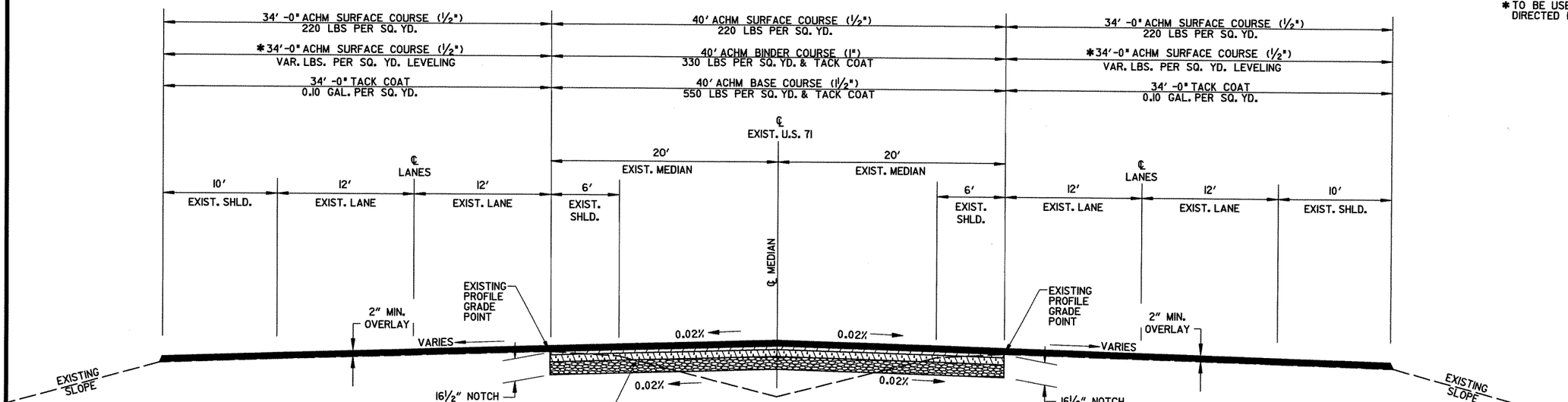



## TYPICAL SECTION
## EXISTING U.S. 71 - LEFT TURN LANE

(INCLUDES TAPER, SEE PLAN SHEETS)
STA. 32+63 TO 38+13

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.




OVERLAY
STA. 16+38.18 TO 65+47.98

AGGREGATE BASE COURSE (CLASS 7) 8½" COMP'D. DEPTH (220.25 TONS/STA.) -MAX.

## TYPICAL TANGENT SECTION
## EXISTING U.S. 71 CROSSING

FULL DEPTH
STA. 31+53 TO 32+63
STA. 48+92 TO 50+22

OVERLAY
STA. 16+38.18 TO 65+47.98

*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

STATE OF ARKANSAS
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No. 9808
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5/1/12

TYPICAL SECTIONS OF IMPROVEMENT

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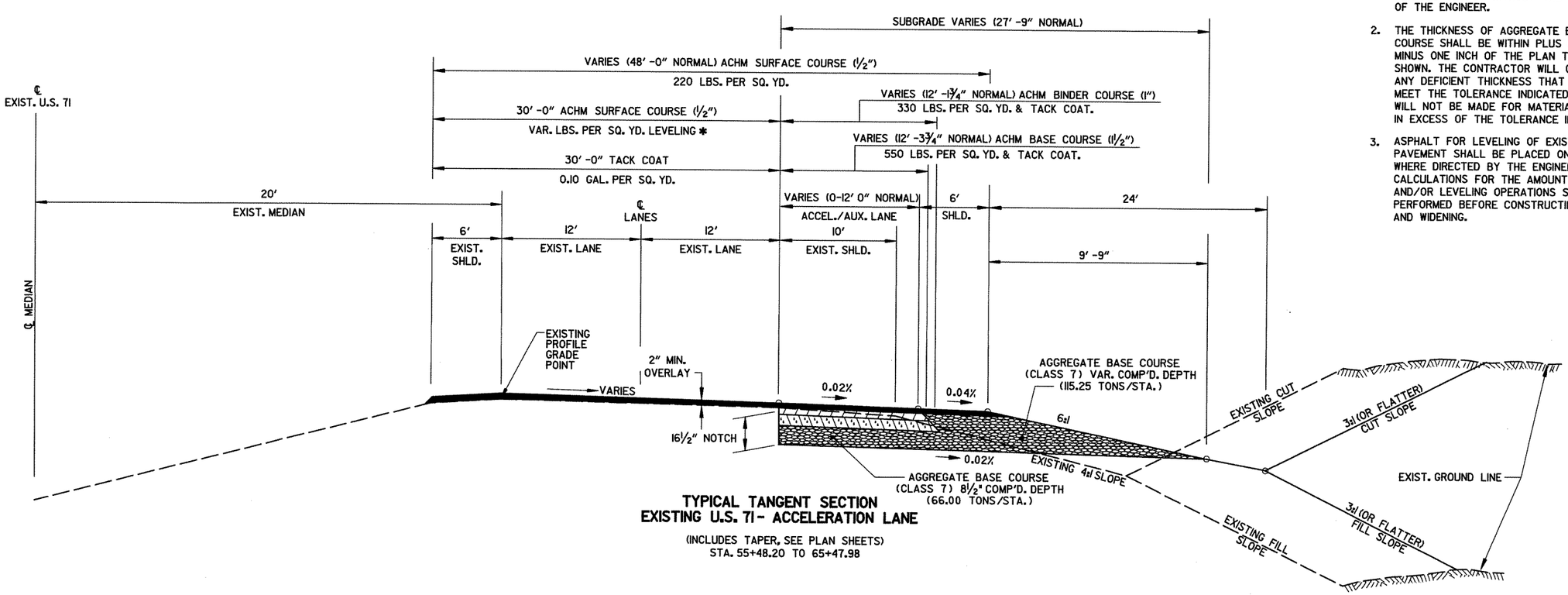
| | | | | JOB NO. | | 040376 | 14 | 207 |

(2) **TYPICAL SECTION OF IMPROVEMENT**




**TYPICAL TANGENT SECTION**
**EXISTING U.S. 71 - ACCELERATION LANE**

(INCLUDES TAPER, SEE PLAN SHEETS)
STA. 55+48.20 TO 65+47.98

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING.

* TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

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TYPICAL SECTION OF IMPROVEMENT

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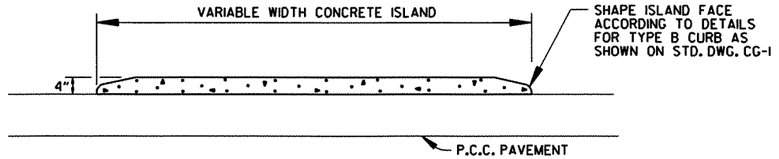
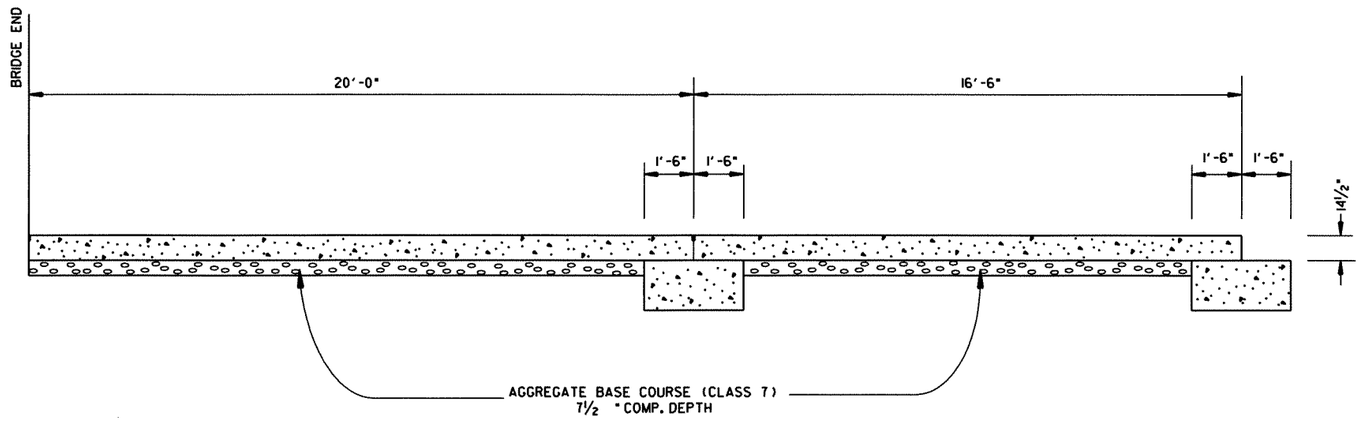
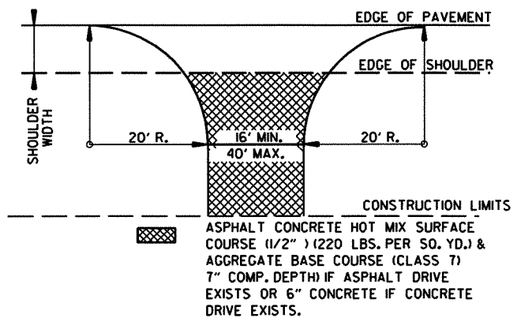
| | | | | (2) | SPECIAL DETAILS | | | |




DETAILS OF ISLAND ON P.C.C. PAVEMENT
MASSARD ROAD RAMPS 1-4
ROBERTS BLVD RAMPS 1-4
HWY. 22 RAMP 4




LONGITUDINAL SECTION OF APPROACH SLAB (U.S. 71 RELOC.)




DETAIL FOR DRIVEWAY TURNOUT
EXISTING U.S. 71

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/2/12

SPECIAL DETAILS

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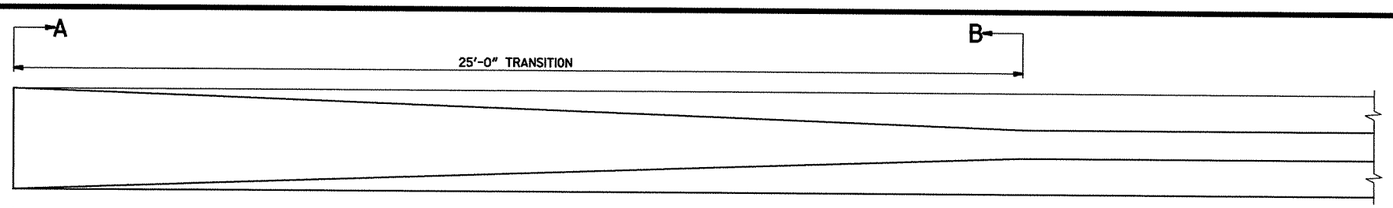
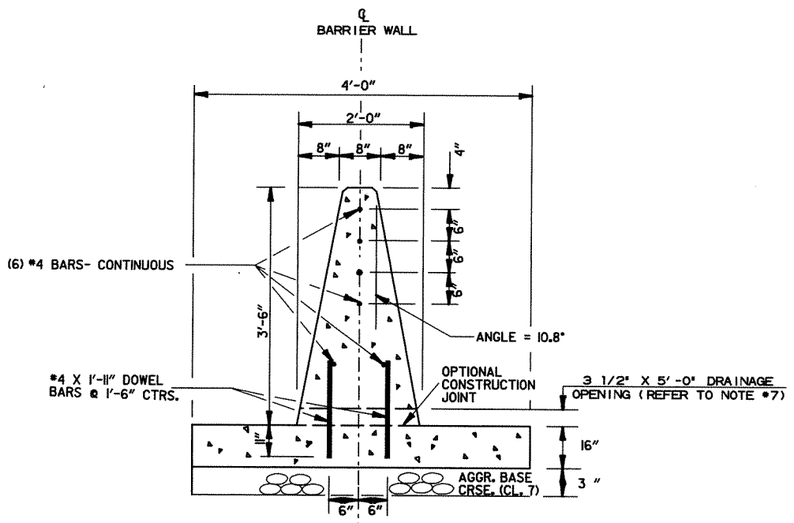
(2) SPECIAL DETAILS

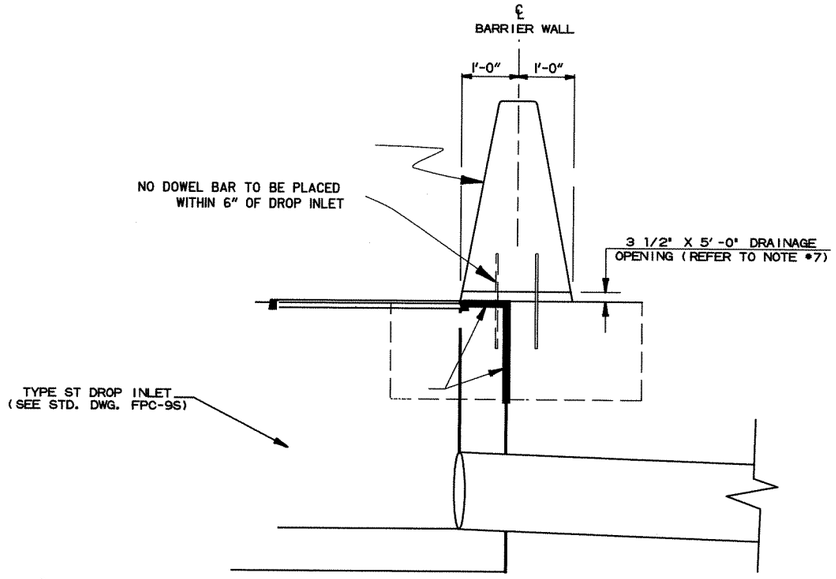



## PLAN VIEW
## CONCRETE BARRIER WALL (MEDIAN TYPE A) TRANSITION

NOTE: TRANSITION TO BE CONSTRUCTED AT EXIT END OF BARRIER WALLS.

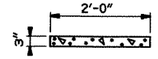



## CONCRETE BARRIER WALL (MEDIAN TYPE A) (SECTION B-B)

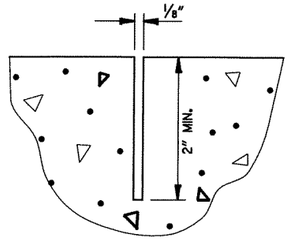



## CONCRETE BARRIER WALL (MEDIAN TYPE A) TRANSVERSE SECTION OF TYPE ST DROP INLET

(RT. SIDE SHOWN, SIMILAR FOR LT. SIDE)
SEE PLAN SHEETS FOR LOCATIONS

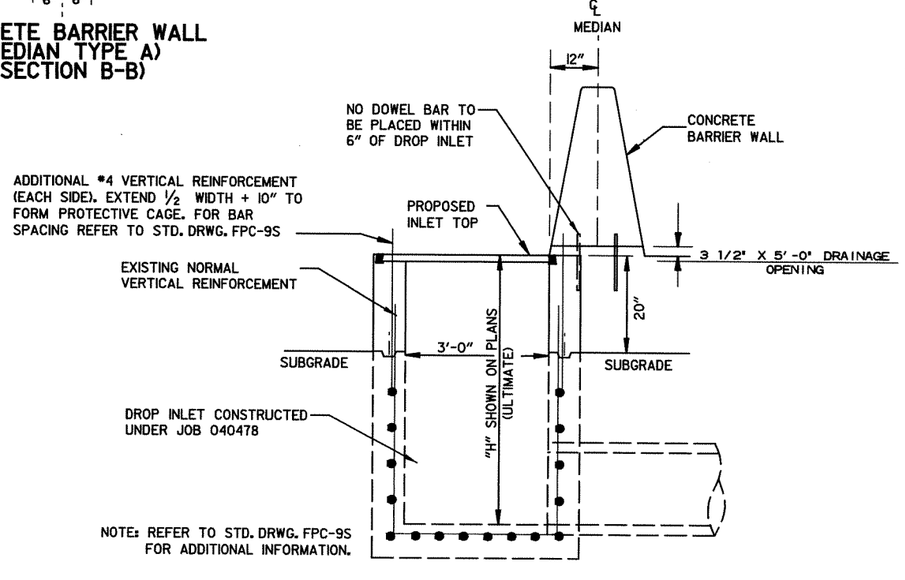



## CONCRETE BARRIER WALL (MEDIAN TYPE A) (SECTION A-A)

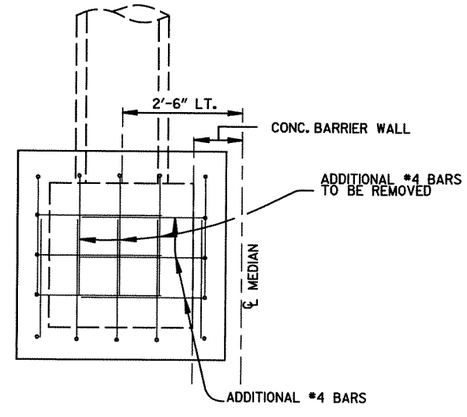



CONTRACTION JOINT DETAIL

NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE 3/4" CHAMFERS.
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. BARRIER TRANSITIONS WILL BE MEASURED AND PAID FOR AS "CONCRETE BARRIER WALL (MEDIAN TYPE A)".
7. DRAINAGE OPENINGS TO BE CONSTRUCTED ADJACENT TO TYPE ST DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.




SECTION




PLAN

## DETAILS OF COMPLETING DROP INLET (TYPE ST)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

SPECIAL DETAILS

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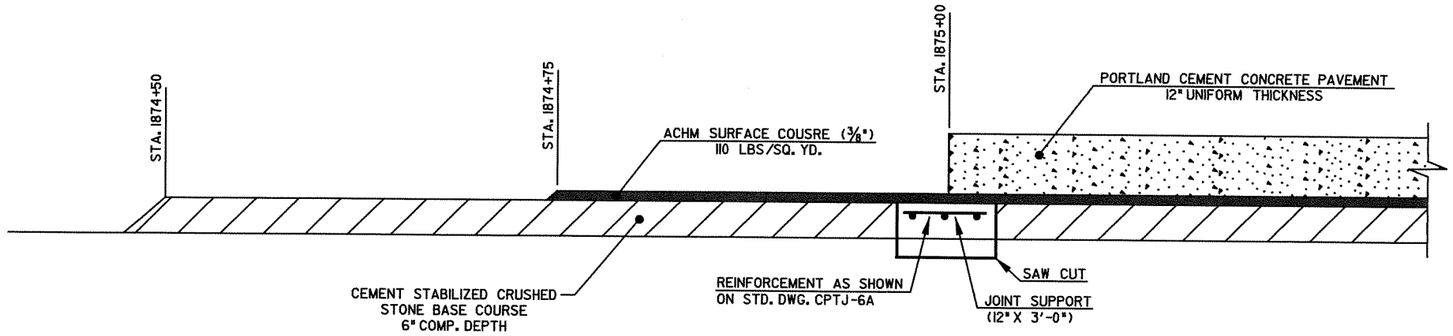
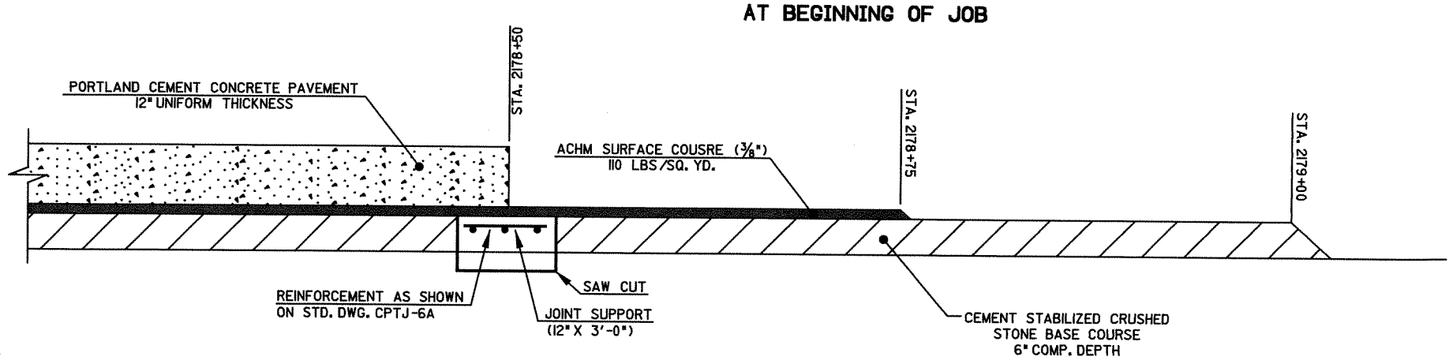
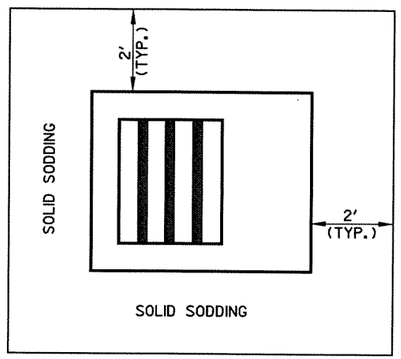
(2) SPECIAL DETAILS




## DETAIL OF PAVEMENT TRANSITION AT BEGINNING OF JOB

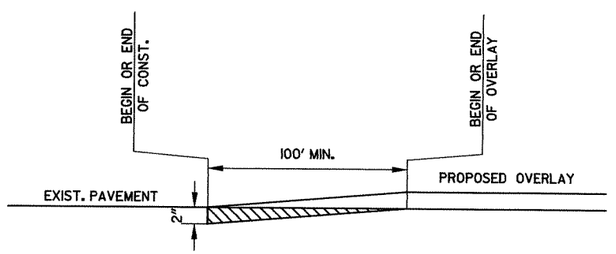



## DETAIL OF PAVEMENT TRANSITION AT END OF JOB




## DETAIL SHOWING SOLID SOD AT DROP INLET

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




## COLD MILLING ASPHALT TAPERS

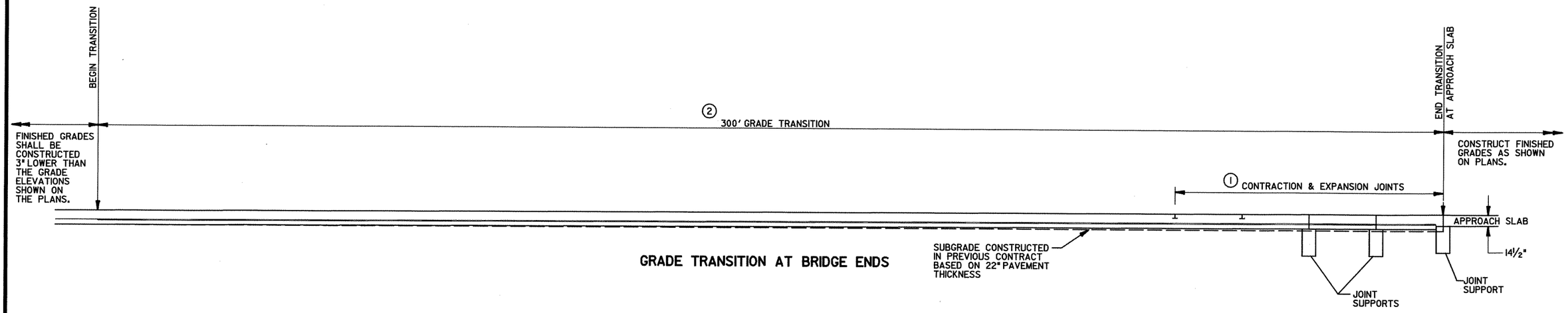
STA. 15+38.18 TO STA. 16+38.18 EXISTING U.S. 71
STA. 65+47.98 TO STA. 66+47.98 EXISTING U.S. 71

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

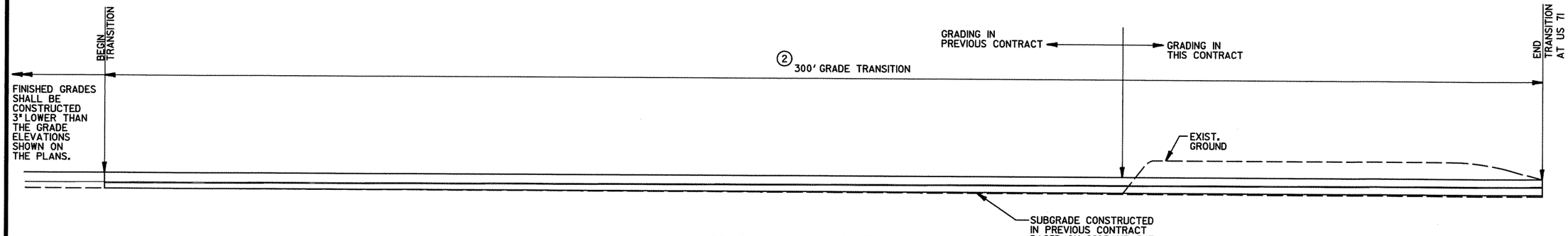
SPECIAL DETAILS

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 18 | 207 |

(2) SPECIAL DETAILS




GRADE TRANSITION AT BRIDGE ENDS




GRADE TRANSITION AT RAMPS

NOTES:

1. SEE STANDARD DRAWING CPTJ-6A FOR DETAILS REGARDING CONTRACTION AND EXPANSION JOINTS AT BRIDGE APPROACH SLABS.
2. TRANSITION THE GRADE AT THE RATE OF ONE INCH PER 100 LINEAR FEET.
3. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 5/11/12

SPECIAL DETAILS

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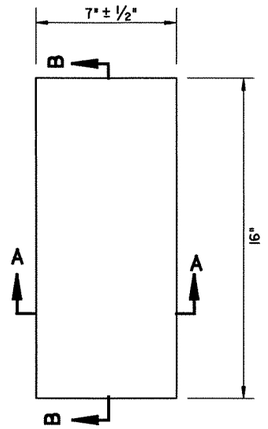
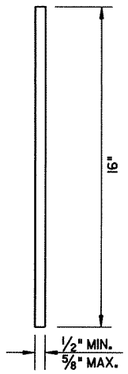
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 19 | 207 |

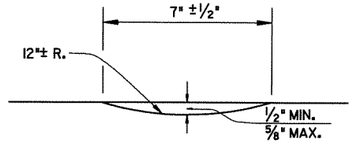
(2) SPECIAL DETAILS



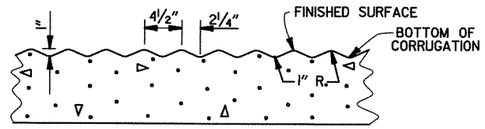

PLAN




SECTION B-B

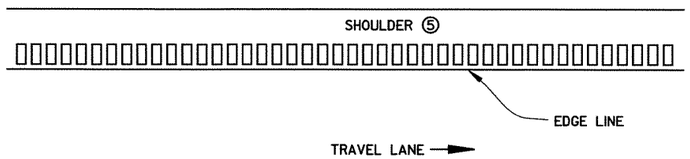


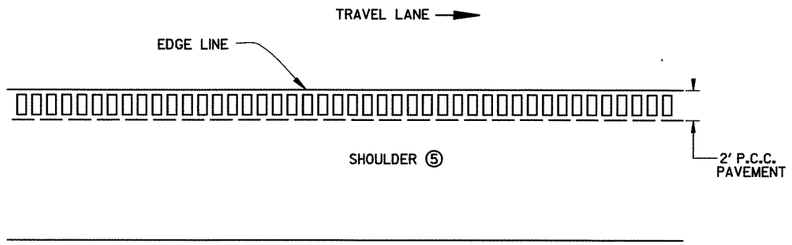

SECTION A-A



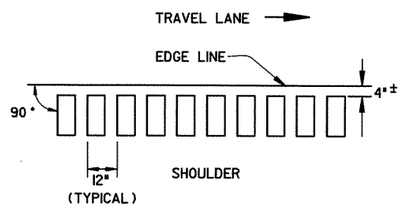

SECTION C-C

CORRUGATED CONCRETE SHOULDERS



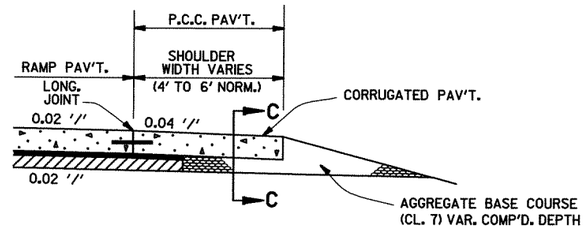

PLAN VIEW



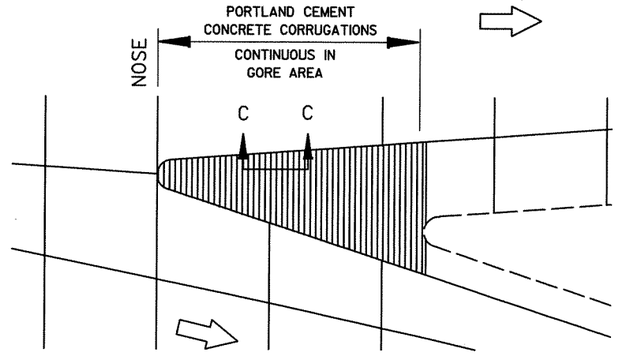

LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER

1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE.
2. THE ½" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.
3. ON CONCRETE SHOULDERS, RUMBLE STRIPS SHALL BE PLACED NO CLOSER THAN 1" TO A TRANSVERSE JOINT.
4. REFER TO SECTION 642 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. ALTERNATE SHOULDER DESIGN:
ALTERNATE NO.1 - ACHM & ALTERNATE NO.2 - P.C.C.
MAIN LANE PAVEMENT EXTENDS 2' INTO THE OUTSIDE SHOULDER.
SEE TYPICAL SECTIONS OF IMPROVEMENT FOR ADDITIONAL INFORMATION.

DETAILS OF RUMBLE STRIPS




CORRUGATED CONCRETE SHOULDER
AT RAMP INTERSECTION




LAYOUT OF SHOULDER CORRUGATIONS
IN EXIT GORE AREAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR

SPECIAL DETAILS

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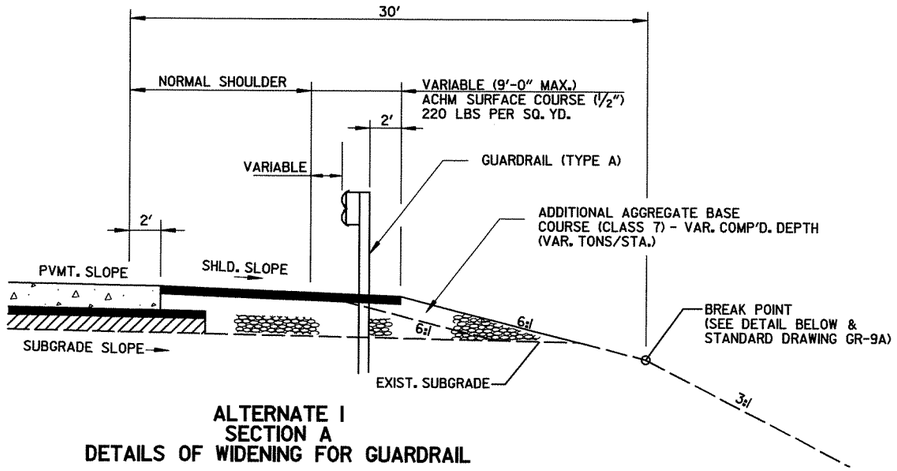
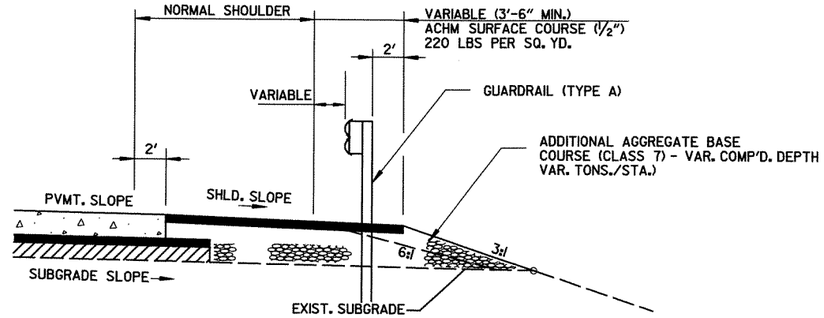
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 20 | 207 |

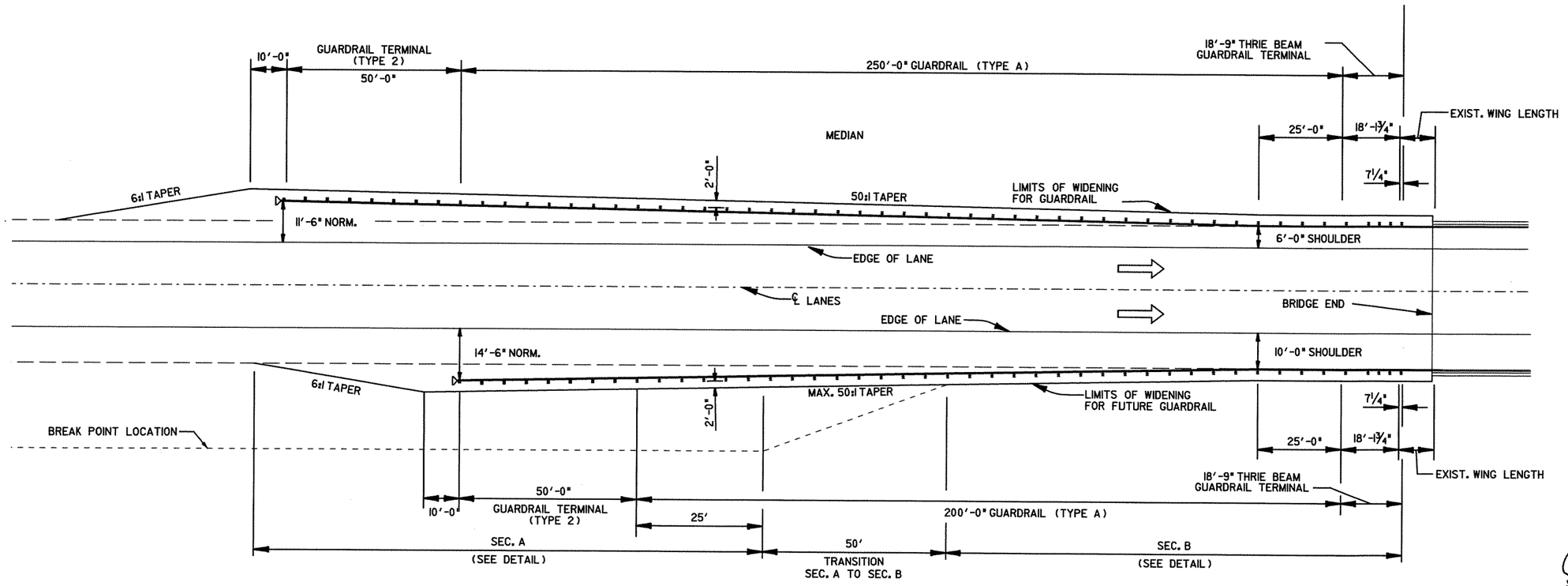
(2) SPECIAL DETAILS




ALTERNATE I
SECTION A
DETAILS OF WIDENING FOR GUARDRAIL




ALTERNATE I
SECTION B
DETAILS OF WIDENING FOR GUARDRAIL



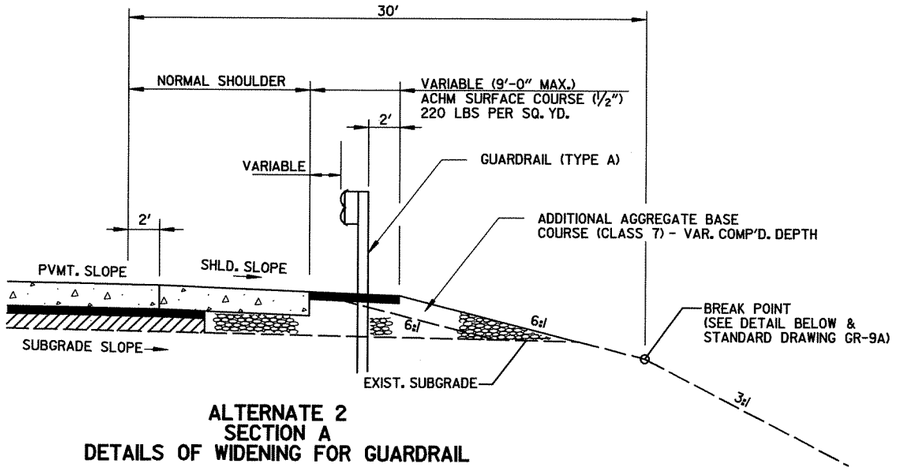

TYPICAL LAYOUT OF GUARDRAIL AT BRIDGE ENDS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5-14-2

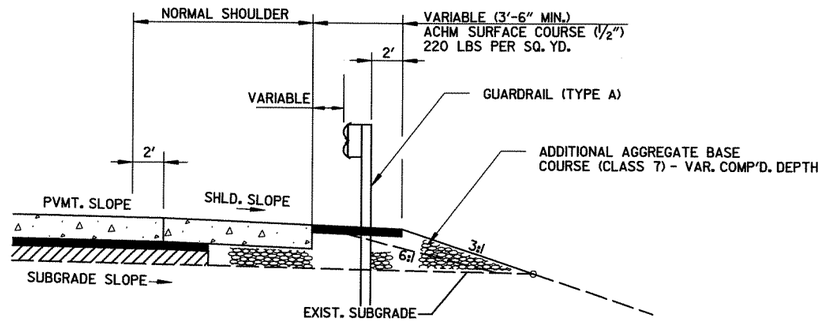
ALTERNATE I
SPECIAL DETAILS

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 21 | 207 |

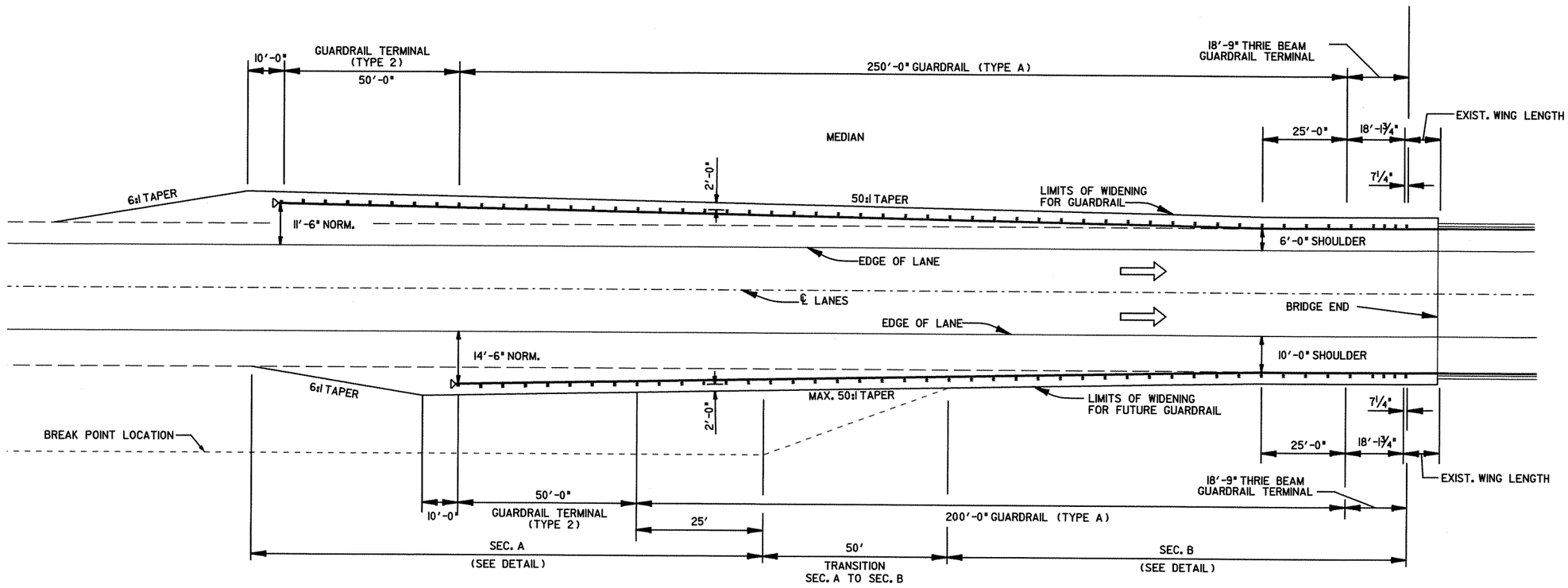
(2) SPECIAL DETAILS




**ALTERNATE 2**
**SECTION A**
**DETAILS OF WIDENING FOR GUARDRAIL**




**ALTERNATE 2**
**SECTION B**
**DETAILS OF WIDENING FOR GUARDRAIL**




**TYPICAL LAYOUT OF GUARDRAIL AT BRIDGE ENDS**

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

**ALTERNATE 2**
**SPECIAL DETAILS**

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 22 | 207 |

(2) TEMPORARY EROSION CONTROL DETAILS

N

1500

2000

1860+00

1855+00

2500

FUTURE RAMP 1

1845+00

FUTURE RAMP 2

1840+00

3000

3500

FUTURE RAMP 7

1855+00

PC 1856+57.0

℄ CONST.

PC 16+36.18

PI 18+43.33

PT 20+88.38

PC 1839+74.32

EXIST. R.O.W.

℄ EXIST. U.S. 71

N 63°27'54" W

PC 38+28.75

MATCH LINE EXIST. U.S. 71 STA. 40+00

24" RCP

SPCL. "V" DT.

CONST. LIMIT

PC 18+44.70

PI 18+12+39.91

PT 18+34.97

PC 18+46+30.87

T.C.E.

EXIST. R.O.W.

FUTURE SPCL. "V" DT.

PT 1875+90.94

1855+00

STA. 1849+50
END GRADING
RAMP 4

PI 1849+56.66

STA. 1854+50
END GRADING
TEMP. RAMP 4

PC 1855+65.90

RAMP 4

PC 1852+29.83

TEMP RAMP 4

FUTURE RAMP 3

1875+00

SPCL. 3' F.B. DT.

PC 1860+31.22

SPCL. 3' F.B. DT.

24" RCP

MATCH LINE ℄ CONST.

1845+00

1870+00

1850+00

1865+00

1855+00

PI 1858+48.64

EXIST. R.O.W., C.A. & FENCE

36" RCP

PT 1860+09.53

DBL 6'X5' RCBC

24"

SPCL. 12' F.B. DT.

24" RCP

POND

SPCL. 15' F.B. DT.

RCBC

DBL 6'X5'

1860+00

EXIST. R.O.W. C.A. & FENCE

EXIST. R.O.W., C.A. & FENCE

PC 1861+05.58

1865+00

T.C.E.

SPCL. 5' F.B. DT.

## EROSION CONTROL LEGEND

| | |
|---|---|
| (E-11) | SILT FENCE |
| (E-6) | ROCK DITCH CHECK |
| (E-7) | DROP INLET SILT FENCE |

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

NOTES:

(1) INSTALL DITCH CHECKS AND DROP INLET SILT FENCE AS DRAINAGE STRUCTURES AND DITCHES ARE CONSTRUCTED.

STATE OF ARKANSAS
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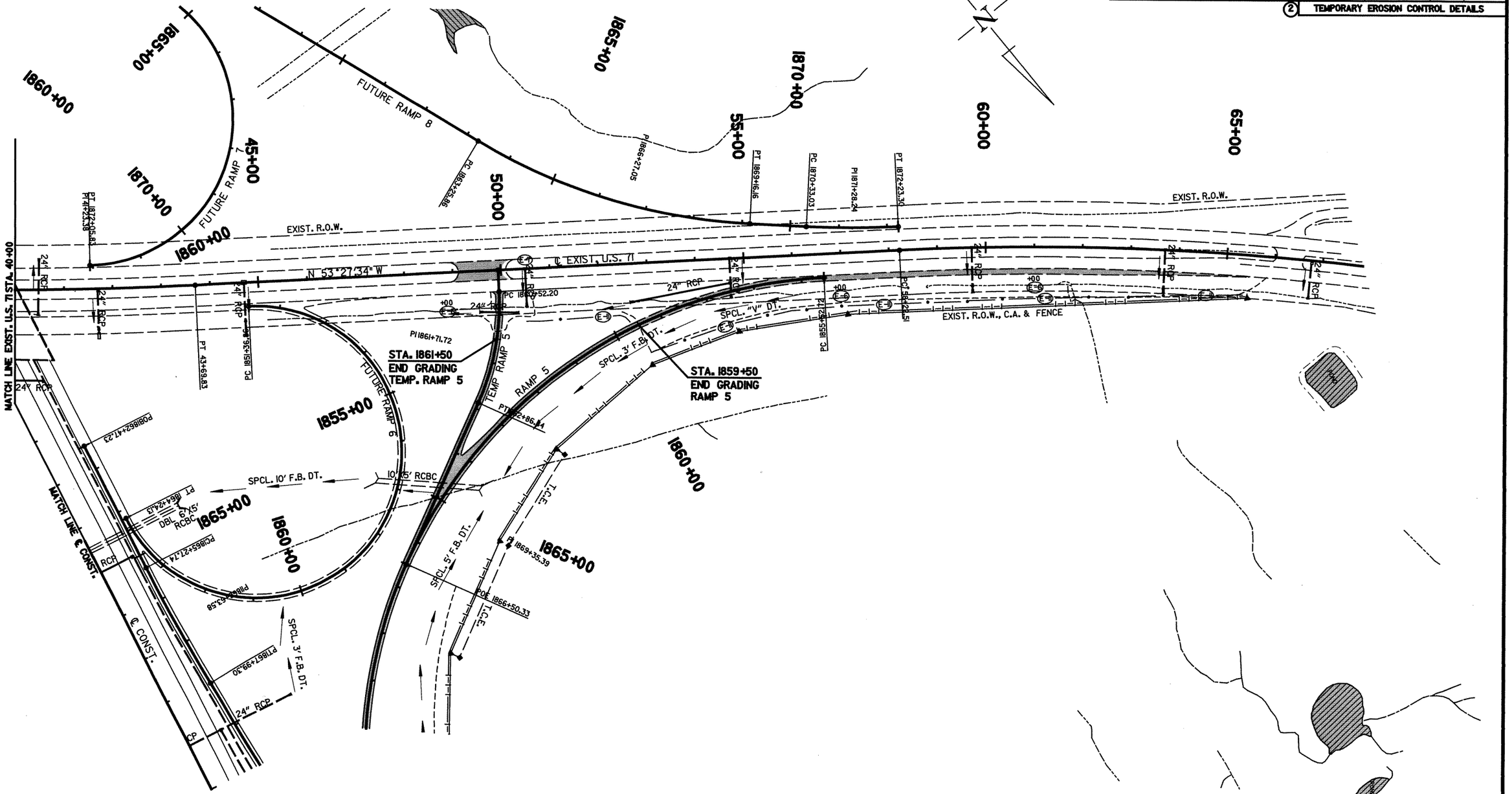
No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=100' HORIZ.

| DATE REVISED | DATE FILED | DATE REVISED | DATE FILED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 23 | 207 |

(2) TEMPORARY EROSION CONTROL DETAILS




## EROSION CONTROL LEGEND

| | |
|---|---|
| E-1 | SILT FENCE |
| E-6 | ROCK DITCH CHECK |
| E-7 | DROP INLET SILT FENCE |

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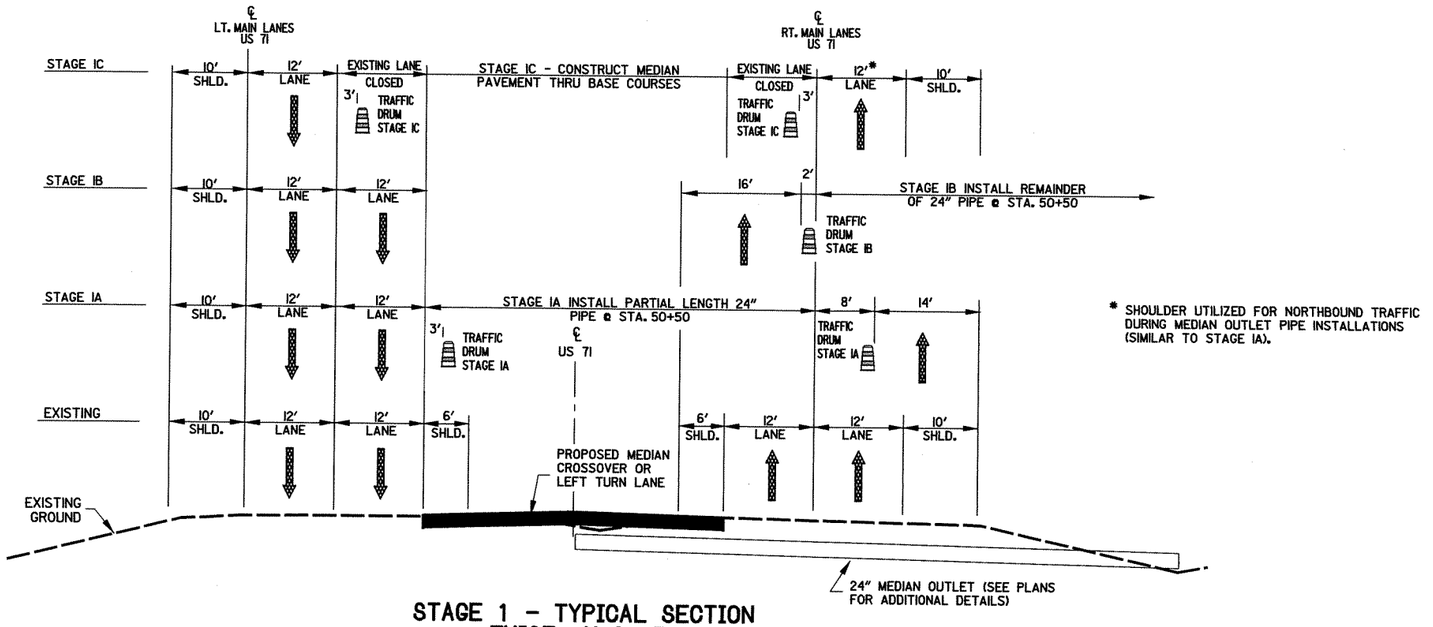
| | |

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5.1.12

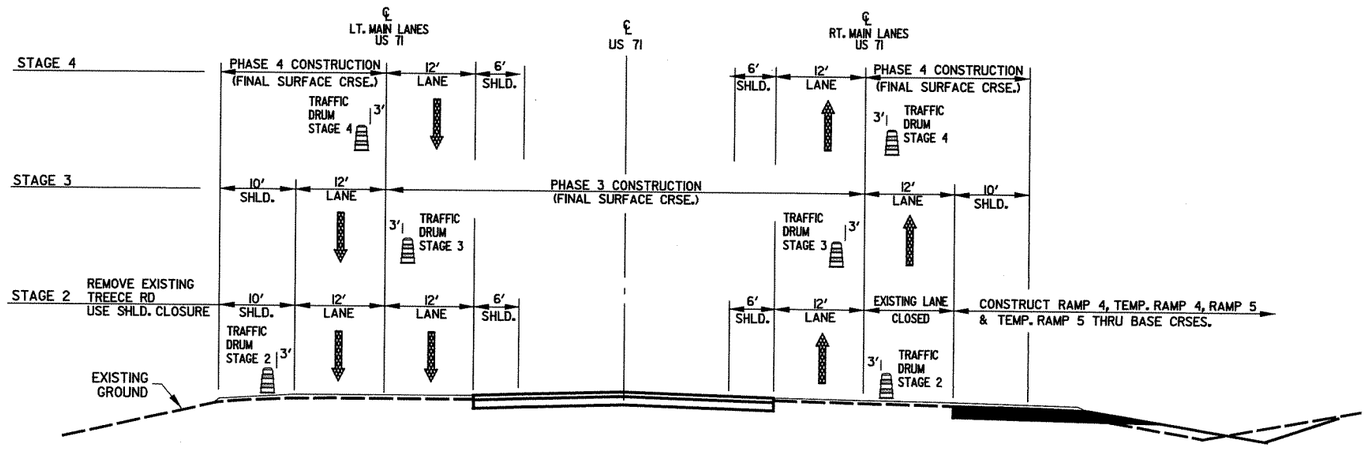
SCALE: 1"=100' HORIZ.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 4 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 24 | 207 |

(2) MAINTENANCE OF TRAFFIC




STAGE 1 - TYPICAL SECTION
EXIST. U.S. 71




STAGE 2 THRU STAGE 4 TYPICAL SECTION
EXIST. U.S. 71

STATE OF ARKANSAS
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No. 9808
JAMES L. BARR
5/1/12

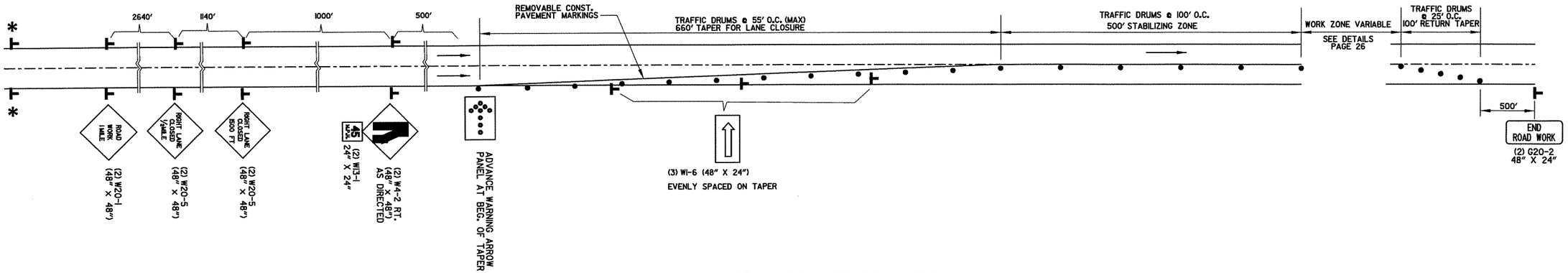
TYPICAL SECTIONS OF STAGE CONSTRUCTION - US 71

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 25 | 207 |

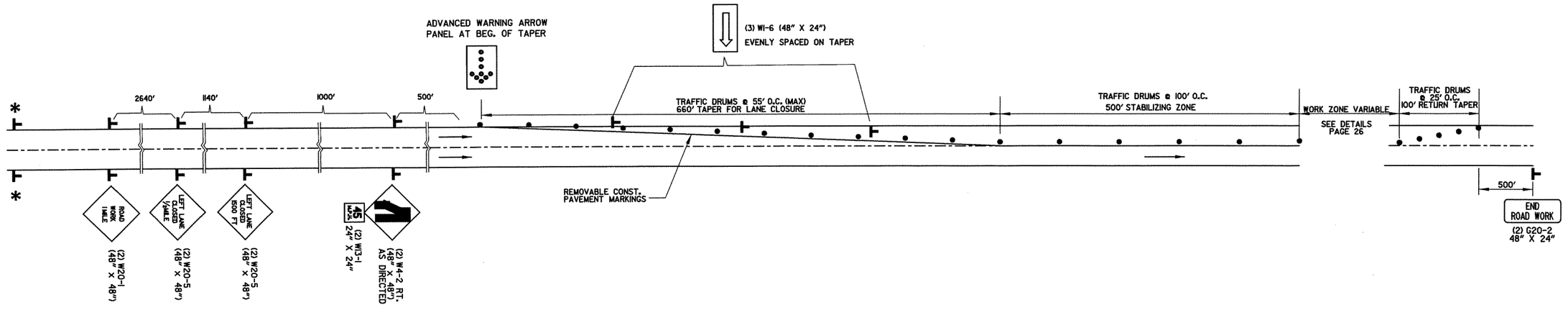
(2) MAINTENANCE OF TRAFFIC

STAGE 2

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS:
RT. EDGE LINE = 1160 LIN. FT.
LT. EDGE LINE = 2320 LIN. FT.
REMOVAL OF PERM. PVM'T. MRKGS. = 2475 LIN. FT.




## ADVANCE WARNING SIGNS AND RT. LANE CLOSURE DETAILS




## ADVANCE WARNING SIGNS AND LT. LANE CLOSURE DETAILS

NOTE:
ROAD WORK AHEAD SIGN (W20-1) TO BE LOCATED AT BACK OF RADIUS ALONG APPROACH OF ANY CROSS ROAD INTERSECTING WITHIN LIMITS OF ADVANCE WARNING SIGNS.

* PORTABLE CHANGEABLE MESSAGE SIGN PLACED AS DIRECTED BY THE ENGINEER.

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MAINTENANCE OF TRAFFIC DETAILS - EXIST. U.S. 71

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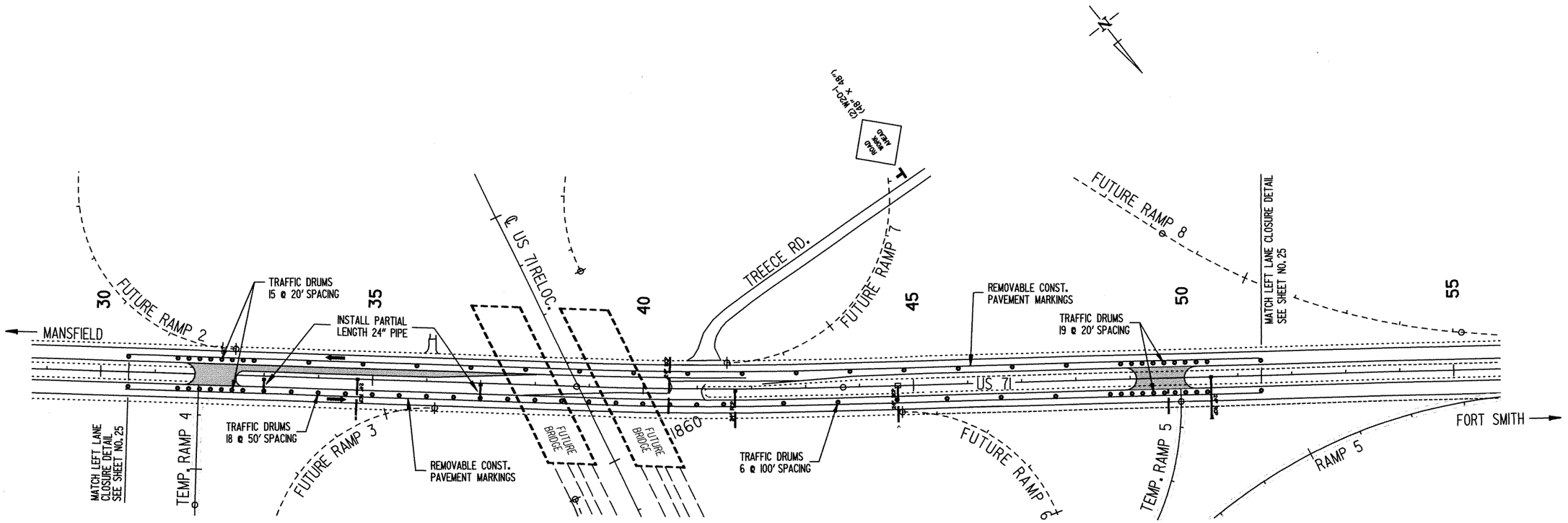
|---|---|---|---|---|---|---|---|---|
| | | | | 4 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 26 | 207 |

(2) MAINTENANCE OF TRAFFIC

STAGE IC

REMOVABLE CONSTRUCTION PAVEMENT MARKINGS:
LT. EDGE LINES = 4200 LIN. FT.




## SEQUENCE OF CONSTRUCTION

STAGE IA

- INSTALL ADVANCE WARNING SIGNS IN BOTH DIRECTIONS OF US 71.
- USING STD DWG TC-2 (TYP. A), CLOSE THE LEFT LANE OF NORTHBOUND US 71 AND INSTALL A PORTION OF THE MEDIAN OUTLET PIPE AT STA. 50+50.

STAGE IB

USING STD DWG TC-2 (TYP. A), CLOSE THE RIGHT LANE OF NORTHBOUND US 71 AND INSTALL REMAINING PORTION OF 24" PIPE STA. 50+50.

STAGE IC

- CLOSE THE LEFT LANE IN BOTH DIRECTIONS OF US 71. INSTALL MEDIAN DROP INLETS AND A PORTION OF THE OUTLET PIPES AT STA. 33+00 AND STA. 37+00. MAINTAIN DRAINAGE THRU KNOCKOUT IN EXISTING PIPE AT STA. 34+71 UNTIL NEW PIPES ARE FUNCTIONAL IN PHASE 2.
- CONSTRUCT PROPOSED MEDIAN TURN LANES AND CROSSOVERS THRU THE BASE COURSES.

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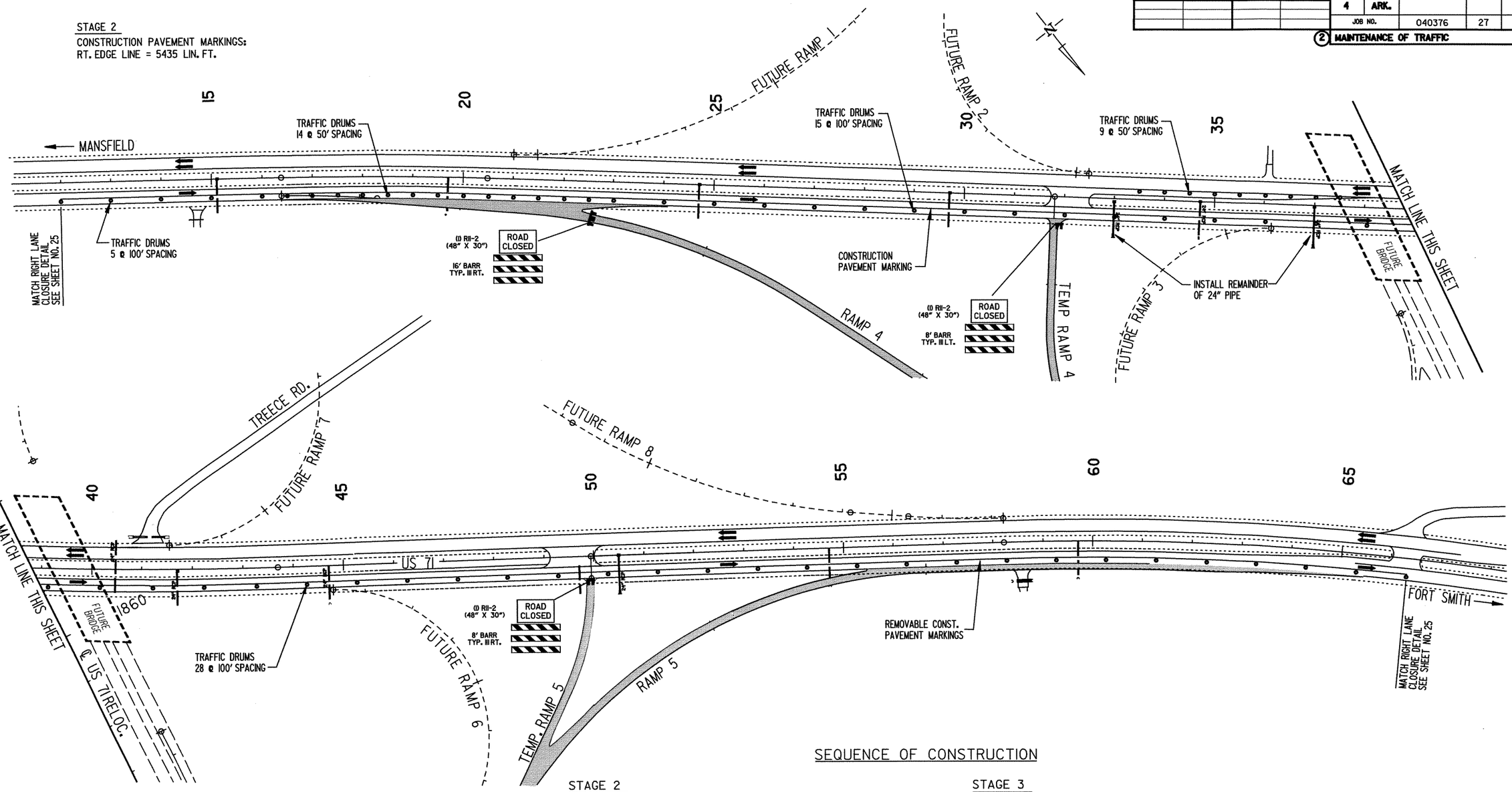
MAINTENANCE OF TRAFFIC - EXISTING US 71 STAGE I

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 4 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 27 | 207 |

(2) MAINTENANCE OF TRAFFIC

STAGE 2
CONSTRUCTION PAVEMENT MARKINGS:
RT. EDGE LINE = 5435 LIN. FT.




## SEQUENCE OF CONSTRUCTION

STAGE 2

PLACE TRAFFIC CONTROL DEVICES TO CLOSE THE NORTHBOUND RIGHT LANE OF US 71.

INSTALL REMAINING PORTION OF THE MEDIAN OUTLET PIPES AT STA. 33+00 AND STA. 37+00.

CONSTRUCT ALL RAMP TIE-INS AND PAVE THRU THE BASE COURSES.

STAGE 3

USING STD DWG TC-2 (TYP. A), CLOSE THE LEFT LANES OF US 71 IN BOTH DIRECTIONS AND CONSTRUCT THE FINAL SURFACE COURSE ON THE NEW MEDIAN PAVEMENT AND LEFT LANES AND SHOULDERS OF US 71.

STAGE 4

USING STD DWG TC-2 (TYP. A), CLOSE THE RIGHT LANES OF US 71 IN BOTH DIRECTIONS AND CONSTRUCT THE FINAL SURFACE COURSE ON THE NEW RAMP TIE-INS AND THE OUTSIDE LANES AND SHOULDERS OF US 71.

INSTALL PERMANENT PAVEMENT MARKINGS AND MARKERS AND OPEN ALL ROADWAYS TO TRAFFIC AS DIRECTED.

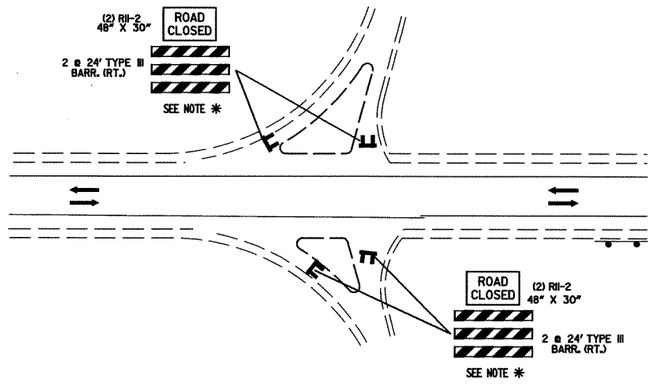
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

MAINTENANCE OF TRAFFIC - EXISTING US 71 STAGE 2

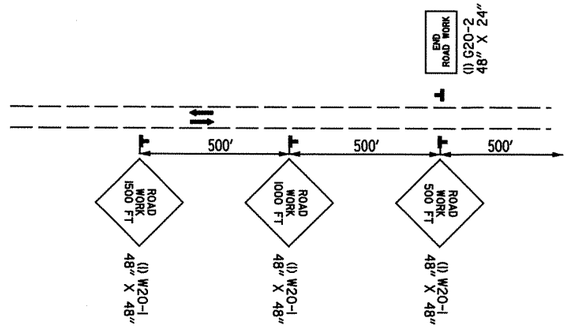
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 28 | 207 |

(2) MAINTENANCE OF TRAFFIC

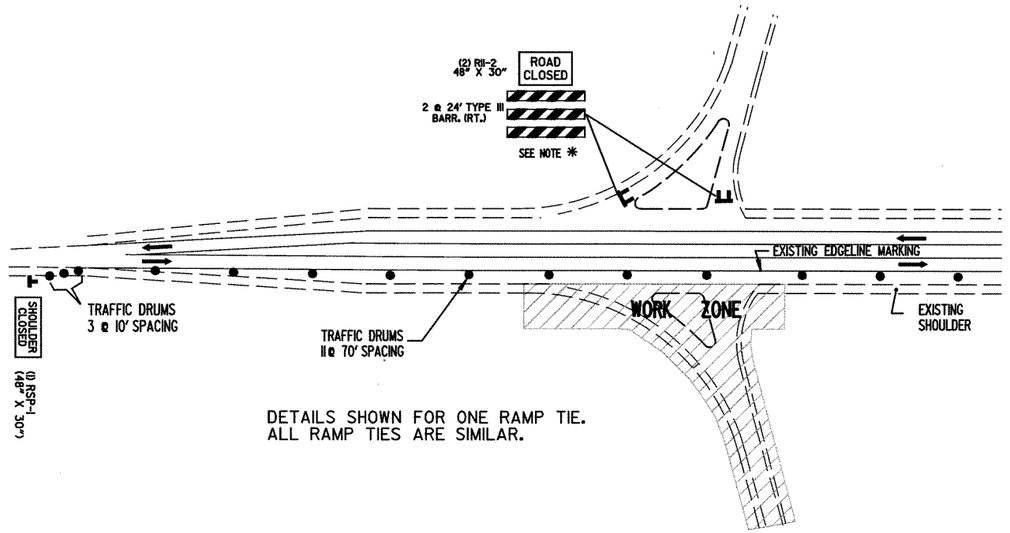
* NOTE:
DEVICES WERE LEFT IN PLACE FROM GRADING AND DRAINAGE CONTRACT. THESE DEVICES TO REMAIN IN PLACE UNTIL THE COMPLETION OF THIS PAVING CONTRACT. PAYMENT FOR MOVING & RE-SETTING THESE DEVICES AND FOR REMOVAL AT COMPLETION OF PROJECT SHALL BE CONSIDERED INCLUDED IN THE LUMP SUM PRICE FOR MAINTENANCE OF TRAFFIC.




## TYPICAL MAINTENANCE OF TRAFFIC AT RAMP TIE-INS MASSARD ROAD & ROBERTS BLVD.
(NO CONSTRUCTION ACTIVITY)

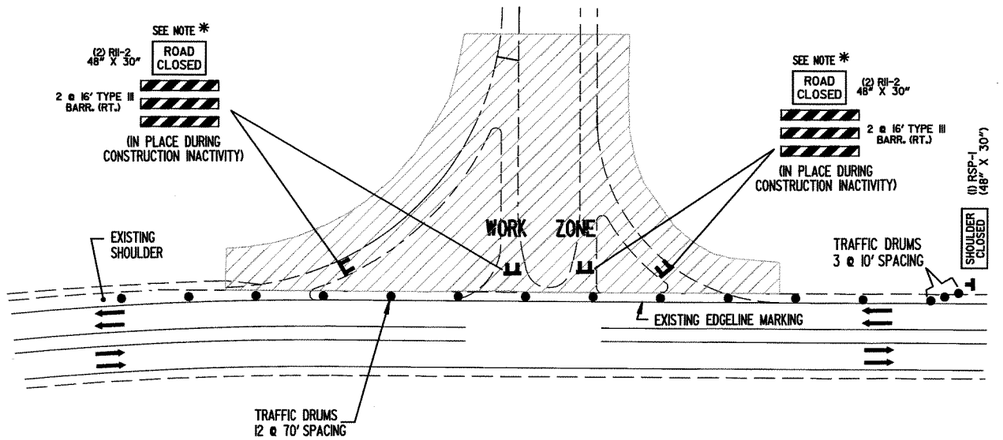



## ADVANCE WARNING SIGN PLACEMENT
MASSARD ROAD
ROBERTS BLVD.
S.H. 22




DETAILS SHOWN FOR ONE RAMP TIE.
ALL RAMP TIES ARE SIMILAR.

## TYPICAL MAINTENANCE OF TRAFFIC AT RAMP TIE-INS MASSARD ROAD & ROBERTS BLVD.
(DURING CONSTRUCTION ACTIVITY)




## TYPICAL MAINTENANCE OF TRAFFIC AT RAMP TIE-INS S.H. 22
DETAIL SHOWN FOR NE RAMP TIE.
NW RAMP TIE IS SIMILAR.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

**MAINTENANCE OF TRAFFIC**
**RAMPS @ MASSARD RD. & ROBERTS BLVD.**

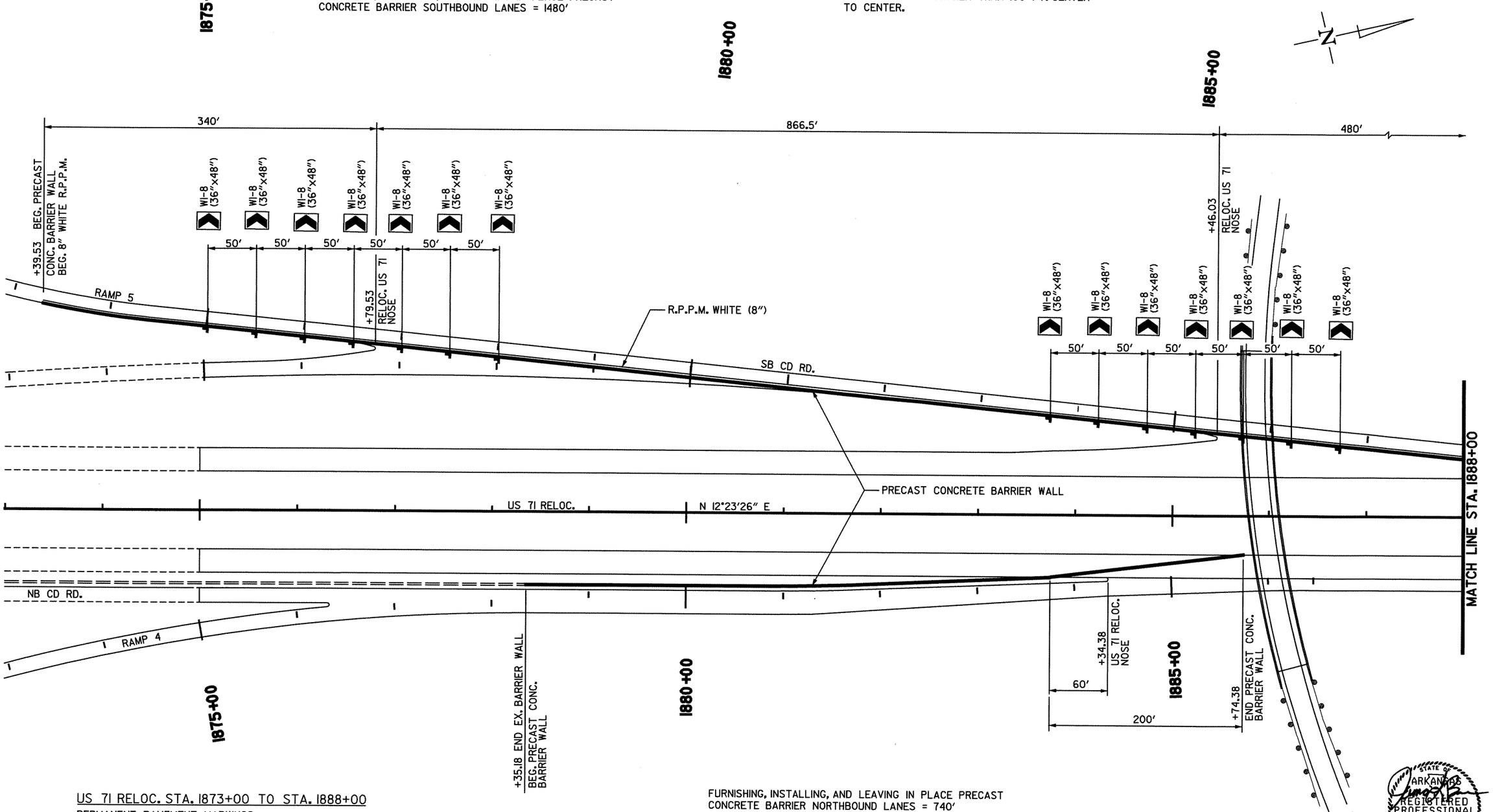
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 29 | 207 |

(2) MAINTENANCE OF TRAFFIC

NOTE:
DRAIN SLOTS SHALL BE REQUIRED ALONG THE ENTIRE LENGTH OF PRECAST CONCRETE BARRIER. EACH DRAIN SLOT SHALL HAVE A MINIMUM OPENING OF 0.33 SQ. FT. AND SHALL BE SPACED NO FURTHER THAN 100 FT. CENTER TO CENTER.

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER SOUTHBOUND LANES = 1480'




US 71 RELOC. STA. 1873+00 TO STA. 1888+00

PERMANENT PAVEMENT MARKINGS:
R.P.P.M. - WHITE (8") ALONG BARRIER = 1480 LIN. FT.

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER NORTHBOUND LANES = 740'

R.P.P.M. = REFLECTORIZED PAINT PAVEMENT MARKING

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/11/12

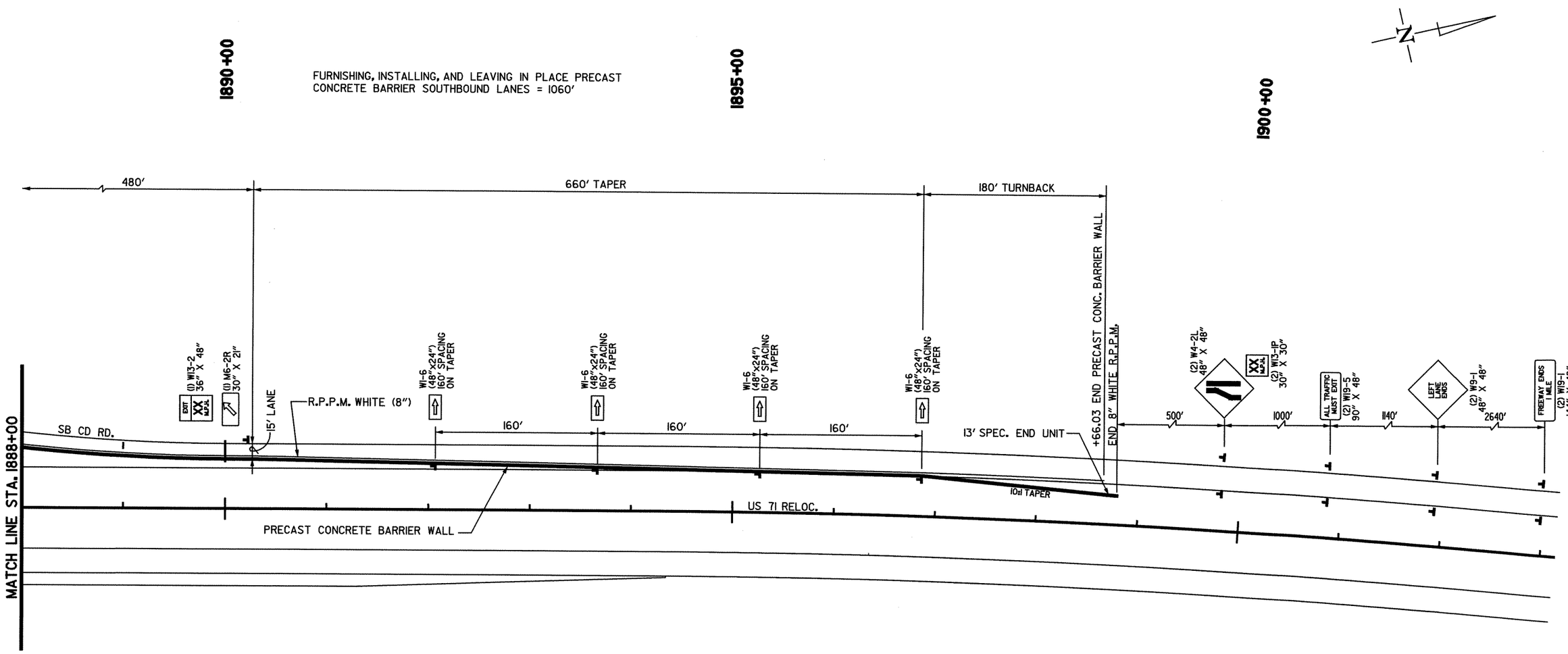
MAINTENANCE OF TRAFFIC - US 71 RELOC. @ BEG. PROJECT

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 30 | 207 |

(2) MAINTENANCE OF TRAFFIC

NOTE:
DRAIN SLOTS SHALL BE REQUIRED ALONG THE ENTIRE LENGTH OF PRECAST CONCRETE BARRIER. EACH DRAIN SLOT SHALL HAVE A MINIMUM OPENING OF 0.33 SQ. FT. AND SHALL BE SPACED NO FURTHER THAN 100 FT. CENTER TO CENTER.




US 71 RELOC. STA. 1888+00 TO STA. 1900+00

PERMANENT PAVEMENT MARKINGS:
R.P.P.M. - WHITE (8") ALONG BARRIER = 1060 LIN. FT.

R.P.P.M. = REFLECTORIZED PAINT PAVEMENT MARKING

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/6/12

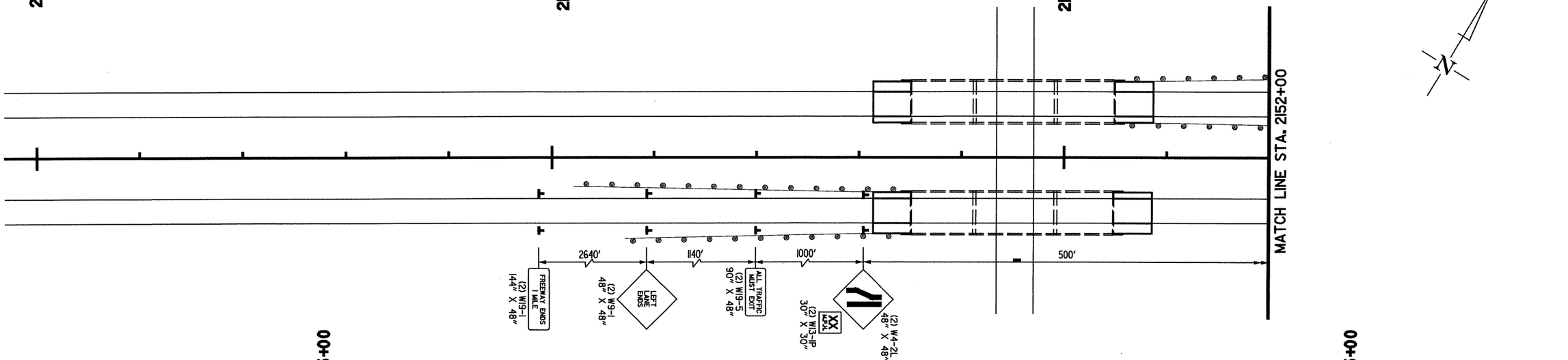
MAINTENANCE OF TRAFFIC - US 71 RELOC. @ BEG. PROJECT

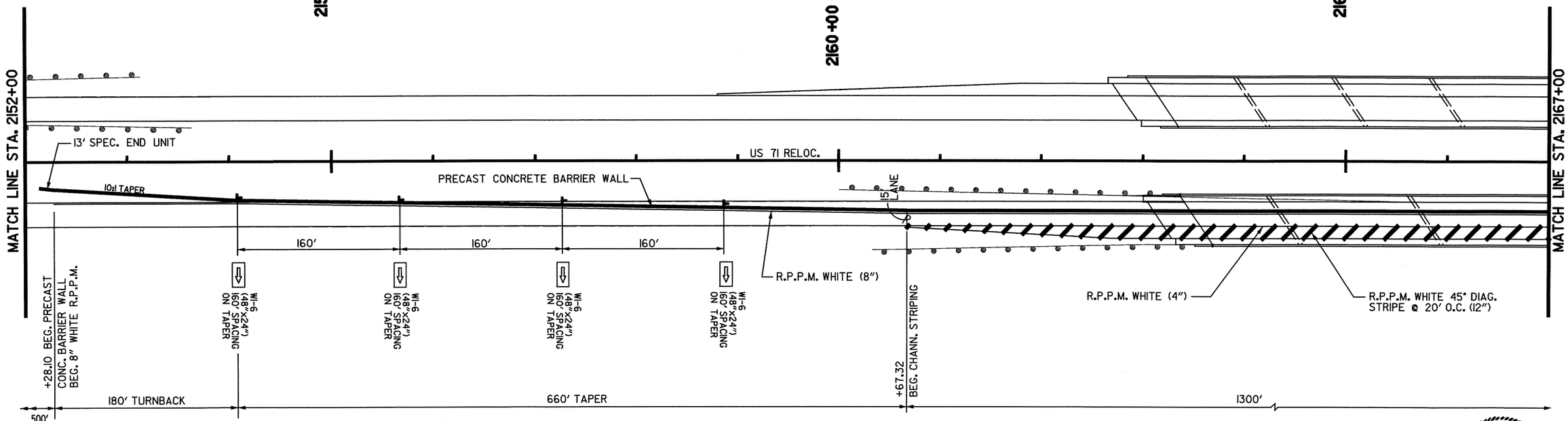
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 31 | 207 |

(2) MAINTENANCE OF TRAFFIC

NOTE:
DRAIN SLOTS SHALL BE REQUIRED ALONG THE ENTIRE LENGTH OF PRECAST CONCRETE BARRIER. EACH DRAIN SLOT SHALL HAVE A MINIMUM OPENING OF 0.33 SQ. FT. AND SHALL BE SPACED NO FURTHER THAN 100 FT. CENTER TO CENTER.




US 71 RELOC. STA. 2152+00 TO STA. 2167+00

PERMANENT PAVEMENT MARKINGS:
R.P.P.M. - WHITE (4") = 632 LIN. FT.
R.P.P.M. - WHITE 45° DIAGONAL LINES (12") = 453 LIN. FT.
R.P.P.M. - WHITE (8") ALONG BARRIER = 1480 LIN. FT.

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER NORTHBOUND LANES = 1480'

R.P.P.M. = REFLECTORIZED PAINT PAVEMENT MARKING

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 5/1/12

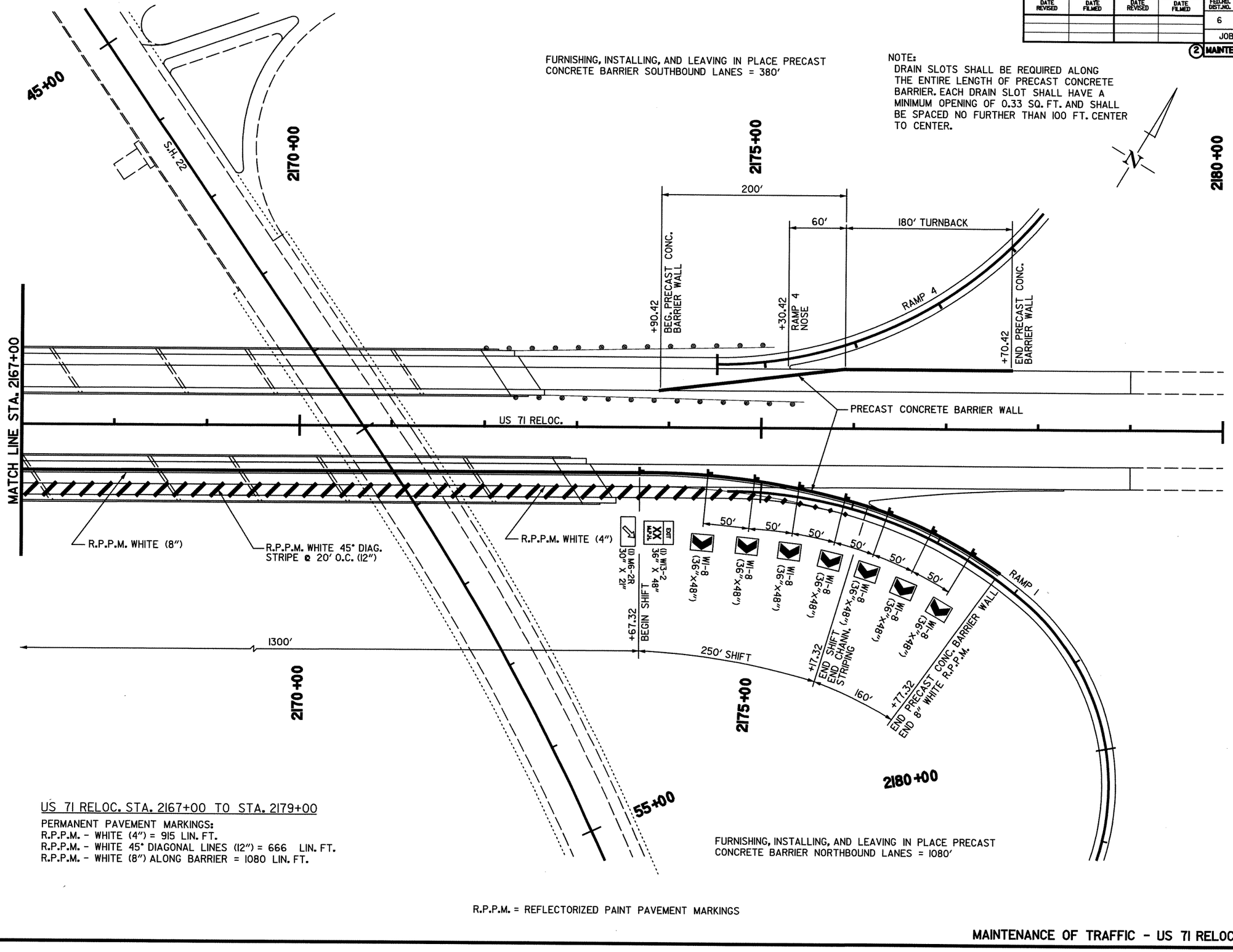
MAINTENANCE OF TRAFFIC - US 71 RELOC. @ END PROJECT

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 32 | 207 |

(2) MAINTENANCE OF TRAFFIC

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER SOUTHBOUND LANES = 380'

NOTE:
DRAIN SLOTS SHALL BE REQUIRED ALONG THE ENTIRE LENGTH OF PRECAST CONCRETE BARRIER. EACH DRAIN SLOT SHALL HAVE A MINIMUM OPENING OF 0.33 SQ. FT. AND SHALL BE SPACED NO FURTHER THAN 100 FT. CENTER TO CENTER.




US 71 RELOC. STA. 2167+00 TO STA. 2179+00

PERMANENT PAVEMENT MARKINGS:
R.P.P.M. - WHITE (4") = 915 LIN. FT.
R.P.P.M. - WHITE 45° DIAGONAL LINES (12") = 666 LIN. FT.
R.P.P.M. - WHITE (8") ALONG BARRIER = 1080 LIN. FT.

FURNISHING, INSTALLING, AND LEAVING IN PLACE PRECAST CONCRETE BARRIER NORTHBOUND LANES = 1080'

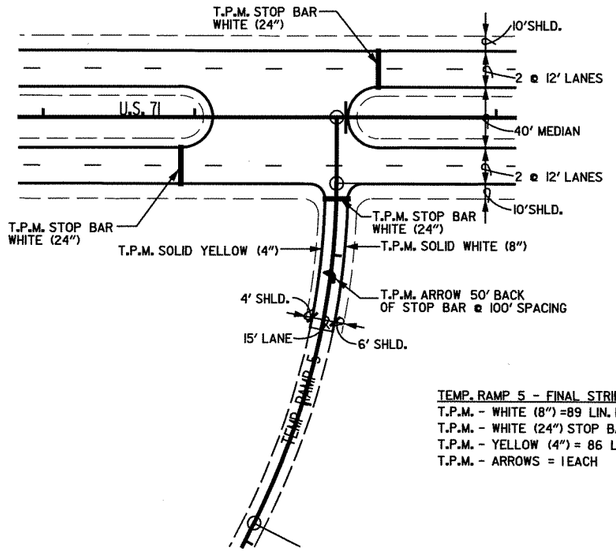
R.P.P.M. = REFLECTORIZED PAINT PAVEMENT MARKINGS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

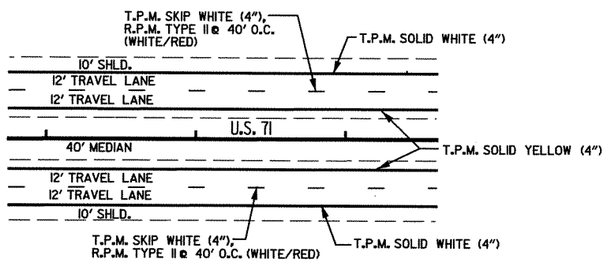
MAINTENANCE OF TRAFFIC - US 71 RELOC. @ END PROJECT

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 33 | 207 |

(2) PAVEMENT MARKING - U.S. 71




TEMP. RAMP 5 - FINAL STRIPING
T.P.M. - WHITE (8") =89 LIN. FT.
T.P.M. - WHITE (24") STOP BAR = 15 LIN. FT.
T.P.M. - YELLOW (4") = 86 LIN. FT.
T.P.M. - ARROWS = 1 EACH

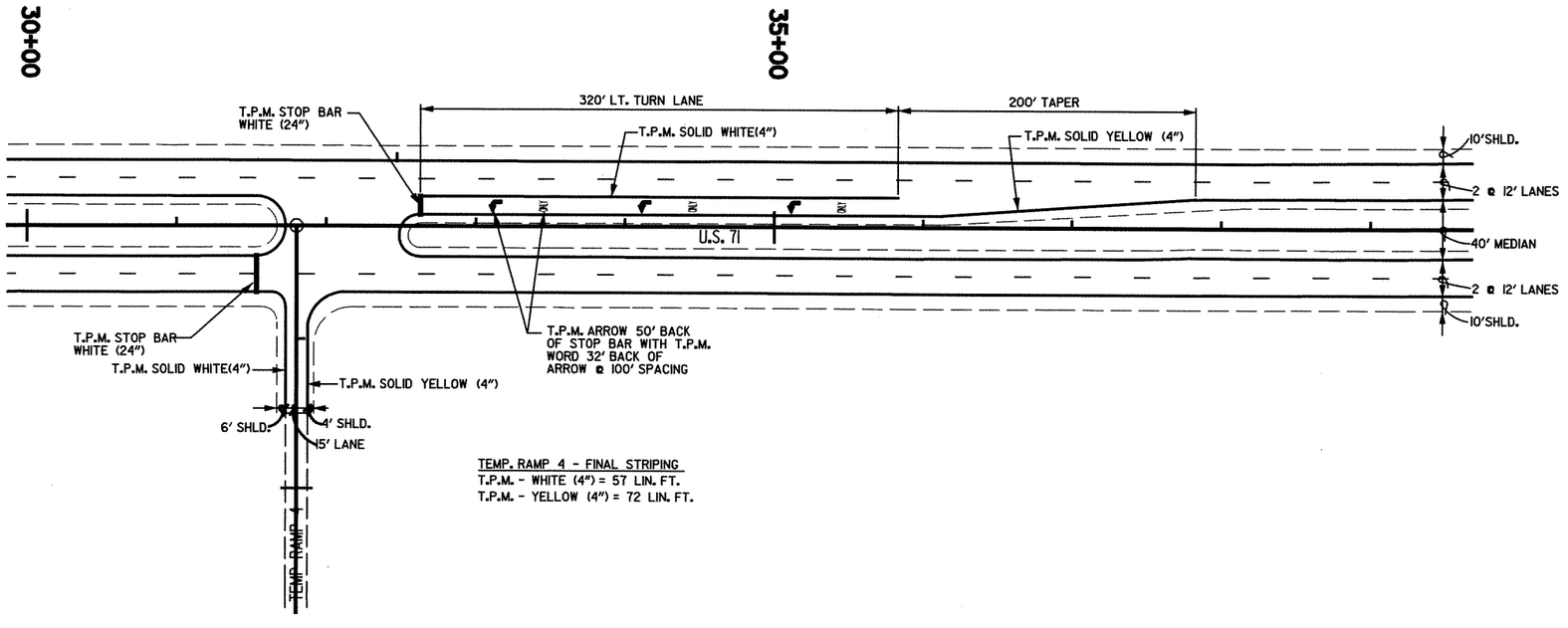



U.S. 71 - FINAL STRIPING
T.P.M. - WHITE (4") SOLID AND SKIP LINES= 10,969 LIN. FT.
T.P.M. - WHITE (24") STOP BAR = 84 LIN. FT.
T.P.M. - YELLOW (4") SOLID LINES = 9,567 LIN. FT.
T.P.M. - ARROWS = 3 EACH
T.P.M. - WORDS = 3 EACH
R.P.M.- TYPE II @ 40' O.C. (WHITE/RED) = 255 EACH

LEGEND
T.P.M. = THERMOPLASTIC PAVEMENT MARKING
R.P.M. = RAISED PAVEMENT MARKER

NOTE:
ALL EXISTING STRIPING THAT CONFLICTS WITH THOSE SHOWN SHALL BE REMOVED.

NOTE:
PAYMENT FOR EXCAVATING AND DISPOSING OF EXISTING SHOULDER MATERIAL FOR TIE-INS TO RAMPS SHALL BE IN THE PRICE BID FOR "SUBGRADE PREPARATION".



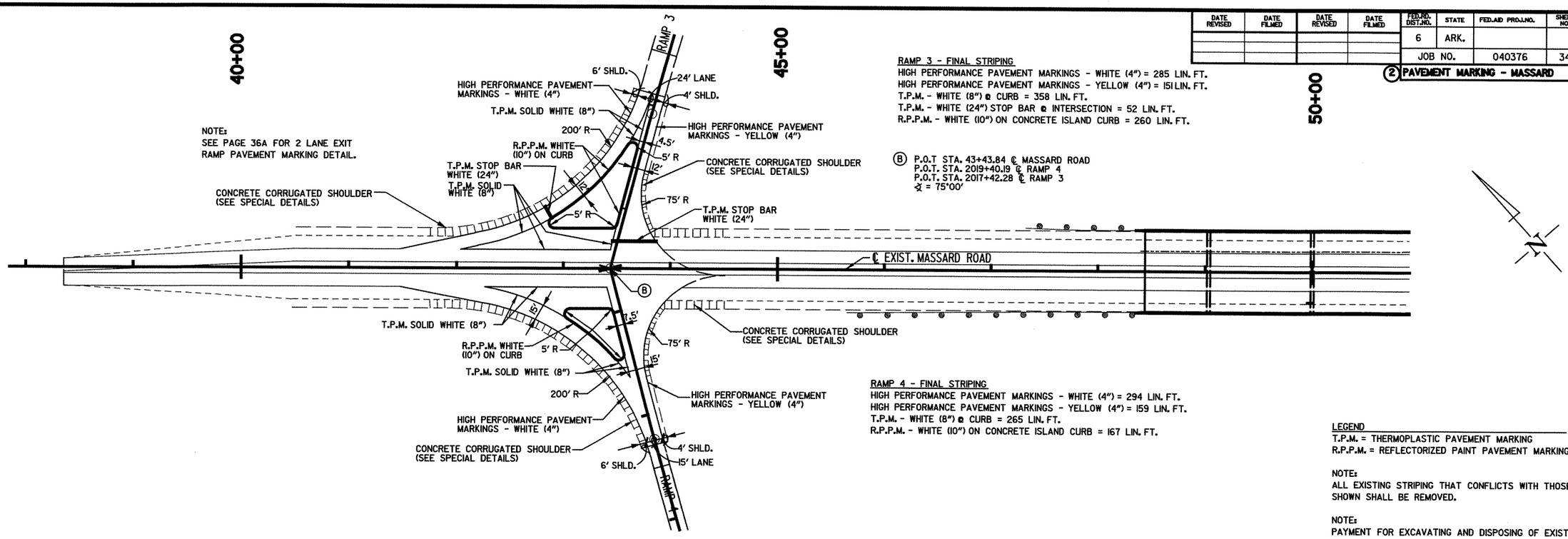

TEMP. RAMP 4 - FINAL STRIPING
T.P.M. - WHITE (4") = 57 LIN. FT.
T.P.M. - YELLOW (4") = 72 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

PAVEMENT MARKING DETAILS - U.S. 71

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 34 | 207 |

## (2) PAVEMENT MARKING - MASSARD




NOTE:
SEE PAGE 36A FOR 2 LANE EXIT RAMP PAVEMENT MARKING DETAIL.

RAMP 3 - FINAL STRIPING
HIGH PERFORMANCE PAVEMENT MARKINGS - WHITE (4") = 285 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKINGS - YELLOW (4") = 151 LIN. FT.
T.P.M. - WHITE (8") @ CURB = 358 LIN. FT.
T.P.M. - WHITE (24") STOP BAR @ INTERSECTION = 52 LIN. FT.
R.P.P.M. - WHITE (10") ON CONCRETE ISLAND CURB = 260 LIN. FT.

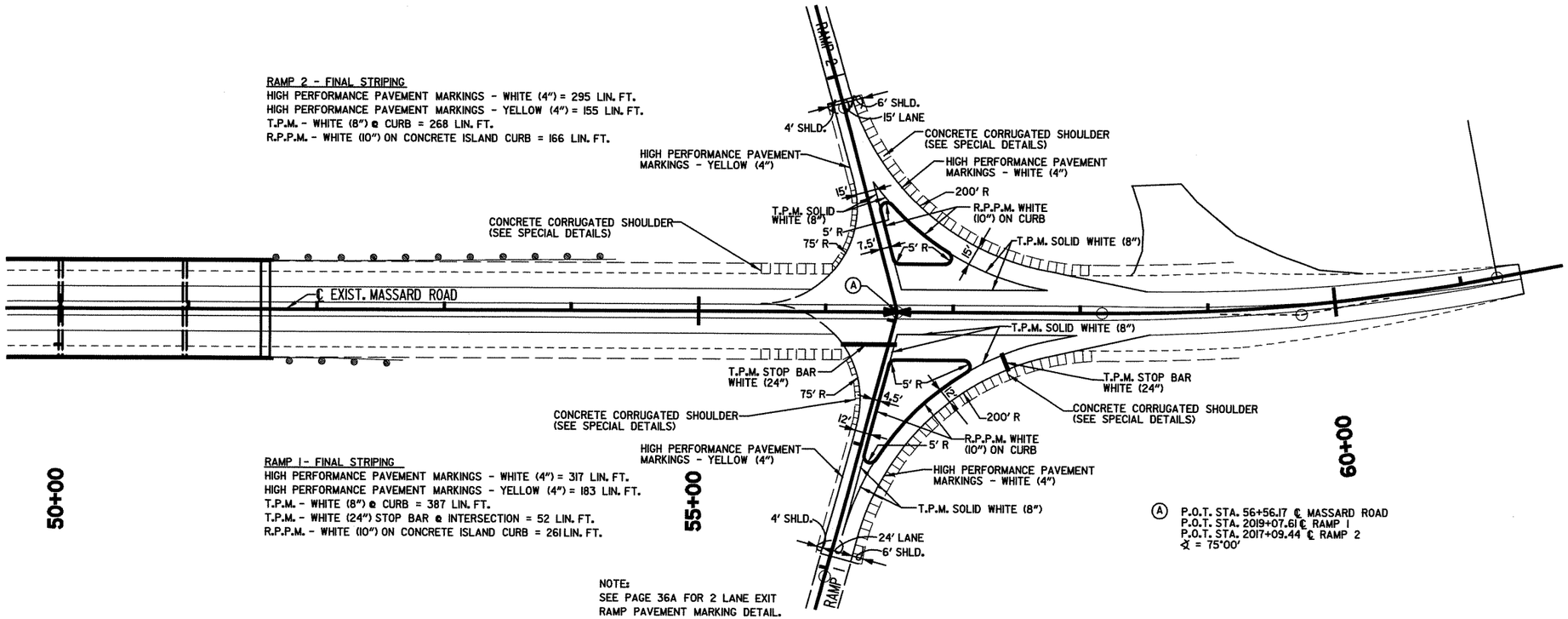
(B) P.O.T STA. 43+43.84 ℄ MASSARD ROAD
P.O.T. STA. 2019+40.19 ℄ RAMP 4
P.O.T. STA. 2017+42.28 ℄ RAMP 3
∢ = 75°00'

RAMP 4 - FINAL STRIPING
HIGH PERFORMANCE PAVEMENT MARKINGS - WHITE (4") = 294 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKINGS - YELLOW (4") = 159 LIN. FT.
T.P.M. - WHITE (8") @ CURB = 265 LIN. FT.
R.P.P.M. - WHITE (10") ON CONCRETE ISLAND CURB = 167 LIN. FT.

LEGEND
T.P.M. = THERMOPLASTIC PAVEMENT MARKING
R.P.P.M. = REFLECTORIZED PAINT PAVEMENT MARKING

NOTE:
ALL EXISTING STRIPING THAT CONFLICTS WITH THOSE SHOWN SHALL BE REMOVED.

NOTE:
PAYMENT FOR EXCAVATING AND DISPOSING OF EXISTING SHOULDER MATERIAL FOR TIE-INS TO RAMPS SHALL BE IN THE PRICE BID FOR "SUBGRADE PREPARATION".




RAMP 2 - FINAL STRIPING
HIGH PERFORMANCE PAVEMENT MARKINGS - WHITE (4") = 295 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKINGS - YELLOW (4") = 155 LIN. FT.
T.P.M. - WHITE (8") @ CURB = 268 LIN. FT.
R.P.P.M. - WHITE (10") ON CONCRETE ISLAND CURB = 166 LIN. FT.

RAMP 1- FINAL STRIPING
HIGH PERFORMANCE PAVEMENT MARKINGS - WHITE (4") = 317 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKINGS - YELLOW (4") = 183 LIN. FT.
T.P.M. - WHITE (8") @ CURB = 387 LIN. FT.
T.P.M. - WHITE (24") STOP BAR @ INTERSECTION = 52 LIN. FT.
R.P.P.M. - WHITE (10") ON CONCRETE ISLAND CURB = 261 LIN. FT.

NOTE:
SEE PAGE 36A FOR 2 LANE EXIT RAMP PAVEMENT MARKING DETAIL.

(A) P.O.T. STA. 56+56.17 ℄ MASSARD ROAD
P.O.T. STA. 2019+07.61 ℄ RAMP 1
P.O.T. STA. 2017+09.44 ℄ RAMP 2
∢ = 75°00'

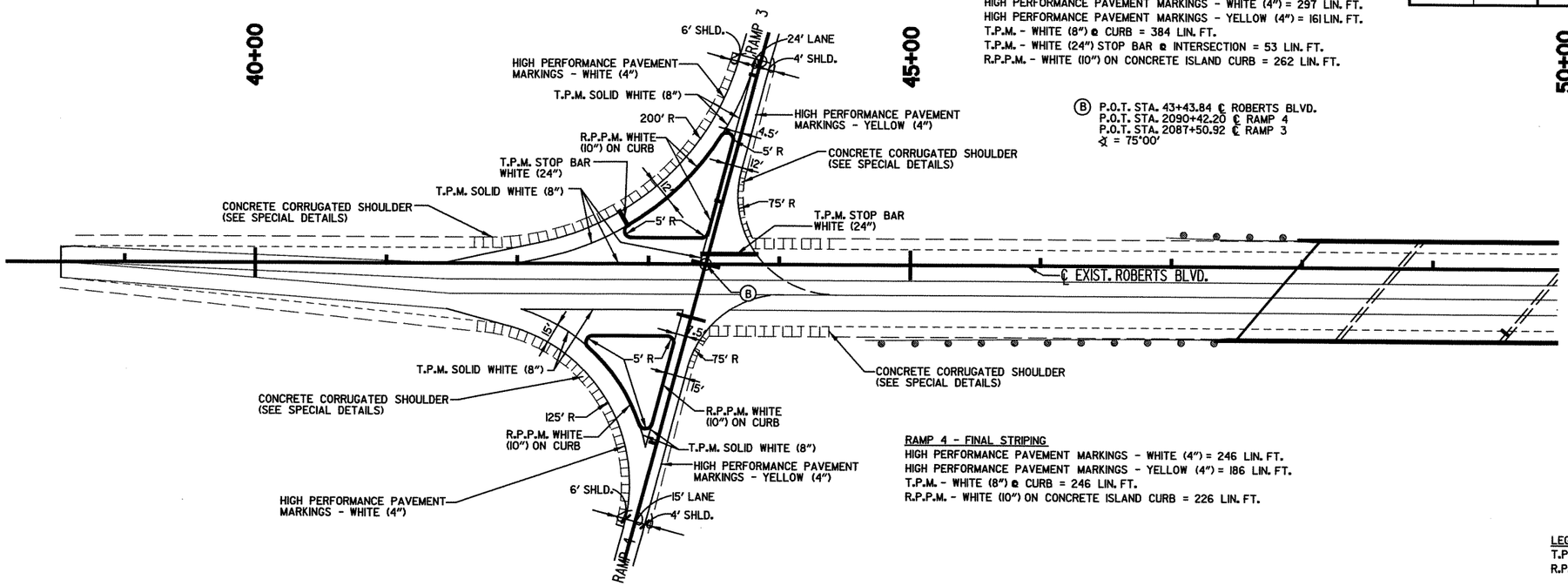
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

# PAVEMENT MARKING DETAILS - MASSARD RD.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 35 | 207 |

(2) PAVEMENT MARKING - ROBERTS

NOTE:
SEE PAGE 36A FOR 2 LANE EXIT
RAMP PAVEMENT MARKING DETAIL.




RAMP 3 - FINAL STRIPING
HIGH PERFORMANCE PAVEMENT MARKINGS - WHITE (4") = 297 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKINGS - YELLOW (4") = 161 LIN. FT.
T.P.M. - WHITE (8") @ CURB = 384 LIN. FT.
T.P.M. - WHITE (24") STOP BAR @ INTERSECTION = 53 LIN. FT.
R.P.P.M. - WHITE (10") ON CONCRETE ISLAND CURB = 262 LIN. FT.

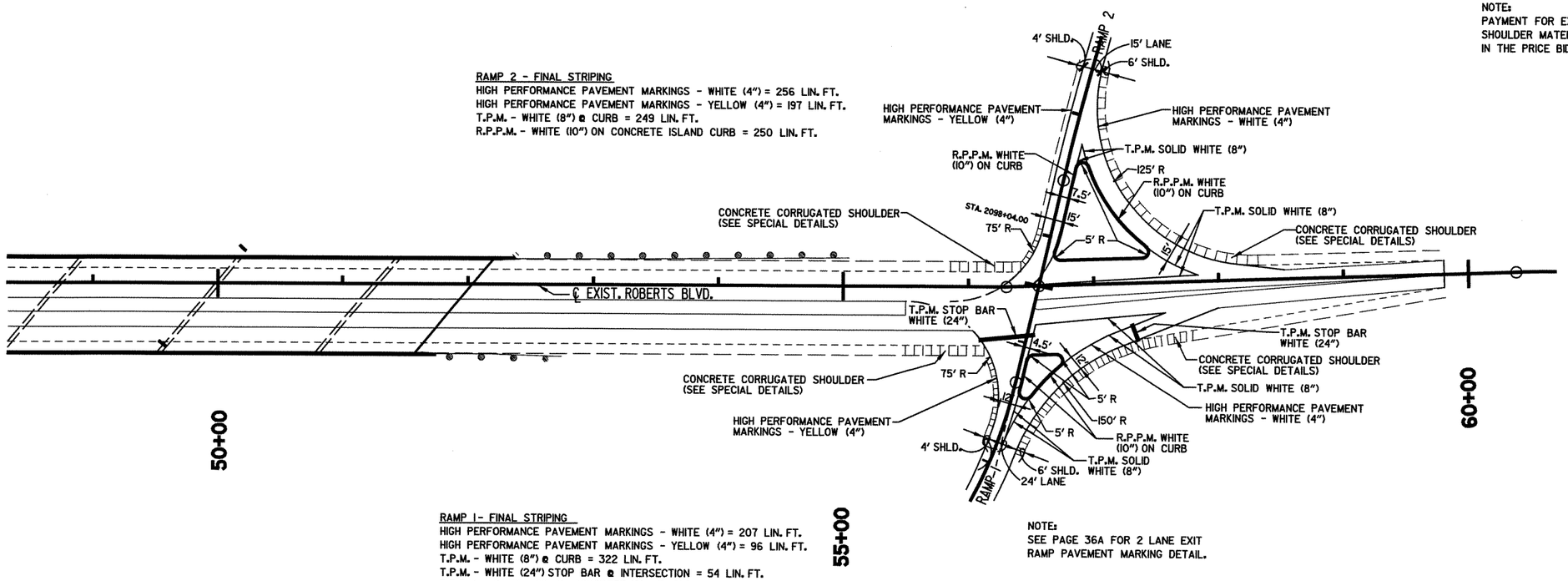
(B) P.O.T. STA. 43+43.84 ℄ ROBERTS BLVD.
P.O.T. STA. 2090+42.20 ℄ RAMP 4
P.O.T. STA. 2087+50.92 ℄ RAMP 3
∡ = 75°00'

RAMP 4 - FINAL STRIPING
HIGH PERFORMANCE PAVEMENT MARKINGS - WHITE (4") = 246 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKINGS - YELLOW (4") = 186 LIN. FT.
T.P.M. - WHITE (8") @ CURB = 246 LIN. FT.
R.P.P.M. - WHITE (10") ON CONCRETE ISLAND CURB = 226 LIN. FT.

LEGEND
T.P.M. = THERMOPLASTIC PAVEMENT MARKING
R.P.P.M. = REFLECTORIZED PAINT PAVEMENT MARKING

NOTE:
ALL EXISTING STRIPING THAT CONFLICTS WITH THOSE SHOWN SHALL BE REMOVED.

NOTE:
PAYMENT FOR EXCAVATING AND DISPOSING OF EXISTING SHOULDER MATERIAL FOR TIE-INS TO RAMPS SHALL BE IN THE PRICE BID FOR "SUBGRADE PREPARATION".




RAMP 2 - FINAL STRIPING
HIGH PERFORMANCE PAVEMENT MARKINGS - WHITE (4") = 256 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKINGS - YELLOW (4") = 197 LIN. FT.
T.P.M. - WHITE (8") @ CURB = 249 LIN. FT.
R.P.P.M. - WHITE (10") ON CONCRETE ISLAND CURB = 250 LIN. FT.

RAMP 1- FINAL STRIPING
HIGH PERFORMANCE PAVEMENT MARKINGS - WHITE (4") = 207 LIN. FT.
HIGH PERFORMANCE PAVEMENT MARKINGS - YELLOW (4") = 96 LIN. FT.
T.P.M. - WHITE (8") @ CURB = 322 LIN. FT.
T.P.M. - WHITE (24") STOP BAR @ INTERSECTION = 54 LIN. FT.
R.P.P.M. - WHITE (10") ON CONCRETE ISLAND CURB = 111 LIN. FT.

NOTE:
SEE PAGE 36A FOR 2 LANE EXIT
RAMP PAVEMENT MARKING DETAIL.

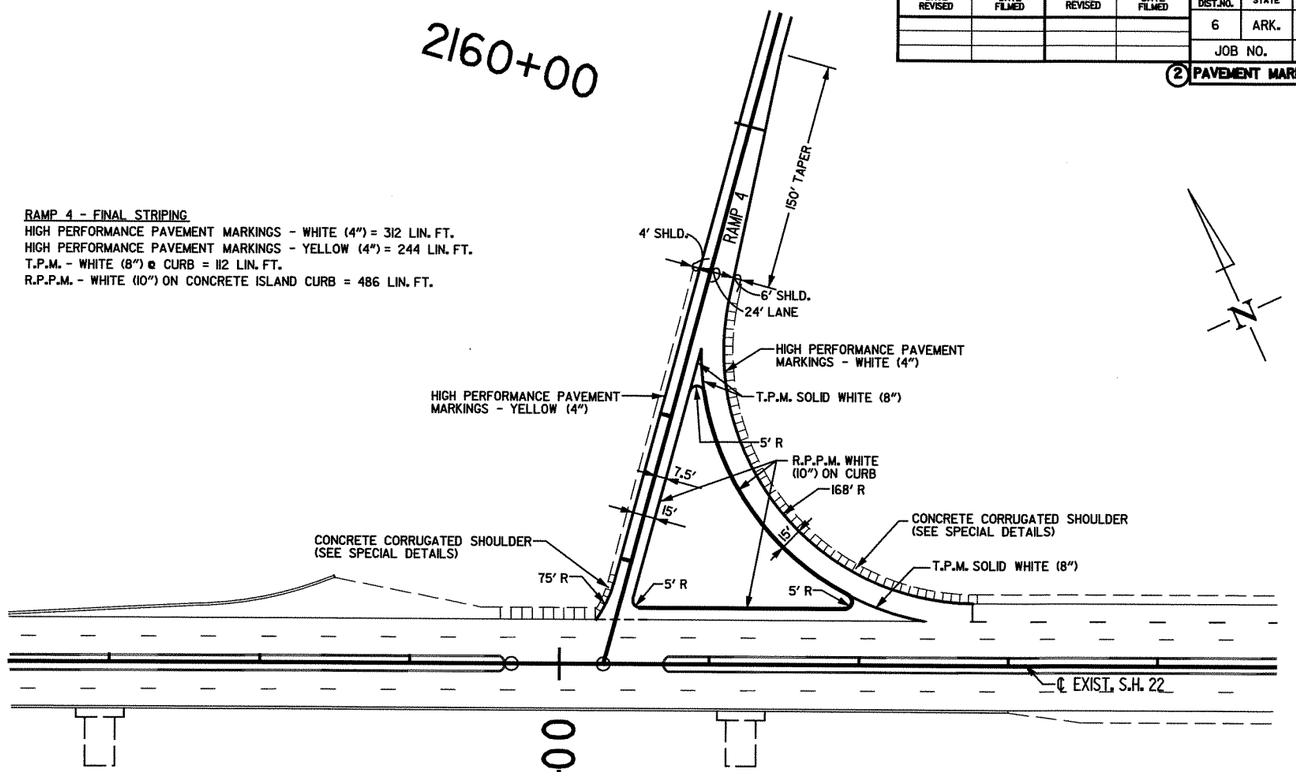
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARRY
5/1/12

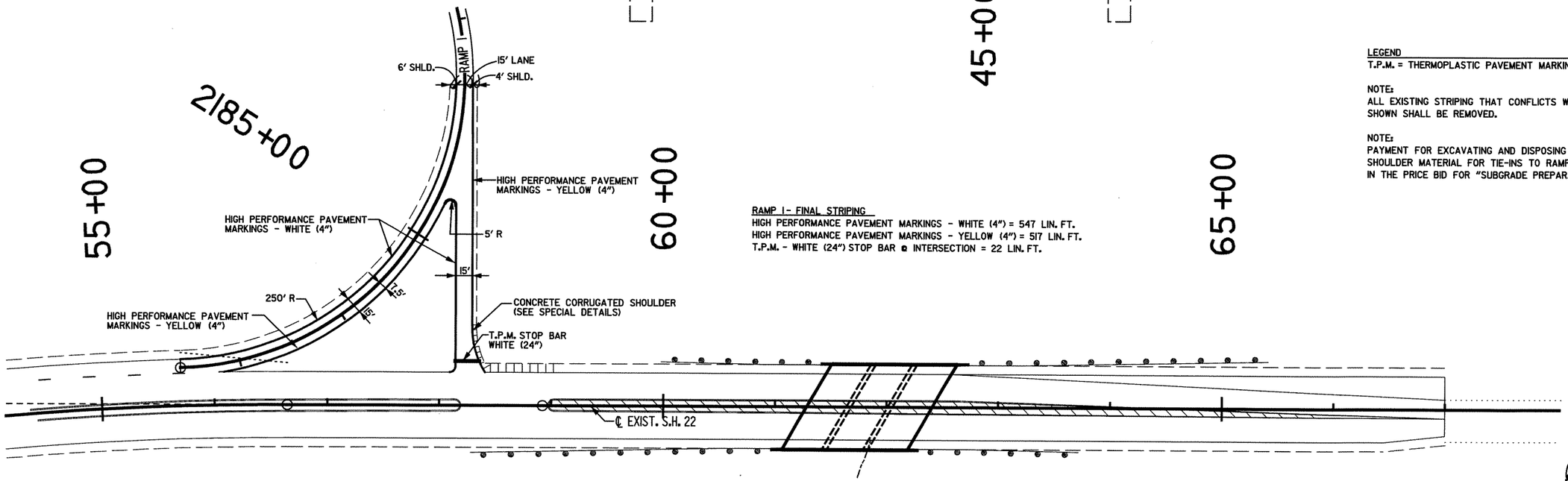
# PAVEMENT MARKING DETAILS - ROBERTS BLVD.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 36 | 207 |

(2) PAVEMENT MARKING - S.H. 22




LEGEND
T.P.M. = THERMOPLASTIC PAVEMENT MARKING

NOTE:
ALL EXISTING STRIPING THAT CONFLICTS WITH THOSE SHOWN SHALL BE REMOVED.

NOTE:
PAYMENT FOR EXCAVATING AND DISPOSING OF EXISTING SHOULDER MATERIAL FOR TIE-INS TO RAMPS SHALL BE IN THE PRICE BID FOR "SUBGRADE PREPARATION".

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9806
JAMES L. BARR
5/1/12

PAVEMENT MARKING DETAILS - S.H.22

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 37 | 207 |
| | | | | (2) | QUANTITIES | | | |

## REMOVAL AND DISPOSAL ITEMS

| STATION | STATION | LOCATION | REMOVAL & DISPOSAL OF SIGNS | REMOVAL & DISPOSAL OF DROP INLETS | REMOVAL & DISPOSAL OF FENCE | REMOVAL & DISPOSAL OF FES |
|---|---|---|---|---|---|---|
| | | | EACH | EACH | LIN. FT. | EACH |
| ENTIRE PROJECT | | | 6 | | | |
| 34+71 | | EXIST. US 71 | | 1 | | 1 |
| 49+72 | | EXIST. US 71 | | 1 | | 1 |
| 2148+51.62 | | MAIN LANES 75.67' LT. TO 75.67' RT. | | | 151 | |
| TOTALS | | | 6 | 2 | 151 | 2 |

## SHAPING DITCH

| | STATION | STATION | LOCATION | LIN. FT. |
|---|---|---|---|---|
| * | ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER | | | 1000 |
| | TOTAL | | | 1000 |

* QUANTITY ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

## REMOVAL AND DISPOSAL OF PIPE CULVERTS

| STATION | LOCATION | DESCRIPTION | EACH |
|---|---|---|---|
| RT. 14+69 | EXIST. US. 71 | 24"X30' C.M. PIPE CULVERT | 1 |
| LT. 31+15 | EXIST. US. 71 | 18"X36' C.M. PIPE CULVERT | 1 |
| LT. 36+06 | EXIST. US. 71 | 18"X38' C.M. PIPE CULVERT | 1 |
| LT. 41+14 | EXIST. US. 71 | 30"X60' C.M. PIPE CULVERT | 1 |
| RT. 58+56 | EXIST. US. 71 | DBL. 24"X36' C.M. PIPE CULVERT | 2 |
| TOTAL | | | 6 |

NOTE: REMOVAL AND DISPOSAL OF HEADWALLS AND FLARED END SECTIONS SHALL BE INCLUDED IN THE PRICE BID FOR "REMOVAL AND DISPOSAL OF PIPE CULVERTS".

## PIPE CULVERTS TO BE PLUGGED AND ABANDONED

| STATION | LOCATION | DESCRIPTION | EACH |
|---|---|---|---|
| 34+71 | EXIST. US. 71 | 24"X74' R.C. PIPE CULVERT | 1 |
| 49+72 | EXIST. US. 71 | 24"X74' R.C. PIPE CULVERT | 1 |
| TOTAL | | | 2 |

FOR INFORMATION PURPOSES ONLY.

## SUBGRADE PREPARATION

| STATION | STATION | LOCATION | STATION |
|---|---|---|---|
| 1874+50.00 | 2040+54.14 | MAIN LANES | 332.08 |
| 2043+90.66 | 2148+51.62 | MAIN LANES | 209.22 |
| 2150+48.83 | 2163+34.48 | MAIN LANES | 25.72 |
| 2172+52.22 | 2178+50.00 | MAIN LANES | 12.96 |
| 1849+50.00 | 1876+33.42 | RAMP 4 @ US 71 | 26.83 |
| 1854+50.00 | 1859+45.52 | TEMPORARY RAMP 4 @ US 71 | 4.96 |
| 1859+50.00 | 1876+74.78 | RAMP 5 @ US 71 | 17.25 |
| 1861+50.00 | 1863+99.33 | TEMPORARY RAMP 5 @ US 71 | 2.49 |
| 1878+35.18 | 1884+35.11 | NORTHBOUND COLLECTOR/DISTRIBUTOR | 6.00 |
| 1874+50.00 | 1885+46.02 | SOUTHBOUND COLLECTOR/DISTRIBUTOR | 10.96 |
| 2000+15.01 | 2018+75.06 | RAMP 1 @ MASSARD RD. | 18.60 |
| 2017+41.99 | 2035+80.43 | RAMP 2 @ MASSARD RD. | 18.38 |
| 2017+75.43 | 2035+55.66 | RAMP 3 @ MASSARD RD. | 17.80 |
| 1999+90.83 | 2019+08.36 | RAMP 4 @ MASSARD RD. | 19.70 |
| 2075+60.63 | 2097+95.66 | RAMP 1 @ ROBERTS BLVD. | 22.35 |
| 2097+69.75 | 2111+37.21 | RAMP 2 @ ROBERTS BLVD. | 13.67 |
| 2087+65.35 | 2111+21.76 | RAMP 3 @ ROBERTS BLVD. | 23.56 |
| 2075+83.70 | 2089+95.55 | RAMP 4 @ ROBERTS BLVD. | 8.63 |
| 2176+17.59 | 2187+15.41 | RAMP 1 @ S.H. 22 | 10.98 |
| 2156+51.58 | 2173+74.33 | RAMP 4 @ S.H. 22 | 17.23 |
| TOTAL | | | 819.37 |

NOTE: INCLUDES PAYMENT FOR EXCAVATING AND DISPOSING OF EXISTING SHOULDER MATERIAL FOR TIE-INS TO RAMPS AT EXIST. US 71, MASSARD RD. AND ROBERTS BLVD.

THE REMOVAL AND DISPOSAL OF EXISTING GRASS AND ORGANIC MATERIALS FROM THE SUBGRADE AND THE REPLACEMENT OF SUBGRADE MATERIAL REMOVED BY SCALPING THESE AREAS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED INCLUDED IN THE PRICE BID PER STATION FOR "SUBGRADE PREPARATION". REFER TO SPECIAL PROVISION "SUBGRADE PREPARATION".

PROFILE GRADE SHOWN ON PLAN AND PROFILE SHEETS IS 22" ABOVE SUBGRADE. USE 1":100' TRANSITION IN SUBGRADE TO MEET RAMP TERMINALS AND BRIDGE ENDS. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN PRICE BID PER STATION FOR "SUBGRADE PREPARATION".

## COLD MILLING ASPHALT PAVEMENT

| LOCATION | COLD MILLING ASPHALT PAVEMENT |
|---|---|
| | SQ. YD. |
| EXIST. U.S. 71 - STA. 15+38.18 TO STA. 16+38.18 | 533 |
| EXIST. U.S. 71 - STA. 65+47.98 TO STA. 66+47.98 | 666 |
| TOTAL | 1199 |

BASIS OF ESTIMATE : AVG. DEPTH = 1"

## EARTHWORK

| | STATION | STATION | LOCATION | UNCLASSIFIED EXCAVATION | COMPACTED EMBANKMENT | TOPSOIL FURNISHED AND PLACED | SOIL STABILIZATION |
|---|---|---|---|---|---|---|---|
| | | | | CUBIC YARD | | | TON |
| | 12+00.00 | 65+47.98 | EXISTING U.S. 71 | 5763 | 876 | | |
| | 1847+41.92 | 1849+50.00 | RAMP 4 - EXISTING U.S. 71 | 1678 | 185 | | |
| | 1856+68.36 | 1859+50.00 | RAMP 5 - EXISTING U.S. 71 | 2391 | 242 | | |
| | 1853+68.52 | 1854+50.00 | TEMP. RAMP 4 - EXISTING U.S. 71 | 112 | 350 | | |
| | 1860+52.20 | 1861+50.00 | TEMP. RAMP 5 - EXISTING U.S. 71 | 1586 | 0 | | |
| | RT. 14+73 | | EXISTING U.S. 71 | 10 | 50 | | |
| | RT. 58+56 | | EXISTING U.S. 71 | 141 | | 47 | |
| * | ENTIRE PROJECT | | | | | | 100 |
| | TOTALS | | | 11681 | 1703 | 47 | 100 |

BASIS OF ESTIMATE: OBLITERATION OF PAVEMENT ON ENTRANCES = 12" UNIFORM THICKNESS
BASIS OF ESTIMATE: TOPSOIL = 4" UNIFORM THICKNESS

* QUANTITY ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5-1-12

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. | | 040376 | 38 | 207 |

(2) QUANTITIES

## APPROACH SLABS & GUTTERS

| STATION | STATION | LOCATION | APPROACH SLABS | APPROACH GUTTER (TYPE C) | REINFORCING STEEL - ROADWAY (GRADE 60) | CONCRETE SPILLWAY (TYPE A) | TYPE N-3 DROP INLET | 12" ZINC COAT (GALV) CORR. STEEL PIPE CULVERT (16 GAUGE) | AGGREGATE BASE CRSE. (CLASS 7) | STANDARD DRAWING NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | CU. YD. | | LBS. | EACH | | LIN. FT. | TON | |
| 2039+86.28 | 2040+22.78 | S.B. LANES | 73.73 | | 8924 | | | | 63.9 | 2018 |
| 2039+73.31 | 2040+13.05 | LEFT OF S.B. LANES | | 11.52 | 623 | 1 | 1 | 110 | 10.6 | 2016C, FPC-9N |
| 2039+99.25 | 2040+32.51 | RIGHT OF S.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2040+49.00 | 2040+85.50 | N.B. LANES | 73.73 | | 8924 | | | | 63.9 | 2018 |
| 2040+36.03 | 2040+75.77 | LEFT OF N.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2040+61.97 | 2040+95.23 | RIGHT OF N.B. LANES | | 11.52 | 623 | 1 | 1 | 106 | 10.6 | 2016C, FPC-9N |
| 2043+42.29 | 2043+78.79 | S.B. LANES | 73.73 | | 8924 | | | | 63.9 | 2018 |
| 2043+32.56 | 2043+65.82 | LEFT OF S.B. LANES | | 11.52 | 623 | 1 | 1 | 120 | 10.6 | 2016C, FPC-9N |
| 2043+52.03 | 2043+91.77 | RIGHT OF S.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2044+05.01 | 2044+41.51 | N.B. LANES | 73.73 | | 8924 | | | | 63.9 | 2018 |
| 2043+95.28 | 2044+28.54 | LEFT OF N.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2044+14.74 | 2044+54.48 | RIGHT OF N.B. LANES | | 11.52 | 623 | 1 | 1 | 106 | 10.6 | 2016C, FPC-9N |
| | | | | | | | | | | |
| 2148+15.12 | 2148+51.62 | S.B. LANES | 49.15 | | 5556 | | | | 42.6 | 2018 |
| 2148+15.12 | 2148+51.62 | LEFT OF S.B. LANES | | 18.06 | 991 | | | | 17.7 | 2016C |
| 2148+15.12 | 2148+51.62 | RIGHT OF S.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2148+15.12 | 2148+51.62 | N.B. LANES | 49.15 | | 5556 | | | | 42.6 | 2018 |
| 2148+15.12 | 2148+51.62 | LEFT OF N.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2148+15.12 | 2148+51.62 | RIGHT OF N.B. LANES | | 18.06 | 991 | | | | 17.7 | 2016C |
| 2150+48.83 | 2150+85.33 | S.B. LANES | 49.15 | | 5556 | | | | 42.6 | 2018 |
| 2150+48.83 | 2150+85.33 | LEFT OF S.B. LANES | | 18.06 | 991 | 1 | 1 | 90 | 17.7 | 2016C, FPC-9N |
| 2150+48.83 | 2150+85.33 | RIGHT OF S.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2150+48.83 | 2150+85.33 | N.B. LANES | 49.15 | | 5556 | | | | 42.6 | 2018 |
| 2150+48.83 | 2150+85.33 | LEFT OF N.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2150+48.83 | 2150+85.33 | RIGHT OF N.B. LANES | | 18.06 | 991 | 1 | 1 | 90 | 17.7 | 2016C, FPC-9N |
| | | | | | | | | | | |
| 2162+80.76 | 2163+17.26 | S.B. LANES | 73.73 | | 8924 | | | | 63.9 | 2018 |
| 2162+64.57 | 2163+05.12 | LEFT OF S.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2162+96.95 | 2163+29.40 | RIGHT OF S.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2163+15.20 | 2163+51.70 | N.B. LANES | 73.73 | | 8924 | | | | 63.9 | 2018 |
| 2162+99.01 | 2163+39.56 | LEFT OF N.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2163+31.39 | 2163+63.84 | RIGHT OF N.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2172+13.00 | 2172+49.50 | S.B. LANES | 73.73 | | 8924 | | | | 63.9 | 2018 |
| 2172+00.86 | 2172+33.31 | LEFT OF S.B. LANES | | 11.52 | 623 | 1 | 1 | 76 | 10.6 | 2016C, FPC-9N |
| 2172+25.14 | 2172+65.69 | RIGHT OF S.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2172+91.44 | 2173+27.94 | N.B. LANES | 73.73 | | 8924 | | | | 63.9 | 2018 |
| 2172+79.30 | 2173+11.75 | LEFT OF N.B. LANES | | 11.52 | 623 | | | | 10.6 | 2016C |
| 2173+03.58 | 2173+44.13 | RIGHT OF N.B. LANES | | 11.52 | 623 | 1 | 1 | 86 | 10.6 | 2016C, FPC-9N |
| TOTALS | | | 786.44 | 302.64 | 110040 | 8 | 8 | 784 | 964.4 | |

BASIS OF ESTIMATE = AGGREGATE BASE CRSE. (CLASS 7) _____ 7 1 /2" DEPTH UNDER APPROACH SLABS & GUTTERS.

## CONCRETE ISLAND

| STATION | STATION | LOCATION | CONCRETE ISLAND |
|---|---|---|---|
| | | | SQ. YD. |
| 2018+55.99 | 2019+03.30 | RAMP 4 MASSARD RD. | 151 |
| 2017+81.29 | 2018+62 | RAMP 3 MASSARD RD. | 301 |
| 2017+88 | 2018+69.49 | RAMP 1 MASSARD RD. | 303 |
| 2017+46.04 | 2017+94.37 | RAMP 2 MASSARD RD. | 151 |
| | | | |
| 2089+08.76 | 2089+81.56 | RAMP 4 ROBERTS RD. | 285 |
| 2087+71.21 | 2088+52 | RAMP 3 ROBERTS RD. | 303 |
| 2097+57 | 2097+96.47 | RAMP 1 ROBERTS RD. | 76 |
| 2097+79.26 | 2098+65.12 | RAMP 2 ROBERTS RD. | 335 |
| | | | |
| | | | |
| 2156+75.36 | 2158+01.36 | RAMP 4 SH 22 | 1047 |
| | | | |
| TOTAL | | | 2952 |

## CONCRETE BARRIER WALL (MEDIAN TYPE A)

| | STATION | STATION | LOCATION | MEDIAN TYPE A | 4" PIPE UNDERDRAINS | UNDERDRAIN OUTLET PROTECTORS |
|---|---|---|---|---|---|---|
| | | | | LIN. FT. | LIN. FT. | EACH |
| | 1875+00.00 | 1878+33.62 | U.S. 71 RELOCATED | 333.62 | 400 | 8 |
| | | | | | | |
| * | ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER | | | | 250 | 5 |
| | | | | | | |
| | TOTALS | | | 333.62 | 650 | 13 |

* QUANTITY ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

## TEMPORARY EROSION CONTROL

| | LOCATION | DESCRIPTION | TEMPORARY SEEDING | MULCH COVER | WATER | DROP INLET SILT FENCE (TYPE E-7) | SILT FENCE (TYPE E-11) | ROCK DITCH CHECK (TYPE E-6) | SEDIMENT REMOVAL & DISPOSAL |
|---|---|---|---|---|---|---|---|---|---|
| | | | ACRE | | M. GAL. | LIN. FT. | LIN. FT. | CU. YD. | CU. YD. |
| | EXISTING U.S. 71 | STAGE 1 (MEDIAN WORK) | 1.04 | 1.04 | 21.2 | 63 | | | |
| | EXISTING U.S. 71 RAMP 4 | STAGE 2 (RAMP 4 & TEMP. RAMP 4) | 2.45 | 2.45 | 50.0 | | 1,350 | 16.7 | |
| | EXISTING U.S. 71 RAMP 5 | STAGE 2 (RAMP 5 & TEMP. RAMP 5) | 2.05 | 2.05 | 41.8 | | 1,500 | 12.5 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| * | ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER | | | | | | | | 100 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | TOTALS | | 5.54 | 5.54 | 113.0 | 63 | 2,850 | 29.2 | 100 |

BASIS OF ESTIMATE: WATER = 20.4 M.G. PER ACRE TEMPORARY SEEDING

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

*QUANTITY ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

## EROSION CONTROL

| | LOCATION | DESCRIPTION | LIME | SEEDING | MULCH COVER | WATER | SECOND SEEDING APPLICATION | EROSION CONTROL MATTING (CLASS 2) |
|---|---|---|---|---|---|---|---|---|
| | | | TON | ACRE | | M. GAL. | ACRE | SQ. YD. |
| | EXISTING U.S. 71 | STAGE 1 (MEDIAN WORK) | 2.08 | 1.04 | 1.04 | 106.08 | 1.04 | |
| | EXISTING U.S. 71 RAMP 4 | STAGE 2 (RAMP 4 & TEMP. RAMP 4) | 4.90 | 2.45 | 2.45 | 249.90 | 2.45 | |
| | EXISTING U.S. 71 RAMP 5 | STAGE 2 (RAMP 5 & TEMP. RAMP 5) | 4.10 | 2.05 | 2.05 | 209.10 | 2.05 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| * | ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER | | 6.0 | 3.0 | 3.0 | 306.00 | 3.0 | 1000 |
| | TOTALS | | 17.08 | 8.54 | 8.54 | 871.08 | 8.54 | 1000 |

BASIS OF ESTIMATE: LIME = 2 TONS PER ACRE SEEDING
WATER = 102.0 M.G. PER ACRE SEEDING

* QUANTITY ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/2/12

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. | | 040376 | 39 | 207 |

(2) QUANTITIES

# STRUCTURES

| STATION | LOCATION/DESCRIPTION | 24" S.D. | REINFORCED CONC. PIPE CULVERTS CLASS III | SAFETY END SECTIONS FOR R.C. PIPE CULVS. CLASS 2 | COMPLETING DROP INLETS | DROP INLETS | JUNCTION BOXES | SOLID SODDING | WATER | STANDARD DRAWING NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 24" | 24" | TYPE ST | TYPE RM | TYPE ST | | | |
| | | LIN. FT. | | EACH | | | | SQ. YD. | M GAL. | |
| 14+73 | EXISTING US 71 - INSTALL PIPE CULVERT-RT. SIDE DRAIN | 64 | | | | | | | | PCC-1,PCM-1 |
| 19+72 | EXISTING US 71 - CONST. R.C. PIPE EXTENSION W/SES | | 14 | 1 | | | | 4 | 0.05 | PCC-1,SES-1 |
| 33+00 | EXISTING US 71 - CONST. TYPE RM DROP INLET IN MEDIAN W/R.C. PIPE OUTLET ON RT. W/SES | | 62 | 1 | | 1 | | 9 | 0.11 | FPC-9D,PCC-1,SES-1 |
| 37+00 | EXISTING US 71 - CONST. TYPE RM DROP INLET IN MEDIAN W/R.C. PIPE OUTLET ON RT. W/SES | | 72 | 1 | | 1 | | 9 | 0.11 | FPC-9D,PCC-1,SES-1 |
| 50+50 | EXISTING US 71 - CONST. TYPE RM DROP INLET IN MEDIAN W/R.C. PIPE OUTLET ON RT. W/SES | | 68 | 1 | | 1 | | 9 | 0.11 | FPC-9D,PCC-1,SES-1 |
| 54+70 | EXISTING US 71 - CONST. TYPE ST JCT. BOX W/RC PIPE OUTLET ON RT. W/SES | | 170 | 1 | | | 1 | 4 | 0.05 | FPC-9S,PCC-1,SES-1 |
| 59+72 | EXISTING US 71 - CONST. R.C. PIPE EXTENSION W/SES | | 12 | 1 | | | | 4 | 0.05 | PCC-1,SES-1 |
| 63+71 | EXISTING US 71 - CONST. R.C. PIPE EXTENSION W/SES | | 8 | 1 | | | | 4 | 0.05 | PCC-1,SES-1 |
| 1854+45 | TEMP. RAMP 4 - CONST. R.C. PIPE OUTLET W/SES LT. & RT. | | 58 | 2 | | | | 8 | 0.10 | PCC-1,SES-1 |
| 1860+95 | TEMP. RAMP 5 - CONST. R.C. PIPE OUTLET W/SES LT. & RT. | | 66 | 2 | | | | 8 | 0.10 | PCC-1,SES-1 |
| 1875+00 | MAIN LANES - COMPLETE DROP INLET 72.5' RT. | | | | 1 | | | | | FPC-9S |
| TOTALS | | 64 | 530 | 11 | 1 | 3 | 1 | 59 | 0.73 | |

FOR R.C. PIPE CULVERT INSTALLATIONS, USE TYPE 3 BEDDING, UNLESS OTHERWISE SPECIFIED.
BASIS OF ESTIMATE: WATER = 12.6 GAL. PER SQ. YD. SOLID SODDING

## PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

| LOCATION | TON |
|---|---|
| EXIST. US 71 STA. 33+00 | 11.7 |
| EXIST. US 71 STA. 37+00 | 11.7 |
| EXIST. US 71 STA. 50+50 | 11.7 |
| | |
| | |
| | |
| TOTAL | 35.1 |

## GUARDRAIL

| STATION | STATION | LOCATION | GUARDRAIL (TYPE A) | GUARDRAIL TERMINAL (TYPE 2) | THRIE BEAM GUARDRAIL TERMINAL |
|---|---|---|---|---|---|
| | | | LIN. FT. | EACH | |
| 2037+44.52 | 2040+63.27 | LEFT OF N.B. LANES | 250 | 1 | 1 |
| 2037+70.47 | 2040+89.22 | RIGHT OF N.B. LANES | 250 | 1 | 1 |
| 2043+38.58 | 2046+57.34 | LEFT OF S.B. LANES | 250 | 1 | 1 |
| 2043+64.53 | 2046+83.28 | RIGHT OF S.B. LANES | 250 | 1 | 1 |
| | | | | | |
| 2145+26.98 | 2148+45.73 | LEFT OF N.B. LANES | 250 | 1 | 1 |
| 2145+76.98 | 2148+45.73 | RIGHT OF N.B. LANES | 200 | 1 | 1 |
| 2150+54.72 | 2153+73.47 | RIGHT OF S.B. LANES | 250 | 1 | 1 |
| 2150+54.72 | 2153+23.47 | LEFT OF S.B. LANES | 200 | 1 | 1 |
| | | | | | |
| 2160+07.08 | 2163+25.83 | LEFT OF N.B. LANES | 250 | 1 | 1 |
| 2160+39.63 | 2163+58.38 | RIGHT OF N.B. LANES | 250 | 1 | 1 |
| 2172+03.85 | 2175+22.60 | LEFT OF S.B. LANES | 250 | 1 | 1 |
| 2172+36.34 | 2175+55.09 | RIGHT OF S.B. LANES | 250 | 1 | 1 |
| | | | | | |
| TOTALS | | | 2900 | 12 | 12 |

## SELECTED PIPE BEDDING

| LOCATION | SELECTED PIPE BEDDING |
|---|---|
| | CU. YD. |
| * ENTIRE PROJECT | 50 |
| | |
| | |
| TOTAL | 50 |

* QUANTITIES ESTIMATED (SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

QUANTITIES

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PRO.JNO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 40 | 207 |
| | | | | (2) | QUANTITIES | | | |

## ALTERNATE NO. 1
## RUMBLE STRIPS IN SHOULDERS

| STATION | STATION | LOCATION | RUMBLE STRIPS ASPHALT | RUMBLE STRIPS PCCP |
|---|---|---|---|---|
| | | | LIN. FT. | |
| 1875+00.00 | 1884+32.50 | RT. OF MAIN LANES RT. | | 933 |
| 1875+00.00 | 1895+00.00 | LT. OF MAIN LANES RT. | 2000 | |
| 1895+00.00 | 2040+36.03 | LT. OF MAIN LANES RT. | 14536 | |
| 1884+32.50 | 1895+00.00 | RT. OF MAIN LANES RT. | | 1065 |
| 1895+00.00 | 2000+14.10 | RT. OF MAIN LANES RT. | | 10514 |
| 1875+00.00 | 1895+00.00 | RT. OF MAIN LANES LT. | 2000 | |
| 1895+00.00 | 2039+99.25 | RT. OF MAIN LANES LT. | 14499 | |
| 1875+00.00 | 1884+91.79 | LT. OF MAIN LANES LT. | | 992 |
| 1885+46.02 | 1895+00.00 | LT. OF MAIN LANES LT. | | 954 |
| 1895+00.00 | 1999+93.44 | LT. OF MAIN LANES LT. | | 10493 |
| 1999+93.44 | 2035+03.70 | LT. OF MAIN LANES LT. | | 3510 |
| 2000+67.30 | 2035+77.84 | RT. OF MAIN LANES RT. | | 3511 |
| 2035+55.94 | 2039+73.31 | LT. OF MAIN LANES LT. | 417 | |
| 2035+79.99 | 2040+61.97 | RT. OF MAIN LANES RT. | | 482 |
| 2043+65.86 | 2075+86.07 | LT. OF MAIN LANES LT. | | 3220 |
| 2043+91.77 | 2148+15.12 | RT. OF MAIN LANES LT. | | 10423 |
| 2044+28.54 | 2148+15.12 | LT. OF MAIN LANES RT. | 10387 | |
| 2044+54.48 | 2075+59.76 | RT. OF MAIN LANES RT. | | 3105 |
| 2076+12.94 | 2111+23.75 | RT. OF MAIN LANES RT. | | 3521 |
| 2111+23.75 | 2148+15.12 | RT. OF MAIN LANES RT. | | 3691 |
| 2111+25.53 | 2148+15.12 | LT. OF MAIN LANES LT. | | 3690 |
| 2150+85.33 | 2163+31.39 | RT. OF MAIN LANES RT. | | 1246 |
| 2150+85.33 | 2162+99.01 | LT. OF MAIN LANES RT. | 1214 | |
| 2150+85.33 | 2162+96.95 | RT. OF MAIN LANES LT. | 1212 | |
| 2150+85.33 | 2162+64.57 | LT. OF MAIN LANES LT. | | 1179 |
| 2173+44.13 | 2176+17.48 | RT. OF MAIN LANES RT. | | 273 |
| 2176+43.17 | 2178+50.00 | RT. OF MAIN LANES RT. | | 257 |
| 2173+11.75 | 2178+50.00 | LT. OF MAIN LANES RT. | 538 | |
| 2172+65.69 | 2178+50.00 | RT. OF MAIN LANES LT. | 584 | |
| 2172+33.31 | 2175+30.10 | LT. OF MAIN LANES LT. | | 297 |
| 2175+30.10 | 2178+50.00 | LT. OF MAIN LANES LT. | | 320 |
| | | | | |
| TOTALS | | | 47,387 | 63,676 |

## ALTERNATE NO. 2
## RUMBLE STRIPS IN SHOULDERS

| STATION | STATION | LOCATION | RUMBLE STRIPS PCCP |
|---|---|---|---|
| | | | LIN. FT. |
| 1875+00.00 | 1884+32.50 | RT. OF MAIN LANES RT. | 933 |
| 1875+00.00 | 1895+00.00 | LT. OF MAIN LANES RT. | 2000 |
| 1895+00.00 | 2040+36.03 | LT. OF MAIN LANES RT. | 14536 |
| 1884+32.50 | 1895+00.00 | RT. OF MAIN LANES RT. | 1065 |
| 1895+00.00 | 2000+14.10 | RT. OF MAIN LANES RT. | 10514 |
| 1875+00.00 | 1895+00.00 | RT. OF MAIN LANES LT. | 2000 |
| 1895+00.00 | 2039+99.25 | RT. OF MAIN LANES LT. | 14499 |
| 1875+00.00 | 1884+91.79 | LT. OF MAIN LANES LT. | 992 |
| 1885+46.02 | 1895+00.00 | LT. OF MAIN LANES LT. | 954 |
| 1895+00.00 | 1999+93.44 | LT. OF MAIN LANES LT. | 10493 |
| 1999+93.44 | 2035+03.70 | LT. OF MAIN LANES LT. | 3510 |
| 2000+67.30 | 2035+77.84 | RT. OF MAIN LANES RT. | 3511 |
| 2035+55.94 | 2039+73.31 | LT. OF MAIN LANES LT. | 417 |
| 2035+79.99 | 2040+61.97 | RT. OF MAIN LANES RT. | 482 |
| 2043+65.86 | 2075+86.07 | LT. OF MAIN LANES LT. | 3220 |
| 2043+91.77 | 2148+15.12 | RT. OF MAIN LANES LT. | 10423 |
| 2044+28.54 | 2148+15.12 | LT. OF MAIN LANES RT. | 10387 |
| 2044+54.48 | 2075+59.76 | RT. OF MAIN LANES RT. | 3105 |
| 2076+12.94 | 2111+23.75 | RT. OF MAIN LANES RT. | 3521 |
| 2111+23.75 | 2148+15.12 | RT. OF MAIN LANES RT. | 3691 |
| 2111+25.53 | 2148+15.12 | LT. OF MAIN LANES LT. | 3690 |
| 2150+85.33 | 2163+31.39 | RT. OF MAIN LANES RT. | 1246 |
| 2150+85.33 | 2162+99.01 | LT. OF MAIN LANES RT. | 1214 |
| 2150+85.33 | 2162+96.95 | RT. OF MAIN LANES LT. | 1212 |
| 2150+85.33 | 2162+64.57 | LT. OF MAIN LANES LT. | 1179 |
| 2173+44.13 | 2176+17.48 | RT. OF MAIN LANES RT. | 273 |
| 2176+43.17 | 2178+50.00 | RT. OF MAIN LANES RT. | 207 |
| 2173+11.75 | 2178+50.00 | LT. OF MAIN LANES RT. | 538 |
| 2172+65.69 | 2178+50.00 | RT. OF MAIN LANES LT. | 584 |
| 2172+33.31 | 2175+30.10 | LT. OF MAIN LANES LT. | 297 |
| 2175+30.10 | 2178+50.00 | LT. OF MAIN LANES LT. | 320 |
| | | | |
| TOTAL | | | 111,013 |

## ALTERNATE NO. 1& 2
## PORTLAND CEMENT CONCRETE CORRUGATION

| STATION | STATION | LOCATION | SQ. YDS. |
|---|---|---|---|
| 22+38.40 | 22+78.96 | RT. - EXIST. US. 71 | 50 |
| | | | |
| 1876+30.95 | 1876+75.98 | LT. - SB CD RD. | 57 |
| | | | |
| 1884+91.79 | 1885+46.02 | LT. - MAIN LANES | 67 |
| 2000+14.10 | 2000+67.30 | RT. - MAIN LANES | 67 |
| 2035+03.70 | 2035+55.94 | LT. - MAIN LANES | 67 |
| 2075+59.76 | 2076+12.94 | RT. - MAIN LANES | 67 |
| 2110+90.94 | 2111+25.01 | LT. - MAIN LANES | 51 |
| | | | |
| 2176+17.48 | 2176+43.17 | RT. - MAIN LANES | 30 |
| | | | |
| 2017+28.02 | 2018+75.06 | RT. - MASSARD RD. RAMP 1 | 233 |
| 2018+14.07 | 2018+75.06 | LT. - MASSARD RD. RAMP 1 | 82 |
| | | | |
| 2017+41.99 | 2018+90.45 | RT. - MASSARD RD. RAMP 2 | 233 |
| 2018+41.99 | 2018+15.40 | LT. - MASSARD RD. RAMP 2 | 82 |
| | | | |
| 2017+75.43 | 2018+36.42 | RT. - MASSARD RD. RAMP 3 | 82 |
| 2017+75.43 | 2019+20.63 | LT. - MASSARD RD. RAMP 3 | 233 |
| | | | |
| 2018+34.95 | 2019+08.36 | RT. - MASSARD RD. RAMP 4 | 82 |
| 2017+59.94 | 2019+08.36 | LT. - MASSARD RD. RAMP 4 | 233 |
| | | | |
| 2097+14.41 | 2097+95.66 | RT. - ROBERTS BLVD. RAMP 1 | 129 |
| 2097+28.26 | 2097+95.66 | LT. - ROBERTS BLVD. RAMP 1 | 84 |
| | | | |
| 2097+69.75 | 2099+42.43 | RT. - ROBERTS BLVD. RAMP 2 | 258 |
| 2097+69.75 | 2098+04.07 | LT. - ROBERTS BLVD. RAMP 2 | 65 |
| | | | |
| 2087+65.35 | 2088+26.86 | RT. - ROBERTS BLVD. RAMP 3 | 82 |
| 2087+65.35 | 2089+12.31 | LT. - ROBERTS BLVD. RAMP 3 | 233 |
| | | | |
| 2089+62.84 | 2089+95.55 | RT. - ROBERTS BLVD. RAMP 4 | 64 |
| 2088+32.15 | 2089+95.55 | LT. - ROBERTS BLVD. RAMP 4 | 223 |
| | | | |
| 2185+34.63 | 2185+70.26 | RT. - SH 22 RAMP 1 | 35 |
| 2185+05.40 | 2185+43.19 | LT. - SH 22 RAMP 1 | 35 |
| | | | |
| 2156+68.08 | 2158+83.36 | RT. - SH 22 RAMP 4 | 193 |
| 2156+68.08 | 2156+90.49 | LT. - SH 22 RAMP 4 | 12 |
| | | | |
| TOTALS | | | 3129 |

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

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. | | 040376 | 41 | 207 |

(2) QUANTITIES

## ALTERNATE NO. 1 & 2 JOINT SUPPORTS

| STATION | LOCATION | LENGTH | CLASS S CONCRETE ROADWAY |
|---|---|---|---|
| | | FEET | CU. YDS. |
| 1875+67.07 | U.S. 71, RAMP 4 | 15 | 1.67 |
| 1875+82.07 | U.S. 71, RAMP 4 | 15 | 1.67 |
| 1875+97.07 | U.S. 71, RAMP 4 | 15 | 1.67 |
| 1876+08.72 | U.S. 71, RAMP 5 | 15 | 1.67 |
| 1876+23.73 | U.S. 71, RAMP 5 | 15 | 1.67 |
| 1876+38.73 | U.S. 71, RAMP 5 | 15 | 1.67 |
| 1883+68.96 | U.S. 71, RAMP 4 | 15 | 1.67 |
| 1883+83.96 | U.S. 71, RAMP 4 | 15 | 1.67 |
| 1883+98.96 | U.S. 71, RAMP 4 | 15 | 1.67 |
| 1884+79.15 | U.S. 71, RAMP 5 | 15 | 1.67 |
| 1884+94.15 | U.S. 71, RAMP 5 | 15 | 1.67 |
| 1885+09.15 | U.S. 71, RAMP 5 | 15 | 1.67 |
| 2000+15.02 | MASSARD ROAD, RAMP 1 | 15 | 1.67 |
| 2000+30.02 | MASSARD ROAD, RAMP 1 | 15 | 1.67 |
| 2000+45.02 | MASSARD ROAD, RAMP 1 | 15 | 1.67 |
| 2000+26.98 | MASSARD ROAD, RAMP 4 | 15 | 1.67 |
| 2000+41.98 | MASSARD ROAD, RAMP 4 | 15 | 1.67 |
| 2000+56.98 | MASSARD ROAD, RAMP 4 | 15 | 1.67 |
| 2035+14.43 | MASSARD ROAD, RAMP 2 | 15 | 1.67 |
| 2035+29.43 | MASSARD ROAD, RAMP 2 | 15 | 1.67 |
| 2035+44.43 | MASSARD ROAD, RAMP 2 | 15 | 1.67 |
| 2034+89.78 | MASSARD ROAD, RAMP 3 | 15 | 1.67 |
| 2035+04.78 | MASSARD ROAD, RAMP 3 | 15 | 1.67 |
| 2035+19.78 | MASSARD ROAD, RAMP 3 | 15 | 1.67 |
| 2039+41.45 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2039+56.45 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2039+71.45 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2040+04.32 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2040+19.32 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2040+34.32 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2043+93.59 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2044+08.59 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2044+23.59 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2044+56.41 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2044+71.41 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2044+86.41 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2075+96.50 | ROBERTS BLVD. RAMP 1 | 15 | 1.67 |
| 2076+11.50 | ROBERTS BLVD. RAMP 1 | 15 | 1.67 |
| 2076+26.50 | ROBERTS BLVD. RAMP 1 | 15 | 1.67 |
| 2076+19.70 | ROBERTS BLVD. RAMP 4 | 15 | 1.67 |
| 2076+34.70 | ROBERTS BLVD. RAMP 4 | 15 | 1.67 |
| 2076+49.70 | ROBERTS BLVD. RAMP 4 | 15 | 1.67 |
| 2110+71.03 | ROBERTS BLVD. RAMP 2 | 15 | 1.67 |
| 2110+86.03 | ROBERTS BLVD. RAMP 2 | 15 | 1.67 |
| 2111+01.03 | ROBERTS BLVD. RAMP 2 | 15 | 1.67 |
| 2110+55.54 | ROBERTS BLVD. RAMP 3 | 15 | 1.67 |
| 2110+70.54 | ROBERTS BLVD. RAMP 3 | 15 | 1.67 |
| 2110+85.54 | ROBERTS BLVD. RAMP 3 | 15 | 1.67 |
| 2148+06.62 | RELOCATED U.S. 71, LT. | 26 | 2.89 |
| 2148+21.62 | RELOCATED U.S. 71, LT. | 26 | 2.89 |
| 2148+36.62 | RELOCATED U.S. 71, LT. | 26 | 2.89 |
| 2148+06.62 | RELOCATED U.S. 71, RT. | 26 | 2.89 |
| 2148+21.62 | RELOCATED U.S. 71, RT. | 26 | 2.89 |
| 2148+36.62 | RELOCATED U.S. 71, RT. | 26 | 2.89 |
| 2150+63.83 | RELOCATED U.S. 71, LT. | 26 | 2.89 |
| 2150+78.83 | RELOCATED U.S. 71, LT. | 26 | 2.89 |
| 2150+93.83 | RELOCATED U.S. 71, LT. | 26 | 2.89 |
| 2150+63.83 | RELOCATED U.S. 71, RT. | 26 | 2.89 |
| 2150+78.83 | RELOCATED U.S. 71, RT. | 26 | 2.89 |
| 2150+93.83 | RELOCATED U.S. 71, RT. | 26 | 2.89 |
| 2162+94.40 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2163+09.40 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2163+24.40 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2163+04.56 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2163+19.56 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2163+34.56 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2172+30.14 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2172+45.14 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2172+60.14 | RELOCATED U.S. 71, LT. | 36 | 4.00 |
| 2172+84.30 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2172+99.30 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2173+14.30 | RELOCATED U.S. 71, RT. | 36 | 4.00 |
| 2176+52.52 | S.H. 22, RAMP 1 | 15 | 1.67 |
| 2176+67.52 | S.H. 22, RAMP 1 | 15 | 1.67 |
| 2176+82.52 | S.H. 22, RAMP 1 | 15 | 1.67 |
| 2173+08.20 | S.H. 22, RAMP 4 | 15 | 1.67 |
| 2173+23.20 | S.H. 22, RAMP 4 | 15 | 1.67 |
| 2173+38.20 | S.H. 22, RAMP 4 | 15 | 1.67 |
| | | | |
| TOTALS | | 1806 | 200.82 |

## PERMANENT PAVEMENT MARKINGS

| LOCATION | THERMOPLASTIC PAVEMENT MARKINGS | | | | | | HIGH PERFORMANCE PAVEMENT MARKINGS | | HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS | RAISED PAVEMENT MARKERS | REFLECTORIZED PAINT PAVEMENT MARKINGS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4" WHITE | 8" WHITE | 24" WHITE | 4" YELLOW | ARROWS | WORDS | 4" WHITE | 4" YELLOW | 8" WHITE | TYPE II | 4" WHITE | 8" WHITE | 10" WHITE | 12" WHITE |
| | L.F. | L.F. | L.F. | L.F. | EA. | EA. | L.F. | L.F. | L.F. | EA. | L.F. | L.F. | L.F. | L.F. |
| EXIST. U.S. 71 | 10975 | | 84 | 9567 | 3 | 3 | | | | 255 | | | | |
| U.S. 71 - TEMP. RAMP 5 | | 418 | 15 | 562 | | | | | | 67 | | | | |
| U.S. 71 - RAMP 5 | | | | | 1 | | 4323 | 2475 | 1804 | 208 | | | | |
| U.S. 71 - TEMP RAMP 4 | 496 | 60 | | 695 | | | | | | 14 | | | | |
| U.S. 71 - RAMP 4 | | | | | | | 5563 | 3655 | 1105 | 147 | | | | |
| RELOCATED U.S. 71 | | | | | | | 74715 | 60708 | | 1112 | 1547 | 5100 | | 1119 |
| MASSARD ROAD - RAMP 1 | | 387 | 52 | | | | 2500 | 1827 | 655 | 90 | | | 261 | |
| MASSARD ROAD - RAMP 2 | | 268 | | | | | 2144 | 1846 | 270 | 47 | | | 166 | |
| MASSARD ROAD - RAMP 3 | | 358 | 52 | | | | 3000 | 1730 | 655 | 90 | | | 260 | |
| MASSARD ROAD - RAMP 4 | | 265 | | | | | 3061 | 1919 | 220 | 36 | | | 167 | |
| ROBERTS BLVD. - RAMP 1 | | 322 | 54 | | | | 2817 | 2175 | 655 | 90 | | | 111 | |
| ROBERTS BLVD. - RAMP 2 | | 249 | | | | | 2439 | 1396 | 220 | 36 | | | 250 | |
| ROBERTS BLVD. - RAMP 3 | | 384 | 53 | | | | 2929 | 2283 | 655 | 90 | | | 262 | |
| ROBERTS BLVD. - RAMP 4 | | 246 | | | | | 2491 | 1435 | 220 | 36 | | | 226 | |
| S.H. 22 - RAMP 1 | | | 22 | | | | 1419 | 1096 | 655 | 86 | | | | |
| S.H. 22 - RAMP 4 | | 112 | | | | | 1837 | 1743 | 380 | 72 | | | 486 | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| TOTALS | 11471 | 3069 | 332 | 10824 | 4 | 3 | 109238 | 84288 | 7494 | 2476 | 1547 | 5100 | 2189 | 1119 |

THIS IS A HIGH VOLUME ROAD AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS OF HIGHWAY CONSTRUCTION, EDITION OF 2003.

## SOIL LOG

| STATION | LOCATION | DEPTH FT. | A.A.S.H.T.O. CLASSIFICATION | LIQUID LIMIT | PLASTICITY INDEX | REMARKS |
|---|---|---|---|---|---|---|
| 1864+00 | 170' RT | 0.6-16.6 | A-7-6 (16) | 42 | 20 | BR/RD |
| 1882+00 | CL | 0.9-11 | A-4 (3) | 25 | 9 | BROWN |
| 1904+00 | 94' LT. | 0.6-2.7 | A-2-4 (0) | NP | NP | BR/BEIGE |
| 1928+00 | 94' LT. | 0.6-14 | A-6 (5) | 31 | 13 | BR/BEIGE |
| 1976+00 | 94' LT. | 0.6-8.2 | A-6 (9) | 36 | 16 | BR/BEIGE |
| 1964+00 | CL | 0.6-5 | A-4 (3) | 25 | 7 | BR/BEIGE |
| 1988+00 | CL | 0.6-5 | A-6 (9) | 30 | 13 | BROWN |
| 2000+00 | 94' LT. | 0.9-8 | A-4 (5) | 30 | 10 | BR/BEIGE |
| 2024+00 | CL | 0.9-5 | A-6 (4) | 33 | 13 | BR/BEIGE |
| 2042+00 | 94' LT. | 0.7-8 | A-6 (14) | 37 | 18 | BR/BEIGE |
| 2060+00 | 94' RT. | 0.9-6 | A-6 (11) | 37 | 14 | BEIGE |
| 2078+00 | CL | 0.9-5 | A-7-6 (14) | 48 | 23 | GRAY/GREEN |
| 2096+00 | 94' RT | 1-6.7 | A-4 (4) | 26 | 6 | BROWN |
| 2096+00 | 94' RT. | 6.7-14 | A-6 (1) | 32 | 12 | LT. COPPER |
| 2128+00 | 94' RT. | 1-22 | A-6 (11) | 36 | 14 | BROWN |
| 2150+00 | 200' RT. | 0.6-7 | A-4 (3) | 25 | 7 | BEIGE |
| 2188+00 | CL | 0.6-5.3 | A-4 (0) | 18 | NP | BR/BEIGE |
| 2206+00 | CL | 0.6-5.3 | A-6 (9) | 29 | 12 | ORANGE |
| 2218+00 | 94' LT. | 0.6-6 | A-7-6 (29) | 48 | 28 | BR/BEIGE |
| 2218+00 | 94' LT. | 6-12 | A-7-6 (46) | 63 | 42 | BROWN |
| 2011+24 | 47' LT. | 0.9-7 | A-6 (8) | 38 | 17 | BR/COPPER |
| 2024+05 | 2' LT. | 0.9-5 | A-4 (1) | 27 | 8 | GRAY/BLACK |
| 2024+83 | 37' LT. | 0.9-8 | A-4 (6) | 28 | 10 | BR/BEIGE |
| 2112+79 | 37' RT. | 1-12 | A-7-6 (15) | 42 | 19 | BEIGE |
| 2106+80 | 46' RT. | 1-17 | A-7-6 (16) | 48 | 20 | COPPER |
| 2169+73 | 37' LT. | 0.6-5.8 | A-4 (4) | 26 | 9 | BEIGE |
| 2193+74 | 2.5' LT. | 0.6-4.8 | A-4 (1) | 22 | 4 | BROWN |
| 2187+26 | CL | 0.6-5.3 | A-6 (10) | 31 | 12 | GR/BEIGE |
| 2162+36 | 37' LT. | 0.6-8.7 | A-4 (2) | 25 | 7 | BR/BEIGE |
| 2185+36 | 5' LT. | 0.6-8 | A-6 (4) | 39 | 17 | BEIGE |
| | | | | | | |
| | | | | | | |
| | | | | | | |

NOTE: SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THESE DATA 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.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 6/1/12

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. | | 040376 | 42 | 207 |
| | | | | (2) QUANTITIES | | | | |

# TRAFFIC CONTROL SIGNS & DEVICES

| SIGN NUMBER | DESCRIPTION | SIGN SIZE | LOCATION | | | | | TOTAL QUANTITIY REQUIRED | TOTAL SIGNS LEFT IN PLACE (SQ. FT.) | TOTAL SIGNS REQUIRED (SQ. FT.) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | EX. US 71 | MASSARD ROAD | ROBERTS BLVD | S.H. 22 | US 71 RELOC. LEAVING IN PLACE | | | |
| G20-2 | END ROAD WORK | 48"X24" | 2 | 2 | 2 | 2 | | 8 | | 64 |
| RSP-1 | SHOULDER CLOSED | 48"X30" | 0 | 1 | 1 | 1 | | 3 | | 30 |
| R11-2 | ROAD CLOSED | 48"X30" | 2 | | | | | 2 | | 20 |
| W13-1 | XX MPH | 18"X18" | 4 | | | | | 4 | | 9 |
| W1-6 | DIRECTIONAL ARROW | 48"X24" | 6 | | | | | 6 | | 48 |
| W1-8 | CHEVRON | 18"X24" | 3 | | | | | 3 | | 9 |
| W20-1 | ROAD WORK AHEAD | 48"X48" | 1 | | | | | 1 | | 16 |
| W20-1 | ROAD WORK 1 MILE | 48"X48" | 4 | | | | | 4 | | 64 |
| W20-1 | ROAD WORK 1/2 MILE | 48"X48" | 4 | | | | | 4 | | 64 |
| W20-1 | ROAD WORK 1500 FT. | 48"X48" | 4 | 2 | 2 | 2 | | 10 | | 160 |
| W20-1 | ROAD WORK 1000 FT. | 48"X48" | 4 | 2 | 2 | 2 | | 10 | | 160 |
| W20-1 | ROAD WORK 500 FT. | 48"X48" | 4 | 2 | 2 | 2 | | 10 | | 160 |
| W20-5 | LEFT LANE CLOSED 1500 FT | 48"X48" | 4 | | | | | 4 | | 64 |
| W20-5 | LEFT LANE CLOSED 1/2 MILE | 48"X48" | 4 | | | | | 4 | | 64 |
| W20-5 | RIGHT LANE CLOSED 1500 FT | 48"X48" | 4 | | | | | 4 | | 64 |
| W20-5 | RIGHT LANE CLOSED 1/2 MILE | 48"X48" | 4 | | | | | 4 | | 64 |
| W4-2L | LANE CLOSED (LEFT) | 48"X48" | 4 | | | | | 4 | | 64 |
| W4-2R | LANE CLOSED (RIGHT) | 48"X48" | 4 | | | | | 4 | | 64 |
| | | | | | | | | | | |
| W1-6 | SIGNS LEFT IN PLACE | 48"X24" | | | | | 8 | 8 | 64 | |
| W1-8 | SIGNS LEFT IN PLACE | 36"X48" | | | | | 21 | 21 | 252 | |
| W9-1 | SIGNS LEFT IN PLACE | 48"X48" | | | | | 4 | 4 | 64 | |
| W13-1 | SIGNS LEFT IN PLACE | 18"X18" | | | | | 4 | 4 | 9 | |
| W13-2 | SIGNS LEFT IN PLACE | 36"X48" | | | | | 2 | 2 | 24 | |
| W19-1 | SIGNS LEFT IN PLACE | 144"X48" | | | | | 4 | 4 | 192 | |
| M6-2R | SIGNS LEFT IN PLACE | 21"X15" | | | | | 2 | 2 | 4 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | 609 | 1188 |

| DEVICES | | | | | | | | UNITS |
|---|---|---|---|---|---|---|---|---|
| TRAFFIC DRUMS | 157 | 14 | 14 | 15 | 0 | 200 | 0 | EACH |
| TYPE III BARRICADE (8' LT.) | 8 | 0 | 0 | 0 | 0 | 64 | 0 | LIN. FT. |
| TYPE III BARRICADE (16' RT.) | 12 | 0 | 0 | 0 | 0 | 192 | 0 | LIN. FT. |
| ADVANCE WARNING ARROW PANEL | 250 | 0 | 0 | 0 | 0 | 250 | 0 | DAYS |
| FURNISHING AND INSTALLING PCB - LEAVING IN PLACE | 0 | 0 | 0 | 0 | 6220 | 6220 | 0 | LIN. FT. |
| PORTABLE CHANGEABLE MESSAGE SIGN | 48 | 0 | 0 | 0 | 0 | 48 | 0 | WEEK |

# CONSTRUCTION PAVEMENT MARKINGS

| DESCRIPTION | UNITS | | | | | | | TOTAL QUANTITY REQUIRED |
|---|---|---|---|---|---|---|---|---|
| REMOVAL OF PERMANENT PAVEMENT MARKINGS | LIN. FT. | 2475 | 0 | 0 | 0 | 0 | 0 | 2475 |
| CONSTRUCTION PAVEMENT MARKINGS | LIN. FT. | 5435 | 0 | 0 | 0 | 0 | 0 | 5435 |
| REMOVABLE CONSTRUCTION PAVEMENT MARKINGS | LIN. FT. | 7680 | 0 | 0 | 0 | 0 | 0 | 7680 |
| | | | | | | | | |

THIS IS A HIGH VOLUME ROAD AS DEFINED IN SECTION 604.03 OF THE STANDARD SPECIFICATIONS OF HIGHWAY CONSTRUCTION, EDITION OF 2003.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/9/12

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. | | 040376 | 43 | 207 |

(2) QUANTITIES

# BASE & SURFACING - LANES - ALTERNATE NO. 1 & 2

| STATION | STATION | LOCATION | LENGTH | ACHM BASE COURSE (1 1/2") | | | | ACHM BINDER COURSE (1") | | | | ACHM SURFACE COURSE (1/2") | | | | | | | TACK COAT | | | | | | AGGREGATE BASE COURSE (CLASS 7) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | LEVELING - VARI. LBS. PER SQ. YD. | | | NORMAL | | | | | 0.10 GAL. PER SQ. YD. LEVELING | | | 0.03 GAL. PER SQ. YD. | | | | | |
| | | | | AVG. WIDTH | SQ. YD. | LBS. PER SQ. YD. | TON | AVG. WIDTH | SQ. YD. | LBS. PER SQ. YD. | TON | AVG. WIDTH | SQ. YD. | TON | AVG. WIDTH | SQ. YD. | LBS. PER SQ. YD. | TON | TOTAL TONS | AVG. WIDTH | SQ. YD. | GAL. | AVG. WIDTH | SQ. YD. | GAL. | TOTAL GALLONS | TON/STA. | TON |
| | | | LIN.FT. | FEET | | | | FEET | | | | FEET | | | FEET | | | | | FEET | | | FEET | | | | | |
| 16+38.18 | 63+21.68 | EXIST. US 71 RT. LANES - OVERLAY | 4683.50 | | | | | | | | | 24.0 | 12489.33 | 137 | 24.00 | 12489.33 | 220 | 1374 | 1511 | 24.0 | 12489.33 | 1249 | | | | 1249 | | |
| 16+38.18 | 65+47.98 | EXIST. US 71 LT. LANES - OVERLAY | 4909.80 | | | | | | | | | 24.0 | 13092.80 | 144 | 24.00 | 13092.80 | 220 | 1440 | 1584 | 24.0 | 13092.80 | 1309 | | | | 1309 | | |
| 16+38.18 | 22+37.75 | EXIST. US 71 RT. EXIT RAMP - FULL DEPTH | 599.57 | 16.15 | 1075.90 | 550 | 296 | 15.71 | 1046.58 | 330 | 173 | | | | 15.42 | 1027.26 | 220 | 113 | 113 | | | | 31.86 | 2122.48 | 64 | 64 | 84.95 | 509 |
| 63+21.68 | 65+31.51 | EXIST. US 71 RT. LANES - OVERLAY | 209.83 | | | | | | | | | 30.0 | 699.43 | 8 | 30.00 | 699.43 | 220 | 77 | 85 | 30.0 | 699.43 | 70 | | | | 70 | | |
| 65+31.51 | 65+47.98 | EXIST. US 71 RT. LANES - OVERLAY | 16.47 | | | | | | | | | 36.0 | 65.88 | 1 | 36.00 | 65.88 | 220 | 7 | 8 | 30.0 | 54.90 | 5 | | | | 5 | | |
| 55+48.20 | 56+64.45 | EXIST. US 71 RT. ACCEL. LANE - FULL DEPTH | 116.25 | 15.91 | 205.50 | 550 | 57 | 15.57 | 201.11 | 330 | 33 | | | | 15.28 | 197.37 | 220 | 22 | 22 | | | | 31.48 | 406.62 | 12 | 12 | 84.18 | 98 |
| 56+64.45 | 62+47.98 | EXIST. US 71 RT. ACCEL. LANE - FULL DEPTH | 583.53 | 12.63 | 818.89 | 550 | 225 | 12.29 | 796.84 | 330 | 131 | | | | 12.00 | 778.04 | 220 | 86 | 86 | | | | 24.92 | 1615.73 | 48 | 48 | 66.11 | 386 |
| 62+47.98 | 65+47.98 | EXIST. US 71 RT. ACCEL. LANE - FULL DEPTH | 300.00 | 6.63 | 221.00 | 550 | 61 | 6.29 | 209.67 | 330 | 35 | | | | 6.00 | 200.00 | 220 | 22 | 22 | | | | 12.92 | 430.67 | 13 | 13 | 33.06 | 99 |
| 31+52.94 | 32+62.91 | EXIST. US 71 CROSSOVER - FULL DEPTH | 109.97 | 40.00 | 488.76 | 550 | 134 | 40.00 | 488.76 | 330 | 81 | | | | 40.00 | 488.76 | 220 | 54 | 54 | | | | 80.00 | 977.51 | 29 | 29 | 174.31 | 192 |
| 32+62.91 | 36+12.91 | EXIST. US 71 LEFT TURN LANE - FULL DEPTH | 350.00 | 12.63 | 491.17 | 550 | 135 | 12.29 | 477.94 | 330 | 79 | | | | 12.00 | 466.67 | 220 | 51 | 51 | | | | 24.92 | 969.11 | 29 | 29 | 66.11 | 231 |
| 36+12.91 | 38+12.91 | EXIST. US 71 LEFT TURN LANE - FULL DEPTH | 200.00 | 6.63 | 147.33 | 550 | 41 | 6.29 | 139.78 | 330 | 23 | | | | 6.00 | 133.33 | 220 | 15 | 15 | | | | 12.92 | 287.11 | 9 | 9 | 33.06 | 66 |
| 48+91.09 | 50+21.62 | EXIST. US 71 CROSSOVER - FULL DEPTH | 130.53 | 40.00 | 580.13 | 550 | 160 | 40.00 | 580.13 | 330 | 96 | | | | 40.00 | 580.13 | 220 | 64 | 64 | | | | 80.00 | 1160.27 | 35 | 35 | 167.43 | 219 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1853+68.52 | 1853+93.52 | US 71 TEMP. RAMP 4 | 25.00 | 22.47 | 62.42 | 550 | 17 | 21.64 | 60.11 | 330 | 10 | | | | 21.22 | 58.94 | 220 | 6 | 6 | | | | 44.11 | 122.53 | 4 | 4 | 116.91 | 29 |
| 1853+93.52 | 1859+42.52 | US 71 TEMP. RAMP 4 | 549.00 | 16.25 | 991.25 | 550 | 273 | 15.42 | 940.62 | 330 | 155 | | | | 15.00 | 915.00 | 220 | 101 | 101 | | | | 31.67 | 1931.87 | 58 | 58 | 82.75 | 454 |
| 1859+42.52 | 1860+80.55 | US 71 TEMP. RAMP 4 | 138.03 | 8.13 | 124.69 | 550 | 34 | 7.71 | 118.25 | 330 | 20 | | | | 7.50 | 115.03 | 220 | 13 | 13 | | | | 15.84 | 242.93 | 7 | 7 | 41.38 | 57 |
| | | | | | | | | | | | | | | | | | | | | | | | 0.00 | | | | | |
| 1860+52.20 | 1860+62.56 | US 71 TEMP. RAMP 5 | 10.36 | 19.78 | 22.77 | 550 | 6 | 18.95 | 21.81 | 330 | 4 | | | | 18.53 | 21.33 | 220 | 2 | 2 | | | | 38.73 | 44.58 | 1 | 1 | 102.09 | 11 |
| 1860+62.56 | 1863+99.33 | US 71 TEMP. RAMP 5 | 336.77 | 16.25 | 608.06 | 550 | 167 | 15.42 | 577.00 | 330 | 95 | | | | 15.00 | 561.28 | 220 | 62 | 62 | | | | 31.67 | 1185.06 | 36 | 36 | 82.75 | 279 |
| 1863+99.33 | 1866+50.33 | US 71 TEMP. RAMP 5 | 251.00 | 12.80 | 356.98 | 550 | 98 | 12.38 | 345.26 | 330 | 57 | | | | 12.17 | 339.41 | 220 | 37 | 37 | | | | 25.18 | 702.24 | 21 | 21 | 41.38 | 104 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTALS | | | | | | | 1704 | | | | 992 | | | | | | | | 3836 | | | | | | 2999 | | 2734 |

BASIS OF ESTIMATE : ACHM BASE COURSE (1½") - MINERAL AGGREGATE = 96.1%, ASPHALT BINDER (PG 76-22) = 3.9%
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.8%, ASPHALT BINDER (PG 76-22) = 4.2%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 94.7%, ASPHALT BINDER (PG 76-22) = 5.3%
Nmax = 205

# BASE & SURFACING - SHOULDERS - ALTERNATE NO. 1 & 2

| STATION | STATION | LOCATION | LENGTH | ACHM SURFACE COURSE (1/2") | | | | | | | | TACK COAT | | | AGGREGATE BASE COURSE (CLASS 7) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | LEVELING - VARI. LBS. PER SQ. YD. | | | NORMAL | | | | | 0.1 GAL. PER SQ. YD. LEVELING | | | | |
| | | | | AVG. WIDTH | SQ. YD. | TON | AVG. WIDTH | SQ. YD. | LBS. PER SQ. YD. | TON | TOTAL TONS | AVG. WIDTH | SQ. YD. | GAL. | TON/STA. | TON |
| | | | LIN. FT. | FEET | | | FEET | | | | | FEET | | | | |
| 16+38.18 | 31+72.92 | EXIST. US 71 RT. - OVERLAY - TANGENT- LT. | 1534.74 | 6.00 | 1023.16 | 11 | 6.00 | 1023.16 | 220 | 113 | 124 | 6.00 | 1023.16 | 102 | | |
| 16+38.18 | 22+37.75 | EXIST. US 71 RT. - FULL DEPTH - TANGENT- RT. | 599.57 | | | | 6.00 | 399.71 | 220 | 44 | 44 | | | | 114.72 | 688 |
| 16+38.18 | 31+72.92 | EXIST. US 71 LT. - OVERLAY - TANGENT- RT. | 1534.74 | 6.00 | 1023.16 | 11 | 6.00 | 1023.16 | 220 | 113 | 124 | 6.00 | 1023.16 | 102 | | |
| 16+38.18 | 65+47.98 | EXIST. US 71 LT. - OVERLAY - TANGENT- LT. | 4909.80 | 10.00 | 5455.33 | 60 | 10.00 | 5455.33 | 220 | 600 | 660 | 10.00 | 5455.33 | 546 | | |
| 22+37.75 | 24+08.08 | EXIST. US 71 RT. - FULL DEPTH - TANGENT- RT. | 170.33 | | | | 10.00 | 189.26 | 220 | 21 | 21 | | | | 146.53 | 250 |
| 24+08.08 | 55+48.20 | EXIST. US 71 RT. - OVERLAY - TANGENT- RT. | 3140.12 | 10.00 | 3489.02 | 38 | 10.00 | 3489.02 | 220 | 384 | 422 | 10.00 | 3489.02 | 349 | | |
| 32+48.92 | 49+12.00 | EXIST. US 71 RT. - OVERLAY - TANGENT- LT. | 1663.08 | 6.00 | 1108.72 | 12 | 6.00 | 1108.72 | 220 | 122 | 134 | 6.00 | 1108.72 | 111 | | |
| 32+48.92 | 38+12.92 | EXIST. US 71 LT. - FULL DEPTH - TANGENT- RT. | 564.00 | | | | 6.00 | 376.00 | 220 | 41 | 41 | | | | 114.72 | 647 |
| 38+12.92 | 49+12.00 | EXIST. US 71 LT. - OVERLAY - TANGENT- RT. | 1099.08 | 6.00 | 732.72 | 8 | 6.00 | 732.72 | 220 | 81 | 89 | 6.00 | 732.72 | 73 | | |
| 50+01.47 | 65+47.98 | EXIST. US 71 RT. - OVERLAY - TANGENT- LT. | 1546.51 | 6.00 | 1031.01 | 11 | 6.00 | 1031.01 | 220 | 113 | 124 | 6.00 | 1031.01 | 103 | | |
| 50+01.47 | 65+47.98 | EXIST. US 71 LT. - OVERLAY - TANGENT- RT. | 1546.51 | 6.00 | 1031.01 | 11 | 6.00 | 1031.01 | 220 | 113 | 124 | 6.00 | 1031.01 | 103 | | |
| 55+48.20 | 65+47.98 | EXIST. US 71 RT. - FULL DEPTH - TANGENT- RT. | 999.78 | | | | 6.00 | 666.52 | 220 | 73 | 73 | | | | 114.72 | 1147 |
| | | | | | | | | | | | | | | | | |
| 1853+68.52 | 1854+53.40 | US 71 TEMP. RAMP 4 RT. - FULL DEPTH - TANGENT | 84.88 | | | | 6.00 | 56.59 | 220 | 6 | 6 | | | | 115.25 | 98 |
| 1853+68.52 | 1854+53.40 | US 71 TEMP. RAMP 4 LT. - FULL DEPTH - TANGENT | 84.88 | | | | 4.00 | 37.72 | 220 | 4 | 4 | | | | 98.25 | 83 |
| 1854+53.40 | 1856+03.40 | US 71 TEMP. RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 150.00 | | | | 6.00 | 100.00 | 220 | 11 | 11 | | | | 143.61 | 215 |
| 1854+53.40 | 1856+03.40 | US 71 TEMP. RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 150.00 | | | | 4.00 | 66.67 | 220 | 7 | 7 | | | | 108.43 | 163 |
| 1856+03.40 | 1857+96.00 | US 71 TEMP. RAMP 4 RT. - FULL DEPTH - S.E. | 192.60 | | | | 6.00 | 128.40 | 220 | 14 | 14 | | | | 171.97 | 331 |
| 1856+03.40 | 1857+96.00 | US 71 TEMP. RAMP 4 LT. - FULL DEPTH - S.E. | 192.60 | | | | 4.00 | 85.60 | 220 | 9 | 9 | | | | 118.61 | 228 |
| 1857+96.00 | 1859+45.52 | US 71 TEMP. RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 149.52 | | | | 6.00 | 99.68 | 220 | 11 | 11 | | | | 143.53 | 215 |
| 1857+96.00 | 1859+46.00 | US 71 TEMP. RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 150.00 | | | | 4.00 | 66.67 | 220 | 7 | 7 | | | | 108.43 | 163 |
| 1859+46.00 | 1860+80.55 | US 71 TEMP. RAMP 4 LT. - FULL DEPTH - TANGENT | 134.55 | | | | 4.00 | 59.80 | 220 | 7 | 7 | | | | 98.25 | 132 |
| | | | | | | | | | | | | | | | | |
| 1860+52.20 | 1862+02.20 | US 71 TEMP. RAMP 5 RT. - FULL DEPTH - S.E. TRANS. | 150.00 | | | | 4.00 | 66.67 | 220 | 7 | 7 | | | | 108.43 | 163 |
| 1860+52.20 | 1862+02.20 | US 71 TEMP. RAMP 5 LT. - FULL DEPTH - S.E. TRANS. | 150.00 | | | | 6.00 | 100.00 | 220 | 11 | 11 | | | | 143.61 | 215 |
| 1862+02.20 | 1862+49.34 | US 71 TEMP. RAMP 5 RT. - FULL DEPTH - S.E.. | 47.14 | | | | 4.00 | 20.95 | 220 | 2 | 2 | | | | 118.61 | 56 |
| 1862+02.20 | 1862+49.34 | US 71 TEMP. RAMP 5 LT. - FULL DEPTH - S.E. | 47.14 | | | | 6.00 | 31.43 | 220 | 3 | 3 | | | | 171.97 | 81 |
| 1862+49.34 | 1866+50.33 | US 71 TEMP. RAMP 5 RT. - FULL DEPTH - S.E. TRANS. | 400.99 | | | | 4.00 | 178.22 | 220 | 20 | 20 | | | | 130.78 | 524 |
| 1862+49.34 | 1863+99.33 | US 71 TEMP. RAMP 5 LT. - FULL DEPTH - S.E. TRANS. | 149.99 | | | | 6.00 | 99.99 | 220 | 11 | 11 | | | | 148.99 | 223 |
| | | | | | | | | | | | | | | | | |
| TOTALS | | | | | | | | | | | 2110 | | | 1489 | | 5622 |

BASIS OF ESTIMATE : ACHM SURFACE COURSE (1/2 ") - MINERAL AGGREGATE = 94.7%, ASPHALT BINDER (PG 76-22) = 5.3%
Nmax = 205

# BASE & SURFACING - DRIVEWAYS - ALTERNATE NO. 1 & 2

| STATION | DESCRIPTION | WIDTH | AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH | | ACHM SURFACE COURSE (½") (220 LBS. PER SQ. YD.) | |
|---|---|---|---|---|---|---|
| | | FT. | SQ. YDS. | TON | SQ. YDS. | TONS |
| 14+71 | EXIST. US 71 - RT. | 16.0 | 161.4 | 65.9 | 161.4 | 17.8 |
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| | | | | | | |
| TOTALS | | | | 65.9 | | 17.8 |

BASIS OF ESTIMATE : ACHM SURFACE COURSE (1/2 ") - MINERAL AGGREGATE = 94.7%, ASPHALT BINDER (PG 64-22) = 5.3%
Nmax = 115

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/11/12

QUANTITIES

# ALTERNATE NO. 1 & 2
## BASE & SURFACING - MAIN LANES, RAMPS, AND CD ROADS

| STATION | STATION | LOCATION | LENGTH | CEMENT STAB. CRUSHED STONE BASE COURSE | | | | TACK COAT 0.03 GAL. PER SQ. YD. | | | ACHM SURFACE COURSE (3/8") | | | | P.C.C. PAVEMENT (12" U.T.) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AVG. WIDTH | PROCESSING | AGGREGATE | CEMENT | AVG. WIDTH | SQ. YD. | GAL | AVG. WIDTH | SQ. YD. | LBS. PER SQ. YD. | TON | AVG. WIDTH | SQ. YD. |
| | | | LIN.FT. | FEET | SQ. YD. | TON | | FEET | | | FEET | | | | FEET | |
| 1874+50.00 | 1874+75.00 | RELOCATED US 71 RT. | 25.00 | 49.00 | 136.1 | 44.8 | 2.9 | | | | | | | | | |
| 1874+50.00 | 1874+75.00 | RELOCATED US 71 LT. | 25.00 | 30.00 | 83.3 | 27.4 | 1.7 | | | | | | | | | |
| 1874+75.00 | 1875+00.00 | RELOCATED US 71 RT. | 25.00 | 49.00 | 136.1 | 44.8 | 2.9 | 49.00 | 136.1 | 4.1 | 49.00 | 136.1 | 110 | 7.5 | | |
| 1874+75.00 | 1875+00.00 | RELOCATED US 71 LT. | 25.00 | 30.00 | 83.3 | 27.4 | 1.7 | 30.00 | 83.3 | 2.5 | 30.00 | 83.3 | 110 | 4.6 | | |
| 1875+00.00 | 1876+32.83 | RELOCATED US 71 RT. | 132.83 | 49.00 | 723.2 | 237.9 | 15.2 | 49.00 | 723.2 | 21.7 | 49.00 | 723.2 | 110 | 39.8 | 41.00 | 605.1 |
| 1875+00.00 | 1883+34.79 | RELOCATED US 71 LT. | 834.79 | 30.00 | 2782.6 | 915.5 | 58.4 | 30.00 | 2782.6 | 83.5 | 30.00 | 2782.6 | 110 | 153.0 | 26.00 | 2411.6 |
| 1876+32.83 | 1878+35.18 | RELOCATED US 71 RT. | 202.35 | 61.95 | 1392.8 | 458.2 | 29.2 | 61.95 | 1392.8 | 41.8 | 61.95 | 1392.8 | 110 | 76.6 | 53.95 | 1213.0 |
| 1878+35.18 | 1882+82.62 | RELOCATED US 71 RT. | 447.44 | 30.00 | 1491.5 | 490.7 | 31.3 | 30.00 | 1491.5 | 44.7 | 30.00 | 1491.5 | 110 | 82.0 | 26.00 | 1292.6 |
| 1882+82.62 | 1884+34.50 | RELOCATED US 71 RT. | 151.88 | 30.00 | 506.3 | 166.6 | 10.6 | 30.00 | 506.3 | 15.2 | 30.00 | 506.3 | 110 | 27.8 | 26.00 | 438.8 |
| 1883+34.79 | 1885+46.02 | RELOCATED US 71 LT. | 211.23 | 36.95 | 867.2 | 285.3 | 18.2 | 36.95 | 867.2 | 26.0 | 36.95 | 867.2 | 110 | 47.7 | 32.95 | 773.3 |
| 1884+34.50 | 1886+45.83 | RELOCATED US 71 RT. | 211.33 | 43.50 | 1021.4 | 336.0 | 21.4 | 43.50 | 1021.4 | 30.6 | 43.50 | 1021.4 | 110 | 56.2 | 39.50 | 927.5 |
| 1885+46.02 | 1890+00.01 | RELOCATED US 71 LT. | 453.99 | 47.00 | 2370.8 | 780.0 | 49.8 | 47.00 | 2370.8 | 71.1 | 47.00 | 2370.8 | 110 | 130.4 | 43.00 | 2169.1 |
| 1886+45.83 | 1891+31.02 | RELOCATED US 71 RT. | 485.19 | 40.00 | 2156.4 | 709.5 | 45.3 | 40.00 | 2156.4 | 64.7 | 40.00 | 2156.4 | 110 | 118.6 | 36.00 | 1940.8 |
| 1890+00.01 | 1895+00.00 | RELOCATED US 71 RT. | 499.99 | 30.00 | 1666.6 | 548.3 | 35.0 | 30.00 | 1666.6 | 50.0 | 30.00 | 1666.6 | 110 | 91.7 | 26.00 | 1444.4 |
| 1895+00.00 | 1989+91.43 | RELOCATED US 71 LT. | 9491.43 | 30.00 | 31638.1 | 10408.9 | 664.4 | 30.00 | 31638.1 | 949.1 | 30.00 | 31638.1 | 110 | 1740.1 | 26.00 | 27419.7 |
| 1891+31.02 | 1894+34.50 | RELOCATED US 71 RT. | 303.48 | 35.00 | 1180.2 | 388.3 | 24.8 | 35.00 | 1180.2 | 35.4 | 35.00 | 1180.2 | 110 | 64.9 | 31.00 | 1045.3 |
| 1894+34.50 | 1895+00.00 | RELOCATED US 71 RT. | 65.50 | 30.00 | 218.3 | 71.8 | 4.6 | 30.00 | 218.3 | 6.5 | 30.00 | 218.3 | 110 | 12.0 | 26.00 | 189.2 |
| 1895+00.00 | 1996+36.45 | RELOCATED US 71 RT. | 10136.45 | 30.00 | 33788.2 | 11116.3 | 709.6 | 30.00 | 33788.2 | 1013.6 | 30.00 | 33788.2 | 110 | 1858.4 | 26.00 | 29283.1 |
| 1989+91.43 | 1992+91.46 | RELOCATED US 71 LT. | 300.03 | 35.00 | 1166.8 | 383.9 | 24.5 | 35.00 | 1166.8 | 35.0 | 35.00 | 1166.8 | 110 | 64.2 | 31.00 | 1033.4 |
| 1992+91.46 | 1998+29.59 | RELOCATED US 71 LT. | 538.13 | 40.00 | 2391.7 | 786.9 | 50.2 | 40.00 | 2391.7 | 71.8 | 40.00 | 2391.7 | 110 | 131.5 | 36.00 | 2152.5 |
| 1996+36.45 | 2000+14.59 | RELOCATED US 71 RT. | 378.14 | 46.90 | 1970.5 | 648.3 | 41.4 | 46.90 | 1970.5 | 59.1 | 46.90 | 1970.5 | 110 | 108.4 | 42.90 | 1802.5 |
| 1998+29.59 | 1999+91.44 | RELOCATED US 71 LT. | 161.85 | 43.50 | 782.3 | 257.4 | 16.4 | 43.50 | 782.3 | 23.5 | 43.50 | 782.3 | 110 | 43.0 | 39.50 | 710.3 |
| 1999+91.44 | 2033+43.45 | RELOCATED US 71 LT. | 3352.01 | 30.00 | 11173.4 | 3676.0 | 234.6 | 30.00 | 11173.4 | 335.2 | 30.00 | 11173.4 | 110 | 614.5 | 26.00 | 9683.6 |
| 2000+14.59 | 2002+26.11 | RELOCATED US 71 RT. | 211.52 | 37.00 | 869.6 | 286.1 | 18.3 | 37.00 | 869.6 | 26.1 | 37.00 | 869.6 | 110 | 47.8 | 33.00 | 775.6 |
| 2002+26.11 | 2035+79.84 | RELOCATED US 71 RT. | 3353.73 | 30.00 | 11179.1 | 3677.9 | 234.8 | 30.00 | 11179.1 | 335.4 | 30.00 | 11179.1 | 110 | 614.9 | 26.00 | 9688.6 |
| 2033+43.45 | 2035+55.45 | RELOCATED US 71 LT. | 212.00 | 37.00 | 871.6 | 286.8 | 18.3 | 37.00 | 871.6 | 26.1 | 37.00 | 871.6 | 110 | 47.9 | 33.00 | 777.3 |
| 2035+55.45 | 2038+91.41 | RELOCATED US 71 LT. | 335.96 | 52.10 | 1944.8 | 639.8 | 40.8 | 52.10 | 1944.8 | 58.3 | 52.10 | 1944.8 | 110 | 107.0 | 48.10 | 1795.5 |
| 2035+79.84 | 2037+41.66 | RELOCATED US 71 RT. | 161.82 | 43.50 | 782.1 | 257.3 | 16.4 | 43.50 | 782.1 | 23.5 | 43.50 | 782.1 | 110 | 43.0 | 39.50 | 710.2 |
| 2037+41.66 | 2040+49.00 | RELOCATED US 71 RT. | 307.34 | 40.00 | 1366.0 | 449.4 | 28.7 | 40.00 | 1366.0 | 41.0 | 40.00 | 1366.0 | 110 | 75.1 | 36.00 | 1229.4 |
| 2038+91.41 | 2039+86.28 | RELOCATED US 71 LT. | 94.87 | 40.00 | 421.6 | 138.7 | 8.9 | 40.00 | 421.6 | 12.6 | 40.00 | 421.6 | 110 | 23.2 | 36.00 | 379.5 |
| 2043+78.79 | 2046+91.42 | RELOCATED US 71 LT. | 312.63 | 40.00 | 1389.5 | 457.1 | 29.2 | 40.00 | 1389.5 | 41.7 | 40.00 | 1389.5 | 110 | 76.4 | 36.00 | 1250.5 |
| 2044+41.51 | 2044+79.84 | RELOCATED US 71 RT. | 38.33 | 40.00 | 170.4 | 56.1 | 3.6 | 40.00 | 170.4 | 5.1 | 40.00 | 170.4 | 110 | 9.4 | 36.00 | 153.3 |
| 2044+79.84 | 2047+79.84 | RELOCATED US 71 RT. | 300.00 | 35.00 | 1166.7 | 383.8 | 24.5 | 35.00 | 1166.7 | 35.0 | 35.00 | 1166.7 | 110 | 64.2 | 31.00 | 1033.3 |
| 2046+91.42 | 2048+91.42 | RELOCATED US 71 LT. | 200.00 | 35.00 | 777.8 | 255.9 | 16.3 | 35.00 | 777.8 | 23.3 | 35.00 | 777.8 | 110 | 42.8 | 31.00 | 688.9 |
| 2047+79.84 | 2071+06.54 | RELOCATED US 71 RT. | 2326.70 | 30.00 | 7755.7 | 2551.6 | 162.9 | 30.00 | 7755.7 | 232.7 | 30.00 | 7755.7 | 110 | 426.6 | 26.00 | 6721.6 |
| 2048+91.42 | 2065+84.22 | RELOCATED US 71 LT. | 1692.80 | 30.00 | 5642.7 | 1856.4 | 118.5 | 30.00 | 5642.7 | 169.3 | 30.00 | 5642.7 | 110 | 310.3 | 26.00 | 4890.3 |
| 2065+84.22 | 2068+84.24 | RELOCATED US 71 LT. | 300.02 | 35.00 | 1166.7 | 383.8 | 24.5 | 35.00 | 1166.7 | 35.0 | 35.00 | 1166.7 | 110 | 64.2 | 31.00 | 1033.4 |
| 2068+84.24 | 2073+97.22 | RELOCATED US 71 LT. | 512.98 | 40.00 | 2279.9 | 750.1 | 47.9 | 40.00 | 2279.9 | 68.4 | 40.00 | 2279.9 | 110 | 125.4 | 36.00 | 2051.9 |
| 2071+06.54 | 2075+60.25 | RELOCATED US 71 RT. | 453.71 | 46.90 | 2364.3 | 777.9 | 49.7 | 46.90 | 2364.3 | 70.9 | 46.90 | 2364.3 | 110 | 130.0 | 42.90 | 2162.7 |
| 2073+97.22 | 2075+84.22 | RELOCATED US 71 LT. | 187.00 | 43.50 | 903.8 | 297.4 | 19.0 | 43.50 | 903.8 | 27.1 | 43.50 | 903.8 | 110 | 49.7 | 39.50 | 820.7 |
| 2075+60.25 | 2077+71.76 | RELOCATED US 71 RT. | 211.51 | 37.00 | 869.5 | 286.1 | 18.3 | 37.00 | 869.5 | 26.1 | 37.00 | 869.5 | 110 | 47.8 | 33.00 | 775.5 |
| 2075+84.22 | 2108+91.15 | RELOCATED US 71 LT. | 3306.93 | 30.00 | 11023.1 | 3626.6 | 231.5 | 30.00 | 11023.1 | 330.7 | 30.00 | 11023.1 | 110 | 606.3 | 26.00 | 9553.4 |
| 2077+71.76 | 2111+35.49 | RELOCATED US 71 RT. | 3363.73 | 30.00 | 11212.4 | 3688.9 | 235.5 | 30.00 | 11212.4 | 336.4 | 30.00 | 11212.4 | 110 | 616.7 | 26.00 | 9717.4 |
| 2108+91.15 | 2111+24.91 | RELOCATED US 71 LT. | 233.76 | 38.60 | 1002.6 | 329.9 | 21.1 | 38.60 | 1002.6 | 30.1 | 38.60 | 1002.6 | 110 | 55.1 | 34.60 | 898.7 |
| 2111+24.91 | 2114+77.11 | RELOCATED US 71 LT. | 352.20 | 48.60 | 1901.9 | 625.7 | 39.9 | 48.60 | 1901.9 | 57.1 | 48.60 | 1901.9 | 110 | 104.6 | 44.60 | 1745.3 |
| 2111+35.49 | 2113+35.29 | RELOCATED US 71 RT. | 199.80 | 35.00 | 777.0 | 255.6 | 16.3 | 35.00 | 777.0 | 23.3 | 35.00 | 777.0 | 110 | 42.7 | 31.00 | 688.2 |
| 2113+35.29 | 2118+35.49 | RELOCATED US 71 RT. | 500.20 | 40.00 | 2223.1 | 731.4 | 46.7 | 40.00 | 2223.1 | 66.7 | 40.00 | 2223.1 | 110 | 122.3 | 36.00 | 2000.8 |
| 2114+77.11 | 2148+15.12 | RELOCATED US 71 LT. | 3338.01 | 30.00 | 11126.7 | 3660.7 | 233.7 | 30.00 | 11126.7 | 333.8 | 30.00 | 11126.7 | 110 | 612.0 | 26.00 | 9643.1 |
| 2118+35.49 | 2121+35.49 | RELOCATED US 71 RT. | 300.00 | 35.00 | 1166.7 | 383.8 | 24.5 | 35.00 | 1166.7 | 35.0 | 35.00 | 1166.7 | 110 | 64.2 | 31.00 | 1033.3 |
| 2121+35.49 | 2148+15.12 | RELOCATED US 71 RT. | 2679.63 | 30.00 | 8932.1 | 2938.7 | 187.6 | 30.00 | 8932.1 | 268.0 | 30.00 | 8932.1 | 110 | 491.3 | 26.00 | 7741.2 |
| 2150+85.33 | 2160+67.42 | RELOCATED US 71 RT. | 982.09 | 30.00 | 3273.6 | 1077.0 | 68.7 | 30.00 | 3273.6 | 98.2 | 30.00 | 3273.6 | 110 | 180.0 | 26.00 | 2837.1 |
| 2150+85.33 | 2158+80.40 | RELOCATED US 71 LT. | 795.07 | 30.00 | 2650.2 | 871.9 | 55.7 | 30.00 | 2650.2 | 79.5 | 30.00 | 2650.2 | 110 | 145.8 | 26.00 | 2296.9 |
| 2158+80.40 | 2161+80.40 | RELOCATED US 71 LT. | 300.00 | 35.00 | 1166.7 | 383.8 | 24.5 | 35.00 | 1166.7 | 35.0 | 35.00 | 1166.7 | 110 | 64.2 | 31.00 | 1033.3 |
| 2160+67.42 | 2162+67.42 | RELOCATED US 71 RT. | 200.00 | 35.00 | 777.8 | 255.9 | 16.3 | 35.00 | 777.8 | 23.3 | 35.00 | 777.8 | 110 | 42.8 | 31.00 | 688.9 |
| 2161+80.40 | 2162+80.76 | RELOCATED US 71 LT. | 100.36 | 40.00 | 446.0 | 146.7 | 9.4 | 40.00 | 446.0 | 13.4 | 40.00 | 446.0 | 110 | 24.5 | 36.00 | 401.4 |
| 2162+67.42 | 2163+15.20 | RELOCATED US 71 RT. | 47.78 | 40.00 | 212.4 | 69.9 | 4.5 | 40.00 | 212.4 | 6.4 | 40.00 | 212.4 | 110 | 11.7 | 36.00 | 191.1 |
| 2172+49.50 | 2174+51.76 | RELOCATED US 71 LT. | 202.26 | 40.00 | 898.9 | 295.7 | 18.9 | 40.00 | 898.9 | 27.0 | 40.00 | 898.9 | 110 | 49.4 | 36.00 | 809.0 |
| 2173+27.94 | 2174+64.94 | RELOCATED US 71 RT. | 137.00 | 40.00 | 608.9 | 200.3 | 12.8 | 40.00 | 608.9 | 18.3 | 40.00 | 608.9 | 110 | 33.5 | 36.00 | 548.0 |
| 2174+51.76 | 2175+30.40 | RELOCATED US 71 LT. | 78.64 | 43.50 | 380.1 | 125.1 | 8.0 | 43.50 | 380.1 | 11.4 | 43.50 | 380.1 | 110 | 20.9 | 39.50 | 345.1 |
| 2174+64.94 | 2176+17.42 | RELOCATED US 71 RT. | 152.48 | 52.10 | 882.7 | 290.4 | 18.5 | 52.10 | 882.7 | 26.5 | 52.10 | 882.7 | 110 | 48.5 | 48.10 | 814.9 |
| 2175+30.40 | 2178+50.00 | RELOCATED US 71 LT. | 319.60 | 30.00 | 1065.3 | 350.5 | 22.4 | 30.00 | 1065.3 | 32.0 | 30.00 | 1065.3 | 110 | 58.6 | 26.00 | 923.3 |
| 2176+17.42 | 2178+28.45 | RELOCATED US 71 RT. | 211.03 | 37.00 | 867.6 | 285.4 | 18.2 | 37.00 | 867.6 | 26.0 | 37.00 | 867.6 | 110 | 47.7 | 33.00 | 773.8 |
| 2178+28.45 | 2178+50.00 | RELOCATED US 71 RT. | 21.55 | 30.00 | 71.8 | 23.6 | 1.5 | 30.00 | 71.8 | 2.2 | 30.00 | 71.8 | 110 | 3.9 | 26.00 | 62.3 |
| 2178+50.00 | 2178+75.00 | RELOCATED US 71 LT. | 25.00 | 30.00 | 83.3 | 27.4 | 1.7 | 30.00 | 83.3 | 2.5 | 30.00 | 83.3 | 110 | 4.6 | | |
| 2178+50.00 | 2178+75.00 | RELOCATED US 71 RT. | 25.00 | 30.00 | 83.3 | 27.4 | 1.7 | 30.00 | 83.3 | 2.5 | 30.00 | 83.3 | 110 | 4.6 | | |
| 2178+75.00 | 2179+00.00 | RELOCATED US 71 LT. | 25.00 | 30.00 | 83.3 | 27.4 | 1.7 | | | | | | | | | |
| 2178+75.00 | 2179+00.00 | RELOCATED US 71 RT. | 25.00 | 30.00 | 83.3 | 27.4 | 1.7 | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 1847+41.92 | 1876+33.42 | US 71 RAMP 4 | 2891.50 | 19.00 | 6104.3 | 2008.3 | 128.2 | 19.00 | 6104.3 | 183.1 | 19.00 | 6104.3 | 110 | 335.7 | 15.00 | 4819.2 |
| | | | | | | | | | | | | | | | | |
| 1856+68.36 | 1876+74.78 | US 71 RAMP 5 | 2006.42 | 19.00 | 4235.8 | 1393.6 | 89.0 | 19.00 | 4235.8 | 127.1 | 19.00 | 4235.8 | 110 | 233.0 | 15.00 | 3344.0 |
| | | | | | | | | | | | | | | | | |
| 1878+35.18 | 1880+94.62 | NORTHBOUND CD ROAD | 259.44 | 44.00 | 1268.4 | 417.3 | 26.6 | 44.00 | 1268.4 | 38.1 | 44.00 | 1268.4 | 110 | 69.8 | 40.00 | 1153.1 |
| 1880+94.62 | 1884+34.50 | NORTHBOUND CD ROAD | 339.88 | 33.50 | 1265.1 | 416.2 | 26.6 | 33.50 | 1265.1 | 38.0 | 33.50 | 1265.1 | 110 | 69.6 | 29.50 | 1114.1 |
| | | | | | | | | | | | | | | | | |
| 1874+50.00 | 1874+75.00 | SOUTHBOUND CD ROAD | 25.00 | 19.00 | 52.8 | 17.4 | 1.1 | | | | | | | | | |
| 1874+75.00 | 1875+00.00 | SOUTHBOUND CD ROAD | 25.00 | 19.00 | 52.8 | 17.4 | 1.1 | 19.00 | 52.8 | 1.6 | 19.00 | 52.8 | 110 | 2.9 | | |
| 1875+00.00 | 1876+75.72 | SOUTHBOUND CD ROAD | 175.72 | 25.00 | 488.1 | 160.6 | 10.3 | 25.00 | 488.1 | 14.6 | 25.00 | 488.1 | 110 | 26.8 | 21.00 | 410.0 |
| 1876+75.72 | 1882+78.54 | SOUTHBOUND CD ROAD | 602.82 | 35.00 | 2344.3 | 771.3 | 49.2 | 35.00 | 2344.3 | 70.3 | 35.00 | 2344.3 | 110 | 128.9 | 31.00 | 2076.4 |
| 1882+78.54 | 1885+46.02 | SOUTHBOUND CD ROAD | 267.48 | 19.00 | 564.7 | 185.8 | 11.9 | 19.00 | 564.7 | 16.9 | 19.00 | 564.7 | 110 | 31.1 | 15.00 | 445.8 |
| | | | | | | | | | | | | | | | | |
| 2000+15.01 | 2013+28.00 | MASSARD ROAD RAMP 1 | 1312.99 | 19.00 | 2771.9 | 912.0 | 58.2 | 19.00 | 2771.9 | 83.2 | 19.00 | 2771.9 | 110 | 152.5 | 15.00 | 2188.3 |
| 2013+28.00 | 2014+78.00 | MASSARD ROAD RAMP 1 | 150.00 | 23.50 | 391.7 | 128.9 | 8.2 | 23.50 | 391.7 | 11.8 | 23.50 | 391.7 | 110 | 21.5 | 19.50 | 325.0 |
| 2014+78.00 | 2017+28.02 | MASSARD ROAD RAMP 1 | 250.02 | 28.00 | 777.8 | 255.9 | 16.3 | 28.00 | 777.8 | 23.3 | 28.00 | 777.8 | 110 | 42.8 | 24.00 | 666.7 |
| 2017+28.02 | 2018+75.06 | MASSARD ROAD RAMP 1 | 147.04 | 62.40 | 1019.5 | 335.4 | 21.4 | 62.40 | 1019.5 | 30.6 | 62.40 | 1019.5 | 110 | 56.1 | 58.40 | 954.1 |
| | | | | | | | | | | | | | | | | |
| 2017+41.99 | 2018+90.45 | MASSARD ROAD RAMP 2 | 148.46 | 55.20 | 910.6 | 299.6 | 19.1 | 55.20 | 910.6 | 27.3 | 55.20 | 910.6 | 110 | 50.1 | 51.20 | 844.6 |
| 2018+90.45 | 2035+80.43 | MASSARD ROAD RAMP 2 | 1689.98 | 19.00 | 3567.7 | 1173.8 | 74.9 | 19.00 | 3567.7 | 107.0 | 19.00 | 3567.7 | 110 | 196.2 | 15.00 | 2816.6 |
| | | | | | | | | | | | | | | | | |
| 2017+75.43 | 2019+20.03 | MASSARD ROAD RAMP 3 | 144.60 | 63.00 | 1012.2 | 333.0 | 21.3 | 63.00 | 1012.2 | 30.4 | 63.00 | 1012.2 | 110 | 55.7 | 59.00 | 947.9 |
| 2019+20.03 | 2021+72.00 | MASSARD ROAD RAMP 3 | 251.97 | 28.00 | 783.9 | 257.9 | 16.5 | 28.00 | 783.9 | 23.5 | 28.00 | 783.9 | 110 | 43.1 | 24.00 | 671.9 |
| 2021+72.00 | 2023+22.00 | MASSARD ROAD RAMP 3 | 150.00 | 23.50 | 391.7 | 128.9 | 8.2 | 23.50 | 391.7 | 11.8 | 23.50 | 391.7 | 110 | 21.5 | 19.50 | 325.0 |
| 2023+22.00 | 2035+55.66 | MASSARD ROAD RAMP 3 | 1233.66 | 19.00 | 2604.4 | 856.8 | 54.7 | 19.00 | 2604.4 | 78.1 | 19.00 | 2604.4 | 110 | 143.2 | 15.00 | 2056.1 |
| | | | | | | | | | | | | | | | | |
| 1999+90.83 | 2017+59.54 | MASSARD ROAD RAMP 4 | 1768.71 | 19.00 | 3733.9 | 1228.5 | 78.4 | 19.00 | 3733.9 | 112.0 | 19.00 | 3733.9 | 110 | 205.4 | 15.00 | 2947.9 |
| 2017+59.54 | 2019+08.36 | MASSARD ROAD RAMP 4 | 148.82 | 55.10 | 911.1 | 299.8 | 19.1 | 55.10 | 911.1 | 27.3 | 55.10 | 911.1 | 110 | 50.1 | 51.10 | 845.0 |
| | | | | | | | | | | | | | | | | |
| 2075+60.63 | 2092+87.00 | ROBERTS BLVD.RAMP 1 | 1726.37 | 19.00 | 3644.6 | 1199.1 | 76.5 | 19.00 | 3644.6 | 109.3 | 19.00 | 3644.6 | 110 | 200.5 | 15.00 | 2877.3 |
| 2092+87.00 | 2094+37.00 | ROBERTS BLVD.RAMP 1 | 150.00 | 23.50 | 391.7 | 128.9 | 8.2 | 23.50 | 391.7 | 11.8 | 23.50 | 391.7 | 110 | 21.5 | 19.50 | 325.0 |
| 2094+37.00 | 2097+14.41 | ROBERTS BLVD.RAMP 1 | 277.41 | 28.00 | 863.1 | 284.0 | 18.1 | 28.00 | 863.1 | 25.9 | 28.00 | 863.1 | 110 | 47.5 | 24.00 | 739.8 |
| 2097+14.41 | 2097+95.66 | ROBERTS BLVD.RAMP 1 | 81.25 | 55.50 | 501.0 | 164.8 | 10.5 | 55.50 | 501.0 | 15.0 | 55.50 | 501.0 | 110 | 27.6 | 51.50 | 464.9 |
| | | | | | | | | | | | | | | | | |
| 2097+69.75 | 2099+42.43 | ROBERTS BLVD.RAMP 2 | 172.68 | 55.80 | 1070.6 | 352.2 | 22.5 | 55.80 | 1070.6 | 32.1 | 55.80 | 1070.6 | 110 | 58.9 | 51.80 | 993.9 |
| 2099+42.43 | 2111+37.21 | ROBERTS BLVD.RAMP 2 | 1194.78 | 19.00 | 2522.3 | 829.8 | 53.0 | 19.00 | 2522.3 | 75.7 | 19.00 | 2522.3 | 110 | 138.7 | 15.00 | 1991.3 |
| | | | | | | | | | | | | | | | | |
| 2087+65.35 | 2089+12.31 | ROBERTS BLVD. RAMP 3 | 146.96 | 62.60 | 1022.2 | 336.3 | 21.5 | 62.60 | 1022.2 | 30.7 | 62.60 | 1022.2 | 110 | 56.2 | 58.60 | 956.9 |
| 2089+12.31 | 2091+72.00 | ROBERTS BLVD. RAMP 3 | 259.69 | 28.00 | 807.9 | 265.8 | 17.0 | 28.00 | 807.9 | 24.2 | 28.00 | 807.9 | 110 | 44.4 | 24.00 | 692.5 |
| 2091+72.00 | 2093+22.00 | ROBERTS BLVD. RAMP 3 | 150.00 | 23.50 | 391.7 | 128.9 | 8.2 | 23.50 | 391.7 | 11.8 | 23.50 | 391.7 | 110 | 21.5 | 19.50 | 325.0 |
| 2093+22.00 | 2111+21.76 | ROBERTS BLVD. RAMP 3 | 1799.76 | 19.00 | 3799.5 | 1250.0 | 79.8 | 19.00 | 3799.5 | 114.0 | 19.00 | 3799.5 | 110 | 209.0 | 15.00 | 2999.6 |
| | | | | | | | | | | | | | | | | |
| 2075+83.70 | 2088+32.15 | ROBERTS BLVD. RAMP 4 | 1248.45 | 19.00 | 2635.6 | 867.1 | 55.3 | 19.00 | 2635.6 | 79.1 | 19.00 | 2635.6 | 110 | 145.0 | 15.00 | 2080.8 |
| 2088+32.15 | 2089+95.55 | ROBERTS BLVD. RAMP 4 | 163.40 | 53.50 | 971.3 | 319.6 | 20.4 | 53.50 | 971.3 | 29.1 | 53.50 | 971.3 | 110 | 53.4 | 49.50 | 898.7 |
| | | | | | | | | | | | | | | | | |
| 2176+17.59 | 2183+58.62 | SH 22 Ramp 1 | 741.03 | 19.00 | 1564.4 | 514.7 | 32.9 | 19.00 | 1564.4 | 46.9 | 19.00 | 1564.4 | 110 | 86.0 | 15.00 | 1235.1 |
| 2183+58.62 | 2186+92.69 | SH 22 Ramp 1 | 334.07 | 143.09 | 5311.3 | 1747.4 | 111.5 | 143.09 | 5311.3 | 159.3 | 143.09 | 5311.3 | 110 | 292.1 | 139.09 | 5162.9 |
| | | | | | | | | | | | | | | | | |
| 2156+68.08 | 2160+52.19 | SH 22 Ramp 4 | 384.11 | 90.79 | 3874.8 | 1274.8 | 81.4 | 90.79 | 3874.8 | 116.2 | 90.79 | 3874.8 | 110 | 213.1 | 86.79 | 3704.1 |
| 2160+52.19 | 2173+74.00 | SH 22 Ramp 4 | 1321.81 | 19.00 | 2790.5 | 918.1 | 58.6 | 19.00 | 2790.5 | 83.7 | 19.00 | 2790.5 | 110 | 153.5 | 15.00 | 2203.0 |
| | | | | | | | | | | | | | | | | |
| TOTALS | | | | | 272064.9 | 89509.4 | 5713.4 | | | 8148.8 | | | | 14939.4 | | 234823.0 |

BASIS OF ESTIMATE: ACHM SURFACE COURSE (3/8") - MINERAL AGGREGATE = 94.7%, ASPHALT BINDER (PG 64-22) = 5.3%

QUANTITIES

| DATE REVISED | DATE FILED | DATE REVISED | DATE FILED | DESIGN DISTRICT | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | 44 | 207 |
| | | | | JOB NO. | | 040376 | | |

(2) QUANTITIES

# BASE & SURFACING - MAIN LANE SHOULDERS ALTERNATE NO. 1

| STATION | STATION | LOCATION | LENGTH | ACHM SURFACE COURSE (1/2") | | | | AGGREGATE BASE COURSE (CLASS 7) | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AVG. WIDTH | SQ. YD. | LBS. PER SQ. YD. | TON | TON/STA. | TON |
| | | | LIN. FT. | FEET | | | | | |
| 1875+00.00 | 1876+30.83 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 130.83 | 7.00 | 101.76 | 220 | 11.2 | 99.75 | 130.5 |
| 1875+00.00 | 2036+87.35 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 16187.35 | 4.00 | 7194.38 | 220 | 791.4 | 123.50 | 19991.4 |
| 1875+00.00 | 2039+99.25 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 16499.25 | 4.00 | 7333.00 | 220 | 806.6 | 123.50 | 20376.6 |
| 1875+00.00 | 1884+91.79 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 991.79 | 8.00 | 881.59 | 220 | 97.0 | 137.50 | 1363.7 |
| 1876+30.83 | 1878+35.18 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 204.35 | 7.00 | 158.94 | 220 | 17.5 | 99.75 | 203.8 |
| 1884+34.50 | 1894+34.50 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 1000.00 | 6.00 | 666.67 | 220 | 73.3 | 120.75 | 1207.5 |
| 1884+91.79 | 1890+00.01 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 508.22 | 6.00 | 338.81 | 220 | 37.3 | 120.75 | 613.7 |
| 1890+00.01 | 1989+91.43 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 9991.42 | 8.00 | 8881.26 | 220 | 976.9 | 137.50 | 13738.2 |
| 1894+34.50 | 1995+60.92 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 10126.42 | 8.00 | 9001.26 | 220 | 990.1 | 137.50 | 13923.8 |
| 1989+91.43 | 1999+91.44 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 1000.01 | 6.00 | 666.67 | 220 | 73.3 | 120.75 | 1207.5 |
| 1995+60.92 | 2000+14.59 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 453.67 | 6.00 | 302.45 | 220 | 33.3 | 120.75 | 547.8 |
| 1999+91.44 | 2035+03.70 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 3512.26 | 8.00 | 3122.01 | 220 | 343.4 | 137.50 | 4829.4 |
| 2000+14.10 | 2035+79.84 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 3565.74 | 8.00 | 3169.55 | 220 | 348.7 | 137.50 | 4902.9 |
| 2035+55.94 | 2039+73.31 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 417.37 | 6.00 | 278.25 | 220 | 30.6 | 120.75 | 504.0 |
| 2035+79.84 | 2037+27.90 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 148.06 | 6.00 | 98.71 | 220 | 10.9 | 120.75 | 178.8 |
| 2036+87.35 | 2037+44.42 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 57.07 | 8.75 | 55.48 | 220 | 6.1 | 144.25 | 82.3 |
| 2037+27.90 | 2037+70.45 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 42.55 | 9.57 | 45.24 | 220 | 5.0 | 150.25 | 63.9 |
| 2037+44.42 | 2037+54.42 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 10.00 | 13.50 | 15.00 | 220 | 1.7 | 180.50 | 18.1 |
| 2037+54.42 | 2040+29.40 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 274.98 | 10.75 | 328.45 | 220 | 36.1 | 159.00 | 437.2 |
| 2037+70.45 | 2037+80.45 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 10.00 | 13.13 | 14.59 | 220 | 1.6 | 177.50 | 17.8 |
| 2037+80.45 | 2040+55.44 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 274.99 | 10.57 | 322.96 | 220 | 35.5 | 157.50 | 433.1 |
| 2040+29.40 | 2040+36.03 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 6.63 | 8.00 | 5.89 | 220 | 0.6 | 137.50 | 9.1 |
| 2040+55.44 | 2040+61.97 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 6.53 | 8.00 | 5.80 | 220 | 0.6 | 137.50 | 9.0 |
| 2043+65.86 | 2043+72.36 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 6.50 | 8.00 | 5.78 | 220 | 0.6 | 137.50 | 8.9 |
| 2043+72.36 | 2046+47.35 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 274.99 | 10.57 | 322.96 | 220 | 35.5 | 157.50 | 433.1 |
| 2043+91.77 | 2043+98.40 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 6.63 | 8.00 | 5.89 | 220 | 0.6 | 137.50 | 9.1 |
| 2043+98.40 | 2046+73.38 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 274.98 | 10.75 | 328.45 | 220 | 36.1 | 159.00 | 437.2 |
| 2044+28.54 | 2144+51.54 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 10023.00 | 4.00 | 4454.67 | 220 | 490.0 | 123.50 | 12378.4 |
| 2044+54.48 | 2047+79.84 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 325.36 | 6.00 | 216.91 | 220 | 23.9 | 120.75 | 392.9 |
| 2046+47.35 | 2046+57.35 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 10.00 | 13.13 | 14.59 | 220 | 1.6 | 177.50 | 17.8 |
| 2046+57.35 | 2047+04.98 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 47.63 | 9.57 | 50.65 | 220 | 5.6 | 150.25 | 71.6 |
| 2046+73.38 | 2046+83.38 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 10.00 | 13.50 | 15.00 | 220 | 1.7 | 180.50 | 18.1 |
| 2046+83.38 | 2047+39.72 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 56.34 | 8.75 | 54.78 | 220 | 6.0 | 144.25 | 81.3 |
| 2047+04.98 | 2048+91.42 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 186.44 | 6.00 | 124.29 | 220 | 13.7 | 120.75 | 225.1 |
| 2047+39.72 | 2148+15.12 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 10075.40 | 4.00 | 4477.96 | 220 | 492.6 | 123.50 | 12443.1 |
| 2047+79.84 | 2071+06.54 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 2326.70 | 8.00 | 2068.18 | 220 | 227.5 | 137.50 | 3199.2 |
| 2048+91.42 | 2065+84.22 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 1692.80 | 8.00 | 1504.71 | 220 | 165.5 | 137.50 | 2327.6 |
| 2065+84.22 | 2075+84.22 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 1000.00 | 6.00 | 666.67 | 220 | 73.3 | 120.75 | 1207.5 |
| 2071+06.54 | 2075+59.76 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 453.22 | 6.00 | 302.15 | 220 | 33.2 | 120.75 | 547.3 |
| 2076+12.94 | 2111+35.49 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 3522.55 | 8.00 | 3131.16 | 220 | 344.4 | 137.50 | 4843.5 |
| 2075+84.22 | 2110+90.94 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 3506.72 | 8.00 | 3117.08 | 220 | 342.9 | 137.50 | 4821.7 |
| 2111+25.01 | 2115+51.44 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 426.43 | 6.00 | 284.29 | 220 | 31.3 | 120.75 | 514.9 |
| 2111+35.49 | 2121+35.49 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 1000.00 | 6.00 | 666.67 | 220 | 73.3 | 120.75 | 1207.5 |
| 2115+51.44 | 2148+15.12 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 3263.68 | 8.00 | 2901.05 | 220 | 319.1 | 137.50 | 4487.6 |
| 2121+35.49 | 2145+19.55 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 2384.06 | 8.00 | 2119.16 | 220 | 233.1 | 137.50 | 3278.1 |
| 2144+51.54 | 2145+11.08 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 59.54 | 8.96 | 59.28 | 220 | 6.5 | 144.75 | 86.2 |
| 2145+11.08 | 2145+21.08 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 10.00 | 13.92 | 15.47 | 220 | 1.7 | 183.75 | 18.4 |
| 2145+19.55 | 2145+61.08 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 41.53 | 12.47 | 57.54 | 220 | 6.3 | 172.00 | 71.4 |
| 2145+21.08 | 2147+96.06 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 274.98 | 10.96 | 334.86 | 220 | 36.8 | 160.75 | 442.0 |
| 2145+61.08 | 2145+71.08 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 10.00 | 16.93 | 18.81 | 220 | 2.1 | 204.75 | 20.5 |
| 2145+71.08 | 2147+96.09 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 225.01 | 14.68 | 367.02 | 220 | 40.4 | 188.50 | 424.1 |
| 2147+96.06 | 2148+15.12 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 19.06 | 8.00 | 16.94 | 220 | 1.9 | 137.50 | 26.2 |
| 2147+96.09 | 2148+15.12 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 19.03 | 12.42 | 26.26 | 220 | 2.9 | 173.00 | 32.9 |
| 2150+85.33 | 2159+17.91 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 832.58 | 8.00 | 740.07 | 220 | 81.4 | 137.50 | 1144.8 |
| 2150+85.33 | 2159+33.52 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 848.19 | 4.00 | 376.97 | 220 | 41.5 | 123.50 | 1047.5 |
| 2150+85.33 | 2151+04.08 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 18.75 | 8.42 | 17.54 | 220 | 1.9 | 141.50 | 26.5 |
| 2150+85.33 | 2150+91.98 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 6.65 | 12.42 | 9.18 | 220 | 1.0 | 173.00 | 11.5 |
| 2150+91.98 | 2153+29.06 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 237.08 | 16.67 | 439.12 | 220 | 48.3 | 202.75 | 480.7 |
| 2151+04.08 | 2153+79.06 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 274.98 | 11.18 | 341.59 | 220 | 37.6 | 162.50 | 446.8 |
| 2153+29.06 | 2153+39.06 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 10.00 | 16.92 | 18.80 | 220 | 2.1 | 204.75 | 20.5 |
| 2153+39.06 | 2153+92.58 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 53.52 | 12.46 | 74.10 | 220 | 8.2 | 172.00 | 92.1 |
| 2153+79.06 | 2153+89.06 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 10.00 | 13.92 | 15.47 | 220 | 1.7 | 183.75 | 18.4 |
| 2153+89.06 | 2154+48.61 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 59.55 | 8.96 | 59.29 | 220 | 6.5 | 144.75 | 86.2 |
| 2153+92.58 | 2158+80.40 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 487.82 | 8.00 | 433.62 | 220 | 47.7 | 137.50 | 670.8 |
| 2154+48.61 | 2162+96.95 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 848.34 | 4.00 | 377.04 | 220 | 41.5 | 123.50 | 1047.7 |
| 2158+80.40 | 2162+64.57 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 384.17 | 6.00 | 256.11 | 220 | 28.2 | 120.75 | 463.9 |
| 2159+17.91 | 2160+22.89 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 104.98 | 16.75 | 195.38 | 220 | 21.5 | 203.50 | 213.6 |
| 2159+33.52 | 2159+90.51 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 56.99 | 8.75 | 55.41 | 220 | 6.1 | 144.25 | 82.2 |
| 2159+90.51 | 2160+00.51 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 10.00 | 13.50 | 15.00 | 220 | 1.7 | 180.50 | 18.1 |
| 2160+00.51 | 2162+75.47 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 274.96 | 10.75 | 328.42 | 220 | 36.1 | 159.00 | 437.2 |
| 2160+22.89 | 2160+32.89 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 10.00 | 25.50 | 28.33 | 220 | 3.1 | 259.00 | 25.9 |
| 2160+32.89 | 2163+07.87 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 274.98 | 16.75 | 511.77 | 220 | 56.3 | 203.50 | 559.6 |
| 2162+75.47 | 2162+99.01 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 23.54 | 8.00 | 20.92 | 220 | 2.3 | 137.50 | 32.4 |
| 2163+07.87 | 2163+31.39 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 23.52 | 8.00 | 20.91 | 220 | 2.3 | 137.50 | 32.3 |
| 2172+33.31 | 2172+38.58 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 5.27 | 8.00 | 4.68 | 220 | 0.5 | 137.50 | 7.2 |
| 2172+38.58 | 2175+30.39 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 291.81 | 10.08 | 326.83 | 220 | 36.0 | 154.50 | 450.8 |
| 2172+65.69 | 2172+71.07 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 5.38 | 8.00 | 4.78 | 220 | 0.5 | 137.50 | 7.4 |
| 2172+71.07 | 2175+46.05 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 274.98 | 10.75 | 328.45 | 220 | 36.1 | 159.00 | 437.2 |
| 2173+11.75 | 2178+50.00 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 538.25 | 4.00 | 239.22 | 220 | 26.3 | 123.50 | 664.7 |
| 2173+44.13 | 2176+17.48 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 273.35 | 6.00 | 182.23 | 220 | 20.0 | 120.75 | 330.1 |
| 2175+30.39 | 2178+50.00 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 319.61 | 8.00 | 284.10 | 220 | 31.3 | 137.50 | 439.5 |
| 2175+46.05 | 2175+56.05 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 10.00 | 13.50 | 15.00 | 220 | 1.7 | 180.50 | 18.1 |
| 2175+56.05 | 2176+13.10 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 57.05 | 8.75 | 55.47 | 220 | 6.1 | 144.25 | 82.3 |
| 2176+13.10 | 2178+50.00 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 236.90 | 4.00 | 105.29 | 220 | 11.6 | 123.50 | 292.6 |
| 2176+43.17 | 2178+50.00 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 206.83 | 8.00 | 183.85 | 220 | 20.2 | 137.50 | 284.4 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| TOTALS | | | | | | | 8446.1 | | 148836.3 |

BASIS OF ESTIMATE : ACHM SURFACE COURSE (1/2 ") - MINERAL AGGREGATE = 94.7%, ASPHALT BINDER (PG 64-22) = 5.3%
Nmax = 115

QUANTITIES

STATE OF ARKANSAS
JAMES L. BARR
No. 9808
REGISTERED PROFESSIONAL ENGINEER
5/1/12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. AID SUBPROJ. |
|---|---|---|---|---|
| | | | | |

(2) QUANTITIES

| JOB NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 040376 | ARK. | | 45 | 207 |

# BASE & SURFACING - MAIN LANE SHOULDERS ALTERNATE NO. 2

| STATION | STATION | LOCATION | LENGTH | PORTLAND CEMENT CONCRETE PAVEMENT (12" U.T.) | | ACHM SURFACE COURSE (1/2") | | | | AGGREGATE BASE COURSE (CLASS 7) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AVG. WIDTH | SQ. YD. | AVG. WIDTH | SQ. YD. | LBS. PER SQ. YD. | TON | TON/STA. | TON |
| | | | LIN. FT. | FEET | | FEET | | | | | |
| 1875+00.00 | 1876+30.83 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 130.83 | 7.00 | 101.8 | | | | | 34.75 | 45.5 |
| 1875+00.00 | 2036+87.35 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 16187.35 | 4.00 | 7194.4 | | | | | 97.50 | 15782.7 |
| 1875+00.00 | 2039+99.25 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 16499.25 | 4.00 | 7333.0 | | | | | 97.50 | 16086.8 |
| 1875+00.00 | 1884+91.79 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 991.79 | 8.00 | 881.6 | | | | | 85.75 | 850.5 |
| 1876+30.83 | 1878+35.18 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 204.35 | 7.00 | 158.9 | | | | | 34.75 | 71.0 |
| 1884+34.50 | 1894+34.50 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 1000.00 | 6.00 | 666.7 | | | | | 82.00 | 820.0 |
| 1884+91.79 | 1890+00.01 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 508.22 | 6.00 | 338.8 | | | | | 82.00 | 416.7 |
| 1890+00.01 | 1989+91.43 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 9991.42 | 8.00 | 8881.3 | | | | | 85.75 | 8567.6 |
| 1894+34.50 | 1995+60.92 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 10126.42 | 8.00 | 9001.3 | | | | | 85.75 | 8683.4 |
| 1989+91.43 | 1999+91.44 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 1000.01 | 6.00 | 666.7 | | | | | 82.00 | 820.0 |
| 1995+60.92 | 2000+14.59 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 453.67 | 6.00 | 302.4 | | | | | 82.00 | 372.0 |
| 1999+91.44 | 2035+03.70 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 3512.26 | 8.00 | 3122.0 | | | | | 85.75 | 3011.8 |
| 2000+14.10 | 2035+79.84 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 3565.74 | 8.00 | 3169.5 | | | | | 85.75 | 3057.6 |
| 2035+55.94 | 2039+73.31 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 417.37 | 6.00 | 278.2 | | | | | 82.00 | 342.2 |
| 2035+79.84 | 2037+27.90 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 148.06 | 6.00 | 98.7 | | | | | 82.00 | 121.4 |
| 2036+87.35 | 2037+44.42 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 57.07 | 4.00 | 25.4 | 4.75 | 30.12 | 220 | 3.3 | 118.50 | 67.6 |
| 2037+27.90 | 2037+70.45 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 42.55 | 6.00 | 28.4 | 3.57 | 16.88 | 220 | 1.9 | 111.25 | 47.3 |
| 2037+44.42 | 2037+54.42 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 10.00 | 4.00 | 4.4 | 9.50 | 10.56 | 220 | 1.2 | 154.50 | 15.5 |
| 2037+54.42 | 2040+29.40 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 274.98 | 4.00 | 122.2 | 6.75 | 206.24 | 220 | 22.7 | 133.00 | 365.7 |
| 2037+70.45 | 2037+80.45 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 10.00 | 6.00 | 6.7 | 7.13 | 7.92 | 220 | 0.9 | 138.50 | 13.9 |
| 2037+80.45 | 2040+55.44 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 274.99 | 6.00 | 183.3 | 4.57 | 139.63 | 220 | 15.4 | 118.50 | 325.9 |
| 2040+29.40 | 2040+36.03 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 6.63 | 4.00 | 2.9 | 4.00 | 2.95 | 220 | 0.3 | 116.25 | 7.7 |
| 2040+55.44 | 2040+61.97 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 6.53 | 6.00 | 4.4 | 2.00 | 1.45 | 220 | 0.2 | 96.75 | 6.3 |
| 2043+65.86 | 2043+72.36 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 6.50 | 6.00 | 4.3 | 2.00 | 1.44 | 220 | 0.2 | 96.75 | 6.3 |
| 2043+72.36 | 2046+47.35 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 274.99 | 6.00 | 183.3 | 4.57 | 139.63 | 220 | 15.4 | 118.00 | 324.5 |
| 2043+91.77 | 2043+98.40 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 6.63 | 4.00 | 2.9 | 4.00 | 2.95 | 220 | 0.3 | 111.75 | 7.4 |
| 2043+98.40 | 2046+73.38 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 274.98 | 4.00 | 122.2 | 6.75 | 206.24 | 220 | 22.7 | 133.00 | 365.7 |
| 2044+28.54 | 2144+51.54 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 10023.00 | 4.00 | 4454.7 | | | | | 97.50 | 9772.4 |
| 2044+54.48 | 2047+79.84 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 325.36 | 6.00 | 216.9 | | | | | 82.00 | 266.8 |
| 2046+47.35 | 2046+57.35 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 10.00 | 6.00 | 6.7 | 7.13 | 7.92 | 220 | 0.9 | 138.50 | 13.9 |
| 2046+57.35 | 2047+04.98 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 47.63 | 6.00 | 31.8 | 3.57 | 18.89 | 220 | 2.1 | 111.25 | 53.0 |
| 2046+73.38 | 2046+83.38 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 10.00 | 4.00 | 4.4 | 9.50 | 10.56 | 220 | 1.2 | 154.50 | 15.5 |
| 2046+83.38 | 2047+39.72 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 56.34 | 4.00 | 25.0 | 4.75 | 29.74 | 220 | 3.3 | 118.50 | 66.8 |
| 2047+04.98 | 2048+91.42 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 186.44 | 6.00 | 124.3 | | | | | 82.00 | 152.9 |
| 2047+39.72 | 2148+15.12 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 10075.40 | 4.00 | 4478.0 | | | | | 97.50 | 9823.5 |
| 2047+79.84 | 2071+06.54 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 2326.70 | 8.00 | 2068.2 | | | | | 85.75 | 1995.1 |
| 2048+91.42 | 2065+84.22 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 1692.80 | 8.00 | 1504.7 | | | | | 85.75 | 1451.6 |
| 2065+84.22 | 2075+84.22 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 1000.00 | 6.00 | 666.7 | | | | | 82.00 | 820.0 |
| 2071+06.54 | 2075+59.76 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 453.22 | 6.00 | 302.1 | | | | | 82.00 | 371.6 |
| 2076+12.94 | 2111+35.49 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 3522.55 | 8.00 | 3131.2 | | | | | 85.75 | 3020.6 |
| 2075+84.22 | 2110+90.94 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 3506.72 | 8.00 | 3117.1 | | | | | 85.75 | 3007.0 |
| 2111+25.01 | 2115+51.44 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 426.43 | 6.00 | 284.3 | | | | | 82.00 | 349.7 |
| 2111+35.49 | 2121+35.49 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 1000.00 | 6.00 | 666.7 | | | | | 82.00 | 820.0 |
| 2115+51.44 | 2148+15.12 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 3263.68 | 8.00 | 2901.0 | | | | | 85.75 | 2798.6 |
| 2121+35.49 | 2145+19.55 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 2384.06 | 8.00 | 2119.2 | | | | | 85.75 | 2044.3 |
| 2144+51.54 | 2145+11.08 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 59.54 | 4.00 | 26.5 | 4.96 | 32.81 | 220 | 3.6 | 119.00 | 70.9 |
| 2145+11.08 | 2145+21.08 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 10.00 | 4.00 | 4.4 | 9.92 | 11.02 | 220 | 1.2 | 157.75 | 15.8 |
| 2145+19.55 | 2145+61.08 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 41.53 | 8.00 | 36.9 | 4.47 | 20.63 | 220 | 2.3 | 120.25 | 49.9 |
| 2145+21.08 | 2147+96.06 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 274.98 | 4.00 | 122.2 | 6.96 | 212.65 | 220 | 23.4 | 162.00 | 445.5 |
| 2145+61.08 | 2145+71.08 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 10.00 | 8.00 | 8.9 | 8.93 | 9.92 | 220 | 1.1 | 169.25 | 16.9 |
| 2145+71.08 | 2147+96.09 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 225.01 | 8.00 | 200.0 | 6.68 | 167.01 | 220 | 18.4 | 136.75 | 307.7 |
| 2147+96.06 | 2148+15.12 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 19.06 | 4.00 | 8.5 | 4.00 | 8.47 | 220 | 0.9 | 111.75 | 21.3 |
| 2147+96.09 | 2148+15.12 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 19.03 | 8.00 | 16.9 | 4.42 | 9.35 | 220 | 1.0 | 121.00 | 23.0 |
| 2150+85.33 | 2159+17.91 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 832.58 | 8.00 | 740.1 | | | | | 85.75 | 713.9 |
| 2150+85.33 | 2159+33.52 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 848.19 | 4.00 | 377.0 | | | | | 97.50 | 827.0 |
| 2150+85.33 | 2151+04.08 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 18.75 | 4.00 | 8.3 | 4.42 | 9.21 | 220 | 1.0 | 118.25 | 22.2 |
| 2150+85.33 | 2150+91.98 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 6.65 | 8.00 | 5.9 | 4.42 | 3.27 | 220 | 0.4 | 121.00 | 8.0 |
| 2150+91.98 | 2153+29.06 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 237.08 | 8.00 | 210.7 | 8.67 | 228.39 | 220 | 25.1 | 151.00 | 358.0 |
| 2151+04.08 | 2153+79.06 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 274.98 | 4.00 | 122.2 | 7.18 | 219.37 | 220 | 24.1 | 136.75 | 376.0 |
| 2153+29.06 | 2153+39.06 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 10.00 | 8.00 | 8.9 | 8.92 | 9.91 | 220 | 1.1 | 169.23 | 16.9 |
| 2153+39.06 | 2153+92.58 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 53.52 | 8.00 | 47.6 | 4.46 | 26.52 | 220 | 2.9 | 120.25 | 64.4 |
| 2153+79.06 | 2153+89.06 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 10.00 | 4.00 | 4.4 | 9.92 | 11.02 | 220 | 1.2 | 157.75 | 15.8 |
| 2153+89.06 | 2154+48.61 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 59.55 | 4.00 | 26.5 | 4.96 | 32.82 | 220 | 3.6 | 119.00 | 70.9 |
| 2153+92.58 | 2158+80.40 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 487.82 | 8.00 | 433.6 | | | | | 85.75 | 418.3 |
| 2154+48.61 | 2162+96.95 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 848.34 | 4.00 | 377.0 | | | | | 97.50 | 827.1 |
| 2158+80.40 | 2162+64.57 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 384.17 | 6.00 | 256.1 | | | | | 82.00 | 315.0 |
| 2159+17.91 | 2160+22.89 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 104.98 | 8.00 | 93.3 | 8.75 | 102.06 | 220 | 11.2 | 151.50 | 159.0 |
| 2159+33.52 | 2159+90.51 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 56.99 | 4.00 | 25.3 | 4.75 | 30.08 | 220 | 3.3 | 118.50 | 67.5 |
| 2159+90.51 | 2160+00.51 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 10.00 | 4.00 | 4.4 | 9.50 | 10.56 | 220 | 1.2 | 154.50 | 15.5 |
| 2160+00.51 | 2162+75.47 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 274.96 | 4.00 | 122.2 | 6.75 | 206.22 | 220 | 22.7 | 133.00 | 365.7 |
| 2160+22.89 | 2160+32.89 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 10.00 | 8.00 | 8.9 | 17.50 | 19.44 | 220 | 2.1 | 207.00 | 20.7 |
| 2160+32.89 | 2163+07.87 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 274.98 | 6.00 | 183.3 | 10.75 | 328.45 | 220 | 36.1 | 164.50 | 452.3 |
| 2162+75.47 | 2162+99.01 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 23.54 | 4.00 | 10.5 | 4.00 | 10.46 | 220 | 1.2 | 111.75 | 26.3 |
| 2163+07.87 | 2163+31.39 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 23.52 | 6.00 | 15.7 | 2.00 | 5.23 | 220 | 0.6 | 126.25 | 29.7 |
| 2172+33.31 | 2172+38.58 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 5.27 | 6.00 | 3.5 | 2.00 | 1.17 | 220 | 0.1 | 126.25 | 6.7 |
| 2172+38.58 | 2175+30.39 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 291.81 | 6.00 | 194.5 | 4.08 | 132.29 | 220 | 14.6 | 115.75 | 337.8 |
| 2172+65.69 | 2172+71.07 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 5.38 | 4.00 | 2.4 | 4.00 | 2.39 | 220 | 0.3 | 111.75 | 6.0 |
| 2172+71.07 | 2175+46.05 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 274.98 | 4.00 | 122.2 | 6.75 | 206.24 | 220 | 22.7 | 133.00 | 365.7 |
| 2173+11.75 | 2178+50.00 | MAIN LANES RT. - FULL DEPTH - TANGENT - LT. | 538.25 | 4.00 | 239.2 | | | | | 97.50 | 524.8 |
| 2173+44.13 | 2176+17.48 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 273.35 | 6.00 | 182.2 | | | | | 82.00 | 224.1 |
| 2175+30.39 | 2178+50.00 | MAIN LANES LT. - FULL DEPTH - TANGENT - LT. | 319.61 | 8.00 | 284.1 | | | | | 85.75 | 274.1 |
| 2175+46.05 | 2175+56.05 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 10.00 | 4.00 | 4.4 | 9.50 | 10.56 | 220 | 1.2 | 154.50 | 15.5 |
| 2175+56.05 | 2176+13.10 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 57.05 | 4.00 | 25.4 | 4.75 | 30.11 | 220 | 3.3 | 118.50 | 67.6 |
| 2176+13.10 | 2178+50.00 | MAIN LANES LT. - FULL DEPTH - TANGENT - RT. | 236.90 | 4.00 | 105.3 | | | | | 97.50 | 231.0 |
| 2176+43.17 | 2178+50.00 | MAIN LANES RT. - FULL DEPTH - TANGENT - RT. | 206.83 | 8.00 | 183.8 | | | | | 85.75 | 177.4 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| TOTALS | | | | | 73841.9 | | | | 323.9 | | 105798.2 |

BASIS OF ESTIMATE : ACHM SURFACE COURSE (1/2 ") - MINERAL AGGREGATE = 94.7%, ASPHALT BINDER (PG 64-22) = 5.3%
Nmax = 115

QUANTITIES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 5-1-12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| | | | | | | |

(2) QUANTITIES

| JOB NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 040376 | ARK. | | 46 | 207 |

# BASE & SURFACING - RAMP & CD SHOULDERS ALTERNATE NO. 1

| STATION | STATION | LOCATION | LENGTH | ACHM SURFACE COURSE (1/2") | | | | AGGREGATE BASE COURSE (CLASS 7) | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AVG. WIDTH | SQ. YD. | LBS. PER SQ. YD. | TONS | TON/STA. | TON |
| | | | LIN. FT. | FEET | | | | | |
| 1841+44.70 | 1846+31.00 | US 71 RAMP 4 RT. - FULL DEPTH - TANGENT | 486.30 | 6.00 | 324.20 | 220 | 35.7 | 120.75 | 587.2 |
| 1846+31.00 | 1848+81.00 | US 71 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 250.00 | 6.00 | 166.67 | 220 | 18.3 | 159.25 | 398.1 |
| 1848+81.00 | 1851+67.33 | US 71 RAMP 4 RT. - FULL DEPTH - S.E. | 286.33 | 6.00 | 190.89 | 220 | 21.0 | 188.00 | 538.3 |
| 1847+41.92 | 1851+67.33 | US 71 RAMP 4 LT. - FULL DEPTH - S.E. | 425.41 | 4.00 | 189.07 | 220 | 20.8 | 158.75 | 675.3 |
| 1851+67.33 | 1854+17.33 | US 71 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 250.00 | 6.00 | 166.67 | 220 | 18.3 | 154.50 | 386.3 |
| 1851+67.33 | 1854+17.33 | US 71 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 250.00 | 4.00 | 111.11 | 220 | 12.2 | 131.25 | 328.1 |
| 1854+17.33 | 1865+55.81 | US 71 RAMP 4 RT. - FULL DEPTH - TANGENT | 1138.48 | 6.00 | 758.99 | 220 | 83.5 | 120.75 | 1374.7 |
| 1854+17.33 | 1865+55.81 | US 71 RAMP 4 LT. - FULL DEPTH - TANGENT | 1138.48 | 4.00 | 505.99 | 220 | 55.7 | 103.75 | 1181.2 |
| 1865+55.81 | 1867+55.81 | US 71 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 139.00 | 278.0 |
| 1865+55.81 | 1867+55.81 | US 71 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 124.50 | 249.0 |
| 1867+55.81 | 1876+33.42 | US 71 RAMP 4 RT. - FULL DEPTH - S.E. | 877.61 | 6.00 | 585.07 | 220 | 64.4 | 157.00 | 1377.8 |
| 1867+55.81 | 1876+33.42 | US 71 RAMP 4 LT. - FULL DEPTH - S.E. | 877.61 | 4.00 | 390.05 | 220 | 42.9 | 145.25 | 1274.7 |
| | | | | | | | | | |
| 1856+68.36 | 1863+98.23 | US 71 RAMP 5 RT. - FULL DEPTH - S.E. | 729.87 | 4.00 | 324.39 | 220 | 35.7 | 153.25 | 1118.5 |
| 1856+68.36 | 1873+88.66 | US 71 RAMP 5 LT. - FULL DEPTH - S.E. | 1720.30 | 6.00 | 1146.87 | 220 | 126.2 | 171.00 | 2941.7 |
| 1866+50.33 | 1873+88.66 | US 71 RAMP 5 RT. - FULL DEPTH - S.E. | 738.33 | 4.00 | 328.15 | 220 | 36.1 | 153.25 | 1131.5 |
| 1873+88.66 | 1875+88.66 | US 71 RAMP 5 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 128.50 | 257.0 |
| 1873+88.66 | 1875+88.66 | US 71 RAMP 5 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 146.00 | 292.0 |
| 1875+88.66 | 1876+74.78 | US 71 RAMP 5 RT. - FULL DEPTH - S.E. TRANS. | 86.12 | 4.00 | 38.28 | 220 | 4.2 | 103.75 | 89.3 |
| 1875+88.66 | 1876+74.78 | US 71 RAMP 5 LT. - FULL DEPTH - S.E. TRANS. | 86.12 | 6.00 | 57.41 | 220 | 6.3 | 120.75 | 104.0 |
| | | | | | | | | | |
| 1875+00.00 | 1878+35.18 | NORTHBOUND CD ROAD LT. - FULL DEPTH - TANGENT | 335.18 | 3.00 | 111.73 | 220 | 12.3 | | |
| 1875+00.00 | 1877+85.00 | NORTHBOUND CD ROAD RT. - FULL DEPTH - TANGENT | 285.00 | 6.00 | 190.00 | 220 | 20.9 | 120.75 | 344.1 |
| 1877+85.00 | 1879+85.00 | NORTHBOUND CD ROAD RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 139.00 | 278.0 |
| 1879+85.00 | 1884+35.11 | NORTHBOUND CD ROAD RT. - FULL DEPTH - TANGENT | 450.11 | 6.00 | 300.07 | 220 | 33.0 | 120.75 | 543.5 |
| | | | | | | | | | |
| 1875+00.00 | 1882+28.54 | SOUTHBOUND CD ROAD RT. - FULL DEPTH - S.E. | 728.54 | 4.00 | 323.80 | 220 | 35.6 | 99.75 | 726.7 |
| 1875+00.00 | 1882+28.54 | SOUTHBOUND CD ROAD LT. - FULL DEPTH - S.E. | 728.54 | 6.00 | 485.69 | 220 | 53.4 | 165.50 | 1205.7 |
| 1882+28.54 | 1884+28.54 | SOUTHBOUND CD ROAD RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 99.75 | 199.5 |
| 1882+28.54 | 1884+28.54 | SOUTHBOUND CD ROAD LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 143.25 | 286.5 |
| 1884+28.54 | 1885+46.02 | SOUTHBOUND CD ROAD RT. - FULL DEPTH - TANGENT | 117.48 | 4.00 | 52.21 | 220 | 5.7 | 99.75 | 117.2 |
| 1884+28.54 | 1885+46.02 | SOUTHBOUND CD ROAD LT. - FULL DEPTH - TANGENT | 117.48 | 6.00 | 78.32 | 220 | 8.6 | 120.75 | 141.9 |
| TOTALS | | | | | | | 839.0 | | 18425.8 |

BASIS OF ESTIMATE : ACHM SURFACE COURSE (1/2 ") - MINERAL AGGREGATE = 94.7% ASPHALT BINDER (PG 64-22) = 5.3%
Nmax = 115

QUANTITIES

STATE OF ARKANSAS
JAMES L. BAKER
No. 9868
REGISTERED PROFESSIONAL ENGINEER
5/1/12

| DATE REVISED | DATE FILED | DATE REVISED | DATE FILED | PROJECT DESIGNATION | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | 040376 | 47 | 207 |

(2) QUANTITIES

# BASE & SURFACING - RAMP SHOULDERS ALTERNATE NO. 1

| STATION | STATION | LOCATION | LENGTH | ACHM SURFACE COURSE (1/2") | | | | AGGREGATE BASE COURSE (CLASS 7) | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | NORMAL | | | | | |
| | | | | AVG. WIDTH | SQ. YD. | LBS. PER SQ. YD. | TONS | TON/STA. | TON |
| | | | LIN. FT. | FEET | | | | | |
| 2000+15.01 | 2000+16.90 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - TANGENT | 1.89 | 6.00 | 1.26 | 220 | 0.1 | 120.75 | 2.3 |
| 2000+15.01 | 2000+16.90 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - TANGENT | 1.89 | 4.00 | 0.84 | 220 | 0.1 | 103.75 | 2.0 |
| 2000+16.90 | 2002+16.90 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 140.25 | 280.5 |
| 2000+16.90 | 2002+16.90 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 125.00 | 250.0 |
| 2002+16.90 | 2006+71.20 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. | 454.30 | 6.00 | 302.87 | 220 | 33.3 | 159.75 | 725.7 |
| 2002+16.90 | 2006+71.20 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. | 454.30 | 4.00 | 201.91 | 220 | 22.2 | 146.25 | 664.4 |
| 2006+71.20 | 2008+71.20 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 140.25 | 280.5 |
| 2006+71.20 | 2008+71.20 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 125.00 | 250.0 |
| 2008+71.20 | 2012+30.89 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - TANGENT | 359.69 | 6.00 | 239.79 | 220 | 26.4 | 120.75 | 434.3 |
| 2008+71.20 | 2012+30.89 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - TANGENT | 359.69 | 4.00 | 159.86 | 220 | 17.6 | 103.75 | 373.2 |
| 2012+30.89 | 2014+05.89 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 175.00 | 6.00 | 116.67 | 220 | 12.8 | 143.25 | 250.7 |
| 2012+30.89 | 2014+05.89 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 175.00 | 4.00 | 77.78 | 220 | 8.6 | 109.25 | 191.2 |
| 2014+05.89 | 2016+49.70 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. | 243.81 | 6.00 | 162.54 | 220 | 17.9 | 165.75 | 404.1 |
| 2014+05.89 | 2016+49.70 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. | 243.81 | 4.00 | 108.36 | 220 | 11.9 | 114.75 | 279.8 |
| 2016+49.70 | 2017+28.02 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 78.32 | 6.00 | 52.21 | 220 | 5.7 | 124.00 | 97.1 |
| 2016+49.70 | 2018+14.07 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 164.37 | 4.00 | 73.05 | 220 | 8.0 | 96.50 | 158.6 |
| 2017+28.02 | 2018+75.06 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - RADII | 270.00 | | | | | 82.25 | 222.1 |
| 2018+14.07 | 2018+75.06 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - RADII | 56.00 | | | | | 78.00 | 43.7 |
| | | | | | | | | | |
| 2017+41.99 | 2018+90.45 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - RADII | 248.00 | | | | | 82.25 | 204.0 |
| 2017+41.99 | 2018+15.40 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - RADII | 66.00 | | | | | 78.00 | 51.5 |
| 2018+90.45 | 2024+46.95 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - S.E. | 556.50 | 6.00 | 371.00 | 220 | 40.8 | 165.75 | 922.4 |
| 2018+15.40 | 2024+46.95 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - S.E. | 631.55 | 4.00 | 280.69 | 220 | 30.9 | 114.75 | 724.7 |
| 2024+46.95 | 2026+21.95 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - S.E. TRANS. | 175.00 | 6.00 | 116.67 | 220 | 12.8 | 143.25 | 250.7 |
| 2024+46.95 | 2026+21.95 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - S.E. TRANS. | 175.00 | 4.00 | 77.78 | 220 | 8.6 | 109.25 | 191.2 |
| 2026+21.95 | 2027+83.67 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - TANGENT | 161.72 | 6.00 | 107.81 | 220 | 11.9 | 120.75 | 195.3 |
| 2026+21.95 | 2027+83.67 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - TANGENT | 161.72 | 4.00 | 71.88 | 220 | 7.9 | 103.75 | 167.8 |
| 2027+83.67 | 2029+83.67 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 140.25 | 280.5 |
| 2027+83.67 | 2029+83.67 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 125.00 | 250.0 |
| 2029+83.67 | 2035+80.43 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - S.E. | 596.76 | 6.00 | 397.84 | 220 | 43.8 | 159.75 | 953.3 |
| 2029+83.67 | 2035+80.43 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - S.E. | 596.76 | 4.00 | 265.23 | 220 | 29.2 | 146.25 | 872.8 |
| | | | | | | | | | |
| 2017+75.43 | 2018+36.42 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - RADII | 54.00 | | | | | 78.00 | 42.1 |
| 2017+75.43 | 2019+20.63 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - RADII | 255.00 | | | | | 82.25 | 209.7 |
| 2018+36.42 | 2023+74.67 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - S.E. | 538.25 | 4.00 | 239.22 | 220 | 26.3 | 114.75 | 617.6 |
| 2019+20.63 | 2023+74.67 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - S.E. | 454.04 | 6.00 | 302.69 | 220 | 33.3 | 165.75 | 752.6 |
| 2023+74.67 | 2025+49.67 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 175.00 | 4.00 | 77.78 | 220 | 8.6 | 109.25 | 191.2 |
| 2023+74.67 | 2025+49.67 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 175.00 | 6.00 | 116.67 | 220 | 12.8 | 143.25 | 250.7 |
| 2025+49.67 | 2025+80.71 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - TANGENT | 31.04 | 4.00 | 13.80 | 220 | 1.5 | 103.75 | 32.2 |
| 2025+49.67 | 2025+80.71 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - TANGENT | 31.04 | 6.00 | 20.69 | 220 | 2.3 | 120.75 | 37.5 |
| 2025+80.71 | 2027+80.71 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 125.00 | 250.0 |
| 2025+80.71 | 2027+80.71 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 140.25 | 280.5 |
| 2027+80.71 | 2033+48.63 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - S.E. | 567.92 | 4.00 | 252.41 | 220 | 27.8 | 146.25 | 830.6 |
| 2027+80.71 | 2033+48.63 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - S.E. | 567.92 | 6.00 | 378.61 | 220 | 41.6 | 159.75 | 907.3 |
| 2033+48.63 | 2035+48.63 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 125.00 | 250.0 |
| 2033+48.63 | 2035+48.63 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 140.25 | 280.5 |
| 2035+48.63 | 2035+55.66 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - TANGENT | 7.03 | 4.00 | 3.12 | 220 | 0.3 | 103.75 | 7.3 |
| 2035+48.63 | 2035+55.66 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - TANGENT | 7.03 | 6.00 | 4.69 | 220 | 0.5 | 120.75 | 8.5 |
| | | | | | | | | | |
| 1999+90.83 | 2004+85.52 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - S.E. | 494.69 | 4.00 | 219.86 | 220 | 24.2 | 146.25 | 723.5 |
| 1999+90.83 | 2004+85.52 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - S.E. | 494.69 | 6.00 | 329.79 | 220 | 36.3 | 159.75 | 790.3 |
| 2004+85.52 | 2006+85.52 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 125.00 | 250.0 |
| 2004+85.52 | 2006+85.52 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 140.25 | 280.5 |
| 2006+85.52 | 2012+04.13 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - TANGENT | 518.61 | 4.00 | 230.49 | 220 | 25.4 | 103.75 | 538.1 |
| 2006+85.52 | 2012+04.13 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - TANGENT | 518.61 | 6.00 | 345.74 | 220 | 38.0 | 120.75 | 626.2 |
| 2012+04.13 | 2013+79.13 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 175.00 | 4.00 | 77.78 | 220 | 8.6 | 109.25 | 191.2 |
| 2012+04.13 | 2013+79.13 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 175.00 | 6.00 | 116.67 | 220 | 12.8 | 143.25 | 250.7 |
| 2013+79.13 | 2017+32.66 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - S.E. | 353.53 | 4.00 | 157.12 | 220 | 17.3 | 114.75 | 405.7 |
| 2013+79.13 | 2017+32.66 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - S.E. | 353.53 | 6.00 | 235.69 | 220 | 25.9 | 165.75 | 586.0 |
| 2017+32.66 | 2018+34.95 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 102.29 | 4.00 | 45.46 | 220 | 5.0 | 96.50 | 98.7 |
| 2017+32.66 | 2017+59.94 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 27.28 | 6.00 | 18.19 | 220 | 2.0 | 124.00 | 33.8 |
| 2018+34.95 | 2019+08.36 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - RADII | 67.00 | | | | | 78.00 | 52.3 |
| 2017+59.94 | 2019+08.36 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - RADII | 264.00 | | | | | 82.25 | 217.1 |
| TOTALS | | | | | | | 848.0 | | 19966.8 |

BASIS OF ESTIMATE : ACHM SURFACE COURSE (1/2 ") - MINERAL AGGREGATE = 94.7%, ASPHALT BINDER (PG 64-22) = 5.3%
Nmax = 115

QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

| DATE REVISED | DATE PLANS FILED | DATE REVISED | DATE PLANS FILED | FEDERAL DIST. NO. |
|---|---|---|---|---|
| | | | | 6 |

| STATE | JOB NO. | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| ARK. | 040376 | | 48 | 207 |

(2) QUANTITIES

# BASE & SURFACING - RAMP SHOULDERS ALTERNATE NO. 1

| STATION | STATION | LOCATION | LENGTH | ACHM SURFACE COURSE (1/2") NORMAL | | | | AGGREGATE BASE COURSE (CLASS 7) | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AVG. WIDTH | SQ. YD. | LBS. PER SQ. YD. | TONS | TON/STA. | TON |
| | | | LIN. FT. | FEET | | | | | |
| 2075+60.63 | 2075+76.83 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - TANGENT | 16.20 | 6.00 | 10.80 | 220 | 1.2 | 120.75 | 19.6 |
| 2075+60.63 | 2075+76.83 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - TANGENT | 16.20 | 4.00 | 7.20 | 220 | 0.8 | 103.75 | 16.8 |
| 2075+76.83 | 2077+76.83 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 140.25 | 280.5 |
| 2075+76.83 | 2077+76.83 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 125.00 | 250.0 |
| 2077+76.83 | 2080+55.11 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. | 278.28 | 6.00 | 185.52 | 220 | 20.4 | 159.75 | 444.6 |
| 2077+76.83 | 2080+55.11 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. | 278.28 | 4.00 | 123.68 | 220 | 13.6 | 146.25 | 407.0 |
| 2080+55.11 | 2082+55.11 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 140.25 | 280.5 |
| 2080+55.11 | 2082+55.11 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 125.00 | 250.0 |
| 2082+55.11 | 2093+46.55 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - TANGENT | 1091.44 | 6.00 | 727.63 | 220 | 80.0 | 120.75 | 1317.9 |
| 2082+55.11 | 2093+46.55 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - TANGENT | 1091.44 | 4.00 | 485.08 | 220 | 53.4 | 103.75 | 1132.4 |
| 2093+46.55 | 2095+41.55 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 195.00 | 6.00 | 130.00 | 220 | 14.3 | 168.75 | 329.1 |
| 2093+46.55 | 2095+41.55 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 195.00 | 4.00 | 86.67 | 220 | 9.5 | 139.25 | 271.5 |
| 2095+41.55 | 2096+20.00 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. | 78.45 | 6.00 | 52.30 | 220 | 5.8 | 216.50 | 169.8 |
| 2095+41.55 | 2096+20.00 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. | 78.45 | 4.00 | 34.87 | 220 | 3.8 | 174.75 | 137.1 |
| 2096+20.00 | 2097+14.41 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 94.41 | 6.00 | 62.94 | 220 | 6.9 | 149.50 | 141.1 |
| 2096+20.00 | 2097+28.26 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 108.26 | 4.00 | 48.12 | 220 | 5.3 | 126.50 | 136.9 |
| 2097+14.41 | 2097+95.66 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - RADII | 182.00 | | | | | 82.25 | 149.7 |
| 2097+28.26 | 2097+95.66 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - RADII | 57.00 | | | | | 78.00 | 44.5 |
| | | | | | | | | | |
| 2097+69.75 | 2099+42.43 | ROBERTS BLVD. RAMP 2 RT. - FULL DEPTH - RADII | 234.00 | | | | | 82.25 | 192.5 |
| 2097+69.75 | 2098+04.07 | ROBERTS BLVD. RAMP 2 LT. - FULL DEPTH - RADII | 31.00 | | | | | 78.00 | 24.2 |
| 2099+42.43 | 2099+70.00 | ROBERTS BLVD. RAMP 2 RT. - FULL DEPTH - S.E. TRANS. | 27.57 | 6.00 | 18.38 | 220 | 2.0 | 117.25 | 32.3 |
| 2098+04.07 | 2099+70.00 | ROBERTS BLVD. RAMP 2 LT. - FULL DEPTH - S.E. TRANS. | 165.93 | 4.00 | 73.75 | 220 | 8.1 | 111.25 | 184.6 |
| 2099+70.00 | 2111+37.21 | ROBERTS BLVD. RAMP 2 RT. - FULL DEPTH - S.E. | 1167.21 | 6.00 | 778.14 | 220 | 85.6 | 152.25 | 1777.1 |
| 2099+70.00 | 2111+37.21 | ROBERTS BLVD. RAMP 2 LT. - FULL DEPTH - S.E. | 1167.21 | 4.00 | 518.76 | 220 | 57.1 | 144.25 | 1683.7 |
| | | | | | | | | | |
| 2087+65.35 | 2088+26.86 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - RADII | 52.00 | | | | | 78.00 | 40.6 |
| 2087+65.35 | 2089+12.31 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - RADII | 271.00 | | | | | 82.25 | 222.9 |
| 2088+26.86 | 2090+69.00 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 242.14 | 4.00 | 107.62 | 220 | 11.8 | 120.25 | 291.2 |
| 2089+12.31 | 2090+69.00 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 156.69 | 6.00 | 104.46 | 220 | 11.5 | 146.25 | 229.2 |
| 2090+69.00 | 2096+50.51 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. | 581.51 | 4.00 | 258.45 | 220 | 28.4 | 162.50 | 945.0 |
| 2090+69.00 | 2096+50.51 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. | 581.51 | 6.00 | 387.67 | 220 | 42.6 | 210.00 | 1221.2 |
| 2096+50.51 | 2098+60.51 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 210.00 | 4.00 | 93.33 | 220 | 10.3 | 133.25 | 279.8 |
| 2096+50.51 | 2098+60.51 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 210.00 | 6.00 | 140.00 | 220 | 15.4 | 165.50 | 347.6 |
| 2098+60.51 | 2100+27.94 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - TANGENT | 167.43 | 4.00 | 74.41 | 220 | 8.2 | 103.75 | 173.7 |
| 2098+60.51 | 2100+27.94 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - TANGENT | 167.43 | 6.00 | 111.62 | 220 | 12.3 | 120.75 | 202.2 |
| 2100+27.94 | 2102+27.94 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 121.75 | 243.5 |
| 2100+27.94 | 2102+27.94 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 133.50 | 267.0 |
| 2102+27.94 | 2108+19.87 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. | 591.93 | 4.00 | 263.08 | 220 | 28.9 | 139.50 | 825.7 |
| 2102+27.94 | 2108+19.87 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. | 591.93 | 6.00 | 394.62 | 220 | 43.4 | 146.00 | 864.2 |
| 2108+19.87 | 2110+19.87 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 121.75 | 243.5 |
| 2108+19.87 | 2110+19.87 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 133.50 | 267.0 |
| 2110+19.87 | 2111+21.76 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - TANGENT | 101.89 | 4.00 | 45.28 | 220 | 5.0 | 103.75 | 105.7 |
| 2110+19.87 | 2111+21.76 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - TANGENT | 101.89 | 6.00 | 67.93 | 220 | 7.5 | 120.75 | 123.0 |
| | | | | | | | | | |
| 2075+83.70 | 2083+28.99 | ROBERTS BLVD. RAMP 4 RT. - FULL DEPTH - S.E. | 745.29 | 4.00 | 331.24 | 220 | 36.4 | 141.00 | 1050.9 |
| 2075+83.70 | 2083+28.99 | ROBERTS BLVD. RAMP 4 LT. - FULL DEPTH - S.E. | 745.29 | 6.00 | 496.86 | 220 | 54.7 | 149.00 | 1110.5 |
| 2083+28.99 | 2085+28.99 | ROBERTS BLVD. RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.89 | 220 | 9.8 | 122.50 | 245.0 |
| 2083+28.99 | 2085+28.99 | ROBERTS BLVD. RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.33 | 220 | 14.7 | 135.00 | 270.0 |
| 2083+28.99 | 2089+62.84 | ROBERTS BLVD. RAMP 4 RT. - FULL DEPTH - TANGENT | 633.85 | 4.00 | 281.71 | 220 | 31.0 | 103.75 | 657.6 |
| 2083+28.99 | 2088+32.15 | ROBERTS BLVD. RAMP 4 LT. - FULL DEPTH - TANGENT | 503.16 | 6.00 | 335.44 | 220 | 36.9 | 120.75 | 607.6 |
| 2089+62.84 | 2089+95.55 | ROBERTS BLVD. RAMP 4 RT. - FULL DEPTH - RADII | 26.00 | | | | | 78.00 | 20.3 |
| 2088+32.15 | 2089+95.55 | ROBERTS BLVD. RAMP 4 LT. - FULL DEPTH - RADII | 221.00 | | | | | 82.25 | 181.8 |
| | | | | | | | | | |
| 2176+17.59 | 2176+32.00 | SH 22 RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 14.41 | 6.00 | 9.61 | 220 | 1.1 | 178.25 | 25.7 |
| 2176+17.59 | 2176+32.00 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 14.41 | 4.00 | 6.40 | 220 | 0.7 | 155.25 | 22.4 |
| 2176+32.00 | 2177+64.00 | SH 22 RAMP 1 RT. - FULL DEPTH - S.E. | 132.00 | 6.00 | 88.00 | 220 | 9.7 | 178.25 | 235.3 |
| 2176+32.00 | 2177+64.00 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. | 132.00 | 4.00 | 58.67 | 220 | 6.5 | 155.25 | 204.9 |
| 2177+64.00 | 2178+64.00 | SH 22 RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 100.00 | 6.00 | 66.67 | 220 | 7.3 | 200.50 | 200.5 |
| 2177+64.00 | 2178+64.00 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 100.00 | 4.00 | 44.44 | 220 | 4.9 | 162.00 | 162.0 |
| 2178+64.00 | 2184+81.00 | SH 22 RAMP 1 RT. - FULL DEPTH - S.E. | 617.00 | 6.00 | 411.33 | 220 | 45.2 | 222.75 | 1374.4 |
| 2178+64.00 | 2183+58.62 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. | 494.62 | 4.00 | 219.83 | 220 | 24.2 | 168.50 | 833.4 |
| 2184+64.83 | 2184+81.00 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. | 16.17 | 4.00 | 7.19 | 220 | 0.8 | 168.50 | 27.2 |
| 2184+81.00 | 2187+19.46 | SH 22 RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 238.46 | 6.00 | 158.97 | 220 | 17.5 | 171.75 | 409.6 |
| 2184+81.00 | 2186+75.53 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 194.53 | 4.00 | 86.46 | 220 | 9.5 | 136.25 | 265.0 |
| 2184+62.86 | 2185+34.63 | SH 22 RAMP 1 LEFT TURN LANE RT. - FULL DEPTH - TANGENT | 71.77 | 6.00 | 47.85 | 220 | 5.3 | 120.75 | 86.7 |
| 2183+58.62 | 2185+05.40 | SH 22 RAMP 1 LEFT TURN LANE LT. - FULL DEPTH - TANGENT | 146.78 | 4.00 | 65.24 | 220 | 7.2 | 103.75 | 152.3 |
| 2185+34.63 | 2185+70.26 | SH 22 RAMP 1 LEFT TURN LANE RT. - FULL DEPTH - RADII | 41.00 | | | | | 82.25 | 33.7 |
| 2185+05.40 | 2185+43.19 | SH 22 RAMP 1 LEFT TURN LANE LT. - FULL DEPTH - RADII | 41.00 | | | | | 78.00 | 32.0 |
| | | | | | | | | | |
| 2156+68.08 | 2158+83.36 | SH 22 RAMP 4 RT. - FULL DEPTH - RADII | 298.00 | | | | | 82.25 | 245.1 |
| 2156+68.08 | 2156+90.49 | SH 22 RAMP 4 LT. - FULL DEPTH - RADII | 26.00 | | | | | 78.00 | 20.3 |
| 2156+90.49 | 2161+68.00 | SH 22 RAMP 4 LT. - FULL DEPTH - TANGENT | 477.51 | 4.00 | 212.23 | 220 | 23.3 | 103.75 | 495.4 |
| 2158+83.36 | 2161+68.00 | SH 22 RAMP 4 RT. - FULL DEPTH - TANGENT | 284.64 | 6.00 | 189.76 | 220 | 20.9 | 120.75 | 343.7 |
| 2161+68.00 | 2163+18.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 150.00 | 6.00 | 100.00 | 220 | 11.0 | 140.25 | 210.4 |
| 2161+68.00 | 2163+18.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 150.00 | 4.00 | 66.67 | 220 | 7.3 | 126.25 | 189.4 |
| 2163+18.00 | 2164+29.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. | 111.00 | 6.00 | 74.00 | 220 | 8.1 | 159.75 | 177.3 |
| 2163+18.00 | 2164+29.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. | 111.00 | 4.00 | 49.33 | 220 | 5.4 | 148.75 | 165.1 |
| 2164+29.00 | 2165+29.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 100.00 | 6.00 | 66.67 | 220 | 7.3 | 193.00 | 193.0 |
| 2164+29.00 | 2165+29.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 100.00 | 4.00 | 44.44 | 220 | 4.9 | 158.75 | 158.8 |
| 2165+29.00 | 2169+65.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. | 436.00 | 6.00 | 290.67 | 220 | 32.0 | 226.00 | 985.4 |
| 2165+29.00 | 2169+65.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. | 436.00 | 4.00 | 193.78 | 220 | 21.3 | 168.50 | 734.7 |
| 2169+65.00 | 2170+65.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 100.00 | 6.00 | 66.67 | 220 | 7.3 | 205.25 | 205.3 |
| 2169+65.00 | 2170+65.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 100.00 | 4.00 | 44.44 | 220 | 4.9 | 163.50 | 163.5 |
| 2170+65.00 | 2173+57.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. | 292.00 | 6.00 | 194.67 | 220 | 21.4 | 184.50 | 538.7 |
| 2170+65.00 | 2173+57.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. | 292.00 | 4.00 | 129.78 | 220 | 14.3 | 158.50 | 462.8 |
| 2173+57.00 | 2173+74.33 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 17.33 | 6.00 | 11.55 | 220 | 1.3 | 184.50 | 32.0 |
| 2173+57.00 | 2173+74.33 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 17.33 | 4.00 | 7.70 | 220 | 0.8 | 158.50 | 27.5 |
| | | | | | | | | | |
| TOTALS | | | | | | | 1206.0 | | 30123.6 |

BASIS OF ESTIMATE : ACHM SURFACE COURSE (1/2 ") - MINERAL AGGREGATE = 94.7% ASPHALT BINDER (PG 64-22) = 5.3%
Nmax = 115

STATE OF ARKANSAS
JAMES L. BARR
No. 9809
REGISTERED PROFESSIONAL ENGINEER
5/1/12

QUANTITIES

| DATE REVISED | DATE FILED | DATE REVISED | DATE FILED |
|---|---|---|---|
| | | | |

(2) QUANTITIES

| FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | 49 | 207 |

JOB NO. 040376

# BASE & SURFACING - RAMP & CD SHOULDERS ALTERNATE NO. 2

| STATION | STATION | LOCATION | LENGTH | PORTLAND CEMENT CONCRETE PAVEMENT (12" U.T.) | | AGGREGATE BASE COURSE (CLASS 7) | |
|---|---|---|---|---|---|---|---|
| | | | | AVG. WIDTH | SQ. YD. | TON/STA. | TON |
| | | | LIN. FT. | FEET | | | |
| 1841+44.70 | 1846+31.00 | US 71 RAMP 4 RT. - FULL DEPTH - TANGENT | 486.30 | 6.00 | 324.2 | 82.00 | 398.8 |
| 1846+31.00 | 1848+81.00 | US 71 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 250.00 | 6.00 | 166.7 | 122.25 | 305.6 |
| 1848+81.00 | 1851+67.33 | US 71 RAMP 4 RT. - FULL DEPTH - S.E. | 286.33 | 6.00 | 190.9 | 149.00 | 426.6 |
| 1847+41.92 | 1851+67.33 | US 71 RAMP 4 LT. - FULL DEPTH - S.E. | 425.41 | 4.00 | 189.1 | 133.00 | 565.8 |
| 1851+67.33 | 1854+17.33 | US 71 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 250.00 | 6.00 | 166.7 | 115.50 | 288.8 |
| 1851+67.33 | 1854+17.33 | US 71 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 250.00 | 4.00 | 111.1 | 105.50 | 263.8 |
| 1854+17.33 | 1865+55.81 | US 71 RAMP 4 RT. - FULL DEPTH - TANGENT | 1138.48 | 6.00 | 759.0 | 82.00 | 933.6 |
| 1854+17.33 | 1865+55.81 | US 71 RAMP 4 LT. - FULL DEPTH - TANGENT | 1138.48 | 4.00 | 506.0 | 77.75 | 885.2 |
| 1865+55.81 | 1867+55.81 | US 71 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 100.25 | 200.5 |
| 1865+55.81 | 1867+55.81 | US 71 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 98.50 | 197.0 |
| 1867+55.81 | 1876+33.42 | US 71 RAMP 4 RT. - FULL DEPTH - S.E. | 877.61 | 6.00 | 585.1 | 118.25 | 1037.8 |
| 1867+55.81 | 1876+33.42 | US 71 RAMP 4 LT. - FULL DEPTH - S.E. | 877.61 | 4.00 | 390.0 | 119.25 | 1046.5 |
| | | | | | | | |
| 1856+68.36 | 1863+96.23 | US 71 RAMP 5 RT. - FULL DEPTH - S.E. | 729.87 | 4.00 | 324.4 | 127.50 | 930.6 |
| 1856+68.36 | 1873+88.66 | US 71 RAMP 5 LT. - FULL DEPTH - S.E. | 1720.30 | 6.00 | 1146.9 | 132.00 | 2270.8 |
| 1866+50.33 | 1873+88.66 | US 71 RAMP 5 RT. - FULL DEPTH - S.E. | 738.33 | 4.00 | 328.1 | 127.50 | 941.4 |
| 1873+88.66 | 1875+88.66 | US 71 RAMP 5 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 102.75 | 205.5 |
| 1873+88.66 | 1875+88.66 | US 71 RAMP 5 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 107.00 | 214.0 |
| 1875+88.66 | 1876+74.78 | US 71 RAMP 5 RT. - FULL DEPTH - S.E. TRANS. | 86.12 | 4.00 | 38.3 | 77.75 | 67.0 |
| 1875+88.66 | 1876+74.78 | US 71 RAMP 5 LT. - FULL DEPTH - S.E. TRANS. | 86.12 | 6.00 | 57.4 | 82.00 | 70.6 |
| | | | | | | | |
| 1875+00.00 | 1878+35.18 | NORTHBOUND CD ROAD LT. - FULL DEPTH - TANGENT | 335.18 | 3.00 | 111.7 | | |
| 1875+00.00 | 1877+85.00 | NORTHBOUND CD ROAD RT. - FULL DEPTH - TANGENT | 285.00 | 6.00 | 190.0 | 82.00 | 233.7 |
| 1877+85.00 | 1879+85.00 | NORTHBOUND CD ROAD RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 100.75 | 201.5 |
| 1879+85.00 | 1884+35.11 | NORTHBOUND CD ROAD RT. - FULL DEPTH - TANGENT | 450.11 | 6.00 | 300.1 | 82.00 | 369.1 |
| | | | | | | | |
| 1875+00.00 | 1882+28.54 | SOUTHBOUND CD ROAD RT. - FULL DEPTH - S.E. | 728.54 | 4.00 | 323.8 | 34.75 | 253.2 |
| 1875+00.00 | 1882+28.54 | SOUTHBOUND CD ROAD LT. - FULL DEPTH - S.E. | 728.54 | 6.00 | 485.7 | 82.25 | 599.2 |
| 1882+28.54 | 1884+28.54 | SOUTHBOUND CD ROAD RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 34.75 | 69.5 |
| 1882+28.54 | 1884+28.54 | SOUTHBOUND CD ROAD LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 80.00 | 160.0 |
| 1884+28.54 | 1885+46.02 | SOUTHBOUND CD ROAD RT. - FULL DEPTH - TANGENT | 117.48 | 4.00 | 52.2 | 34.75 | 40.8 |
| 1884+28.54 | 1885+46.02 | SOUTHBOUND CD ROAD LT. - FULL DEPTH - TANGENT | 117.48 | 6.00 | 78.3 | 82.00 | 96.3 |
| | | | | | | | |
| 2000+15.01 | 2000+16.90 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - TANGENT | 1.89 | 6.00 | 1.3 | 82.00 | 1.5 |
| 2000+15.01 | 2000+16.90 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - TANGENT | 1.89 | 4.00 | 0.8 | 77.75 | 1.5 |
| 2000+16.90 | 2002+16.90 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 101.50 | 203.0 |
| 2000+16.90 | 2002+16.90 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 99.25 | 198.5 |
| 2002+16.90 | 2006+71.20 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. | 454.30 | 6.00 | 302.9 | 121.00 | 549.7 |
| 2002+16.90 | 2006+71.20 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. | 454.30 | 4.00 | 201.9 | 120.50 | 547.4 |
| 2006+71.20 | 2008+71.20 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 101.50 | 203.0 |
| 2006+71.20 | 2008+71.20 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 99.25 | 198.5 |
| 2008+71.20 | 2012+30.89 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - TANGENT | 359.69 | 6.00 | 239.8 | 82.00 | 294.9 |
| 2008+71.20 | 2012+30.89 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - TANGENT | 359.69 | 4.00 | 159.9 | 77.75 | 279.7 |
| 2012+30.89 | 2014+05.89 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 175.00 | 6.00 | 116.7 | 104.50 | 182.9 |
| 2012+30.89 | 2014+05.89 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 175.00 | 4.00 | 77.8 | 83.50 | 146.1 |
| 2014+05.89 | 2016+49.70 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. | 243.81 | 6.00 | 162.5 | 126.75 | 309.0 |
| 2014+05.89 | 2016+49.70 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. | 243.81 | 4.00 | 108.4 | 89.00 | 217.0 |
| 2016+49.70 | 2017+28.02 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 78.32 | 6.00 | 52.2 | 104.50 | 81.8 |
| 2016+49.70 | 2018+14.07 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 164.37 | 4.00 | 73.1 | 83.50 | 137.2 |
| 2017+28.02 | 2018+75.06 | MASSARD ROAD RAMP 1 RT. - FULL DEPTH - RADII | 270.00 | | | 82.25 | 222.1 |
| 2018+14.07 | 2018+75.06 | MASSARD ROAD RAMP 1 LT. - FULL DEPTH - RADII | 56.00 | | | 78.00 | 43.7 |
| | | | | | | | |
| 2017+41.99 | 2018+90.45 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - RADII | 248.00 | | | 82.25 | 204.0 |
| 2017+41.99 | 2018+15.40 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - RADII | 66.00 | | | 78.00 | 51.5 |
| 2018+90.45 | 2024+46.95 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - S.E. | 556.50 | 6.00 | 371.0 | 126.75 | 705.4 |
| 2018+15.40 | 2024+46.95 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - S.E. | 631.55 | 4.00 | 280.7 | 89.00 | 562.1 |
| 2024+46.95 | 2026+21.95 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - S.E. TRANS. | 175.00 | 6.00 | 116.7 | 104.50 | 182.9 |
| 2024+46.95 | 2026+21.95 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - S.E. TRANS. | 175.00 | 4.00 | 77.8 | 83.50 | 146.1 |
| 2026+21.95 | 2027+83.67 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - TANGENT | 161.72 | 6.00 | 107.8 | 82.00 | 132.6 |
| 2026+21.95 | 2027+83.67 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - TANGENT | 161.72 | 4.00 | 71.9 | 77.75 | 125.7 |
| 2027+83.67 | 2029+83.67 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 101.50 | 203.0 |
| 2027+83.67 | 2029+83.67 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 99.25 | 198.5 |
| 2029+83.67 | 2035+80.43 | MASSARD ROAD RAMP 2 RT. - FULL DEPTH - S.E. | 596.76 | 6.00 | 397.8 | 121.00 | 722.1 |
| 2029+83.67 | 2035+80.43 | MASSARD ROAD RAMP 2 LT. - FULL DEPTH - S.E. | 596.76 | 4.00 | 265.2 | 120.50 | 719.1 |
| | | | | | | | |
| 2017+75.43 | 2018+36.42 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - RADII | 54.00 | | | 78.00 | 42.1 |
| 2017+75.43 | 2019+20.63 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - RADII | 255.00 | | | 82.25 | 209.7 |
| 2018+36.42 | 2023+74.67 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - S.E. | 538.25 | 4.00 | 239.2 | 89.00 | 479.0 |
| 2019+20.63 | 2023+74.67 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - S.E. | 454.04 | 6.00 | 302.7 | 126.75 | 575.5 |
| 2023+74.67 | 2025+49.67 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 175.00 | 4.00 | 77.8 | 83.50 | 146.1 |
| 2023+74.67 | 2025+49.67 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 175.00 | 6.00 | 116.7 | 104.50 | 182.9 |
| 2025+49.67 | 2025+80.71 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - TANGENT | 31.04 | 4.00 | 13.8 | 77.75 | 24.1 |
| 2025+49.67 | 2025+80.71 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - TANGENT | 31.04 | 6.00 | 20.7 | 82.00 | 25.5 |
| 2025+80.71 | 2027+80.71 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 99.25 | 198.5 |
| 2025+80.71 | 2027+80.71 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 101.50 | 203.0 |
| 2027+80.71 | 2033+48.63 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - S.E. | 567.92 | 4.00 | 252.4 | 120.50 | 684.3 |
| 2027+80.71 | 2033+48.63 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - S.E. | 567.92 | 6.00 | 378.6 | 121.00 | 687.2 |
| 2033+48.63 | 2035+48.63 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 99.25 | 198.5 |
| 2033+48.63 | 2035+48.63 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 101.50 | 203.0 |
| 2035+48.63 | 2035+55.66 | MASSARD ROAD RAMP 3 RT. - FULL DEPTH - TANGENT | 7.03 | 4.00 | 3.1 | 77.75 | 5.5 |
| 2035+48.63 | 2035+55.66 | MASSARD ROAD RAMP 3 LT. - FULL DEPTH - TANGENT | 7.03 | 6.00 | 4.7 | 82.00 | 5.8 |
| | | | | | | | |
| 1999+90.83 | 2004+85.52 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - S.E. | 494.69 | 4.00 | 219.9 | 120.50 | 596.1 |
| 1999+90.83 | 2004+85.52 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - S.E. | 494.69 | 6.00 | 329.8 | 121.00 | 598.6 |
| 2004+85.52 | 2006+85.52 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 99.25 | 198.5 |
| 2004+85.52 | 2006+85.52 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 101.50 | 203.0 |
| 2006+85.52 | 2012+04.13 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - TANGENT | 518.61 | 4.00 | 230.5 | 77.75 | 403.2 |
| 2006+85.52 | 2012+04.13 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - TANGENT | 518.61 | 6.00 | 345.7 | 82.00 | 425.3 |
| 2012+04.13 | 2013+79.13 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 175.00 | 4.00 | 77.8 | 83.50 | 146.1 |
| 2012+04.13 | 2013+79.13 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 175.00 | 6.00 | 116.7 | 104.50 | 182.9 |
| 2013+79.13 | 2017+32.66 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - S.E. | 353.53 | 4.00 | 157.1 | 89.00 | 314.6 |
| 2013+79.13 | 2017+32.66 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - S.E. | 353.53 | 6.00 | 235.7 | 126.75 | 448.1 |
| 2017+32.66 | 2018+34.95 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 102.29 | 4.00 | 45.5 | 83.50 | 85.4 |
| 2017+32.66 | 2017+59.94 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 27.28 | 6.00 | 18.2 | 104.50 | 28.5 |
| 2018+34.95 | 2019+08.36 | MASSARD ROAD RAMP 4 RT. - FULL DEPTH - RADII | 67.00 | | | 78.00 | 52.3 |
| 2017+59.94 | 2019+08.36 | MASSARD ROAD RAMP 4 LT. - FULL DEPTH - RADII | 264.00 | | | 82.25 | 217.1 |
| | | | | | | | |
| | | | | | | | |
| TOTALS | | | | | 15331.6 | | 28814.1 |

QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
JAMES L. BARR
No. 9808

| | DATE REVISED | DATE PLANS | DATE REVISED | DATE PLANS | PROJ. NO. (HISTORICAL) |
|---|---|---|---|---|---|
| | | | | | |

(2) QUANTITIES

| JOB NO. | 6 | ARK. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| 040376 | | | | | 50 | 207 |

# BASE & SURFACING - RAMP SHOULDERS ALTERNATE NO. 2

| STATION | STATION | LOCATION | LENGTH | PORTLAND CEMENT CONCRETE PAVEMENT (12" U.T.) | | AGGREGATE BASE COURSE (CLASS 7) | |
|---|---|---|---|---|---|---|---|
| | | | | AVG. WIDTH | SQ. YD. | TON/STA. | TON |
| | | | LIN. FT. | FEET | | | |
| 2075+60.63 | 2075+76.83 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - TANGENT | 16.20 | 6.00 | 10.8 | 82.00 | 13.3 |
| 2075+60.63 | 2075+76.83 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - TANGENT | 16.20 | 4.00 | 7.2 | 77.75 | 12.6 |
| 2075+76.83 | 2077+76.83 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 101.50 | 203.0 |
| 2075+76.83 | 2077+76.83 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 99.25 | 198.5 |
| 2077+76.83 | 2080+55.11 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. | 278.28 | 6.00 | 185.5 | 121.00 | 336.7 |
| 2077+76.83 | 2080+55.11 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. | 278.28 | 4.00 | 123.7 | 120.50 | 335.3 |
| 2080+55.11 | 2082+55.11 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 101.50 | 203.0 |
| 2080+55.11 | 2082+55.11 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 99.25 | 198.5 |
| 2082+55.11 | 2093+46.55 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - TANGENT | 1091.44 | 6.00 | 727.6 | 82.00 | 895.0 |
| 2082+55.11 | 2093+46.55 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - TANGENT | 1091.44 | 4.00 | 485.1 | 77.75 | 848.6 |
| 2093+46.55 | 2095+41.55 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 195.00 | 6.00 | 130.0 | 129.75 | 253.0 |
| 2093+46.55 | 2095+41.55 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 195.00 | 4.00 | 86.7 | 113.25 | 220.8 |
| 2095+41.55 | 2096+20.00 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. | 78.45 | 6.00 | 52.3 | 177.50 | 139.2 |
| 2095+41.55 | 2096+20.00 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. | 78.45 | 4.00 | 34.9 | 148.75 | 116.7 |
| 2096+20.00 | 2097+14.41 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 94.41 | 6.00 | 62.9 | 130.00 | 122.7 |
| 2096+20.00 | 2097+28.26 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 108.26 | 4.00 | 48.1 | 113.50 | 122.9 |
| 2097+14.41 | 2097+95.66 | ROBERTS BLVD. RAMP 1 RT. - FULL DEPTH - RADII | 182.00 | | | 82.25 | 149.7 |
| 2097+28.26 | 2097+95.66 | ROBERTS BLVD. RAMP 1 LT. - FULL DEPTH - RADII | 57.00 | | | 78.00 | 44.5 |
| | | | | | | | |
| 2097+69.75 | 2099+42.43 | ROBERTS BLVD. RAMP 2 RT. - FULL DEPTH - RADII | 234.00 | | | 82.25 | 192.5 |
| 2097+69.75 | 2098+04.07 | ROBERTS BLVD. RAMP 2 LT. - FULL DEPTH - RADII | 31.00 | | | 78.00 | 24.2 |
| 2098+04.07 | 2099+70.00 | ROBERTS BLVD. RAMP 2 LT. - FULL DEPTH - S.E. TRANS. | 165.93 | 4.00 | 73.7 | 98.25 | 163.0 |
| 2099+42.43 | 2099+70.00 | ROBERTS BLVD. RAMP 2 RT. - FULL DEPTH - S.E. TRANS. | 27.57 | 6.00 | 18.4 | 97.75 | 26.9 |
| 2099+70.00 | 2111+37.21 | ROBERTS BLVD. RAMP 2 RT. - FULL DEPTH - S.E. | 1167.21 | 6.00 | 778.1 | 113.25 | 1321.9 |
| 2099+70.00 | 2111+37.21 | ROBERTS BLVD. RAMP 2 LT. - FULL DEPTH - S.E. | 1167.21 | 4.00 | 518.8 | 118.25 | 1380.2 |
| | | | | | | | |
| 2087+65.35 | 2088+26.86 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - RADII | 52.00 | | | 78.00 | 40.6 |
| 2087+65.35 | 2089+12.31 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - RADII | 271.00 | | | 82.25 | 222.9 |
| 2088+26.86 | 2090+69.00 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 242.14 | 4.00 | 107.6 | 107.25 | 259.7 |
| 2089+12.31 | 2090+69.00 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 156.69 | 6.00 | 104.5 | 126.75 | 198.6 |
| 2090+69.00 | 2096+50.51 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. | 581.51 | 4.00 | 258.4 | 136.50 | 793.8 |
| 2090+69.00 | 2096+50.51 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. | 581.51 | 6.00 | 387.7 | 171.00 | 994.4 |
| 2096+50.51 | 2098+60.51 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 210.00 | 4.00 | 93.3 | 107.25 | 225.2 |
| 2096+50.51 | 2098+60.51 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 210.00 | 6.00 | 140.0 | 126.50 | 265.7 |
| 2098+60.51 | 2100+27.94 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - TANGENT | 167.43 | 4.00 | 74.4 | 77.75 | 130.2 |
| 2098+60.51 | 2100+27.94 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - TANGENT | 167.43 | 6.00 | 111.6 | 82.00 | 137.3 |
| 2100+27.94 | 2102+27.94 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 95.75 | 191.5 |
| 2100+27.94 | 2102+27.94 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 94.75 | 189.5 |
| 2102+27.94 | 2108+19.80 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. | 591.86 | 4.00 | 263.0 | 113.75 | 673.2 |
| 2102+27.94 | 2108+19.80 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. | 591.86 | 6.00 | 394.6 | 107.25 | 634.8 |
| 2108+19.80 | 2110+19.80 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 95.75 | 191.5 |
| 2108+19.80 | 2110+19.80 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 94.75 | 189.5 |
| 2110+19.80 | 2111+21.76 | ROBERTS BLVD. RAMP 3 RT. - FULL DEPTH - TANGENT | 101.96 | 4.00 | 45.3 | 77.75 | 79.3 |
| 2110+19.80 | 2111+21.76 | ROBERTS BLVD. RAMP 3 LT. - FULL DEPTH - TANGENT | 101.96 | 6.00 | 68.0 | 82.00 | 83.6 |
| | | | | | | | |
| 2075+83.70 | 2083+28.99 | ROBERTS BLVD. RAMP 4 RT. - FULL DEPTH - S.E. | 745.29 | 4.00 | 331.2 | 115.00 | 857.1 |
| 2075+83.70 | 2083+28.99 | ROBERTS BLVD. RAMP 4 LT. - FULL DEPTH - S.E. | 745.29 | 6.00 | 496.9 | 110.25 | 821.7 |
| 2083+28.99 | 2085+28.99 | ROBERTS BLVD. RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 200.00 | 4.00 | 88.9 | 96.50 | 193.0 |
| 2083+28.99 | 2085+28.99 | ROBERTS BLVD. RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 200.00 | 6.00 | 133.3 | 96.25 | 192.5 |
| 2083+28.99 | 2089+62.84 | ROBERTS BLVD. RAMP 4 RT. - FULL DEPTH - TANGENT | 633.85 | 4.00 | 281.7 | 77.75 | 492.8 |
| 2083+28.99 | 2088+32.15 | ROBERTS BLVD. RAMP 4 LT. - FULL DEPTH - TANGENT | 503.16 | 6.00 | 335.4 | 82.00 | 412.6 |
| 2089+62.84 | 2089+95.55 | ROBERTS BLVD. RAMP 4 RT. - FULL DEPTH - RADII | 26.00 | | | 78.00 | 20.3 |
| 2088+32.15 | 2089+95.55 | ROBERTS BLVD. RAMP 4 LT. - FULL DEPTH - RADII | 221.00 | | | 82.25 | 181.8 |
| | | | | | | | |
| 2176+17.59 | 2176+32.00 | SH 22 RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 14.41 | 6.00 | 9.6 | 139.50 | 20.1 |
| 2176+17.59 | 2176+32.00 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 14.41 | 4.00 | 6.4 | 129.25 | 18.6 |
| 2176+32.00 | 2177+64.00 | SH 22 RAMP 1 RT. - FULL DEPTH - S.E. | 132.00 | 6.00 | 88.0 | 139.50 | 184.1 |
| 2176+32.00 | 2177+64.00 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. | 132.00 | 4.00 | 58.7 | 129.25 | 170.6 |
| 2177+64.00 | 2178+64.00 | SH 22 RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 100.00 | 6.00 | 66.7 | 161.75 | 161.8 |
| 2177+64.00 | 2178+64.00 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 100.00 | 4.00 | 44.4 | 136.00 | 136.0 |
| 2178+64.00 | 2184+81.00 | SH 22 RAMP 1 RT. - FULL DEPTH - S.E. | 617.00 | 6.00 | 411.3 | 184.00 | 1135.3 |
| 2178+64.00 | 2183+58.62 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. | 494.62 | 4.00 | 219.8 | 142.75 | 706.1 |
| 2184+64.83 | 2184+81.00 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. | 16.17 | 4.00 | 7.2 | 142.75 | 23.1 |
| 2184+81.00 | 2187+19.46 | SH 22 RAMP 1 RT. - FULL DEPTH - S.E. TRANS. | 238.46 | 6.00 | 159.0 | 133.00 | 317.2 |
| 2184+81.00 | 2186+75.53 | SH 22 RAMP 1 LT. - FULL DEPTH - S.E. TRANS. | 194.53 | 4.00 | 86.5 | 110.25 | 214.5 |
| 2184+62.86 | 2185+34.63 | SH 22 RAMP 1 LEFT TURN LANE RT. - FULL DEPTH - TANGENT | 71.77 | 6.00 | 47.8 | 82.00 | 58.9 |
| 2183+58.62 | 2185+05.40 | SH 22 RAMP 1 LEFT TURN LANE LT. - FULL DEPTH - TANGENT | 146.78 | 4.00 | 65.2 | 77.75 | 114.1 |
| 2185+34.63 | 2185+70.26 | SH 22 RAMP 1 LEFT TURN LANE RT. - FULL DEPTH - RADII | 41.00 | | | 82.25 | 33.7 |
| 2185+05.40 | 2185+43.19 | SH 22 RAMP 1 LEFT TURN LANE LT. - FULL DEPTH - RADII | 41.00 | | | 78.00 | 32.0 |
| | | | | | | | |
| 2156+68.08 | 2158+83.36 | SH 22 RAMP 4 RT. - FULL DEPTH - RADII | 298.00 | | | 82.25 | 245.1 |
| 2156+68.08 | 2156+90.49 | SH 22 RAMP 4 LT. - FULL DEPTH - RADII | 26.00 | | | 78.00 | 20.3 |
| 2156+90.49 | 2161+68.00 | SH 22 RAMP 4 LT. - FULL DEPTH - TANGENT | 477.51 | 4.00 | 212.2 | 77.75 | 371.3 |
| 2158+83.36 | 2161+68.00 | SH 22 RAMP 4 RT. - FULL DEPTH - TANGENT | 284.64 | 6.00 | 189.8 | 82.00 | 233.4 |
| 2161+68.00 | 2163+18.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 150.00 | 6.00 | 100.0 | 101.50 | 152.3 |
| 2161+68.00 | 2163+18.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 150.00 | 4.00 | 66.7 | 100.50 | 150.8 |
| 2163+18.00 | 2164+29.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. | 111.00 | 6.00 | 74.0 | 121.00 | 134.3 |
| 2163+18.00 | 2164+29.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. | 111.00 | 4.00 | 49.3 | 123.00 | 136.5 |
| 2164+29.00 | 2165+29.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 100.00 | 6.00 | 66.7 | 154.00 | 154.0 |
| 2164+29.00 | 2165+29.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 100.00 | 4.00 | 44.4 | 133.00 | 133.0 |
| 2165+29.00 | 2169+65.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. | 436.00 | 6.00 | 290.7 | 187.00 | 815.3 |
| 2165+29.00 | 2169+65.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. | 436.00 | 4.00 | 193.8 | 142.75 | 622.4 |
| 2169+65.00 | 2170+65.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 100.00 | 6.00 | 66.7 | 166.25 | 166.3 |
| 2169+65.00 | 2170+65.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 100.00 | 4.00 | 44.4 | 137.50 | 137.5 |
| 2170+65.00 | 2173+57.00 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. | 292.00 | 6.00 | 194.7 | 145.50 | 424.9 |
| 2170+65.00 | 2173+57.00 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. | 292.00 | 4.00 | 129.8 | 132.75 | 387.6 |
| 2173+57.00 | 2173+74.33 | SH 22 RAMP 4 RT. - FULL DEPTH - S.E. TRANS. | 17.33 | 6.00 | 11.6 | 145.50 | 25.2 |
| 2173+57.00 | 2173+74.33 | SH 22 RAMP 4 LT. - FULL DEPTH - S.E. TRANS. | 17.33 | 4.00 | 7.7 | 132.75 | 23.0 |
| | | | | | | | |
| TOTALS | | | | | 10961.5 | | 23855.1 |

QUANTITIES

5/1/12

| DATE REVISED | DATE PLANS | DATE REVISED | DATE PLANS | FED. AID PROJ. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | 51 | 207 |

(2) QUANTITIES

JOB NO. 040376

# SUMMARY OF QUANTITIES

| ITEM NUMBER | ITEM | QUANTITY ALTERNATE 1 ASPHALT SHLDRS. | QUANTITY ALTERNATE 2 CONCRETE SHLDRS. | UNIT |
|---|---|---|---|---|
| 202 | REMOVAL AND DISPOSAL OF FENCE | 151 | 151 | LIN. FT. |
| 202 | REMOVAL AND DISPOSAL OF FLARED END SECTIONS | 2 | 2 | EACH |
| 202 | REMOVAL AND DISPOSAL OF PIPE CULVERTS | 6 | 6 | EACH |
| | | | | |
| 202 | REMOVAL AND DISPOSAL OF SIGNS | 6 | 6 | EACH |
| 202 | REMOVAL AND DISPOSAL OF DROP INLETS | 2 | 2 | EACH |
| SP | SHAPING DITCH | 1000 | 1000 | LIN. FT. |
| 210 | UNCLASSIFIED EXCAVATION | 11681 | 11681 | CU. YD. |
| 210 | COMPACTED EMBANKMENT | 1703 | 1703 | CU. YD. |
| SP & 210 | SOIL STABILIZATION | 100 | 100 | TON |
| SP & 214 | SUBGRADE PREPARATION | 819 | 819 | STA. |
| SS & 303 | AGGREGATE BASE COURSE (CLASS 7) | 226739 | 167854 | TON |
| | | | | |
| 308 | AGGREGATE IN CEMENT STABILIZED CRUSHED STONE BASE COURSE | 89509 | 89509 | TON |
| 308 | CEMENT IN CEMENT STABILIZED CRUSHED STONE BASE COURSE | 5713 | 5713 | TON |
| 308 | PROCESSING CEMENT STABILIZED CRUSHED STONE BASE COURSE | 272065 | 272065 | SQ. YD. |
| | | | | |
| 401 | TACK COAT | 12637 | 12637 | GAL. |
| SP, SS & 405 | MINERAL AGGREGATE IN ACHM BASE COURSE (1½") | 1638 | 1638 | TON |
| SP, SS & 405 | ASPHALT BINDER (PG 76-22) IN ACHM BASE COURSE (1½") | 66 | 66 | TON |
| SP, SS & 406 | MINERAL AGGREGATE IN ACHM BINDER COURSE (1") | 950 | 950 | TON |
| SP, SS & 406 | ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1") | 42 | 42 | TON |
| SP, SS & 407 | MINERAL AGGREGATE IN ACHM SURFACE COURSE (3/8") | 14147 | 14147 | TON |
| SP, SS & 407 | ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (3/8") | 792 | 792 | TON |
| SP, SS & 407 | MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2") | 16386 | 5955 | TON |
| SP, SS & 407 | ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2") | 602 | 18 | TON |
| SP, SS & 407 | ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2") | 315 | 315 | TON |
| 412 | COLD MILLING ASPHALT PAVEMENT | 1199 | 1199 | SQ. YD. |
| | | | | |
| SS & 501 | PORTLAND CEMENT CONCRETE PAVEMENT (12" UNIFORM THICKNESS) | 234823 | 334958 | SQ. YD. |
| | | | | |
| 504 | APPROACH GUTTER (TYPE C) | 302.64 | 302.64 | CU. YD. |
| 504 | APPROACH SLABS | 786.44 | 786.44 | CU. YD. |
| | | | | |
| 506 | PORTLAND CEMENT CONCRETE CORRUGATION | 3129 | 3129 | SQ. YD. |
| 601 | MOBILIZATION | 1.00 | 1.00 | LUMP SUM |
| SP & 602 | FURNISHING FIELD OFFICE | 1 | 1 | EACH |
| SS & 603 | MAINTENANCE OF TRAFFIC | 1.00 | 1.00 | LUMP SUM |
| SS & 604 | CONSTRUCTION PAVEMENT MARKINGS | 5435 | 5435 | LIN. FT. |
| SP, SS & 604 | PORTABLE CHANGEABLE MESSAGE SIGN | 48 | 48 | WEEK |
| 604 | REMOVAL OF PERMANENT PAVEMENT MARKINGS | 2475 | 2475 | LIN. FT. |
| SS & 604 | SIGNS | 1188 | 1188 | SQ. FT. |
| SP, SS & 604 | SIGNS LEFT IN PLACE | 609 | 609 | SQ. FT. |
| SS & 604 | TRAFFIC DRUMS | 200 | 200 | EACH |
| SS & 604 | BARRICADES | 256 | 256 | LIN. FT. |
| SS & 604 | ADVANCE WARNING ARROW PANEL | 250 | 250 | DAYS |
| SP, SS & 604 | FURNISHING, INSTALLING AND LEAVING IN PLACE PRECAST CONCRETE BARRIER | 6220 | 6220 | LIN. FT. |
| 604 | REMOVABLE CONSTRUCTION PAVEMENT MARKINGS | 7680 | 7680 | LIN. FT. |
| | | | | |
| SP, SS & 606 | 24" SIDE DRAIN | 64 | 64 | LIN. FT. |
| 606 | SELECTED PIPE BEDDING | 50 | 50 | CU. YD. |
| 606 | 12" ZINC COATED (GALVANIZED) CORRUGATED STEEL PIPE CULVERTS (16 GAUGE) | 784 | 784 | LIN. FT. |
| 606 | 24" SAFETY END SECTIONS FOR CROSS DRAIN PIPE CULVERTS (CLASS 2) | 11 | 11 | EACH |
| SS & 606 | 24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III) | 530 | 530 | LIN. FT. |
| 609 | DROP INLETS (TYPE N3) | 8 | 8 | EACH |
| 609 | DROP INLETS (TYPE RM) | 3 | 3 | EACH |
| 609 | JUNCTION BOXES (TYPE ST) | 1 | 1 | EACH |
| SP | COMPLETING DROP INLETS (TYPE ST) | 1 | 1 | EACH |
| 611 | 4" PIPE UNDERDRAINS | 650 | 650 | LIN. FT. |
| 611 | UNDERDRAIN OUTLET PROTECTORS | 13 | 13 | EACH |
| 614 | CONCRETE SPILLWAY (TYPE A) | 8 | 8 | EACH |
| 615 | PAVEMENT REPAIR OVER CULVERTS (ASPHALT) | 35 | 35 | TON |
| SS & 617 | GUARDRAIL (TYPE A) | 2900 | 2900 | LIN. FT. |
| SS & 617 | GUARDRAIL TERMINAL (TYPE 2) | 12 | 12 | EACH |
| SS & 617 | THRIE BEAM GUARDRAIL TERMINAL | 12 | 12 | EACH |
| | | | | |
| 620 | LIME | 17 | 17 | TON |
| SS & 620 | WATER | 984.8 | 984.8 | MGAL |
| 620 | MULCH COVER | 14.08 | 14.08 | ACRE |
| 620 | SEEDING | 8.54 | 8.54 | ACRE |
| 621 | DROP INLET SILT FENCE | 63 | 63 | LIN. FT. |
| 621 | SEDIMENT REMOVAL AND DISPOSAL | 100 | 100 | CU. YD. |
| 621 | ROCK DITCH CHECKS | 29 | 29 | CU. YD. |
| 621 | SILT FENCE | 2850 | 2850 | LIN. FT. |
| 621 | TEMPORARY SEEDING | 5.54 | 5.54 | ACRE |
| 623 | SECOND SEEDING APPLICATION | 8.54 | 8.54 | ACRE |
| 624 | SOLID SODDING | 59 | 59 | SQ. YD. |
| 626 | EROSION CONTROL MATTING (CLASS 2) | 1000 | 1000 | SQ. YD. |
| 628 | TOPSOIL FURNISHED AND PLACED | 47 | 47 | CU. YD. |
| 631 | CONCRETE BARRIER WALL (MEDIAN TYPE A) | 334 | 334 | LIN. FT. |
| 632 | CONCRETE ISLAND | 2952 | 2952 | SQ. YD. |
| 635 | ROADWAY CONSTRUCTION CONTROL | 1.00 | 1.00 | LUMP SUM |
| 642 | RUMBLE STRIPS IN ASPHALT SHOULDERS | 47,387 | 0 | LIN. FT. |
| 642 | RUMBLE STRIPS IN PORTLAND CEMENT CONCRETE SHOULDERS | 63,676 | 111,013 | LIN. FT. |
| SP & 701 | SYSTEM LOCAL CONTROLLER - FIBER (8 PHASES) | 2 | 2 | EACH |
| SP & 701 | ON-STREET MASTER CONTROLLER | 1 | 1 | EACH |
| SP | SYSTEM SOFTWARE | 1 | 1 | EACH |
| 704 | FEEDER WIRE | 4769 | 4769 | LIN. FT. |
| SP | LOOP WIRING CLASS III (2c) | 3561 | 3561 | LIN. FT. |
| | | | | |
| 704 | VEHICLE DETECTOR - RACK MOUNT | 13 | 13 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY) | 15 | 15 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY) | 1 | 1 | EACH |
| 708 | TRAFFIC SIGNAL CABLE (5C/14 A.W.G.) | 876 | 876 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (7C/14 A.W.G.) | 95 | 95 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (12C/14 A.W.G.) | 871 | 871 | LIN. FT. |
| 709 | GALVANIZED STEEL CONDUIT (1.25") | 70 | 70 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (1") | 686 | 686 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (1.25") | 541 | 541 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (2") | 2610 | 2610 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (3") | 859 | 859 | LIN. FT. |
| SS & 711 | CONCRETE PULL BOX (TYPE 1) | 2 | 2 | EACH |
| SS & 711 | CONCRETE PULL BOX (TYPE 1HD) | 8 | 8 | EACH |
| SS & 711 | CONCRETE PULL BOX (TYPE 2HD) | 22 | 22 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (36'-54') | 1 | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (52') | 2 | 2 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (60') | 1 | 1 | EACH |
| | | | | |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC) | 1023 | 1023 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC) | 290 | 290 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.) | 74 | 74 | LIN. FT. |
| SP | SERVICE POINT ASSEMBLY (1 CIRCUIT) | 2 | 2 | EACH |
| SP | ELECTRICAL CONDUCTORS FOR LUMINAIRES | 1245 | 1245 | LIN. FT. |
| SP | COMMUNICATION CABLE, FIBER (6 CHANNEL) | 2220 | 2220 | LIN. FT. |
| SP | LUMINAIRE ASSEMBLY | 4 | 4 | EACH |
| SS & 718 | REFLECTORIZED PAINT PAVEMENT MARKING WHITE (4") | 1547 | 1547 | LIN. FT. |
| SS & 718 | REFLECTORIZED PAINT PAVEMENT MARKING WHITE (8") | 5100 | 5100 | LIN. FT. |
| SS & 718 | REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10") | 2189 | 2189 | LIN. FT. |
| SS & 718 | REFLECTORIZED PAINT PAVEMENT MARKING WHITE (12") | 1119 | 1119 | LIN. FT. |
| * SP & 719 | INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4") - ALTERNATE NO. 1 | 109238 | 109238 | LIN. FT. |
| * SP | HIGH PERFORMANCE MARKING TAPE WHITE (4") - ALTERNATE NO. 2 | 109238 | 109238 | LIN. FT. |
| * SP & 719 | INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") - ALTERNATE NO. 1 | 84288 | 84288 | LIN. FT. |
| * SP | HIGH PERFORMANCE MARKING TAPE YELLOW (4") - ALTERNATE NO. 2 | 84288 | 84288 | LIN. FT. |
| * SP & 719 | INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (8") - ALTERNATE NO. 1 | 7494 | 7494 | LIN. FT. |
| * SP | HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (8") - ALTERNATE NO. 2 | 7494 | 7494 | LIN. FT. |
| SS & 719 | THERMOPLASTIC PAVEMENT MARKING (ARROWS) | 4 | 4 | EACH |
| SS & 719 | THERMOPLASTIC PAVEMENT MARKING (WORDS) | 3 | 3 | EACH |
| SS & 719 | THERMOPLASTIC PAVEMENT MARKING WHITE (4") | 11471 | 11471 | LIN. FT. |
| SS & 719 | THERMOPLASTIC PAVEMENT MARKING YELLOW (4") | 10824 | 10824 | LIN. FT. |
| SS & 719 | THERMOPLASTIC PAVEMENT MARKING WHITE (8") | 3069 | 3069 | LIN. FT. |
| SS & 719 | THERMOPLASTIC PAVEMENT MARKING WHITE (24") | 332 | 332 | LIN. FT. |
| 721 | RAISED PAVEMENT MARKERS (TYPE II) | 2476 | 2476 | EACH |
| | | | | |
| 802 | CLASS S CONCRETE - ROADWAY | 200.82 | 200.82 | CU. YD. |
| SS & 804 | REINFORCING STEEL - ROADWAY (GRADE 60) | 110040 | 110040 | LBS. |

* DENOTES ALTERNATE BID ITEM

## REVISION BOX

| DATE | REVISION | SHEET NUMBER |
|---|---|---|
| 10/12/12 | REPLACED SYSTEM LOCAL CONTROLLER SP WITH CLOSED LOOP TRAFFIC SYSTEM SP & REVISED PAY ITEMS | 3,52,110,111,112,114 |
| | | |
| | | |
| | | |
| | | |
| | | |

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 WILLIAM L. BARR 10/12/12

SUMMARY OF QUANTITIES & REVISIONS

| DATE REVISED | DATE PLANS FILED | DATE REVISED | DATE PLANS FILED |
|---|---|---|---|
| 10/12/12 | | | |

| FED.AID DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | 040376 | 52 | 207 |

JOB NO.

(2) SUMMARY OF QUANTITIES & REVISIONS

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 53 | 207 |

(2) SURVEY CONTROL DETAILS

## BENCH MARK SUMMARY

BENCH MARK 920
RR SPIKE IN 10" PERSIMMON TREE
456' RIGHT STA. 1855+01
NORTH = 343690.2 +\-
EAST = 609799.0 +\-
ELEVATION = 494.15

1800+00 1805+00 1810+00 1815+00 1820+00 1825+00 1830+00 1835+00 1840+00 1845+00 1850+00 1855+00

ALL BEARINGS SHOWN ARE TRUE GRID BEARINGS

68.5' LT. P.O.C. STA. 1831+99.88 FUTURE U.S. HWY. 71 RELOC. =
P.C. STA. 1831+99.88 FUTURE SB CD EXT.

FUTURE NORTHBOUND CD
P.I. 1838+35.17
N = 342127.0020
E = 609159.8490
Δ = 9°46'55" Lt.
D = 1°00'00"
T = 490.28'
L = 978.18'
R = 5729.58'
E = 20.94'
RADIUS POINT
N = 343440.9270
E = 603561.4530

FUTURE NORTHBOUND CD
P.I. 1849+58.11
N = 343240.4840
E = 609322.6290
Δ = 4°04'25" Rt.
D = 1°30'00"
T = 135.84'
L = 271.57'
R = 3819.72'
E = 2.41'
RADIUS POINT
N = 342553.5397
E = 613082.5240

P.I. 1817+30.19
N 18°11'40" W
N 12°23'26" E
FUTURE U.S. HWY. 71 RELOCATION
P.I. 1828+24.01
P.C. 1831+99.88
P.I. 1832+34.37
P.T. 1832+68.85
S 12°10'06" W
N 10°05'57" E
P.C. 1836+69.13
P.I. 1837+07.32
P.T. 1837+45.51
N 12°23'26" E
FUTURE SOUTHBOUND CD EXT.
P.O.T. 1840+34.25
P.C. 1840+33.62
P.I. 1844+73.22
P.T. 1848+89.69
N 19°42'43" W
FUTURE RAMP 8
FUTURE RAMP 7
P.I. 1411+23.38
P.T. 1872+05.83
GPS PT. 101
AHTD GPS
M-L298
P.C. 1856+57.05
N 32°39'05" E
555.44'
P.I. 1849+58.11
P.T. 1850+93.84
P.O.T. 1853+74.33
N 12°23'26" E
N 6°27'52" E
N 18°05'56" E
FUTURE NORTHBOUND CD
N 8°19'02" E
P.C. 1826+29.43
P.T. 1830+17.25
RAMP 1
P.O.T. 1833+44.89
NB CD
P.C. 1833+44.89
P.I. 1838+35.17
P.C. 1842+51.65
P.T. 1843+23.07
P.C. 1848+22.27
FUTURE RAMP 2
P.C. 38+76.75
N= 344123.5457
E= 609430.0359
N 18°05'56" E
PT 1852+42.43
PC 1839+74.32
BENCH MARK 920
ELEV. = 494.16
P.I. 1856+16.11
P.O.T. 1863+24.52
P.C. 1855+65.90
FUTURE RAMP 1
TEMP. 1
RAMP 4
N 40°18'26" E
P.T. 1832+22.06
N= 341561.9803
E= 608864.2872
87.5' RT. P.O.T. STA. 1853+76.16 FUTURE U.S. HWY. 71 RELOC. =
P.O.T. STA. 1853+74.33 FUTURE NB CD
P.O.T. STA. 31+80.42 EXIST. U.S. HWY. 71 =
P.O.T. 1853+24.52 TEMP. RAMP 4
N 49°41'34" W
EXIST. U.S. HWY. 71
RAMP 4
N 18°40'02" W
P.I. 1849+36.66
P.T. 1852+29.83
N 47°07'05" W
N 49°41'34" W
P.C. 1846+30.87
48.5' LT. P.O.T. STA. 20+99.95 EXIST. U.S. HWY. 71 =
P.T. STA. 1860+46.98 FUTURE RAMP 1

FUTURE RAMP 7
C. C.
N = 344025.3247
E = 608999.5104
Δ = 295°47'42" Rt.
D = 19°05'55"
L = 1548.78'
e = 9.50%
Ls = 210'

FUTURE RAMP 2
C. C.
N = 343450.2070
E = 609685.0730
Δ = 242°11'28" Rt.
D = 19°05'55"
L = 1268.11'
e = 9.50%
Ls = 210'

P.C. 1801+63.56
N= 338543.5418
E= 609017.2929

FUTURE RELOC. U.S. HWY. 71
P.I. 1817+30.19
N = 340031.8430
E = 608528.1270
Δ = 30°35'06" Rt.
D = 1°00'00"
T = 1566.63'
L = 3058.50'
R = 5729.58'
E = 210.32'
RADIUS POINT
N = 614460.4083
E = 340332.5524

FUTURE NORTHBOUND CD
P.I. 1828+24.01
N = 341164.5990
E = 608845.3060
Δ = 11°38'05" Rt.
D = 3°00'00"
T = 194.58'
L = 387.82'
R = 1909.86'
E = 9.89'
RADIUS POINT
N = 340756.2352
E = 610721.1160

FUTURE SOUTHBOUND CD EXT.
P.I. 1832+34.37
N = 341588.4590
E = 608799.8790
Δ = 2°17'29" Lt.
D = 3°00'00"
T = 34.49'
L = 68.97'
R = 1909.86'
E = .31'
RADIUS POINT
N = 341957.3116
E = 606925.6592

FUTURE SOUTHBOUND CD EXT.
P.I. 1837+07.32
N = 342054.0930
E = 608882.8140
Δ = 2°17'29" Rt.
D = 3°00'00"
T = 38.20'
L = 76.38'
R = 1909.86'
E = .38'
RADIUS POINT
N = 341681.5906
E = 610756.3837

FUTURE RAMP 8
P.I. 1844+73.22
N = 342804.6990
E = 609038.5020
Δ = 32°06'09" Lt.
D = 3°45'00"
T = 439.60'
L = 856.07'
R = 1527.89'
E = 61.98'
RADIUS POINT
N = 342703.1901
E = 607451.8767

FUTURE RAMP 1
P.I. 1856+16.11
N = 343819.8180
E = 609713.1140
Δ = 112°12'30" Rt.
D = 6°15'00"
T = 1364.45'
L = 1795.33'
R = 916.73'
E = 727.08'
RADIUS POINT
N = 342238.0831
E = 610160.6063

TEMPORARY RAMP 4
P.I. 1858+48.64
N = 344072.7860
E = 610300.0970
Δ = 58°58'28" Lt.
D = 11°27'33"
T = 282.74'
L = 514.65'
R = 500.00'
E = 74.41'
RADIUS POINT
N = 344180.6164
E = 609735.9039

RAMP 4
P.I. 1849+36.66
N = 343244.9810
E = 610579.7630
Δ = 28°27'03" Rt.
D = 4°45'00"
T = 305.79'
L = 598.97'
R = 1206.23'
E = 38.16'
RADIUS POINT
N = 343920.7633
E = 611624.6607

RAMP 4
P.I. 1872+84.74
N = 345481.4930
E = 609824.1770
Δ = 31°03'28" Rt.
D = 2°45'00"
T = 578.93'
L = 1129.37'
R = 2083.48'
E = 78.94'
RADIUS POINT
N = 345599.8746
E = 611983.3547

**FOR INFORMATION ONLY NOT WITHIN JOB 040376 LIMITS**

THE HORIZONTAL DATUM FOR THIS PROJECT IS NAD83(1997) ADJUSTED BY THE AVERAGE PROJECT COMBINED FACTOR OF 0.999938638.
TO ACHIEVE ARKANSAS NORTH ZONE STATE PLANE COORDINATES, MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE PROJECT FACTOR.
ALL BEARINGS SHOWN ARE ARKANSAS STATE PLANE NORTH ZONE GRID.
VERTICAL DATUM IS NAVD88.

### CONTROL MONUMENTS AND TRAVERSE POINTS

| POINT | EAST | NORTH | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 101 | 609280.5290 | 344129.1510 | 496.449 | AHTD GPS MON L298 |

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

# HWY. 71 - HWY. 22
# U.S. HWY. 71 RELOCATION
## ARKANSAS STATE HIGHWAY COMMISSION
## SURVEY CONTROL AND CENTERLINE GEOMETRY
## JOB 040376 SEBASTIAN CO.

200 100 0 100 200 400

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 54 | 207 |

## (2) SURVEY CONTROL DETAILS

FUTURE NORTHBOUND CD
P.I. 1849+58.11
N = 343240.4840
E = 609322.6290
Δ = 4°04'25" Rt.
D = 1°30'00"
T = 135.84'
L = 271.57'
R = 3819.72'
E = 2.41'
RADIUS POINT
N = 342553.5397
E = 613082.5240

TEMPORARY RAMP 5
P.I. 1861+71.72
N = 344933.0210
E = 608639.5610
Δ = 26°53'14" Rt.
D = 11°27'33"
T = 119.52'
L = 234.64'
R = 500.00'
E = 14.09'
RADIUS POINT
N = 344539.2990
E = 608970.1178

FUTURE RAMP 8
P.I. 1866+27.05
N = 344854.0850
E = 608304.2330
Δ = 28°02'21" Lt.
D = 4°45'00"
T = 301.19'
L = 590.30'
R = 1206.23'
E = 37.03'
RADIUS POINT
N = 344163.6989
E = 607270.2780

FUTURE RAMP 8
P.I. 1871+28.24
N = 345199.1790
E = 607924.2980
Δ = 5°42'29" Lt.
D = 3°00'00"
T = 95.21'
L = 190.27'
R = 1909.86'
E = 2.37'
RADIUS POINT
N = 343721.4230
E = 606710.6814

RAMP 5
P.I. 1869+35.39
N = 344416.4700
E = 609143.4270
Δ = 108°26'30" Lt.
D = 5°45'00"
T = 1382.67'
L = 1885.94'
R = 996.45'
E = 707.86'
RADIUS POINT
N = 346040.2794
E = 608625.8177

SOUTHBOUND CD
P.I. 1889+04.94
N = 347124.4640
E = 610028.4780
Δ = 5°42'30" Lt.
D = 3°00'00"
T = 95.22'
L = 190.28'
R = 1909.86'
E = 2.37'
RADIUS POINT
N = 347627.2703
E = 608183.5349

NORTHBOUND CD EXT.
P.I. 1881+32.82
N = 346339.5820
E = 610003.4800
Δ = 2°17'31" Lt.
D = 3°00'00"
T = 38.21'
L = 76.40'
R = 1909.86'
E = .38'
RADIUS POINT
N = 346712.0812
E = 608129.9096

ALL BEARINGS SHOWN ARE TRUE GRID BEARINGS

P.O.T. STA. 49+94.16 EXIST. U.S. HWY. 71=
P.O.T. STA. 1860+08.20 TEMP. RAMP. 5

48.5' RT. P.O.T. STA. 56+64.45 EXIST. U.S. HWY. 71=
P.C. STA. 1855+52.72 RAMP 5

56.5' LT. P.O.T. STA. 1890+00.01 U.S. HWY. 71 RELOC. =
P.T. STA. 1890+00.01 SB CD

BENCH MARK 921
ELEV. = 506.13

BENCH MARK 924
ELEV. = 625.31

CR 8 (HOWARD HILL RD.)
P.I. 59+30.89
N = 346716.6400
E = 610173.5240
Δ = 43°32'58" Lt.
D = 5°00'00"
T = 457.75'
L = 870.99'
R = 1145.92'
E = 88.04'
RADIUS POINT
N = 347949.5647
E = 610123.0028

SOUTHBOUND CD
P.I. 1866+63.58
N = 344947.7070
E = 609518.5210
Δ = 4°04'25" Lt.
D = 1°30'00"
T = 135.84'
L = 271.57'
R = 3819.72'
E = 2.41'
RADIUS POINT
N = 345634.6502
E = 605758.6258

SOUTHBOUND CD
P.I. 1877+90.64
N = 346063.0300
E = 609681.5700
Δ = 9°46'54" Rt.
D = 1°00'00"
T = 490.28'
L = 978.18'
R = 5729.58'
E = 20.94'
RADIUS POINT
N = 344749.1094
E = 615279.9671

FUTURE RAMP 7
C. C.
N = 344025.3247
E = 608999.5104
Δ = 295°47'42" Rt.
D = 19°05'55"
L = 1548.78'
e = 9.50%
Ls = 210'

FUTURE RAMP 3
C. C.
N = 344220.6250
E = 609854.3280
Δ = 297°53'04" Rt.
D = 19°05'55"
L = 1559.72'
e = 9.50%
Ls = 210'

FUTURE RAMP 6
C. C.
N = 344774.5410
E = 609164.1080
Δ = 245°51'01" Rt.
D = 19°05'55"
L = 1287.27'
e = 9.50%
Ls = 210'

NORTHBOUND CD EXT.
P.I. 1886+07.99
N = 346807.3990
E = 610086.8010
Δ = 2°17'30" Rt.
D = 3°00'00"
T = 38.20'
L = 76.40'
R = 1909.86'
E = .38'
RADIUS POINT
N = 346434.9021
E = 611960.3719

P.O.T. STA. 1858+46.91 FUTURE U.S. HWY. 71 RELOC. =
P.O.C. STA. 38+80.06 EXIST. U.S. HWY. 71

P.O.T. STA. 31+80.42 EXIST. U.S. HWY. 71=
P.O.T. STA. 1853+24.52 TEMP. RAMP 4

STA. 1874+50
BEGIN JOB 040376

P.O.T. STA. 1885+93.77 U.S. HWY. 71 RELOC. =
P.O.C. STA. 57+55.47 COUNTY ROAD 8

68.5' RT. P.O.T. STA. 1886+45.83 U.S. HWY. 71 RELOC. =
P.O.T. STA. 1886+46.19 NB CD EXT.

48.5' LT. P.O.T. STA. 20+99.95 EXIST. U.S. HWY. 71=
P.T. STA. 1860+46.98 FUTURE RAMP 1

FUTURE RAMP 2
C. C.
N = 343450.2070
E = 609685.0730
Δ = 242°11'28" Rt.
D = 19°05'55"
L = 1268.11'
e = 9.50%
Ls = 210'

RAMP 4
P.I. 1849+36.66
N = 343244.9810
E = 610579.7630
Δ = 28°27'03" Rt.
D = 4°45'00"
T = 305.79'
L = 598.97'
R = 1206.23'
E = 38.16'
RADIUS POINT
N = 343920.7633
E = 611624.6607

FUTURE RAMP 1
P.I. 1856+16.11
N = 343819.8180
E = 609713.1140
Δ = 112°12'30" Rt.
D = 6°15'00"
T = 1364.45'
L = 1795.33'
R = 916.73'
E = 727.08'
RADIUS POINT
N = 342238.0831
E = 610160.6063

TEMPORARY RAMP 4
P.I. 1858+48.64
N = 344072.7860
E = 610300.0970
Δ = 58°58'28" Lt.
D = 11°27'33"
T = 282.74'
L = 514.65'
R = 500.00'
E = 74.41'
RADIUS POINT
N = 344180.6164
E = 609735.9039

RAMP 4
P.I. 1872+84.74
N = 345481.4930
E = 609824.1770
Δ = 31°03'28" Rt.
D = 2°45'00"
T = 578.93'
L = 1129.37'
R = 2083.48'
E = 78.94'
RADIUS POINT
N = 345599.8746
E = 611983.3547

THE HORIZONTAL DATUM FOR THIS PROJECT IS NAD83(1997) ADJUSTED BY THE AVERAGE PROJECT COMBINED FACTOR OF 0.999938638. TO ACHIEVE ARKANSAS NORTH ZONE STATE PLANE COORDINATES, MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE PROJECT FACTOR. ALL BEARINGS SHOWN ARE ARKANSAS STATE PLANE NORTH ZONE GRID. VERTICAL DATUM IS NAVD88.

## BENCH MARK SUMMARY

### BENCH MARK 920
RR SPIKE IN 10" PERSIMMON TREE
456' RIGHT STA. 1855+01
NORTH = 343690.2 +\-
EAST = 609799.0 +\-
ELEVATION = 494.15

### BENCH MARK 921
RR SPIKE IN 12" CHERRY TREE
1004' LEFT STA. 1867+29
NORTH = 345202.9 +\-
EAST = 608635.8 +\-
ELEVATION =

### BENCH MARK 923
RR SPIKE IN 12" OAK TREE
239' RIGHT STA. 1885+99
NORTH = 346762.2 +\-
EAST = 610251.4 +\-
ELEVATION = 630.38

### BENCH MARK 924
RR SPIKE IN UTILITY POLE
1109' LEFT STA. 1885+91
NORTH = 347044.2 +\-
EAST = 608932.9 +\-
ELEVATION = 625.31

## CONTROL MONUMENTS AND TRAVERSE POINTS

| POINT | EAST | NORTH | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 101 | 609280.5290 | 344129.1510 | 496.449 | AHTD GPS MON L298 |
| | | | | |
| 1 | 608980.0668 | 344601.0619 | 0.00 | REBAR & CAP |
| 2 | 609431.1254 | 345379.5986 | 501.530 | REBAR & CAP |
| 3 | 609887.5696 | 346024.4070 | 510.578 | REBAR & CAP |
| 4 | 609965.8612 | 346228.2446 | 520.095 | REBAR & CAP |
| 5 | 609908.3721 | 346515.8676 | 559.331 | REBAR & CAP |
| 6 | 609917.2031 | 346702.5085 | 613.601 | REBAR & CAP |
| 7 | 609910.0087 | 346855.0889 | 0.00 | REBAR & CAP |
| 8 | 610064.6381 | 347355.3187 | 0.00 | REBAR & CAP |
| 9 | 610260.7642 | 347970.3959 | 0.00 | REBAR & CAP |
| 10 | 610166.3545 | 348580.5371 | 0.00 | REBAR & CAP |
| 11 | 610525.4196 | 348938.8327 | 0.00 | REBAR & CAP |

## BENCH MARK SUMMARY

### BENCH MARK 925
RR SPIKE IN 10" ELM TREE
2358' RIGHT STA. 1902+62
NORTH = 347732.5 +\-
EAST = 612661.0 +\-
ELEVATION = 607.71

STATE OF ARKANSAS
JAMES L. BARR
REGISTERED PROFESSIONAL ENGINEER
No. 9808
5/1/12

# HWY. 71 - HWY. 22
# U.S. HWY. 71 RELOCATION
## ARKANSAS STATE HIGHWAY COMMISSION
## SURVEY CONTROL AND CENTERLINE GEOMETRY
## JOB 040376 SEBASTIAN CO.

200 100 0 100 200 400

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 55 | 207 |

(2) SURVEY CONTROL DETAILS

## BENCH MARK SUMMARY

**BENCH MARK 920**
RR SPIKE IN 10" PERSIMMON TREE
456' RIGHT STA. 1855+01
NORTH = 343690.2 +\-
EAST = 609799.0 +\-
ELEVATION = 494.15

**BENCH MARK 921**
RR SPIKE IN 12" CHERRY TREE
1004' LEFT 1867+29
NORTH = 345202.9 +\-
EAST = 608635.8 +\-
ELEVATION =

## CONTROL MONUMENTS AND TRAVERSE POINTS

| POINT | EAST | NORTH | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 100 | 607805.3170 | 345241.5720 | 509.871 | AHTD GPS MON 178 FSGIS |
| 101 | 609280.5290 | 344129.1510 | 496.449 | AHTD GPS MON L298 |
| | | | | |
| 1 | 608980.0668 | 344601.0619 | 0.00 | REBAR & CAP |
| 2 | 609431.1254 | 345379.5986 | 501.530 | REBAR & CAP |
| 3 | 609887.5696 | 346024.4070 | 510.578 | REBAR & CAP |

RAMP 5
P.I. 1869+35.39
N = 344416.4700
E = 609143.4270
Δ = 108°26'30" Lt.
D = 5°45'00"
T = 1382.67'
L = 1885.94'
R = 996.45'
E = 707.86'
RADIUS POINT
N = 346040.2794
E = 608625.8177

RAMP 4
P.I. 1872+84.74
N = 345481.4930
E = 609824.1770
Δ = 31°03'28" Rt.
D = 2°45'00"
T = 578.93'
L = 1129.37'
R = 2083.48'
E = 78.94'
RADIUS POINT
N = 345599.8746
E = 611983.3547

SOUTHBOUND CD
P.I. 1866+63.58
N = 344947.7070
E = 609518.5210
Δ = 4°04'25" Lt.
D = 1°30'00"
T = 135.84'
L = 271.57'
R = 3819.72'
E = 2.41'
RADIUS POINT
N = 345634.6502
E = 605758.6258

TEMPORARY RAMP 4
P.I. 1858+48.64
N = 344072.7860
E = 610300.0970
Δ = 58°58'28" Lt.
D = 11°27'33"
T = 282.74'
L = 514.65'
R = 500.00'
E = 74.41'
RADIUS POINT
N = 344180.6164
E = 609735.9039

RAMP 4
P.I. 1849+36.66
N = 343244.9810
E = 610579.7630
Δ = 28°27'03" Rt.
D = 4°45'00"
T = 305.79'
L = 598.97'
R = 1206.23'
E = 38.16'
RADIUS POINT
N = 343920.7633
E = 611624.6607

EXIST. U.S. HWY. 71
P.I. 41+23.38
N = 344283.0850
E = 609241.9620
Δ = 3°46'01" Lt.
D = 0°45'50"
T = 246.63'
L = 493.08'
R = 7500.00'
E = 4.05'
RADIUS POINT
N = 338404.1485
E = 604578.3871

FUTURE RAMP 3
C. C.
N = 344220.6250
E = 609854.3280
Δ = 297°53'04" Rt.
D = 19°05'55"
L = 1559.72'
e = 9.50%
Ls = 210'

FUTURE RAMP 6
C. C.
N = 344774.5410
E = 609164.1080
Δ = 245°51'01" Rt.
D = 19°05'55"
L = 1287.27'
e = 9.50%
Ls = 210'

FUTURE RAMP 7
C. C.
N = 344025.3247
E = 608999.5104
Δ = 295°47'42" Rt.
D = 19°05'55"
L = 1548.78'
e = 9.50%
Ls = 210'

FUTURE RAMP 2
C. C.
N = 343450.2070
E = 609685.0730
Δ = 242°11'28" Rt.
D = 19°05'55"
L = 1268.11'
e = 9.50%
Ls = 210'

| FUTURE NORTHBOUND CD | FUTURE RAMP 1 | RAMP 4 | EXIST. U.S. HWY. 71 |
|---|---|---|---|
| P.I. 1849+58.11 | P.I. 1856+16.11 | P.I. 1842+39.91 | P.I. 18+43.33 |
| N = 343240.4840 | N = 343819.8180 | N = 342770.7460 | N = 342808.0860 |
| E = 609322.6290 | E = 609713.1140 | E = 611090.4230 | E = 610980.7740 |
| Δ = 4°04'25" Rt. | Δ = 112°12'30" Rt. | Δ = 5°42'29" Rt. | Δ = 3°08'01" Rt. |
| D = 1°30'00" | D = 6°15'00" | D = 3°00'00" | D = 0°45'50" |
| T = 135.84' | T = 1364.45' | T = 95.21' | T = 205.15' |
| L = 271.57' | L = 1795.33' | L = 190.27' | L = 410.20' |
| R = 3819.72' | R = 916.73' | R = 1909.86' | R = 7500.00' |
| E = 2.41' | E = 727.08' | E = 2.37' | E = 2.81' |
| RADIUS POINT | RADIUS POINT | RADIUS POINT | RADIUS POINTS |
| N = 342553.5397 | N = 342238.0831 | N = 344235.0011 | N = 348660.1918 |
| E = 613082.5240 | E = 610160.6063 | E = 612320.2951 | E = 615675.9784 |

| FUTURE RAMP 8 | FUTURE NORTHBOUND CD | FUTURE SOUTHBOUND CD EXT. |
|---|---|---|
| P.I. 1844+73.22 | P.I. 1838+35.17 | P.I. 1837+07.32 |
| N = 342804.6990 | N = 342127.0020 | N = 342054.0930 |
| E = 609038.5020 | E = 609159.8490 | E = 608882.8140 |
| Δ = 32°06'09" Lt. | Δ = 9°46'55" Lt. | Δ = 2°17'29" Rt. |
| D = 3°45'00" | D = 1°00'00" | D = 3°00'00" |
| T = 439.60' | T = 490.28' | T = 38.20' |
| L = 856.07' | L = 978.18' | L = 76.38' |
| R = 1527.89' | R = 5729.58' | R = 1909.86' |
| E = 61.98' | E = 20.94' | E = .38' |
| RADIUS POINT | RADIUS POINT | RADIUS POINT |
| N = 342703.1901 | N = 343440.9270 | N = 341681.5906 |
| E = 607451.8767 | E = 603561.4530 | E = 610756.3837 |

| EXIST. U.S. HWY. 71 | FUTURE RAMP 8 | FUTURE RAMP 8 | EXIST. U.S. HWY. 71 |
|---|---|---|---|
| P.I. 68+71.42 | P.I. 1871+28.24 | P.I. 1866+27.05 | P.I. 41+23.38 |
| N = 345919.3490 | N = 345199.1790 | N = 344854.0850 | N = 344283.0850 |
| E = 607033.9400 | E = 607924.2980 | E = 608304.2330 | E = 609241.9620 |
| Δ = 20°44'54" Rt. | Δ = 5°42'29" Lt. | Δ = 28°02'21" Lt. | Δ = 3°46'01" Lt. |
| D = 1°00'00" | D = 3°00'00" | D = 4°45'00" | D = 0°45'50" |
| T = 1048.91' | T = 95.21' | T = 301.19' | T = 246.63' |
| L = 2074.85' | L = 190.27' | L = 590.30' | L = 493.08' |
| R = 5729.58' | R = 1909.86' | R = 1206.23' | R = 7500.00' |
| E = 95.22' | E = 2.37' | E = 37.03' | E = 4.05' |
| RADIUS POINT | RADIUS POINT | RADIUS POINT | RADIUS POINT |
| N = 349898.1914 | N = 343721.4230 | N = 344163.6989 | N = 338404.1485 |
| E = 611288.0074 | E = 606710.6814 | E = 607270.2780 | E = 604578.3871 |

THE HORIZONTAL DATUM FOR THIS PROJECT IS NAD83(1997) ADJUSTED BY THE AVERAGE PROJECT COMBINED FACTOR OF 0.999938638. TO ACHIEVE ARKANSAS NORTH ZONE STATE PLANE COORDINATES, MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE PROJECT FACTOR. ALL BEARINGS SHOWN ARE ARKANSAS STATE PLANE NORTH ZONE GRID. VERTICAL DATUM IS NAVD88.

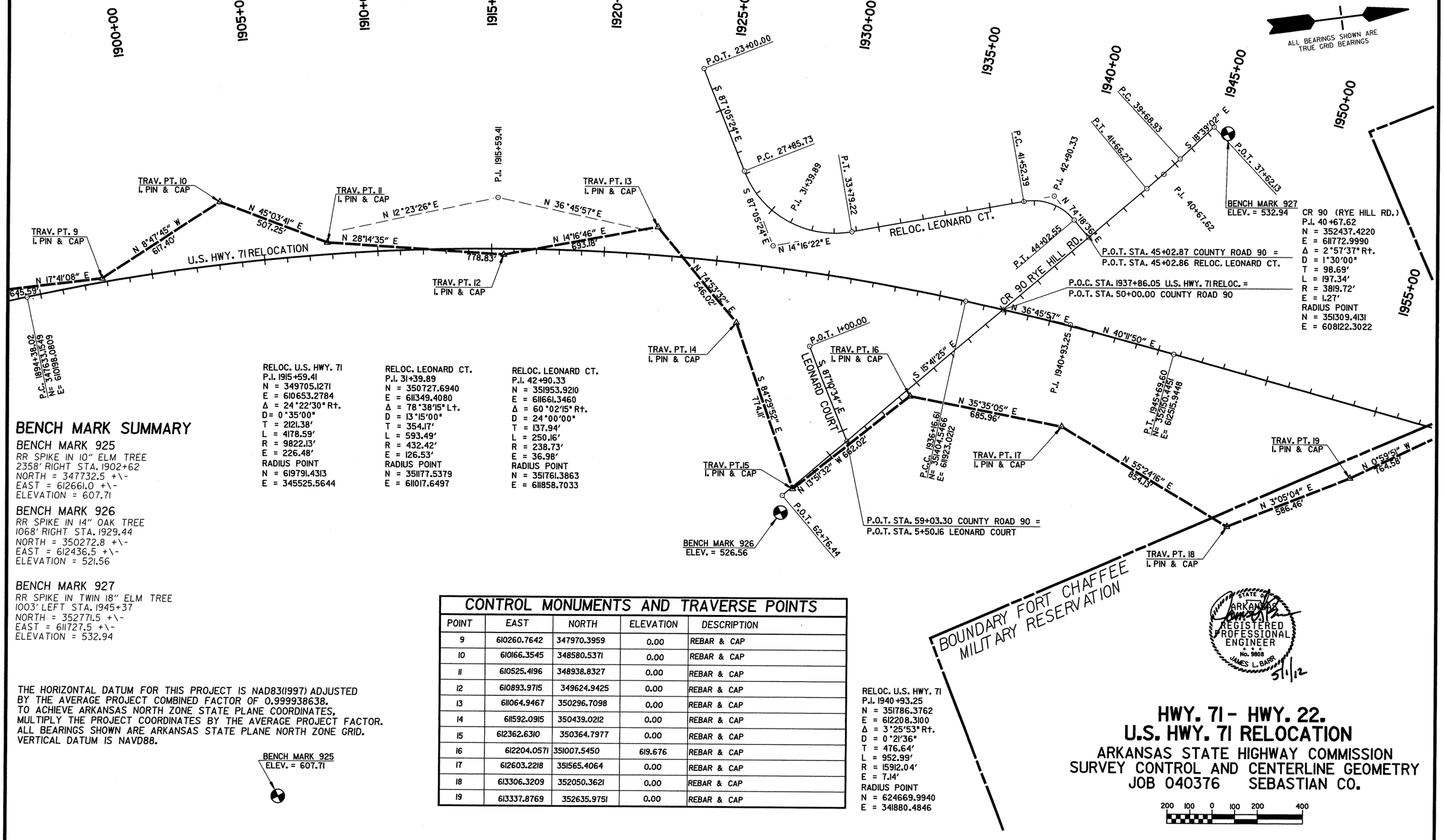
# HWY. 71 - HWY. 22
# U.S. HWY. 71 RELOCATION
## ARKANSAS STATE HIGHWAY COMMISSION
## SURVEY CONTROL AND CENTERLINE GEOMETRY
## JOB 040376 SEBASTIAN CO.

200 100 0 100 200 400

STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 9808 — JAMES L. BARR — 5/1/12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 56 | 207 |

(2) SURVEY CONTROL DETAILS




RELOC. U.S. HWY. 71
P.I. 1915+59.41
N = 349705.1271
E = 610653.2784
Δ = 24°22'30" Rt.
D = 0°35'00"
T = 2121.38'
L = 4178.59'
R = 9822.13'
E = 226.48'
RADIUS POINT
N = 619791.4313
E = 345525.5644

RELOC. LEONARD CT.
P.I. 31+39.89
N = 350727.6940
E = 611349.4080
Δ = 78°38'15" Lt.
D = 13°15'00"
T = 354.17'
L = 593.49'
R = 432.42'
E = 126.53'
RADIUS POINT
N = 351177.5379
E = 611017.6497

RELOC. LEONARD CT.
P.I. 42+90.33
N = 351953.9210
E = 611661.3460
Δ = 60°02'15" Rt.
D = 24°00'00"
T = 137.94'
L = 250.16'
R = 238.73'
E = 36.98'
RADIUS POINT
N = 351761.3863
E = 611858.7033

RELOC. U.S. HWY. 71
P.I. 1940+93.25
N = 351786.3762
E = 612208.3100
Δ = 3°25'53" Rt.
D = 0°21'36"
T = 476.64'
L = 952.99'
R = 15912.04'
E = 7.14'
RADIUS POINT
N = 624669.9940
E = 341880.4846

## BENCH MARK SUMMARY

### BENCH MARK 925
RR SPIKE IN 10" ELM TREE
2358' RIGHT STA. 1902+62
NORTH = 347732.5 +\-
EAST = 612661.0 +\-
ELEVATION = 607.71

### BENCH MARK 926
RR SPIKE IN 14" OAK TREE
1068' RIGHT STA. 1929.44
NORTH = 350272.8 +\-
EAST = 612436.5 +\-
ELEVATION = 521.56

### BENCH MARK 927
RR SPIKE IN TWIN 18" ELM TREE
1003' LEFT STA. 1945+37
NORTH = 352771.5 +\-
EAST = 611727.5 +\-
ELEVATION = 532.94

THE HORIZONTAL DATUM FOR THIS PROJECT IS NAD83(1997) ADJUSTED BY THE AVERAGE PROJECT COMBINED FACTOR OF 0.999938638. TO ACHIEVE ARKANSAS NORTH ZONE STATE PLANE COORDINATES, MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE PROJECT FACTOR. ALL BEARINGS SHOWN ARE ARKANSAS STATE PLANE NORTH ZONE GRID. VERTICAL DATUM IS NAVD88.

BENCH MARK 925
ELEV. = 607.71

## CONTROL MONUMENTS AND TRAVERSE POINTS

| POINT | EAST | NORTH | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 9 | 610260.7642 | 347970.3959 | 0.00 | REBAR & CAP |
| 10 | 610166.3545 | 348580.5371 | 0.00 | REBAR & CAP |
| 11 | 610525.4196 | 348938.8327 | 0.00 | REBAR & CAP |
| 12 | 610893.9715 | 349624.9425 | 0.00 | REBAR & CAP |
| 13 | 611064.9467 | 350296.7098 | 0.00 | REBAR & CAP |
| 14 | 611592.0915 | 350439.0212 | 0.00 | REBAR & CAP |
| 15 | 612362.6310 | 350364.7977 | 0.00 | REBAR & CAP |
| 16 | 612204.0571 | 351007.5450 | 619.676 | REBAR & CAP |
| 17 | 612603.2218 | 351565.4064 | 0.00 | REBAR & CAP |
| 18 | 613306.3209 | 352050.3621 | 0.00 | REBAR & CAP |
| 19 | 613337.8769 | 352635.9751 | 0.00 | REBAR & CAP |

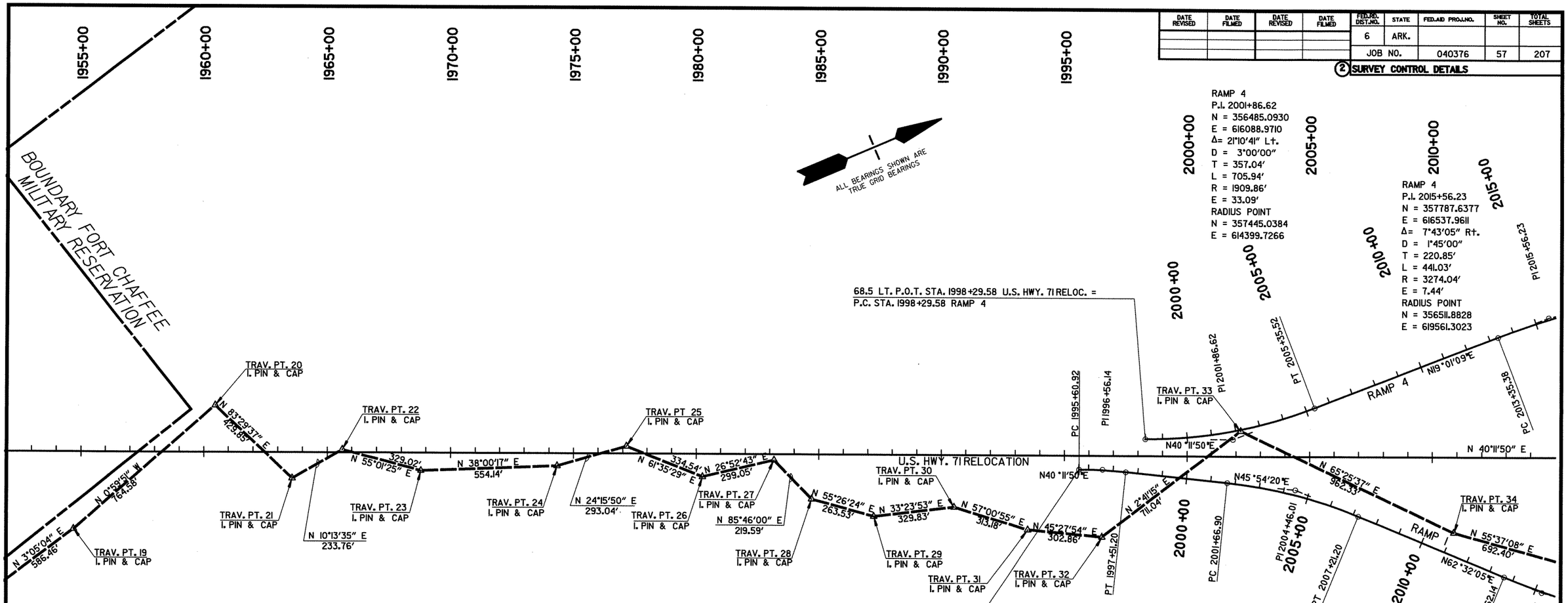
STATE OF ARKANSAS
JAMES L. BARR
REGISTERED PROFESSIONAL ENGINEER
No. 9808
5/1/12

# HWY. 71 - HWY. 22.
# U.S. HWY. 71 RELOCATION
ARKANSAS STATE HIGHWAY COMMISSION
SURVEY CONTROL AND CENTERLINE GEOMETRY
JOB 040376 SEBASTIAN CO.

200 100 0 100 200 400

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 57 | 207 |

(2) SURVEY CONTROL DETAILS




## CONTROL MONUMENTS AND TRAVERSE POINTS

| POINT | EAST | NORTH | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 19 | 613337.8769 | 352635.9751 | 0.00 | REBAR & CAP |
| 20 | 613324.5670 | 353400.4416 | 0.00 | REBAR & CAP |
| 21 | 613751.6439 | 353449.1495 | 0.00 | REBAR & CAP |
| 22 | 613793.1453 | 353679.1943 | 0.00 | REBAR & CAP |
| 23 | 614062.7383 | 353867.7997 | 0.00 | REBAR & CAP |
| 24 | 614403.9390 | 354304.4414 | 0.00 | REBAR & CAP |
| 25 | 614524.3596 | 354571.5909 | 0.00 | REBAR & CAP |
| 26 | 614818.6146 | 354730.7518 | 0.00 | REBAR & CAP |
| 27 | 614953.8134 | 354997.4906 | 470.470 | REBAR & CAP |
| 28 | 615172.8076 | 355013.7011 | 470.246 | REBAR & CAP |
| 29 | 615389.8305 | 355163.1918 | 471.414 | REBAR & CAP |
| 30 | 615571.3833 | 355438.5518 | 470.799 | REBAR & CAP |
| 31 | 615834.0865 | 355609.0545 | 470.178 | REBAR & CAP |
| 32 | 616049.9692 | 355821.4610 | 473.659 | REBAR & CAP |
| 33 | 616083.3099 | 356531.7180 | 473.220 | REBAR & CAP |
| 34 | 616958.4821 | 356931.9049 | 473.994 | REBAR & CAP |

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
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# HWY. 71 - HWY. 22
# U.S. HWY. 71 RELOCATION
ARKANSAS STATE HIGHWAY COMMISSION
SURVEY CONTROL AND CENTERLINE GEOMETRY
JOB 040376 SEBASTIAN CO.

200 100 0 100 200 400

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 58 | 207 |

## (2) SURVEY CONTROL DETAILS

RAMP 4
P.I. 2015+56.23
N = 357787.6377
E = 616537.9611
Δ = 7°43'05" Rt.
D = 1°45'00"
T = 220.85'
L = 441.03'
R = 3274.04'
E = 7.44'
RADIUS POINT
N = 356511.8828
E = 619561.3023

GPS PT. 106
AHTD GPS M-650008A

BENCH MARK 928
ELEV. = 476.42

PT 2017+79.41

PC 2013+35.38

1575.35'

N 46°25'29" W

S 48°15'45" E

MASSARD ROAD

PC 2018+92.36

P.O.T. STA. 43+43.84 MASSARD ROAD =
P.O.T. STA. 2017+42.28 RAMP 3 =
P.O.T. STA. 2019+40.91 RAMP 4

N56°44'14"E

PI 2021+55.96

PT 2024+18.42

PC 2027+30.71

N65°56'35"E

RAMP 3

RAMP 3
P.I. 2021+55.96
N = 358358.3508
E = 617056.7313
Δ = 9°12'22" Rt.
D = 1°45'00"
T = 263.60'
L = 526.06'
R = 3274.04'
E = 10.59'
RADIUS POINT
N = 355476.1398
E = 618632.0758

RAMP 3
P.I. 2030+68.12
N = 358730.6480
E = 617890.6940
Δ = 20°02'16" Lt.
D = 3°00'00"
T = 337.41'
L = 667.93'
R = 1909.86'
E = 29.58'
RADIUS POINT
N = 360337.0765
E = 616804.0493

RAMP 3
P.I. 2037+96.36
N = 359242.1890
E = 618418.6610
Δ = 5°42'29" Lt.
D = 3°00'00"
T = 95.21'
L = 190.26'
R = 1909.86'
E = 29.58'
RADIUS POINT
N = 360547.5797
E = 617021.3125

CUSTER BLVD.
P.I. 42+65.09
N = 359648.6847
E = 617979.1826
Δ = 32°19'17" Lt.
D = 3°52'51"
T = 427.83'
L = 832.84'
R = 1476.38'
E = 60.74'
RADIUS POINT
N = 361006.3671
E = 618699.8898

PC 38+37.26

TRAV. PT. 40
I. PIN & CAP

BENCH MARK 931
ELEV. = 462.31

S45°52'42"E

PI 42+65.09

TRAV. PT. 42
I. PIN & CAP

N 2°32'14" E
1131.00'

TRAV. PT. 43
I. PIN & CAP

N 43°50'50" E
1044.49'

ALL BEARINGS SHOWN ARE TRUE GRID BEARINGS

TRAV. PT. 39
I. PIN & CAP

PT 2033+98.63

N 0°20'26" E
719.40'

PC 2037+01.15

PT 2038+91.41

S 81°14'27" E

PT 46+70.11

740.37'

N 4°36'27" W
1195.50'

P.O.T. STA. 2041+83.40 U.S. HWY. 71 RELOC. =
P.O.T. STA. 50+00.00 CUSTER BLVD.

P.O.T. STA. 2018+28.46 U.S. HWY. 71 RELOC. =
P.O.T. STA. 50+00.00 MASSARD ROAD

N 40°11'50"E

U.S. HWY. 71 RELOCATION

S78°11'59"E

TRAV. PT. 41
I. PIN & CAP

N 65°25'37" E
962.33'

TRAV. PT. 34
I. PIN & CAP

RAMP 1

N 55°37'08" E
692.40'

PT 2007+20.20

N62°32'05"E

GPS PT. 105
AHTD GPS M-650008

N 41°32'33" W
216.05'

TRAV. PT. 35
I. PIN & CAP

PC 2013+62.14

PI 2015+27.94

PT 2016+93.45

PC 2018+74.72

PI 2021+28.29

TRAV. PT. 38
I. PIN & CAP

PT 2024+90.70

N 2°29'33" E
617.96'

N 2°29'33" E
501.40'

RAMP 2

N15°57'28"E

N40°11'50"E

PC 2029+33.67

PI 2033+43.80

N56°44'12"E

N 5°46'16" E
600.28'

TRAV. PT. 37
I. PIN & CAP

PC 58+16.96

68.50' RT. STA. 2037+41.66 U.S. HWY. 71 RELOC. =
P.T. STA. 2037+41.66 RAMP 2

68.50' LT. P.O.T. STA. 2038+91.41 U.S. HWY. 71 RELOC. =
P.T. STA. 2038+91.41 RAMP 3

P.O.T. STA. 56+56.17 MASSARD ROAD =
P.O.T. STA. 2019+07.61 RAMP 1 =
P.O.T. STA. 2017+09.44 RAMP 2

S 50°54'47" E
645.08'

TRAV. PT. 36
I. PIN & CAP

BENCH MARK 929
ELEV. = 454.83

PI 59+73.29

PT 61+28.68

S59°10'22"E

PI 66+20.28

CUSTER BLVD.

S78°11'59"E

BENCH MARK 930
ELEV. = 448.95

| RAMP 1 | MASSARD ROAD |
|---|---|
| P.I. 2015+27.94 | P.I. 59+73.29 |
| N = 357049.7366 | N = 357047.0254 |
| E = 617372.8925 | E = 617927.2320 |
| Δ = 5°47'53" Lt. | Δ = 10°54'36" Lt. |
| D = 1°45'00" | D = 3°30'00" |
| T = 165.80' | T = 156.33' |
| L = 331.31' | L = 311.72' |
| R = 3274.04' | R = 1637.02' |
| E = 4.20' | E = 7.45' |
| RADIUS POINT | RADIUS POINT |
| N = 359878.2958 | N = 358372.6494 |
| E = 615715.7537 | E = 618900.3725 |

| RAMP 2 | RAMP 2 |
|---|---|
| P.I. 2021+83.62 | P.I. 2033+43.80 |
| N = 357681.6177 | N = 358798.8430 |
| E = 617903.9288 | E = 618223.3950 |
| Δ = 10°46'46" Lt. | Δ = 24°14'22" Rt. |
| D = 1°45'00" | D = 3°00'00" |
| T = 308.90' | T = 410.13' |
| L = 615.98' | L = 807.98' |
| R = 3274.04' | R = 1909.86' |
| E = 14.54' | E = 43.54' |
| RADIUS POINT | RADIUS POINT |
| N = 358878.7373 | N = 357879.4472 |
| E = 614840.9742 | E = 619946.9027 |

## BENCH MARK SUMMARY

**BENCH MARK 928**
RR SPIKE IN TWIN 12" OAK TREE
1233' LEFT STA. 2017+95
NORTH = 358465.3 +\-
EAST = 616237.3 +\-
ELEVATION = 476.42

**BENCH MARK 929**
RR SPIKE IN 14" ASH TREE
1382' RIGHT STA. 2017+59
NORTH = 356750.1 +\-
EAST = 618210.8 +\-
ELEVATION = 454.83

**BENCH MARK 930**
RR SPIKE IN 10" ELM TREE
1441' RIGHT STA. 2049+34
NORTH = 359136.6 +\-
EAST = 620306.1 +\-
ELEVATION = 448.95

**BENCH MARK 931**
RR SPIKE IN 14" OAK TREE
817' LEFT STA. 2039+06
NORTH = 359809.4 +\-
EAST = 617918.0 +\-
ELEVATION = 462.31

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## CONTROL MONUMENTS AND TRAVERSE POINTS

| POINT | EAST | NORTH | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 105 | 617386.6410 | 357484.6030 | 465.875 | AHTD GPS MON 650008 |
| 106 | 616208.1450 | 358530.0120 | 476.315 | AHTD GPS MON 650008A |
| | | | | |
| 34 | 616958.4821 | 356931.9049 | 473.994 | REBAR & CAP |
| 36 | 617887.3494 | 357077.8774 | 458.487 | REBAR & CAP |
| 37 | 617947.7106 | 357675.1185 | 464.793 | REBAR & CAP |
| 38 | 617974.1266 | 358281.9454 | 461.124 | REBAR & CAP |
| 39 | 618005.1735 | 358899.1204 | 457.067 | REBAR & CAP |
| 40 | 618009.4499 | 359618.5092 | 459.857 | REBAR & CAP |
| 41 | 618741.1865 | 359505.7637 | 458.343 | REBAR & CAP |
| 42 | 618645.1736 | 360697.4032 | 0.00 | REBAR & CAP |
| 43 | 619060.3682 | 361749.4370 | 0.00 | REBAR & CAP |

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/11/12

# HWY. 71 - HWY. 22
# U.S. HWY. 71 RELOCATION
## ARKANSAS STATE HIGHWAY COMMISSION
## SURVEY CONTROL AND CENTERLINE GEOMETRY
## JOB 040376 SEBASTIAN CO.

200 100 0 100 200 400

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 59 | 207 |

(2) SURVEY CONTROL DETAILS

BENCH MARK 933
ELEV. = 445.09

N 43°50'50" E
1044.49'

TRAV. PT. 44
I. PIN & CAP

N 56°19'26" E
687.33'

TRAV. PT. 45
I. PIN & CAP

N 34°09'58" E
757.06'

GPS PT. 104
AHTD GPS M-650007A

RAMP 4
P.I. 2078+94.28
N = 362372.4130
E = 621063.6400
Δ= 22°05'24" Lt.
D = 2°15'00"
T = 497.06'
L = 981.77'
R = 2546.48'
E = 48.06'
RADIUS POINT
N = 363636.2931
E = 618797.7561

68.5' LT. P.O.T. STA. 2073+97.22 U.S. HWY. 71 RELOC. =
P.C. STA. 2073+97.22 RAMP 4

P.O.T. STA. 43+43+84 ROBERTS BLVD. =
P.O.T. STA. 2087+50.92 RAMP 3 =
P.O.T. STA. 2090+42.20 RAMP 4

S 86°05'53" E
2397.93'

ROBERTS BLVD.

PI 2093+41.47

RAMP 3
P.I. 2093+41.47
N = 364036.5184
E = 621607.7854
Δ = 55°22'12" Rt.
D = 7°00'00"
T = 429.45'
L = 791.00'
R = 818.51'
E = 105.82'
RADIUS POINT
N = 363373.9429
E = 622252.2895

RAMP 3
P.I. 2105+25.60
N = 364392.5954
E = 622808.1206
Δ = 13°50'19" Lt.
D = 2°00'00"
T = 347.66'
L = 691.93'
R = 2864.79'
E = 21.02'
RADIUS POINT
N = 367040.2138
E = 621660.0799

RELOC. U.S. HWY. 71
P.I. 2105+96.45
N = 364392.1910
E = 622860.0020
Δ = 18°38'20" Rt.
D = 0°29'56"
T = 1884.41'
L = 3735.53'
R = 11482.92'
E = 153.59'
RADIUS POINT
N = 355541.5147
E = 630414.7296

RAMP 3
P.I. 2114+60.85
N = 364867.0300
E = 623618.0230
Δ = 5°26'22" Lt.
D = 3°00'00"
T = 90.73'
L = 181.32'
R = 1909.86'
E = 2.15'
RADIUS POINT
N = 364867.0300
E = 623618.0230

ALL BEARINGS SHOWN ARE TRUE GRID BEARINGS

56.5' LT. P.O.C. STA. 2115+51.44
U.S. HWY. 71 RELOC. =
P.T. STA. 2115+51.44 RAMP 3

P.O.C. STA. 2093+65.43 U.S. HWY. 71 RELOC. =
P.O.T. STA. 50+00.00 ROBERTS BLVD.

U.S. HWY. 71 RELOCATION

N 40°11'50" E

TRAV. PT. 50
I. PIN & CAP

N 75°59'30" E
266.42'

TRAV. PT. 51
I. PIN & CAP

TRAV. PT. 53
I. PIN & CAP

N 58°50'47" E
339.20'

N 17°20'12" E
319.75'

TRAV. PT. 52
I. PIN & CAP

N 49°09'27" E
226.33'

N 14°57'43" E
320.24'

N 4°27'42" E
233.25'

TRAV. PT. 48
I. PIN & CAP

TRAV. PT. 47
I. PIN & CAP

TRAV. PT. 49
I. PIN & CAP

68.5' RT. P.O.T. STA. 2113+35.29 U.S. HWY. 71 RELOC. =
P.T. STA. 2113+35.29 RAMP 2

P.T. 2124+47.56
N= 365367.3468
E= 624417.4766

TRAV. PT. 54
I. PIN & CAP

P.O.T. STA. 56+56.17 ROBERTS BLVD.
P.O.T. STA. 2098+46.33 RAMP 1 =
P.O.T. STA. 2097+59.34 RAMP 2

RAMP 2
P.I. 2106+17.98
N = 364230.1512
E = 622972.1125
Δ = 37°14'02" Rt.
D = 2°30'00"
T = 772.04'
L = 1489.35'
R = 2291.83'
E = 126.54'
RADIUS POINT
N = 362854.4810
E = 624961.0988

ROBERTS BLVD.
P.I. 64+22.42
N = 363390.9610
E = 623500.8100
Δ= 43°08'29" Rt.
D = 5°53'44"
T = 384.20'
L = 731.75'
R = 971.83'
E = 73.19'
RADIUS POINT
N = 362426.3240
E = 623098.8790

PI 2072+01.76
PT 2072+96.82
PC 2077+26.83
PI 2079+16.59
PT 2081+05.11

56.5' RT. P.O.T. STA. 2071+06.54 U.S. HWY. 71 RELOC. =
P.C. STA. 2071+06.54 RAMP 1

RAMP 1
P.I. 2072+01.76
N = 361762.7700
E = 620712.1580
Δ = 5°42'30" Rt.
D = 3°00'00"
T = 95.22'
L = 190.28'
R = 1909.86'
E = 2.37'
RADIUS POINT
N = 360457.3777
E = 622109.5054

RAMP 1
P.I. 2079+16.59
N = 362260.2920
E = 621225.6600
Δ = 11°20'53" Rt.
D = 3°00'00"
T = 189.76'
L = 378.27'
R = 1909.86'
E = 9.40'
RADIUS POINT
N = 360756.6030
E = 622418.3416

RAMP 1
P.I. 2096+36.37
N = 363191.2280
E = 622673.1650
Δ= 41°11'55" Lt.
D = 15°00'00"
T = 143.57'
L = 274.66'
R = 381.97'
E = 26.09'
RADIUS POINT
N = 363434.8352
E = 622345.7968

PI 2096+36.37
PC 2094+92.80
PT 2097+67.46
PC 2098+45.94

GPS PT. 103
AHTD GPS M-650007

BENCH MARK 932
ELEV. = 478.22

N 30°32'45" E
411.14'

N 37°17'03" W
475.37'

PC 60+38.38

PI 64+22.42

PT 67+69.98

S 45°48'34" E

S 88°57'03" E

## BENCH MARK SUMMARY

BENCH MARK 932
RR SPIKE IN 18" ASH TREE
804' RIGHT STA. 2100+80
NORTH = 363354.1 +\-
EAST = 623134.7 +\-
ELEVATION = 478.22

BENCH MARK 933
RR SPIKE IN POWER POLE
1537' LEFT STA. 2082+64
NORTH = 363602.7 +\-
EAST = 620180.4 +\-
ELEVATION = 445.09

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## CONTROL MONUMENTS AND TRAVERSE POINTS

| POINT | EAST | NORTH | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 103 | 623173.4310 | 363346.8170 | 476.997 | AHTD GPS MON 650007 |
| 104 | 620781.0710 | 363510.2320 | 442.788 | AHTD GPS MON 650007A |
| 44 | 619783.9277 | 362502.7115 | 0.00 | REBAR & CAP |
| 45 | 620355.9113 | 362883.8330 | 0.00 | REBAR & CAP |
| 46 | 623382.3828 | 363700.8972 | 0.00 | REBAR & CAP |
| 47 | 623355.1505 | 364175.4872 | 0.00 | REBAR & CAP |
| 48 | 623526.3713 | 364323.5021 | 0.00 | REBAR & CAP |
| 49 | 623609.0507 | 364632.8894 | 0.00 | REBAR & CAP |
| 50 | 623627.1958 | 364865.4360 | 0.00 | REBAR & CAP |
| 51 | 623722.8313 | 365170.5455 | 0.00 | REBAR & CAP |
| 52 | 624013.1108 | 365346.0230 | 0.00 | REBAR & CAP |
| 53 | 624271.6030 | 365410.5127 | 0.00 | REBAR & CAP |

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BAER
5/4/12

# HWY. 71 - HWY. 22
# U.S. HWY. 71 RELOCATION
ARKANSAS STATE HIGHWAY COMMISSION
SURVEY CONTROL AND CENTERLINE GEOMETRY
JOB 040376 SEBASTIAN CO.

200 100 0 100 200 400

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 60 | 207 |

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 5/1/12

FORT SMITH RELOC.
P.I. 23+27.90
N = 366593.9690
E = 625318.2730
Δ = 36°25'27" Lt.
D = 3°00'00"
T = 628.38'
L = 1214.14'
R = 1909.86'
E = 100.72'
RADIUS POINT
N = 368580.8943
E = 625010.7860

FORT SMITH RELOC.
P.I. 40+95.28
N = 367415.9431
E = 626930.8515
Δ = 35°49'04" Lt.
D = 3°30'00"
T = 529.02'
L = 1023.36'
R = 1637.02'
E = 83.36'
RADIUS POINT
N = 368634.1748
E = 625716.1005

RAMP 1
P.I. 2176+47.00
N = 367999.3747
E = 628957.0416
Δ = 40°08'44" Rt.
D = 11°30'00"
T = 182.06'
L = 349.09'
R = 498.22'
E = 32.22'
RADIUS POINT
N = 367478.8375
E = 629059.0849

S.H. 22
P.I. 37+98.48
N = 368260.4820
E = 627338.7090
Δ = 6°07'48" Lt.
D = 1°00'00"
T = 306.80'
L = 613.01'
R = 5729.58'
E = 8.21'
RADIUS POINT
N = 373335.7514
E = 630015.2420

RAMP 4
P.I. 2163+80.60
N = 368531.9996
E = 628483.5786
Δ = 15°54'32" Rt.
D = 8°00'00"
T = 100.07'
L = 198.86'
R = 716.20'
E = 6.96'
RADIUS POINT
N = 367997.1654
E = 628970.3080

RAMP 4
P.I. 2169+75.86
N = 368868.5964
E = 628976.0948
Δ = 128°38'18" Rt.
D = 24°00'00"
T = 496.47'
L = 535.99'
R = 238.73'
E = 312.16'
RADIUS POINT
N = 368373.5121
E = 628938.9668

FUTURE RAMP 3
P.I. 2176+47.68
N = 368738.0661
E = 628578.1461
Δ = 43°19'52" Rt.
D = 7°00'00"
T = 325.16'
L = 619.02'
R = 818.51'
E = 62.22'
RADIUS POINT
N = 367964.7478
E = 628999.6504

S.H. 22
P.I. 53+50.14
N = 367610.8510
E = 628748.4720
Δ = 12°37'04" Rt.
D = 2°00'00"
T = 316.73'
L = 630.89'
R = 2864.79'
E = 17.46'
RADIUS POINT
N = 365141.5703
E = 627261.8705

FUTURE FR. RD. LOCAL RD.
P.I. 23+69.63
N = 367908.7050
E = 629907.6730
Δ = 38°26'58" Rt.
D = 11°30'00"
T = 173.74'
L = 334.34'
R = 498.22'
E = 29.42'
RADIUS POINT
N = 367707.4197
E = 630395.4202

FORT SMITH CONN.
P.I. 61+75.13
N = 365657.9291
E = 627223.8151
Δ = 32°44'56" Rt.
D = 8°45'00"
T = 192.40'
L = 374.27'
R = 654.81'
E = 27.68'
RADIUS POINT
N = 365483.7136
E = 626563.9341

RAMP 1
P.I. INACCESSIBLE
N = N/A
E = N/A
Δ = 206°30'48" Rt.
D = 22°00'00"
T = N/A
L = 938.70'
R = 260.44'
E = N/A
RADIUS POINT
N = 367713.7108
E = 629096.2074

## BENCH MARK SUMMARY

**BENCH MARK 932**
RR SPIKE IN 18" ASH TREE
804' RT. STA. 2100+79.71
NORTH = 363354.1 +\-
EAST = 623134.7 +\-
ELEVATION = 478.22

**BENCH MARK 934**
RR SPIKE IN 12" ELM TREE
332' RT. STA. 2147+38.27
NORTH = 366268.5 +\-
EAST = 626604.4 +\-
ELEVATION = 430.10

**BENCH MARK 935**
RR SPIKE IN 12 " ELM TREE
320' LT. 2157+38.57
NORTH = 367344.7 +\-
EAST = 627122.6 +\-
ELEVATION = 413.10

**BENCH MARK 936**
RR SPIKE IN 6" OAK TREE
260' LT. STA. 2170+43.21
NORTH = 367968.4 +\-
EAST = 628270.1 +\-
ELEVATION = 417.66

## BENCH MARK SUMMARY

**BENCH MARK 937**
RR SPIKE IN TWIN 12" OAK TREE
313' RT. STA. 2173+27.20
NORTH = 367624.8 +\-
EAST = 6288009.8 +\-
ELEVATION = 410.95

**BENCH MARK 938**
RR SPIKE IN 14" ELM TREE
1140' RT. STA. 2174+08.74
NORTH = 366959.4 +\-
EAST = 629307.4 +\-
ELEVATION = 406.02

**BENCH MARK 939**
RR SPIKE IN 12" HACKBERRY TREE
1438' RT. STA. 2179+76.33
NORTH = 366997.9 +\-
EAST = 629947.5 +\-
ELEVATION = 404.57

**BENCH MARK 940**
RR SPIKE IN 36" OAK TREE
84' LT. STA. 2189+94.71
NORTH = 368827.1 +\-
EAST = 630030.9 +\-
ELEVATION = 413.75

THE HORIZONTAL DATUM FOR THIS POJECT IS NAD83(1997) ADJUSTED BY THE AVERAGE PROJECT COMBINED FACTOR OF 0.999938638. TO ACHIEVE ARKANSAS NORTH ZONE STATE PLANE COORDINATES, MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE PROJECT FACTOR. ALL BEARINGS SHOWN ARE ARKANSAS STATE PLANE NORTH ZONE GRID. VERTICAL DATUM IS NAVD88.

## CONTROL MONUMENTS AND TRAVERSE POINTS

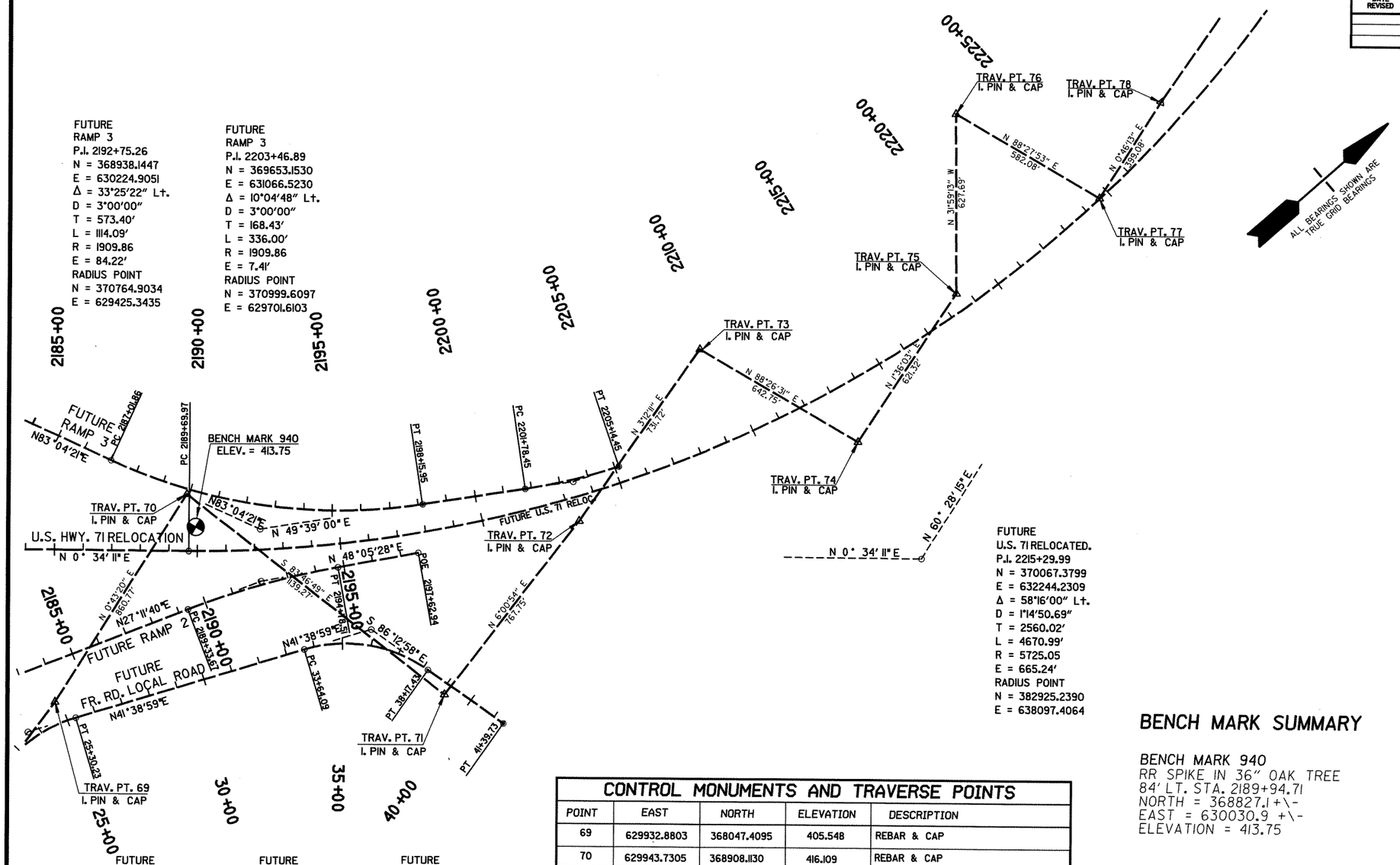
| POINT | EAST | NORTH | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 53 | 624271.6030 | 365410.5127 | 0.00 | REBAR & CAP |
| 54 | 624558.8014 | 365425.4149 | 0.00 | REBAR & CAP |
| 55 | 624993.6244 | 365680.0932 | 0.00 | REBAR & CAP |
| 56 | 625257.6037 | 365834.8823 | 0.00 | REBAR & CAP |
| 57 | 625485.0064 | 365910.0746 | 0.00 | REBAR & CAP |
| 58 | 625674.3787 | 365907.5880 | 0.00 | REBAR & CAP |
| 59 | 625818.9836 | 366020.9021 | 0.00 | REBAR & CAP |
| 60 | 625882.7450 | 366211.2744 | 0.00 | REBAR & CAP |
| 61 | 626097.7449 | 366425.8797 | 0.00 | REBAR & CAP |
| 62 | 626584.8461 | 366339.2263 | 427.013 | REBAR & CAP |
| 63 | 626921.8205 | 366951.1293 | 420.702 | REBAR & CAP |
| 64 | 627202.8537 | 367603.3113 | 420.283 | REBAR & CAP |
| 65 | 627476.9270 | 368095.3089 | 431.079 | REBAR & CAP |
| 66 | 628052.1673 | 367876.7722 | 417.733 | REBAR & CAP |
| 67 | 628729.5206 | 367627.2411 | 411.406 | REBAR & CAP |
| 68 | 629850.6079 | 367101.2449 | 405.056 | REBAR & CAP |
| 69 | 629932.8803 | 368047.4095 | 405.548 | REBAR & CAP |

# HWY. 71 - HWY. 22
# U.S. HWY. 71 RELOCATION
## ARKANSAS STATE HIGHWAY COMMISSION
## SURVEY CONTROL AND CENTERLINE GEOMETRY
## JOB 040376 SEBASTIAN CO.

200 100 0 100 200 400

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 61 | 207 |

## (2) SURVEY CONTROL DETAILS




FUTURE
U.S. 71 RELOCATED.
P.I. 2215+29.99
N = 370067.3799
E = 632244.2309
Δ = 58°16'00" Lt.
D = 1°14'50.69"
T = 2560.02'
L = 4670.99'
R = 5725.05
E = 665.24'
RADIUS POINT
N = 382925.2390
E = 638097.4064

FUTURE
RAMP 2
P.I. 2192+06.91
N = 368785.1991
E = 630323.4518
Δ = 10°53'48" Rt.
D = 2°00'00"
T = 273.24'
L = 544.83'
R = 2864.79
E = 13.00'
RADIUS POINT
N = 366835.7138
E = 632440.3324

FUTURE
FR. RD. LOCAL RD.
P.I. 23+69.63
N = 367908.7050
E = 629907.6730
Δ = 38°26'58" Rt.
D = 11°30'00"
T = 173.74'
L = 334.34'
R = 498.22
E = 29.42'
RADUS POINT
N = 367707.4197
E = 630395.4202

FUTURE
FR. RD. LOCAL RD.
P.I. 36+07.81
N = 368843.7180
E = 630739.2710
Δ = 52°08'03" Rt.
D = 11°30'00"
T = 243.72'
L = 453.34'
R = 498.88
E = 56.42'
RADIUS POINT
N = 36330.4955
E = 630949.5821

THE HORIZONTAL DATUM FOR THIS POJECT IS NAD83(1997) ADJUSTED BY THE AVERAGE PROJECT COMBINED FACTOR OF 0.999938638. TO ACHIEVE ARKANSAS NORTH ZONE STATE PLANE COORDINATES, MULTIPLY THE PROJECT COORDINATES BY THE AVERAGE PROJECT FACTOR. ALL BEARINGS SHOWN ARE ARKANSAS STATE PLANE NORTH ZONE GRID. VERTICAL DATUM IS NAVD88.

## CONTROL MONUMENTS AND TRAVERSE POINTS

| POINT | EAST | NORTH | ELEVATION | DESCRIPTION |
|---|---|---|---|---|
| 69 | 629932.8803 | 368047.4095 | 405.548 | REBAR & CAP |
| 70 | 629943.7305 | 368908.1130 | 416.109 | REBAR & CAP |
| 71 | 631076.2902 | 368784.6814 | 404.599 | REBAR & CAP |
| 72 | 631156.7415 | 369548.2011 | 411.025 | REBAR & CAP |
| 73 | 631197.6255 | 370278.7797 | 418.216 | REBAR & CAP |
| 74 | 631840.1423 | 370296.2549 | 411.940 | REBAR & CAP |
| 75 | 631857.5000 | 370917.3353 | 420.238 | REBAR & CAP |
| 76 | 631524.9951 | 371449.7229 | 425.451 | REBAR & CAP |
| 77 | 632106.8626 | 371465.3173 | 412.836 | REBAR & CAP |
| 78 | 632112.2276 | 371864.3618 | 404.419 | REBAR & CAP |
| 79 | 632138.3253 | 372329.5489 | 400.764 | REBAR & CAP |
| 80 | 632168.3247 | 372794.4010 | 398.001 | REBAR & CAP |
| 81 | 632244.0976 | 373011.4548 | 390.967 | REBAR & CAP |
| 82 | 632485.9626 | 373383.0694 | 393.411 | REBAR & CAP |
| 83 | 632555.9398 | 373654.6791 | 384.109 | REBAR & CAP |

## BENCH MARK SUMMARY

BENCH MARK 940
RR SPIKE IN 36" OAK TREE
84' LT. STA. 2189+94.71
NORTH = 368827.1 +\-
EAST = 630030.9 +\-
ELEVATION = 413.75

**FOR INFORMATION ONLY NOT WITHIN JOB 040376 LIMITS**

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR

# HWY. 71 - HWY. 22
# U.S. HWY. 71 RELOCATION
ARKANSAS STATE HIGHWAY COMMISSION
SURVEY CONTROL AND CENTERLINE GEOMETRY
JOB 040376 SEBASTIAN CO.

200 100 0 100 200 400

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
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| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 62 | 207 |

(2) PLAN STA. 1830+00 TO 1858+00

| FUTURE GUARDRAIL | | | | FUTURE GUARDRAIL (TYPE A) | FUTURE GUARDRAIL TERMINAL (TYPE 2) | FUTURE THRIE BEAM GUARDRAIL TERMINAL |
|---|---|---|---|---|---|---|
| STA. 1852+99.23 | TO | STA. 1856+17.98 | (RT. OF N.B. LANES) | = 250 L.F. | 1 EACH | 1 EACH |
| STA. 1853+39.64 | TO | STA. 1856+58.39 | (LT. OF N.B. LANES) | = 250 L.F. | 1 EACH | 1 EACH |

FUTURE CONSTRUCTION
FOR INFORMATION ONLY

N

700' FUTURE ACCEL LANE
300' FUTURE TAPER
500' FUTURE ACCEL LANE

1830+00
1835+00
1840+00
1845+00
1850+00
1855+00
1860+00
1865+00
45+00
40+00
35+00
30+00

PI 1832+34.37
PT 1832+68.85
PC 1831+99.88
PT 1832+17.25
PC 1833+44.89
PI 1837+07.32
PC 1836+69.13
PT 1837+45.51
PC 1840+33.62
PI 1844+73.22
PT 1843+23.07
PC 1842+51.65
PI 1848+89.63
PC 1848+22.27
PI 1849+58.11
PT 1850+93.83
PT 1852+42.43
PC 1853+74.33
PI 1856+16.11
PC 1855+57.05
PC 1839+74.34
PI 1875+90.94

FUTURE 10'X8' R.C.BOX
FUTURE 24" RCP
FUTURE 30" RCP
FUTURE 36" RCP
FUTURE 48" RCP
FUTURE GRADE TO DRAIN
FUTURE N.B. COLLECTOR/DISTRIBUTOR
FUTURE RAMP 1
FUTURE RAMP 2
FUTURE RAMP 3
FUTURE RAMP 4
FUTURE RAMP 7
FUTURE RAMP 8
FUTURE RD. CLOSURE BARRIER
TREECE RD. TO BE REMOVED UNDER FUTURE JOB
EXIST. R.O.W.
50' ESMT.
℄ CONST.
N 12°23'26" E
P.O.T. STA. 31+80.42 ℄ EXIST. U.S. 71 =
P.O.T. STA. 1853+24.52 ℄ TEMP. RAMP 4
BEGIN CONST. STA. 1853+68.52 TEMP. RAMP 4
END GRADING STA. 1854+50.00 TEMP. RAMP 4
TEMP. RAMP 4
EXIST. U.S. 71
FUTURE SPCL. 3' F.B. DT.
FUTURE SPCL. 4' F.B. DT.
FUTURE SPCL. 4' F.B. DT.
24" RCP
18" CMP
PASTURE
WOODS
TREES
BARB WIRE
FENCE

SEE SURVEY CONTROL SHEETS FOR FUTURE RAMP & CD ROAD GEOMETRY

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=100' HORIZ.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 63 | 207 |

(2) PROFILE STA. 1830+00 TO 1858+00

| FUTURE BRIDGE DATA U.S. 71 RELOC./ EXIST. U.S. 71 | | |
|---|---|---|
| | BRIDGE A | BRIDGE B |
| BEGIN BRIDGE | STA. 1857+06.67 | STA. 1856+64.46 |
| END BRIDGE | STA. 1860+29.17 | STA. 1859+86.96 |
| LENGTH | 322' - 6" | 322' - 6" |
| SPANS | 320' - 0" CONT. PLATE GIRDER UNIT (60'-100'-100'-60') | 320' - 0" CONT. PLATE GIRDER UNIT (60'-100'-100'-60') |

630 620 610 600 590 580 570 560 550 540 530 520 510 500 490 480 470 460

PVT 1830+60.37
EL. 492.09

MAX. SUPER. e = +3.7%

+35

350' TRANS. FROM +3.7% TO -2.0%

+85

+00
10'X8' RCBC (FUTURE)

+00
TY. RM D.I. (FUTURE)
W/ 24" RCP
TOP D.I. = 492.00
F.L. D.I. = 487.70
102' RT. OF ℄
TOP D.I. = 492.30
F.L. D.I. = 486.70
F.L. OUTLET 480.50
℄ MEDIAN

+00
TY. RM D.I. (FUTURE)
W/ 24" RCP
TOP D.I. = 497.60
F.L. D.I. = 492.40
104' RT. OF ℄
TOP D.I. = 497.60
F.L. D.I. = 491.90
℄ MAIN LANE MEDIAN

+00
TY. ST D.I. (FUTURE)
W/ 24" RCP
TOP D.I. = 502.40
F.L. D.I. = 491.50
F.L. OUTLET = 485.20
74' LT. OF ℄

PROPOSED FUTURE GRADE

1.07%

EXISTING GROUND

+00
TY. RM D.I. (FUTURE)
W/ 24" RCP
TOP D.I. = 505.00
F.L. D.I. = 500.70
℄ MAIN LANE MEDIAN

+00
TY. ST D.I. (FUTURE)
W/ 24" RCP
TOP D.I. = 509.80
F.L. D.I. = 505.40
74' LT. OF ℄
TOP D.I. = 509.10
F.L. D.I. = 500.30
F.L. OUTLET 492.40
80' RT. OF ℄

+00
TY. RM D.I. (FUTURE)
W/ 24" RCP
TOP D.I. = 510.40
F.L. D.I. = 506.10
℄ MAIN LANE MEDIAN

+00
TY. ST D.I. (FUTURE) (2)
W/ 24" RCP
TOP D.I. = 515.30
F.L. D.I. = 510.90
72' RT. OF ℄
TOP D.I. = 515.30
F.L. D.I. = 505.80
72' LT. OF ℄

+50
36" (FUTURE RCP)
F.L. INLET= 490.00
F.L. OUTLET= 487.70
4" WATER LINE

2:1

BEGIN BRIDGE SEE TABLE THIS SHEET

EL. 521.47

FUTURE BRIDGES SEE TABLE

FUTURE CONSTRUCTION FOR INFORMATION ONLY

1830+00 1835+00 1840+00 1845+00 1850+00 1855+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=100' HORIZ.
1"=10' VERT.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 64 | 207 |

## (2) PLAN STA. 1858+00 TO 1886+00

| | FUTURE GUARDRAIL (TYPE A) | FUTURE GUARDRAIL TERMINAL (TYPE 2) | FUTURE THRIE BEAM GUARDRAIL TERMINAL |
|---|---|---|---|
| FUTURE GUARDRAIL | | | |
| STA. 1860+35.24 TO STA. 1863+53.99 (LT. OF S.B. LANES) | = 250 L.F. | 1EACH | 1EACH |
| STA. 1860+75.65 TO STA. 1863+94.40 (RT. OF S.B. LANES) | = 250 L.F. | 1EACH | 1EACH |

STA. 1864+50 ℄ U.S. 71 RELOC - IN PLACE
DBL. 6' X 5' X 409' R.C. BOX CULV'T
D.A. = 151.5 ac, Q50 = 337.9 cfs
RETAIN

STA. 1864+66 ℄ RAMP 5 @ U.S. 71 RELOC - IN PLACE
10' X 5' X 215' R.C. BOX CULV'T
(30° RT. FWD. SKEW)
D.A. = 129.8 ac, Q50 = 286.6 cfs
RETAIN

P.O.T. STA. 49+94.16 ℄ EXIST. U.S. 71=
P.O.T. STA. 1860+08.20 ℄ TEMP. RAMP 5

STA. 1864+10 ℄ RAMP 4 @ EXIST. U.S. 71 - IN PLACE
DBL 6' X 5' X 209' R.C. BOX CULV'T
(20° LT. FWD. SKEW)
D.A. = 160.5 ac, Q50 = 335.4 cfs
RETAIN

STA. 1875+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 4'-10"
WITH 24" X 96' R.C. PIPE CULV'T LT.
(CLASS III) WITH TYPE 3 BEDDING
WITH TYPE "RM" DROP INLET 99' LT.
4'-0" X 3'-0" X H = 4'-4"
AND 24" X 70' R.C. PIPE CULV'T RT.
(CLASS III) WITH TYPE 3 BEDDING
WITH TYPE "ST" DROP INLET 72.5' RT.
4'-0" X 3'-0" X H = 10'-5"
PLUS 24" X 96' R.C. PIPE CULV'T RT.
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
CONCRETE DITCH PAVING (TYP. B, W=4'-0")
W/ENERGY DISSIPATORS= 56 SQ. YD.
RETAIN

STA. 1865+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 70' R.C. PIPE CULV'T LT.
(CLASS III) WITH TYPE 3 BEDDING
WITH TYPE "ST" DROP INLET 72.5' LT.
4'-0" X 3'-0" X H = 5'-6"
AND 24" X 70' R.C. PIPE CULV'T RT.
(CLASS III) WITH TYPE 3 BEDDING
WITH TYPE "ST" DROP INLET 72.5' RT.
4'-0" X 3'-0" X H = 8'-10"
PLUS 24" X 58' R.C. PIPE CULV'T RT.
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
CONCRETE DITCH PAVING (TYP. B, W=4'-0")
W/ENERGY DISSIPATORS= 32 SQ. YD.
RETAIN

STA. 1871+25 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET 84' LT.
4'-0" X 3'-0" X H = 6'-0"
WITH 24" X 225' R.C. PIPE CULV'T LT.
(CLASS III) WITH TYPE 3 BEDDING
TIE TO TYPE "ST" DROP INLET
AT STA. 1869+00 72.5' LT.
RETAIN

STA. 1860+55 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 4'-4"
WITH 24" X 80' R.C. PIPE CULV'T LT.
(28° LT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH TYPE "ST" DROP INLET 72.5' LT.
4'-0" X 3'-0" X H = 5'-5"
AND 24" X 80' R.C. PIPE CULV'T RT.
(28° LT. FWD SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH TYPE "ST" DROP INLET 72.5' RT.
4'-0" X 3'-0" X H = 9'-6"
PLUS 24" X 68' R.C. PIPE CULV'T RT.
(0° SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
CONCRETE DITCH PAVING (TYP. B, W=4'-0")
W/ENERGY DISSIPATORS= 25 SQ. YD.
RETAIN

STA. 1883+50 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 124' R.C. PIPE CULV'T RT.
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

STA. 1869+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 70' R.C. PIPE CULV'T LT.
(CLASS III) WITH TYPE 3 BEDDING
WITH TYPE "ST" DROP INLET 72.5' LT.
4'-0" X 3'-0" X H = 8'-8"
PLUS 24" X 78' R.C. PIPE CULV'T LT.
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
CONCRETE DITCH PAVING (TYP. B, W=4'-0")
W/ENERGY DISSIPATORS= 36 SQ. YD.
AND 24" X 70' R.C. PIPE CULV'T RT.
(CLASS III) WITH TYPE 3 BEDDING
WITH TYPE "ST" DROP INLET 72.5' RT.
4'-0" X 3'-0" X H = 5'-6"
RETAIN

STA. 1860+00 ℄ RAMP 4 @ EXIST. U.S. 71 - IN PLACE
36" X 230' R.C. PIPE CULV'T
(CLASS V) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 9.2 ac, Q50 = 35.2 cfs
RETAIN

SEE INTERCHANGE LAYOUT FOR RAMP & CD ROAD GEOMETRY

P.O.T. STA. 1858+46.91 ℄ U.S. 71 RELOCATED=
P.O.T. STA. 38+80.06 ℄ EXIST. U.S. 71
65°51'00"

P.O.T. STA. 1885+93.77 ℄ U.S. 71 RELOCATED=
P.O.T. STA. 57+55.47 ℄ COUNTY RD. 8

℄ MEDIAN
STA. 1874+50.00
BEGIN JOB 040376

500' ACCEL LANE | 300' TAPER | 700' ACCEL LANE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=100' HORIZ.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 65 | 207 |

(2) PROFILE STA. 1858+00 TO 1886+00

STA. 1885+93.77 ℄ U.S. 71 RELOC. =
STA 57+55.47 ℄ COUNTY ROAD 8

℄ MEDIAN
STA. 1874+50
BEGIN JOB 040376

PROPOSED GRADE

PVC 1881+80.00
EL. 573.94

+50
TY. RM. D.I.
W/ 24" RCP
TOP D.I. = 572.80
F.L. D.I. = 569.80
℄ MEDIAN
F.L. OUTLET = 568.10

PVT 1871+82.25
EL. 544.01

3.00%

EXISTING GROUND
℄ GRADE POINT

PROPOSED FUTURE GRADE

PVC 1863+82.25
EL. 527.72

V.C. = 800.00'
G1 = 1.073%
G2 = 3.000%
E = 1.93'
K = 415.07

PVI 1867+82.25
EL. 532.01

FUTURE BRIDGES

END BRIDGE SEE TABLE SHEET 36

1.07%

2:1

+55
TYPE RM D.I.
TOP D.I. = 518.53
F.L. D.I. = 514.20
ML ℄

+94
TYPE ST INLET
TOP D.I. = 523.80
F.L. D.I. = 518.40
72.5' LT. OF ℄

+18
TYPE ST INLET
TOP D.I. = 522.90
F.L. D.I. = 513.40
72.5' RT. OF ℄
F.L. OUTLET = 494.40
203' RT. ℄

U.G. TEL.
20" GAS LINE
12" WATER LINE
GAS LINE

+00
TYPE ST INLET (2)
TOP D.I. = 528.30
F.L. D.I. = 522.80
72.5' LT. OF ℄
TOP D.I. = 528.30
F.L. D.I. = 519.50
72.5' RT. OF ℄
F.L. OUTLET = 496.00
205' RT. ℄

+00
TYPE RM D.I.
TOP D.I. = 523.20
F.L. D.I. = 520.20
ML ℄

+50
DBL. 6'X5' BOX CULV'T
F.L. INLET = 493.50
F.L. OUTLET = 491.00

+00
TYPE ST INLET (2)
TOP D.I. = 535.60
F.L. D.I. = 530.10
72.5' RT. OF ℄
TOP D.I. = 535.60
F.L. D.I. = 526.90
72.5' LT. OF ℄
F.L. OUTLET = 520.70
234' LT. ℄

+00
TYPE RM D.I.
TOP D.I. = 530.60
F.L. D.I. = 527.60
ML ℄

+00
TYPE RM INLET
TOP D.I. = 547.80
F.L. D.I. = 543.50
99' LT. OF ℄

+00
TYPE ST INLET
TOP D.I. = 552.70
F.L. D.I. = 542.30
72.5' RT. OF ℄
F.L. OUTLET = 503.10
290' RT. ℄

+00
TYPE RM D.I.
TOP D.I. = 547.60
F.L. D.I. = 542.80
ML ℄

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

590 580 570 560 550 540 530 520 510 500 490 480 470 460

630 620 610 600 590 580 570 560 550 540 530 520 510 500 490 480 460

I860+00 I865+00 I870+00 I875+00 I880+00 I885+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/11/12

SCALE: 1"=100' HORIZ.
1"=10' VERT.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
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| | | | |
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|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 66 | 207 |

# (2) U.S. 71 INTERCHANGE LAYOUT

**FUTURE S.B. COLLECT./DIST.**
P.I. 1832+34.37
N = 341588.4590
E = 608799.8790
Δ = 2°04'09" Lt.
D = 3°00'00"
T = 34.49'
L = 68.97'
E = 0.31'
MATCH MAIN LANE

**FUTURE S.B. COLLECT./DIST.**
P.I. 1837+07.32
N = 342054.0930
E = 608882.8140
Δ = 2°17'29" Rt.
D = 3°00'00"
T = 38.20'
L = 76.38'
E = 0.38'
NO SUPER

**FUTURE RAMP 7**
C. C.
N = 344025.3247
E = 608999.5104
Δ = 295°47'42" Rt.
D = 19°05'55"
L = 1548.78'
e = 9.50%
Ls = 210'

**FUTURE RAMP 8**
P.I. 1844+73.22
N = 342804.6990
E = 609038.5020
Δ = 32°06'09" Lt.
D = 3°45'00"
T = 439.60'
L = 856.07'
E = 61.98'
e = 6.90%
Ls = 215'

**FUTURE RAMP 8**
P.I. 1866+27.05
N = 344854.0850
E = 608304.2330
Δ = 28°02'21" Lt.
D = 4°45'00"
T = 301.19'
L = 590.30'
E = 37.03'
e = 8.00%
Ls = 250'

**FUTURE RAMP 8**
P.I. 1871+28.24
N = 345199.1790
E = 607924.2980
Δ = 5°42'29" Lt.
D = 3°00'00"
T = 95.21'
L = 190.27'
E = 2.37'
NO SUPER

**FUTURE RAMP 1**
P.I. 1856+16.11
N = 343819.8180
E = 609713.1140
Δ = 112°12'30" Rt.
D = 6°15'00"
T = 1364.45'
L = 1795.33'
E = 727.08'
e = 9.30%
Ls = 275'

**FUTURE N.B. COLLECT./DIST.**
P.I. 1828+24.01
N = 341164.5990
E = 608845.3060
Δ = 11°38'05" Rt.
D = 3°00'00"
T = 194.58'
L = 387.82'
E = 9.89'
MATCH MAIN LANE

**FUTURE N.B. COLLECT./DIST.**
P.I. 1838+35.17
N = 342127.0020
E = 609159.8490
Δ = 9°46'55" Lt.
D = 1°00'00"
T = 490.28'
L = 978.18'
E = 20.94'
e = 2.10%
Ls = 300'

**FUTURE RAMP 2**
C. C.
N = 343450.2070
E = 609685.0730
Δ = 242°11'28" Rt.
D = 19°05'55"
L = 1268.11'
e = 9.50%
Ls = 210'

**FUTURE N.B. COLLECT./DIST.**
P.I. 1849+58.11
N = 343240.4840
E = 609322.6290
Δ = 4°04'25" Rt.
D = 1°30'00"
T = 135.84'
L = 271.57'
E = 2.41'
e = 3.10%
Ls = 200'

**RAMP 5**
P.I. 1869+35.39
N = 344416.4700
E = 609143.4270
Δ = 108°26'30" Lt.
D = 5°45'00"
T = 1382.67'
L = 1885.94'
E = 707.86'
e = 6.80%
Ls = 200'

**TEMP. RAMP 5**
P.I. 1861+71.72
N = 344933.0210
E = 608639.5610
Δ = 26°53'14" Rt.
D = 11°27'33"
T = 119.52'
L = 234.64'
E = 14.09'
e = 4.50%
Ls = 150'

**FUTURE RAMP 6**
C. C.
N = 344774.5410
E = 609164.1080
Δ = 245°51'01" Rt.
D = 19°05'55"
L = 1287.27'
e = 9.50%
Ls = 210'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/16/12

STA. 1874+50.00
BEGIN JOB 040376

**S.B. COLLECT./DIST.**
P.I. 1866+63.58
N = 344947.7070
E = 609518.5210
Δ = 4°04'25" Lt.
D = 1°30'00"
T = 135.84'
L = 271.57'
E = 2.41'
e = 3.10%
Ls = 200'

**S.B. COLLECT./DIST.**
P.I. 1877+90.64
N = 346063.0300
E = 609681.5700
Δ = 9°46'54" Rt.
D = 1°00'00"
T = 490.28'
L = 978.18'
E = 20.94'
e = 2.10%
Ls = 200'

**S.B. COLLECT./DIST.**
P.I. 1889+04.94
N = 347124.4640
E = 610028.4780
Δ = 5°42'30" Lt.
D = 3°00'00"
T = 95.22'
L = 190.28'
E = 2.37'
NO SUPER

NOTE: SEE NEXT PAGE FOR ADDITIONAL INFORMATION

**TEMP. RAMP 4**
P.I. 1858+48.64
N = 344072.7860
E = 610300.0970
Δ = 58°58'28" Lt.
D = 11°27'33"
T = 282.74'
L = 514.65'
E = 74.41'
e = 4.50%
Ls = 150'

**RAMP 4**
P.I. 1842+39.91
N = 342770.7460
E = 611090.4230
Δ = 5°42'29" Rt.
D = 3°00'00"
T = 95.21'
L = 190.27'
E = 2.37'
NO SUPER

**RAMP 4**
P.I. 1849+36.66
N = 343244.9810
E = 610579.7630
Δ = 28°27'03" Rt.
D = 4°45'00"
T = 305.79'
L = 598.97'
E = 38.16'
e = 8.00%
Ls = 250'

**RAMP 4**
P.I. 1872+84.74
N = 345481.4930
E = 609824.1770
Δ = 31°03'28" Rt.
D = 2°45'00"
T = 578.93'
L = 1129.37'
E = 78.94'
e = 5.30%
Ls = 200'

**FUTURE RAMP 3**
C. C.
N = 344220.6250
E = 609854.3280
Δ = 297°53'04" Rt.
D = 19°05'55"
L = 1559.72'
e = 9.50%
Ls = 210'

**N.B. COLLECT./DIST.**
P.I. 1881+32.82
N = 346339.5810
E = 610003.4800
Δ = 2°17'31" Lt.
D = 3°00'00"
T = 38.21'
L = 76.40'
E = 0.38'
NO SUPER

**N.B. COLLECT./DIST.**
P.I. 1886+07.99
N = 346807.3990
E = 610086.8010
Δ = 2°17'30" Rt.
D = 3°00'00"
T = 38.20'
L = 76.40'
E = 0.38'
NO SUPER

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| | | | | JOB NO. | | 040376 | 67 | 207 |

(2) U.S. 71 INTERCHANGE LAYOUT

**FUTURE RAMP 1**

(A) P.C. 1834+44.89 ℄ FUTURE RAMP 1= 118.67' RT. ℄ FUTURE U.S. 71 RELOC. STA. 1833+49.49

(B) P.C. 1833+44.89 ℄ FUTURE RAMP 1= STA. 1833+44.89 ℄ FUTURE N.B. C.D.

(C) P.T. 1860+46.98 ℄ FUTURE RAMP 1= 48.50' LT. ℄ EXIST. U.S. 71 STA. 20+99.95

**FUTURE RAMP 2**

(D) P.C. 1839+74.32 ℄ FUTURE RAMP 2= 48.50' LT. ℄ EXIST. U.S. 71 STA. 32+47.25

(E) P.T. 1852+42.43 ℄ FUTURE RAMP 2= 9.00' RT. ℄ FUTURE N.B.C.D. STA. 1852+40.60

(F) P.T. 1852+42.43 ℄ FUTURE RAMP 2= 96.50' RT. ℄ FUTURE U.S. 71 RELOC. STA. 1852+42.43

**FUTURE RAMP 3**

(G) P.C. 1860+31.22 ℄ FUTURE RAMP 3= 96.50' RT. ℄ U.S. 71 RELOC. STA. 1860+31.22

(H) P.T. 1875+90.94 ℄ FUTURE RAMP 3= 48.50' RT. ℄ EXIST. U.S. 71 STA. 36+15.82

**RAMP 4**

(I) P.C. 1841+44.70 ℄ RAMP 4= 36.50' RT ℄ EXIST. U.S. 71 STA. 16+38.18

(J) STA. 1860+80.55 ℄ RAMP 4= P.T. 1860+80.55 ℄ TEMP. RAMP 4

(K) P.T. 1878+35.18 ℄ RAMP 4= 96.50' RT. ℄ U.S. 71 RELOC. STA. 1878+35.18

(L) P.T. 1878+35.18 ℄ RAMP 4= 9.00' RT. ℄ N.B.C.D. STA. 1878+35.18

**TEMP. RAMP 4**

(M) P.C. 1853+24.52 ℄ TEMP. RAMP 4= P.T. 31+80.42 ℄ EXIST. U.S. 71

(N) P.T. 1860+80.55 ℄ TEMP. RAMP 4= STA. 1860+80.55 ℄ RAMP 4

**RAMP 5**

(O) P.C. 1855+52.72 ℄ RAMP 5= 48.50' RT. ℄ EXIST. U.S. 71 STA. 56+64.45

(P) STA. 1866+50.33 ℄ RAMP 5= STA. 1866+50.33 ℄ TEMP. RAMP 5

(Q) STA. 1882+78.54 ℄ RAMP 5= STA. 1882+78.54 ℄ S.B.C.D.

(R) P.T. 1882+78.54 ℄ RAMP 5= 118.80' LT. ℄ U.S. 71 RELOC. STA. 1882+81.49

**TEMP. RAMP 5**

(S) STA. 1860+08.20 ℄ TEMP. RAMP 5= STA. 49+94.16 ℄ EXIST. U.S. 71

(T) STA. 1866+50.33 ℄ TEMP. RAMP 5= STA. 1866+50.33 ℄ RAMP 5

**FUTURE RAMP 6**

(U) P.C. 1851+36.86 ℄ FUTURE RAMP 6= 48.50' RT. ℄ EXIST. U.S. 71 STA. 44+78.36

(V) P.C. 1864+24.13 ℄ FUTURE RAMP 6= 9.00' LT. ℄ S.B.C.D. STA. 1864+8.40

(W) P.T. 1864+24.13 ℄ FUTURE RAMP 6= 96.50' LT. ℄ U.S. 71 RELOC. STA. 1864+24.13

**FUTURE RAMP 7**

(X) P.C. 1872+05.83 ℄ FUTURE RAMP 7= 96.50' LT. ℄ FUTURE U.S. 71 RELOC. STA. 1856+57.05

(Y) P.T. 1872+05.83 ℄ FUTURE RAMP 7= 48.50' LT. ℄ EXIST. U.S. 71 STA. 41+54.49

**FUTURE RAMP 8**

(Z) P.C. 1840+33.62 ℄ FUTURE RAMP 8= 9.00' LT. ℄ FUTURE S.B.C.D. STA. 1840+34.25

(AA) P.C. 1840+33.62 ℄ FUTURE RAMP 8= 96.50' LT. ℄ FUTURE U.S. 71 RELOC. STA. 1840+33.62

(AB) P.T. 1872+23.30 ℄ FUTURE RAMP 8= 48.50' LT. ℄ EXIST. U.S. 71 STA. 58+22.51

**N.B. C.D.**

(AC) STA. 1826+29.43 ℄ FUTURE N.B.C.D.= 56.50' RT. ℄ FUTURE U.S. 71 RELOC. STA. 1826+29.43

(AD) STA. 1833+44.89 ℄ FUTURE N.B.C.D.= P.C. 1833+44.89 ℄ FUTURE RAMP 1

(AE) P.T. 1853+74.33 ℄ FUTURE N.B.C.D.= 87.50' RT. ℄ FUTURE U.S. 71 RELOC. STA. 1853+76.16

(AF) STA. 1878+35.18 ℄ N.B.C.D.= 87.50' RT. ℄ U.S. 71 RELOC. STA. 1878+35.18

(AG) STA. 1878+35.18 ℄ N.B.C.D.= 9.00' LT. ℄ RAMP 4 STA. 1878+35.18

(AH) P.T. 1886+46.19 ℄ N.B.C.D.= 68.50' RT. ℄ U.S. 71 RELOC. STA. 1886+45.83

**S.B. C.D.**

(AI) STA. 1831+99.88 ℄ FUTURE S.B.C.D.= 68.50' LT. ℄ FUTURE U.S. 71 RELOC. STA. 1831+99.88

(AJ) P.T. 1840+34.25 ℄ FUTURE S.B.C.D.= 9.00' RT. ℄ FUTURE RAMP 8 STA. 1840+33.62

(AK) P.T. 1840+34.25 ℄ FUTURE S.B.C.D.= 87.50' LT. ℄ FUTURE U.S. 71 RELOC. STA. 1840+33.62

(AL) P.T. 1862+47.23 ℄ S.B.C.D.= 87.50' LT. ℄ U.S. 71 RELOC. STA. 1862+52.96

(AM) P.O.T. 1864+18.40 ℄ S.B.C.D.= 9.00' LT. ℄ FUTURE RAMP 6 STA. 1864+24.13

(AN) STA. 1882+78.54 ℄ S.B.C.D.= STA. 1882+78.54 ℄ RAMP 5

(AO) P.T. 1890+00.01 ℄ S.B.C.D.= 56.50' LT. ℄ U.S. 71 RELOC. STA. 1890+04.18

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 5/1/12

| DATE REVISED | DATE FILED | DATE REVISED | DATE FILED |
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|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 68 | 207 |

(2) PROFILE N.B.C.D. & FUTURE N.B.C.D.

STA. 1886+04.83 ℄ NBCD =
STA. 58+25.25 ℄ COUNTY RD. 8

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

200' TRANS. FROM -5.3% TO -2.0% OUTSIDE LANE ONLY (SEE RAMP 4)

+85 +85

7.5' LT. STA. 1878+35.18 ℄ NBCD RD. =
80.00' RT. STA. 1878+35.18 ℄ U.S. 71 RELOC.
ELEV. 562.92

PROPOSED GRADE

3.09%

EXISTING GROUND ℄ GRADE POINT

PVC 1882+30.63
EL =574.78

PVI 1883+30.63
EL =577.78

2.31%

MAIN LANES

7.5' LT. STA. 1884+35.11 ℄ NBCD RD. =
67.92' RT. STA. 1884+34.58 ℄ U.S. 71 RELOC.
ELEV. 580.20

V.C. = 200.00'
G1 = 3.000%
G2 = +2.313%
m = -0.17'
K = 291.08

PVT 1884+30.63
EL =580.09

640 630 620 610 600 590 580 570 560 550

1875+00 1880+00 1885+00 1890+00

NORTHBOUND COLLECTOR/DISTRIBUTOR

530 520 510 500 490 480 470 460 450

1825+00 1830+00 1835+00 1840+00 1845+00 1850+00 1855+00

1.07% MAIN LANES

7.5' LT. STA. 1830+92.14 ℄ FUTURE NBCD RD. =
84.72' RT. STA. 1830+96.88 ℄ FUTURE U.S. 71 RELOC.
ELEV. 490.85

PROPOSED FUTURE GRADE

EXISTING GROUND

1.1%

7.5' LT. STA. 1852+75.87 ℄ FUTURE NBCD RD. =
80.00' RT. STA. 1852+77.70 ℄ FUTURE U.S. 71 RELOC.
ELEV. 515.19

FUTURE CONSTRUCTION
FOR INFORMATION ONLY

FUTURE NORTHBOUND COLLECTOR/DISTRIBUTOR

+20 300' TRANSITION FROM -3.7% TO +2.1% +20

MAXIMUM SUPERELEVATION +2.1%

+73 200' TRANSITION FROM +2.1% TO -2.0% +73

+72 200' TRANSITION FROM -2.0% TO -3.1% +72

MAX. SUPER. -3.1%

+44 200' TRANSITION FROM -3.1% TO -2.0% +44

SCALE: 1"=100' HORIZ.
1"=10' VERT.

STATE OF ARKANSAS
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No. 9808
JAMES L. BARR
5/1/12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
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| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
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| 6 | ARK. | | | |
| JOB NO. | | 040376 | 69 | 207 |

## (2) PROFILE S.B.C.D. & FUTURE S.B.C.D.

350' TRANSITION FROM +3.7% TO -2.0% (MATCH MAIN LANES)

+85

PVI 1834+05.01 EL. 495.59

PVI 1840+34.25 EL. 501.85

7.5' RT. STA. 1840+34.25 FUTURE SBCD RD. = 80.00' LT. STA. 1840+33.62 ℄ FUTURE U.S. 71 RELOC. ELEV. 501.85

PROPOSED FUTURE GRADE

MAIN LANES

1.07%

0.99%

7.5' RT. STA. 1834+05.01 ℄ FUTURE SBCD RD. = 67.92' LT. STA. 1834+04.91 ℄ FUTURE U.S. 71 RELOC. ELEV. 495.59

EXISTING GROUND

FUTURE CONSTRUCTION FOR INFORMATION ONLY

1835+00 1840+00 1845+00

FUTURE SOUTHBOUND COLLECTOR/DISTRIBUTOR

STA. 1885+73.55 ℄ U.S. 71 RELOC. = STA. 56+66.37 ℄ COUNTY RD. 8

7.5' RT. STA. 1885+46.02 SBCD RD. = 84.74' LT. STA. 1885+46.90 ℄ U.S. 71 RELOC. ELEV. 582.33

+78 200' TRAN. FROM -2.0% TO -3.1%

+78 MAX. SUPER e=-3.1%

+49 200' TRAN. FROM -3.1% TO -2.0%

+49 +50 200' TRAN. FROM -2.0% TO +2.1%

+50 +29 MAX. SUPER e=+2.1%

+29 200' TRAN. FROM +2.1% TO -2.0%

MAIN LANES

2.10%

℄ MEDIAN STA. 1874+50 BEGIN JOB 040376

PROPOSED GRADE

2.72%

V.C. = 400.00' G1 = 1.07% G2 = 3.23% E = 1.08' K = 185.24

PROPOSED FUTURE GRADE

PVI 1863+45.68 EL = 526.71

PVC 1865+00.00 EL = 528.36

PVI 1867+00.00 EL = 530.50

PVT 1869+00.00 EL = 536.96

3.23%

PVC 1870+50.00 EL = 541.80

PVI 1872+00.00 EL = 546.65

PVT 1873+50.00 EL = 550.73

EXISTING GROUND ℄ GRADE POINT

PVC 1882+46.02 EL = 575.10

PVI 1883+96.02 EL = 579.17

PVT 1885+46.02 EL = 582.33

V.C. = 300.00' G1 = 2.720% G2 = 2.10% E = -0.23' K = 485.28

V.C. = 300.00' G1 = 3.230% G2 = 2.720% E = -0.19' K = 588.23

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

7.5' RT. STA. 1863+45.68 SBCD RD. = 80.00' LT. STA. 1863+51.41 ℄ U.S. 71 RELOC. ELEV. 526.71

1.07%

SOUTHBOUND COLLECTOR/DISTRIBUTOR

1860+00 1865+00 1870+00 1875+00 1880+00 1885+00 1888+00

510 500 490 480 470 460 590 580 570 560 550 540 530 520 510 500 490 630 620 610 600 590 580 570 560 550 540 530 520 510 490

SCALE: 1"=100' HORIZ. 1"=10' VERT.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 5/1/12

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## (2) PROFILE FUTURE RAMPS 1 & 8

# FUTURE RAMP 1

1.1% N.B. CD RD.

PVI 1841+48.64 EL. 503.08

PVT 1843+48.64 EL. 501.25

PROPOSED FUTURE GRADE

-0.92%

-0.92%

EXISTING GROUND

SPCL. "V" DT. RT.

-0.8%

0.54%

-0.35%

PVC 1857+36.18 EL. 486.55

PVI 1858+36.18 EL. 487.63

PVT 1859+36.18 EL. 487.28

V.C. = 400.00'
GI =1.15%
G2 =-0.916%
E = -1.02'
K =197.00

7.5' LT. STA. 1839+48.64 ℄ FUTURE RAMP 1 =
24.26' RT. STA. 1839+47.20 ℄ FUTURE NBCD
ELEV. 500.85

+50 493.7

+05
DBL. 49"X33" (FUTURE RCPA)
F.L. INLET= 482.40
F.L. OUTLET= 482.00

+50 481.8

+50 480.9

+36 479.9

7.5' LT. STA. 1859+36.18 ℄ FUTURE RAMP 1 =
47.74' LT. STA. 22+41.39 ℄ EXISTING U.S. 71
487.28

V.C. = 200.00'
GI =-0.916%
G2 =-0.353%
E = 0.14'
K =355.60

MAXIMUM SUPERELEVATION
e =-9.3%

+45

+20

275' TRANSITION FROM
-2.0% TO -9.3%

+40

+15

275' TRANSITION FROM
-9.3% TO -1.6%
(MATCH EXIST. U.S. 71)

1839+00 1840+00 1845+00 1850+00 1855+00 1860+00 1865+00

520 510 500 490 480 470

## FUTURE CONSTRUCTION FOR INFORMATION ONLY

# FUTURE RAMP 8

1840+87

215' TRANSITION FROM
-2.0% TO -6.9%

MAXIMUM SUPERELEVATION
e=-6.9%

+36

215' TRANSITION FROM
-6.9% TO -2.0%

+51

PVI 1843+06.00 EL. 504.37

PVT 1844+06.00 EL. 504.39

MAIN LANES

1.07%

PROPOSED FUTURE GRADE

0.08%

7.5' RT. STA. 1842+06.00 ℄ FUTURE RAMP 8 =
98.76' LT. STA. 1842+06.48 ℄ FUTURE U.S. 71 RELOC.
ELEV. 503.24

V.C. = 200.00'
GI =1.073%
G2 =0.080%
E = -0.25'
K =201.49

+50
30" (FUTURE RCP)
F.L. INLET= 491.30
F.L. OUTLET= 490.70

14" WATER LINE

EXISTING GROUND

20" GAS LINE

+50 500.8

-1.00%

+00 499.3

SPCL. "V" DT. LT.

+23%

+00 500.0

1.50%

+00 501.5

PVC 1867+10.03 EL. 506.23

PVI 1868+10.03 EL. 506.31

1.42%

7.5' RT. STA. 1869+10.03 ℄ FUTURE RAMP 8 =
62.76' LT. STA. 55+09.38 ℄ EXISTING U.S. 71
ELEV. 507.73

V.C. = 200.00'
GI =0.080%
G2 =1.421%
E = 0.34'
K =149.11

+38

250' TRANSITION
FROM -2.0% TO -8.0%

+88

+60

MAX. SUPER
e=-8.0%

250' TRANSITION FROM -8.0%
TO MATCH EXIST. U.S. 71
CROSS SLOPE

+10

1842+00 1845+00 1850+00 1855+00 1860+00 1865+00 1870+00

530 520 510 500 490 480 470

SCALE: 1"=100' HORIZ.
1"=10' VERT.

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5.1.12

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(2) PROFILE FUTURE RAMPS 2 & 3

# FUTURE RAMP 3

7.5' LT. STA. 1861+45.14 ℄ FUTURE RAMP 3 =
110.90' RT. STA. 1861+45.20 ℄ U.S. 71 RELOC.
ELEV. 523.76
V.C. = 350.00'
G1 =1.073%
G2 =-3.010%
E = -1.79'
K =85.72

MAIN LANE
+1.07%
PROPOSED FUTURE GRADE
-3.01%
END GRADING STA. 1862+00 RAMP 3
PVI 1863+20.14 EL. 525.63
PVT 1864+95.14 EL. 520.36
PVC 1872+29.11 EL. 498.27
PVI 1873+79.11 EL. 493.75
V.C. = 300.00'
G1 =-3.010%
G2 =0.505%
E = 1.32'
K =85.35
U.G. TEL.
-0.5%
12" WATER LINE
EXISTING GROUND
20" GAS LINE
-1.04%
1.80%
7.5' LT. STA. 1875+29.11 ℄ FUTURE RAMP 3 =
47.54' RT. STA. 35+52.89 ℄ EXISTING U.S. 71
ELEV. 494.50
+00 491.5
+25 488.1
+50 486.8
+00 487.7

210' TRANS. FROM -2.0% TO -9.5%
+45
+15
MAX. SUPER e=-9.5%
+59
+70
210' TRANS. FROM -9.5% TO -2.0%

FUTURE CONSTRUCTION
FOR INFORMATION ONLY

# FUTURE RAMP 2

7.5' LT. STA. 1840+86.21 ℄ FUTURE RAMP 2
= 61.94' LT. STA. 31+35.17 ℄ EXISTING U.S. 71
ELEV. 491.61
PVC 1840+86.21 EL. =491.61
V.C. = 600.00'
G1 =0.712%
G2 =2.736%
E = 1.52'
K =296.46
PVI 1843+86.21 EL. =493.74
PVT 1845+86.21 EL. =501.95
PROPOSED FUTURE GRADE
2.74%
PVC 1848+67.89 EL. =509.66
PVI 1850+67.89 EL. =512.39
PVT 1851+67.89 EL. =513.47
7.5' LT. STA. 1851+67.89 ℄ FUTURE RAMP 2
= 10.94' RT. STA. 1851+64.99 ℄ FUTURE NBCD
ELEV. 513.47
+1.07%
V.C. = 200.00'
G1 =2.736%
G2 =1.073%
E = -0.42'
K =120.28
EXISTING GROUND
+0.71%
-0.30%
3.25%
+00
24" (FUTURE RCP)
F.L. INLET= 490.50
F.L. OUTLET= 490.00
4" WATER LINE
+00 490.9
+00
48" (FUTURE RCP)
F.L. INLE = 484.40
F.L. OUTLET= 484.10
SPCL. 4' F.B. DT. RT.
+00 484.4
+00 485.3
210' TRANS. FROM -2.0% TO -9.5%
+46
+56
MAX. SUPER e=-9.5%
+08
+19
210' TRANS. FROM -9.5% TO -2.0%

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SCALE: 1"=100' HORIZ.
1"=10' VERT.

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## (2) PROFILE FUTURE RAMPS 6 & 7

### FUTURE RAMP 7

7.5' LT. STA. 1857+70.98 ℄ FUTURE RAMP 7 =
110.91' LT. STA. 1855+43.05 ℄ FUTURE U.S. 71 RELOC.
ELEV. 517.31

M.J. 1.07%

PROPOSED FUTURE GRADE

-1.47%

EXISTING GROUND

PVI 1858+70.98
EL. 516.24

PVT 1859+70.98
EL. 514.77

V.C. = 200.00'
G1 = 1.073%
G2 = -1.468%
E = -0.10'
K = 506.33

20" GAS LINE

SPCL. "V" DT. RT.

+00 499.3

V.C. = 200.00'
G1 = -1.468%
G2 = -0.377%
E = 0.27'
K = 183.32

PVC 1869+42.47
EL. 500.51

PVI 1870+42.47
EL. 499.04

-0.37%

20" 1.44%

+50
30" (FUTURE RCP)
F.L. INLET= 493.70
F.L. OUTLET= 492.80

-0.40%

4" WATER LINE

+00 492.1

+00 491.7

7.5' LT. STA. 1871+42.47 ℄ FUTURE RAMP 7 =
47.55' LT. STA. 42+19.36 ℄ EXISTING U.S. 71
ELEV. 498.67

210' TRANS. FROM -2.0% TO -9.5%

+31 +41

MAXIMUM SUPERELEVATION -9.5%

+72 +82

210' TRANS. FROM -9.5% TO -2.0%

### FUTURE RAMP 6

7.5' LT. STA. 1852+48.18 ℄ FUTURE RAMP 6 =
61.93' RT. STA. 45+89.86 EXISTING U.S. 71
ELEV. 500.72

PVC 1852+48.18
EL. 500.72

PVI 1853+98.18
EL. 501.47

PVT 1855+48.18
EL. 506.03

V.C. = 300.00'
G1 = 0.499%
G2 = 3.041%
E = 0.95'
K = 118.00

+0.50%

+50
24" (FUTURE RCP)
F.L. INLET= 495.60
F.L. OUTLET= 495.20

210' TRANS. FROM -2.0% TO -9.5%

+08 +18

JOB 040478
BEGIN GRADING
STA. 1862+11.35
RAMP 6

PROPOSED FUTURE GRADE

3.04%

GAS LINE

+50
30" (FUTURE RCP)
F.L. INLET= 499.00
F.L. OUTLET= 498.00

EXISTING GROUND

12" WATER LINE

PVC 1860+49.59
EL. 521.28

PVI 1861+99.59
EL. 525.84

V.C. = 300.00'
G1 = 3.041%
G2 = 1.613%
E = -0.54'
K = 210.08

3%

PVT 1863+49.59
EL. 528.26

+1.61%

7.5' LT. STA. 1863+49.59 ℄ FUTURE RAMP 6 =
10.94' LT. STA. 1864+94.00 ℄ SBCD
ELEV. 528.26

U.G. TEL.

210' TRANS. FROM -9.5% TO -2.0%

+96 +06

MAX. SUPER e=-9.5%

EARTHWORK - JOB 040478
STA. 1862+11.35 TO STA. 1863+49.59
LOCATION: FUTURE RAMP 6
UNCLASSIFIED EXCAVATION: 0 CU. YD.
COMPACTED EMBANKMENT: 3760 CU. YD.
STABILIZING LAYER: 1126 CU. YD.

FUTURE CONSTRUCTION
FOR INFORMATION ONLY

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SCALE: 1"=100' HORIZ.
1"=10' VERT.

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## (2) PROFILE RAMP 4 & TEMP. RAMP 4

PROPOSED GRADE
M.L. +3.00%
3.00%
7.5' LT. STA. 1876+33.42 ℄ RAMP 4 =
98.80' RT. STA. 1876+33.01 ℄ U.S. 71 RELOC.
ELEV. 556.41
EXISTING GROUND ℄ GRADE POINT
MAX. SUPER. -5.3%
+85
200' TRANS. FROM -5.3% TO -2.0%
+85
+00
24" RCP
F.L. INLET= 542.30
F.L. OUTLET= 503.10
MATCHLINE
1875+00
1880+00
RAMP 4

+31
250' TRANS. FROM -2.0% TO -8.0%
+81
MAX. SUPER. -8.0%
+67
250' TRANS. FROM -8.0% TO -2.0%
+17
7.5' LT. STA. 1847+41.92 ℄ RAMP 4 =
62.68' RT. STA. 22+37.75 ℄ EXISTING U.S. 71
ELEV. 487.11
EXIST. U.S. 71
0.24%
END GRADING STA. 1849+50 RAMP 4
PVC 1850+73.80 EL. 487.50
V.C. = 600.00'
G1 =0.239%
G2 =5.000%
E = 2.07'
K =217.33
PVI 1853+73.80 EL. 488.62
PVT 1856+73.80 EL. 497.62
+00
24" RCP
F.L. INLET= 482.00
F.L. OUTLET= 481.40
+00
36" RCP
F.L. INLET= 486.60
F.L. OUTLET= 485.50
RAMP 4
1847+00
1850+00
1855+00
1860+00
1865+00
1870+00
1875+00

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

150' TRANS. FROM -2.0% TO 4.5%
+53
+03
MAX. SUPER. 4.5%
+96
150' TRANS. FROM 4.5% TO -2.0%
+46
7.5' LT. STA. 1859+45.52 ℄ TEMP. RAMP 4 =
25.35' LT. STA. 1859+49.15 ℄ RAMP 4
ELEV. 506.11
END GRADING STA. 1854+50 TEMP. RAMP 4
PVC 1853+98.75 EL. 492.71
PVI 1854+98.75 EL. 492.71
PVT 1855+98.75 EL. 495.71
PROPOSED GRADE
RAMP 4
3.00%
3.00%
V.C. = 200.00'
G1=0.000%
G2 =3.000%
E = 0.75'
K =66.67
12" WATER LINE
EXISTING GROUND ℄ GRADE POINT
+15
24" (RCP)
F.L. INLET= 487.80
F.L. OUTLET= 487.50
7.5' LT. STA. 1853+68.52 ℄ TEMP RAMP 4 =
44' RT. STA. 31+87.92 ℄ EXIST. U.S. 71
ELEV. 492.71
1850+00
1855+00
1860+00
TEMPORARY RAMP 4

EARTHWORK
STA. 1853+68.52 TO STA. 1854+50
LOCATION: TEMPORARY RAMP 4
UNCLASSIFIED EXCAVATION: 112 CU. YD.
COMPACTED EMBANKMENT: 350 CU. YD.

+56
200' TRANS. FROM -2.0% TO -5.3%
+56
MAXIMUM SUPERELEVATION -5.3%
PROPOSED GRADE
3.00%
EXISTING GROUND ℄ GRADE POINT
+10
DBL. 6'X5' RCBC
F.L. INLET= 489.80
F.L. OUTLET= 488.60

EARTHWORK
STA. 1847+41.92 TO STA. 1849+50
LOCATION: RAMP 4
UNCLASSIFIED EXCAVATION: 1678 CU. YD.
COMPACTED EMBANKMENT: 185 CU. YD.

+00
24" RCP
F.L. INLET= 542.30
F.L. OUTLET= 503.10
MATCHLINE

SCALE: 1"=100' HORIZ.
1"=10' VERT.

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(2) PROFILE RAMP 5 & TEMP. RAMP 5

EARTHWORK
STA. 1860+52.20 TO STA. 1861+50
LOCATION: TEMPORARY RAMP 5
UNCLASSIFIED EXCAVATION: 1586 CU. YD.
COMPACTED EMBANKMENT: 0 CU. YD.

7.5' RT. STA. 1860+52.20 ℄ TEMP. RAMP 5 =
44' RT. STA. 49+86.66 EXISTING U.S. 71
ELEV. 503.88

END GRADING
STA. 1861+50
TEMP. RAMP 5

PROPOSED GRADE

PVI 1861+27.20
EL. 503.88

PVT 1862+02.20
EL. 507.14

V.C. = 150.00'
G1 = 0.000%
G2 = 4.351%
E = 0.82'
K = 34.47

7.5' RT. STA. 1863+99.33 ℄ TEMP. RAMP 5 =
38.40' LT. STA. 1864+06.21 ℄ RAMP 5
ELEV. 514.51

RAMP 5
V.C. = 150.00'
G1 = 4.351%
G2 = 2.735%
E = 0.30'
K = 92.84

2.74%
3.51%
0.00%

U.G. TEL.
GAS LINE
12" WATER LINE

+95
24" (RCP)
F.L. INLET = 499.00
F.L. OUTLET = 498.30

PVC 1862+49.33
EL. 509.19

PVI 1863+24.33
EL. 512.46

EXISTING GROUND ℄
GRADE POINT

530 / 520 / 510 / 500 / 490
1860+00 1865+00 1870+00

## TEMPORARY RAMP 5

150' TRANS. FROM
-2.0% TO +4.5%

150' TRANS. FROM
+4.5% TO -1.8%

+52 +02 +49 +99 +16
119'

MAX. SUPER. e = +4.5%

119' TRANS. FROM -1.8% TO -6.8%

V.C. = 200.00'
G1 = 3.855%
G2 = 2.720%
E = -0.28'
K = 176.12

SBCD RD

2.72%

7.5' RT. STA. 1876+74.78 ℄ RAMP 5 =
24.26' LT. 1876+76.21 ℄ SBCD RD.
ELEV. 560.06

PVI 1875+74.78
EL. 557.34

PVC 1874+74.78
EL. 553.49

3.86%

PROPOSED GRADE

PVI 1866+18.36
EL. 520.41'

7.5' RT. STA. 1856+68.36 ℄ RAMP 5 =
47.75' RT. STA. 55+48.20 ℄ EXIST. U.S. 71
ELEV. 508.20

V.C. = 950.00'
G1 = -1.272%
G2 = 3.855%
E = 6.09'
K = 185.29

END GRADING
STA. 1859+50
RAMP 5

EXIST. U.S. 71

12" WATER LINE
U.G. TEL.
GAS LINE

-1.27%

EXISTING GROUND ℄
GRADE POINT

PVI 1861+43.36
EL. 502.16

+66
10'X5' RCBC
F.L. INLET = 497.60
F.L. OUTLET = 496.00

560 / 550 / 540 / 530 / 520 / 510 / 500 / 490 / 480 / 470 / 460

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

EARTHWORK
STA. 1856+68.36 TO STA. 1859+50
LOCATION: RAMP 5
UNCLASSIFIED EXCAVATION: 2391 CU. YD.
COMPACTED EMBANKMENT: 242 CU. YD.

## RAMP 5

200' TRANS. FROM -2.0% TO -6.8%

+03 +03

MAX. SUPERELEVATION e = -6.8%

200' TRANS. FROM -6.8% TO -2.0%

171' TRANS. FROM -2.0% TO +2.1%

+85 200' +89 171' +90

1855+00 1860+00 1865+00 1870+00 1875+00 1880+00

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SCALE: 1"=100' HORIZ.
1"=10' VERT.

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| JOB NO. | | 040376 | 75 | 207 |

(2) PLAN EXIST. U.S. 71 STA. 3+00 TO 17+00

℄ EXIST. U.S. 71
STA. 2+47 IN PLACE
30" X 32' C.M. PIPE
CULV'T ON LT.
RETAIN

℄ EXIST. U.S. 71
STA. 4+03 IN PLACE
24" X 32' C.M. PIPE
CULV'T ON LT.
RETAIN

℄ EXIST. U.S. 71
STA. 5+44 IN PLACE
24" X 36' C.M. PIPE
CULV'T ON LT.
RETAIN

WOODS/SCRUB BRUSH

PASTURE

BRUSH

5+00

10+00

15+00

+11.61

300' FUTURE TAPER

+11.61

700' FUTURE ACCEL LANE

FUTURE SPCL. "V" DT.

EXIST. R.O.W.

BARB WIRE

GATE

STA. 12+11.61
BEGIN FUTURE
ACCEL LANE

PC 18+18.18

30" CMP

24" CMP

24" CMP

10' SHLD.

2@12' LANES

6' SHLD.

EXIST. U.S. 71

N52°49'35"W

6' SHLD.

2@12' LANES

10' SHLD.

24" RCP

24" RCP

+38.18

36.50'

RAMP 4

N52°49'35"

PC 18+44.70

24" CMP

24" RCP

SPCL. "V" DT.

16'

16' GATE

+50.00
2184.42'

EXIST. R.O.W.,
C.A. & FENCE

SOUTHWESTERN BELL
UG FIBER OPTIC SIGN

BEGIN OVERLAY &
WIDENING
STA. 16+38.18
EXIST. U.S. HWY. 71

GRAVEL

BARB WIRE

EXIST. R.O.W.

SAGE BRUSH

GAS MARKERS

+00.00
2653.83'

STA. 12+00.00
BEGIN CONST.

+20.05
2428.41'

+70.00 T.C.E.
2416.00'

SOUTHWESTERN BELL
UG FIBER OPTIC SIGN

+55.00
2257.50'

FR. BARN
METAL ROOF
RUINS

STA. 1848+61.30 2163.20' RT.
BEGIN C.A. & FENCE

LIVESTOCK

WOODS

WOODS

POND

℄ EXIST. U.S. 71
STA. 8+71 IN PLACE
DROP INLET WITH
24" X 72' R.C. PIPE
OUTLET WITH F.E.S.
RETAIN

℄ EXIST. U.S. 71
STA. 14+69 IN PLACE
24" X 30' C.M. PIPE
CULV'T ON RT.
REMOVE

℄ EXIST. U.S. 71
STA. 14+73 - INSTALL
24" X 64' PIPE CULVERT
RT. SIDE DRAIN
CONST. APPROACH =
10 CU. YDS. UNCL. EXC.
50 CU. YDS. COMP. EMB.

℄ EXIST. U.S. 71
STA. 2+49 IN PLACE
DBL. 48" X 46' C.M. PIPE
CULV'T ON RT.
RETAIN

℄ EXIST. U.S. 71
STA. 2+75 IN PLACE
DROP INLET WITH
24" X 78' R.C. PIPE
OUTLET WITH F.E.S.
RETAIN

℄ EXIST. U.S. 71
STA. 15+10 IN PLACE
DROP INLET WITH
24" X 70' R.C. PIPE
OUTLET WITH F.E.S.
RETAIN

SEE INTERCHANGE
LAYOUT FOR RAMP
GEOMETRY

STATE OF ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
No. 9808
JAMES L. BARR
5.1.12

SCALE: 1"=50' HORIZ.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 76 | 207 |

(2) PROFILE EXIST. U.S. 71 STA. 3+00 TO 17+00

520
510
500
490
480
470
460
450
440
430

EXIST. GRADE LT. LANE
EXIST. GRADE RT. LANE
EXIST. GROUND
U.S. 71 CENTERLINE MEDIAN
STA. 12+00.00
BEGIN CONST.
2" OVERLAY
RT. LANE
2" OVERLAY
LT. LANE
STA. 16+38.18
BEGIN OVERLAY
& WIDENING
FUTURE SPCL. "V"
DT. LT.
SPCL. "V"
DT. RT.
0.40%
0.40%
0.40%
24"x64' RT.
+00 LT.
474.3
+00 RT.
476.0
+71
EXIST. D.I.
W/ 24" RCP
TOP DI=477.40
F.L. DI= 474.60
F.L. OUTLET = 474.20
+10
EXIST. D.I.
W/ 24" RCP
TOP DI= 484.30
F.L. DI= 481.60
F.L. OUTLET = 478.70

5+00
10+00
15+00
17+00

EARTHWORK
STA. 12+00.00 TO STA. 65+47.98
LOCATION: EXIST. U.S. 71
UNCLASSIFIED EXCAVATION: 5763 CU. YD.
COMPACTED EMBANKMENT: 876 CU. YD.

SCALE: 1"=50' HORIZ.
1"=5' VERT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

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|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 77 | 207 |

(2) PLAN EXIST. U.S. 71 STA. 17+00 TO 31+00

STA. 19+72 ℄ EXIST. U.S. 71 - IN PLACE
TYPE R.M. DROP INLET WITH
24" X 72' R.C. PIPE OUTLET & F.E.S.
REMOVE F.E.S. AND CONSTRUCT 24" X 14'
R.C. PIPE CULVERT EXT. (CLASS III)
(TYPE 3 BEDDING) W/SES (CLASS 2)

℄ EXIST. U.S. 71
STA. 31+15 IN PLACE
18" X 36' C.M. PIPE
CULV'T ON LT.
RETAIN

700' FUTURE ACCEL LANE

20+00

1860+00

1855+00

25+00

1845+00

30+00

FUTURE SPCL. "V" DT.

EXIST. R.O.W.

PT 1860+46.38

PT 20+48.38

PI 18+43.33

FUTURE RAMP 1

FUTURE DRAIN INLET 49"X33"

6' SHLD.

15' LANE

4' SHLD.

FUTURE SPCL. 4' F.B. DT.

FUTURE 18" RCP

FUTURE SPCL. 3' F.B. DT.

6' SHLD.

FUTURE SPCL. 4' F.B. DT.

8' SHLD.

15' LANE FUTURE RAMP 2

BARB WIRE

WOODS

EXIST. R.O.W.

ENTRANCE TO BE REMOVED
15 CU. YD. UNCL. EXC.
UNDER FUTURE JOB.

8" SMP

10' SHLD.

2@12' LANES

6' SHLD.

EXIST. U.S. 71

S49°41'34"E

+99.95
46.50'

+1.61
45.88'

+38.41
57.86'

+33.46
57.55'

N52°49'35"W

N49°41'34"W

24" RCP

N52°49'34"W

N47°07'05"W

POB 1853+24.52

PI 1842+39.41

PT 1843+34.91

#1003

#1004

#1005

#1006

#11564

EXT.

SOUTHWESTERN BELL
UG FIBER OPTIC SIGN

+00.00
1715.00'

PC 1846+30.87

PI 1849+36.66

N18°40'02"W

STA. 1851+00 ℄ RAMP 4 @ EXIST. U.S. 71 - IN PLACE
24" X 60' R.C. PIPE CULV'T
RETAIN

℄ EXIST. U.S. 71
STA. 29+70 IN PLACE
DROP INLET WITH
24" X 70' R.C. PIPE
OUTLET WITH F.E.S.
RETAIN

BEGIN CONST.
STA. 1853+68.52
TEMP. RAMP 4

END GRADING
STA. 1854+50
TEMP. RAMP 4

1855+00

SPCL. "V" DT.

+65.00
1465.00'

EXIST. R.O.W., C.A. & FENCE

END GRADING
STA. 1849+50
RAMP 4

PT 1852+29.8

4' SHLD.

15' LANE

6' SHLD.

PC 1855+65.90

TEMP. RAMP 4

N40°18'26"E

STA. 1854+15 ℄ TEMP RAMP 4
CONST. 24" X 58' R.C. PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING
WITH S.E.S. (CLASS 2) LT. & RT.
D.A. = 4.6 ac, Q50 = 13.5 cfs

EXIST. U.S. HWY. 71
P.I. 18+43.33
N = 342808.0860
E = 610980.7740
Δ = 3°08'01" Rt.
D = 0°45'50"
T = 205.15'
L = 410.20'
R = 7500.00'
E = 2.81'
RADIUS POINT
N = 348660.1918
E = 615675.9784

POND

1845+00

1850+00

TREES & BRUSH

℄ EXIST. U.S. 71
STA. 24+70 IN PLACE
DROP INLET WITH
24" X 72' R.C. PIPE
OUTLET WITH F.E.S.
RETAIN

RAMP 4

+85.00
1260.00'

+35.00
1090.00'

1855+00

SEE INTERCHANGE LAYOUT FOR RAMP GEOMETRY

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=50' HORIZ.

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| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 78 | 207 |

(2) PROFILE EXIST. U.S. 71 STA. 17+00 TO 31+00

520
510
500
490
480
470
460
450
440
430

2" OVERLAY LT. LANE

EXIST. GROUND US 71 CENTERLINE MEDIAN

2" OVERLAY RT. LANE

SPCL. "V" DT. RT.

0.40%

0.40%

FUTURE SPCL. "V" DT. LT.

+72
EXIST. D.I.
W/ 24" RCP
TOP DI= 484.30
F.L. DI= 481.60
F.L. OUTLET= 480.30

+42 LT.
480.0
+38 RT.
480.1

UG

+70
EXIST. D.I.
W/ 24" RCP
TOP DI= 486.60
F.L. DI= 483.70
F.L. OUTLET= 482.70

W

4" WATER LINE

U.G. CABLE

+70
EXIST. D.I.
W/ 24" RCP
TOP DI= 489.50
F.L. DI= 486.70
F.L. OUTLET= 486.00

12" WATER LINE

17+00
20+00
25+00
30+00
31+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

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| 6 | ARK. | | | |
| JOB NO. | | 040376 | 79 | 207 |

(2) PLAN EXIST. U.S. 71 STA. 31+00 TO 45+00

℄ EXIST. U.S. 71
STA. 36+06 IN PLACE
18" X 38' C.M. PIPE CULV'T ON LT.
RETAIN

ENTRANCE TO BE REMOVED.
95 CU. YD. UNCL. EXC.
UNDER FUTURE JOB.

P.O.T. STA. 31+80.42 ℄ EXIST. U.S. 71=
P.O.T. STA. 1853+24.52 ℄ TEMP. RAMP 4
∢=90°00'00"

POB 1853+24.52

BEGIN CONST.
STA. 1853+68.52
TEMP. RAMP 4

END GRADING
STA. 1854+50
TEMP. RAMP 4

PC 1855+65.90

N40°18'26"E

TEMP. RAMP 4

RAMP 4

STA. 33+00 ℄ EXIST. U.S. 71
CONST. TYPE "RM" DROP INLET
IN MEDIAN 5.0' OFFSET RT. OF ℄
4.0' X 3.0' X H = 3.0' WITH
24" X 62' R.C. PIPE CULV'T
(CLASS III)(TYPE 3 BEDDING)
WITH S.E.S. (CLASS 2) RT.

STA. 1854+15 ℄ TEMP RAMP 4
CONST. 24" X 58' R.C. PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING
WITH S.E.S. (CLASS 2) LT. & RT.
D.A. = 4.6 ac, Q50 = 13.5 cfs

STA. 37+00 ℄ EXIST. U.S. 71
CONST. TYPE "RM" DROP INLET
IN MEDIAN 2.6' OFFSET RT. OF ℄
4.0' X 3.0' X H = 3.0' WITH
24" X 72' R.C. PIPE CULV'T
(CLASS III)(TYPE 3 BEDDING)
WITH S.E.S. (CLASS 2) RT.

℄ EXIST. U.S. 71
STA. 34+71 IN PLACE
DROP INLET WITH
24" X 70' R.C. PIPE OUTLET WITH F.E.S.
REMOVE DROP INLET & F.E.S.
PLUG & ABANDON PIPE CULVERT.

℄ EXIST. U.S. 71
STA. 40+48 IN PLACE
24" X 132' R.C. PIPE CULV'T
WITH F.E.S. LT. & RT.
RETAIN

℄ EXIST. U.S. 71
STA. 41+14 IN PLACE
30" X 60' C.M. PIPE CULV'T ON LT.
RETAIN

P.O.T. STA. 1858+46.91 ℄ U.S. 71 RELOCATED=
P.O.C. STA. 38+80.06 ℄ EXIST. U.S. 71
∢=65°51'00"

TREECE RD. TO BE REMOVED
898 CU. YD. UNCL. EXC.
UNDER FUTURE JOB.

FUTURE WORK
EXIST. TURN LANE & MED. CROSSING TO BE REMOVED
BY CUTTING A NEAT EDGE LINE AT THE OUTSIDE EDGE
OF THE SHOULDERS

EXIST. U.S. HWY. 71
P.I. 41+23.38
N = 344283.0850
E = 609241.9620
Δ = 3°46'01" Lt.
D = 0°45'50"
T = 246.63'
L = 493.08'
R = 7500.00'
E = 4.05'
RADIUS POINT
N = 338404.1485
E = 604578.3871

POB 1862+47.23

℄ EXIST. U.S. 71
STA. 41+69 IN PLACE
DROP INLET WITH
24" X 70' R.C. PIPE OUTLET WITH F.E.S. RT.
RETAIN

PT 1864+24.13
DBL. 6' X 5' RCBC

℄ EXIST. U.S. 71
STA. 44+70 IN PLACE
DROP INLET WITH
24" X 68' R.C. PIPE OUTLET WITH F.E.S. RT.
RETAIN

SEE INTERCHANGE
LAYOUT FOR RAMP
GEOMETRY

STATE OF ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
No. 9808
JAMES L. BARR

SCALE: 1"=50' HORIZ.

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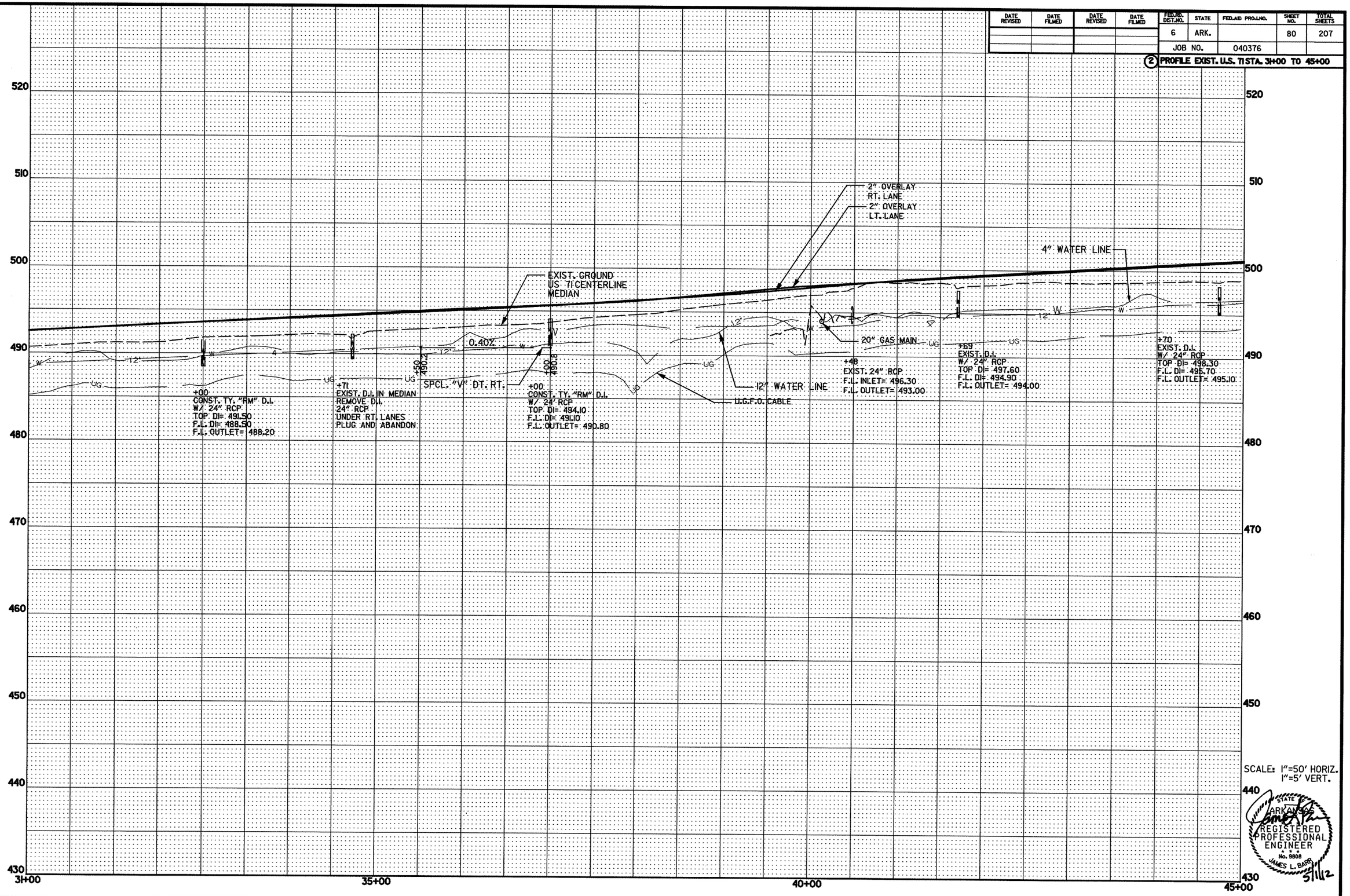
| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | 80 | 207 |
| JOB NO. | | 040376 | | |

(2) PROFILE EXIST. U.S. 71 STA. 31+00 TO 45+00




SCALE: 1"=50' HORIZ.
1"=5' VERT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

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| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 81 | 207 |

(2) PLAN EXIST. U.S. 71 STA. 45+00 TO 59+00

℄ EXIST. U.S. 71
STA. 49+72 IN PLACE
DROP INLET WITH
24" X 74' R.C. PIPE OUTLET WITH F.E.S.
REMOVE DROP INLET & F.E.S.
PLUG & ABANDON R.C. PIPE.

℄ EXIST. U.S. 71
STA. 54+70 IN PLACE
D.I. WITH 24" X 72' R.C. PIPE OUTLET
REMOVE 24' OF 24" R.C. PIPE & F.E.S.
CONST. TYPE "ST" JUNCTION BOX (4' X 3' X H=5.2')
50' RT. ON EXIST. PIPE WITH 24" X 170' R.C. PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING WITH S.E.S. (CLASS 2)
75' RT. OF ℄ AT STA. 52+93

STA. 50+50 ℄ EXIST. U.S. 71
CONST. TYPE "RM" DROP INLET IN
MEDIAN 4.0' X 3.0' X H = 3.0'
WITH 24" X 68' R.C. PIPE CULV'T
(CLASS III)(TYPE 3 BEDDING)
WITH S.E.S. (CLASS 2) RT.

P.O.T. STA. 49+94.16 ℄ EXIST. U.S. 71=
P.O.T. STA. 1860.08.20 ℄ TEMP. RAMP 5
Δ=90°00'00"

BEGIN CONST.
STA. 1860+52.20
TEMP. RAMP 5

END GRADING
STA. 1861+50
TEMP. RAMP 5

END GRADING
STA. 1859+50
RAMP 5

STA. 1860+95 TEMP RAMP 5
CONST. 24" X 66' R.C. PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING
WITH S.E.S. (CLASS 2) LT. & RT.
D.A. = 1.8 ac, Q50 = 7.5 cfs

℄ EXIST. U.S. 71
STA. 58+56 IN PLACE
DBL. 24" X 36' C.M. PIPE
CULV'T ON RT.
REMOVE

℄ EXIST. U.S. 71
STA. 59+72 IN PLACE
TYPE RM DROP INLET WITH 24" X 72'
R.C. PIPE OUTLET & F.E.S. REMOVE
F.E.S. & CONST. 24" X 12' R.C. PIPE CULV'T
EXTENSION (CLASS III)(TYPE 3 BEDDING)
WITH S.E.S. (CLASS 2)

EXIST. U.S. HWY. 71
P.I. 68+71.42
N = 345919.3490
E = 607033.9400
Δ = 20°44'54" Rt.
D = 1°00'00"
T = 1048.91'
L = 2074.85'
R = 5729.58'
E = 95.22'
RADIUS POINT
N = 349898.1914
E = 611288.0074

SEE INTERCHANGE LAYOUT FOR RAMP & CD ROAD GEOMETRY

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=50' HORIZ.

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|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 82 | 207 |

(2) PROFILE EXIST. U.S. 71 STA. 45+00 TO 59+00

540
530
520
510
500
490
480
470
460
450

4" WATER LINE
EXIST. GROUND
US 71 CENTERLINE
MEDIAN
2" OVERLAY
RT. LANE
2" OVERLAY
LT. LANE
12" WATER LINE
U.G. CABLE
U.G.F.O. CABLE

+50
INSTALL\CONST. TY. "RM" D.I.
W/ 24" RCP
TOP DI= 502.60
F.L. DI = 499.60
F.L. OUTLET = 499.30

+72
EXIST. D.I.
TOP DI= 501.80
F.L. DI = 499.10
F.L. OUTLET = 498.00
REMOVE

+70
EXIST. D.I.
W/ 24" RCP
TOP DI= 505.30
F.L. DI= 502.50
INSTALL\CONST. TY. "ST" JUNCTION BOX
W/ 24" RCP
TOP JB = 507.2
F.L. JB = 502.0
F.L. OUTLET= 501.80
REMOVE 24' OF PIPE
CONST. 24"X 170' R.C. PIPE W/ S.E.S.

45+00 50+00 55+00 59+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/11/12

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|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 83 | 207 |

(2) PLAN EXIST. U.S. 71 STA. 59+00 TO 73+00

℄ EXIST. U.S. 71
STA. 63+71 IN PLACE
TYPE RM DROP INLET WITH 24" X 72'
R.C. PIPE OUTLET & F.E.S. REMOVE
F.E.S. & CONST. 24" X 8' R.C. PIPE CULV'T
EXTENSION (CLASS III) (TYPE 3 BEDDING)
WITH S.E.S. (CLASS 2) ON RT.

℄ EXIST. U.S. 71
STA. 66+75 IN PLACE
DROP INLET WITH 24" X 64' R.C.
PIPE OUTLET WITH F.E.S.
RETAIN

℄ EXIST. U.S. 71
STA. 72+72 IN PLACE
DROP INLET WITH 24" X 72' R.C.
PIPE OUTLET WITH F.E.S.
RETAIN

TRAIL

TRAIL

65+00

PI 68+71.42

EXIST. R.O.W.

EXIST. R.O.W.

GLENDALE TERRACE

12" RCP

48" RCP

70+00

N53°27'34"W

N32°42'40"W

EXIST. R.O.W.

EXIST. R.O.W.

75+00

6' SHLD.

3@12' LANES

6' SHLD.

24" RCP

24" RCP

PAVED DRAIN

48" RCP

EXT.

EXIST. R.O.W., C.A. & FENCE

+69.97
2360.63'

36" CMP

24" RCP

EXIST. U.S. 71

10' SHLD.

6' SHLD.

2@12' LANES

6' SHLD.

2@12' LANES

10' SHLD.

+47.98

+47.98

STA. 1870+69.97 2360.63' LT.
END EXIST. R.O.W., C.A.
& FENCE

STA. 65+47.98
END CONST.

PAVED DRAIN

EXIST. R.O.W.

700' ACCEL LANE

300' TAPER

BARB WIRE

POND

LEVEE

℄ EXIST. U.S. 71
STA. 68+65 IN PLACE
36" X 36' C.M. PIPE
CULV'T ON RT.
RETAIN

℄ EXIST. U.S. 71
STA. 69+74 IN PLACE
48" X 182' R.C. PIPE
CULV'T WITH F.E.S. LT. & RT..
RETAIN

SEE INTERCHANGE LAYOUT FOR RAMP GEOMETRY

EXIST. U.S. HWY. 71
P.I. 68+71.42
N = 345919.3490
E = 607033.9400
Δ = 20°44'54" Rt.
D = 1°00'00"
T = 1048.91'
L = 2074.85'
R = 5729.58'
E = 95.22'
RADIUS POINT
N = 349898.1914
E = 611288.0074

STATE OF ARKANSAS
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No. 9808
JAMES L. BARR
6/1/12

SCALE: 1"=50' HORIZ.

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| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 84 | 207 |

(2) PROFILE EXIST. U.S. 71 STA. 59+00 TO 73+00

570
560
550
540
530
520
510
500
490
480

EXIST. GRADE LT. LANE
EXIST. GRADE RT. LANE
STA. 65+47.98
END CONST.
2" OVERLAY LT. LANE
2" OVERLAY RT. LANE
EXIST. GROUND US 71 CENTERLINE MEDIAN
4" WATER LINE
U.G. CABLE
UG
W
+72
EXIST. D.I.
W/ 24" RCP
TOP DI= 510.30
F.L. DI= 507.70
F.L. OUTLET = 507.50
+71
EXIST. D.I.
W/ 24" RCP
TOP DI= 513.70
F.L. DI= 510.90
F.L. OUTLET= 509.40
+75
EXIST. D.I.
TOP DI= 522.20
F.L. DI= 519.20
F.L. OUTLET= 516.80

59+00 60+00 65+00 70+00 73+00

SCALE: 1"=50' HORIZ.
1"=5' VERT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 85 | 207 |

(2) PLAN & PRO. STA. 1886+00 TO 1914+00

STA. 1902+00 ℄ U.S. 71 RELOC- IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 98' R.C. PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

STA. 1908+50 ℄ U.S. 71 RELOC- IN PLACE.
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 5'-0" X H = 5'-0"
WITH 48" X 104' R.C. PIPE CULV'T LT.
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
AND 48" X 92' R.C. PIPE CULV'T RT.
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

STA. 1913+50 ℄ U.S. 71 RELOC- IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 98' R.C. PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

1890+00 1895+00 1900+00 1905+00 1910+00

FUTURE RCP — EXIST. R.C.P. — 24+T3.14 — +70.00 353.57 — +70.00 275.00'

EXIST. R.O.W., C.A. & FENCE — +38.02 175.00' — +00.00 150.00' — +00.00 165.00' — +00.00 155.00' — +25.00 148.81' — +25.00 190.00' — +75.00 190.00' — +75.00 148.83'

T.C.E.

SPCL. "V" DT. — SPCL. 5' F.B. DT.

55+00

℄ COUNTY RD. 8

PC 1888+09.72 — PI 1889+04.94 — PT 1890+00.01

24" RCP — 48" RCP — 24" RCP

℄ CONST. — PC 1894+38.02

10' SHLD. — 2@12' LANES — 6' SHLD.

SPCL. "V" DT. — SPCL. 4' F.B. DT.

PT 1886+46.19 — 35.50 — 35.50

PC 1885+69.79 — PI 59+30.89 — 700' ACCEL LANE — 300' TAPER — +34.50 — +38.02 175.00'

50' ESMT. — 16'-0" GATE — EXIST. R.O.W., C.A. & FENCE — +00.00 280.00' — +65.00 345.00'

PROJ. R.O.W. — PI 1886+07.99 — +30.00 352.50'

+50.44 150.00' — +00.00 165.00' — +00.00 165.00'

BARB WIRE — BARN — TRAIL — FASTURE/CATTLE — CONC. PADS — SHED — MOBILE HOME — CHAIN LINK — GRAVEL — GATE — POND

U.S. 71 RELOCATED
P.I. 1915+59.41
N = 349705.1271
E = 610653.2784
Δ = 24°22'30" Rt.
D = 0°35'00"
T = 2121.38'
L = 4178.59'
E = 226.48'
e = N.C.

SCALE: 1"=100' HORIZ
1"=10' VERT.

PVI 1891+80.00
EL. 603.94

3.00%

FINISHED GRADE

PVT 1901+80.00
EL. 583.21

-2.07%

EXISTING GROUND ℄ GRADE POINT

V.C. = 2000.00'
G1 = 3.000%
G2 = -2.074%
E = -12.68'
K = 394.19

+00
TY. RM D.I.
W/ 24" RCP
TOP D.I. = 577.13
F.L. D.I. = 574.13
F.L. OUTLET = 573.64
℄ MEDIAN

+50
TY. RM D.I.
W/ 48" RCP
TOP D.I. = 563.70
F.L. D.I. = 558.10
F.L. INLET = 560.60
F.L. OUTLET = 556.60
℄ MEDIAN

+50
TY. RM D.I.
W/ 24" RCP
TOP D.I. = 553.30
F.L. D.I. = 550.30
F.L. OUTLET = 549.80
℄ MEDIAN

EL. +557.91

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

600 590 580 570 560 550 540 530 520

1886+00 1890+00 1895+00 1900+00 1905+00 1910+00 1914+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5-1-12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 86 | 207 |

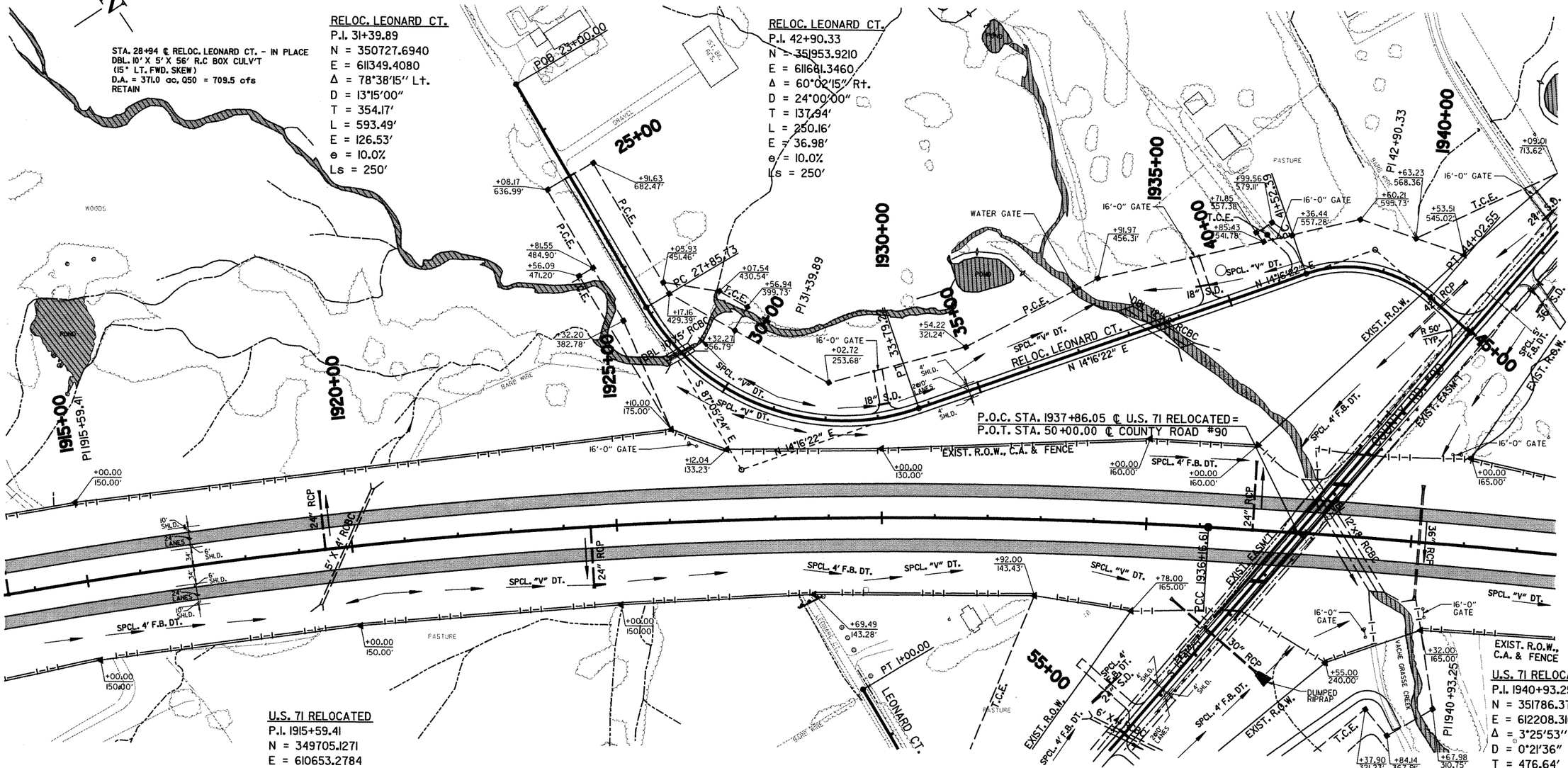
(2) PLAN STA. 1914+00 TO 1942+00

STA. 38+50 ℄ RELOC. LEONARD CT. - IN PLACE
DBL. 12' X 8' X 135' R.C. BOX CULV'T
(40° RT. FWD. SKEW)
D.A. = 900.0 ac, Q50 = 1002.0 cfs
RETAIN

STA. 28+94 ℄ RELOC. LEONARD CT. - IN PLACE
DBL. 10' X 5' X 56' R.C BOX CULV'T
(15° LT. FWD. SKEW)
D.A. = 371.0 ac, Q50 = 709.5 cfs
RETAIN

RELOC. LEONARD CT.
P.I. 31+39.89
N = 350727.6940
E = 611349.4080
Δ = 78°38'15" Lt.
D = 13°15'00"
T = 354.17'
L = 593.49'
E = 126.53'
e = 10.0%
Ls = 250'

RELOC. LEONARD CT.
P.I. 42+90.33
N = 351953.9210
E = 611681.3460
Δ = 60°02'15" Rt.
D = 24°00'00"
T = 137.94'
L = 250.16'
E = 36.98'
e = 10.0%
Ls = 250'




U.S. 71 RELOCATED
P.I. 1915+59.41
N = 349705.1271
E = 610653.2784
Δ = 24°22'30" Rt.
D = 0°35'00"
T = 2121.38'
L = 4178.59'
E = 226.48'
e = N.C.

STA. 1928+50 ± RT. ℄ U.S. 71 RELOC - IN PLACE
ROAD CLOSED GUARDRAIL & SIGNS
RETAIN

STA. 44+28 ℄ RELOC. LEONARD CT. - IN PLACE
42" X 131' R.C. PIPE CULV'T
(5° LT. FWD. SKEW)
(CLASS IV) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 27.9 ac, Q50 = 84.9 cfs
RETAIN

STA. 1919+50 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" x 3'-0" x H=4'-5"
WITH 24" x 103.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

STA. 1919+90 ℄ U.S. 71 RELOC - IN PLACE
5' X 4' X 238' R.C. BOX CULV'T
(30° LT. FWD. SKEW)
D.A. = 44.89 ac, Q50 = 105.0 cfs
RETAIN

STA. 1924+50 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" x 3'-0" x H=3'-0"
WITH 24" x 99.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

STA. 1937+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" x 3'-0" x H=7'-5"
WITH 24" x 117' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

STA. 1938+72 ℄ U.S. 71 RELOC - IN PLACE
DBL. 12' X 8' X 246' R.C BOX CULV'T
(35° RT. FWD. SKEW)
D.A. = 935.54 ac, Q50 = 1025.0 cfs
RETAIN

STA. 1940+15 ℄ U.S. 71 RELOC - IN PLACE
36" X 201' R.C. PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 13.34 ac, Q50 = 51.3 cfs
RETAIN

EXIST. R.O.W., C.A. & FENCE

U.S. 71 RELOCATED
P.I. 1940+93.25
N = 351786.3762
E = 612208.3100
Δ = 3°25'53" Rt.
D = 0°21'36"
T = 476.64'
L = 952.99'
E = 7.14'
e = N.C.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=100'

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
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| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 87 | 207 |

(2) PROFILE STA. 1914+00 TO 1942+00

El =557.91

2.07%

+50
TY. RM D.I.
W/ 24"
TOP DI= 540.60
F.L. DI=536.20
F.L. OUTLET= 535.60

+90
5' x 4' RCBC
F.L. INLET= 535.50
F.L. OUTLET= 532.50

+50
TY. RM D.I.
W/ 24" RCP
TOP DI= 530.20
F.L. DI=527.20
F.L. OUTLET= 526.70

PROPOSED GRADE

EXIST. GROUND ℄ GRADE POINT

PVC 1932+92.07
EL =516.67

V.C. = 820.00'
G1 =-2.074%
G2 =-0.487%
E = 1.63'
K =516.75

PVI 1937+02.07
EL =510.17

STA. 1937+86.05
℄ U.S. 71 RELOCATED
STA. 50+00
℄ COUNTY RD. #90

PVT 1941+12.07
EL =508.17

EL =507.75

-0.49%

+00
TY. RM D.I.
W/ 24" RCP
TOP DI= 505.90
F.L. DI= 498.50
F.L. OUTLET= 496.50

U.G. TEL.
2" WATER LINE
4" GAS LINE

+72
DBL. 12' x 8' RCBC
F.L. INLET= 495.20
F.L. OUTLET= 494.30

+15
36" RCP
F.L. IN= 498.60
F.L. OUT= 497.60

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

570
560
550
540
530
520
510
500
490
480

1914+00 1915+00 1920+00 1925+00 1930+00 1935+00 1940+00 1942+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/10/12

SCALE: 1"=10' VERT.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 88 | 207 |

(2) PLAN & PRO. STA. 1942+00 TO 1970+00

STA. 1958+68 ℄ U.S. 71 RELOC - IN PLACE
DBL. 59" X 36" X 207' R.C. ARCH PIPE CULV'T
(15° RT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 108.40 ac, Q50 = 210.6 cfs
RETAIN

PROP. R.O.W.
BARB WIRE
WOVEN WIRE
LAWN
1 STORY
CONC.
SEPTIC TANK
SHED
GAS
CEMENT WALK
PASTURE
BARB WIRE
FORT CHAFFEE BOUNDARY
TREES
WOODS
DENSE TREES
PASTURE W/HORSES

1945+00 | 1950+00 | 1955+00 | 1960+00 | 1965+00 | 1970+00

+81.13 141.63'
+82.05 137.38'
+28.08 155.00'
+38.91 164.04'
+30.52 164.04'
+10.78 150.00'
+50.00 190.00'
+00.00 190.00'
+00.00 164.04'

EXIST. R.O.W., C.A., & FENCE

SPCL. "V" DT.
SPCL. 4' F.B. DT.
℄ CONST.
N 40°11'50" E.
1412.44'
59" X 36" DBL. RCPA
24" RCP
10' SHLD.
2@12' LANES
3@4'
6' SHLD.
T.C.E.

U.S. 71 RELOCATED
P.I. 1940+93.25
N = 351786.3762
E = 612208.3100
Δ = 3°25'53" Rt.
D = 0°21'36"
T = 476.64'
L = 952.99'
E = 7.14'
e = N.C.

PT 1945+69.60

STA. 1949+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" x 3'-0" x H=3'-0"
WITH 24" x 98.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

STA. 1958+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" x 3'-0" x H=3'-8"
WITH 24" x 101.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

SCALE: 1"=100' HORIZ.
1"=10' VERT.

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

EL=507.75
EL=494.12
-0.49%
PROPOSED GRADE
EXIST. GROUND ℄ GRADE POINT

+00
TY. RM D.I.
W/ 24" RCP
TOP DI= 498.40
F.L. DI= 495.40
F.L. OUTLET= 495.10

+00
TY. RM D.I.
W/ 24" RCP
TOP DI= 494.00
F.L. DI= 490.20
F.L. OUTLET= 489.70

+68
DBL. 59"X36" RCPA
F.L. INLET= 489.50
F.L. OUTLET= 488.70

540 | 530 | 520 | 510 | 500 | 490 | 480 | 470 | 460 | 450

1942+00 | 1945+00 | 1950+00 | 1955+00 | 1960+00 | 1965+00 | 1970+00

STATE OF ARKANSAS
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| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 89 | 207 |

(2) PLAN & PRO STA. 1970+00 TO 1998+00

STA. 1983+00 ℄ U.S. 71 RELOC - IN PLACE
8' X 5' X 246' R.C. BOX CULV'T
(15° LT. FWD. SKEW)
D.A. = 48.03 ac, Q50 = 112.4 cfs
RETAIN

STA. 1983+02 ℄ U.S. 71 RELOC - IN PLACE
TYPE "TM" DROP INLET IN MEDIAN
3'-0" X 2'-6.5" X H = 6'-7"
ON TOP OF 8' X 5' RCBC
RETAIN

STA. 1986+58 ℄ U.S. 71 RELOC - IN PLACE
DBL. 12' X 6' X 234' R.C. BOX CULV'T
D.A. = 704.88 ac, Q50 = 815.0 cfs
RETAIN

STA. 1991+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 5'-5"
WITH 30" X 103' R.C. PIPE CULV'T LT.
AND 30" X 106' R.C. PIPE CULV'T RT.
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 4.30 ac, Q50 = 13.1 cfs
RETAIN

STA. 1973+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H=8'-2"
WITH 24" X 114.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

STA. 1976+62 ℄ U.S. 71 RELOC - IN PLACE
51" X 31" X 284' R.C. ARCH PIPE CULV'T
(30° RT. FWD. SKEW)
(CLASS IV) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 104.68 ac, Q50 = 207.3 cfs
RETAIN

1970+00 1975+00 1980+00 1985+00 1990+00 1995+00

+00.00 164.00' +00.00 200.00' T.C.E. +00.00 200.00' +00.00 164.00'

EXIST. R.O.W., C.A., & FENCE

SPCL. 4' F.B. DT.

164.04'

24" RCP

51" X 31" RCPA

N 40°11'50" E 1414.2.44'

℄ CONST.

10' SHLD. 12' LANES 6' SHLD. 3.4' 3.4' 6' SHLD. 12' LANES 10' SHLD.

8' X 5' RCBC

16'-0" GATE

DBL. 12' X 6' RCBC

300' TAPER 700' ACCEL LANE

+91.44

30" RCP

+50.92 45.50'

PC 1998+29.58

+29.58 68.50'

N 40°11'50" E

PC 1995+60.92

PT 1997+51.20

TRAIL

VACHE GRASSE CREEK

SEE INTERCHANGE LAYOUT FOR RAMP GEOMETRY

SCALE: 1"=100' HORIZ.
1"=10' VERT.

530 520 510 500 490 480 470 460 450 440

EL=494.12

EL=480.48

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

PROPOSED GRADE

-0.49%

+00
TY. RM D.I.
W/ 24" RCP
TOP DI= 486.70
F.L. DI= 478.50
F.L. OUTLET= 478.10

+62
51" X 31"
RCPA
F.L. INLET= 474.20
F.L. OUTLET= 472.80

+00
8'X5' RCBC
F.L. INLET= 470.00
F.L. OUTLET= 469.10

+02
TY. TM D.I.
TOP DI= 481.88
F.L. DI= 469.56
F.L. OUTLET= 469.10

EXIST. GROUND GRADE POINT

+58
DBL 12' x 6' RCBC
F.L. INLET= 468.70
F.L. OUTLET= 466.50

+00
30" RCP
F.L. INLET= 473.20
F.L. OUTLET= 472.00

+00
TY. RM D.I.
W/ 30" RCP
TOP DI= 477.98
F.L. DI= 472.60
F.L. OUTLET= 472.00

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5/1/12

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|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 90 | 207 |

(2) PLAN & PRO STA. 1998+00 TO 2026+00

STA. 2002+20 ℄ U.S. 71 RELOC - IN PLACE
7' X 4' X 305' R.C. BOX CULV'T
D.A. = 50.20 ac, Q50 = 117.5 cfs
RETAIN

STA. 2002+22 ℄ U.S. 71 RELOC - IN PLACE
TYPE "TM" DROP INLET IN MEDIAN
3'-0" X 2'-6.5" X H = 1'-0"
ON TOP OF 7' X 4' RCBC
RETAIN

STA. 2009+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 99' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

STA. 2011+63 ℄ RAMP 4 ℄ MASSARD - IN PLACE
65" X 40" X 64' R.C. ARCH PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING
WITH S.E.S LT. & RT.
D.A. = 51.8 ac, Q50 = 113.4 cfs
RETAIN

STA. 2014+00 ℄ U.S. 71 RELOC - IN PLACE
9' X 5' X 212' R.C. BOX CULV'T
(15° RT. FWD. SKEW)
D.A. = 129.93 ac, Q50 = 264.4 cfs
RETAIN

STA. 2017+50 ℄ RAMP 4 ℄ MASSARD - IN PLACE
73" X 45" X 87' R.C. ARCH PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S LT. & RT.
D.A. = 65.1 ac, Q50 = 142.4 cfs
RETAIN

STA. 2017+50 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 140' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
TO RT. (40° SKEW) WITH F.E.S. RT.
RETAIN

STA. 2014+38 ℄ RAMP 1 ℄ MASSARD - IN PLACE
10' X 5' X 106' R.C. BOX CULV'T
(15° LT. FWD. SKEW)
D.A. = 146.2 ac, Q50 = 291.7 cfs
RETAIN

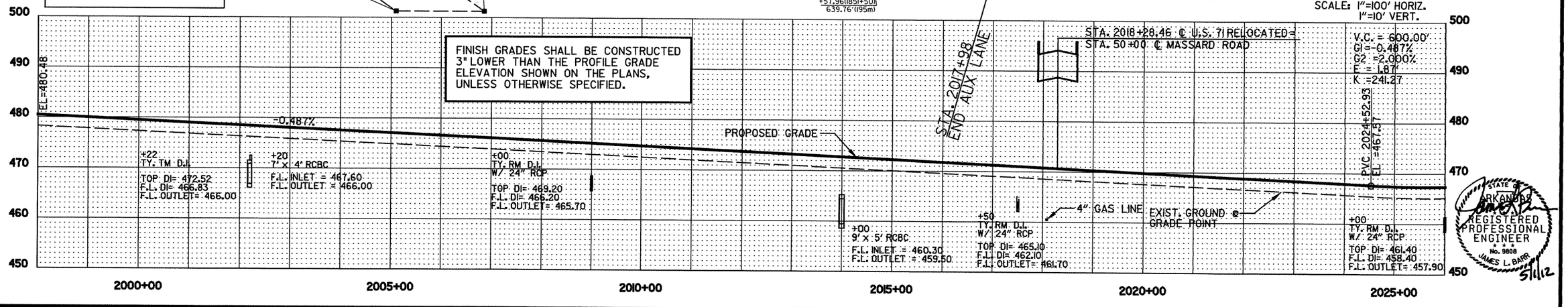
STA. 2026+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 99' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

P.O.T. STA. 2018+28.46 ℄ U.S. 71 RELOCATED =
P.O.T. STA. 50+00.00 ℄ MASSARD RD.
∢ = 88°27'35"

SEE INTERCHANGE LAYOUT FOR RAMP GEOMETRY

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

SCALE: 1"=100' HORIZ.
1"=10' VERT.




STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/11/12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
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| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 91 | 207 |

(2) PLAN & PRO. STA. 2026+00 TO 2054+00

STA. 2029+00 ℄ U.S. 71 RELOC - IN PLACE
36" X 215' R.C. PIPE CULV'T
(5° RT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 12.45 ac, Q50 = 25.5 cfs
RETAIN

STA. 2029+00 ℄ RAMP 3 @ MASSARD - IN PLACE
42" X 134' R.C. PIPE CULV'T
(CLASS IV) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 25.8 ac, Q50 = 57.3 cfs
RETAIN

STA. 2033+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 15'-6"
WITH 24" X 220' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

STA. 2034+00 ± LT. ℄ U.S. 71 RELOC - IN PLACE
ROAD CLOSED GUARDRAIL & SIGNS
RETAIN

STA. 2039+73.31 CONSTRUCT
TYPE N3 DROP INLET LT.
W/ 12" X 110' Z.C.C.S. PIPE CULVERT
W/ CONCRETE SPILLWAY (TYPE A)

STA. 2043+65.82 CONSTRUCT
TYPE N3 DROP INLET LT.
W/ 12" X 120' Z.C.C.S. PIPE CULVERT
W/ CONCRETE SPILLWAY (TYPE A)

STA. 2035+72 ℄ U.S. 71 RELOC - IN PLACE
9' X 5' X 426' R.C. BOX CULV'T
(27° RT. FWD. SKEW)
D.A. = 175.91 ac, Q50 = 319.3 cfs
RETAIN

STA. 2047+68 ℄ U.S. 71 RELOC - IN PLACE
DBL. 6' X 8' X 372' R.C. BOX CULV'T
(18° RT. FWD. SKEW)
D.A. = 434.91 ac, Q50 = 608.2 cfs
RETAIN

**NOTE: FUTURE RAILROAD AND IMPROVEMENTS TO CUSTER BLVD. TO BE DONE BY OTHERS UNDER FUTURE JOB**

STA. 2054+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 14'-6"
WITH 24" X 138.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE I BEDDING
WITH F.E.S. RT.
RETAIN

P.O.T. STA. 2041+83.40 ℄ U.S. 71 RELOCATED =
P.O.T. STA. 50+00.00 ℄ CUSTER BLVD.
∢ = 61°36'11"

P.O.T. STA. 2042+90.26 ℄ U.S. 71 RELOCATED =
P.O.T. STA. 50+00.00 ℄ FUTURE RAILROAD RELOCATED
∢ = 61°36'11"

SEE INTERCHANGE LAYOUT FOR RAMP GEOMETRY

| GUARDRAIL | | GUARDRAIL (TYPE A) | GUARDRAIL TERMINAL (TYPE 2) | THRIE BEAM GUARDRAIL TERMINAL |
|---|---|---|---|---|
| STA. 2037+44.52 | TO STA. 2040+63.27 (LT. OF N.B. LANES) | = 250 L.F. | 1 EACH | 1 EACH |
| STA. 2037+70.47 | TO STA. 2040+89.22 (RT. OF N.B. LANES) | = 250 L.F. | 1 EACH | 1 EACH |
| STA. 2043+38.58 | TO STA. 2046+57.34 (LT. OF S.B. LANES) | = 250 L.F. | 1 EACH | 1 EACH |
| STA. 2043+64.53 | TO STA. 2046+83.28 (RT. OF S.B. LANES) | = 250 L.F. | 1 EACH | 1 EACH |

STATE OF ARKANSAS
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SCALE: 1"=100' HORIZ.

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| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 92 | 207 |

(2) PROFILE STA. 2026+00 TO 2054+00

| BRIDGE DATA U.S. 71 RELOC./ EXIST. CUSTER BLVD. | | |
|---|---|---|
| | BRIDGE A | BRIDGE B |
| BEGIN BRIDGE | STA. 2040+32.51 | STA. 2040+75.77 |
| END BRIDGE | STA. 2043+52.03 | STA. 2043+95.29 |
| LENGTH | 319'-6 1/8" | 319'-6 1/8" |
| SPANS | 317'-0" CONT. PLATE GIRDER (71'-114'-66'-66') | 317'-0" CONT. PLATE GIRDER (71'-114'-66'-66') |

510 500 490 480 470 460 450 440 430 420 410 400 390

2030+00 2035+00 2040+00 2045+00 2050+00

PROPOSED GRADE

PVI 2027+52.93
EL. =466.11

PVT 2030+52.93
EL. =472.11

PVI 2042+28.02
EL. =495.61

PVC 2036+28.02
EL. =483.61

PVT 2048+28.02
EL. =483.61

EL. 472.17

2.00%

EXIST. GROUND ℄ GRADE POINT

SEE TABLE FOR BRIDGE DATA

BEGIN BRIDGE SEE TABLE

END BRIDGE SEE TABLE

1:2

2:1

V.C. = 1200.00'
G1 =2.000%
G2 =-2.000%
E = -6.00'
K =300.00

+00
TY. RM D.I.
W/ 24" RCP
TOP DI= 461.40
F.L. DI= 458.40
F.L. OUTLET= 457.90

V.C. = 600.00'
G1 =-0.487%
G2 =2.000%
E = 1.87'
K =241.27

+00
36" RCP
F.L. INLET= 457.30
F.L. OUTLET= 456.10

+00
TY. RM D.I.
W/ 24" RCP
TOP DI= 471.10
F.L. DI=455.60
F.L. OUTLET= 452.40

+72
9' x 5' RCBC
F.L. INLET= 451.00
F.L. OUTLET= 448.00

℄ CUSTER BLVD

℄ RAILROAD

10" WATER LINE

+68
DBL. 6' x 8' RCBC
F.L. INLET= 446.50
F.L. OUTLET= 443.10

+00
TY. RM D.I.
W/ 24" RCP
TOP DI= 466.30
F.L. DI=451.80
F.L. OUTLET= 449.80

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
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SCALE: 1"=100' HORIZ.
1"=10' VERT.

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|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 93 | 207 |

(2) MASSARD RD. INTERCHANGE LAYOUT

RAMP 1
(A) P.C. 1995+60.92 C.L. RAMP 1 = 56.50' RT. C.L. U.S. 71 RELOC. STA. 1995+60.92

RAMP 2
(B) P.T. 2037+41.66 C.L. RAMP 2 = 68.50' RT. C.L. U.S. 71 RELOC. STA. 2037+41.66

RAMP 3
(C) P.T. 2038+91.41 C.L. RAMP 3 = 68.50' LT. C.L. U.S. 71 RELOC. STA. 2038+91.41

RAMP 4
(D) P.C. 1998+29.58 C.L. RAMP 4 = 68.50' LT. C.L. U.S. 71 RELOC. STA. 1998+29.58

**RAMP 4**
P.I. 2001+86.62
N = 356485.0930
E = 616088.9710
Δ = 21°10'41" Lt.
D = 3°00'00"
T = 357.04'
L = 705.94'
E = 33.09'
e = 5.70%
Ls = 200'

**RAMP 4**
P.I. 2015+56.23
N = 357787.6377
E = 616537.9611
Δ = 7°43'05" Rt
D = 1°45'00"
T = 220.85'
L = 441.03'
E = 7.44'
e = 2.50%
Ls = 175'

P.O.T. STA. 43+43.84 ℄ MASSARD RD. =
P.O.T. STA. 2019+40.91 ℄ RAMP 4 =
P.O.T. STA. 2017+42.28 ℄ RAMP 3
∢=75°00'

**RAMP 3**
P.I. 2021+55.96
N = 358358.3508
E = 617056.7313
Δ = 9°12'22" Rt.
D = 1°45'00"
T = 263.59'
L = 526.06'
E = 10.59'
e = 2.50%
Ls = 175'

**RAMP 3**
P.I. 2030+68.12
N = 358730.6480
E = 617890.6940
Δ = 20°02'16" Lt.
D = 3°00'00"
T = 337.41'
L = 667.92'
E = 29.57'
e = 5.70%
Ls = 200'

**RAMP 3**
P.I. 2037+96.36
N = 359242.1890
E = 618418.6610
Δ = 5°42'29" Lt.
D = 3°00'00"
T = 95.21'
L = 190.27'
E = 2.37'
NO SUPER

PC 38+37.26
PT 46+70.11
PT 46+99.25
PC 29+44.50

P.O.T. 2041+83.40 ℄ U.S. 71 RELOCATED =
P.O.T. 50+00.00 ℄ CUSTER BLVD.
∢=61°36'11"

P.O.T. 2042+90.26 ℄ U.S. 71 RELOCATED =
P.O.T. 50+00.00 ℄ FUTURE R.R.
∢=61°36'11"

**RAMP 1**
P.I. 1996+56.14
N = 355999.1940
E = 615842.0340
Δ = 5°42'30" Rt.
D = 3°00'00"
T = 95.22'
L = 190.28'
E = 2.37'
NO SUPER

**RAMP 1**
P.I. 2004+46.01
N = 356548.9290
E = 616409.4270
Δ = 16°37'45" Rt.
D = 3°00'00"
T = 279.11'
L = 554.30'
E = 20.29'
e = 5.70%
Ls = 200'

**RAMP 1**
P.I. 2015+27.94
N = 357049.7366
E = 617372.8925
Δ = 5°47'53" Lt.
D = 1°45'00"
T = 165.80'
L = 331.31'
E = 4.20'
e = 2.50%
Ls = 175'

P.O.T. STA. 56+56.17 ℄ MASSARD RD. =
P.O.T. STA. 2019+07.61 ℄ RAMP 1=
P.O.T. STA. 2017.09.44 ℄ RAMP 2
<=75°00'

**RAMP 2**
P.I. 2021+83.62
N = 357681.6177
E = 617903.9288
Δ = 10°46'46" Lt.
D = 1°45'00"
T = 308.90'
L = 615.97'
E = 14.54'
e = 2.50%
Ls = 175'

**RAMP 2**
P.I. 2033+43.80
N = 358798.8430
E = 618223.3950
Δ = 24°14'22" Rt.
D = 3°00'00"
T = 410.13'
L = 807.98'
E = 43.54'
e = 5.70%
Ls = 200'

NOTE: FUTURE RAILROAD AND IMPROVEMENTS TO CUSTER BLVD. TO BE DONE BY OTHERS UNDER FUTURE JOB.

STATE OF ARKANSAS
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JAMES L. BARR
5/1/12

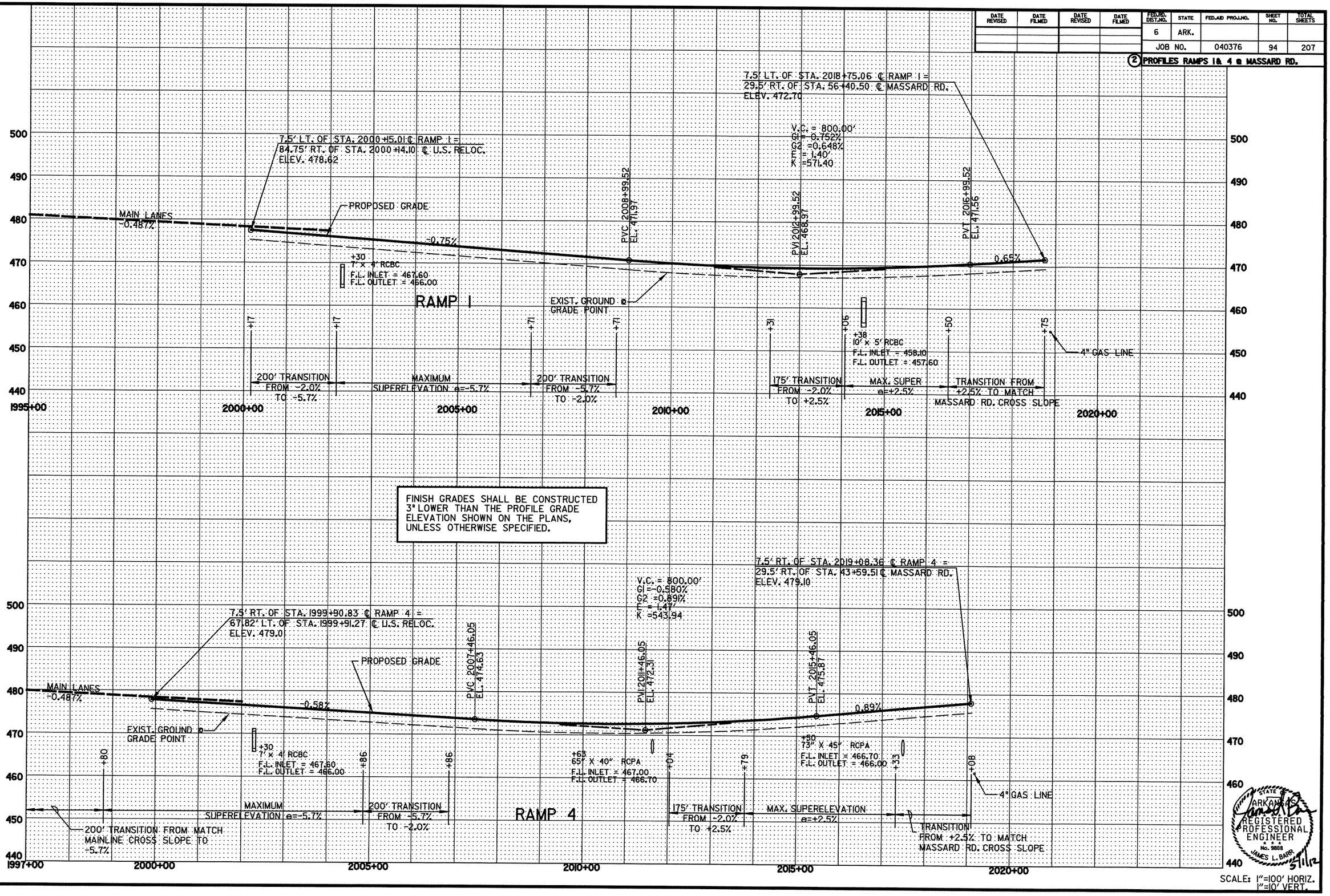
# MASSARD ROAD INTERCHANGE LAYOUT

SCALE: 1"=200'

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 94 | 207 |

## (2) PROFILES RAMPS 1 & 4 @ MASSARD RD.




STATE OF ARKANSAS
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JAMES L. BARRY
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SCALE: 1"=100' HORIZ.
1"=10' VERT.

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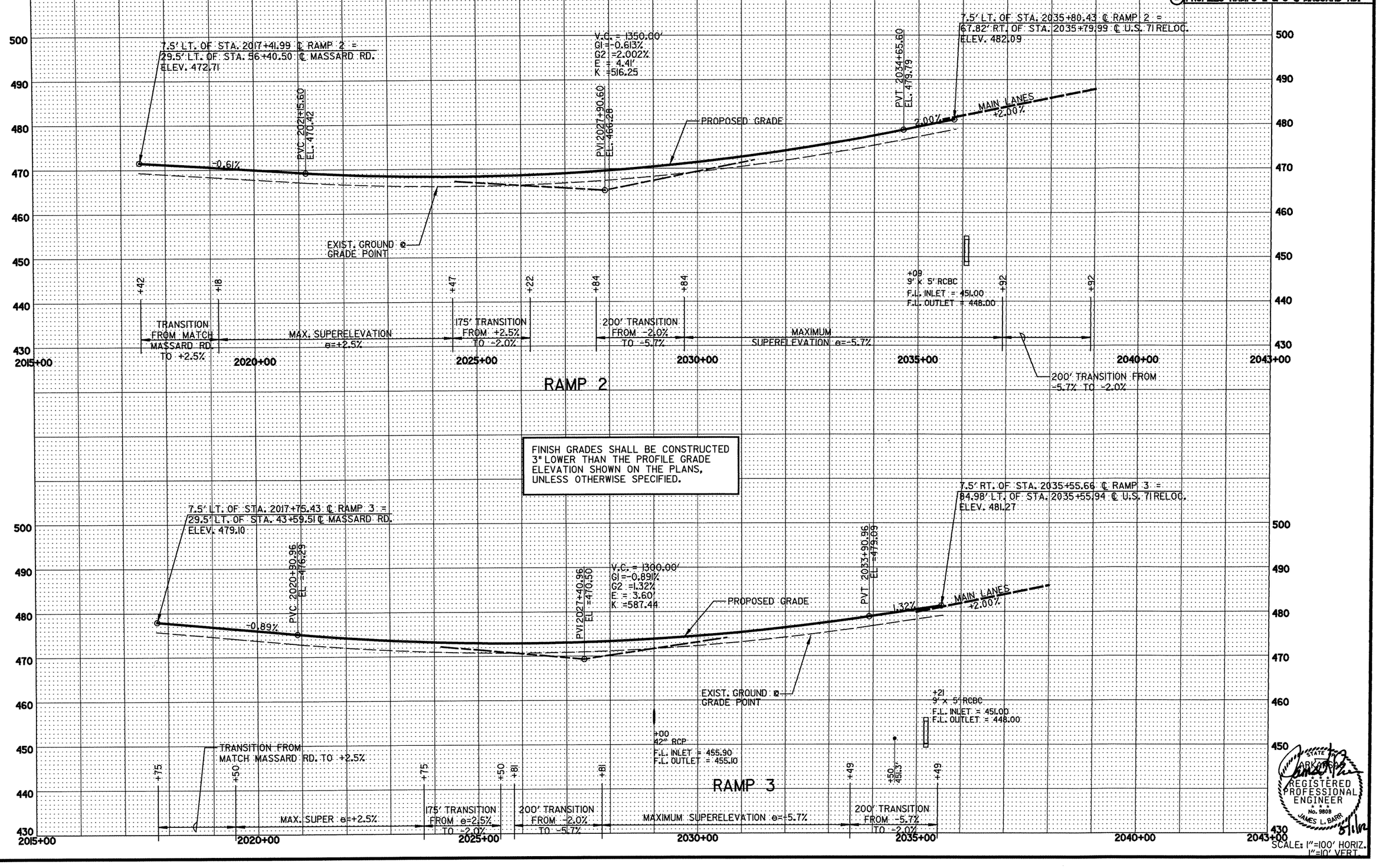
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 95 | 207 |

## (2) PROFILES RAMPS 2 & 3 @ MASSARD RD.




STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=100' HORIZ.
1"=10' VERT.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
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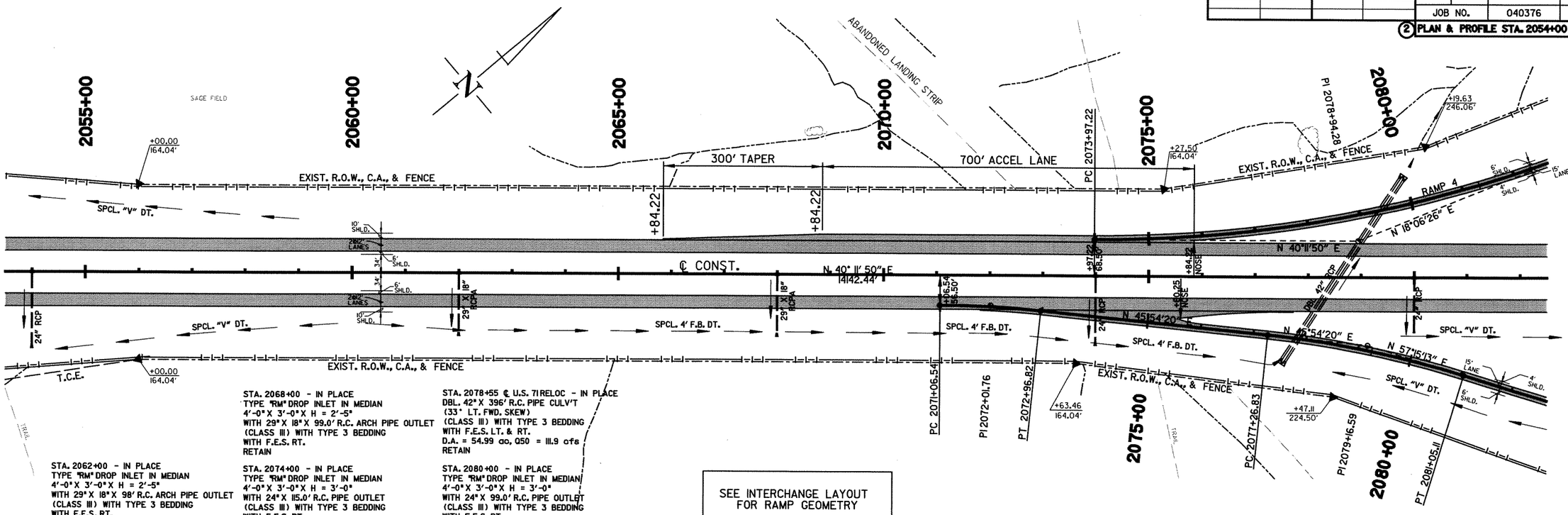
| FED. RD. DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 96 | 207 |

(2) PLAN & PROFILE STA. 2054+00 - 2082+00




STA. 2062+00 - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 2'-5"
WITH 29" X 18" X 98' R.C. ARCH PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

STA. 2068+00 - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 2'-5"
WITH 29" X 18" X 99.0' R.C. ARCH PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

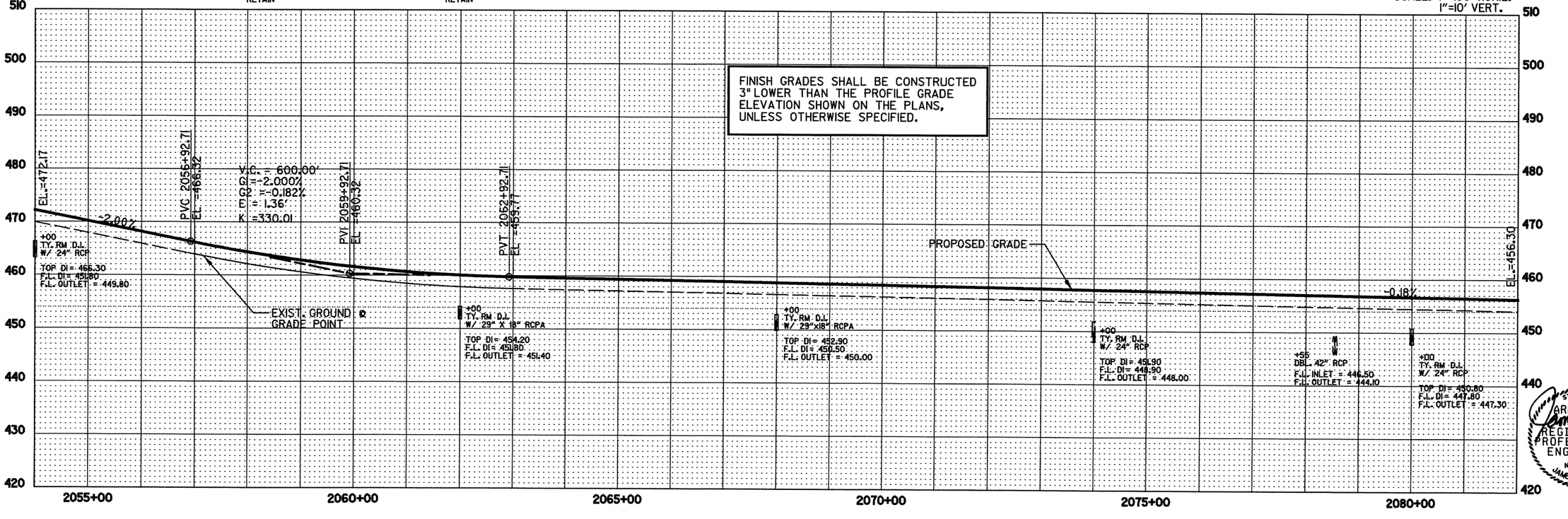
STA. 2074+00 - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 115.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

STA. 2078+55 ℄ U.S. 71 RELOC - IN PLACE
DBL. 42" X 396' R.C. PIPE CULV'T
(33° LT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 54.99 ac, Q50 = 111.9 cfs
RETAIN

STA. 2080+00 - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 99.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

SEE INTERCHANGE LAYOUT
FOR RAMP GEOMETRY

SCALE: 1"=100' HORIZ.
1"=10' VERT.




FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

STATE OF ARKANSAS
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| JOB NO. | | 040376 | 97 | 207 |

## (2) PLAN STA. 2082+00 - 2110+00

STA. 2087+28 ℄ RAMP 4 @ ROBERTS - IN PLACE
54" X 90' R.C. PIPE CULV'T
(0° SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 42.2 ac, Q50 = 107.2 cfs
RETAIN

STA. 2092+00 - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4.0' x 3.0' x H=3.0'
WITH 24" x 98.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

STA. 2094+00 ℄ RAMP 3 @ ROBERTS - IN PLACE
30° X 152' R.C. PIPE CULV'T
(40° LT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 6.4 ac, Q50 = 23.3 cfs
RETAIN

STA. 2097+30 ℄ RAMP 3 @ ROBERTS - IN PLACE
73° X 45" X 138' R.C. ARCH PIPE CULV'T
(40° RT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 30.7 ac, Q50 = 91.8 cfs
RETAIN

STA. 2097+00 - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4.0' x 3.0' x H=3.0'
WITH 24" x 98' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

P.O.C. STA. 2093+65.43 ℄ U.S. 71 RELOCATED=
P.O.T. STA. 50+00.00 ℄ ROBERTS BLVD.
Δ=49°43'38"

U.S. 71 RELOCATED
P.I. 2105+96.45
N = 364392.1910
E = 622860.0020
Δ = 18°38'20" Rt.
D = 0°29'56.28"
T = 1884.41'
L = 3735.53'
E = 153.59'
e = N.C.

STA. 2088+75 ℄ RAMP 1 @ ROBERTS - IN PLACE
36" X 80' R.C. PIPE CULV'T
(17° LT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 6.6 ac, Q50 = 22.8 cfs
RETAIN

STA. 2093+74 ℄ RAMP 4 @ ROBERTS - IN PLACE
36" X 160' R.C. PIPE CULV'T
(40° RT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 10.8 ac, Q50 = 32.9 cfs
RETAIN

STA. 2086+00 ℄ U.S. 71 RELOC - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 103.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

STA. 2088+00 ℄ U.S. 71 RELOC - IN PLACE
48" X 206' R.C. PIPE CULV'T
(15° RT. FWD. SKEW)
(CLASS III) TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 32.94 ac, Q50 = 88.9 cfs
RETAIN

STA. 2099+70 ℄ U.S. 71 RELOC - IN PLACE
42" X 200' R.C. PIPE CULV'T
(13° RT. FWD. SKEW)
(CLASS III) TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 18.23 ac, Q50 = 65.6 cfs
RETAIN

STA. 2105+00 - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 5'-6"
WITH 24" X 111.0' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

STA. 2099+79.63 790.16' RT.
END PROP. C.A. & FENCE

STA. 2101+01.76 672.62' RT.
BEGIN PROP. C.A. & FENCE

STA. 2100+30 ℄ RAMP 2 @ ROBERTS - IN PLACE
30" X 115' R.C. PIPE CULV'T
(12° LT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 5.7 ac, Q50 = 22.4 cfs
RETAIN

STA. 2105+30 ℄ RAMP 2 @ ROBERTS - IN PLACE
30" X 88' R.C. PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 4.9 ac, Q50 = 22.2 cfs
RETAIN

ROAD CLOSURE - IN PLACE
RETAIN

ADDITIONAL
UNPERMITTED
TRENCH AREA
(DO NOT DISTURB)

UNPERMITTED
TRENCH AREA I

UNPERMITTED
TRENCH AREA III

CLEARED OF TREES AND SEEDED WITH GRASS

GRAVEL RD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BAKER
5/1/12

SEE INTERCHANGE LAYOUT FOR RAMP GEOMETRY

SCALE: 1"=100' HORIZ.

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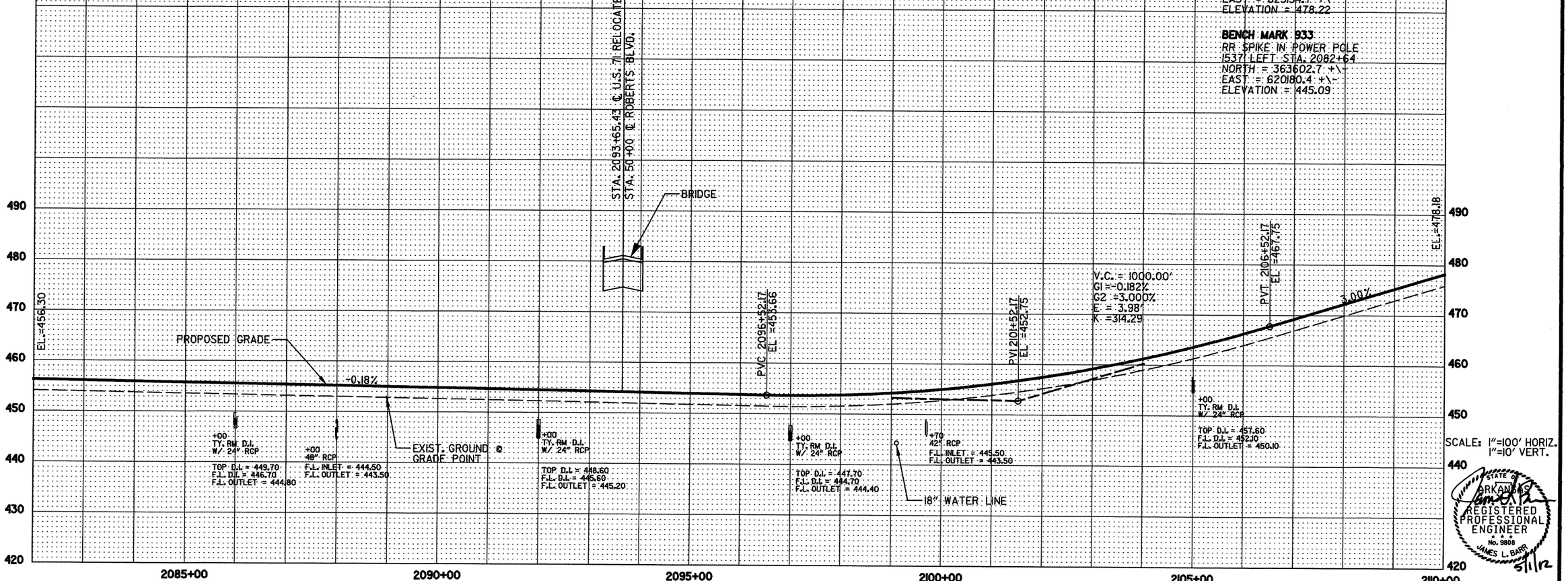
| | | | | JOB NO. | | 040376 | 98 | 207 |

(2) PROFILE STA. 2082+00 - 2110+00

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

**BENCH MARK 932**
RR SPIKE IN 18" ASH TREE
804' RIGHT STA. 2100+80
NORTH = 363354.1 +\-
EAST = 623134.7 +\-
ELEVATION = 478.22

**BENCH MARK 933**
RR SPIKE IN POWER POLE
1537' LEFT STA. 2082+64
NORTH = 363602.7 +\-
EAST = 620180.4 +\-
ELEVATION = 445.09




SCALE: 1"=100' HORIZ.
1"=10' VERT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
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| FED.RD. DIST.NO. | STATE | FED.AID PRO.J.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 99 | 207 |

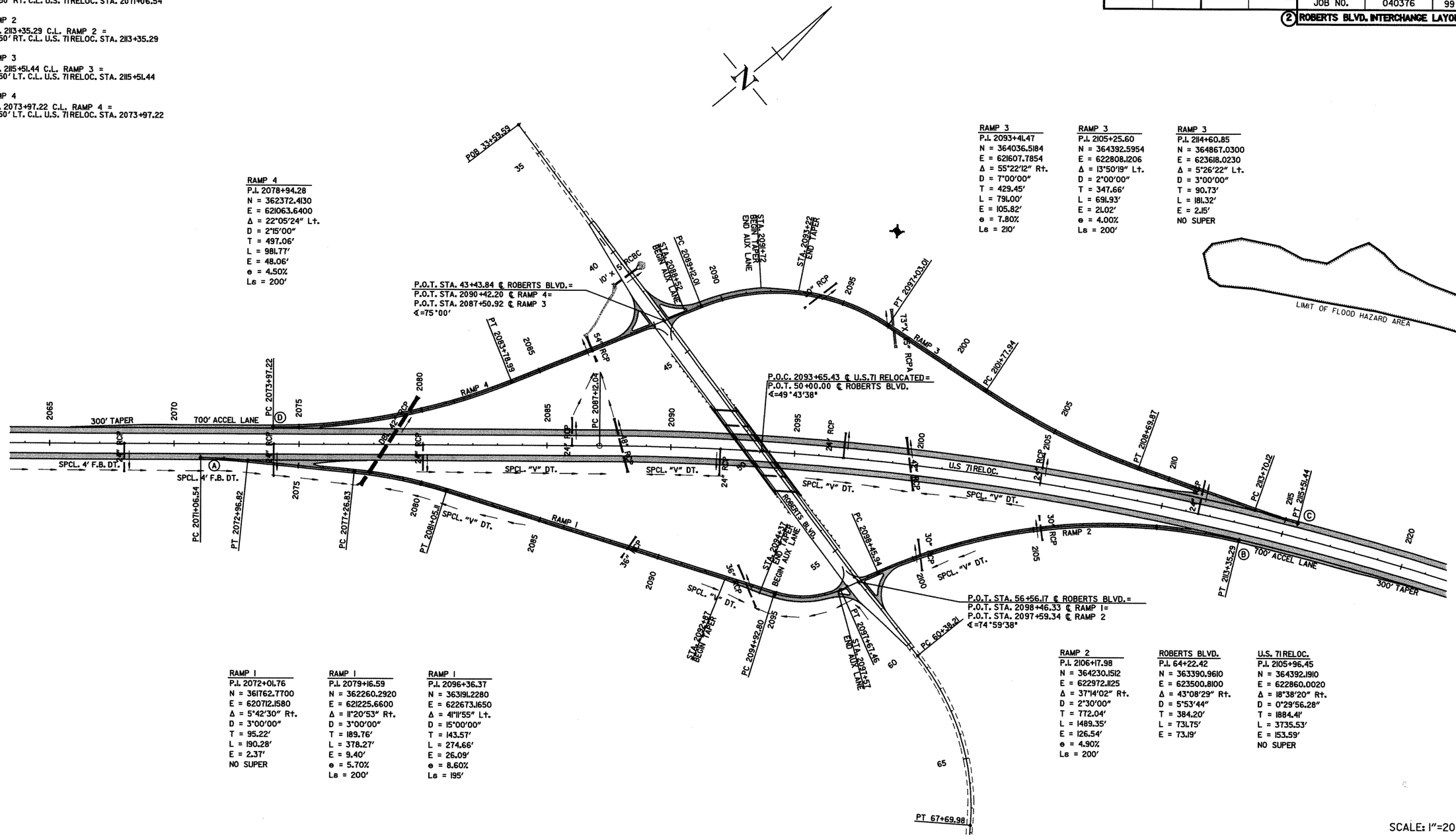
(2) ROBERTS BLVD. INTERCHANGE LAYOUT

RAMP 1
(A) P.C. 2071+06.54 C.L. RAMP 1 =
56.50' RT. C.L. U.S. 71 RELOC. STA. 2071+06.54

RAMP 2
(B) P.T. 2113+35.29 C.L. RAMP 2 =
68.50' RT. C.L. U.S. 71 RELOC. STA. 2113+35.29

RAMP 3
(C) P.T. 2115+51.44 C.L. RAMP 3 =
56.50' LT. C.L. U.S. 71 RELOC. STA. 2115+51.44

RAMP 4
(D) P.C. 2073+97.22 C.L. RAMP 4 =
68.50' LT. C.L. U.S. 71 RELOC. STA. 2073+97.22




SCALE: 1"=200'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/11/12

ROBERTS BLVD. INTERCHANGE LAYOUT

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 100 | 207 |

## (2) PROFILES - ROBERTS RAMPS 1 & 4

### RAMP 1

7.5' LT. OF STA. 2075+60.63 ℄ RAMP 1 =
84.75' RT. OF STA. 2075+59.76 ℄ U.S. 71 RELOC.
ELEV. 456.57

7.5' LT. OF STA. 2097+95.66 ℄ RAMP 1 =
47.0' RT. OF STA. 56+35.81 ℄ ROBERTS BLVD.
ELEV. 480.09

PVC 2076+98.63
EL. 456.05

PVI 2078+48.63
EL. 455.48

PVT 2079+98.63
EL. 457.37

V.C. = 300.00'
G1 = -0.38%
G2 = 1.26%
E = 0.62'
K = 182.42

MAIN LANES
-0.18%

-0.38%

1.26%

PROPOSED GRADE

EXIST. GROUND
GRADE POINT

+83
DBL. 42" RCP
F.L. INLET = 446.50
F.L. OUTLET = 444.10

+15
36" RCP
F.L. INLET = 460.14
F.L. OUTLET = 458.60

+74
36" RCP
F.L. INLET = 462.05
F.L. OUTLET = 459.49

+77 | +77 | +55 | +55

200' TRANSITION
FROM -2.0%
TO -5.7%

MAXIMUM
SUPERELEVATION e= -5.7%

200' TRANSITION
FROM -5.7%
TO -2.0%

+47 | +42 | +20 | +96

195' TRANSITION
FROM -2.0%
TO +8.6%

MAX. SUPER
e= +8.6%

176' TRANS. FROM
+8.6% TO MATCH
ROBERTS BLVD.

2070+00 | 2075+00 | 2080+00 | 2085+00 | 2090+00 | 2095+00

500 | 490 | 480 | 470 | 460 | 450 | 440 | 430

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

### RAMP 4

7.5' RT. OF STA. 2075+83.70 ℄ RAMP 4 =
67.85' LT. OF STA. 2075+84.08 ℄ U.S. 71 RELOC.
ELEV. 456.90

7.5' RT. OF STA. 2089+95.55 ℄ RAMP 4 =
47.0' RT. OF STA. 43+39.01 ℄ ROBERTS BLVD.
ELEV. 456.19

V.C. = 400.00'
G1 = -0.23%
G2 = -0.91%
E = -0.54'
K = 587.95

V.C. = 600.00'
G1 = -0.91%
G2 = 1.752%
E = 2.00'
K = 225.19

PVC 2077+86.56
EL. 456.43

PVI 2079+86.56
EL. 455.97

PVT 2081+85.56
EL. 454.14

PVC 2083+41.65
EL. 452.73

PVI 2086+41.65
EL. 449.99

PVT 2089+41.65
EL. 455.25

MAIN LANES
-0.18%

-0.23%

-0.91%

1.75%

PROPOSED GRADE

EXIST. GROUND
GRADE POINT

+41
DBL. 42" RCP
F.L. INLET = 446.50
F.L. OUTLET = 444.10

+28
54" RCP
F.L. INLET = 440.50
F.L. OUTLET = 439.30

+47 | +47

200' TRANSITION
FROM -2.0%
TO -4.5%

MAXIMUM
SUPERELEVATION e= -4.5%

+29 | +29

200' TRANSITION
FROM -4.5%
TO -2.0%

2070+00 | 2075+00 | 2080+00 | 2085+00 | 2090+00 | 2095+00 | 2098+00

500 | 490 | 480 | 470 | 460 | 450 | 440 | 430 | 420 | 410

SCALE: 1"=100' HORIZ.
1"=10' VERT.

STATE OF ARKANSAS
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No. 9808
JAMES L. BARR
5/1/12

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| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 101 | 207 |

(2) PROFILES - ROBERTS RAMPS 2 & 3

## RAMP 2

7.5' LT. OF STA. 2097+69.75 ℄ RAMP 2 =
12.0' LT. OF STA. 56+51.62 ℄ ROBERTS BLVD.
ELEV. 479.93

PVC 2098+34.81
EL. 478.22

-2.62%

PROPOSED GRADE

18" WATER LINE

+70

+70

TRANSITION FROM MATCH ROBERTS BLVD. TO -4.9%

+30
30" RCP
F.L. INLET 461.10
F.L. OUTLET 458.70

2100+00

V.C. = 1200.00'
G1 =-2.623%
G2 =2.760%
Km = 8.07'
K = 222.91

PVI 2104+34.81
EL. 462.48

SPCL. "V" DT. LT.

+30 RT.
461.6

2105+00

+30
30" RCP
F.L. INLET 461.60
F.L. OUTLET 460.20

MAXIMUM SUPERELEVATION e= -4.9%

EXIST. GROUND ℄ GRADE POINT

PVT 2110+34.81
EL. 479.04

2.76%

7.5' LT. OF STA. 2111+37.21 ℄ RAMP 2 =
67.86' RT. OF STA. 2111+35.61 ℄ U.S. 71 RELOC.
ELEV. 481.87

MAIN LANES +3.00%

+85

+85

200' TRANSITION FROM -4.9% TO -2.0%

2110+00

2115+00

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

## RAMP 3

7.5' RT. OF STA. 2087+65.35 ℄ RAMP 3 =
12.0' LT. OF STA. 43+54.82 ℄ ROBERTS BLVD.
ELEV. 456.91

PVC 2091+00.00
EL. 452.37

-1.36%

PVI 2096+00.00
EL. 445.58

V.C. = 1000.00'
G1 =-1.36%
G2 =2.40%
Km = 4.70'
K =266.23

PVT 2101+00.00
EL. 457.57

PROPOSED GRADE

2.40%

EXIST. GROUND ℄ GRADE POINT

7.5' RT. OF STA. 2111+21.76 ℄ RAMP 3 =
87.90' LT. OF STA. 2111+25.53 ℄ U.S. 71 RELOC.
ELEV. 482.08

MAIN LANES +3.00%

+65

+69

TRANSITION FROM MATCH ROBERTS BLVD. TO +7.8%

+00
30" RCP
F.L. INLET 437.00
F.L. OUTLET 436.00

18" WATER LINE

MAXIMUM SUPERELEVATION e= +7.8%

+30
73" X 45" RCPA
F.L. INLET 438.00
F.L. OUTLET 437.30

+51

+61

210' TRANSITION FROM +7.8% TO -2.0%

+28

+28

200' TRANSITION FROM -2.0% TO -4.0%

MAXIMUM SUPERELEVATION e= -4.0%

+20

+20

200' TRANSITION FROM -4.0% TO -2.0%

2090+00

2095+00

2100+00

2105+00

2110+00

2113+00

STATE OF ARKANSAS
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5/1/12

SCALE: 1"=100' HORIZ.
1"=10' VERT.

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| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 102 | 207 |

(2) PLAN & PROFILE STA. 2110+00 TO 2138+00

STA. 2111+50 - IN-PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 2'-11"
WITH 24" X 130' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

STA. 2132+00 - IN-PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 3'-0"
WITH 24" X 98' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

2110+00 2115+00 2120+00 2125+00 2130+00 2135+00

STEPHENS PRODUCTION CO. AOC
GRAVEL AREA
TANK
+87.50
289.09'
WOODED AREA
MIXED TREES
EXIST. R.O.W., PROP. C.A., & FENCE
+20.67
213.25'
+47.56
164.04'
MIXED TREES
+61.08
164.04'
EXIST. R.O.W., PROP. C.A., & FENCE
PC 2113+70.12
PI 2114+60.85
PT 2115+51.44
SPCL. "V" DT.
10' SHLD.
2@12' LANES
3%
6' SHLD.
24" RCP
℄ CONST.
N 58° 50' 10" E
RAMP 3
N 59°38'19" E
6' SHLD.
4' SHLD.
16' LANE
24" RCP
+32.50
60.8' E
N 58°50'10" E
+35.43
60.50'
+35.48
60.10'
+35.48
RAMP 2
700' ACCEL LANE
300' TAPER
+35.48
+05.89
183.56'
+47.56
180.45'
PT 2124+47.56
EXIST. R.O.W., PROP. C.A., & FENCE
+61.08
246.06'
4' SHLD.
6' SHLD.
16' LANE
EXIST. R.O.W., PROP. C.A., & FENCE
+21.90
203.10'
+92.58
180.45'
WOODED AREA
MIXED TREES
+72.38
229.66'
PT 2113+35.29
TRAIL
MIXED TREES
DUP
FH
SHED
SCALE: 1"=100' HORIZ.
1"=10' VERT.

550 540 530 520 510 500 490 480 470 460

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

PVI 2121+20.67
EL. =511.81'
PROPOSED GRADE
PVC 2111+36.42
EL. =482.28'
EL. =478.19
3.00%
-1.91%
PVT 2131+04.92
EL. =493.00'
EL. =479.72
+50
TY. RM D.I.
W/ 24" RCP
TOP D.I. = 476.80
F.L. D.I. = 473.90
F.L. OUTLET = 473.00
V.C. = 1968.50'
G1 =3.000%
G2 =-1.911%
Y = -12.08'
K =400.86
+00
TY. RM D.I.
W/ 24" RCP
TOP D.I. = 485.30
F.L. D.I. = 482.30
F.L. OUTLET = 482.00

2110+00 2115+00 2120+00 2125+00 2130+00 2135+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/11/2

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| FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 103 | 207 |

(2) PLAN STA. 2138+00 TO 2166+00

STA. 2150+85.33 CONSTRUCT TYPE N3 DROP INLET LT. W/ 12" X 90' Z.C.C.S. PIPE CULVERT W/ CONCRETE SPILLWAY (TYPE A)

P.O.T. STA. 44+71.34 ℄ FT. SMITH CONNECTOR = P.O.T. STA. 34+34.48 ℄ FT. SMITH BLVD. RELOC.
∢ = 85°50'44"

PI 23+27.90

FT. SMITH BLVD.

N 62°59'27" E

RELOC. FT. SMITH BLVD.

SOD "V" DT.

LIMITS OF FLOOD HAZARD AREA

EXIST. R.O.W.

EXIST. R.R. R.O.W.

FORT CHAFFEE BOUNDARY

UNION PACIFIC RAILROAD

P.C.E.

T.C.E.

EXIST. 20' F.B. CHANNEL CHANGE - RETAIN

EXIST. C.A. & FENCE

EXIST. R.O.W., C.A., & FENCE

STA. 2148+51.62 75.67' LT. END C.A.

STA. 2148+51.62 75.67' RT. END C.A.

STA. 2150+48.83 75.67' RT. BEGIN C.A.

℄ FORT SMITH CONNECTOR

RETAIN DBL. 10'x8' RCBC

EXIST. 20' F.B. CHANNEL CHANGE RETAIN

16'-0" GATE

2 @ 12' LANES 10' TURN LANE

4@12' LANES 10' TURN LANE

8' SHLD.

6' SHLD.

10' SHLD.

24" RCP

12" ZCCS

42"

SPCL. "V" DT.

SPCL. 4' F.B. DT.

BM 934 12" ELM

P.O.T. STA. 2149+52.23 ℄ U.S. 71 RELOCATED = P.O.T. STA. 50+00.00 ℄ FT. SMITH CONN.

STA. 2141+00 ℄ U.S. 71 RELOC. - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 10'-0"
WITH 24" X 120' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S LT.
RETAIN

| STREAM | STATION | STREAM TYPE | TOP OF CHANNEL ELEVATION |
|---|---|---|---|
| UNNAMED | 2158+00 TO 2162+00 (MAIN LANES) | INTERMITTENT | 405.0 FT MSL |

STA. 2145+55 ℄ U.S. 71 RELOC - IN PLACE
36" X 442' R.C. PIPE CULV'T.
(25° LT. FWD. SKEW)
(CLASS V) WITH TYPE 2 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 8.62 ac, Q50 = 32.00 cfs
RETAIN

STA. 2148+00 ℄ U.S. 71 RELOC. - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 10'-0"
WITH 24" X 125' R.C. PIPE OUTLET
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT.
RETAIN

| GUARDRAIL | GUARDRAIL (TYPE A) | GUARDRAIL TERMINAL (TYPE 2) | THRIE BEAM GUARDRAIL TERMINAL |
|---|---|---|---|
| STA. 2145+26.98 TO STA. 2148+45.73 (LT. OF N.B. LANES) | = 250 L.F. | 1 EACH | 1 EACH |
| STA. 2145+76.98 TO STA. 2148+45.73 (RT. OF N.B. LANES) | = 200 L.F. | 1 EACH | 1 EACH |
| STA. 2150+54.72 TO STA. 2153+73.47 (RT. OF S.B. LANES) | = 250 L.F. | 1 EACH | 1 EACH |
| STA. 2150+54.72 TO STA. 2153+23.47 (LT. OF S.B. LANES) | = 200 L.F. | 1 EACH | 1 EACH |
| STA. 2160+07.08 TO STA. 2163+25.83 (LT. OF N.B. LANES) | = 250 L.F. | 1 EACH | 1 EACH |
| STA. 2160+39.63 TO STA. 2163+58.38 (RT. OF N.B. LANES) | = 250 L.F. | 1 EACH | 1 EACH |

PC 59+82.73

STA. 2161+25.00 ℄ U.S. 71 RELOC. = STA. 50+00.00 ℄ 20' F.B. CHANNEL CHANGE

STA. 2164+63.89 ℄ U.S. 71 RELOC. = STA. 5+57.75 ℄ EXIST RAILROAD

EXIST. ROAD CLOSURE RETAIN

PAVED PARKING

GRADE TO DRAIN

SH 22

EXIST. R.O.W. & ℄

UNITED STATES ARMY RESERVE CENTER

STA. 2163+34.21 251.44' RT. END PROP. C.A. & FENCE

DBL. 10' X 8' PRECAST RCBC RETAIN

STA. 2164+97 RT. ℄ U.S. 71 RELOC. - IN PLACE
DBL. 10' X 8' X 53' PRECAST R.C. BOX CULV'T.
UNDER EXIST. RAILROAD IN
20' F.B. CHANNEL CHANGE
D.A. = 2.06 sq. mi., Q50 = 1244 cfs
RETAIN

STA. 2151+00 ℄ U.S. 71 RELOC. - IN PLACE
42" X 376' R.C. PIPE CULV'T
(CLASS V) WITH TYPE 2 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 13.47 ac, Q50 = 71.26 cfs
RETAIN

STA. 2161+25 ℄ U.S. 71 RELOC. - IN PLACE
TRIPLE 7' X 8' X 564' R.C. BOX CULV'T
(45° RT. FWD. SKEW)
WITH 3# WINGS LT. & RT.
D.A. = 2.04 sq. mi., Q50 = 1235 cfs
RETAIN

STA. 2163+00 ℄ U.S. 71 RELOC. - IN PLACE
TYPE "RM" DROP INLET IN MEDIAN
4'-0" X 3'-0" X H = 10'-0"
WITH 24" X 141' R.C. PIPE OUTLET
(20° LT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. RT.
RETAIN

FUTURE OVERHEAD (CANTILEVER) SIGN STRUCTURE
STA. 2162+70 RT. OF N.B. LANES

SEE INTERCHANGE LAYOUT FOR RAMP GEOMETRY

200' TAPER

1350' DECEL. LANE

1350' ACCEL LANE

300' TAPER

TRIPLE 7' X 8' RCBC

44' X 27" ROPA RETAIN

UNION PACIFIC RAILROAD

STATE OF ARKANSAS
STANLEY G. KING
No. 9066
REGISTERED PROFESSIONAL ENGINEER

SCALE: 1"=100' HORIZ.

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| 6 | ARK. | | | |
| JOB NO. | | 040376 | 104 | 207 |

(2) PROFILE STA. 2138+00 TO 2166+00

| BRIDGE DATA U.S. 71 RELOC. OVER FT. SMITH CONNECTOR | | |
|---|---|---|
| | BRIDGE A | BRIDGE B |
| BEGIN BRIDGE | STA. 2148+51.62 | STA. 2148+51.62 |
| END BRIDGE | STA. 2150+48.83 | STA. 2150+48.83 |
| LENGTH | 197'-2½" | 197'-2½" |
| SPANS | 195'-0" CONT. COMP. W-BEAM (60'-79'-56') | 195'-0" CONT. COMP. W-BEAM (60'-79'-56') |

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

STA. 2149+52.25 ℄ U.S. 71 RELOCATED = STA. 50+00 ℄ FT. SMITH CONNECTOR

-1.91%

PROPOSED GRADE

+00 TY. RM D.I. W/ 24" RCP
TOP DI = 468.10
F.L. DI = 458.10
F.L. OUTLET = 457.50

EXISTING GROUND ℄ GRADE POINT

PVC 2144+73.25 ℄
EL. 466.86

+00 TY. RM D.I. W/ 24" RCP
TOP DI = 455.60
F.L. DI = 445.60
F.L. OUTLET = 444.90

SEE TABLE FOR BRIDGE DATA

V.C. = 650.00'
G1 = -1.91%
G2 = -0.886%
E = 0.83'
K = 634.02

PVI 2147+98.25 ℄
EL. 460.65

+55 36" RCP
F.L. INLET = 431.01
F.L. OUTLET = 415.57

BEGIN BRIDGE SEE TABLE

END BRIDGE SEE TABLE

PVT 2151+23.25 ℄
EL. 457.77

-0.89%

+00 42" RCP
F.L. INLET = 419.00
F.L. OUTLET = 414.0

**BENCH MARK 934**
RR SPIKE IN 12" ELM TREE
332' RT. STA. 2147+38.27
NORTH = 366268.5 +\-
EAST = 626604.4 +\-
ELEVATION = 430.10

**BENCH MARK 935**
RR SPIKE IN 12" ELM TREE
320' LT. 2157+38.57
NORTH = 367344.7 +\-
EAST = 627122.6 +\-
ELEVATION = 413.10

UNIT 1

+00 TY. RM D.I. W/ 24" RCP
TOP DI = 441.40
F.L. DI = 431.40
F.L. OUTLET = 427.00

STA. 2164+63.69 ℄ U.S. 71 RELOCATED = STA. 3+57.75 EXIST. RAILROAD

21" SAN. SEWER

+25 TRIPLE 7' x 8' RCBC
F.L. INLET = 403.09
F.L. OUTLET = 400.84

+97 DBL 10' x 8' RCBC
F.L. INLET = 400.18
F.L. OUTLET = 399.97

STATE OF ARKANSAS
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No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=100' HORIZ.
1"=10' VERT.

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|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 105 | 207 |

(2) PLAN STA. 2166+00 TO 2194+00

GUARDRAIL

| | GUARDRAIL (TYPE A) | GUARDRAIL TERMINAL (TYPE 2) | THRIE BEAM GUARDRAIL TERMINAL |
|---|---|---|---|
| STA. 2172+03.85 TO STA. 2175+22.60 (LT. OF S.B. LANES) = 250 L.F. | 1 EACH | | 1 EACH |
| STA. 2172+36.34 TO STA. 2175+55.09 (RT. OF S.B. LANES) = 250 L.F. | | 1 EACH | 1 EACH |

STA. 40+06.78 90.84' LT'
BEGIN PROP. C.A.

STA. 2169+00 ℄ RAMP 3 - IN PLACE
TYPE "RM" DROP INLET 36.5' RT.
4'-0" X 3'-0" X H= 3'-7"
WITH 24" X 187' R.C. PIPE CULV'T.
(CLASS III) WITH TYPE 3 BEDDING
RETAIN

STA. 2172+33.85 CONSTRUCT
TYPE N3 DROP INLET LT.
W/ 12' X 76' Z.C.C.S. PIPE CULVERT
W/ CONCRETE SPILLWAY (TYPE A)

P.O.T. STA. 2170+69.12 ℄ U.S. 71 RELOCATED =
P.O.T. STA. 49+96.29 ℄ S.H. 22
∢ =55°54'16"

STA. 2170+50 ℄ RAMP 3 - IN PLACE
48" X 202' R.C. PIPE CULV'T
(45° RT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 27.37 ac, Q50 = 106.06 cfs
RETAIN

STA. 2164+10 ℄ RAMP 4 - IN PLACE
24" X 142' R.C. PIPE CULV'T
(25° RT. FWD. SKEW)
(CLASS III) WITH TYPE 3 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 2.94 ac, Q50 = 16.32 cfs
RETAIN

STA. 2170+87 ℄ RAMP 3 - IN PLACE
TYPE "RM" DROP INLET 37' RT'
7'-0" X 3'-0" X H= 5'-8"
ON 48" R.C. PIPE CULV'T.
RETAIN

STA. 2179+00.00
END PAVING MAIN LANES
END JOB 040376

STA. 2170+69 ℄ RAMP 4 - IN PLACE
54" X 152' R.C. PIPE CULV'T
(15° RT. FWD. SKEW)
(CLASS III) WITH TYPE 2 BEDDING
WITH F.E.S. LT. & RT.
D.A. = 33.97 ac, Q50 = 136.94 cfs
RETAIN

STA. 2173+44.13 CONSTRUCT
TYPE N3 DROP INLET RT.
W/ 12" X 86' Z.C.C.S. PIPE CULVERT
W/ CONCRETE SPILLWAY (TYPE A)

U.S. 71 RELOCATED
P.J. 2215+29.99
N = 370067.3799
E = 632244.2309
Δ = 58°16'00" Lt.
D = 1°14'50.69"
T = 2560.02'
L = 4670.99'
E = 665.24'
e = 4.60%
Ls = 350'

STA. 2167+29.85 ℄ U.S. 71
STA. 7+38.17 ℄ EXIST. R.R.

FUTURE OVERHEAD (CANTILEVER) SIGN STRUCTURE
STA. 2174+60 RT. N.B. LANES
STA. 47+50 LT. S.H.22
STA. 54+70 LT. S.H.22

SEE INTERCHANGE LAYOUT FOR RAMP GEOMETRY

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=100' HORIZ.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
|---|---|---|---|
| | | | |
| | | | |

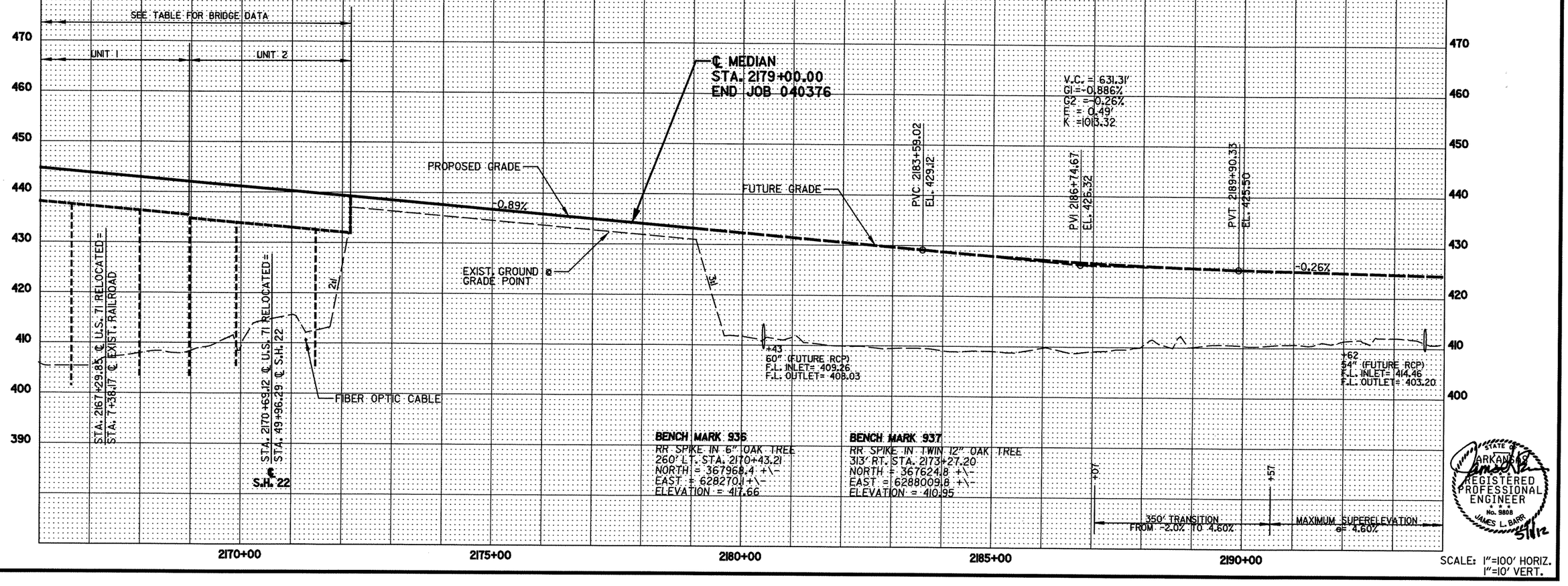
| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 106 | 207 |

(2) PROFILE STA. 2166+00 TO 2194+00

| BRIDGE DATA U.S. 71 RELOC. OVER S.H. 22 & U.P. RR | | |
|---|---|---|
| | BRIDGE A | BRIDGE B |
| BEGIN BRIDGE | STA. 2163+29.40 | STA. 2163+39.56 |
| END BRIDGE | STA. 2172+25.14 | STA. 2172+79.30 |
| LENGTH | 895'-8⅛" | 939'-8⅛" |
| SPANS UNIT 1 | 544'-0" CONT. PLATE GIRDER (89'-96'-96'-148'-115') | 588'-0" CONT. PLATE GIRDER (87'-138'-138'-138'-87') |
| SPANS UNIT 2 | 349'-0" CONT. PLATE GIRDER (95'-159'-95') | 349'-0" CONT. PLATE GIRDER (95'-159'-95') |

NOTE: STA. AVERAGE OF BRIDGE A & B DEPICTED ON GRADE SKETCH.

FINISH GRADES SHALL BE CONSTRUCTED 3" LOWER THAN THE PROFILE GRADE ELEVATION SHOWN ON THE PLANS, UNLESS OTHERWISE SPECIFIED.

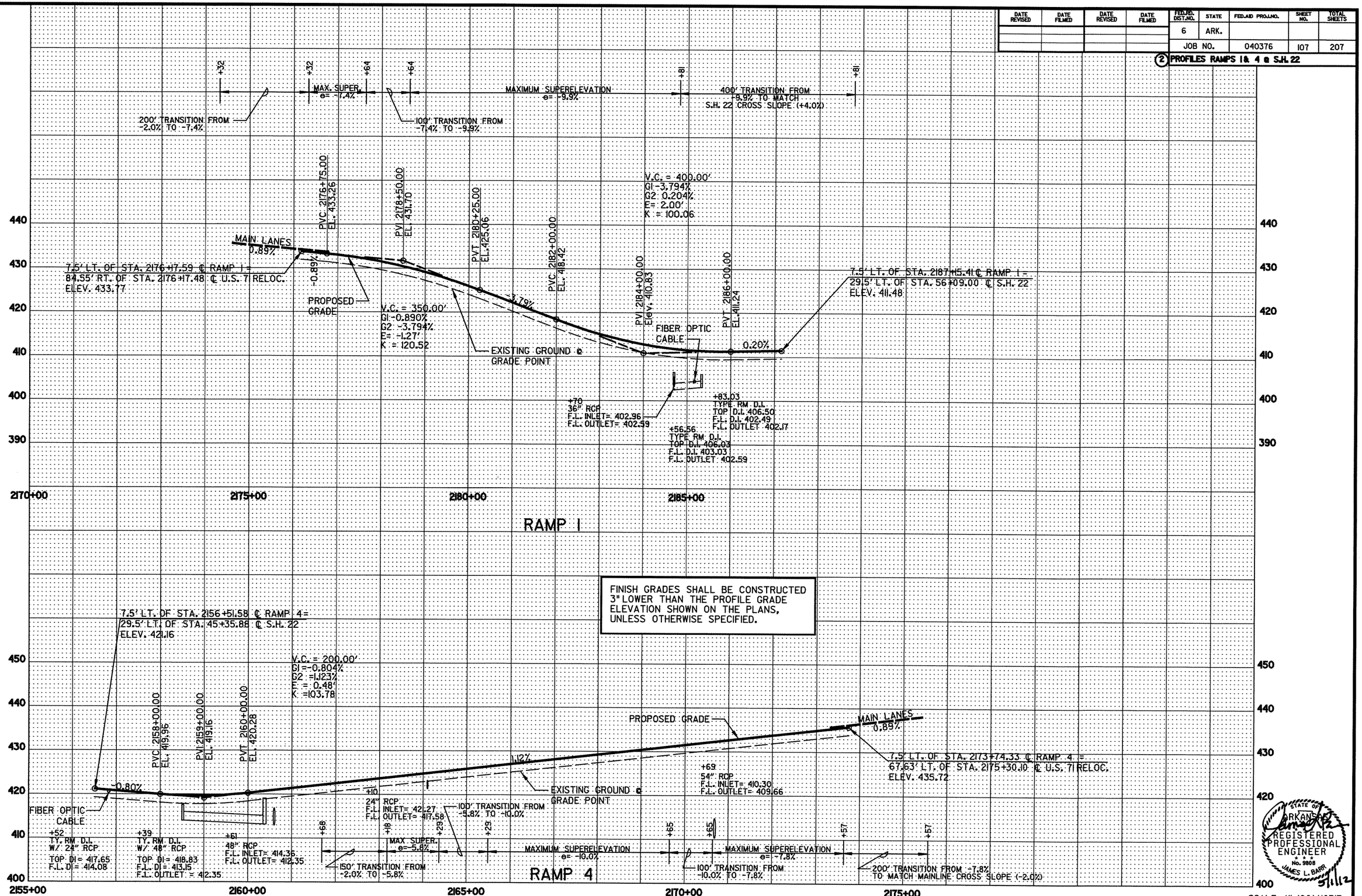



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 5808
JAMES L. BARR
5/12

SCALE: 1"=100' HORIZ.
1"=10' VERT.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 107 | 207 |

(2) PROFILES RAMPS 1 & 4 @ S.H. 22




STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

SCALE: 1"=100' HORIZ.
1"=10' VERT.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED |
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| | | | |

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | | |
| JOB NO. | | 040376 | 108 | 207 |

(2) PROFILES RAMPS 2 & 3 @ S.H. 22

V.C. = 250.00'
G1 =-0.42%
G2 =+0.80%
Km =-0.38'
K =205.31

V.C. = 350.00'
G1 =+0.80%
G2 =-0.260%
Km =-0.46'
K =330.43

PVC 2167+38.64
EL. 422.00

PVI 2168+63.64
EL. 421.47

PVT 2169+88.64
EL. 422.47

PVC 2174+01.55
EL. 425.77

PVI 2175+76.55
EL. 427.17

PVT 2177+51.55
EL. 426.72

EXISTING GROUND @ GRADE POINT

-0.42%

+80
54" (FUTURE RCP)
F.L. INLET= 414.46
F.L. OUTLET= 403.20

+00
TY. RM D.I.
W/ 24" RCP
TOP DI= 417.65
F.L. DI= 414.08

FIBER OPTIC CABLE

7.5' RT. OF STA. 2166+87.96 ℄ FUTURE RAMP 3 =
29.5' LT. OF STA. 44+90.30 S.H. 22
ELEV. 422.21

+50
48" RCP
F.L. INLET= 414.36
F.L. OUTLET = 412.35

+87
TY. RM D.I.
W/ 48" RCP
TOP DI= 418.83
F.L. DI= 413.15
F.L. OUTLET = 412.35

+65
210' TRANSITION
FROM -2.0%
TO +7.8%

+75

MAXIMUM SUPERELEVATION
e=+7.8%

+89
210' TRANSITION
FROM +7.8%
TO -2.0%

+99

+42
24" RCP
F.L. INLET= 421.27
F.L. OUTLET= 417.58

FUTURE PROPOSED GRADE

0.80%

-0.26%

FUTURE SPCL. "V"
DT. LT. @ -0.8%

+50
418.8

+50
418.0

+00
416.2

-0.4%

+52
200' TRANSITION
FROM -2.0%
TO -5.7%

+52

MAXIMUM SUPERELEVATION
e= -5.7%

MATCHLINE

FUTURE RAMP 3

2165+00 2170+00 2175+00 2180+00 2185+00 2190+00 2193+00

7.5' RT. OF STA. 2199+43.18 ℄ FUTURE RAMP 3 =
83.95' LT. OF STA. 2199+35.15 ℄ U.S. 71 RELOC.
ELEV. 421.02

FUTURE PROPOSED GRADE

-0.26%

MAIN LANES

-0.26%

MATCHLINE

+90
54" (FUTURE RCP)
F.L. INLET= 414.46
F.L. OUTLET= 403.20

EXISTING GROUND

+66

+43

MAXIMUM SUPERELEVATION
e= -5.7%

177' TRANSITION FROM
-5.7% TO -4.6%

2193+00 2195+00 2200+00

FUTURE RAMP 3

7.5' LT. OF STA. 2173+35.86 ℄ FUTURE RAMP 2 =
29.5' LT. OF STA. 58+91.44 ℄ S.H. 22
ELEV. 411.57

V.C. = 200.00'
G1 =-1.03%
G2 =+0.898%
Km =-0.50'
K =99.97

PVC 2173+96.86
EL. 410.90

PVI 2174+96.86
EL. 409.80

PVT 2175+96.86
EL. 410.70

+20.43
TYPE RM D.I.
TOP D.I. 406.03
F.L. D.I. 403.03
F.L. OUTLET 402.59

-1.10%

+85.90
TYPE RM D.I.
TOP D.I. 406.50
F.L. D.I. 402.49
F.L. OUTLET 402.17

+80
36" RCP
F.L. INLET= 402.49
F.L. OUTLET= 402.17

FIBER OPTIC CABLE

FUTURE CONSTRUCTION
FOR INFORMATION ONLY

FUTURE PROPOSED GRADE

0.90%

+14
9' X 5' (FUTURE RCBC)
F.L. INLET= 405.59
F.L. OUTLET= 405.22

EXISTING GROUND

+84
200' TRANSITION
FROM -2.0%
TO -4.0%

+84

MAXIMUM SUPERELEVATION
e= -4.0%

+23

350' TRANSITION
FROM -4.0% TO +4.6%

+73

7.5' LT. OF STA. 2195+69.81 ℄ FUTURE RAMP 2 =
67.88' RT. OF STA. 2195+72.48 ℄ U.S. 71 RELOC.
ELEV. 425.06

V.C. = 350.00'
G1 =0.898%
G2 =-0.255%
Km =-0.50'
K =303.49

PVC 2191+03.90
EL. 424.24

PVI 2192+78.90
EL. 425.8

PVT 2194+53.90
EL. 425.36

MAIN LANES

-0.26%

-0.26%

+40
54" (FUTURE RCP)
F.L. INLET= 414.46
F.L. OUTLET= 403.20

2170+00 2175+00 2180+00 2185+00 2190+00 2195+00 2198+00

FUTURE RAMP 2

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/11/12

SCALE: 1"=100' HORIZ.
1"=10' VERT.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 109 | 207 |

# (2) S.H. 22 INTERCHANGE LAYOUT

**RAMP 4**
P.I. 2163+80.60
N = 368531.9996
E = 628483.5786
Δ = 15°54'32" Rt.
D = 8°00'00"
T = 100.07'
L = 198.86'
E = 6.96'
e = 5.80%
Ls = 150'

**RAMP 4**
P.I. 2169+75.86
N = 368868.5964
E = 628976.0948
Δ = 128°38'18" Rt.
D = 24°00'00"
T = 496.47'
L = 535.99'
E = 312.16'
e = 10.00%
Ls = 220'

**RAMP 4**
P.I. 2172+51.70
N = 368137.8596
E = 628921.2945
Δ = 54°32'51" Rt.
D = 12°30'00"
T = 236.31'
L = 436.38'
E = 57.33'
e = 7.80%
Ls = 200'

FUTURE RAMP 2
(A) P.T. 2197+62.94 ℄ FUTURE RAMP 2= 68.50' RT. ℄ U.S. 71 RELOC. STA. 2197+62.94

RAMP 1
(B) P.C. 2174+64.94 ℄ RAMP 1= 68.50' RT. ℄ U.S. 71 RELOC. STA. 2174+64.94
(C) P.T. 2187+52.73 ℄ RAMP 1= 34.00' LT. ℄ S.H. 22 STA. 55+71.12

RAMP 4
(D) P.T. 2174+51.76 ℄ RAMP 4= 68.50' LT. ℄ U.S. 71 RELOC. STA. 2174+51.76

FUTURE RAMP 3
(E) P.T. 2205+14.45 ℄ FUTURE RAMP 3= 56.50' LT. ℄ U.S. 71 RELOC. STA. 2205+14.46

**FUTURE RAMP 3**
P.I. 2176+47.68
N = 368738.0661
E = 628578.1461
Δ = 43°19'52" Rt.
D = 7°00'00"
T = 325.16'
L = 619.02'
E = 62.22'
e = 7.80%
Ls = 210'

**FUTURE RAMP 3**
P.I. 2192+75.26
N = 368938.1447
E = 630224.9051
Δ = 33°25'22" Lt.
D = 3°00'00"
T = 573.40'
L = 1114.09'
E = 84.22'
e = 5.70%
Ls = SEE PROFILE

**FUTURE RAMP 3**
P.I. 2203+46.89
N = 369653.1530
E = 631066.5230
Δ = 10°04'48" Lt.
D = 3°00'00"
T = 168.43'
L = 336.00'
E = 7.41'
e = MATCH MAIN LANE
Ls = SEE PROFILE

**RAMP 1**
P.I. 2176+47.00
N = 367999.3747
E = 628957.0416
Δ = 40°08'44" Rt.
D = 11°30'00"
T = 182.06'
L = 349.09'
E = 32.22'
e = 7.40%
Ls = 200'

**RAMP 1**
C.C.
N = 367478.8375
E = 629059.0849
Δ = 206°30'48" Rt.
D = 22°00'00"
L = 938.70'
e = 9.90%
Ls = 215'

**FUTURE RAMP 2**
P.I. 2192+06.91
N = 368785.1991
E = 630323.4518
Δ = 10°53'48" Rt.
D = 2°00'00"
T = 273.24'
L = 544.83'
E = 13.00'
e = 4.00%
Ls = 200'

**FUTURE FR. RD. LOCAL RD.**
P.I. 23+69.63
N = 367908.7050
E = 629907.6730
Δ = 38°26'58" Rt.
D = 11°30'00"
T = 173.74'
L = 334.34'
E = 29.42'
e = 9.80%
Ls = 250'

**FUTURE FR. RD. LOCAL RD.**
P.I. 36+07.81
N = 368843.7180
E = 630739.2710
Δ = 52°08'03" Rt.
D = 11°30'00"
T = 243.72'
L = 453.34'
E = 56.42'
e = 9.80%
Ls = 250'

**U.S. 71 RELOCATED.**
P.I. 2215+29.99
N = 370067.3799
E = 632244.2309
Δ = 58°16'00" Lt.
D = 1°14'50.69"
T = 2560.02'
L = 4670.99'
E = 665.24'
e = 4.60%
Ls = 350'

SCALE: 1"=200'

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5/1/12

P.O.T. STA. 34+34.48 ℄ RELOC. FT. SMITH BLVD.=
P.O.T. STA. 44+71.34 ℄ FT. SIMITH CONN.
∢= 85°50'44"

P.O.C. STA. 38+20.94 ℄ S.H. 22=
P.O.T. STA. 27+05.22 ℄ S.H. 59
∢=64°57'28"

P.O.T. STA. 50+06.19 ℄ RELOC. FT. SMITH BLVD.=
P.O.T. STA. 38+20.94 ℄ S.H. 22
∢=89°56'05"

P.O.T. STA. 44+68.47 ℄ S.H. 22=
P.O.T. STA. 2166+61.61 ℄ FUTURE RAMP 3
∢=105°00'03"

P.O.T. STA. 45+29.57 ℄ S.H. 22=
P.O.T. STA. 2156+29.26 ℄ RAMP 4
∢=105°00'03"

℄ MEDIAN
STA. 2179+00.00
END JOB 040376

P.O.T. STA. 2170+69.12 ℄ U.S. 71 RELOCATED=
P.O.T. STA. 49+96.29 ℄ S.H. 22
∢=55°54'16"

P.O.T. STA. 2149+52.23 ℄ U.S. 71 RELOCATED=
P.O.T. STA. 50+00.00 ℄ FT. SMITH CONN.

P.O.T. STA. 2161+25.00 ℄ U.S. 71 RELOCATED=
P.O.T. STA. 50+00.00 ℄ 20' F.B. CHANNEL CHANGE

P.O.T. STA. 58+92.27 ℄ S.H. 22=
P.O.T. STA. 2173+17.77 ℄ FUTURE RAMP 2
∢=89°50'09"

PT 38+33.94
PC 34+91.68
PT 45+89.62
PT 41+04.69
PC 2173+22.53
PT 2173+41.54
PC 2162+80.53
PCC 2164+76.39
PCC 2170+15.38
PT 2174+76.39
PC 50+33.41
PC 2187+52.73
PCC 2176+14.04
PT 56+64.30
PC 59+82.73
PT 63+57.00
PC 69+79.22
PT 18+64.56
PC 21+93.89
PT 25+19.23
PC 2187+60.86
PC 2189+69.37
PT 2198+15.95
PC 2201+78.45
PT 2205+14.45
PC 2187+62.94
PT 2194+78.15
PC 2183+33.67
PT 33+64.09
PT 38+41.83
PT 41+39.73

EXIST. RAILROAD
EXISTING RAILROAD (UNION PACIFIC RAILROAD)
FIRST STREET
EXIST. RAILROAD
RELOC. FT. SMITH BLVD.
SOD "V" DT.
SPCL. "V" DT.
LIMITS OF FLOOD HAZARD AREA
20' F.B. CHANNEL CHANGE
TRIPLE 7' x 8' RCBC
DBL. 10' x 8' RCBC
DBL. 10'x8' RCBC
320' FUTURE AUX. LANE
300' TAPER
1350' ACCEL LANE
1350' DECEL LANE
200' TAPER
U.S. 71 RELOC.
S.H. 22
S.H. 59
RAMP 4
RAMP 1
FUTURE RAMP 3
FUTURE RAMP 2
FUTURE 60' RCP
FUTURE 54" RCP
FUTURE 9'x8' RCBC
FUTURE 36" RCP
FUTURE SPCL. "V" DT.
FUTURE FR. RD. LOCAL ROAD
FUTURE U.S. 71 RELOC.
700' FUTURE ACCEL LANE
300' FUTURE TAPER
FT. SMITH CONN.
SPCL. 4' F.B. DT.
44" X 27" RCPA
30' F.B. CHANNEL CHANGE
LITTLE VACHE GRASSE CREEK
LIMITS OF FLOOD HAZARD AREA

# S.H. 22 INTERCHANGE LAYOUT

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 10/12/12 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 110 | 207 |

(2) SUMMARY OF TRAFFIC SIGNAL QUANTITIES & NOTES

## TRAFFIC SIGNAL NOTES

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2002) NATIONAL ELECTRICAL CODE, NFPA 101 (2000) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.

2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND EGC TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.

3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.

4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.

5. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.

6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.

7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH AASHTO, THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS AND DETAILS AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.

8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE DETAILS MAY BE USED.

9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.

10. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON SPECIAL DETAILS). PAYMENT WILL BE INCLUDED IN SECTION 714, AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

11. ALL PULL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON THE PLANS.

12. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.

13. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.

14. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, 38 FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF 21' SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL 6 FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.

15. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS 6 FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER, AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.

16. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.

17. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT THE POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714-TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION.

18. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.

19. ONE VIDEO PROGRAMMING MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.

20. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.

21. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4th EDITION (2001) WITH 2003 AND 2006 INTERIMS.

22. CONTRACTOR SHALL PROVIDE CONTROLLER AND LOCAL RADIO TO THE DEPARTMENT'S TRAFFIC ENGINEERING STAFF AT THE MAINTENANCE DIVISION, FOR SETUP AND TIMING BEFORE IT IS PLACED INTO OPERATION.

23. TRAFFIC SIGNAL MAINTENANCE AND POWER SHALL BE SUPPLIED BY THE LOCAL JURISDICTION

## SUMMARY OF TRAFFIC SIGNAL QUANTITIES

| ITEM NO. | ITEM | U.S. 71 & TEMP. RAMP 4 | U.S. 71 & TEMP. RAMP 5 | TOTAL | UNIT |
|---|---|---|---|---|---|
| SP & 701 | SYSTEM LOCAL CONTROLLER - FIBER (8 PHASES) | 1 | 1 | 2 | EACH |
| SP & 701 | ON-STREET MASTER CONTROLLER | 0 | 1 | 1 | EACH |
| 704 | FEEDER WIRE | 2010 | 2759 | 4769 | LIN. FT. |
| SP | LOOP WIRING CLASS III (2c) | 1509 | 2052 | 3561 | LIN. FT. |
| 704 | VEHICLE DETECTOR - RACK MOUNT | 5 | 8 | 13 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY) | 6 | 9 | 15 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY) | 1 | 0 | 1 | EACH |
| 708 | TRAFFIC SIGNAL CABLE (5C/14 A.W.G.) | 408 | 468 | 876 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (7C/14 A.W.G.) | 95 | 0 | 95 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (12C/14 A.W.G.) | 405 | 466 | 871 | LIN. FT. |
| 709 | GALVANIZED STEEL CONDUIT (1.25") | 35 | 35 | 70 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (1") | 355 | 331 | 686 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (1.25") | 198 | 343 | 541 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (2") | 1400 | 1210 | 2610 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (3") | 409 | 450 | 859 | LIN. FT. |
| SS & 711 | CONCRETE PULL BOX (TYPE 1) | 1 | 1 | 2 | EACH |
| SS & 711 | CONCRETE PULL BOX (TYPE 1 HD) | 4 | 4 | 8 | EACH |
| SS & 711 | CONCRETE PULL BOX (TYPE 2 HD) | 10 | 12 | 22 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (52') | 1 | 1 | 2 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (60') | 1 | 0 | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (36'-54') | 0 | 1 | 1 | EACH |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC) | 492 | 531 | 1023 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC) | 145 | 145 | 290 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.) | 37 | 37 | 74 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS FOR LUMINAIRES | 641 | 604 | 1245 | LIN. FT. |
| SP | COMMUNICATION CABLE, FIBER (6 CHANNEL) | 1103 | 1117 | 2220 | LIN. FT. |
| SP | LUMINAIRE ASSEMBLY | 2 | 2 | 4 | EACH |
| SP | SERVICE POINT ASSEMBLY (1 CIRCUIT) | 1 | 1 | 2 | EACH |
| SP | SYSTEM SOFTWARE | 0 | 1 | 1 | EACH |

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/12/12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 10/12/12 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | III | 207 |

(2) SIGNALIZATION PLAN SHEET

## PHASING DIAGRAM




## LED SIGNAL FACES

12" LENSES

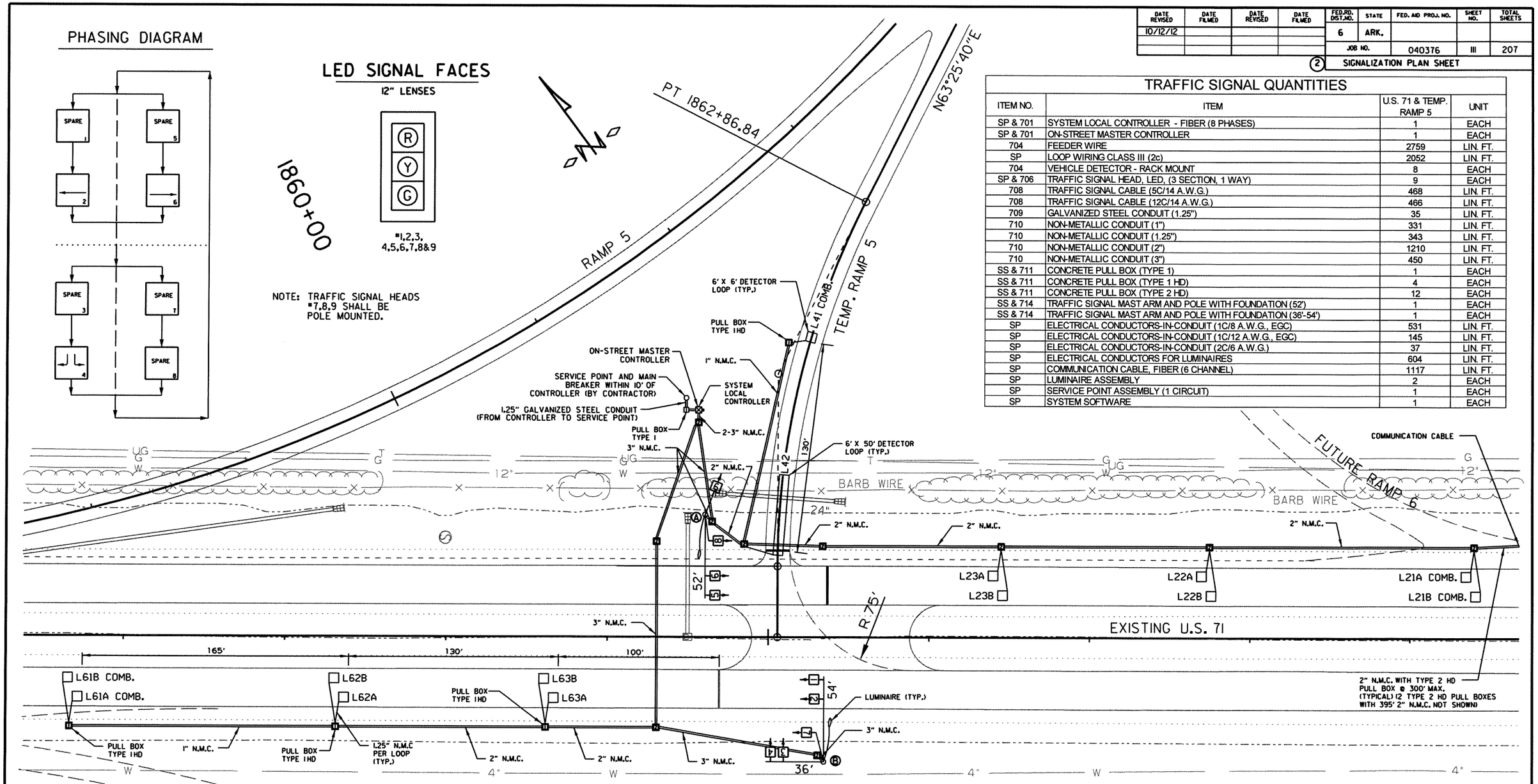



*1,2,3, 4,5,6,7,8&9

NOTE: TRAFFIC SIGNAL HEADS *7,8,9 SHALL BE POLE MOUNTED.

## TRAFFIC SIGNAL QUANTITIES

| ITEM NO. | ITEM | U.S. 71 & TEMP. RAMP 5 | UNIT |
|---|---|---|---|
| SP & 701 | SYSTEM LOCAL CONTROLLER - FIBER (8 PHASES) | 1 | EACH |
| SP & 701 | ON-STREET MASTER CONTROLLER | 1 | EACH |
| 704 | FEEDER WIRE | 2759 | LIN. FT. |
| SP | LOOP WIRING CLASS III (2c) | 2052 | LIN. FT. |
| 704 | VEHICLE DETECTOR - RACK MOUNT | 8 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY) | 9 | EACH |
| 708 | TRAFFIC SIGNAL CABLE (5C/14 A.W.G.) | 468 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (12C/14 A.W.G.) | 466 | LIN. FT. |
| 709 | GALVANIZED STEEL CONDUIT (1.25") | 35 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (1") | 331 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (1.25") | 343 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (2") | 1210 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (3") | 450 | LIN. FT. |
| SS & 711 | CONCRETE PULL BOX (TYPE 1) | 1 | EACH |
| SS & 711 | CONCRETE PULL BOX (TYPE 1 HD) | 4 | EACH |
| SS & 711 | CONCRETE PULL BOX (TYPE 2 HD) | 12 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (52') | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (36'-54') | 1 | EACH |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC) | 531 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC) | 145 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.) | 37 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS FOR LUMINAIRES | 604 | LIN. FT. |
| SP | COMMUNICATION CABLE, FIBER (6 CHANNEL) | 1117 | LIN. FT. |
| SP | LUMINAIRE ASSEMBLY | 2 | EACH |
| SP | SERVICE POINT ASSEMBLY (1 CIRCUIT) | 1 | EACH |
| SP | SYSTEM SOFTWARE | 1 | EACH |




## POLE CHART

| POLE | MAST ARM(S) LENGTH | MAST ARM'S ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE) | VERTICAL SHAFT LENGTH | LUM. ARM LENGTH | LUM. ARM'S ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE) | EXISTING U.S. 71STATION | NORTHING EASTING |
|---|---|---|---|---|---|---|---|
| A | 52' | 270 DEGREES | 35'-0" | 25' | 270 DEGREES | STA. 50+39.16 76.00 RT | N 344889.4980 E 608551.2978 |
| B | 36' | 180 DEGREES | 35'-0" | 25' | 270 DEGREES | STA. 49+65.18 77.28 LT | N 344722.30000 E 608519.47100 |
| | 54' | 270 DEGREES | | | | | |

50+00

## LEGEND

- TYPE 1PULL BOX
- TYPE 1HD PULL BOX
- TYPE 2 HD PULL BOX
- CONTROL CABINET
- SIGNAL HEAD
- N.M.C.-NON-METALLIC CONDUIT
- LUMINAIRE

STATE OF ARKANSAS
JAMES L. BARR
REGISTERED PROFESSIONAL ENGINEER
No. 9808
10/12/12

SCALE IN FEET
0 30 60 120

DATE: 04/20/12 FILE NAME: TSD03.DGN

SIGNALIZATION PLAN SHEET - U.S. 71 & TEMP. RAMP 5

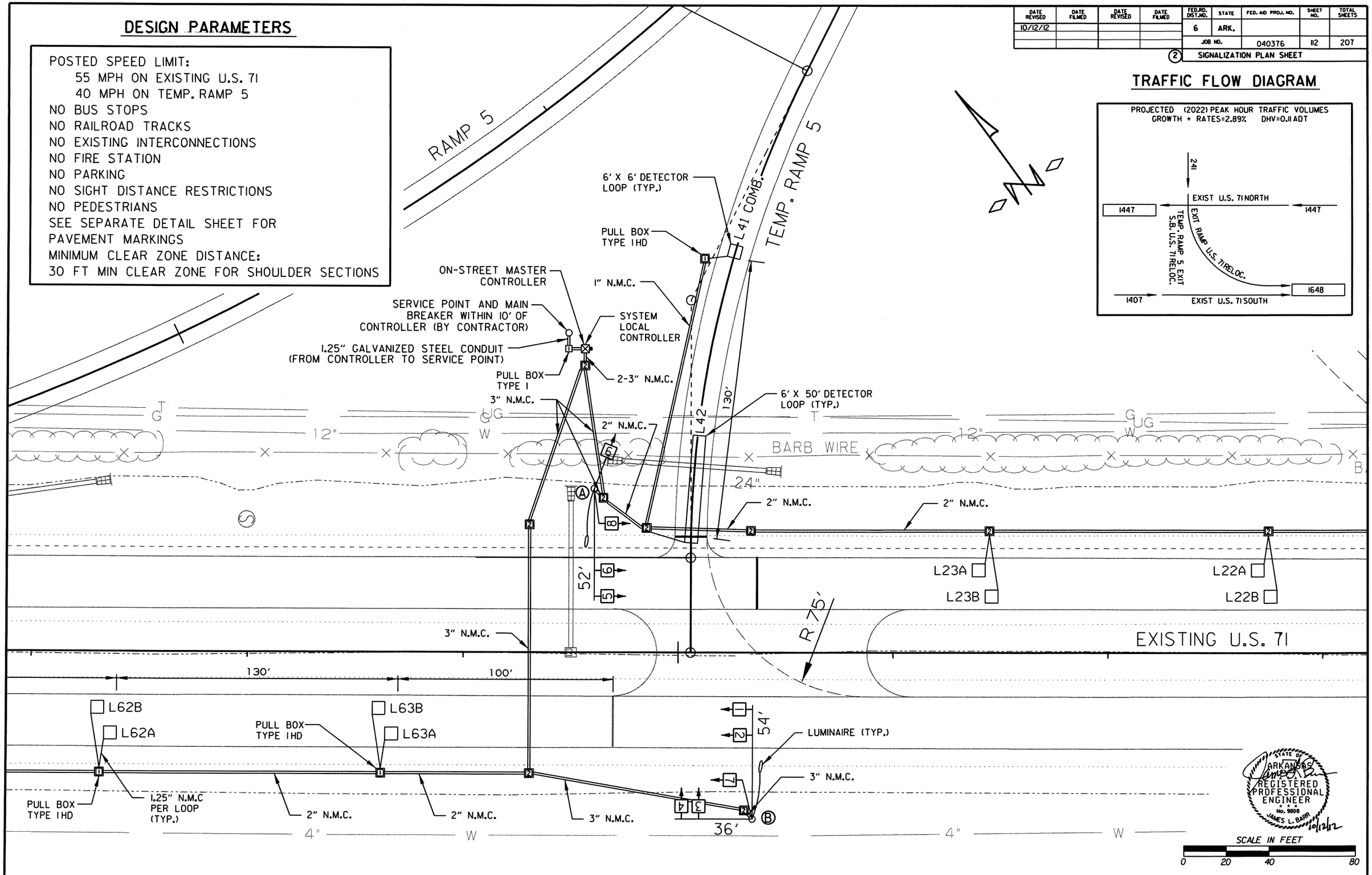
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 10/12/12 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 112 | 207 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

## DESIGN PARAMETERS

POSTED SPEED LIMIT:
55 MPH ON EXISTING U.S. 71
40 MPH ON TEMP. RAMP 5
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS
NO PEDESTRIANS
SEE SEPARATE DETAIL SHEET FOR PAVEMENT MARKINGS
MINIMUM CLEAR ZONE DISTANCE:
30 FT MIN CLEAR ZONE FOR SHOULDER SECTIONS

## TRAFFIC FLOW DIAGRAM




STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/12/12

SCALE IN FEET
0 20 40 80

DATE: 04/20/12 FILE NAME: TSD02.DGN SIGNALIZATION PLAN SHEET - U.S. 71 & TEMP. RAMP 5

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 113 | 207 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

## DETECTOR CHART

| DETECTOR I.D. NUMBER | DIRECTION & LOCATION | TYPE | DET. NUM. | HARDWARE INPUTS: CAB. TER. NUM. | HARDWARE INPUTS: AMP. CHN. NUM. | HARDWARE INPUTS: CON. INP. NUM. | PROGRAM ASSIGNMENTS: LOCAL PHS. | PROGRAM ASSIGNMENTS: LOCAL SYS. DET. | PROGRAM ASSIGNMENTS: MSTR. SYS. DET. | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|
| L21 A&B | WB ADV | COMB. | | | 1 | V10 | 2 | 2 | | |
| L22 A&B | WB NEAR | LOCAL | | | 2 | V2 | 2 | | | |
| L23 A&B | WB PRES | LOCAL | | | 3 | V5 | 2 | | | |
| L41 | SB ADV | COMB. | | | 9 | V12 | 4 | 4 | | |
| L42 | SB PRES | LOCAL | | | 10 | V4 | 4 | | | |
| L61 A&B | EB ADV | COMB. | | | 5 | V14 | 6 | 6 | | |
| L62 A&B | EB NEAR | LOCAL | | | 6 | V6 | 6 | | | |
| L63 A&B | EB PRES | LOCAL | | | 7 | V1 | 6 | | | |

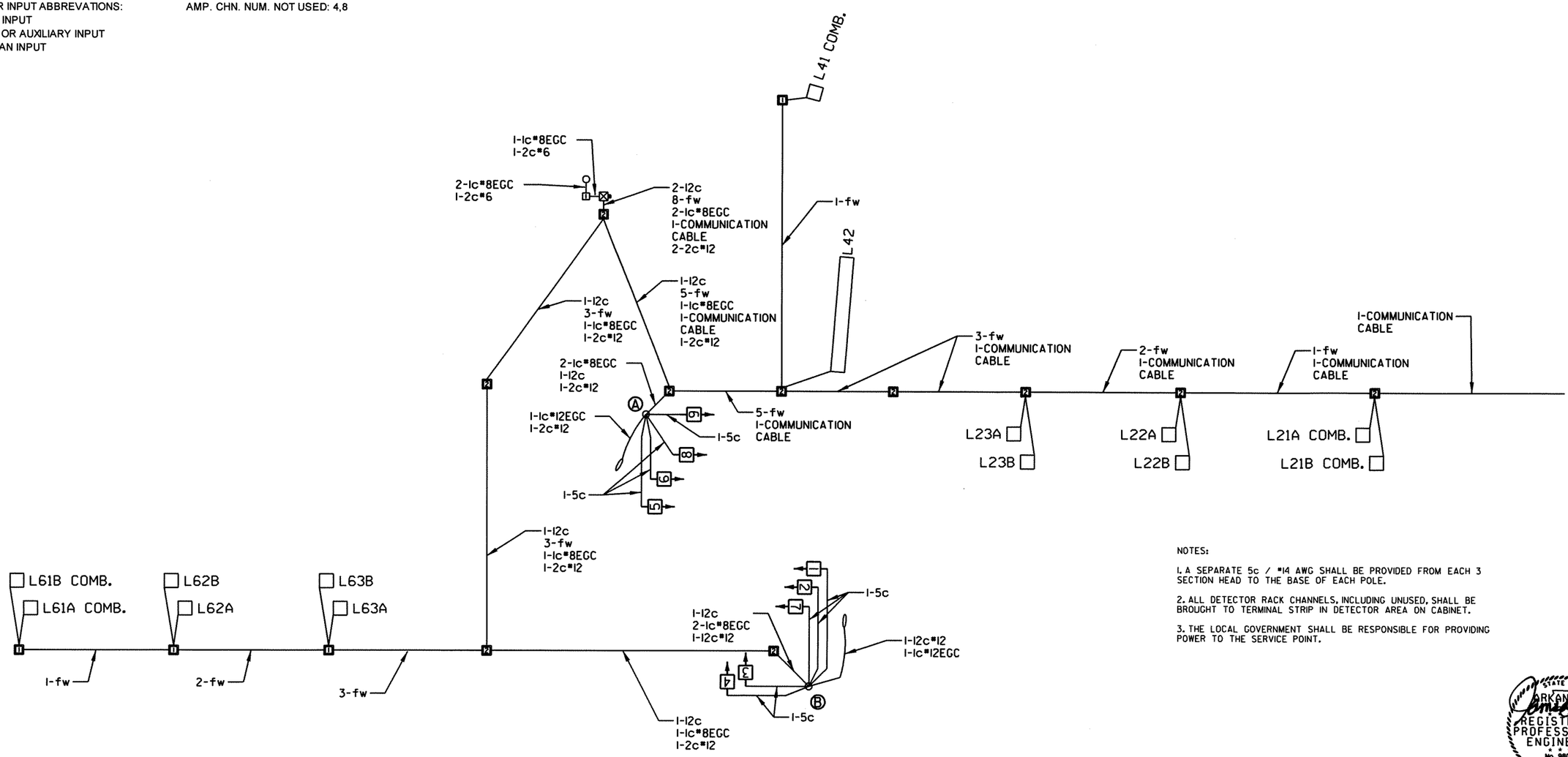
CONTROLLER INPUT ABBREVATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXLIARY INPUT
P = PEDSTRIAN INPUT

AMP. CHN. NUM. NOT USED: 4,8

## INTERVAL CHART

| SIGNAL FACES | INTERVALS 2+6 | CLR. | 4 | CLR. | | FLASH SEQ. |
|---|---|---|---|---|---|---|
| 1&2 | G | Y | R | R | | Y |
| 3&4 | R | R | G | Y | | R |
| 5&6 | G | Y | R | R | | Y |
| 7 | G | Y | R | R | | Y |
| 8 | G | Y | R | R | | Y |
| 9 | R | R | G | Y | | R |

# WIRING DIAGRAM




NOTES:

1. A SEPARATE 5c / #14 AWG SHALL BE PROVIDED FROM EACH 3 SECTION HEAD TO THE BASE OF EACH POLE.

2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA ON CABINET.

3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

DATE: 04/20/12 FILE NAME: TSD03.DGN

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 10/12/12 | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 114 | 207 |

(2) SIGNALIZATION PLAN SHEET

## PHASING DIAGRAM




## LEGEND

- TYPE I PULL BOX
- TYPE I HD PULL BOX
- TYPE 2 HD PULL BOX
- CONTROL CABINET
- SIGNAL HEAD
- N.M.C.-NON-METALLIC CONDUIT
- LUMINAIRE

## LED SIGNAL FACES

12" LENSES




*2,3,4,5,6&7

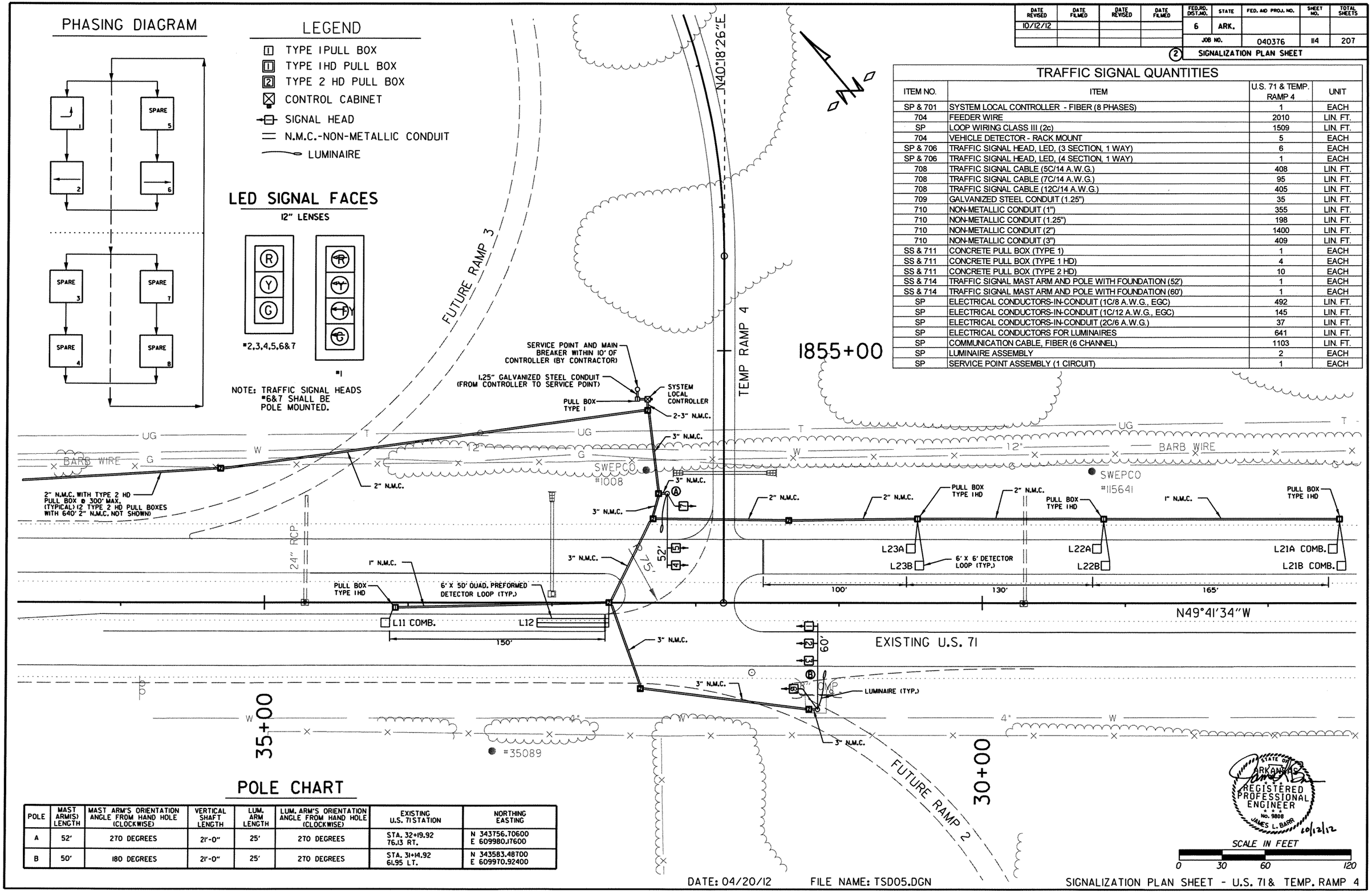



*1

NOTE: TRAFFIC SIGNAL HEADS *6&7 SHALL BE POLE MOUNTED.

## TRAFFIC SIGNAL QUANTITIES

| ITEM NO. | ITEM | U.S. 71 & TEMP. RAMP 4 | UNIT |
|---|---|---|---|
| SP & 701 | SYSTEM LOCAL CONTROLLER - FIBER (8 PHASES) | 1 | EACH |
| 704 | FEEDER WIRE | 2010 | LIN. FT. |
| SP | LOOP WIRING CLASS III (2c) | 1509 | LIN. FT. |
| 704 | VEHICLE DETECTOR - RACK MOUNT | 5 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY) | 6 | EACH |
| SP & 706 | TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY) | 1 | EACH |
| 708 | TRAFFIC SIGNAL CABLE (5C/14 A.W.G.) | 408 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (7C/14 A.W.G.) | 95 | LIN. FT. |
| 708 | TRAFFIC SIGNAL CABLE (12C/14 A.W.G.) | 405 | LIN. FT. |
| 709 | GALVANIZED STEEL CONDUIT (1.25") | 35 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (1") | 355 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (1.25") | 198 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (2") | 1400 | LIN. FT. |
| 710 | NON-METALLIC CONDUIT (3") | 409 | LIN. FT. |
| SS & 711 | CONCRETE PULL BOX (TYPE 1) | 1 | EACH |
| SS & 711 | CONCRETE PULL BOX (TYPE 1 HD) | 4 | EACH |
| SS & 711 | CONCRETE PULL BOX (TYPE 2 HD) | 10 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (52') | 1 | EACH |
| SS & 714 | TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (60') | 1 | EACH |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., EGC) | 492 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., EGC) | 145 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.) | 37 | LIN. FT. |
| SP | ELECTRICAL CONDUCTORS FOR LUMINAIRES | 641 | LIN. FT. |
| SP | COMMUNICATION CABLE, FIBER (6 CHANNEL) | 1103 | LIN. FT. |
| SP | LUMINAIRE ASSEMBLY | 2 | EACH |
| SP | SERVICE POINT ASSEMBLY (1 CIRCUIT) | 1 | EACH |




## POLE CHART

| POLE | MAST ARM(S) LENGTH | MAST ARM'S ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE) | VERTICAL SHAFT LENGTH | LUM. ARM LENGTH | LUM. ARM'S ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE) | EXISTING U.S. 71 STATION | NORTHING EASTING |
|---|---|---|---|---|---|---|---|
| A | 52' | 270 DEGREES | 21'-0" | 25' | 270 DEGREES | STA. 32+19.92 76.13 RT. | N 343756.70600 E 609980.17600 |
| B | 50' | 180 DEGREES | 21'-0" | 25' | 270 DEGREES | STA. 31+14.92 61.95 LT. | N 343583.48700 E 609970.92400 |

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/12/12

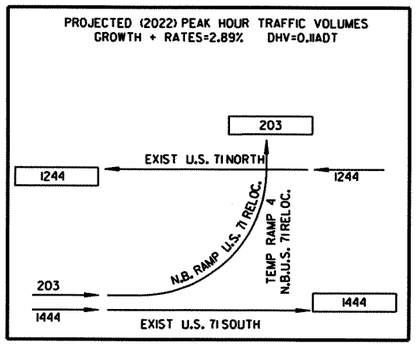
SCALE IN FEET

0 30 60 120

DATE: 04/20/12 FILE NAME: TSD05.DGN SIGNALIZATION PLAN SHEET - U.S. 71 & TEMP. RAMP 4

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 115 | 207 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

## TRAFFIC FLOW DIAGRAM




## DESIGN PARAMETERS

POSTED SPEED LIMIT:
55 MPH ON EXISTING U.S. 71
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS
NO PEDESTRIANS
SEE SEPARATE DETAIL SHEET FOR PAVEMENT MARKINGS
MINIMUM CLEAR ZONE DISTANCE:
30 FT MIN CLEAR ZONE FOR SHOULDER SECTIONS

FUTURE RAMP 3

TEMP RAMP 4

SERVICE POINT AND MAIN BREAKER WITHIN 10' OF CONTROLLER (BY CONTRACTOR)

1.25" GALVANIZED STEEL CONDUIT (FROM CONTROLLER TO SERVICE POINT)

SYSTEM LOCAL CONTROLLER

PULL BOX TYPE I

2-3" N.M.C.

3" N.M.C.

2" N.M.C.

3" N.M.C.

3" N.M.C.

SWEPCO #1008

SWEPCO #115641

2" N.M.C.

2" N.M.C.

PULL BOX TYPE IHD

2" N.M.C.

PULL BOX TYPE IHD

L23A

L23B

6' X 6' DETECTOR LOOP (TYP.)

L22A

L22B

100'

130'

24" RCP

1" N.M.C.

PULL BOX TYPE IHD

6' X 50' QUAD. PREFORMED DETECTOR LOOP (TYP.)

L11 COMB.

L12

150'

52'

75'

3" N.M.C.

3" N.M.C.

60'

18" CMP

LUMINAIRE (TYP.)

3" N.M.C.

EXISTING U.S. 71

35+00

30+00

#35089

DATE: 04/20/12 FILE NAME: TSD04.DGN

SIGNALIZATION PLAN SHEET - U.S. 71 & TEMP. RAMP 4

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 5/11/12

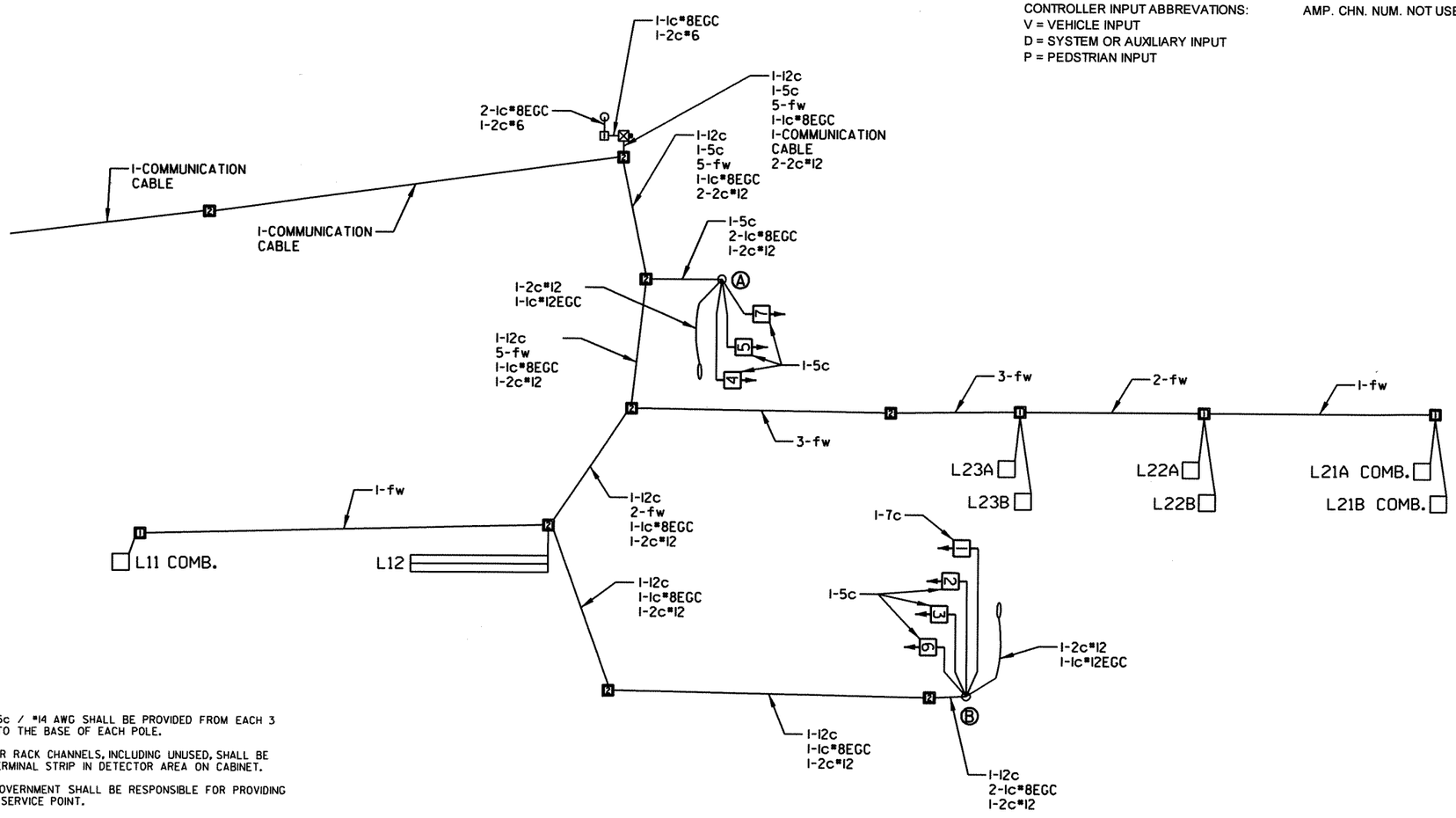
SCALE IN FEET 0 20 40 80

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 116 | 207 |
| | | | | (2) | SIGNALIZATION PLAN SHEET | | | |

## INTERVAL CHART

| SIGNAL FACES | INTERVALS 1+6 | CLR. | 2+6 | CLR. | | FLASH SEQ. |
|---|---|---|---|---|---|---|
| 1 | <G- | <Y- | <FY- | <Y- | | <Y- |
| 2&3 | G | G | G | G | | Y |
| 4&5 | R | R | G | Y | | Y |
| 6 | G | G | G | G | | Y |
| 7 | R | R | G | Y | | Y |

# WIRING DIAGRAM




NOTES:

1. A SEPARATE 5c / #14 AWG SHALL BE PROVIDED FROM EACH 3 SECTION HEAD TO THE BASE OF EACH POLE.

2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA ON CABINET.

3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

## DETECTOR CHART

| DETECTOR I.D. NUMBER | DIRECTION & LOCATION | TYPE | DET. NUM. | HARDWARE INPUTS CAB. TER. NUM. | AMP. CHN. NUM. | CON. INP. NUM. | PROGRAM ASSIGNMENTS LOCAL PHS. | LOCAL SYS. DET. | MSTR. SYS. DET. | COMMENT |
|---|---|---|---|---|---|---|---|---|---|---|
| L11 | EB LT ADV | COMB. | | | 5 | V9 | 1 | 1 | | |
| L12 | EB LT PRES | LOCAL | | | 6 | V1 | 1 | | | |
| L21 A&B | WB ADV | COMB. | | | 1 | V10 | 2 | 2 | | |
| L22 A&B | WB NEAR | LOCAL | | | 2 | V2 | 2 | | | |
| L23 A&B | WB PRES | LOCAL | | | 3 | V4 | 2 | | | |

CONTROLLER INPUT ABBREVATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDSTRIAN INPUT

AMP. CHN. NUM. NOT USED: 4

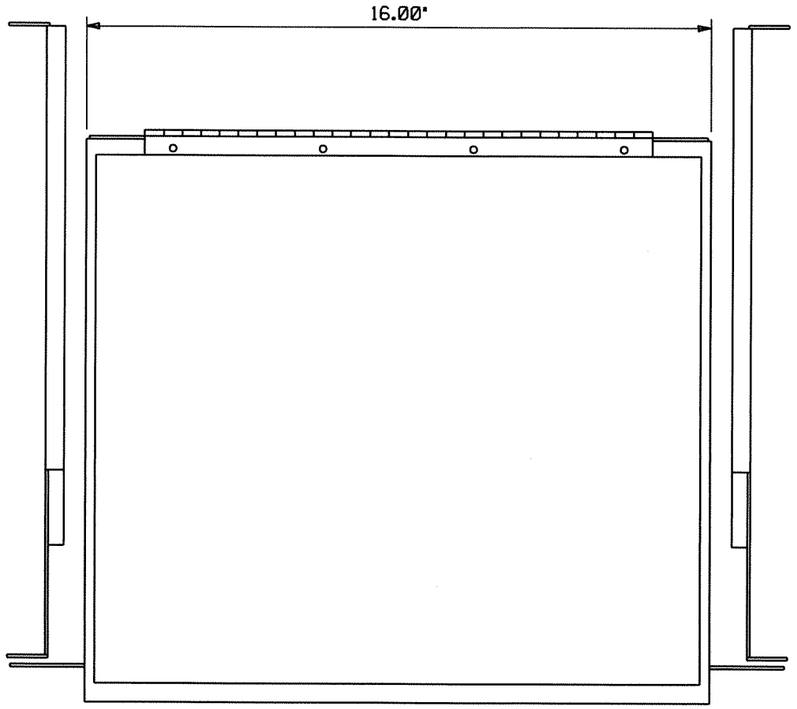
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BAER
5/1/12

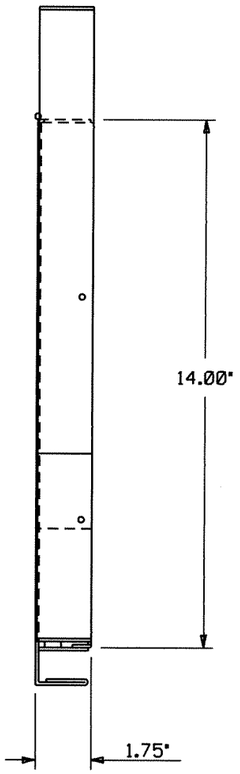
DATE: 04/20/12 FILE NAME: TSD05.DGN

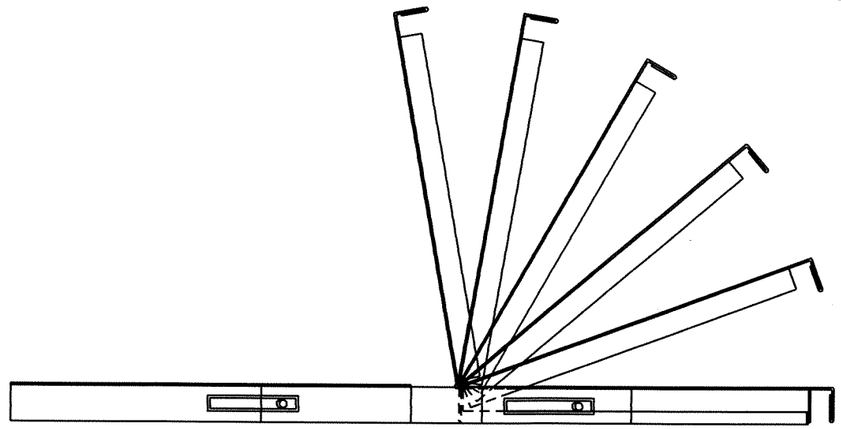
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 117 | 207 |
| | | | | (2) | SIGNALIZATION DETAILS | | | |

STATE OF ARKANSAS JAMES L. BARR REGISTERED PROFESSIONAL ENGINEER No. 9808 5/4/12

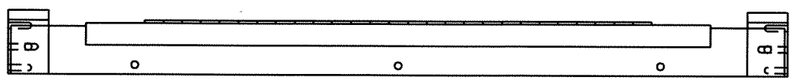
# DRAWER PLAN VIEW



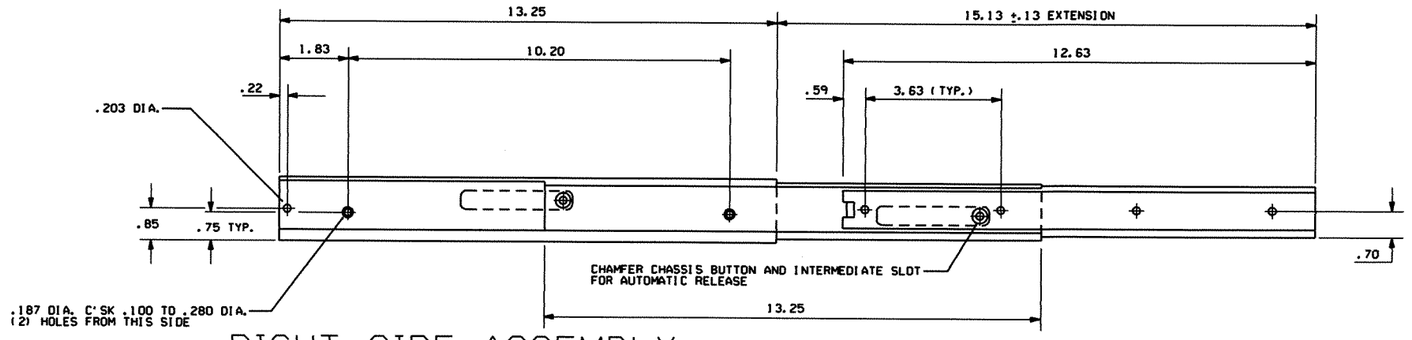



NOTES:
1. RIGHT HAND SLIDE SHOWN. LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.




FRONT VIEW




RIGHT SIDE ASSEMBLY

A.H.T.D. STANDARD DETAILS

DATE: 04/20/12 FILE NAME: TSD06.DGN

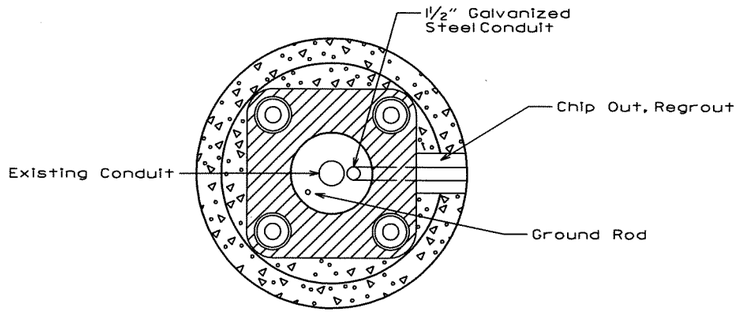
| | | |
|---|---|---|
| 6-15-05 | ISSUED | |
| DATE | REVISION | DATE FILM |

ARKANSAS STATE HIGHWAY COMMISSION

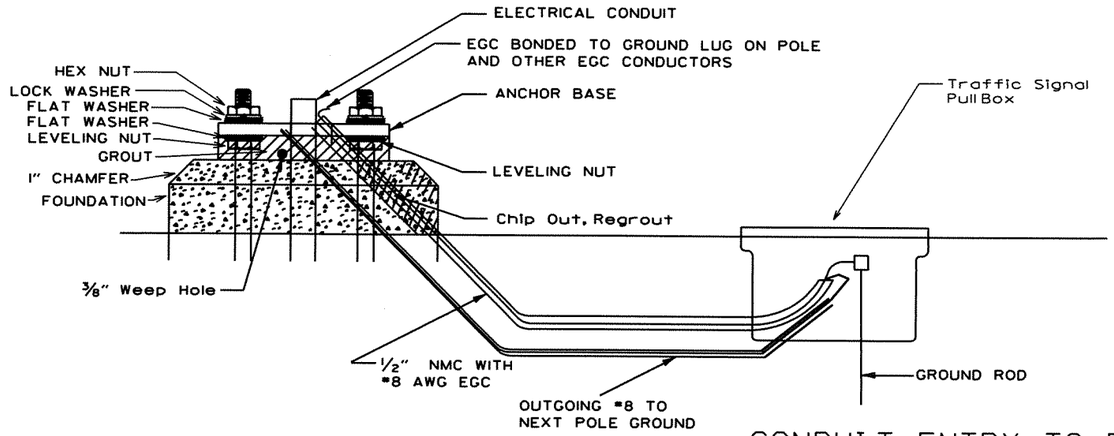
SIGNALIZATION DETAIL
(Controller Cabinet Utility Drawer)

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 118 | 207 |
| | | | | (2) | SIGNALIZATION DETAILS | | | |

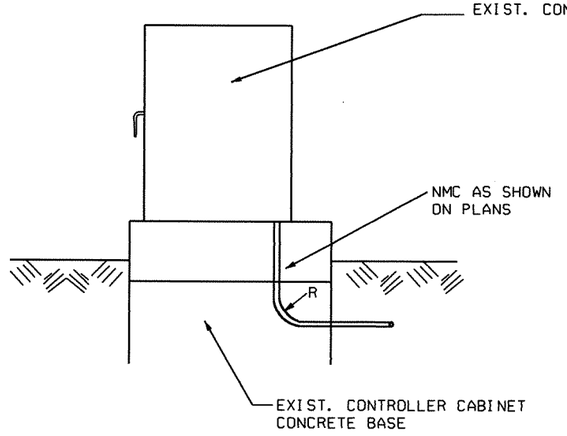
# CONDUIT ENTRY TO EXISTING POLE BASE



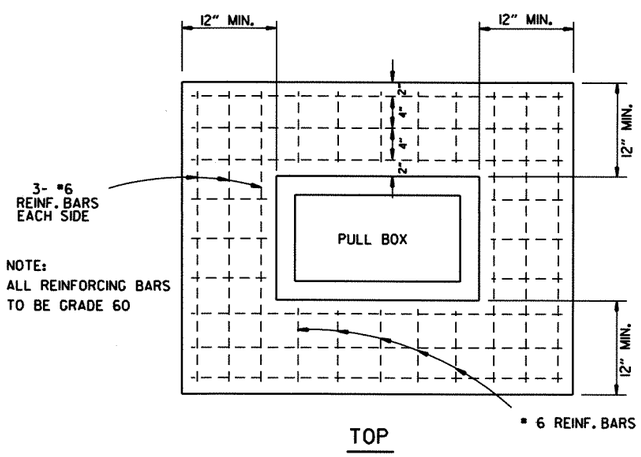

## ANCHOR BASE




# CONDUIT ENTRY TO EXISTING CONTROLLER CABINET

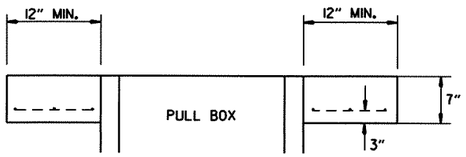



NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



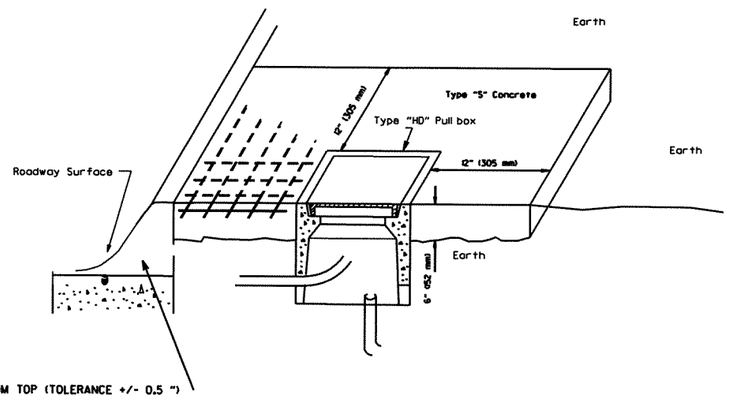

NOTE:
ALL REINFORCING BARS TO BE GRADE 60

TOP




ELEVATION

## Type "HD" Concrete Pull Box Detail




Note: All Type 1 and Type 2 HD pull boxes are installed with an apron of concrete 12" (305 mm) wide and 6" (152 mm) in depth. All payment shall be included in the price of the Type HD pull box. Pull box shall be installed flush to surrounding grade unless otherwise instructed by the engineer. The concrete shall be Class "S." Three #6 reinforcing bars in the apron on all sides of the pull box is required in concrete.

DATE: 04/20/12 FILE NAME: TSD06.DGN

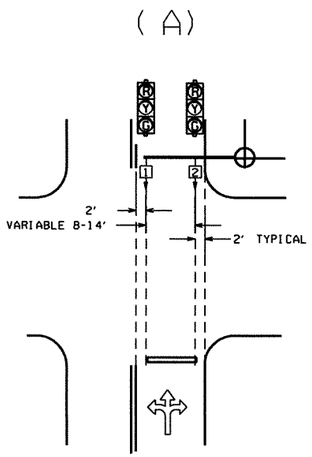
| DATE | REVISION | DATE FILM |
|---|---|---|
| 5-21-09 | REVISED GROUNDING | |
| 7-31-08 | ADDED & REVISED CONDUIT ENTRY | |
| 6-23-04 | REVISED CLEARANCE AT CURB ENTRY | |
| 1-4-02 | ADDED REINFORCING TO BOX APRON | |
| 7-2-01 | REVISED | |
| 12-27-99 | REVISED NOTES | |
| 11-18-98 | ISSUED | |

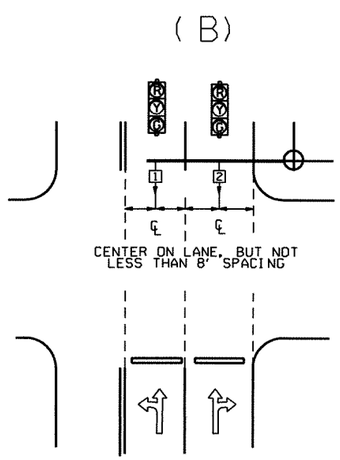
A.H.T.D. STANDARD DETAILS

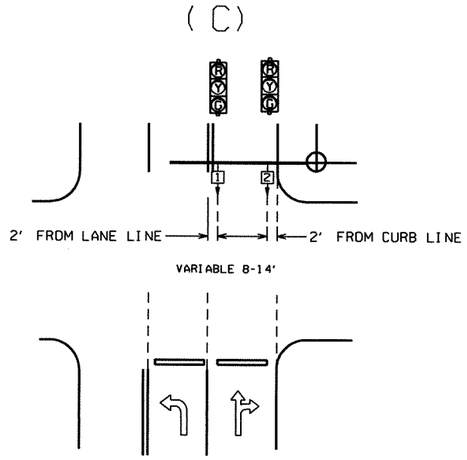
ARKANSAS STATE HIGHWAY COMMISSION

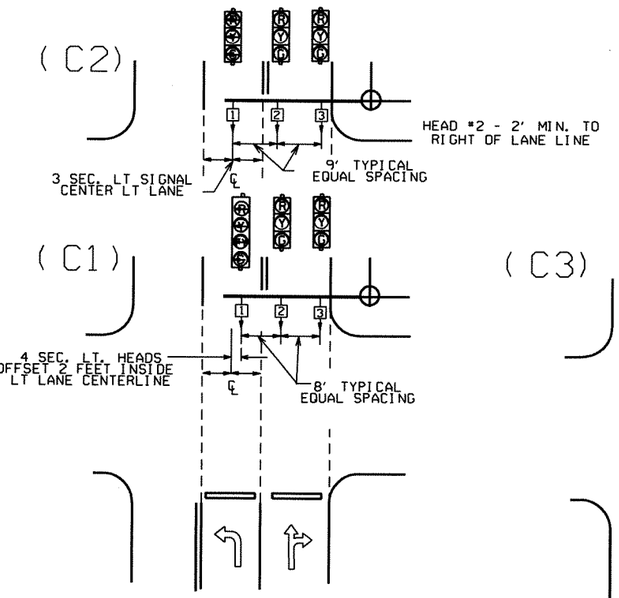
SIGNALIZATION DETAIL
(Heavy Duty Pull Box)

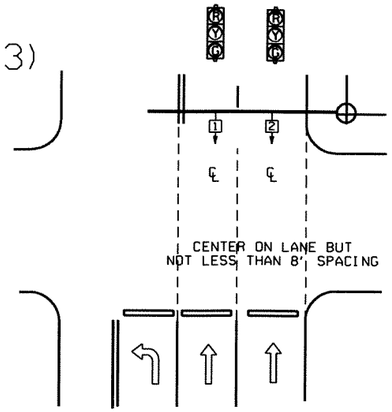
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 119 | 207 |
| | | | | (2) | SIGNALIZATION DETAILS | | | |

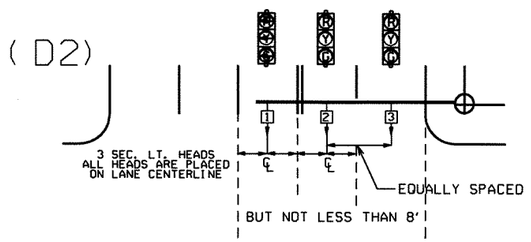


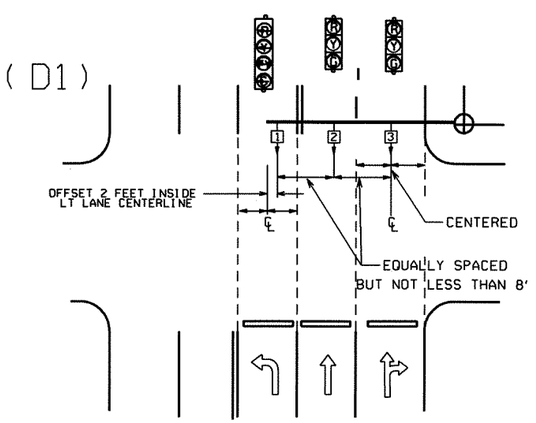



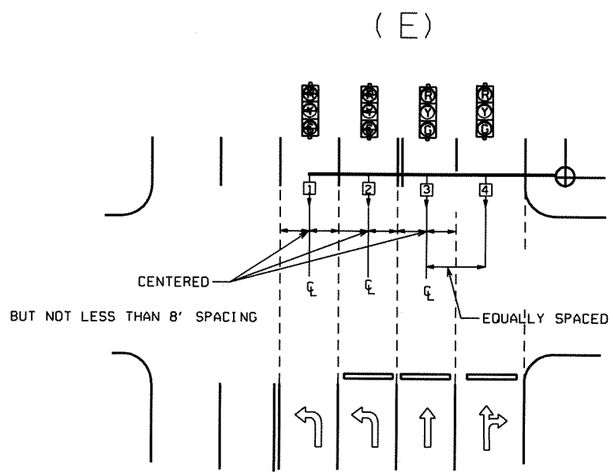




NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS




℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-1 OF 2009 MUTCD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/1/12

DATE: 04/20/12 FILE NAME: TSD06.DGN

A.H.T.D. STANDARD DETAILS

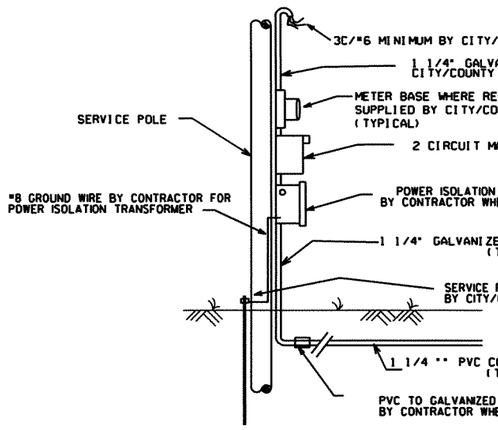
| DATE | REVISION | DATE FILM |
|---|---|---|
| | | |
| | | |
| | | |
| 3-11-10 | 2009 MUTCD | |
| 12-9-99 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

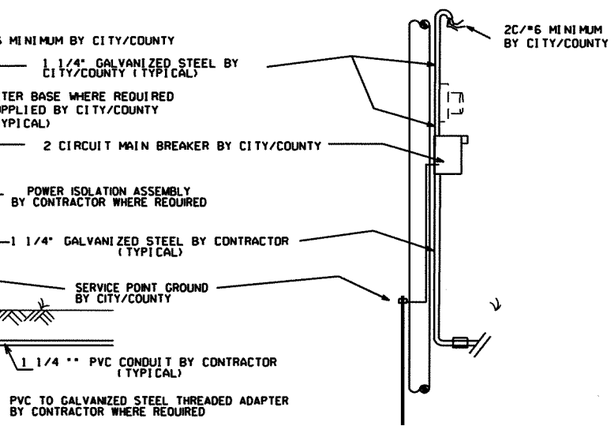
SIGNALIZATION DETAIL
(Signal Head Placement)

# MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY




WITHOUT POWER ISOLATION ASSEMBLY




NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY)

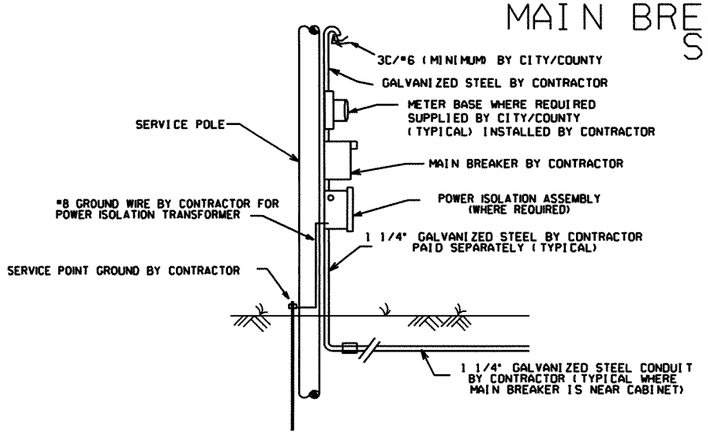
Electrical service typically falls into two categories: MAIN BREAKER NEAR CONTROLLER CABINET; and MAIN BREAKER NOT NEAR CONTROLLER CABINET. The Contractor's and the City's or County's responsibility varies accordingly as indicated on these details.

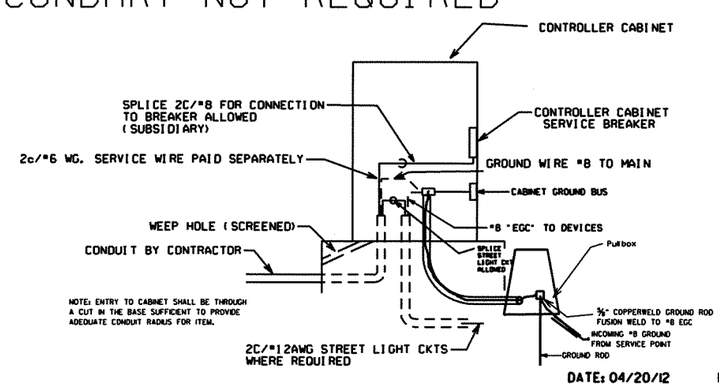
1. ALL SITUATIONS: Electrical service shall be provided by the City/County to a service pole with external raintight breaker (MAIN BREAKER) at a mutually acceptable point within the right-of-way. Service point includes galvanized steel conduit to a point 18" below ground line, two circuit main breaker, power isolation assembly where required, meter loop if required by local utility, electrical conductors and weatherhead. Where street lighting is included as part of signal installation, street lighting circuit (2c/#12 awg UF rated, typical) shall be kept separate from the circuit serving traffic signal. Service wire and wiring from the controller to main breaker is provided by the Contractor as a part of this contract. Wire and wiring from main breaker, and connection to the utility is the responsibility of the City/County.

2. MAIN BREAKER NOT NEAR CONTROLLER CABINET: The Main Breaker assembly, galvanized steel conduit, weatherhead and wire above Main Breaker and connection to the utility shall be provided by City/County. Contractor shall provide as part of contract Secondary Breaker, conduit, wire and wiring to the Main Breaker.

3. MAIN BREAKER NEAR CONTROLLER CABINET: All components of the service point with the exception of the wire and wiring above the Main Breaker is furnished and installed by the Contractor. Wiring from Main Breaker including connection to the utility, is the responsibility of the City/County. If meter loop is required, meter base and hardware is provided by the City/County and installed by the contractor.

# MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED

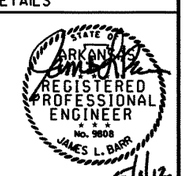


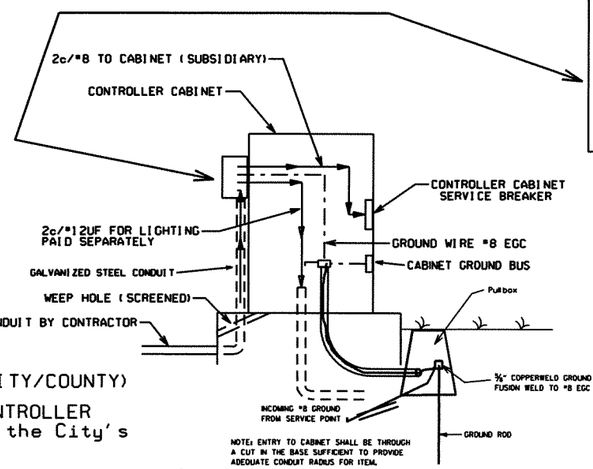

Ground Rod-A 10' x ⅝" ground rod shall be installed in the pull box for each pole and the controller. Payment for the ground rod and ½" NMC shall be included in Item 701. The pull box and conductor box shall be paid for separately.

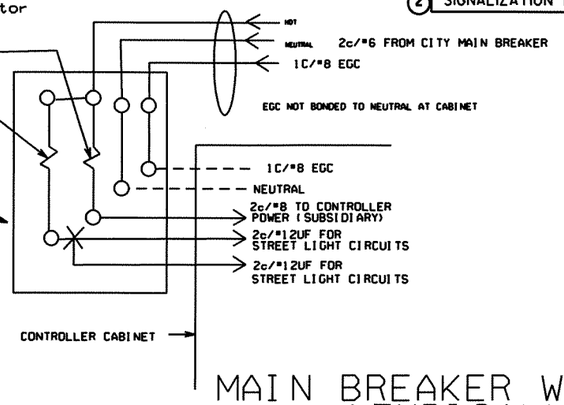
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 120 | 207 |

(2) SIGNALIZATION DETAILS




SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



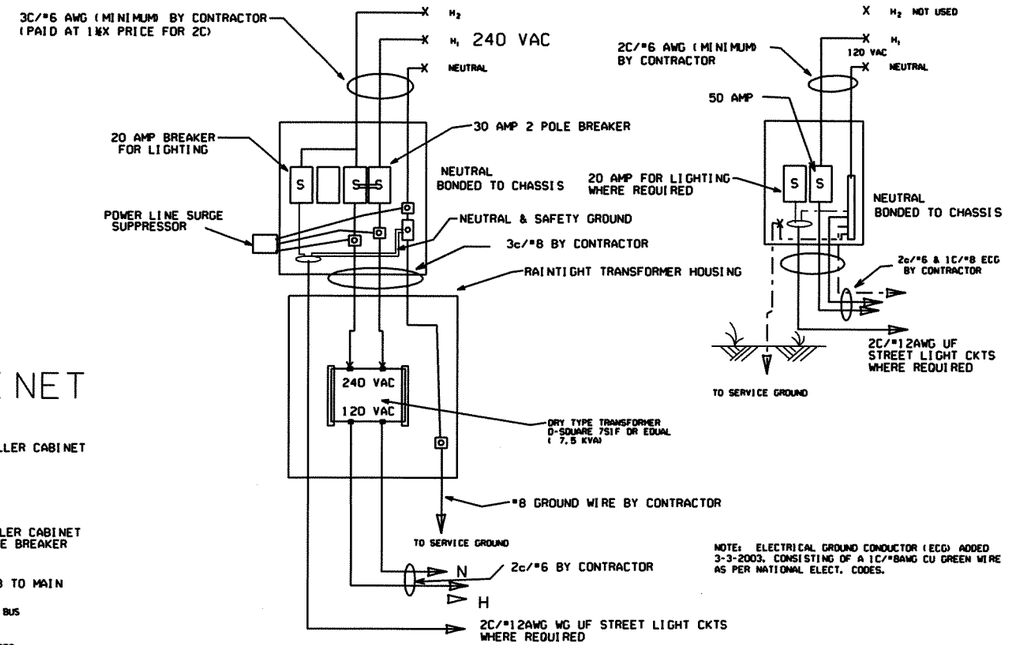




## MAIN BREAKER WIRING (TYPICAL)

Service Ground is typically tied to neutral at the Main Breaker. As such, controller ground IS NOT tied to Neutral at secondary Breaker or in controller cabinet.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER




NOTE: ELECTRICAL GROUND CONDUCTOR (EGC) ADDED 3-3-2003, CONSISTING OF A 1C/#8AWG CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

DATE: 04/20/12 FILE NAME: TSD06.DGN

| DATE | REVISION | DATE FILM |
|---|---|---|
| 5-21-09 | REVISED GROUNDING | |
| 7-31-08 | REVISED GROUNDING | |
| 3-3-03 | ADDED EGC NOTE | |
| 9-26-01 | REVISED | |
| 12-27-99 | REVISED | |
| 7-28-99 | REVISED | |
| 2-5-99 | ISSUED | |

A.H.T.D. STANDARD DETAILS

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAIL (Service Point)

NOTES, PED AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGN FACES SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209. ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF 4 FT. BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY II FOR STRUCTURES ON ROUTES WITH A SPEED LIMIT LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH ARMS LESS THAN 60' AND ROUTES WITH SPEED LIMITS OF 45 MPH AND LESS WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE SPEED LIMIT IS 45 MPH AND LESS AND ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, 12 INCH, AND HAVE 5 IN. BACK PLATES:

HEADS AT END OF ARM - ONE 4 SEC., 85 LB., 16.0 SQ. FT. ONE SIGN MOUNTED 3 FT. FROM SIGNAL * 2' X 0" X 2' * 6"; 20 LB. REMAINING HEADS SPACED A 8 FT. * 3 SEC., 56 LB., TWO 5 SEC):
14.4 SQ. FT. DESIGN TO ACCOMMODATE (INCLUDING
2 HEADS FOR ARMS 10 TO 16 FT.
2 HEADS FOR ARMS 10 TO 16 FT., INCLUDING LB.
3 HEADS FOR 18 TO 24 FT. ARMS;
4 HEADS FOR OVER 26 FT. ARMS.

STREET NAME SIGN -- 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAN 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) * VARIABLE ARM LENGTH (MAX.), 3.3 SQ. FT., 75 LB. PED SIGNALS -- TWO 2 SEC. 12 INCH MOUNTED 8 FT. FROM BASE OF POLE.
POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

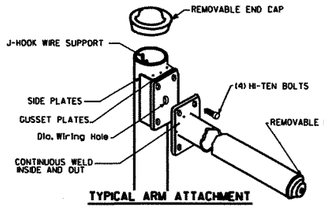
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE -- HAND HOLES SHALL BE 4 X 6 INCHES FOR STANDARD, AND 3 X 5 INCHES FOR PED POLES. MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACUUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDE A HAND HOLD WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

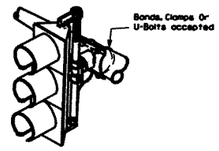
6. POLE/MAST ARM TAPER AND SLOPE - AVERAGE TAPER OF SIGNAL ARMS AND POLE SHALL BE 0.125 TO 0.15 INCHES PER FT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE ARM SHALL MAINTAIN A POSITIVE AFTER IT IS PLACED UNDER LOAD.

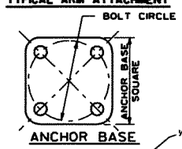
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



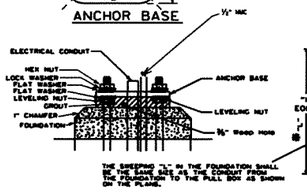
TYPICAL ARM ATTACHMENT

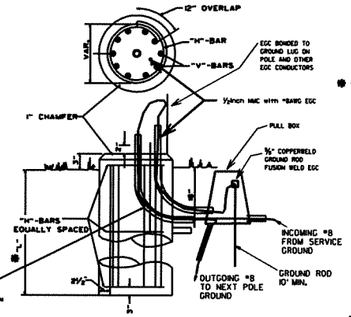


NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.



ANCHOR BASE



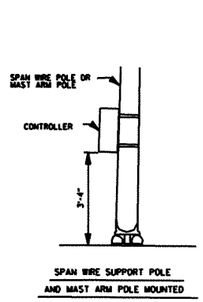




THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

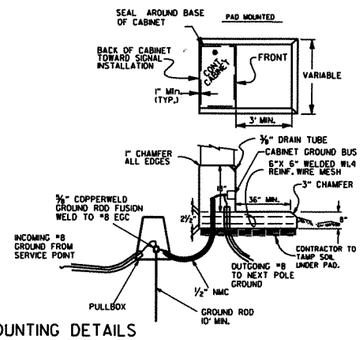
## TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

| ARM LENGTH | FDN. DIAMETER | DEPTH "L" ● | STEEL VERT. | STEEL HORZ. | STEEL D/C. |
|---|---|---|---|---|---|
| PED | 30" | 7'-0" | 12-#7 (6'-6") | 10-#4 | 8.44" |
| 2' to 12' | 30" | 10'-6" | 12-#7 (10'-0") | 15-#4 | 8.42" |
| over 12' to 20' | 30" | 11'-6" | 12-#7 (11'-0") | 16-#4 | 8.66" |
| over 20' to 35' | 36" | 12'-6" | 13-#8 (12'-0") | 17-#4 | 8.88" |
| over 35' to 50' | 36" | 13'-6" | 13-#8 (13'-0") | 19-#4 | 8.56" |
| over 50' to 72' | 42" | 14'-6" | 18-#8 (14'-0") | 20-#4 | 8.74" |
| Twins to 20' | 30" | 16'-0" | 12-#6 (15'-6") | 22-#4 | 8.76" |
| Twins over 20' to 44' | 36" | 16'-0" | 13-#8 (15'-6") | 22-#4 | 8.76" |
| Twins over 44' to 50' | 42" | 16'-0" | 18-#8 (15'-6") | 22-#4 | 8.76" |
| Twins over 50' to 72' | 42" | 16'-6" | 18-#8 (16'-0") | 23-#4 | 8.64" |



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED




## CONTROLLER CABINET MOUNTING DETAILS

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX. NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A 1/4" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PED PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM PEDESTRIAN SIGNAL HEAD.

DATE: 04/20/12 FILE NAME: TSD06.DGN

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD, AT THE TIME INTERSECTION IS PLACED IN PERMANENT OPERATION. THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 121 | 207 |

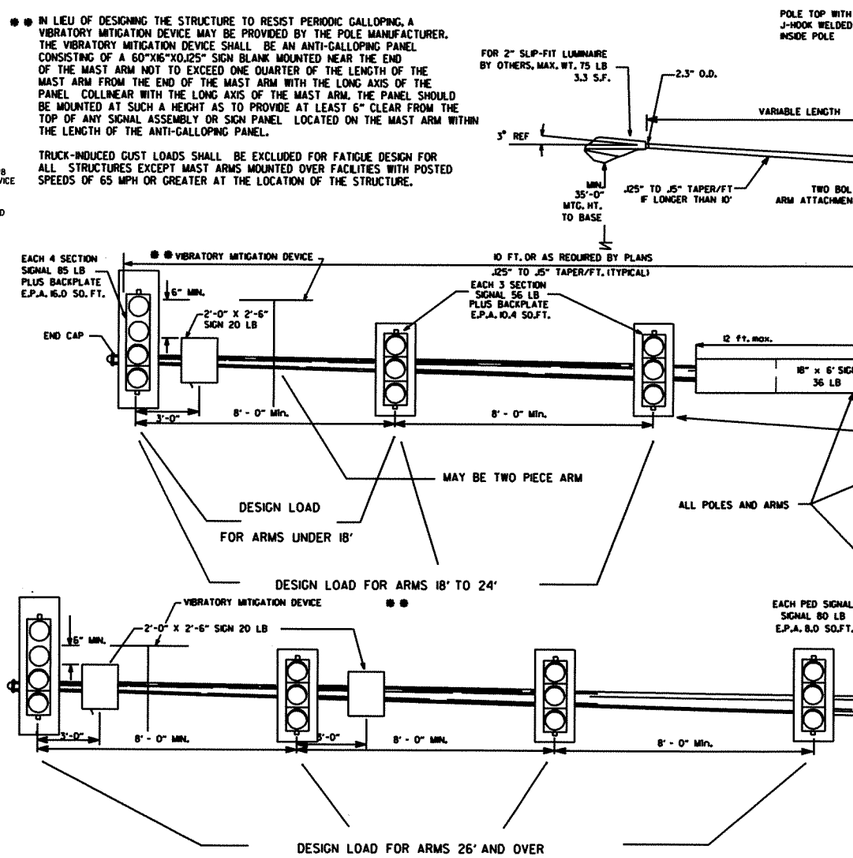
(2) SIGNALIZATION DETAILS

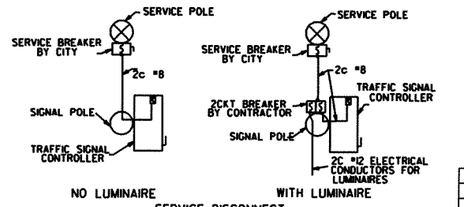
SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.

● WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 OF THE STANDARD SPECIFICATIONS.

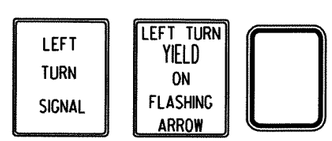
●● IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60"X16"X0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH A HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OR SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

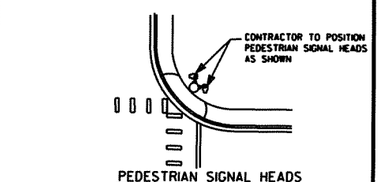
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.



SERVICE DISCONNECT



PEDESTRIAN SIGNAL HEADS

A.H.T.D. STANDARD DETAILS

| | | |
|---|---|---|
| 7-21-11 | REVISED VMD, SIGNAL HEADS | |
| 5-21-09 | REVISED GROUNDING | |
| 7-31-08 | REVISED GROUNDING | |
| 4-25-08 | ADDED VIBRATORY MITIGATION DEVICE & NOTES | |
| 4-18-08 | REVISED AASHTO NOTES | |
| 4-17-08 | REVISED TO 2001 AASHTO STANDARDS | |
| 10-12-04 | REVISED CABINET ORIENTATION | |
| 6-23-04 | REVISED | |
| 5-18-04 | REV. NOTE 3/AASHTO REQUIREMENTS | |
| 6-8-01 | REV. NOTES & POLE MAST ARM SLOPE | |
| 4-8-01 | REVISED POLE TAPERS | |
| 4-25-00 | REV. NOTES & SIGNAL HEAD PLACEMENT | |
| 8-22-99 | REVISED FOUNDATION DETAILS | |
| 8-17-98 | REVISED DETAILS AND NOTES | |
| 8-21-95 | ISSUED | |
| DATE | REVISION | DATE FILM |

ARKANSAS STATE HIGHWAY COMMISSION

SIGNALIZATION DETAILS
(Steel Pole With Mast Arm)

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER * * * No. 9808 JAMES L. BARR 5/4/12

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED.RD. DIST.NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 122 | 207 |

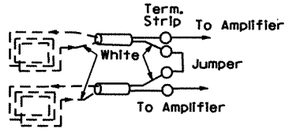
(2) SIGNALIZATION DETAILS

# LOOP DETECTOR INSTALLATION AND TESTING

NOTES:

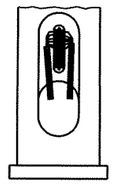
1. Loops with a perimeter greater than 40' shall have two turns. Loops with a perimeter less than or equal to 40' shall have three turns, unless otherwise noted on the plans. Quadrupole loops shall be two turns (2-4-2 configuration) unless otherwise noted.
2. Loop and feeder wire shall be continuous without splices except at the loop/feeder wire splice as shown. Splice shall be rosin soldered and waterproofed with an accepted splice kit. Drain wire shall be grounded in cabinet and insulated at loop to feeder splice.
3. The loop to feeder splice, feeder jacket and jacket of loop wire in duct shall be completely sealed and waterproofed.
4. Contractor may make connections to signal cable and loop to feeder connection at terminal strips mounted to pole inside hand hold cover as shown in detail. Terminals must be easily accessible, but protected against accidental contact. Connection of power carrying circuits must be separated from loop or logic circuits. All connections to terminal strips shall utilize spade lugs or as approved by the Engineer.
5. Each loop shall have a separate "feeder wire" unless otherwise noted. All feeder wires shall be labeled as to loop number as designated on the plans.
6. All loop wire entering pull boxes shall be enclosed in conduit. Each loop wire shall enter pull box or pole base through a separate piece of one inch (1"Ø) conduit.
7. Loop wire from loop to conduit is not twisted. Loop wire in the conduit must be twisted two to five turns per foot.
8. Warranty period for loops shall not commence until tested by the contractor and accepted by the Engineer. Contractor shall perform test and provide a record to the Engineer as listed in the Detector Loop Testing procedure.
9. Unless otherwise approved by the Engineer, backer rod shall be installed in short sections spaced not more than 18" apart and wedged into slot to hold cable in place. Cable shall be totally encapsulated in sealer.
10. "Hot Pour" sealer shall not be allowed with 705-Loop Wiring in Duct.
11. Where underground splices of signal cable are required, connections shall be soldered and completely waterproofed to the satisfaction of the Engineer. Waterproofing shall extend a minimum of two inches past the signal cable jacket and shall completely cover all individual conductors of the signal cable. Waterproofing does not apply to connections made in pole bases.
12. Contractor shall connect a separate neutral for each load switch represented on each signal pole. Only one neutral is required for pedestrian signals. A separate 5c (typical) is provided for pedestrian push buttons.
13. Traffic controller cabinet and layout shall be such that it is not necessary to shut down power or remove load switches in order to easily test or modify detector inputs to controller. Controller cabinet shall be wired such power to load switches cannot backfeed to load switch power buss during flash operation.

## SERIES CONNECTED LOOPS

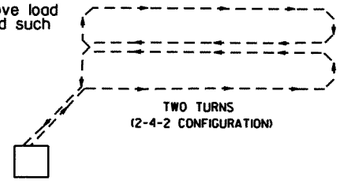



Wind loops counterclockwise; tag wire exiting slot and tie to white lead of feeder wire; when loops are tied to same vehicle detector, series connect in cabinet as shown.

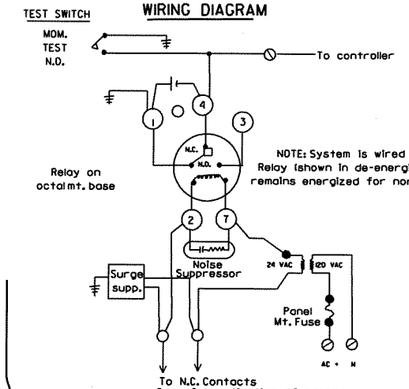
## HANDHOLE TERMINAL



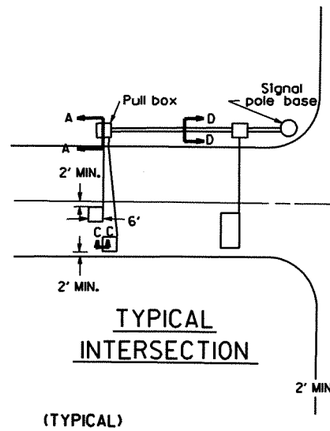
## QUADRUPOLE LOOP

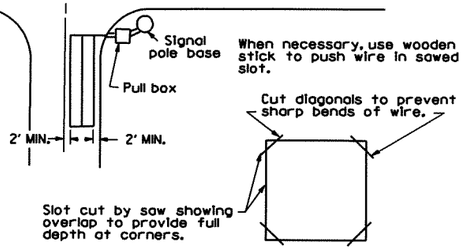



## TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM




## TYPICAL INTERSECTION




## TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

(1) Disconnect and test continuity (< 10 ohms) If continuity is bad, go to test 3

(2) Test insulation (@ 500 volt test > 10 Meg-ohm)

If tests 1& 2 are good, no further testing is necessary. Recorded results consist of tests 1& 2 from control cabinet with feeder wire connected to loop.

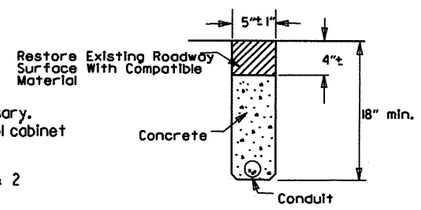
(3) Open splice (do not break connection) repeat test 1& 2 If test 3 is bad, go to test 4

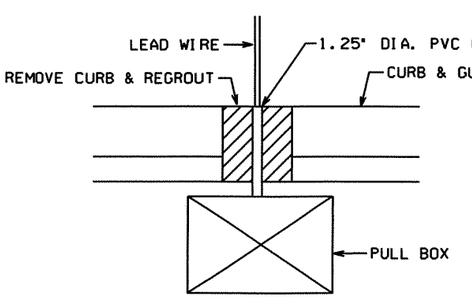
(4) Break splice, install jumper in cabinet, repeat tests 1& 2 separately for feeder and for loop

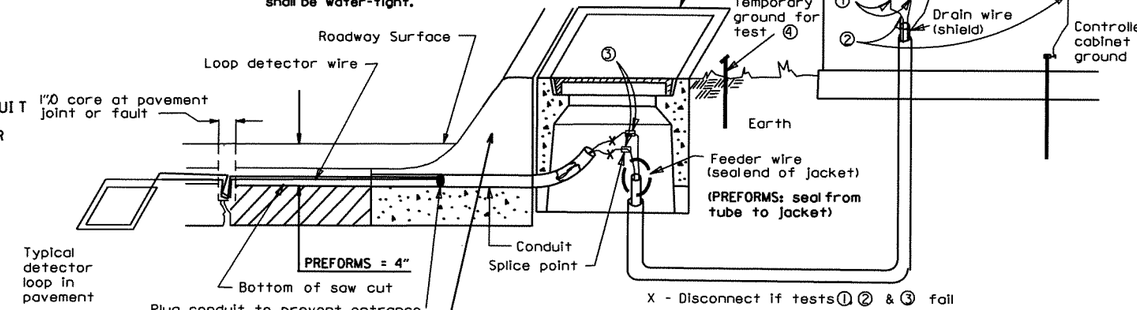
Failures typically result from broken wire in pavement, faulty insulation of loop or feeder wire, or poorly insulated splice connection.

## TRENCHING DETAIL

(FOR SAW CUT TRENCH IN ROADWAY)



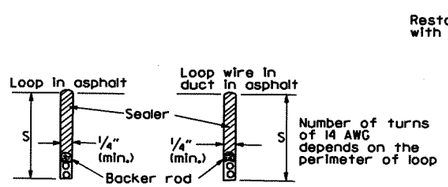





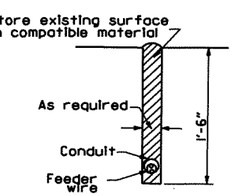


## TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS




SECTION C-C

S=2½" in asphalt
S=1½" in concrete




SECTION D-D

**SPECIAL NOTE**

IF FEEDER WIRE JACKET IS LEFT UNSEALED and WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER AT NO COST TO THE DEPARTMENT.

DATE: 04/20/12 FILE NAME: TSD06.DGN

| DATE | REVISION | DATE FILM |
|---|---|---|
| 5-17-01 | REVISED | |
| 4-11-01 | REVISED | |
| 2-4-00 | REVISED PRE-EMPTION TEST SWITCH | |
| 11-18-98 | REVISED NOTES | |
| 11-21-95 | ISSUED | |

A.H.T.D. STANDARD DETAILS

ARKANSAS STATE HIGHWAY COMMISSION

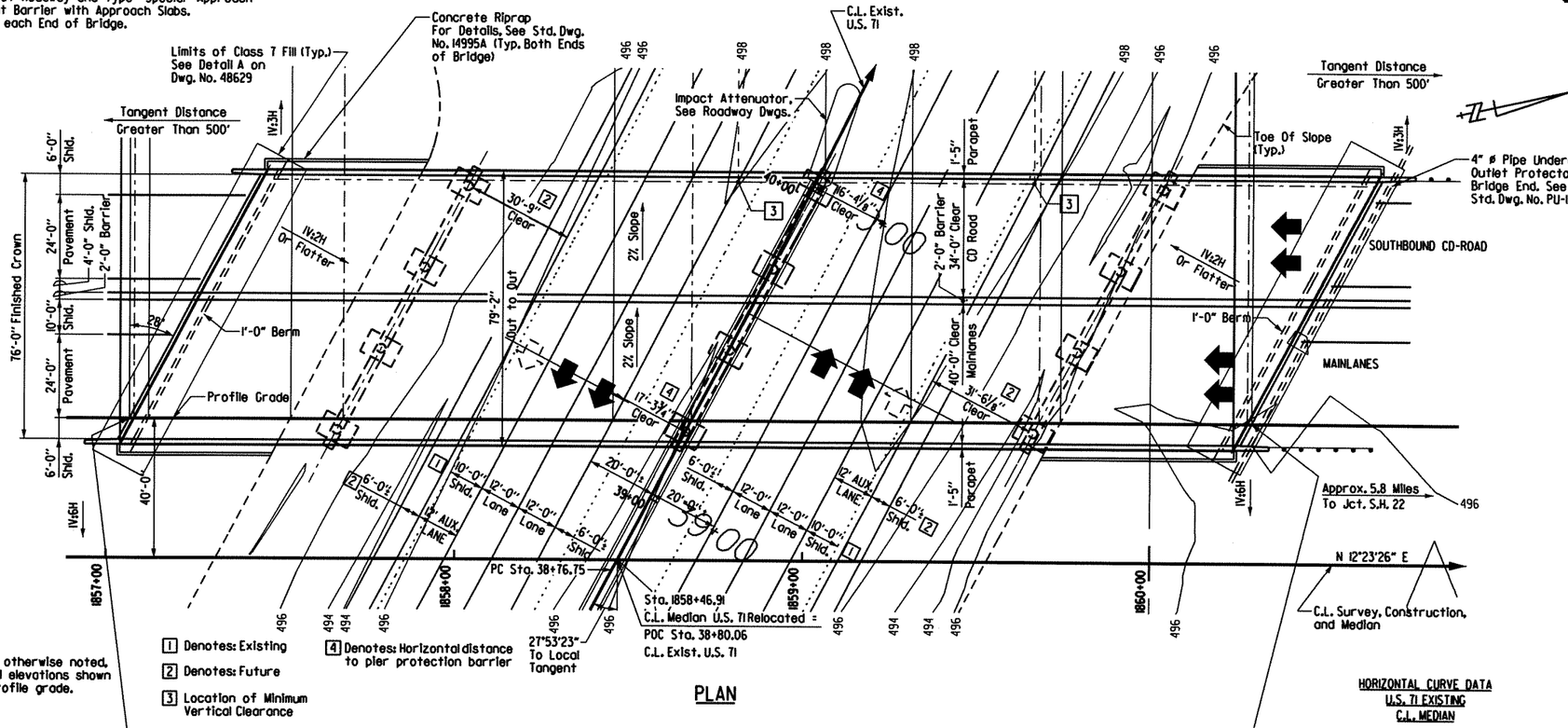
**SIGNALIZATION DETAIL (Loop Detector Installation)**

STATE OF ARKANSAS JAMES L. BARR No. 9808 REGISTERED PROFESSIONAL ENGINEER

| 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. | | 040376 | 125 | 207 |
| | | | | ① | | LAYOUT | | 48628 |

For R/W Data See Roadway Plans

Note: Use Type "C" Approach Gutters ("W" = 6'-0") at edges of Roadway and Type "Special" Approach Gutters at Barrier with Approach Slabs. Typical at each End of Bridge.




PLAN

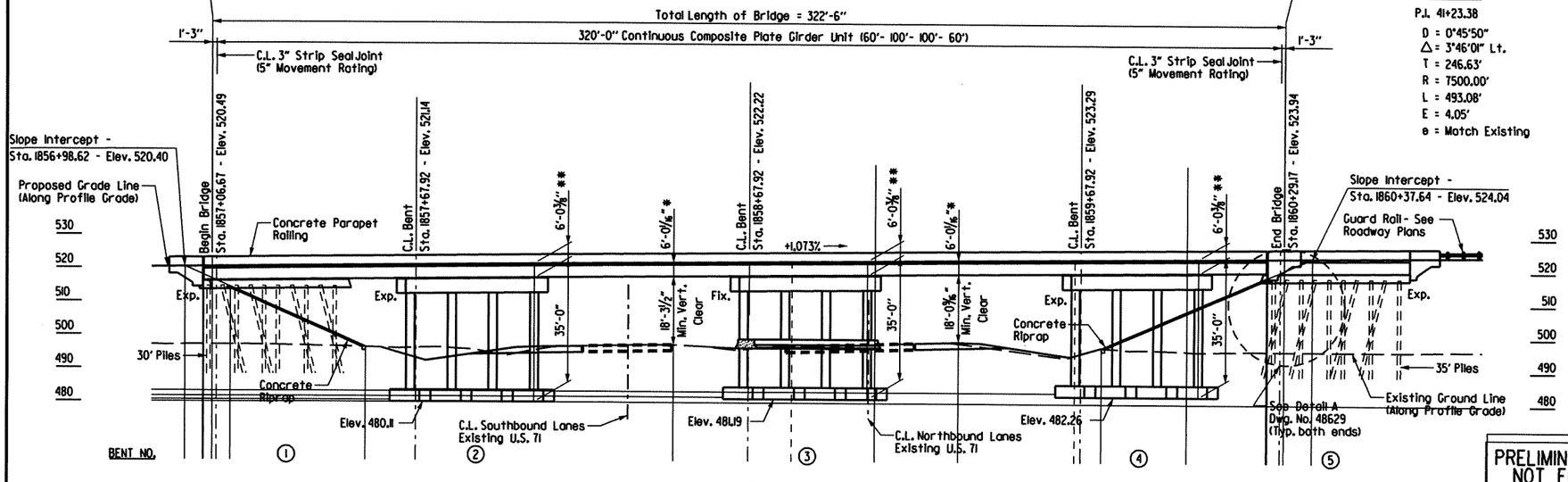
[1] Denotes: Existing

[2] Denotes: Future

[3] Location of Minimum Vertical Clearance

[4] Denotes: Horizontal distance to pier protection barrier

Note: Unless otherwise noted, stations and elevations shown are along profile grade.

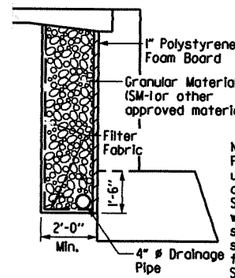



ELEVATION

** Top of Deck @ C.L. Bent @ Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to low steel

Note: Minimum Vertical Clearance is to existing roadway surface.




Notes:
For additional details of pipe underdrain see Std. Dwg. No. PU-1 and Section 611 of the Standard Specifications. Pipe underdrains will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation for Structures-Bridge".

PIPE UNDERDRAIN DETAIL
No Scale

1" Polystyrene Foam Board, Filter Fabric and Granular Material shall not be paid for directly, but shall be considered subsidiary to the various bid items.

HORIZONTAL CURVE DATA
U.S. 71 EXISTING
C.L. MEDIAN

P.I. 41+23.38
D = 0°45'50"
Δ = 3°46'01" Lt.
T = 246.63'
R = 7500.00'
L = 493.08'
E = 4.05'
e = Match Existing

FOR INFORMATION ONLY

NOTE: FUTURE BRIDGES FOR U.S. 71 RELOCATED OVER EXISTING U.S. 71 TO BE CONSTRUCTED UNDER SEPARATE PROJECT. BRIDGE PRELIMINARY LAYOUTS PROVIDED IN THIS PROJECT (JOB 040376) FOR INFORMATION ONLY. SEE ROADWAY PLANS FOR PROJECT TERMINI.

PRELIMINARY NOT FOR CONSTRUCTION

06-06-08
DATE

BRIDGE ENGINEER

ALTERNATE NO. 1
BRIDGE A
LAYOUT OF U.S. ROUTE 71 RELOCATED
FUTURE BRIDGE OVER U.S. ROUTE 71 EXISTING
JENNY LIND-CUSTER BLVD. (GR. & STRS.) (F)
SEBASTIAN COUNTY
(NOT IN THIS PROJECT)

ROUTE SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**

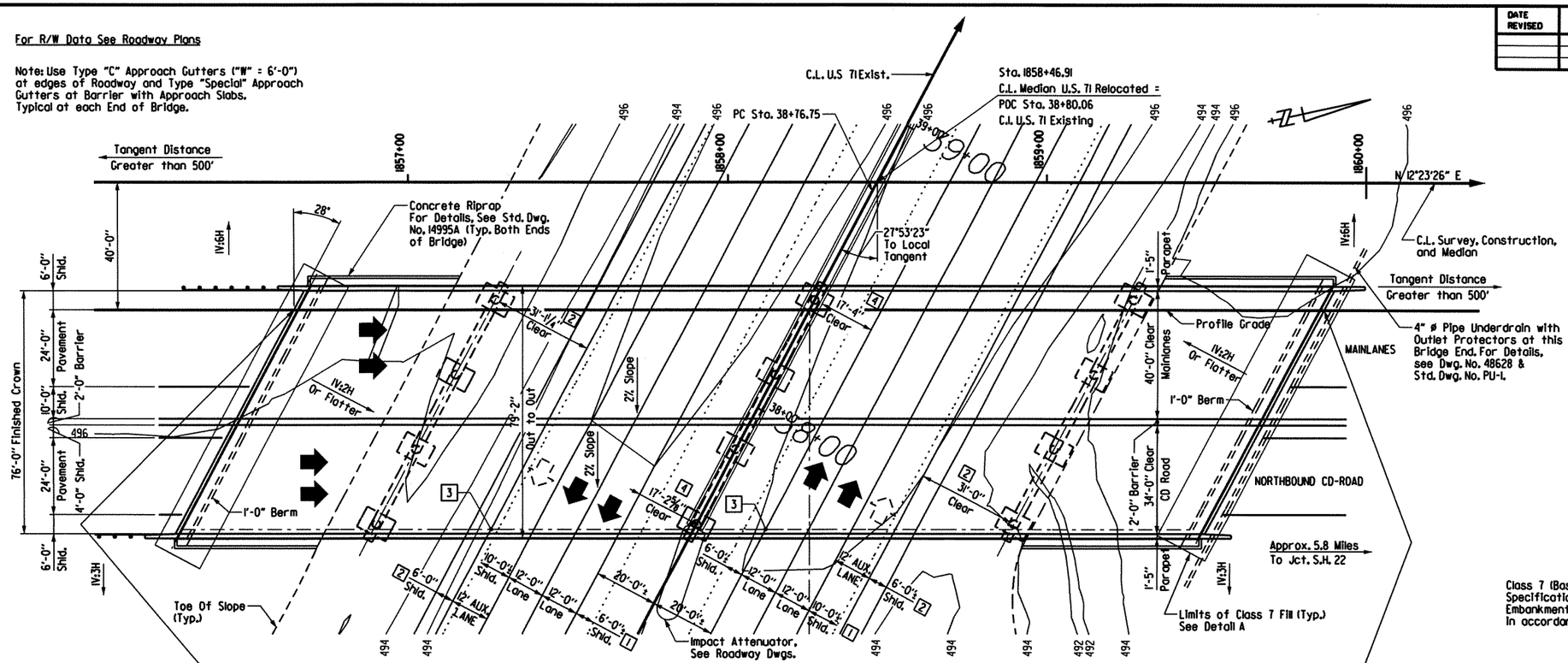
LITTLE ROCK, ARK.

DRAWN BY: JE DATE: 9/04 FILENAME: b040376a_111.dgn
CHECKED BY: DATE: SCALE: 1" = 20'
DESIGNED BY: DM DATE: 9/04
BRIDGE NO. A DRAWING NO. 48628

| 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. | | 040376 | 126 | 207 |
| | | | | ① | | LAYOUT | | 48629 |

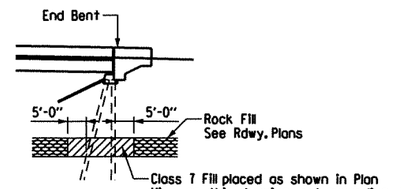
For R/W Data See Roadway Plans

Note: Use Type "C" Approach Gutters ("W" = 6'-0") at edges of Roadway and Type "Special" Approach Gutters at Barrier with Approach Slabs. Typical at each End of Bridge.




PLAN

[1] Denotes: Existing
[2] Denotes: Future
[3] Location of Minimum Vertical Clearance
[4] Denotes: Horizontal distance to pier protection barrier




Class 7 (Base Course), in accordance with Section 303.02 of the Standard Specifications, will replace the Rock Fill (See SP Job 040376 "Excavation and Embankment"). Class 7, as shown in this Detail, will be paid for as Rock Fill in accordance with SP Job 040376 "Excavation and Embankment".

## DETAIL A

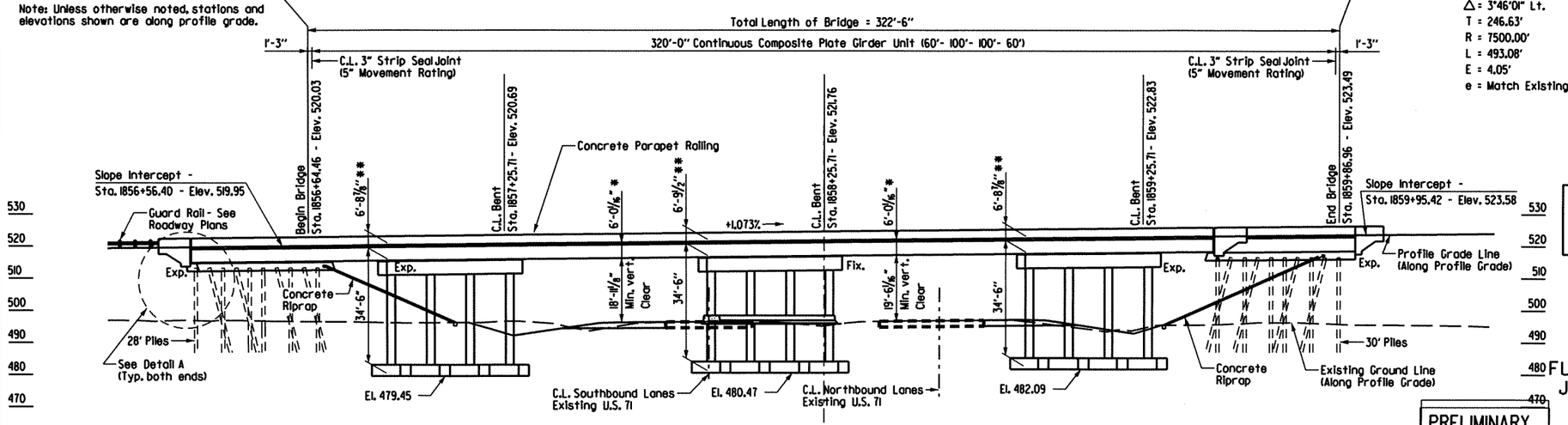
No Scale

HORIZONTAL CURVE DATA
U.S. 71 EXISTING
C.L. MEDIAN

P.I. 41+23.38
D = 0°45'50"
△ = 3°46'01" Lt.
T = 246.63'
R = 7500.00'
L = 493.08'
E = 4.05'
e = Match Existing

FOR INFORMATION ONLY

Note: Unless otherwise noted, stations and elevations shown are along profile grade.




** Top of Deck @ C.L. Bent @ Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to low steel

ELEVATION

Note: Minimum Vertical Clearance is to existing roadway surface.

NOTE: FUTURE BRIDGES FOR U.S. 71 RELOCATED OVER EXISTING U.S. 71 TO BE CONSTRUCTED UNDER SEPARATE PROJECT. BRIDGE PRELIMINARY LAYOUTS PROVIDED IN THIS PROJECT (JOB 040376) FOR INFORMATION ONLY. SEE ROADWAY PLANS FOR PROJECT TERMINI.

ALTERNATE NO. 1
BRIDGE B
LAYOUT OF U.S. ROUTE 71 RELOCATED
FUTURE BRIDGE OVER U.S. ROUTE 71 EXISTING
JENNY LIND-CUSTER BLVD. (GR. & STRS.) (F)
SEBASTIAN COUNTY
(NOT IN THIS PROJECT)

PRELIMINARY NOT FOR CONSTRUCTION
06-06-08
DATE
BRIDGE ENGINEER

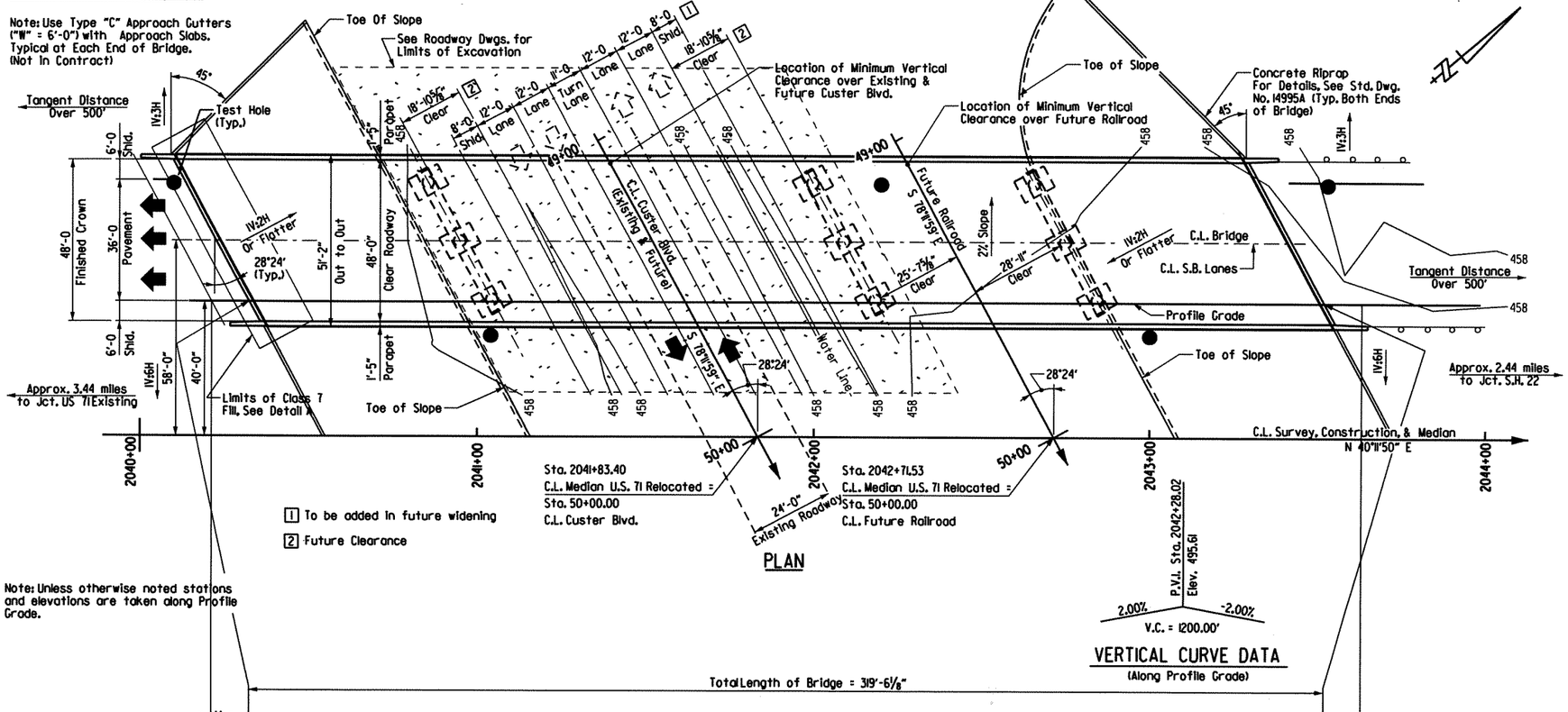
ROUTE SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**
LITTLE ROCK, ARK.

DRAWN BY: JE DATE: 9/04 FILENAME: b040376r_III.dgn
CHECKED BY: _____ DATE: _____ SCALE: 1" = 20'
DESIGNED BY: DM DATE: 9/04
BRIDGE NO. B DRAWING NO. 48629

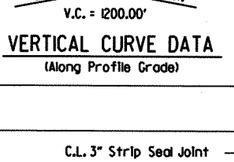
For R/W Data, See Roadway Plans

Note: Use Type "C" Approach Gutters ("W" = 6'-0") with Approach Slabs. Typical at Each End of Bridge. (Not In Contract)

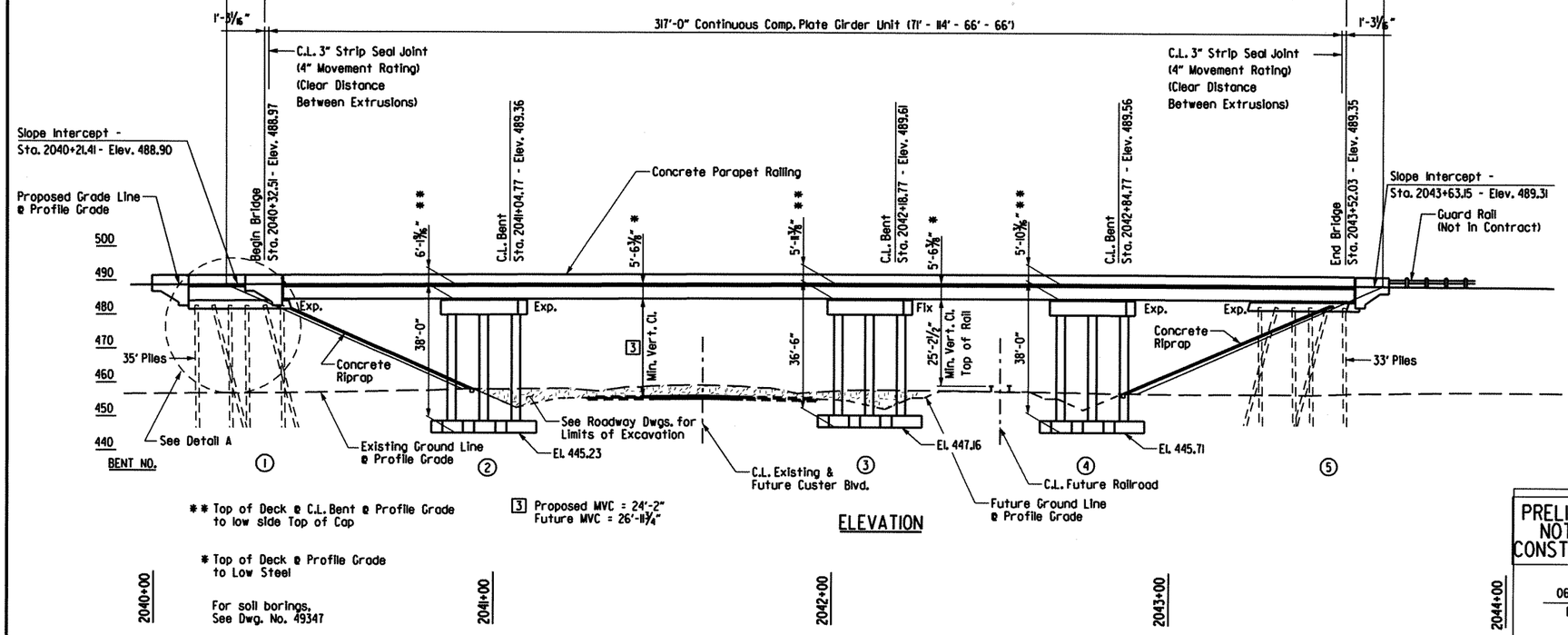



PLAN

Note: Unless otherwise noted stations and elevations are taken along Profile Grade.




VERTICAL CURVE DATA
(Along Profile Grade)




** Top of Deck @ C.L. Bent @ Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to Low Steel

3 Proposed MVC = 24'-2" Future MVC = 26'-11¾"

For soil borings, See Dwg. No. 49347

ELEVATION

| 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. | | 040376 | 129 | 207 |
| | | | | ① | A7082 | LAYOUT | | 49346 |

GENERAL NOTES

BENCH MARK: Railroad Spike in 14" Oak, 816.97' Lt. of C.L. Construction U.S. 71 Relocated Sta. 2039+06.42, Elevation 462.31

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition), with applicable supplemental specifications and special provisions. Unless otherwise noted on the plans, section and subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (2002 edition), with current interim specifications.

LIVE LOAD: HS20 + Military Loading — METHOD OF DESIGN: Load Factor
SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:
Class S(AE) Concrete (Superstructure) f'c = 4,000 psi
Class S Concrete (Substructure) f'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60) fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50) Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36) Fy = 36,000 psi

BORING LOGS: Boring Logs may be obtained from the Programs and Contracts Division.

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

CLASS I PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface and to the roadway face and top of the concrete parapet rail.

PAINT: All structural steel except galvanized members and some surfaces in contact with concrete shall be painted as specified in subsection 807.75. The color of paint shall be Gray and shall match Fed. Std. 595B, Color Chip 26176.

TEXTURED COATING FINISH: Class 3 Textured Coating Finish shall be applied to bridge surfaces as specified in SP Job 040479 "Textured Coating Finish" and in accordance with Section 802.19. Textured Coating Finish shall not be applied on surfaces where Class I Protective Surface Treatment is applied.

FOOTINGS: Footings shall be set a minimum of 1'-6" into Competent Shale and shall have a minimum cover above top of footings of 2'-0". Foundations for footings shall be prepared in accordance with Section 801.04 of the Standard Specifications. Rock excavations shall be made to neat lines of the concrete footings. Care shall be exercised to avoid shattering of rock faces by excessive blasting. Concrete in footings shall be poured directly against excavated surfaces of rock.

STEEL PILING: All piling shall be HP12x53 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 70 tons per pile and into the material designated as shale on the boring legend. Lengths shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications. Piles in end bents to be driven after embankment to bottom of cap is in place. On all piles the contractor shall use approved steel H-Pile driving points.

| DETAIL DRAWINGS: | DRAWING NO. |
|---|---|
| End Bents | 49350-49355 |
| Intermediate Bents | 49356-49361 |
| 317'-0" Cont. Comp. Plate Girder Unit | 49362-49370 |
| Elastomeric Bearings | 49371 |
| Steel Piling | 14995A |

MAINTENANCE OF TRAFFIC: See Roadway Plans.

FOR INFORMATION ONLY

PRELIMINARY NOT FOR CONSTRUCTION

06-06-08
DATE

BRIDGE ENGINEER

ALTERNATE NO. 1
BRIDGE A
SHEET 1 OF 2
LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE
OVER CUSTER BLVD.
MASSARD ROAD-ROBERTS BLVD. (STRS.) (F)
SEBASTIAN COUNTY

ROUTE 71 SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**

LITTLE ROCK, ARK.

DRAWN BY: JE/TAR DATE: 5-05 FILENAME: b040376a2 ill.dgn
CHECKED BY: DATE: SCALE: 1"= 20'
DESIGNED BY: DM/MKJ DATE: 5-05

BRIDGE NO. A7082 DRAWING NO. 49346

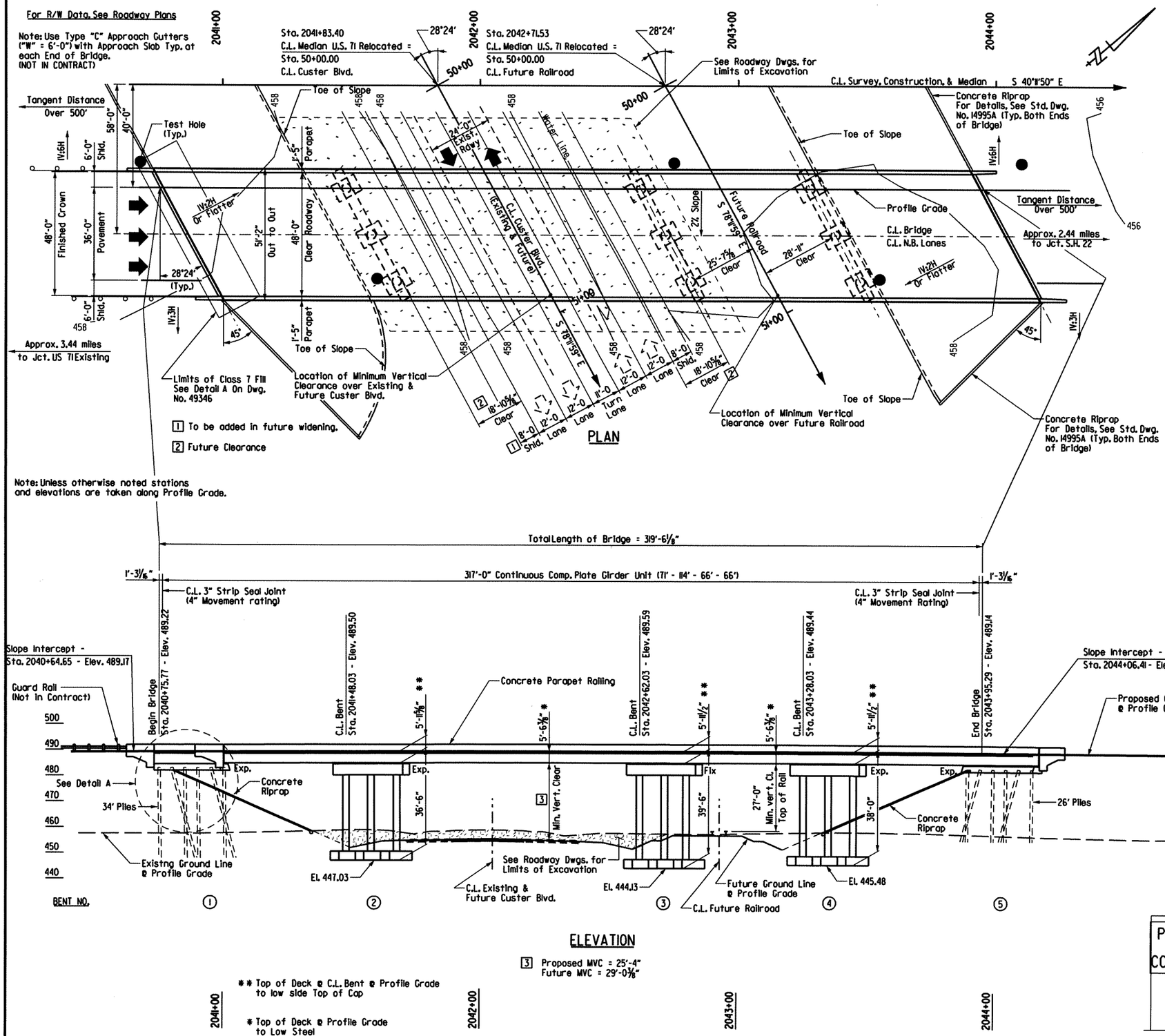
| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| | | | | 6 | ARK. | | | |
| | | | | JOB NO. | | 040376 | 130 | 207 |
| | | | | 1 B7082 | | LAYOUT | | 49348 |

For General Notes, see Dwg. No. 49346

For soil borings, see Dwg. No. 49349

For R/W Data, See Roadway Plans

Note: Use Type "C" Approach Gutters ("W" = 6'-0") with Approach Slab Typ. at each End of Bridge. (NOT IN CONTRACT)




Note: Unless otherwise noted stations and elevations are taken along Profile Grade.

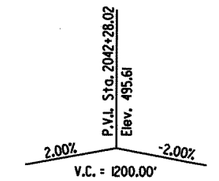



ELEVATION

[3] Proposed MVC = 25'-4"
Future MVC = 29'-0⅜"

** Top of Deck @ C.L. Bent @ Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to Low Steel




VERTICAL CURVE DATA
(Along Profile Grade)

FOR INFORMATION ONLY

PRELIMINARY NOT FOR CONSTRUCTION

06-06-08
DATE

BRIDGE ENGINEER

ALTERNATE NO. 1
BRIDGE B
SHEET 1 OF 2
LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE OVER CUSTER BLVD.
MASSARD ROAD-ROBERTS BLVD. (STRS.) (F)
SEBASTIAN COUNTY

ROUTE 71 SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**

LITTLE ROCK, ARK.

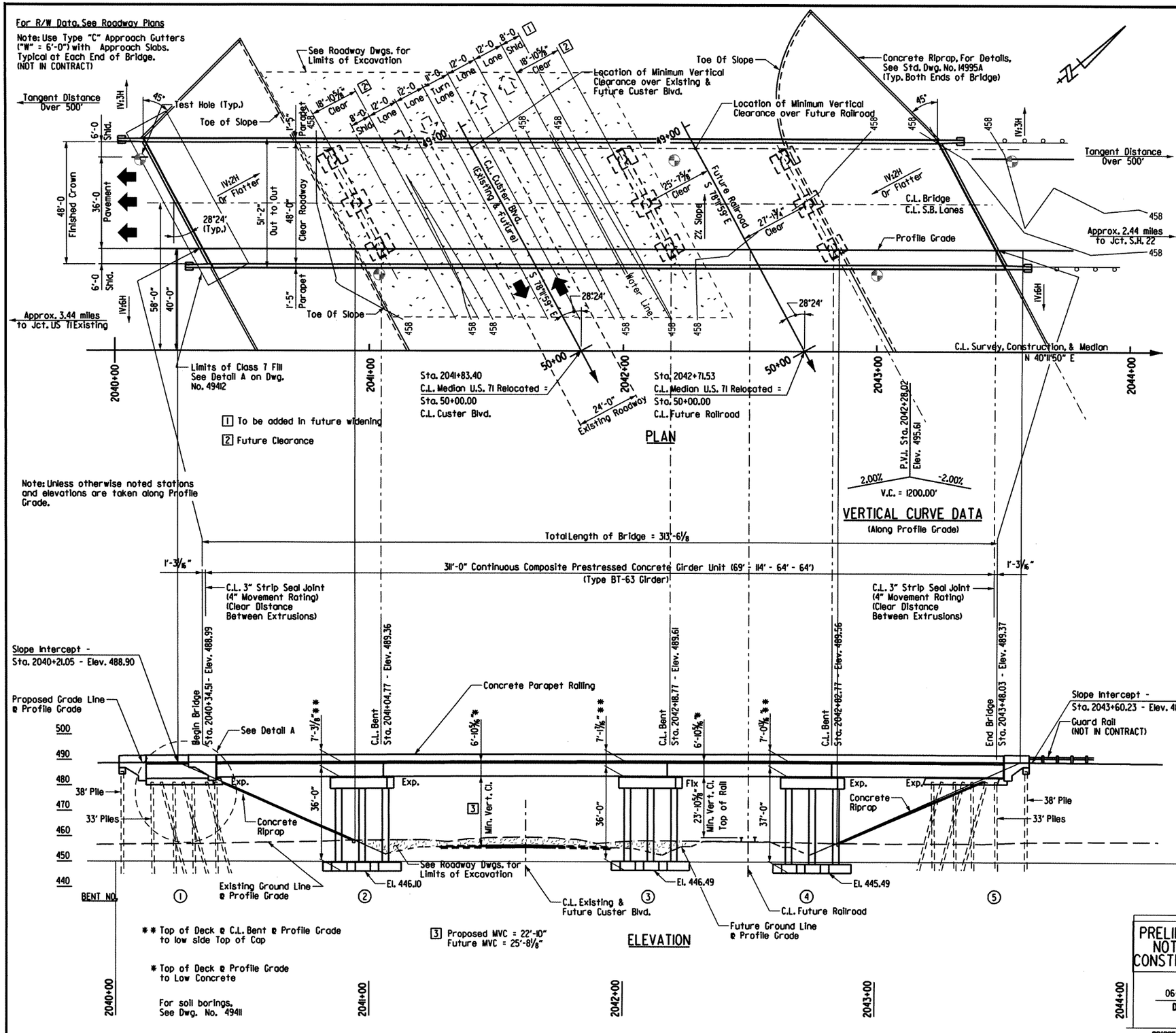
DRAWN BY: JE/TAR DATE: 5-05 FILENAME: b040376r2 111.dgn
CHECKED BY: DATE: SCALE: 1" = 20'
DESIGNED BY: DM/MKJ DATE: 5-05
BRIDGE NO. B7082 DRAWING NO. 49348

| 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. | | 040376 | 131 | 207 |

(1) A7082 LAYOUT 49410

For R/W Data, See Roadway Plans

Note: Use Type "C" Approach Gutters ("W" = 6'-0") with Approach Slabs. Typical at Each End of Bridge. (NOT IN CONTRACT)




## PLAN

## VERTICAL CURVE DATA
(Along Profile Grade)




** Top of Deck @ C.L. Bent @ Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to Low Concrete

For soil borings, See Dwg. No. 49411

[3] Proposed MVC = 22'-10"
Future MVC = 25'-8⅛"

## ELEVATION

### GENERAL NOTES

BENCH MARK: Railroad Spike in 14" Oak, 816.97' Lt. of C.L. Survey U.S. 71 Relocated Sta. 2039+06.42, Elevation 462.31

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition), with applicable supplemental specifications and special provisions. Unless otherwise noted on the plans, section and subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (2002 edition), with current interim specifications.

LIVE LOAD: HS20 + Military Loading METHOD OF DESIGN: Load Factor
SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:
Class S1AE) Concrete (Slab, Parapets, Diaphragms) f'c = 4,000 psi
Class S Concrete (Prestressed Girders) f'c = 6,000 psi
Class S Concrete (Substructure) f'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60) fy = 60,000 psi
Prestressing Reinforcement Steel (AASHTO M203) f's = 270,000 psi
Structural Steel (AASHTO M270, Gr. 50) Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36) Fy = 36,000 psi

BORING LOGS: Boring Logs may be obtained from the Programs and Contracts Division.

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

CLASS I PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface and to the roadway face and top of the concrete parapet rail.

TEXTURED COATING FINISH: Class 3 Textured Coating Finish shall be applied to bridge surfaces as specified in SP Job 040479 "Textured Coating Finish" and in accordance with Section 802.19. Textured Coating Finish shall not be applied on surfaces where Class I Protective Surface Treatment is applied.

PAINT: All structural steel except galvanized members and some surfaces in contact with concrete shall be painted as specified in subsection 807.75. The color of paint shall be Gray and shall match Fed. Std. 595B, Color Chip 26176.

FOOTINGS: Footings shall be set a minimum of 1'-6" into Competent Shale and shall have a minimum cover above top of footings of 2'-0". Foundations for footings shall be prepared in accordance with Section 801.04 of the Standard Specifications. Rock excavations shall be made to neat lines of the concrete footings. Care shall be exercised to avoid shattering of rock faces by excessive blasting. Concrete in footings shall be poured directly against excavated surfaces of rock.

STEEL PILING: All piling shall be HP12x53 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 70 tons per pile and into the material designated as shale on the boring legend. Lengths shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications. Piles in end bents to be driven after embankment to bottom of cap is in place. On all piles the contractor shall use approved steel H-Pile driving points.

| DETAIL DRAWINGS: | DRAWING NO. |
|---|---|
| End Bents | 49414-49419 |
| Intermediate Bents | 49420-49425 |
| 311'-0" Cont. Comp. Pres. Conc. Girder Unit | 49426-49435 |
| Elastomeric Bearings | 49436 |
| Steel Piling | 14995A |

MAINTENANCE OF TRAFFIC: See Roadway Plans

FOR INFORMATION ONLY

PRELIMINARY NOT FOR CONSTRUCTION

06-06-08
DATE

BRIDGE ENGINEER

ALTERNATE NO. 2
BRIDGE A
SHEET 1 OF 2
LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE OVER CUSTER BLVD.
MASSARD ROAD-ROBERTS BLVD. (STRS.) (F)
SEBASTIAN COUNTY

ROUTE 71 SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**
LITTLE ROCK, ARK.

DRAWN BY: JF/TAR DATE: 5-05 FILENAME: b040479s2 111.dgn
CHECKED BY: LM DATE:
DESIGNED BY: DM/MKJ DATE: 5-05 SCALE: 1"= 20'

BRIDGE NO. A7082 DRAWING NO. 49410

| 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. | | 040376 | 132 | 207 |
| | | | | ① B7082 | | LAYOUT | | 49412 |

For R/W Data, See Roadway Plans

Note: Use Type "C" Approach Gutters ("W" = 6'-0") with Approach Slabs Typ. at each End of Bridge. (NOT IN CONTRACT)

Sta. 2041+83.40
C.L. Median U.S. 71 Relocated =
Sta. 50+00.00
C.L. Custer Blvd.

Sta. 2042+71.53
C.L. Median U.S. 71 Relocated =
Sta. 50+00.00
C.L. Future Railroad

28°24'

See Roadway Dwgs. for Limits of Excavation

C.L. Survey, Construction, & Median
S 40°11'50" E

Tangent Distance Over 500'

Test Hole (Typ.)

1V:6H

6'-0" Shld.

58'-0"

40'-0"

1'-5" Parapet

24'-0" Exist. Rdwy.

Water Line

48'-0" Finished Crown

36'-0" Pavement

1V:2H or Flatter

5'-2" Out to Out

48'-0" Clear Roadway

2% Slope

Future Railroad S 78°11'59" E

Profile Grade

C.L. Bridge
C.L. N.B. Lanes

Tangent Distance Over 500'

Approx. 2.44 miles to Jct. S.H. 22

28°24' (Typ.)

Approx. 3.44 miles to Jct. US 71 Existing

Limits of Class 7 Fill See Detail A

1V:3H

45°

Location of Minimum Vertical Clearance over Existing & Future Custer Blvd.

Toe Of Slope

S 18°11'59" E

C.L. Custer Blvd. Existing & Future

2 18'-10⅝" Clear

8'-0" Shld. 12'-0" Lane 12'-0" Lane 11'-0" Turn Lane 12'-0" Lane 8'-0" Shld. 18'-10⅝" Clear 2

1 To be added in future widening.

2 Future Clearance

Note: Unless otherwise noted stations and elevations are taken along Profile Grade.

25'-7⅛" Clear

27'-9¼" Clear

51+00

Location of Minimum Vertical Clearance over Future Railroad

Concrete Riprap, For Details, See Std. Dwg. No. 14995A (Typ. Both Ends of Bridge)

458 456

PLAN

Total Length of Bridge = 313'-6⅛"

1'-3/16" | 311'-0" Continuous Composite Prestressed Concrete Girder Unit (69' - 114' - 64' - 64') (Type BT-63 Girders) | 1'-3/16"

C.L. 3" Strip Seal Joint (4" Movement rating) (Clear Distance Between Extrusions)

C.L. 3" Strip Seal Joint (4" Movement rating) (Clear Distance Between Extrusions)

Slope Intercept - Sta. 2040+64.31 - Elev. 489.16

Guard Rail (NOT IN CONTRACT)

Begin Bridge Sta. 2040+77.77 - Elev. 489.23

C.L. Bent Sta. 2041+48.03 - Elev. 489.50

C.L. Bent Sta. 2042+62.03 - Elev. 489.59

C.L. Bent Sta. 2043+26.03 - Elev. 489.45

End Bridge Sta. 2043+91.29 - Elev. 489.17

Slope Intercept - Sta. 2044+03.49 - Elev. 489.10

See Detail A

Concrete Parapet Railing

7'-1⅛" **

6'-10⅝" *

7'-2¼" **

Proposed Grade Line @ Profile Grade

500 490 480 470 460 450 440

38' Pile

32' Piles

Concrete Riprap

35'-6"

3 Min. Vert. Cl.

38'-0"

25'-8" Min. Vert. Cl. Top of Rail

36'-6"

25' Piles

Existng Ground Line @ Profile Grade

See Roadway Dwgs. for Limits of Excavation

EL. 446.90

EL. 444.46

Future Groundline @ Profile Grade

C.L. Existing & Future Custer Blvd.

C.L. Future Railroad

EL. 445.76

BENT NO. ① ② ③ ④ ⑤

** Top of Deck @ C.L. Bent @ Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to Low Concrete

3 Proposed MVC = 24'-0"
Future MVC = 27'-8¼"

ELEVATION

2041+00 2042+00 2043+00 2044+00

For General Notes, see Dwg. No. 49410

For Soil Borings, see Dwg. No. 49413

P.V.I. Sta. 2042+28.02
Elev. 495.61
2.00% -2.00%
V.C. = 1200.00'

VERTICAL CURVE DATA
(Along Profile Grade)

FOR INFORMATION ONLY

PRELIMINARY NOT FOR CONSTRUCTION

06-06-08
DATE

BRIDGE ENGINEER

ALTERNATE NO. 2
BRIDGE B
SHEET 1 OF 2
LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE OVER CUSTER BLVD.
MASSARD ROAD-ROBERTS BLVD. (STRS.) (F)
SEBASTIAN COUNTY

ROUTE 71 SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

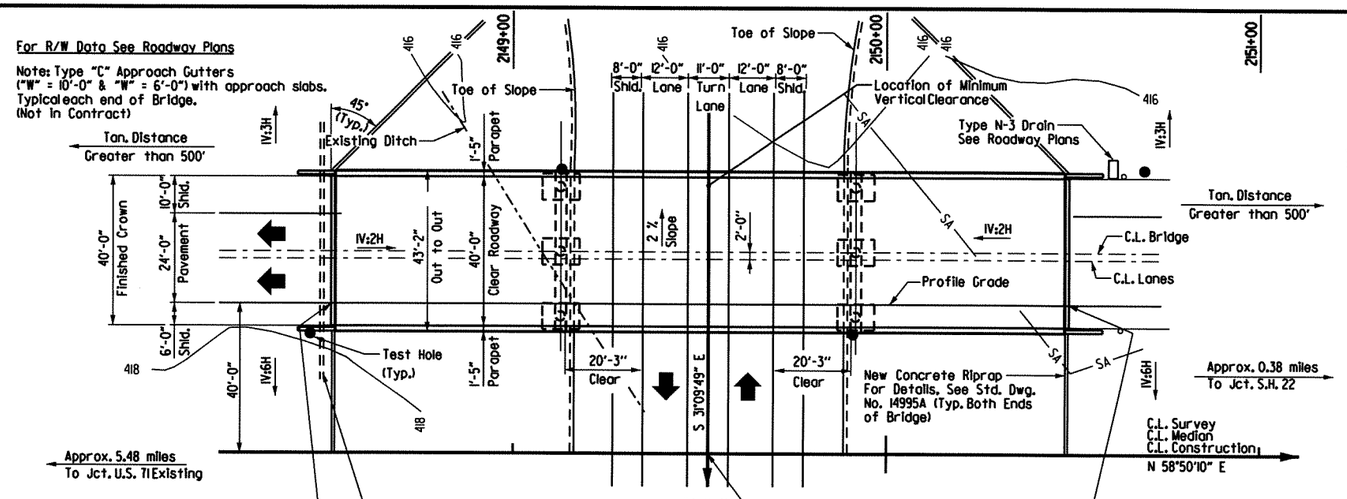
DRAWN BY: JF/TAR DATE: 5-05 FILENAME: b04047912 III.dgn
CHECKED BY: LM DATE:
DESIGNED BY: DM/MKJ DATE: 5-05 SCALE: 1" = 20'

BRIDGE NO. B7082 DRAWING NO. 49412

| 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. | | 040376 | 133 | 207 |
| | | | | ① A7064 | | LAYOUT | | 48053 |

For R/W Data See Roadway Plans

Note: Type "C" Approach Gutters ("W" = 10'-0" & "W" = 6'-0") with approach slabs. Typical each end of Bridge. (Not In Contract)




PLAN

Note: Unless otherwise noted stations and elevations shown are taken along Profile Grade.

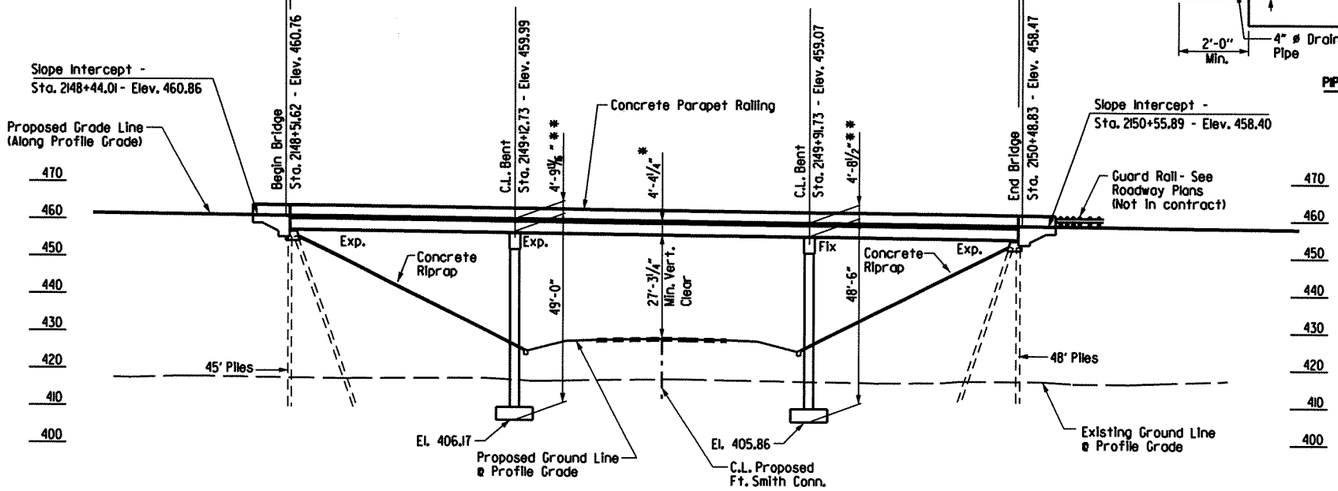
4" ø Pipe Underdrain with Outlet Protectors (At this bridge end) See detail this sheet and Std. Dwg. PU-1.

Total Length of Bridge = 197'-2½"

1'-1¼" | 195'-0" Continuous Composite W-Beam (60-79'-56') | 1'-1¼"

C.L. 3" Strip Seal Joint (4" Movement Rating) (Clear Distance Between Extrusions)

C.L. 3" Strip Seal Joint (4" Movement Rating) (Clear Distance Between Extrusions)




BENT NO. ① ② ③ ④

ELEVATION

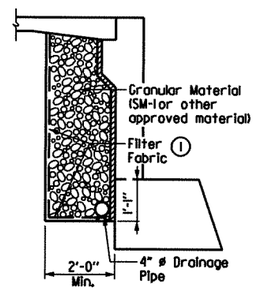
** Top of Deck @ C.L. Bent and Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to Low steel

For Soil Borings, See Dwg. No. 48054.

2148+00 2149+00 2150+00 2151+00

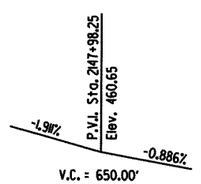
① Filter fabric shall meet the requirements specified in section 625.02, Type 2.




PIPE UNDERDRAIN DETAIL
No Scale

Notes:
For additional details of pipe underdrain see Std. Dwg. No. PU-1 and Section 611 of the Standard Specifications. Pipe underdrains will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation for Structures-Bridge".

Filter Fabric and Granular Material shall not be paid for directly, but shall be considered subsidiary to the various bid items.




VERTICAL CURVE DATA
(Along Profile Grade)

GENERAL NOTES

BENCH MARK: Railroad Spike in 12" Elm, 332.13' Rt. of C.L. Survey U.S. 71 Relocated Sta. 2147+38.29, Elevation 430.10

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 edition), with applicable supplemental specifications and special provisions. Unless otherwise noted on the plans, section and subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Highway Bridges (2002 edition), with current interim specifications.

LIVE LOAD: HS20 + Military Loading METHOD OF DESIGN: Load Factor
SEISMIC PERFORMANCE CATEGORY: A

MATERIALS AND STRENGTHS:
Class S(AE) Concrete (superstructure) f'c = 4,000 psi
Class S Concrete (substructure) f'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M53, Gr. 60) fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50) Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36) Fy = 36,000 psi

BORING LOGS: Boring Logs may be obtained from the Programs and Contracts Division.

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

CLASS I PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface and to the roadway face and top of the concrete parapet rail.

PAINT: All structural steel except galvanized members and some surfaces in contact with concrete shall be painted as specified in subsection 807.15. The color shall be Gray, Semi-Gloss and shall match Fed. Std. 595B, Color Chip 26176.

TEXTURED COATING FINISH: Class 3 Textured Coating Finish shall be applied to bridge surfaces as specified in SP Job 040457 "Textured Coating Finish" and in accordance with Section 802.19. Textured Coating Finish shall not be applied on surfaces where Class I Protective Surface Treatment is applied.

FOOTINGS: Footings shall be set a minimum of 1'-6" into Competent Shale and shall have a minimum cover above top of footings of 2'-0". Foundations for footings shall be prepared in accordance with Section 801.04 of the Standard Specifications. Rock excavations shall be made to neat lines of the concrete footings. Care shall be exercised to avoid shattering of rock faces by excessive blasting. Concrete in footings shall be poured directly against excavated surfaces of rock.

STEEL PILING: All piling shall be HP12x53 and shall be driven with an approved air, steam, or diesel hammer to a minimum safe bearing capacity of 70 tons per pile and into the material designated as shale on the boring legend. Lengths shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications. Piles in end bents to be driven after embankment to bottom of cap is in place. On all piles the contractor shall use approved steel H-Pile driving points.

| DETAIL DRAWINGS: | DRAWING NO. |
|---|---|
| End Bents | 48057 - 48062 |
| Intermediate Bents | 48063 - 48066 |
| 195'-0" Cont. Comp. W-Beam Unit | 48067 - 48074 |
| Elastomeric Bearings | 48075 |
| Steel Piling | 14995A |

MAINTENANCE OF TRAFFIC: See Roadway Plans

FOR INFORMATION ONLY

ALTERNATE NO. 1
BRIDGE A
SHEET 1 OF 2
LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE OVER FT. SMITH CONNECTOR
FT. SMITH BLVD. - HWY. 22 (STRS.) (F)
SEBASTIAN COUNTY

ROUTE 71 SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**
LITTLE ROCK, ARK.

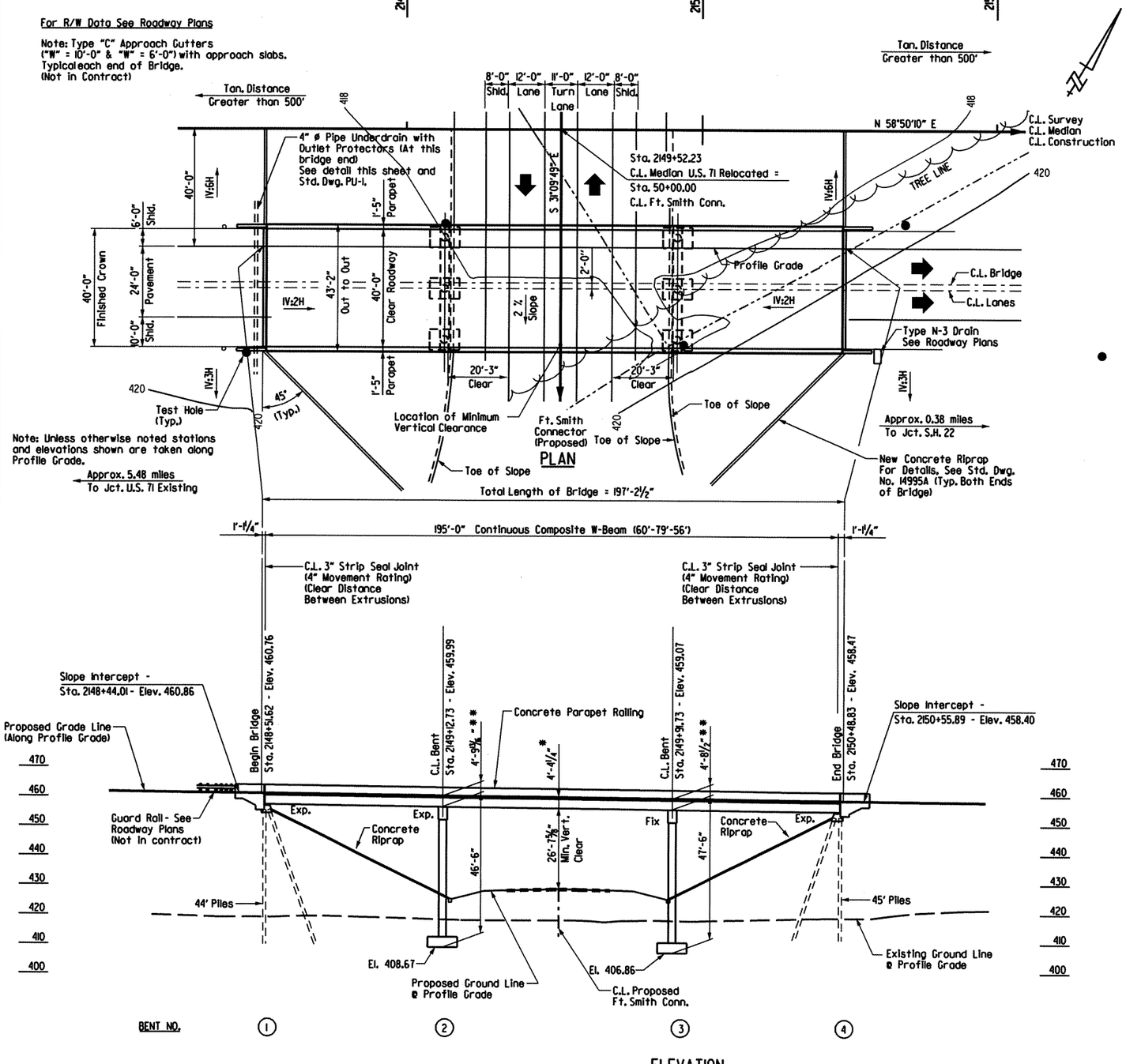
PRELIMINARY NOT FOR CONSTRUCTION
06-06-08
DATE
BRIDGE ENGINEER

DRAWN BY: TR DATE: 5-05 FILENAME: b040376gl_III.dgn
CHECKED BY: EMB DATE: 5-06 SCALE: 1" = 20'
DESIGNED BY: JB/MKJ DATE: 5-05
BRIDGE NO. A7064 DRAWING NO. 48053

| 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. | | 040376 | 134 | 207 |
| | | | | (1) B7064 | | LAYOUT | | 48055 |

For R/W Data See Roadway Plans

Note: Type "C" Approach Gutters ("W" = 10'-0" & "W" = 6'-0") with approach slabs. Typical each end of Bridge. (Not in Contract)




ELEVATION

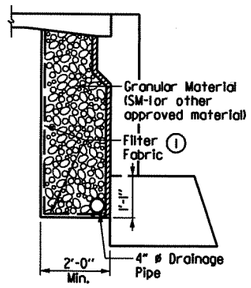
** Top of Deck @ C.L. Bent and Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to Low steel

For General Notes See Dwg. No. 48053

For Soil Borings, See Dwg. No. 48056.

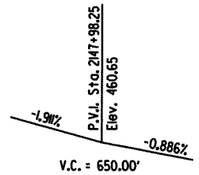
(1) Filter fabric shall meet the requirements specified in section 625.02, Type 2.




Notes:
For additional details of pipe underdrain see Std. Dwg. No. PU-1 and Section 611 of the Standard Specifications. Pipe underdrains will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation for Structures-Bridge".

Filter Fabric and Granular Material shall not be paid for directly, but shall be considered subsidiary to the various bid items.

PIPE UNDERDRAIN DETAIL
No Scale




VERTICAL CURVE DATA
(Along Profile Grade)

FOR INFORMATION ONLY

ALTERNATE NO. 1
BRIDGE B
SHEET 1 OF 2
LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE
OVER FT. SMITH CONNECTOR
FT. SMITH BLVD. - HWY. 22 (STRS.) (F)
SEBASTIAN COUNTY

PRELIMINARY NOT FOR CONSTRUCTION

06-06-08
DATE

BRIDGE ENGINEER

ROUTE 71 SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

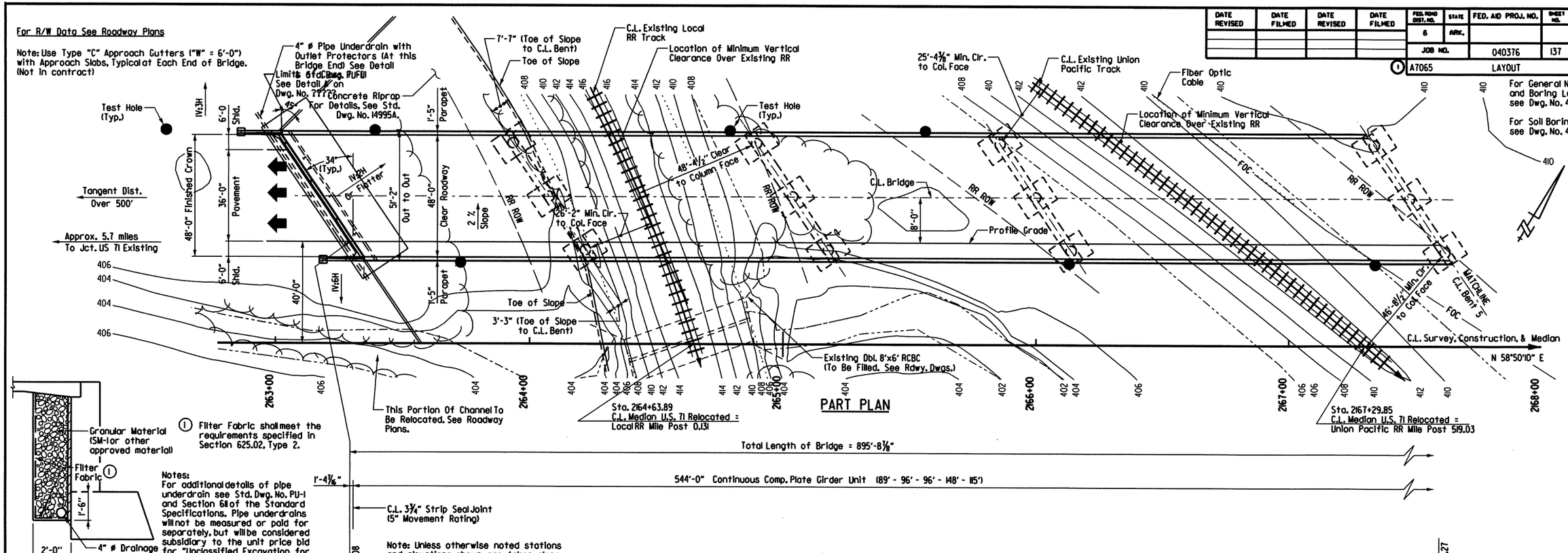
DRAWN BY: TR DATE: 5-05 FILENAME: b040376r1.III.dgn
CHECKED BY: EMB DATE: 3-06 SCALE: 1"= 20'
DESIGNED BY: JB/MKJ DATE: 5-05

BRIDGE NO. B7064 DRAWING NO. 48055

| 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. | | 040376 | 137 | 207 |
| | | | | ① A7065 | | LAYOUT | | 48076 |

For R/W Data See Roadway Plans

Note: Use Type "C" Approach Gutters ("W" = 6'-0") with Approach Slabs, Typical at Each End of Bridge. (Not in contract)







① Filter Fabric shall meet the requirements specified in Section 625.02, Type 2.

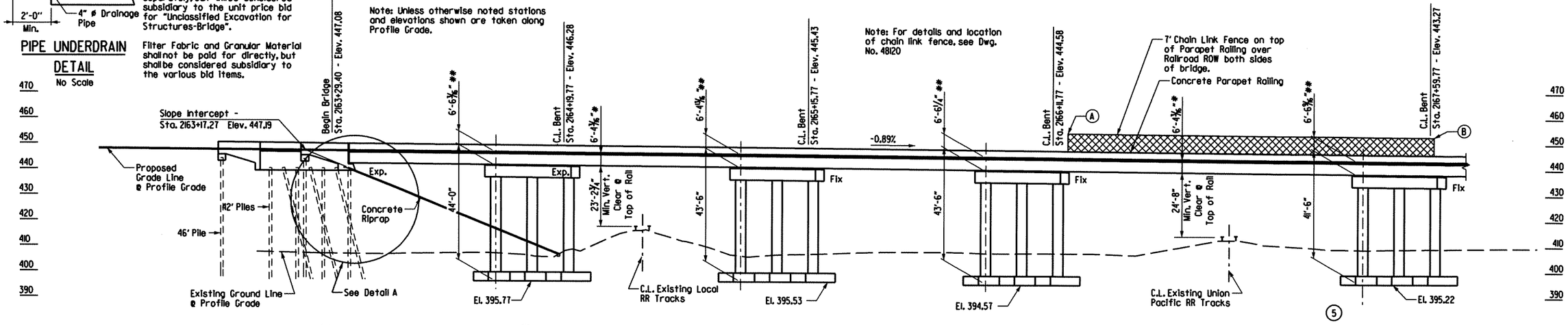
Notes:
For additional details of pipe underdrain see Std. Dwg. No. PU-1 and Section 611 of the Standard Specifications. Pipe underdrains will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Unclassified Excavation for Structures-Bridge".

Filter Fabric and Granular Material shall not be paid for directly, but shall be considered subsidiary to the various bid items.

PIPE UNDERDRAIN DETAIL
No Scale

Note: Unless otherwise noted stations and elevations shown are taken along Profile Grade.

Note: For details and location of chain link fence, see Dwg. No. 48120




** Top of Deck @ C.L. Bent and Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to Low steel

ELEVATION

Ⓐ End Chain Link Fence: Sta. 2165+40 (Left Side) Sta. 2166+09 (Right Side)

Ⓑ End Chain Link Fence: Sta. 2167+06 (Left Side) Sta. 2167+70 (Right Side)

FOR INFORMATION ONLY

PRELIMINARY NOT FOR CONSTRUCTION

06-06-08
DATE

BRIDGE ENGINEER

# BRIDGE A
# LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE OVER S.H. 22 AND UNION PACIFIC RR FT. SMITH BLVD. - HWY. 22 (STRS.) (F) SEBASTIAN COUNTY

ROUTE SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**

LITTLE ROCK, ARK.

DRAWN BY: JE DATE: 9-03 FILENAME: b040376a2.ill.dgn
CHECKED BY: DATE:
DESIGNED BY: LM DATE: 9-03 SCALE: 1" = 20'

BRIDGE NO. A7065 DRAWING NO. 48076

| 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. | | 040376 | 138 | 207 |
| | | | | ① A7065 | | LAYOUT | | 48077 |

For R/W Data See Roadway Plans

For General Notes and Boring Legend, see Dwg. No. 48084

For Soil Borings, see Dwg. No. 48079

Test Hole (Typ.)

C.L. Bridge

FOC

Fiber Optic Cable

WATCHLINE C.L. Bent 5

RR ROW

1'-5" Parapet

5'-2" Out to Out

48'-0" Clear Roadway

2 % Slope

18'-0"

1'-5" Parapet

28'-4" Clear

8'-0" Shld.

12'-0" Lane

12'-0" Lane

5'-6"

11'-0 Turn Lane

5'-6"

12'-0" Lane

12'-0" Lane

6'-0" Shld.

28'-4½" Clear

C.L. Sta. 22 (Proposed)

C.L. Sta. 22 (Existing)

49+00

50+00

34°05'43"

S 65°53'34" E

24'-0"

6'-0"

8'-0" Shld.

8'-0" Shld.

Location of Minimum Vertical Clearance Over Proposed S.H. 22

Toe of Slope

36'-6"

45°

Limits of Class 7 Fill See Detail A on Dwg. No. 48081

1V:3H

6'-0" Shld.

34" (Typ.)

1V:2H Or Flatter

36'-0" Pavement

48'-0" Finished Crown

Profile Grade

Concrete Riprap For Details, See Std. Dwg. No. 14995A.

1V:6H

40'-0"

414

6'-0" Shld.

Approx. 0.12 miles To End Construction

Tangent Dist. Over 500'

N 58°50'10" E

C.L. Survey, Construction, & Median

FOC

Fiber Optic Cable

[1] Denotes: Proposed

[2] Denotes: Existing

2168+00 2169+00 2170+00 2171+00 2172+00

PART PLAN

Sta. 2170+69.12
C.L. Median U.S. 71 Relocated =
Sta. 49+96.29
C.L. Proposed S.H. 22

Note: Unless otherwise noted stations and elevations shown are taken along Profile Grade.

Total Length of Bridge = 895'-8⅞"

544'-0" Continuous Comp. Plate Girder Unit (89' - 96' - 96'- 148' - 115')

349'-0" Continuous Comp. Plate Girder Unit (95' - 159' - 95')

1'-4⅞"

C.L. 3¾" Strip Seal Joint (5" Movement Rating)

C.L. 3¾" Strip Seal Joint (5" Movement Rating)

C.L. Bent Sta. 2167+58.77 - Elev. 443.27

C.L. Bent Sta. 2168+74.77 - Elev. 442.25

C.L. Bent Sta. 2169+68.77 - Elev. 441.41

C.L. Bent Sta. 2171+28.77 - Elev. 440.00

End Bridge Sta. 2172+25.14 - Elev. 439.15

Slope Intercept - Sta. 2172+38.38 Elev. 439.03

Guard Rail - See Roadway Plans

Concrete Parapet Railing

Proposed Grade Line @ Profile Grade

7'-3" ** (Low Side)

7'-4⅝" **

7'-1¼" *

7'-3⅛" **

-0.89%

Fix

Exp.

Exp.

Fix

Exp.

Exp.

38'-6"

36'-6"

Proposed Ground Line @ Profile Grade

17'-9⅛" Min. Vert. Clear

35'-0"

Concrete Riprap

32' Piles

See Detail A Dwg. No. 48081

36' Pile

Existing Ground Line @ Profile Grade

EL. 395.22

El. 396.51

El. 397.75

C.L. Proposed S.H. 22

C.L. Existing S.H. 22

El. 397.74

450 440 430 420 410 400 390

BENT NO. ⑤ ⑥ ⑦ ⑧ ⑨

** Top of Deck @ C.L. Bent and Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to Low steel

2168+00 2169+00 2170+00 2171+00

ELEVATION

FOR INFORMATION ONLY

PRELIMINARY NOT FOR CONSTRUCTION

06-06-08
DATE

BRIDGE ENGINEER

# BRIDGE A
# LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE OVER S.H. 22 AND UNION PACIFIC RR FT. SMITH BLVD. - HWY. 22 (STRS.) (F) SEBASTIAN COUNTY

ROUTE SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**

LITTLE ROCK, ARK.

DRAWN BY: JE DATE: 9-03 FILENAME: b040376a2.12.dgn

CHECKED BY: _____ DATE: _____ SCALE: 1" = 20'

DESIGNED BY: LM DATE: 9-03

BRIDGE NO. A7065 DRAWING NO. 48077

| 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. | | 040376 | 139 | 207 |
| | | | | ① B7065 | | LAYOUT | | 48080 |

For R/W Data See Roadway Plans

Note: Use Type "C" Approach Gutters ("W" = 6'-0") with Approach Slabs. Typical at Each End of Bridge (Not In contract)

2163+00 2164+00 2165+00 2166+00 2167+00

This portion of channel to be relocated. See Roadway Plans

Toe of Slope

C.L. Existing Local RR Track

Sta. 2164+63.89
C.L. Median U.S. 71 Relocated =
Local RR Mile Post 0.31

Sta. 2167+29.85
C.L. Median U.S. 71 Relocated =
Union Pacific RR Mile Post 519.03

Concrete Riprap
For Details, See Std. Dwg. No. 14995A

11'-5" (Toe of Slope to C.L. Bent)

Existing Dbl. 8'x6' RCBC
(To Be Filled. See Rdwy. Dwgs.)

C.L. Survey, Construction, & Median
N 58°50'10" E

Fiber Optic Cable

For General Notes and Boring Legend, see Dwg. No. 48084

For Soil Borings, see Dwg. No. 48082

Tangent Dist. Over 500'

6'-0" Shld.

1'-5" Parapet

48'-0" Finished Crown

36'-0" Pavement

34" (Typ.)

11'-2" Outer Lane

5'-2" Out to Out

48'-0" Clear Roadway

84'-4¼" Min. Clr. to Face of Col.

40'-0"

Profile Grade

18'-0"

C.L. Bridge

44'-5¾" Min. Clr. to Face of Col.

RR ROW

2 % Slope

FOC

MATCHLINE
C.L. Sheet 5

Test Hole (Typ.)

Approx. 5.7 miles
To Jct. US 71 Existing

1V:3H

45°

Limits of Class 7 Fill See Detail A on Dwg. No. ?????

6'-6" (Toe of Slope to C.L. Bent)

Location of Minimum Vertical Clearance Over Existing RR

Location of Minimum Vertical Clearance Over Existing RR

C.L. Existing Union Pacific RR Tracks

30'-3¾" Min. Clr. to Face of Col.

Note: Unless otherwise noted stations and elevations shown are taken along Profile Grade.

4" ø Pipe Underdrain with Outlet Protectors (At this Bridge End) For Details, See Dwg. No. 48076 & Std. Dwg. PU-L

Toe of Slope

27'-4" Min. Clr. to Face of Col.

PART PLAN

Total Length of Bridge = 939'-8⅛"

588'-0" Continuous Comp. Plate Girder Unit (87' - 138' - 138' - 138' - 87')

1'-4⅛"

C.L. 3¾" Strip Seal Joint (5" Movement Rating)

Slope Intercept - Sta. 2163+27.43 Elev. 447.10

Guard Rail - See Roadway Plans

Proposed Grade Line @ Profile Grade

Begin Bridge Sta. 2163+39.56 - Elev. 446.99

C.L. Bent Sta. 2164+27.93 - Elev. 446.21

C.L. Bent Sta. 2165+65.93 - Elev. 444.99

C.L. Bent Sta. 2167+03.93 - Elev. 443.77

C.L. Bent Sta. 2168+41.93 - Elev. 442.54

Note: For details and location of chain link fence, see Dwg. No. 48120

Ⓐ End Chain Link Fence:
Sta. 2166+90 (Left Side)
Sta. 2167+50 (Right Side)

7' Chain Link Fence on top of Parapet Railing over Railroad ROW both sides of bridge.

7'-0⅛"** 6'-4⅛"** 6'-11¼"** 6'-4⅛"** 6'-4⅛"** 6'-11⅛"**

Concrete Parapet Railing

-0.89%

450 440 430 420 410 400 390

Exp. Exp. Fix Fix Fix

44' Pile

40' Piles

43'-0" 23'-10⅝" Min. Vert. Clear @ Top of Rail 43'-6" 43'-6" 25'-1" Min. Vert. Clear @ Top of Rail 41'-6"

See Detail A Dwg. No. ?????

Concrete Riprap

Existing Ground Line @ Profile Grade

El. 396.14

C.L. Existing Local RR Tracks

El. 394.55

El. 393.33

C.L. Existing Union Pacific RR Tracks

El. 394.13

BENT NO. ① ② ③ ④ ⑤

** Top of Deck @ C.L. Bent @ Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to Low steel

ELEVATION

FOR INFORMATION ONLY

PRELIMINARY NOT FOR CONSTRUCTION

06-06-08
DATE

BRIDGE ENGINEER

# BRIDGE B
## LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE OVER S.H. 22 AND UNION PACIFIC RR FT. SMITH BLVD. - HWY.22 (STRS.) (F) SEBASTIAN COUNTY

ROUTE SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**

LITTLE ROCK, ARK.

DRAWN BY: JE DATE: 9-03
CHECKED BY: DATE:
DESIGNED BY: LM DATE: 9-03

FILENAME: b040376b2_III.dgn
SCALE: 1" = 20'

BRIDGE NO. B7065

DRAWING NO. 48080

| 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. | | 040376 | 140 | 207 |
| | | | | (1) B7065 | | LAYOUT | | 48081 |

For R/W Data See Roadway Plans

Sta. 2170+69.12
C.L. Median U.S. 71 Relocated =
Sta. 49+96.29 C.L. Proposed S.H. 22

Existing Ditch (Typ.)

Fiber Optic Cable

C.L. Survey, Construction, & Median
N 58°50'10" E

Limits of Class 7 Fill See Detail A

Toe of Slope

Profile Grade

For General Notes and Boring Legend, See Dwg. No. 48084

For Soil Borings, See Dwg. No. 48083

Tangent Dist. Over 500'

Approx. 0.1 miles To End Construction

Test Hole (Typ.)

MATCHLINE C.L. Bent 5

C.L. Bridge

2 % Slope

Out to Out 51'-2"

Clear Roadway 48'-0"

1'-5" Parapet

F.O.C. RR ROW

Fiber Optic Cable

PC 50+33.41

C.L. SH 22 (Proposed)

C.L. SH 22 (Existing)

34°05'43" Rt.

S 75°53'34" E

50+00

51+00

28'-3" Clear

Location of Minimum Vertical Clearance Over Proposed S.H. 22

Concrete Riprap For Details, See Std. Dwg. No. 14995A.

Toe of Slope

Note: Unless otherwise noted stations and elevations shown are taken along Profile Grade.

[1] Denotes: Proposed

[2] Denotes: Existing

## PART PLAN

Total Length of Bridge = 939'-8⅛"

588'-0" Continuous Plate Girder Unit (87' - 138' - 138' - 138' - 87')

349'-0" Continuous Comp. Plate Girder Unit (95' - 159' - 95')

1'-4⅞"

C.L. 3¾" Strip Seal Joint (5" Movement Rating)

C.L. 3¾" Strip Seal Joint (5" Movement Rating)

Note: For details and location of chain link fence, see Dwg. No. 48120

Ⓐ End Chain Link Fence:
Sta. 2168+44 (Left Side)
Sta. 2168+99 (Right Side)

C.L. Bent Sta. 2168+41.93 - Elev. 442.54

C.L. Bent Sta. 2169+28.93 - Elev. 441.77

C.L. Bent Sta. 2170+23.93 - Elev. 440.93

C.L. Bent Sta. 2171+82.93 - Elev. 439.52

End Bridge Sta. 2172+79.30 - Elev. 438.67

7'-8⅝" ** (Low Side)

7'-7¾" **

7'-1¼" *

7'-9" **

7' Chain Link Fence on top of Parapet Railing over Railroad ROW both sides of bridge.

-0.89%

Concrete Parapet Railing

Fix

Exp.

Exp.

Fix

Exp.

39'-0"

38'-0"

16'-9¼" Min. Vert. Clr.

35'-0"

Concrete Riprap

Existing Ground Line @ Profile Grade

Slope Intercept - Sta. 2172+92.56 Elev. 438.55

33' Pile

29' Piles

Proposed Grade Line @ Profile Grade

See Detail A

El. 394.13

El. 395.05

El. 395.29

El. 396.77

C.L. Proposed S.H. 22

C.L. Existing S.H. 22

BENT NO. ⑤ ⑥ ⑦ ⑧ ⑨

## ELEVATION

** Top of Deck @ C.L. Bent @ Profile Grade to low side Top of Cap

* Top of Deck @ Profile Grade to Low steel

## DETAIL A
No Scale

End Bent

Rock Fill See Rdwy. Plans

5'-0"

5'-0"

Class 7 Fill placed as shown in Plan View on this drawing and according to detail shown on the Roadway Plans.

Class 7 (Base Course), in accordance with Section 303.02 of the Standard Specifications, will replace the Rock Fill (See SP Job 040457 "Excavation and Embankment"). Class 7, as shown in this Detail, will be paid for as Rock Fill in accordance with SP Job 040457 "Excavation and Embankment".

FOR INFORMATION ONLY

PRELIMINARY NOT FOR CONSTRUCTION

06-06-08
DATE

BRIDGE ENGINEER

# BRIDGE B
# LAYOUT OF U.S. ROUTE 71 RELOCATED BRIDGE OVER S.H. 22 AND UNION PACIFIC RR FT. SMITH BLVD. - HWY. 22 (STRS.) (F) SEBASTIAN COUNTY

ROUTE SEC.

**ARKANSAS STATE HIGHWAY COMMISSION**

LITTLE ROCK, ARK.

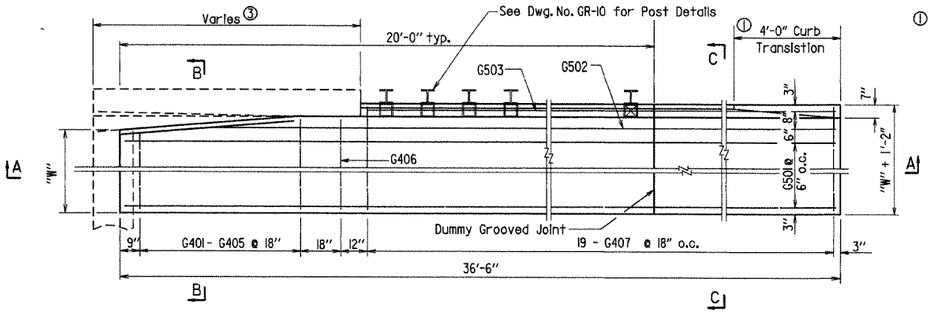
DRAWN BY: JE DATE: 9-03
CHECKED BY: DATE:
DESIGNED BY: LM DATE: 9-03

FILENAME: b040457b2_112.dgn
SCALE: 1" = 20'

BRIDGE NO. B7065 DRAWING NO. 48081

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 4-10-2003 | | | | 6 | ARK. | | 141 | |
| 07-14-2010 | | | | JOB NO. | | | | |

1 TYPE C GUTTERS - 2016C

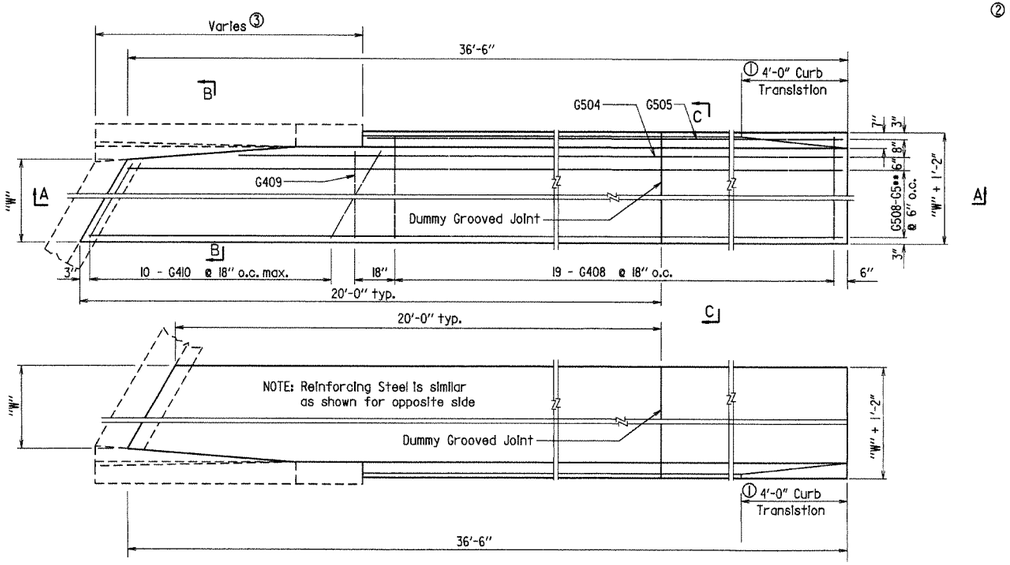



HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE

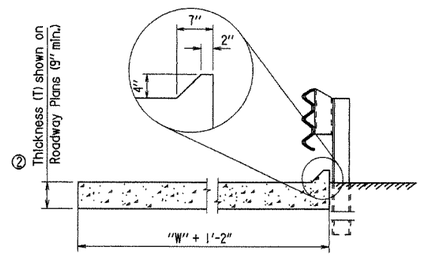
① Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

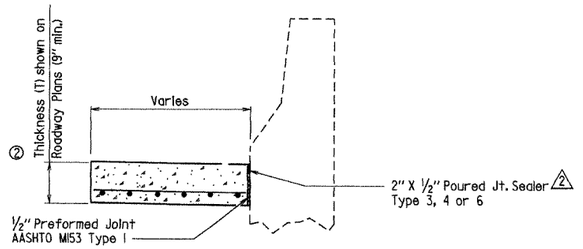
③ Length Varies See End Bt. Details for Actual Length. Quantities Shown are for 10'-0" Transition Rail.




PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE

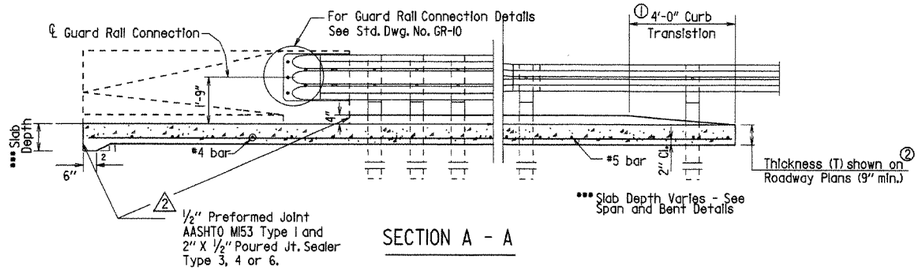



SECTION C - C
N.T.S.




SECTION B - B
N.T.S.

② Thickness shall match Approach Slab Thickness. Thickness shall be 9" If Approach Slab is not used.




SECTION A - A

## ***BAR LIST FOR ONE TYPE C GUTTER

| Mark | No. Req'd. for Width "W" 4'-0" | 6'-0" | 8'-0" | 10'-0" | Length | Square or Skewed |
|---|---|---|---|---|---|---|
| G401 - G405 | 1 each | 1 each | 1 each | 1 each | "W"-3" to "W"+3" | Square |
| G406 | 1 | 1 | 1 | 1 | "W"+3" | Square |
| G407 | 19 | 19 | 19 | 19 | "W"+ 10" | Square |
| G408 | 19 | 19 | 19 | 19 | "W"+ 10" | Skewed |
| G409 | 1 | 1 | 1 | 1 | "W"+3" | Skewed |
| G410 | 10 | 10 | 10 | 10 | * | Skewed |
| | | | | | | |
| G501 | 8 | 12 | 16 | 20 | 36'-2" | Square |
| G502 | 1 | 1 | 1 | 1 | 31'-8" | Square |
| G503 | 1 | 1 | 1 | 1 | 27'-2" | Square |
| G504 | 1 | 1 | 1 | 1 | * | Skewed |
| G505 | 1 | 1 | 1 | 1 | * | Skewed |
| | | | | | | |
| | | | | | | |
| G508 - G5__ ** | 1 each | 1 each | 1 each | 1 each | * | Skewed |
| | | | | | | |

*** Special bar list required when skew angle exceeds 35° for W = 10'; 40° for W = 8' ; 50° for W = 6'; or 60° for W = 4'.

* Bar Lengths vary with Skew.

** G515 for W = 4'
G519 for W = 6'
G523 for W = 8'
G527 for W = 10'

## QUANTITIES FOR ONE SQUARE APPROACH GUTTER ③

| "W" Width (ft.) | Reinforcing Steel (lbs.) | Concrete (cubic yards) T=9" | T=10" | T=11" | T=12" | T=14½" |
|---|---|---|---|---|---|---|
| | | | | | | |
| 4 | 439 | 5.19 | 5.75 | 6.31 | 6.88 | 8.25 |
| 6 | 623 | 7.24 | 8.02 | 8.80 | 9.59 | 11.52 |
| 8 | 807 | 9.28 | 10.29 | 11.30 | 12.32 | 14.79 |
| 10 | 991 | 11.33 | 12.56 | 13.79 | 15.03 | 18.06 |
| | | | | | | |

## GENERAL NOTES

Concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 ( fy = 60,000 psi ).

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

1 Revised and redrawn 4-10-2003. By KDH Ck. By: CJF 4-10-2003

2 Added Joint sealer type 07-14-2010 by MJT Checked by: CJF 7-14-2010

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4237
CHARLES P. BRAND

BRIDGE ENGINEER

# DETAILS OF STANDARD TYPE C APPROACH GUTTERS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

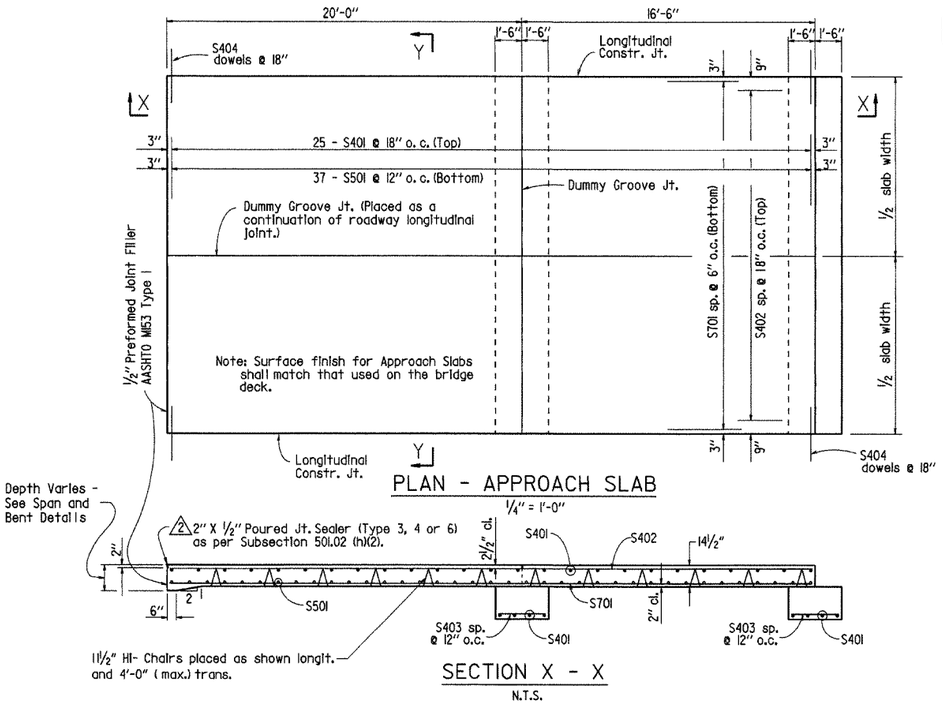
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2016C.STD
CHECKED BY: CJF DATE: 4-10-2003 SCALE: 3/8" = 1'-0"
DESIGNED BY: STD. DATE:

BRIDGE NO. DRAWING NO. 2016C

| DATE REVISED | DATE FILMED | DATE REVISED | DATE FILMED | FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|---|
| 4-10-2003 | | | | 6 | ARK. | | 142 | |
| 07-14-2010 | | | | JOB NO. | | | | |
| | | | | | | | | |

(1) APPROACH SLAB - 2018



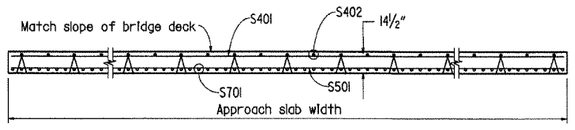

PLAN - APPROACH SLAB

1/4" = 1'-0"



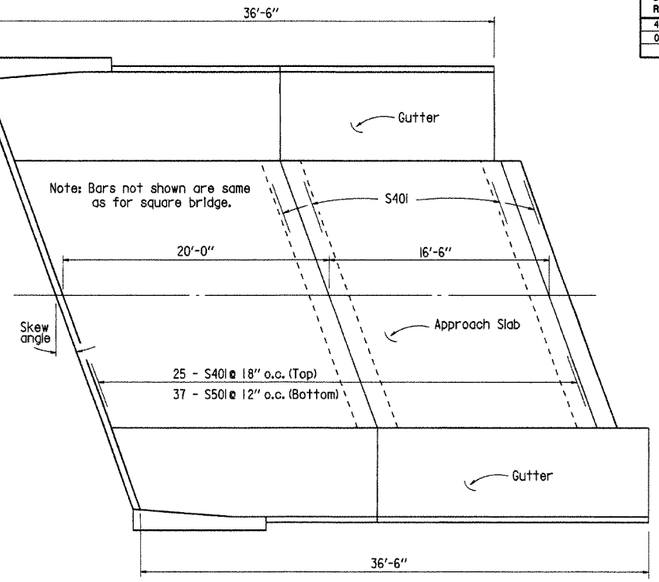

SECTION X - X

N.T.S.




SECTION Y - Y

N.T.S.




PLAN VIEW SHOWING APPROACH FOR SKEWED BRIDGE

3/16" = 1'-0"

BAR LISTS

(Square & Skewed Slabs)

| | Mark | No. Req'd. | Length | |
|---|---|---|---|---|
| | | | Square | Skewed |
| 15'-0" slab width | S401 | 33 | 14'-8" | 14'-8" (secant skew angle) |
| | S402 | 10 | 36'-2" | |
| | S403 | * 30 | 2'-8" | |
| | S404 | * 50 | 3'-0" | |
| | S501 | 37 | 14'-8" | 14'-8" (secant skew angle) |
| | S701 | 30 | 36'-2" | |
| 24'-0" slab width | S401 | 33 | 23'-8" | 23'-8" (secant skew angle) |
| | S402 | 16 | 36'-2" | |
| | S403 | * 48 | 2'-8" | |
| | S404 | * 50 | 3'-0" | |
| | S501 | 37 | 23'-8" | 23'-8" (secant skew angle) |
| | S701 | 48 | 36'-2" | |
| 36'-0" slab width | S401 | 33 | 35'-8" | 35'-8" (secant skew angle) |
| | S402 | 24 | 36'-2" | |
| | S403 | * 72 | 2'-8" | |
| | S404 | * 50 | 3'-0" | |
| | S501 | 37 | 35'-8" | 35'-8" (secant skew angle) |
| | S701 | 72 | 36'-2" | |

* Varies with skew angle. The number shown is for square bridges.

GENERAL NOTES

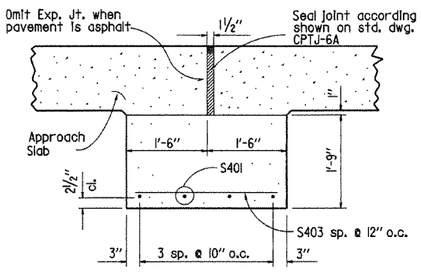
Concrete shall be Class S (AE) (f'c = 4,000 psi).

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Slabs will be measured and paid for in accordance with Section 504 of the Standard Specifications.

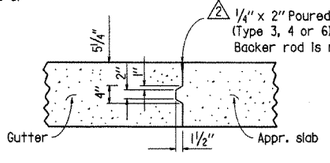
1 Revised and redrawn 4-10-2003. By KDH Ck. By: CJF 4-10-2003

2 Added joint sealer type 07-14-2010 By MJT Ck. By: CJF 07-14-2010



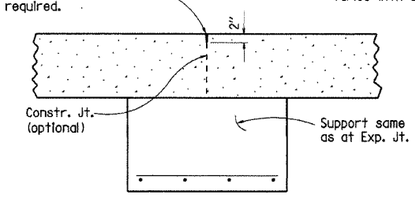

DETAILS OF SUPPORT AT EXPANSION JOINT

3/4" = 1'-0"




DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

3/4" = 1'-0"




DETAILS OF DUMMY GROOVED JOINT

3/4" = 1'-0"

TABLE OF QUANTITIES FOR ONE SQUARE APPROACH SLAB

| Slab Width | Reinforcing Steel | Concrete (Cu. Yds.) |
|---|---|---|
| 15'-0" | 3502 lb. | 30.72 |
| 24'-0" | 5556 lb. | 49.15 |
| 36'-0" | 8294 lb. | 73.73 |

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 4337
CHARLES P. BRAND

BRIDGE ENGINEER

DETAILS OF APPROACH SLAB

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

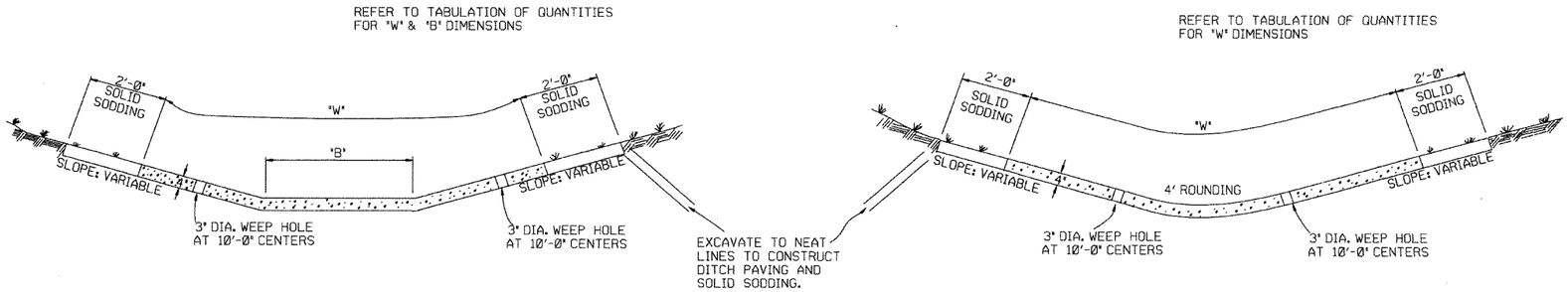
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2018.STD

CHECKED BY: CJF DATE: 4-10-2003 SCALE: AS SHOWN

DESIGNED BY: Std. DATE:

BRIDGE NO. DRAWING NO. 2018

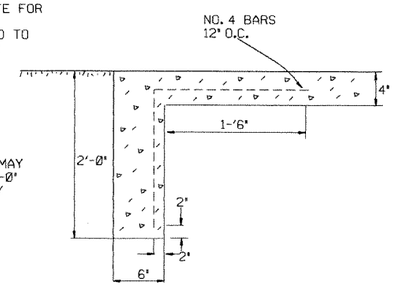



TYPE A



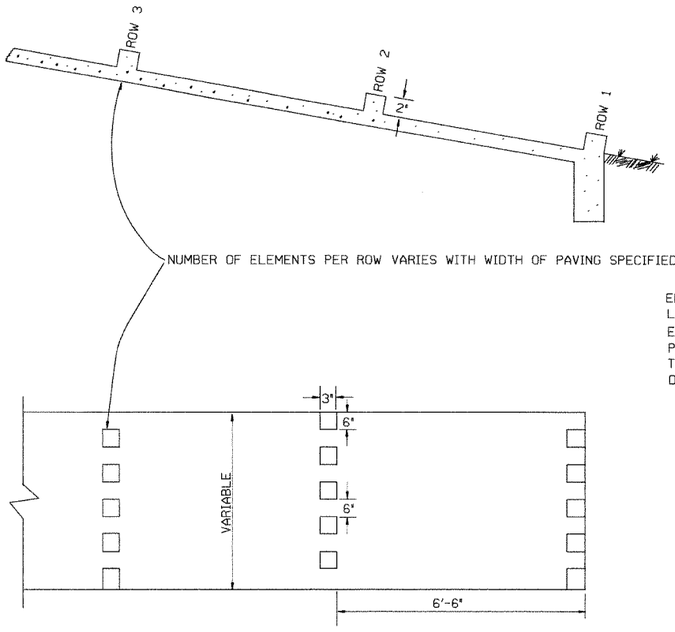

TYPE B

THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR 'CONCRETE DITCH PAVING.'




TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

## TOE WALL DETAIL FOR CONCRETE DITCH PAVING




## ENERGY DISSIPATORS
(NO SCALE)

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE UNCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

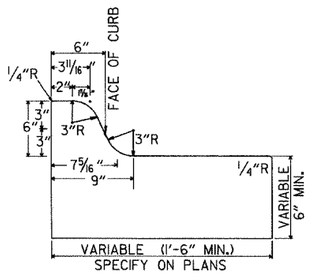
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

| DATE | REVISION | DATE FILM'D |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| 11-17-10 | ADDED GENERAL NOTE | |
| 6-2-94 | ADDED GENERAL NOTE ABOUT SOLID SODDING | |
| 11-30-8 | ELIMINATED MIN. ROWS OF ELEMENTS | 111-30-89 |
| 7-15-88 | REVISED DISSIPATOR NOTE | 653-7-15-88 |
| 4-3-87 | REVISED ENERGY DISSIPATOR | 671-4-3-87 |
| 1-9-87 | MODIFIED NOTE ON ENERGY DISS. | 532-1-9-87 |
| 11-3-86 | ADDED NOTE TO ENERGY DISS. | 599-12-1-86 |
| 11-1-84 | ENERGY DISSIPATOR DETAILS ADDED | 508-11-1-84 |
| 11-1-84 | EXCAVATION DETAILS ADDED TYPED A & B | |
| 10-2-72 | REVISED AND REDRAWN | 508-10-2-72 |

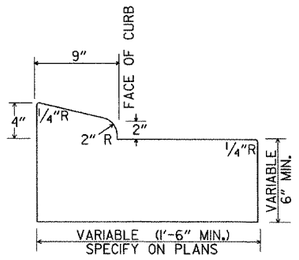
ARKANSAS STATE HIGHWAY COMMISSION

# CONCRETE DITCH PAVING

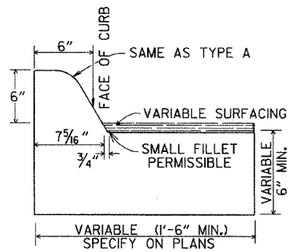
STANDARD DRAWING CDP-1



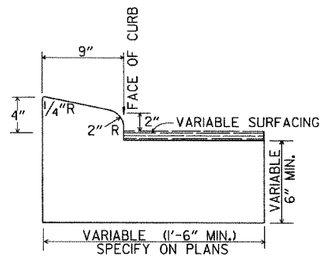

TYPE A



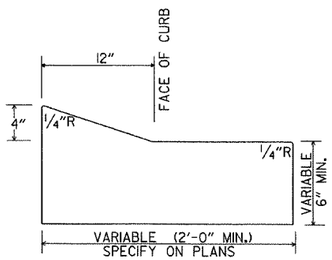

TYPE B-1



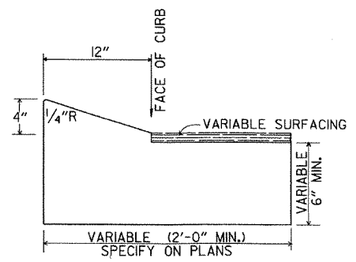

TYPE C




TYPE B-2

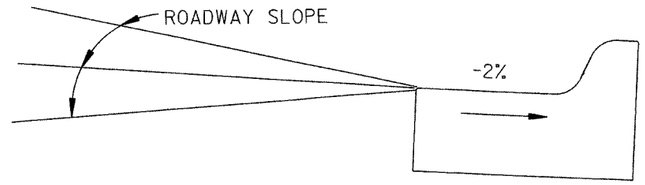



TYPE E-1



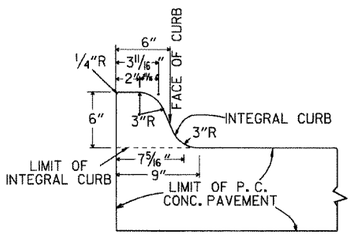

TYPE E-2

# CONCRETE COMBINATION CURB AND GUTTER

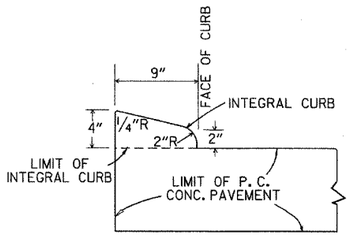



## DETAIL OF GUTTER SLOPE

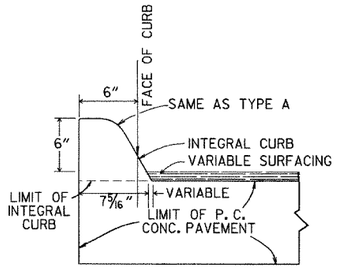
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.




TYPE A

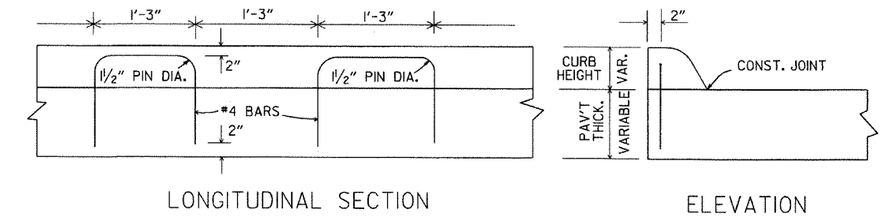



TYPE B

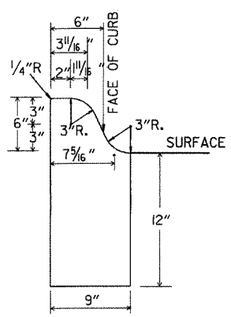



TYPE C

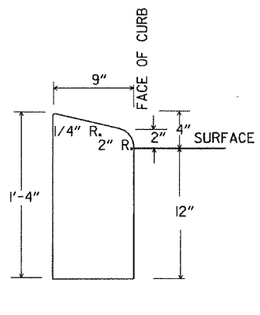
## INTEGRAL CURB



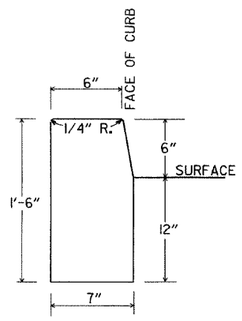

## ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



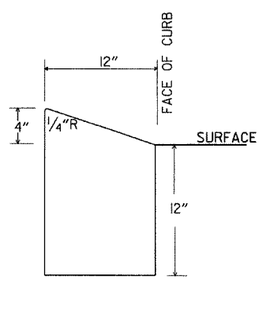

TYPE A




TYPE B

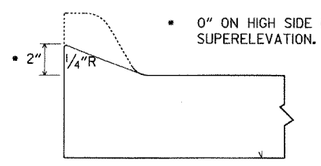



TYPE D




TYPE E

## CONCRETE CURB




NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

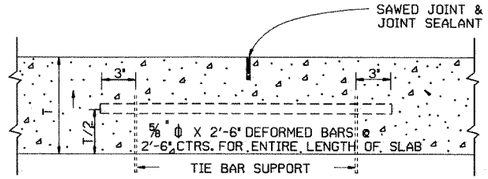
## DETAILS OF MODIFIED CURB

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 11-29-07 | REVISED GUTTER SLOPE & MODIFIED CURB DETAILS | |
| 11-10-05 | ADDED DETAILS OF TYPE E CURBS | |
| 11-16-01 | REVISED CONCRETE CURB TYPE B | |
| 11-18-98 | REVISED MODIFIED CURB | |
| 6-2-94 | ADDED NOTE TO SPECIAL MODIFIED CURB | |
| 8-5-93 | CORRECTED GUTTER SLOPE | 8-5-93 |
| 10-1-92 | ADDED DETAILS OF GUTTER SLOPE | 10-1-92 |
| 5-24-90 | ADDED DETAILS OF MODIFIED CURB | 5-24-90 |
| 11-30-89 | VARIBLE DEPTH TYPE A & B 1 | 11-30-89 |
| 7-15-88 | REVISED MODIFIED CURB | 630-7-15-88 |
| 11-1-73 | REVISED MODIFIED CURB | 500-11-1-73 |
| 10-2-72 | REVISED AND REDRAWN | 512-10-2-72 |

ARKANSAS STATE HIGHWAY COMMISSION

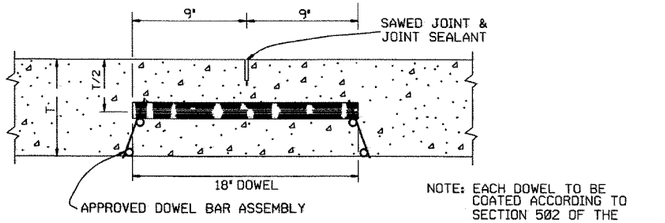
# CURBING DETAILS

STANDARD DRAWING CG-1



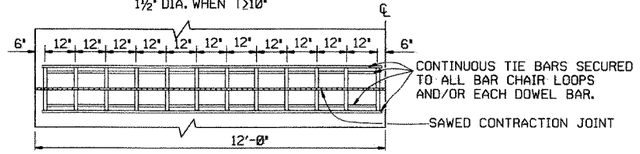

LONGITUDINAL JOINT

NOTE: THE TIE BAR SUPPORT SHOWN ABOVE MAY BE ELIMINATED IF OTHER APPROVED METHODS FOR PLACING AND SUPPORTING THE TIE BARS ARE PROVIDED.
TIE BARS SHALL BE 15" FROM TRANSVERSE JOINTS.




NOTE: EACH DOWEL TO BE COATED ACCORDING TO SECTION 502 OF THE STANDARD SPECIFICATIONS.

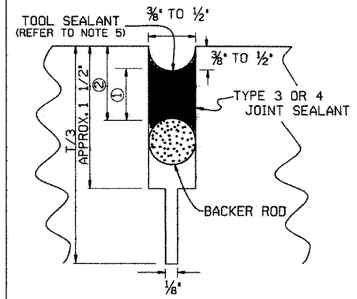
ROUND STEEL BAR DOWEL
1¼" DIA. WHEN T<10"
1½" DIA. WHEN T≥10"



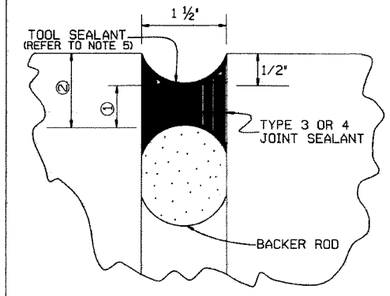

ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN

NOTE: FOR 20' PAVEMENT USE 20 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 15' PAVEMENT USE 15 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR 26' PAVEMENT USE 26 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR. FOR PAVEMENT WIDTHS OTHER THAN THOSE SHOWN ABOVE, USE DOWELS AT 12" CTRS. WITH 6" MAX. SPACING FROM C.L. TO FIRST BAR. DISTANCE FROM EDGE OF SLAB TO FIRST BAR SHALL BE ADJUSTED TO MAINTAIN 12" DOWEL BAR SPACING

CONTRACTION JOINT DETAILS




DETAIL OF SAWED CONTRACTION JOINT



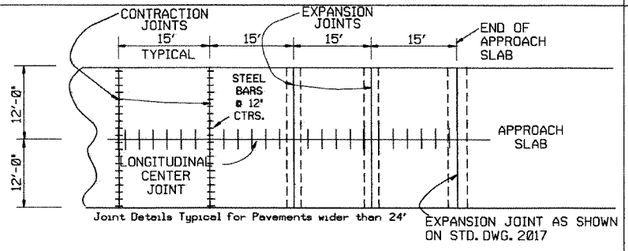

DETAIL OF EXPANSION JOINT

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

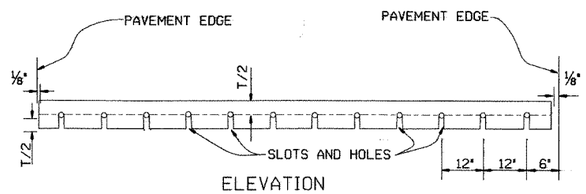
| JOINT WIDTH | SEALANT THICKNESS ① | BACKER ROD DIAMETER | BACKER ROD PLACEMENT DEPTH ② |
|---|---|---|---|
| INCHES | | | |
| ¼ | ¼ | ⅜ | ½ |
| ⅜ | ¼ | ½ | ½ |
| ½ | ¼ | ⅝ | ½ |
| ½ | ⅜ | ⅝ | ⅝ |
| ⅝ | ⅜ | ¾ | ⅝ |
| ¾ | ⅜ | ⅞ | ⅞ |
| 1 ½ | ¾ | 2 | 1 ¼ |

JOINT CONFIGURATION FOR TYPE 5 JOINT SEALANT

| JOINT WIDTH | SEALANT THICKNESS ① | BACKER ROD DIAMETER | BACKER ROD PLACEMENT DEPTH ② |
|---|---|---|---|
| INCHES | | | |
| ¼ | ½ | ¾ | ¾ |
| ⅜ | ¾ | ½ | 1 |

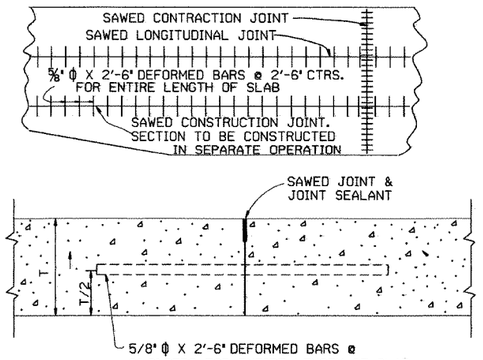



PLAN SHOWING EXPANSION JOINTS AT BRIDGE APPROACH SLABS



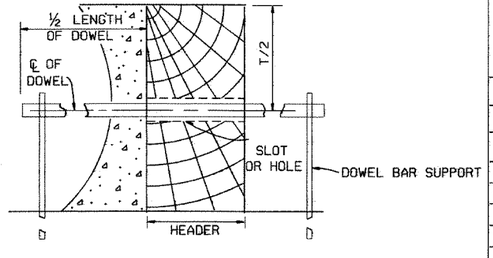

ELEVATION

NOTE: ALL DOWEL BARS SHALL CONFORM TO THE DETAILS FOR CONTRACTION JOINTS.



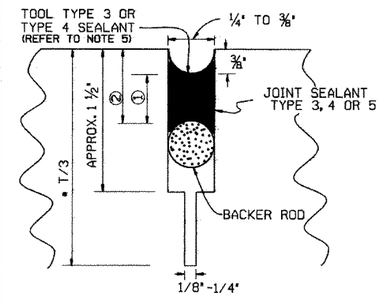

NOTE: TIE BARS SHALL BE 15" FROM TRANSVERSE JOINTS.

LONGITUDINAL CONSTRUCTION JOINT




SECTION

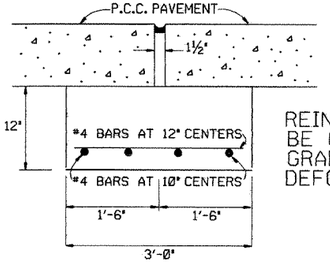
TRANSVERSE CONSTRUCTION JOINT




*NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

DETAIL OF SAWED LONGITUDINAL JOINT AND LONGITUDINAL CONSTRUCTION JOINT

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 5-25-06 | ADDED GENERAL NOTE 7 | |
| 10-9-03 | REMOVED TIE BAR COATING & REVISED GENERAL NOTES | |
| 11-16-01 | ADDED TOOL SEALANT AND NOTE 5; REVISED NOTE 3 | |
| 4-26-96 | REVISED CONTRACTION JOINT NOTE | |
| 11- 3-94 | ADDED NOTE RE: REINF. BARS | |
| 4- 1-93 | REVISED DOWEL BARS & GEN. NOTES | 4- 1-93 |
| 10- 1-92 | REVISED DOWEL SPACING | 10- 1-92 |
| 8- 15-91 | ADDED SPAC FOR CONTR JTS & DEL KEYWAY | |
| 05-24-90 | REVISED TIE BAR, DOWEL & JOINT SIZE | |
| 01-25-90 | ADDED EXPANSION JOINT | 01-25-90 |
| 11-30-89 | CHANGED T/4+1 TO T/3+1 | 11-30-89 |
| 03-23-89 | ALTERED SAWED JOINT & ADDED NOTE | 512-03-23-89 |
| 07-15-88 | REVISED AND REDRAWN | 632-07-15-88 |




DETAIL OF JOINT SUPPORT FOR EXPANSION JOINTS

REINFORCING SHALL BE GRADE 40 OR GRADE 60 DEFORMED BARS.

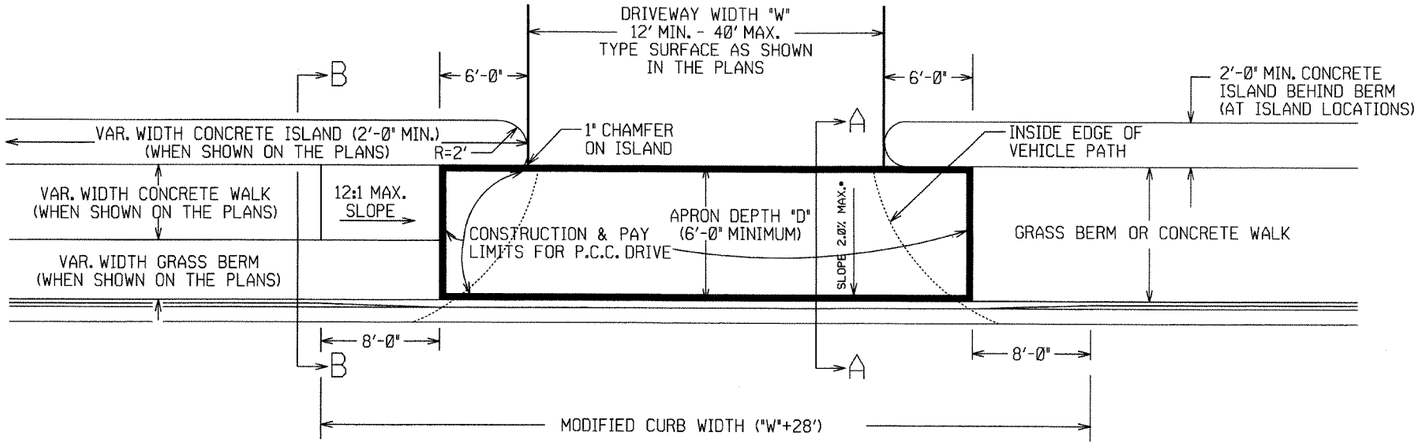
GENERAL NOTES

1. "T" DENOTES THICKNESS OF SLAB.
2. DOWEL BARS SHALL BE PLACED IN ACCORDANCE WITH THE DIMENSIONS SHOWN. A TOLERANCE OF PLUS OR MINUS ONE INCH WILL BE ALLOWED FOR THE VERTICAL AND LATERAL PLACEMENT AND A TOLERANCE OF PLUS OR MINUS ¼" WILL BE ALLOWED FOR THE TILT AND SKEW. DOWEL BARS SHALL BE FIELD COATED FOR A MINIMUM DISTANCE OF 2" GREATER THAN HALF THE LENGTH OF THE BAR WITH AN APPROVED GREASE AS A BOND BREAKER JUST PRIOR TO PLACEMENT OF CONCRETE.
3. THE EXPANSION JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S" OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE SPECIFIED IN THE PLANS. PAYMENT FOR ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.
4. CONTRACTION JOINTS SHALL BE CONSTRUCTED ON 15' CENTERS.
5. TOOLING NOT REQUIRED FOR SELF-LEVELING SILICONE.
6. UNLESS OTHERWISE SPECIFIED IN THE PLANS, CONCRETE SHOULDERS SHALL BE CONSTRUCTED ACCORDING TO THE DETAILS SHOWN HEREON. CONTRACTION JOINTS SHALL MATCH CONTRACTION JOINTS IN THE LANES.
7. TIE WIRES IN DOWEL BAR ASSEMBLIES SHALL NOT BE CUT PRIOR TO PLACEMENT OF PAVING CONCRETE.

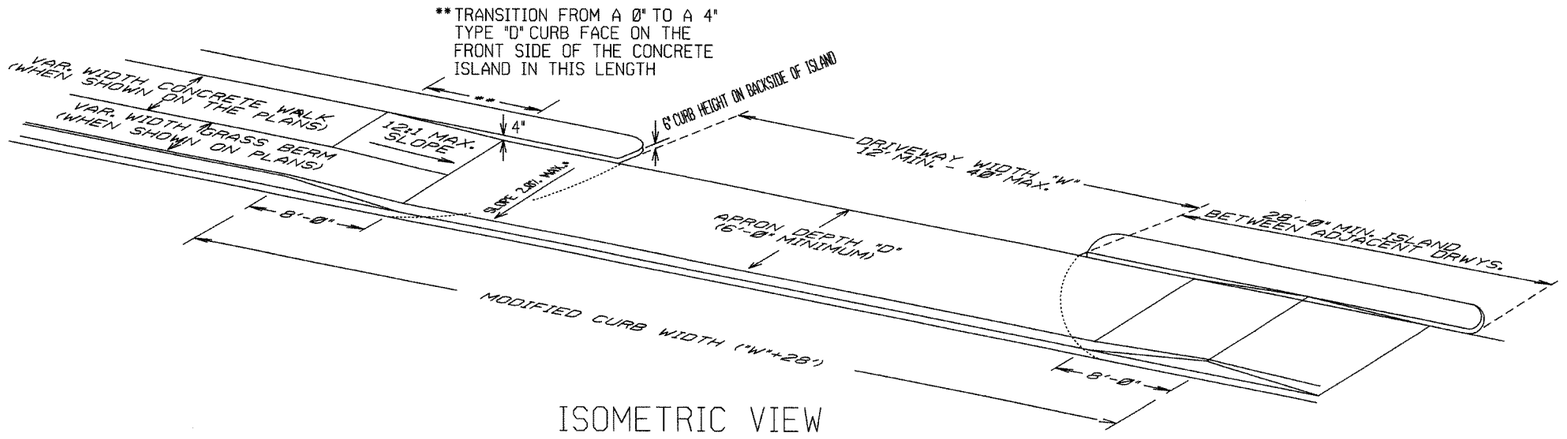
ARKANSAS STATE HIGHWAY COMMISSION

TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)

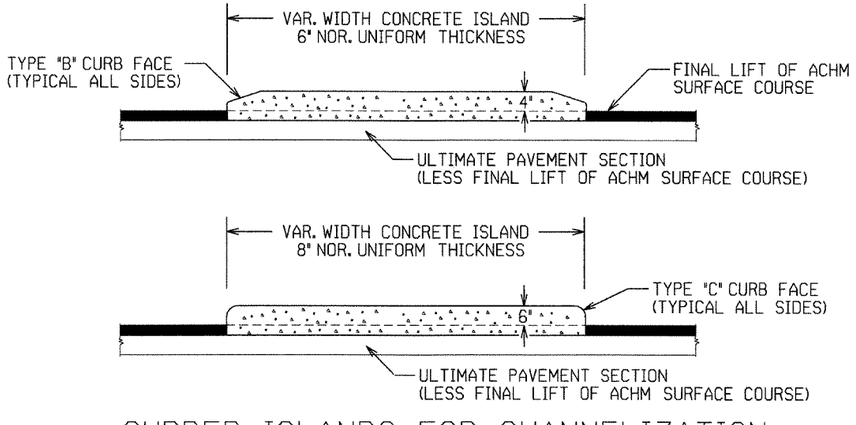
STANDARD DRAWING CPTJ - 6A




PLAN VIEW

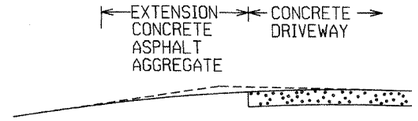



ISOMETRIC VIEW




CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".




EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

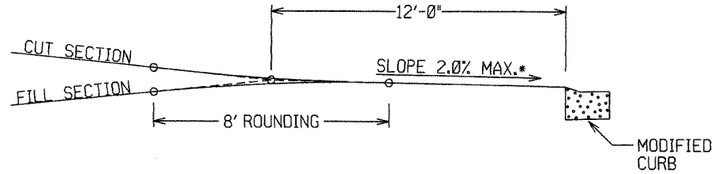
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

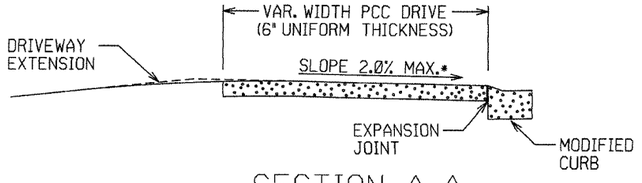
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

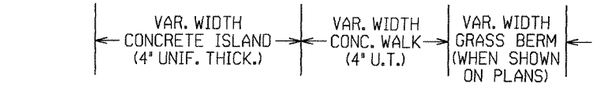


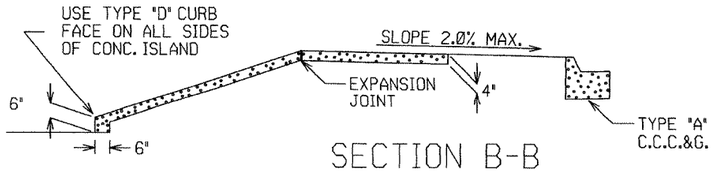

DRIVEWAY VERTICAL ALIGNMENT DETAILS

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




SECTION A-A

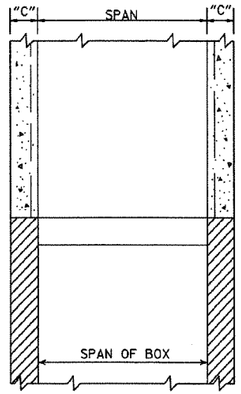


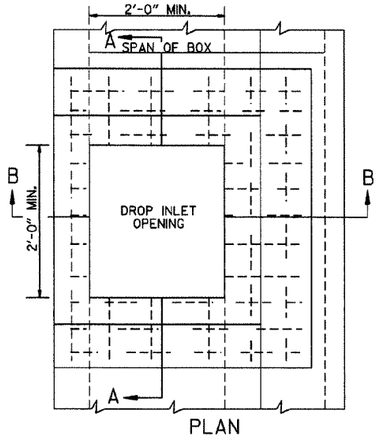

SECTION B-B
CURBED ISLAND BEHIND WALK

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

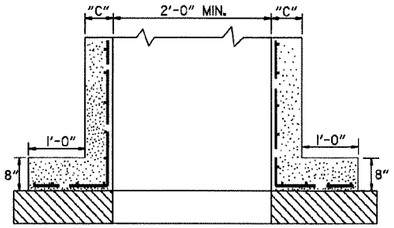
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



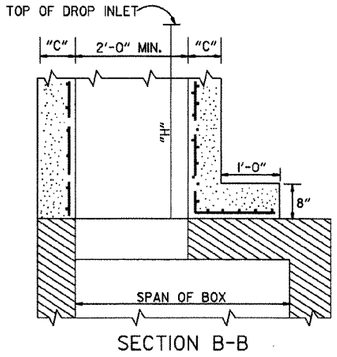

SECTION B-B




PLAN

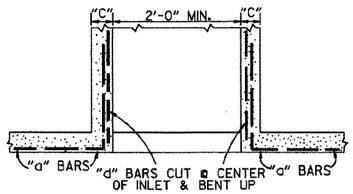



SECTION A-A

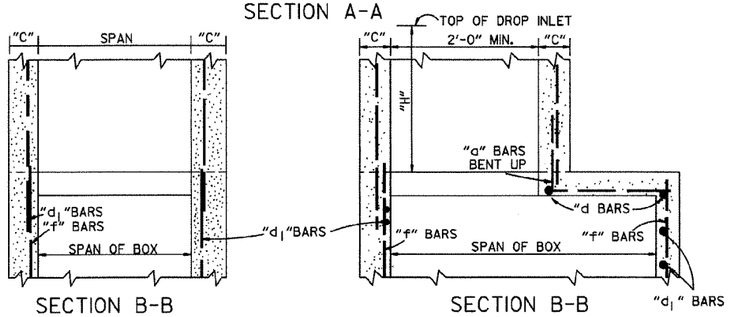



SECTION B-B

## METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



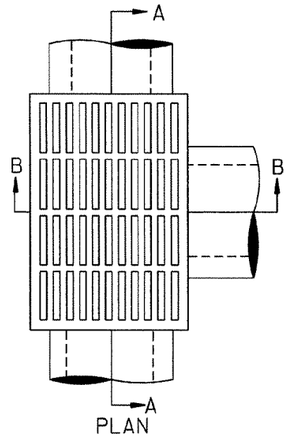

SECTION A-A



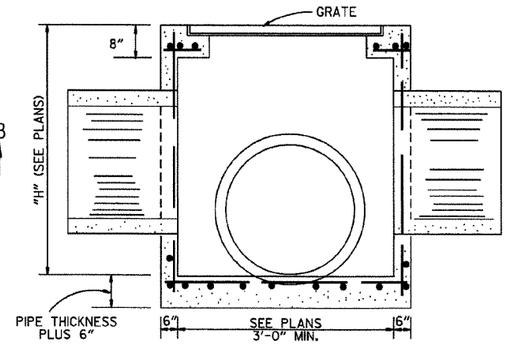

SECTION B-B SECTION B-B

## METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

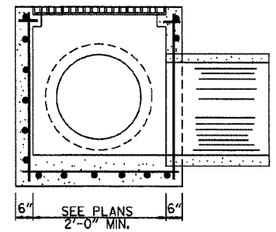



PLAN



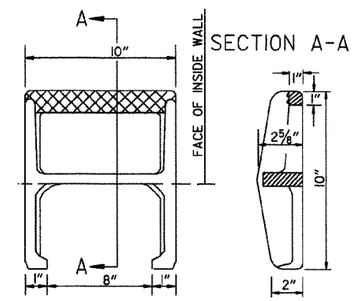

SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.




SECTION B-B

## DROP INLET (TYPE E)

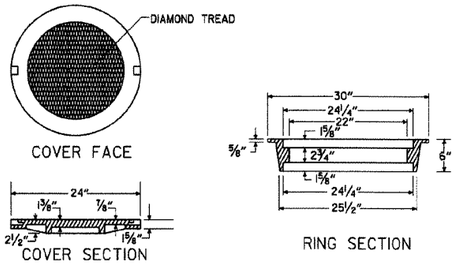



APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

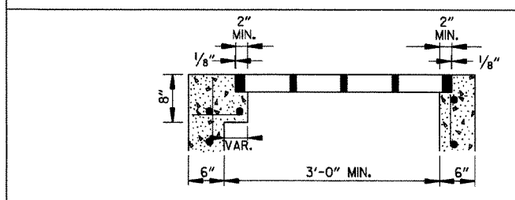
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

## DETAIL OF STEP FOR DROP INLET

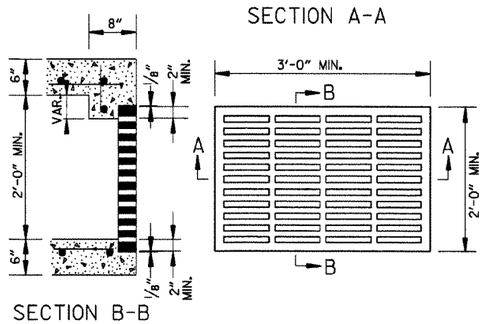



APPROXIMATE TOTAL WEIGHT = 333 LBS.

## HEAVY DUTY RING & COVER



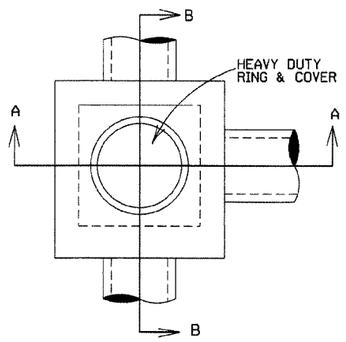

SECTION A-A



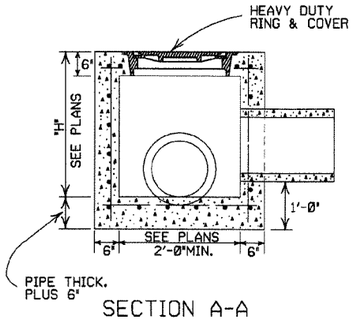

SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

## GRATE FOR TYPE E DROP INLET

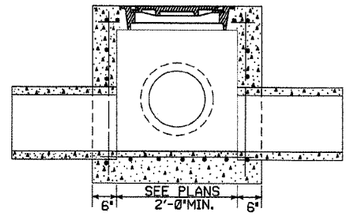



PLAN



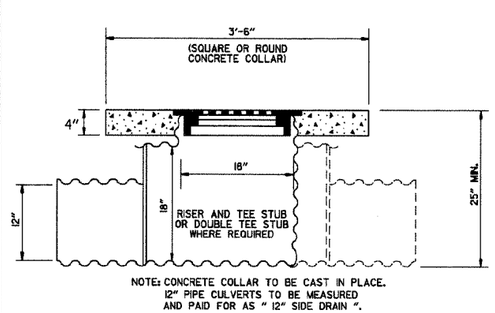

SECTION A-A

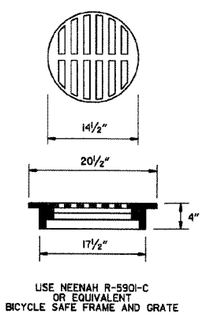
NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.




SECTION B-B

## JUNCTION BOX (TYPE E)




## DETAIL OF YARD DRAIN

GENERAL NOTES:

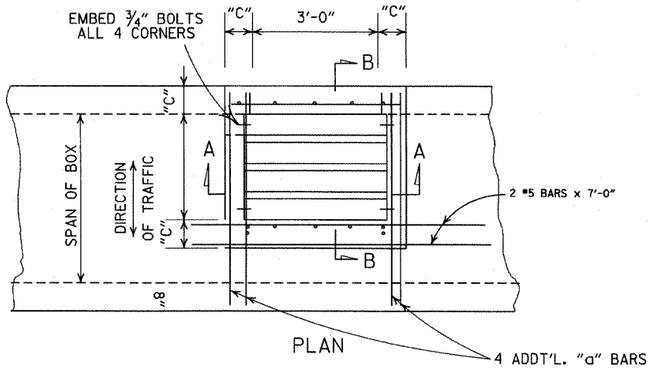
1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

| DATE REV. | REVISION | DATE FILMED |
|---|---|---|
| 11-16-01 | ADDED NOTE 10 | |
| 1-12-00 | REVISED HEAVY DUTY RING & COVER | |
| 7-02-98 | CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E) | |
| 6-26-97 | ADDED DIMENSION TO TYPE IV-A | |
| 10-18-96 | ADDED DETAIL OF YARD DRAIN | |
| 8-15-91 | DELETE TYPE IV GRATE | |
| 7-15-88 | REVISED STEP DETAIL | |
| 5-20-83 | REVISED DETAILS OF GRATES (TYPE IV & IV-A) | |
| 2-4-83 | ADDED GENERAL NOTE NO. 4 | |
| 3-2-81 | ADDED TYPE IV-A GRATE | |
| 5-22-74 | DELETED INLET (TYPE F) & GRATE (TYPE III) | |
| 10-2-72 | REVISED AND REDRAWN | |

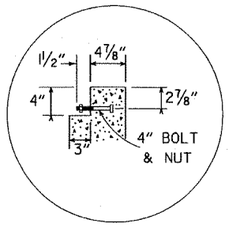
ARKANSAS STATE HIGHWAY COMMISSION

# DETAILS OF DROP INLETS & JUNCTION BOXES

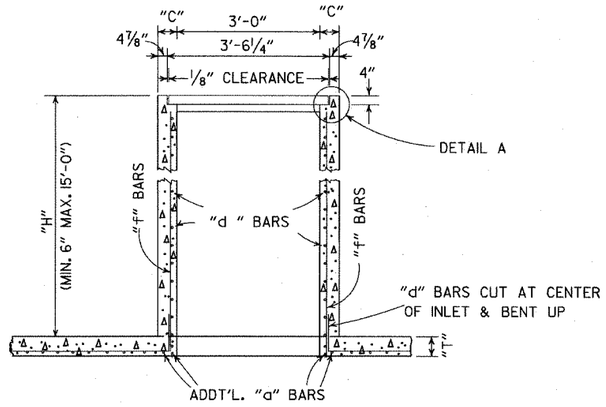
STANDARD DRAWING FPC-9



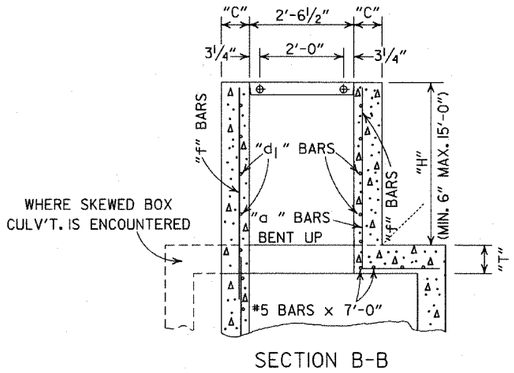

PLAN




DETAIL A




SECTION A-A

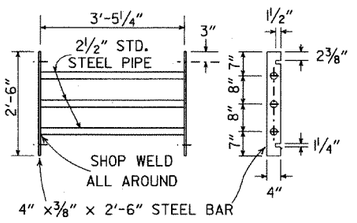



SECTION B-B

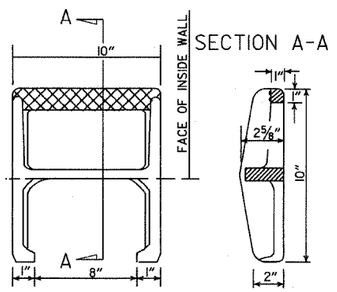
NOTE: ADDT'L.REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

## DROP INLET TYPE "TM"
## FOR REINFORCED CONC. BOX CULVERTS




GRATE DETAIL




APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

## DETAIL OF STEP FOR DROP INLET

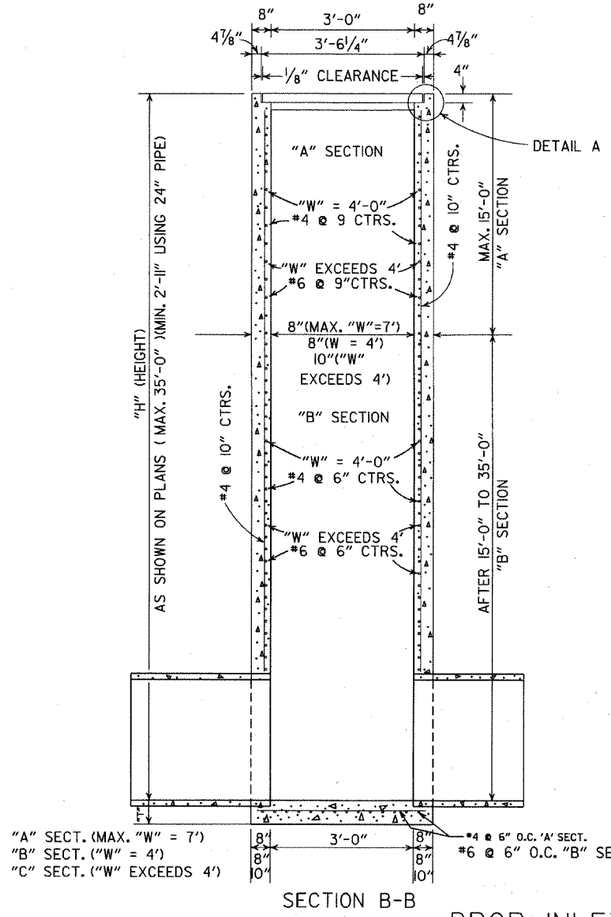
GENERAL NOTES:

1. STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE B8 CLASS 1 OR 2, ASTM A307 OR AASHTO M 164.
2. STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
3. BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
4. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
5. ALL #4 AND #5 REINFORCING BARS TO HAVE 1½" COVER. LARGER SIZES TO HAVE 2" COVER.
6. THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

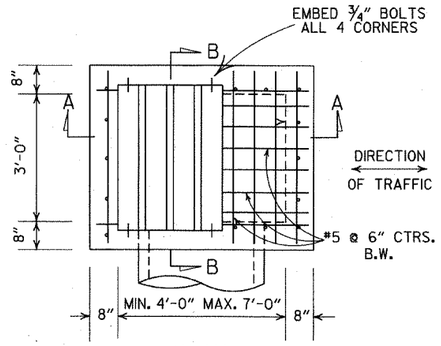
## TABLE OF "W" DIMENSIONS

| I.D. PIPE | SKEW OF CROSS DRAIN | | |
|---|---|---|---|
| | STRAIGHT | 30° | 45° |
| | "W" | "W" | "W" |
| 24" | 4'-0" | 4'-0" | 4'-0" |
| 30" | 4'-0" | 4'-0" | 4'-5" |
| 36" | 4'-0" | 4'-3" | 5'-3" |
| 42" | 4'-3" | 4'-11" | 6'-1" |
| 48" | 4'-10" | 5'-7" | 6'-11" |

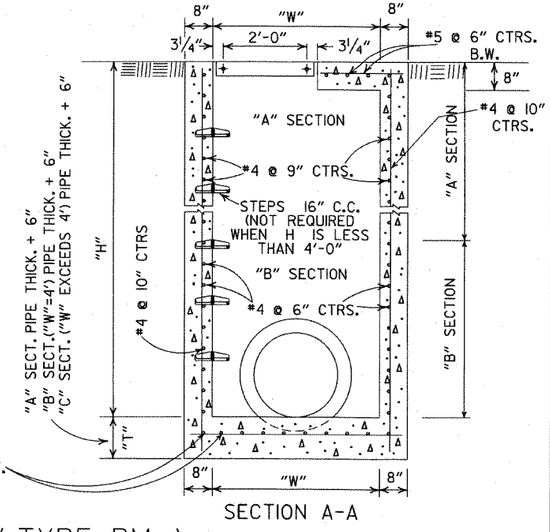
NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.




SECTION B-B




PLAN




SECTION A-A

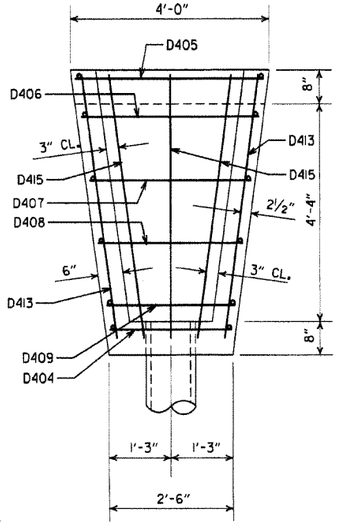
## DROP INLET( TYPE RM )

| REVISED | | DATE FILMED |
|---|---|---|
| 8-22-02 | ADDED & REVISED DIMENSION TO SECTION A-A | |
| 1-12-00 | CORRECTED DIMENSION ON SECTION B-B | |
| 11-06-97 | ADDED DIMENSION TO SECTION A-A | |
| 10-18-96 | REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS | |
| 10-1-92 | ADDED DIRECTION OF TRAFFIC | 10-1-92 |
| 8-15-91 | ADDED NOTE ABOUT PAINTING OF GRATE | 8-15-91 |
| 11-30-89 | ALTERED DETAIL A | 11-30-89 |
| 7-15-88 | REVISED STEP DETAIL,TM & RM D.I. & GRATE DETAIL | 7†9-7-15-88 |
| 10-2-72 | REVISED AND REDRAWN | 542-10-2-72 |

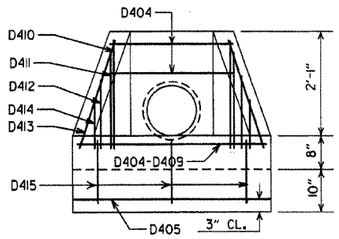
ARKANSAS STATE HIGHWAY COMMISSION

## DETAILS OF DROP INLETS

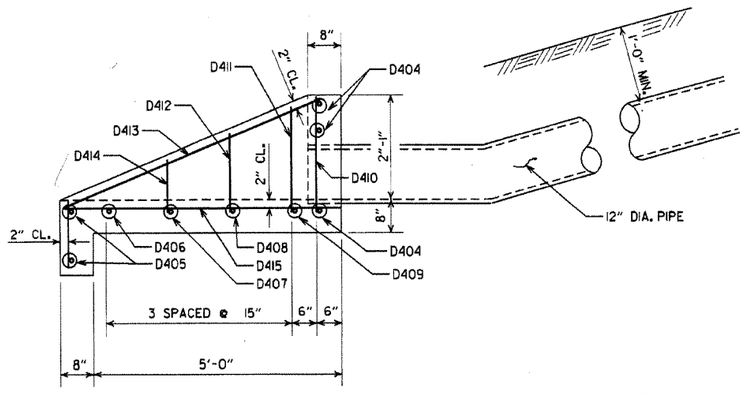
STANDARD DRAWING FPC-9D




PLAN




FRONT ELEVATION

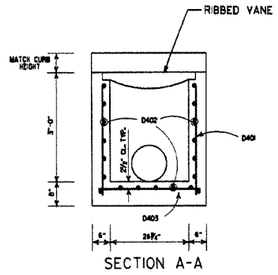



SIDE ELEVATION
CONCRETE SPILLWAY

## DETAILS OF CONCRETE SPILLWAY (TYPE A)

## BAR LIST (CONCRETE SPILLWAY)

| MARK | NO. REQ'D. | LENGTH | BENDING DIAGRAM |
|---|---|---|---|
| D404 | 3 | 2'-2" | 5'-4", 1'-2", 2" P.D., D415 |
| D405 | 2 | 3'-8" | |
| D406 | 1 | 3'-5" | |
| D407 | 1 | 3'-1" | |
| D408 | 1 | 2'-9" | |
| D409 | 1 | 2'-5" | |
| D410 | 2 | 2'-5" | |
| D411 | 2 | 2'-2" | |
| D412 | 2 | 1'-9" | |
| D413 | 2 | 5'-6" | |
| D414 | 2 | 1'-2" | |
| D415 | 3 | 6'-5" | |

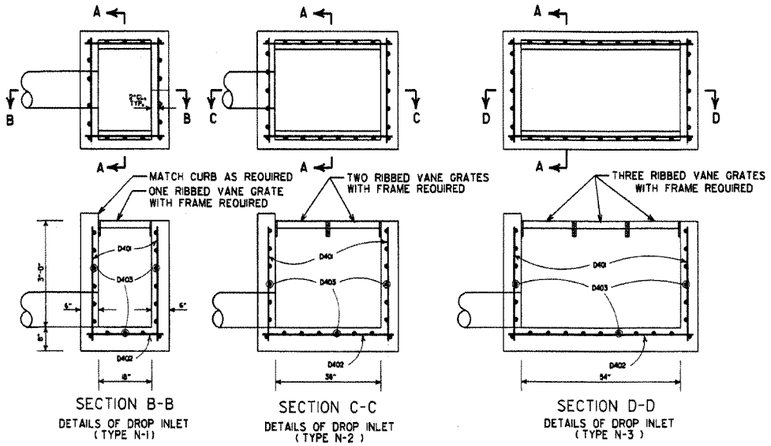



SECTION A-A

## BAR LIST (DROP INLET)

| MARK | TYPE N-1 | | TYPE N-2 | | TYPE N-3 | |
|---|---|---|---|---|---|---|
| | NO. REQ'D. | LENGTH | NO. REQ'D. | LENGTH | NO. REQ'D. | LENGTH |
| D401 | 20 | 3'-0" | 26 | 3'-0" | 32 | 3'-0" |
| D402 | 19 | 2'-2" | 19 | 3'-8" | 19 | 5'-2" |
| D403 | 17 | 2'-11" | 20 | 2'-11" | 23 | 2'-11" |
| | | | | | | |
| | | | | | | |

ALL BARS #4 @ 6" SPACING




SECTION B-B
DETAILS OF DROP INLET
( TYPE N-1 )

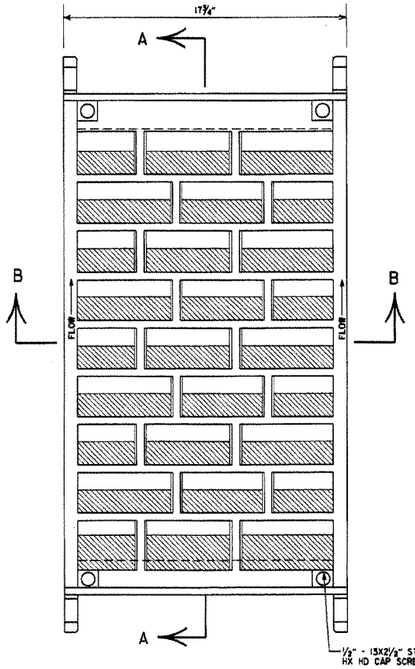
SECTION C-C
DETAILS OF DROP INLET
( TYPE N-2 )

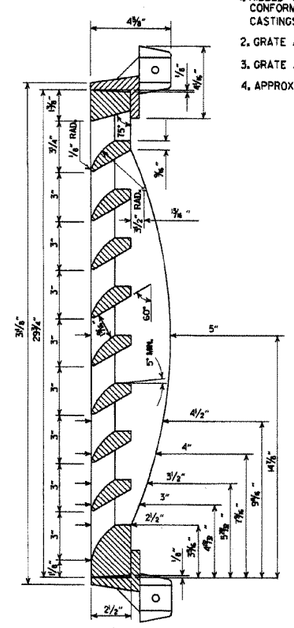
SECTION D-D
DETAILS OF DROP INLET
( TYPE N-3 )

## DETAILS OF DROP INLET

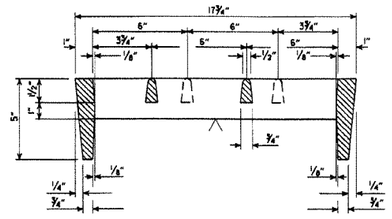
GENERAL NOTES ( GRATE & FRAME )

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.

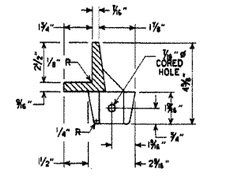



SECTION A-A




SECTION B-B




SECTION THRU FRAME

## DETAILS OF RIBBED VANE GRATE AND FRAME

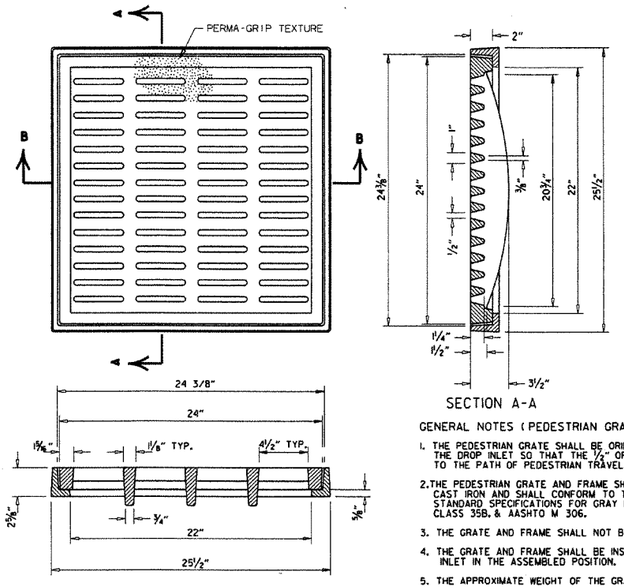
| DATE REVISED | DATE FILMED | DESCRIPTION |
|---|---|---|
| | | |
| | | |
| 7-02-98 | 7-2-98 | REVISED SECT. A-A DETAIL OF DROP INLET & ADDED AASHTO REF. TO NOTE 1. REVISED GRATE |
| 10-18-96 | | REVISED ASTM REF. TO AASHTO |
| 8-15-91 | | ISSUED |

ARKANSAS STATE HIGHWAY COMMISSION

# DETAILS OF DROP INLETS AND SPILLWAY OUTLET

STANDARD DRAWING FPC-9N

STDfpc9N.DGN




SECTION B-B

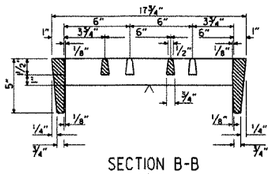



SECTION A-A

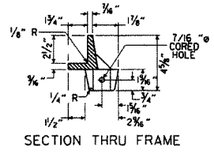
## DETAILS OF PEDESTRIAN GRATE AND FRAME

GENERAL NOTES ( PEDESTRIAN GRATE & FRAME )

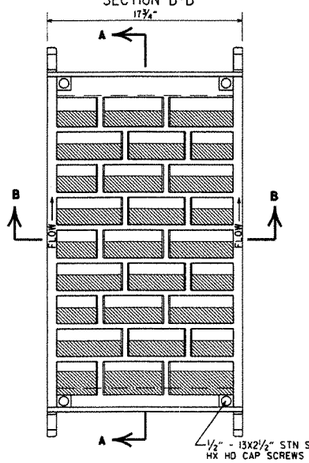
1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE 1/2" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B. & AASHTO M 306.
3. THE GRATE AND FRAME SHALL NOT BE PAINTED.
4. THE GRATE AND FRAME SHALL BE INSTALLED IN THE DROP INLET IN THE ASSEMBLED POSITION.
5. THE APPROXIMATE WEIGHT OF THE GRATE AND FRAME SHALL BE 211LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

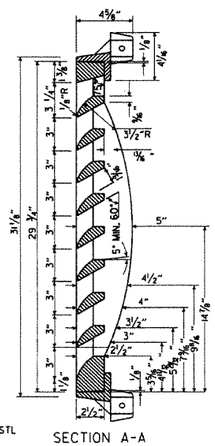



SECTION B-B




SECTION THRU FRAME



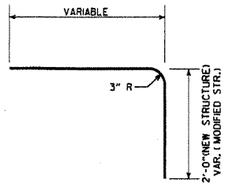




SECTION A-A

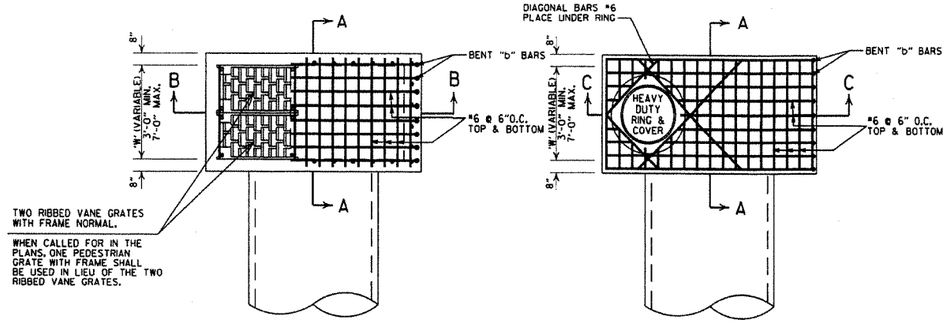
## DETAILS OF RIBBED VANE GRATE AND FRAME

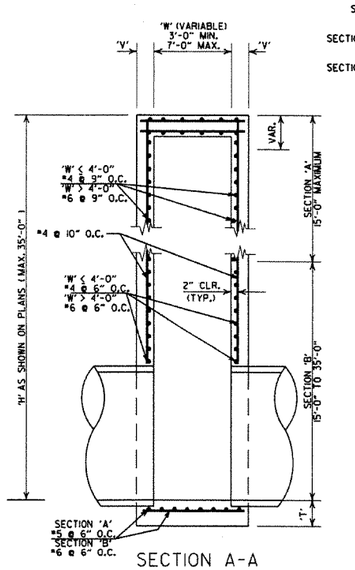
GENERAL NOTES ( RIBBED VANE GRATE & FRAME )

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.



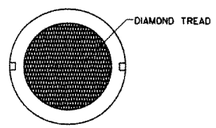

DETAIL OF BENT "b" BAR



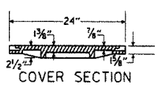




SECTION A-A

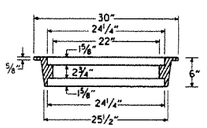
## DETAILS OF DROP INLET ( TYPE ST )




COVER FACE



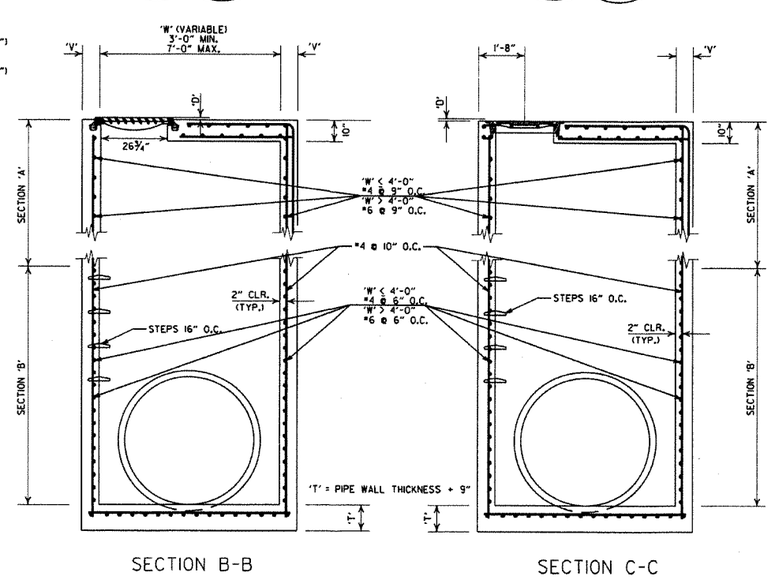

COVER SECTION




RING SECTION

## HEAVY DUTY RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.




SECTION B-B

SECTION C-C

## DETAILS OF JUNCTION BOX ( TYPE ST )

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

1. THE 'D' DIMENSION SHALL MATCH THE FINAL LIFT OF ACHM SURFACE COURSE SHOWN IN THE PLANS WHEN ASPHALT PAVING SURROUNDS THE GRATE OR RING COVER, AND SHALL BE 0" AT OTHER INSTALLATIONS.
2. THE STEPS SHALL BE OMITTED WHERE 'H' IS LESS THAN 4'-0".
3. ALL EXPOSED CORNERS ARE TO HAVE A 3/4" CHAMFER.

GENERAL NOTES (HEAVY DUTY RING & COVER):

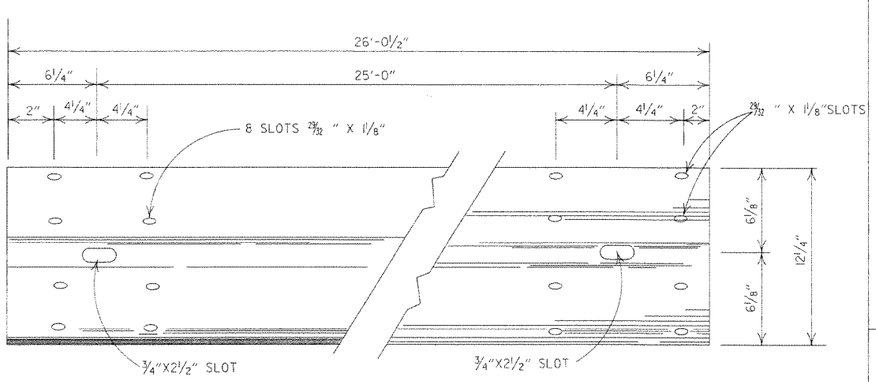
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
4. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

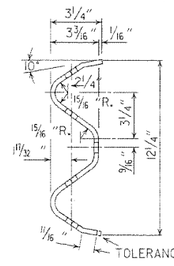
| DATE REVISED | DATE FILMED | DESCRIPTION |
|---|---|---|
| 7-26-12 | | REMOVED NOTE 4, REVISED 'T', REVISED BOTTON SLAB REBAR FOR SECTION 'A', SHOWED REBAR CLEARANCE IN SECTIONS |
| 11-16-01 | | ADDED NOTE 4 |
| 1-12-00 | | REVISED HEAVY DUTY RING & COVER |
| 5-13-99 | | ADDED PEDESTRIAN FRAME & GRATE |
| 7-02-98 | | REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE |
| 10-18-96 | | REVISED ASTM REF. TO AASHTO |
| 10-1-92 | | REVISED & REISSUED |
| 8-15-91 | 8-15-91 | REVISED & REISSUED |

ARKANSAS STATE HIGHWAY COMMISSION

# DETAILS OF DROP INLET & JUNCTION BOX ( TYPE ST )

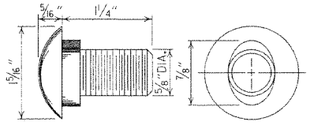
STANDARD DRAWING FPC-9S



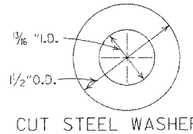




DETAILS OF
W-BEAM GUARD RAIL

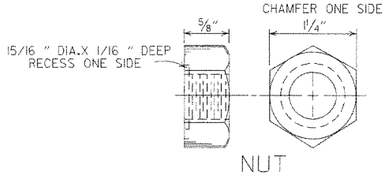
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



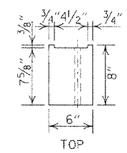

SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH




CUT STEEL WASHER

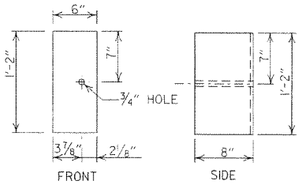



NUT

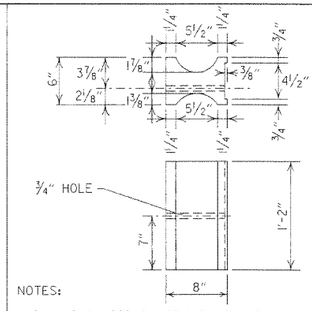



WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

TOP



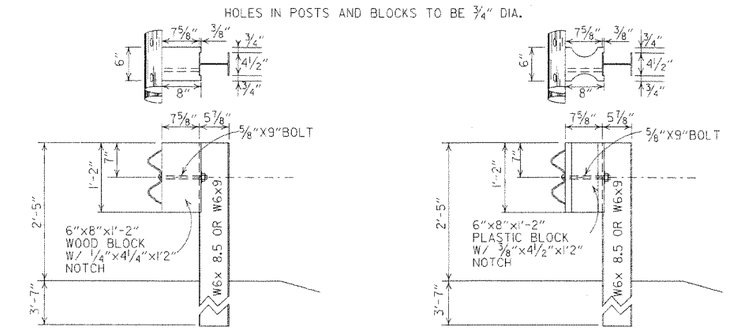

WOOD BLOCKOUT
(W-BEAM)




NOTES:
1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT
(W-BEAM)

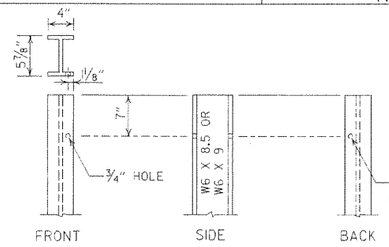
HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



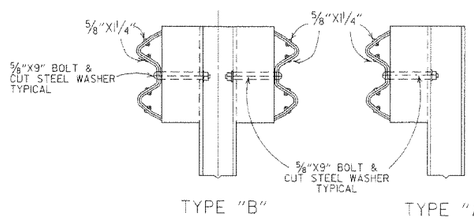

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS
(W-BEAM)



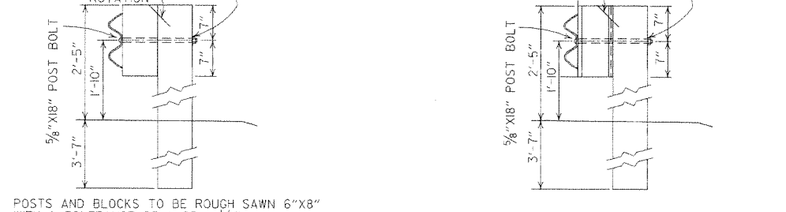

STEEL POST




TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS
(W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.




POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS
(W-BEAM)

## -GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" 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 9.7# (1400 f) OR NO.1 1350 f SOUTHERN PINE.

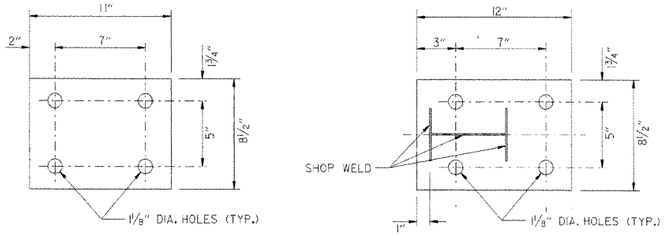
CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

| DATE | REVISION | DATE FILM |
|---|---|---|
| 7-4-10 | RAISED HEIGHT OF GUARD RAIL 1" | |
| 10-15-09 | ADDED REFERENCE TO MASH | |
| 4-10-03 | REVISED GENERAL NOTES | |
| 8-27-02 | REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST | |
| 11-16-01 | 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 REPLACE. BEHIND CURB & DET. OF POST PLACE. 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 & DEPHT OF ANC. 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 |

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

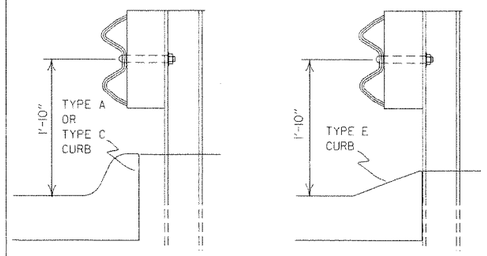
STANDARD DRAWING GR-8




WASHER PLATE

BASE PLATE

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




FOR DESIGN SPEEDS OF 50 MPH OR LESS

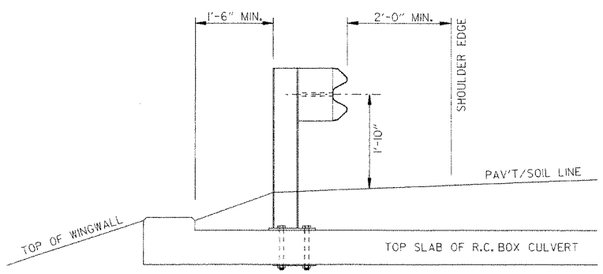
ALIGN FACE OF GUARD RAIL WITH FACE OF CURB.

FOR DESIGN SPEEDS OF 55 MPH OR MORE

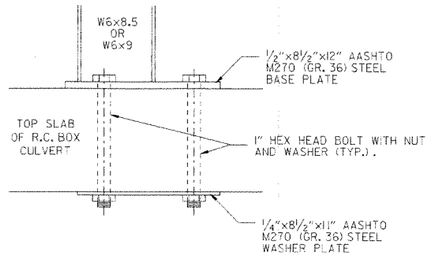
PLACE GUARD RAIL POSTS AGAINST BACK OF CURB.

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

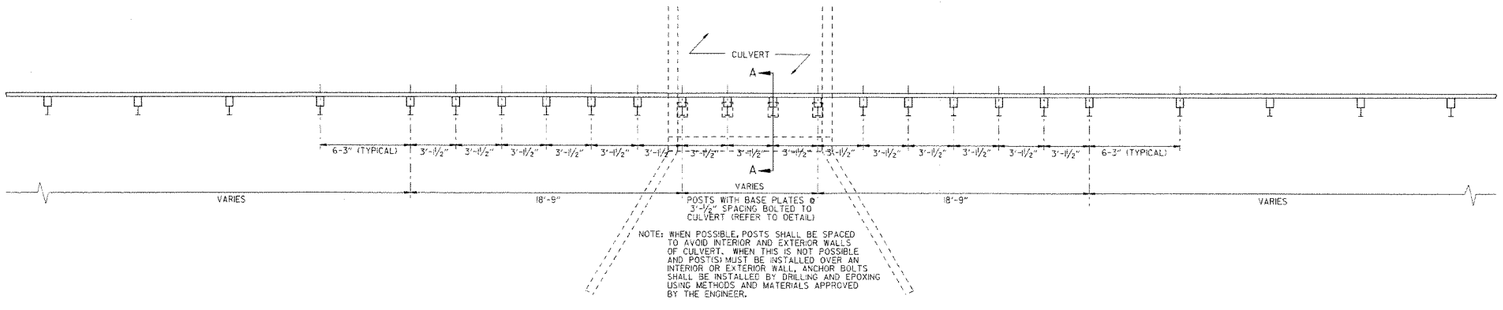
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.




SECTION A-A




DETAIL OF CONNECTION

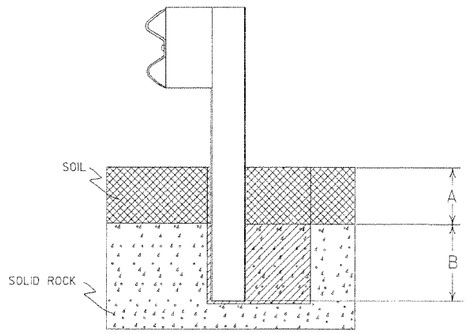



NOTE: WHEN POSSIBLE, POSTS SHALL BE SPACED TO AVOID INTERIOR AND EXTERIOR WALLS OF CULVERT. WHEN THIS IS NOT POSSIBLE AND POST(S) MUST BE INSTALLED OVER AN INTERIOR OR EXTERIOR WALL, ANCHOR BOLTS SHALL BE INSTALLED BY DRILLING AND EPOXING USING METHODS AND MATERIALS APPROVED BY THE ENGINEER.

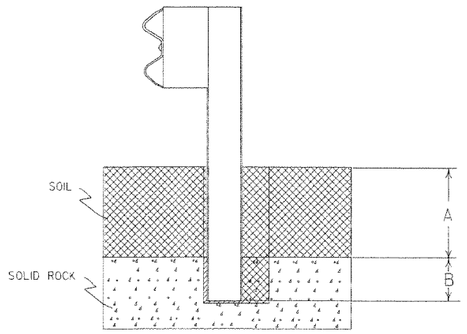
PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

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. DWG. GR-8.

Case 1

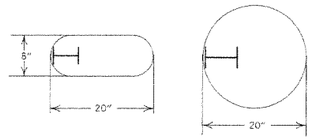


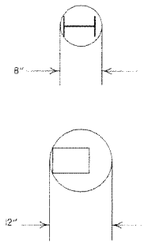

Case 2




Plan View Steel Posts

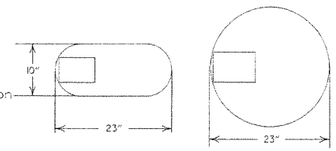
Either hole configuration acceptable




Plan View Wood Posts

Either hole configuration acceptable




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)

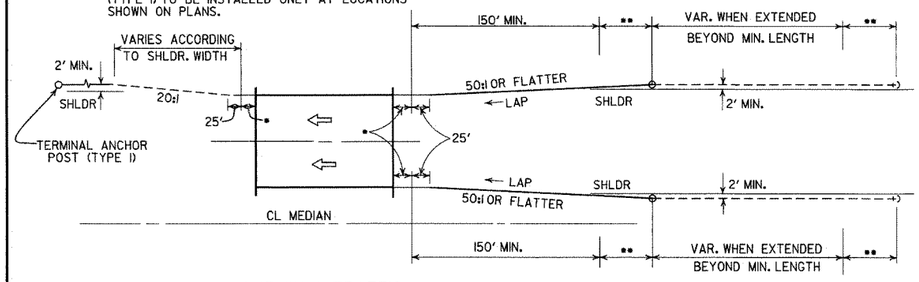
| DATE | REVISION | DATE FILM |
|---|---|---|
| 7-14-10 | RAISED HEIGHT OF GUARD RAIL 1" | |
| 4-12-07 | REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB | |
| 11-10-05 | ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION | |
| 11-18-04 | REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION 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 CULVT. 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 | 712-10-30-87 |
| 10-30-87 | REVISED PLACEMENT BEHIND CURB | 547-10-30-87 |
| 10-9-87 | REDRAWN & REVISED | 803-10-9-87 |

ARKANSAS STATE HIGHWAY COMMISSION

# GUARD RAIL DETAILS

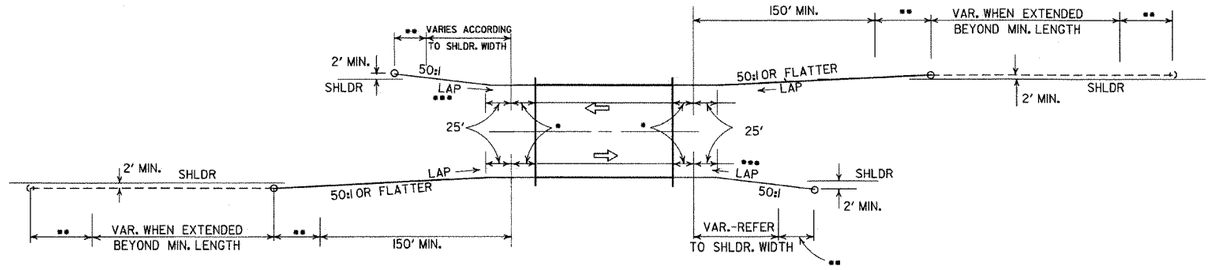
# STANDARD DRAWING GR-8A

NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.




ONE-WAY TRAFFIC

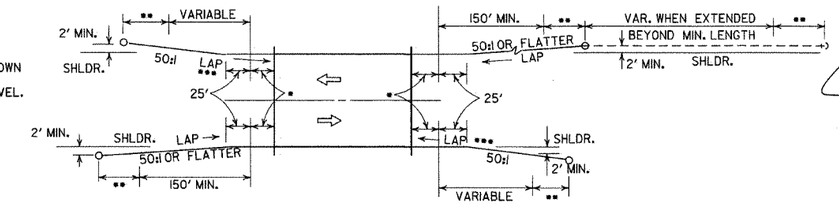
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.




TWO-WAY TRAFFIC

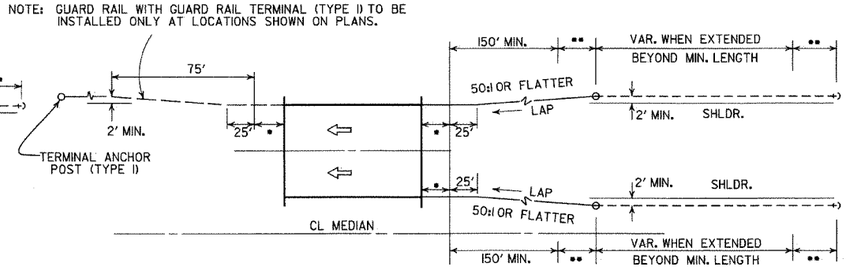
## METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

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




TWO-WAY TRAFFIC

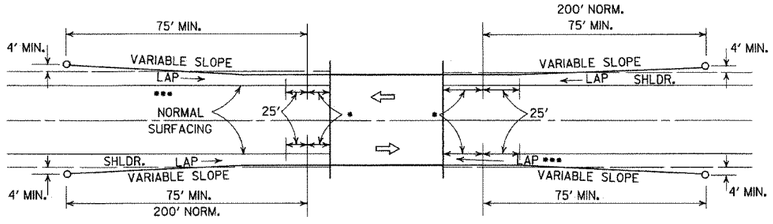
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE I) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.




ONE-WAY TRAFFIC

## 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.




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

LEGEND

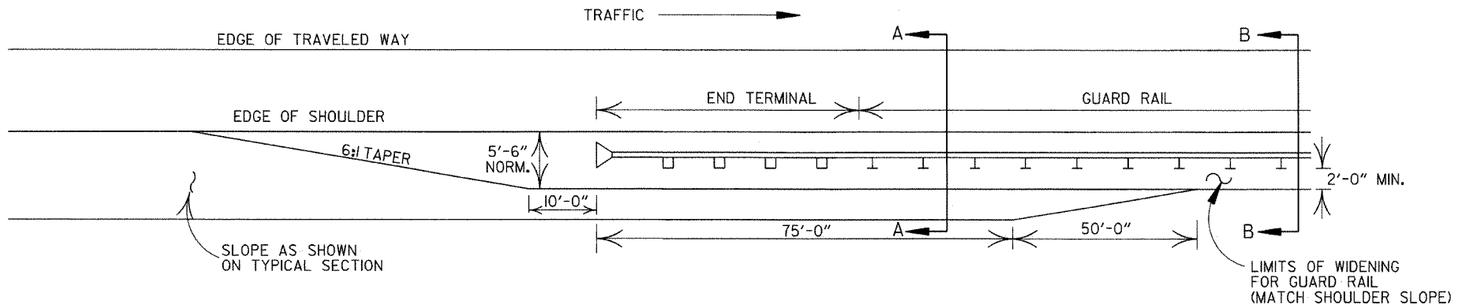
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

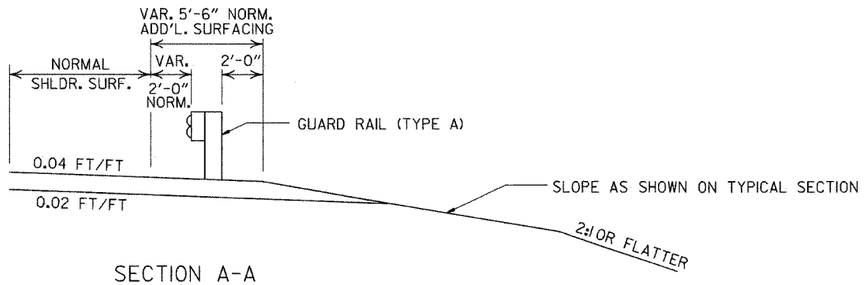
| DATE | REVISION | DATE FILM |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| 4-17-08 | REVISED LAYOUTS | |
| 11-10-05 | REMOVED GUARD RAIL NOTES AND DETAILS | |
| 11-16-01 | DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I) | |
| 1-12-00 | ADDED CONSTRUCTION NOTE | 1-12-00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

ARKANSAS STATE HIGHWAY COMMISSION

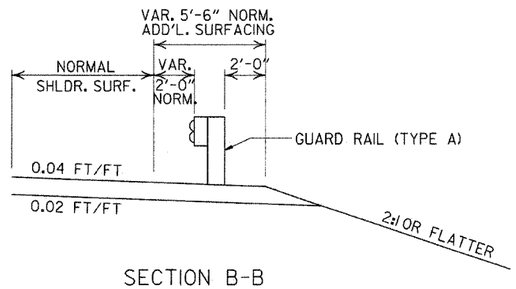
# GUARD RAIL DETAILS

STANDARD DRAWING GR-9



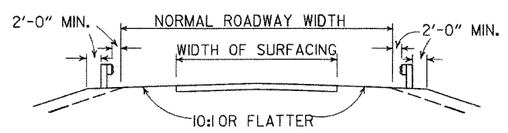

SECTION A-A



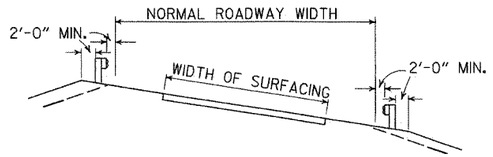

SECTION B-B

## DETAILS OF WIDENING FOR GUARD RAIL

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

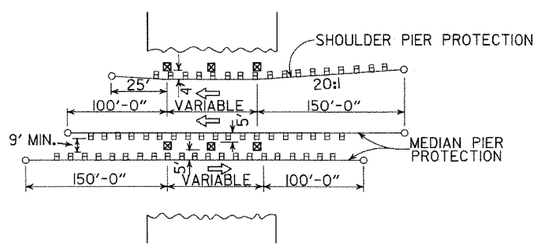



SECTION ON TANGENT




SECTION ON CURVE

## DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



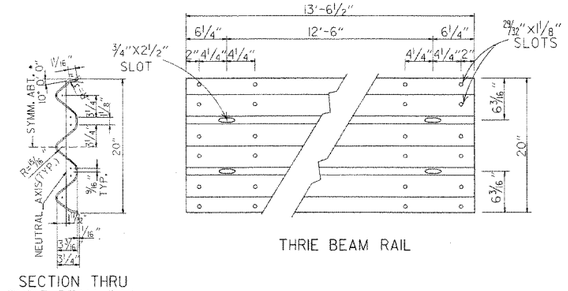

## METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

| DATE | REVISION | DATE FILM |
|---|---|---|
| 4-17-08 | MINOR REVISION | |
| 11-10-05 | DRAWN | |

ARKANSAS STATE HIGHWAY COMMISSION

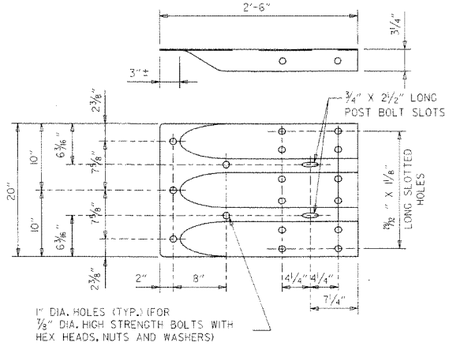
# GUARD RAIL DETAILS

STANDARD DRAWING GR-9A

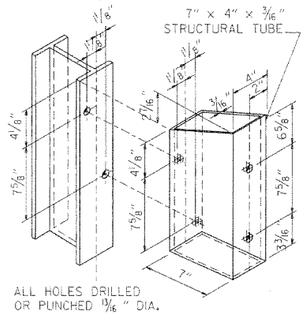



THRIE BEAM RAIL

SECTION THRU THRIE BEAM RAIL

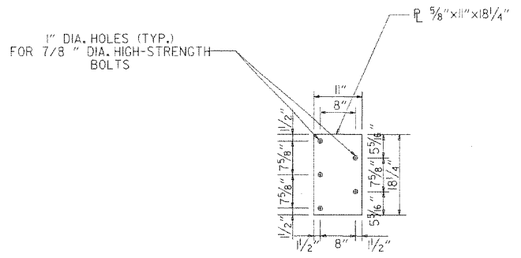



SPECIAL END SHOE



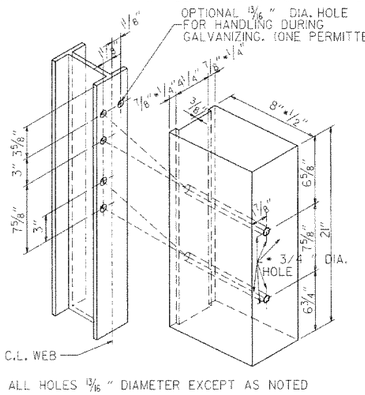

STRUCTURAL STEEL TUBING BLOCKOUT DETAIL

ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.




CONNECTOR PLATE

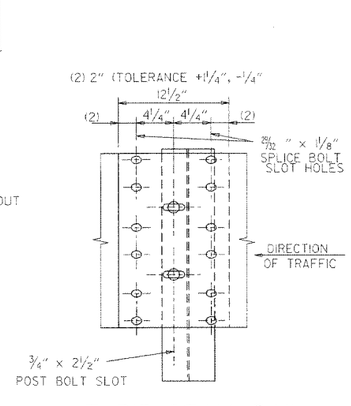
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



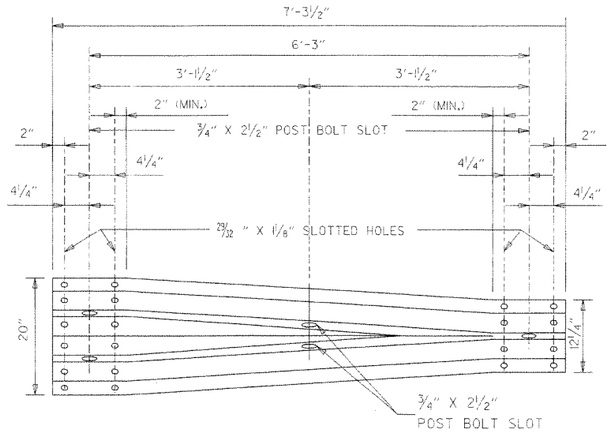

ALL HOLES ⅜" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD
OR PLASTIC BLOCKOUTS

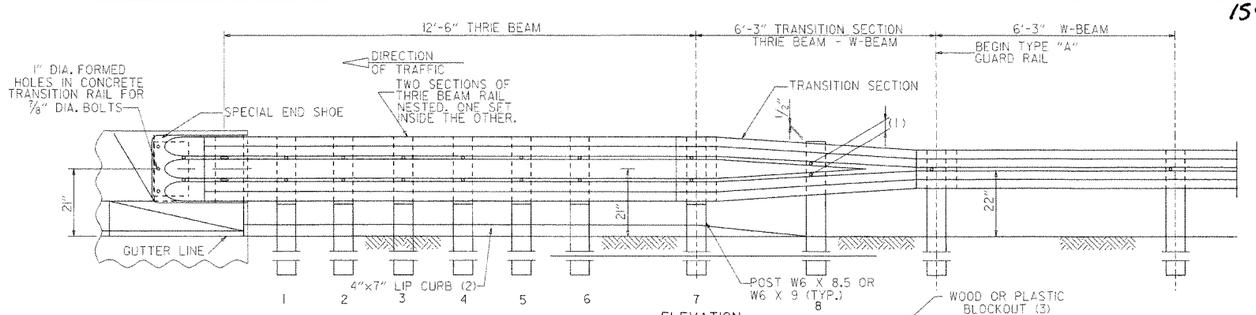
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



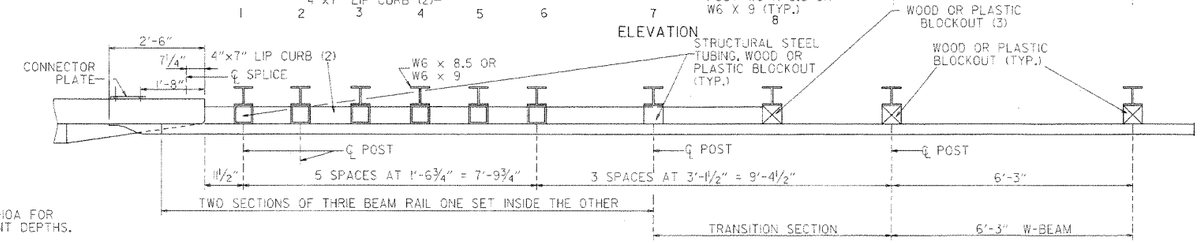

THRIE BEAM RAIL SPLICE AT POST




TRANSITION SECTION

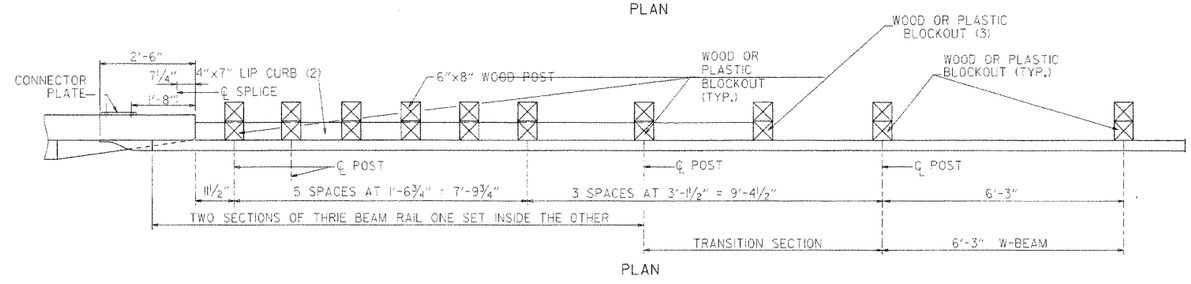



ELEVATION




PLAN

NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.




PLAN

(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 SET 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 ¾" 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 9.7# (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.

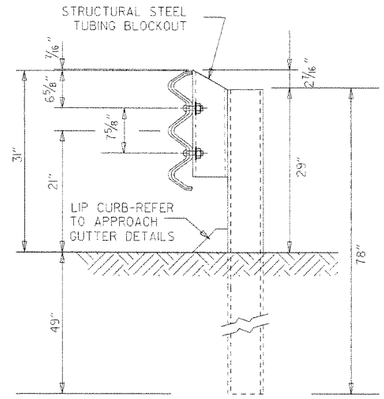
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

| DATE | REVISION | DATE FILM |
|---|---|---|
| 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 | |
| 5-18-00 | ADDED NOTE | |
| 3-30-00 | DRAWN & ISSUED | |

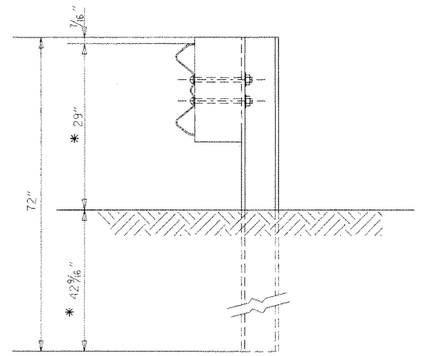
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

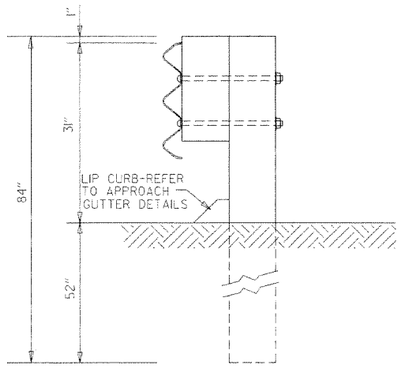



THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

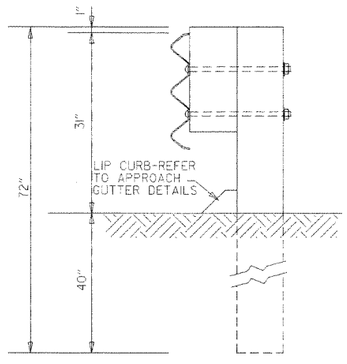



W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

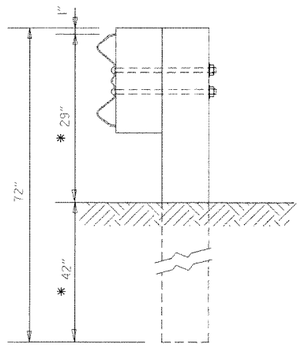
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.




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.

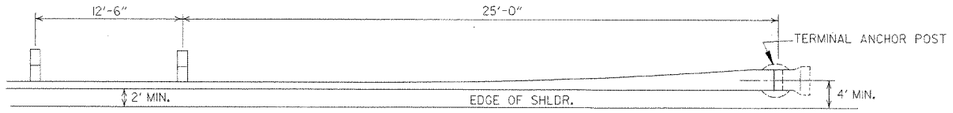
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 (1350 f SOUTHERN PINE.

| DATE | REVISION | DATE FILM |
|---|---|---|
| | | |
| | | |
| | | |
| 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 | |

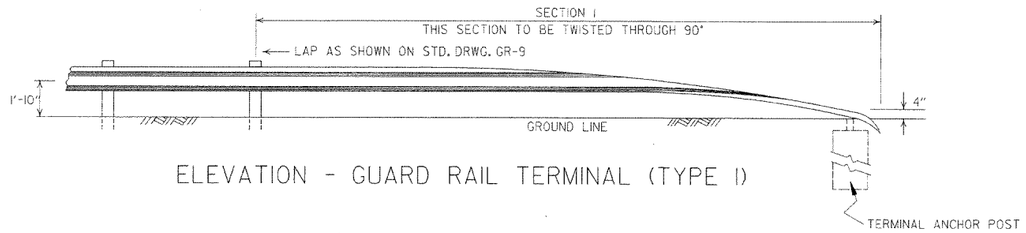
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

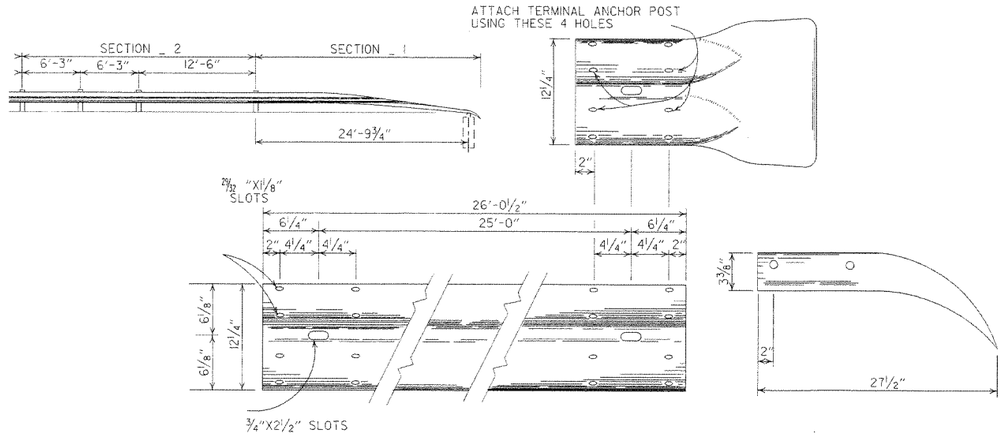



PLAN - GUARD RAIL TERMINAL (TYPE I)



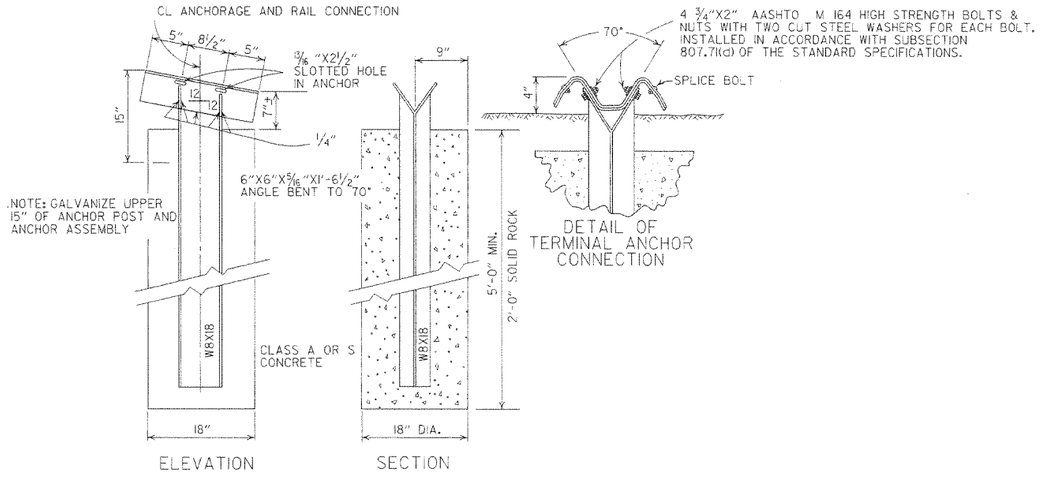

ELEVATION - GUARD RAIL TERMINAL (TYPE I)

NOTE:
SECTIONS 1 AND 2 OF GUARD RAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.




SECTION 1

TERMINAL SECTION




NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

DETAIL OF TERMINAL ANCHOR POST (TYPE I)

| DATE | REVISION | DATE FILM |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| 7-14-10 | RAISED HEIGHT OF GUARD RAIL 1" | |
| 6-26-97 | REVISED LAP NOTE | |
| 10-18-96 | REVISED ASTM REF. TO AASHTO | |
| 11-3-94 | DIMENSION TERMINAL DETAIL | |
| 11-11-92 | ADDED NOTE FOR PAYMENT | 11-11-92 |
| 10-1-92 | DRAWN & ISSUED | 10-1-92 |

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GRT-1

## REINFORCED CONCRETE ARCH PIPE DIMENSIONS

| EQUIV. DIA. | SPAN | | RISE | |
|---|---|---|---|---|
| | AASHTO M 206 | AHTD NOMINAL | AASHTO M 206 | AHTD NOMINAL |
| INCHES | INCHES | | | |
| 15 | 18 | 18 | 11 | 11 |
| 18 | 22 | 22 | 13½ | 14 |
| 21 | 26 | 26 | 15½ | 16 |
| 24 | 28½ | 29 | 18 | 18 |
| 30 | 36¼ | 36 | 22½ | 23 |
| 36 | 43⅜ | 44 | 26⅝ | 27 |
| 42 | 51⅛ | 51 | 31 5/16 | 31 |
| 48 | 58½ | 59 | 36 | 36 |
| 54 | 65 | 65 | 40 | 40 |
| 60 | 73 | 73 | 45 | 45 |
| 72 | 88 | 88 | 54 | 54 |
| 84 | 102 | 102 | 62 | 62 |
| 90 | 115 | 115 | 72 | 72 |
| 96 | 122 | 122 | 77½ | 77 |
| 108 | 138 | 138 | 87⅛ | 87 |
| 120 | 154 | 154 | 96⅞ | 97 |
| 132 | 168¾ | 169 | 106½ | 107 |

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

## REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

## CONSTRUCTION SEQUENCE

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

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

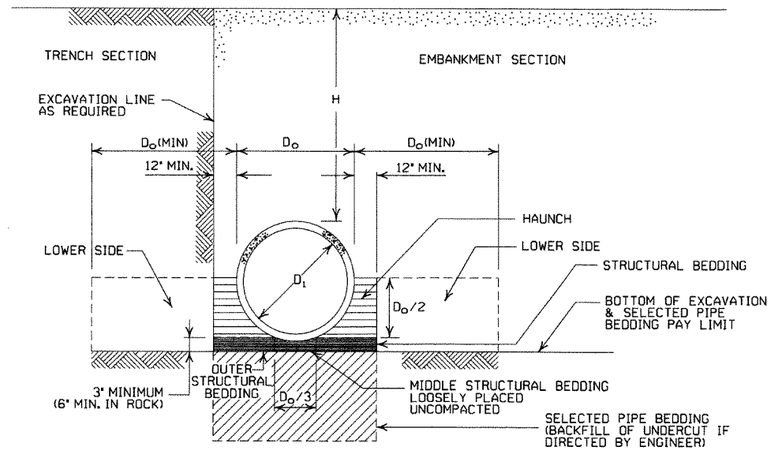
## - LEGEND -

$D_1$ = NORMAL INSIDE DIAMETER OF PIPE
$D_O$ = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

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

* SM-3 WILL NOT BE ALLOWED.

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




## EMBANKMENT AND TRENCH INSTALLATIONS

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

## GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

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

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

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

| INSTALLATION TYPE | CLASS OF PIPE | | |
|---|---|---|---|
| | CLASS III | CLASS IV | CLASS V |
| | FEET | | |
| TYPE 1 | 21 | 32 | 50 |
| TYPE 2 | 16 | 25 | 39 |
| TYPE 3 | 12 | 20 | 30 |

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

## MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

| INSTALLATION TYPE | CLASS OF PIPE | |
|---|---|---|
| | CLASS III | CLASS IV |
| | FEET | |
| TYPE 2 OR TYPE 3 | 2.5 | 1.5 |

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

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

## MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

| INSTALLATION TYPE | CLASS OF PIPE | |
|---|---|---|
| | CLASS III | CLASS IV |
| | FEET | |
| TYPE 2 | 13 | 21 |
| TYPE 3 | 10 | 16 |

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

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

ARKANSAS STATE HIGHWAY COMMISSION

# CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

## CORRUGATED STEEL PIPE (ROUND)

| PIPE DIAMETER (INCHES) | ① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET) | MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET) | | | | |
|---|---|---|---|---|---|---|
| | | METAL THICKNESS (INCHES) | | | | |
| | | 0.064 | 0.079 | 0.109 | 0.138 | 0.168 |
| 2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM | | | | | | |
| 12 | 1 | 84 | 91 | | | |
| 15 | 1 | 67 | 73 | | | |
| 18 | 1 | 56 | 61 | | | |
| 24 | 1 | 42 | 46 | 59 | | |
| 30 | 2 | 34 | 36 | 47 | | |
| 36 | 2 | | 30 | 39 | 41 | |
| 42 | 2 | | 43 | 67 | 70 | 73 |
| 48 | 2 | | 37 | 58 | 61 | 64 |
| ② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM | | | | | | |
| 36 | 1 | 48 | 60 | 88 | 111 | 118 |
| 42 | 1 | 41 | 51 | 72 | 90 | 102 |
| 48 | 1 | 36 | 45 | 64 | 77 | 85 |
| 54 | 2 | 32 | 40 | 59 | 71 | 79 |
| 60 | 2 | 29 | 36 | 53 | 64 | 71 |
| 66 | 2 | 26 | 33 | 47 | 58 | 64 |
| 72 | 2 | 24 | 30 | 44 | 53 | 59 |
| 78 | 2 | | 28 | 41 | 49 | 54 |
| 84 | 2 | | 26 | 38 | 45 | 51 |
| 90 | 2 | | 24 | 35 | 43 | 45 |
| 96 | 2 | | 22 | 33 | 40 | 44 |
| 102 | 2 | | | 31 | 38 | 42 |
| 108 | 2 | | | 30 | 35 | 39 |
| 114 | 2 | | | 28 | 34 | 37 |
| 120 | 2 | | | 27 | 32 | 35 |

## CORRUGATED ALUMINUM PIPE (ROUND)

| PIPE DIAMETER (INCHES) | ①MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET) | MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET) | | | | |
|---|---|---|---|---|---|---|
| | | METAL THICKNESS IN INCHES | | | | |
| | | 0.060 | 0.075 | 0.105 | 0.135 | 0.164 |
| | | 2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM | | | | |
| 12 | 1 | 45 | 45 | | | |
| 18 | 2 | 30 | 30 | 52 | | |
| 24 | 2 | 22 | 22 | 39 | 41 | |
| 30 | 2 | | 18 | 31 | 32 | 34 |
| 36 | 2.5 | | 15 | 26 | 27 | 28 |
| 42 | 2 | | | 43 | 43 | 44 |
| 48 | 2 | | | 40 | 41 | 43 |
| 54 | 2 | | | 35 | 37 | 38 |
| 60 | 2 | | | | 33 | 34 |
| 66 | 2 | | | | | 31 |
| 72 | 2 | | | | | 29 |

## CORRUGATED METAL PIPE ARCHES

| EQUIV. DIA. (INCHES) | PIPE DIMENSION SPAN X RISE (INCHES) | MINUMUM CORNER RADIUS (INCHES) | STEEL: MIN. THICKNESS REQUIRED INCHES | STEEL: ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1 | STEEL: MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1 | ALUMINUM: MIN. THICKNESS REQUIRED INCHES | ALUMINUM: ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1 | ALUMINUM: MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1 |
|---|---|---|---|---|---|---|---|---|
| | | | 2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM | | | 2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM | | |
| 15 | 17x13 | 3 | 0.064 | 2 | 15 | 0.060 | 2 | 15 |
| 18 | 21x15 | 3 | 0.064 | 2 | 15 | 0.060 | 2 | 15 |
| 21 | 24x18 | 3 | 0.064 | 2.25 | 15 | 0.060 | 2.25 | 15 |
| 24 | 28x20 | 3 | 0.064 | 2.5 | 15 | 0.075 | 2.5 | 15 |
| 30 | 35x24 | 3 | 0.079 | 3 | 12 | 0.075 | 3 | 12 |
| 36 | 42x29 | 3½ | 0.079 | 3 | 12 | 0.105 | 3 | 12 |
| 42 | 49x33 | 4 | 0.079 | 3 | 12 | 0.105 | 3 | 12 |
| 48 | 57x38 | 5 | 0.109 | 3 | 13 | 0.135 | 3 | 13 |
| 54 | 64x43 | 6 | 0.109 | 3 | 14 | 0.135 | 3 | 14 |
| 60 | 71x47 | 7 | 0.138 | 3 | 15 | 0.164 | 3 | 15 |
| 66 | 77x52 | 8 | 0.168 | 3 | 15 | | | |
| 72 | 83x57 | 9 | 0.168 | 3 | 15 | | | |
| | | | ② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM | | | | | |
| | | | | INSTALLATION TYPE 2 | INSTALLATION TYPE 1 | | | |
| 36 | 40x31 | 5 | 0.079 | 3 | 2 | 12 | 15 | |
| 42 | 46x36 | 6 | 0.079 | 3 | 2 | 13 | 15 | |
| 48 | 53x41 | 7 | 0.079 | 3 | 2 | 13 | 15 | |
| 54 | 60x46 | 8 | 0.079 | 3 | 2 | 13 | 15 | |
| 60 | 66x51 | 9 | 0.079 | 3 | 2 | 13 | 15 | |
| 66 | 73x55 | 12 | 0.079 | 3 | 2 | 15 | 15 | |
| 72 | 81x59 | 14 | 0.079 | 3 | 2 | 15 | 15 | |
| 78 | 87x63 | 14 | 0.079 | 3 | 2 | 15 | 15 | |
| 84 | 95x67 | 16 | 0.109 | 3 | 2 | 15 | 15 | |
| 90 | 103x71 | 16 | 0.109 | 3 | 2 | 15 | 15 | |
| 96 | 112x75 | 18 | 0.109 | 3 | 2 | 15 | 15 | |
| 102 | 117x79 | 18 | 0.109 | 3 | 2 | 15 | 15 | |
| 108 | 128x83 | 18 | 0.138 | 3 | 2 | 15 | 15 | |

## CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

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

| INSTALLATION TYPE | MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING |
|---|---|
| TYPE 1 | AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) |
| TYPE 2 | SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③ |

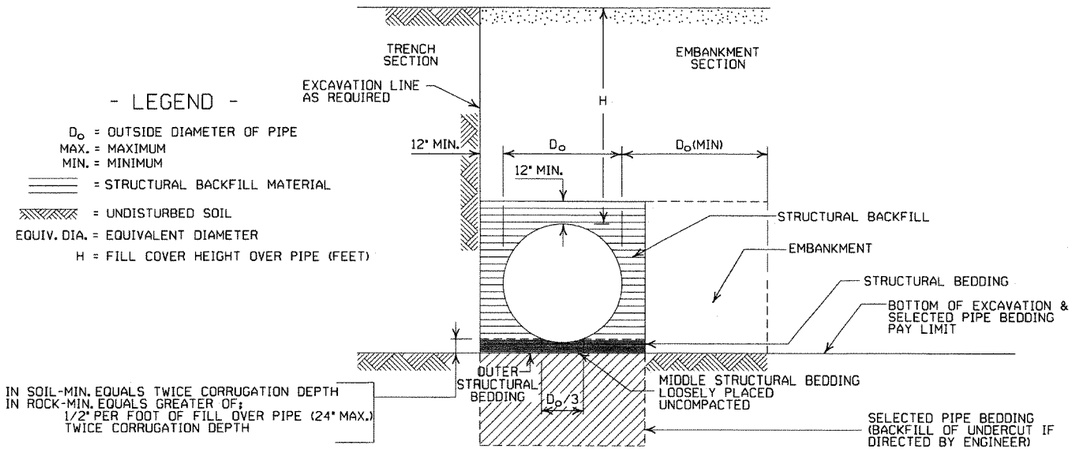
③ SM-3 WILL NOT BE ALLOWED.

## EQUIVALENT METAL THICKNESSES AND GAUGES

| METAL THICKNESS IN INCHES | | | GAUGE NUMBER |
|---|---|---|---|
| STEEL | | | |
| ZINC COATED | UNCOATED | ALUMINUM | |
| 0.064 | 0.0598 | 0.060 | 16 |
| 0.079 | 0.0747 | 0.075 | 14 |
| 0.109 | 0.1046 | 0.105 | 12 |
| 0.138 | 0.1345 | 0.135 | 10 |
| 0.168 | 0.1644 | 0.164 | 8 |

- LEGEND -

$D_o$ = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)




## EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

## GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2003 EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

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

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 12-15-11 | REVISED FOR LRFD DESIGN SPECS | |
| 3-30-00 | REVISED INSTALLATIONS | |
| 11-06-97 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

# METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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

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

SM3 WILL NOT BE ALLOWED.

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

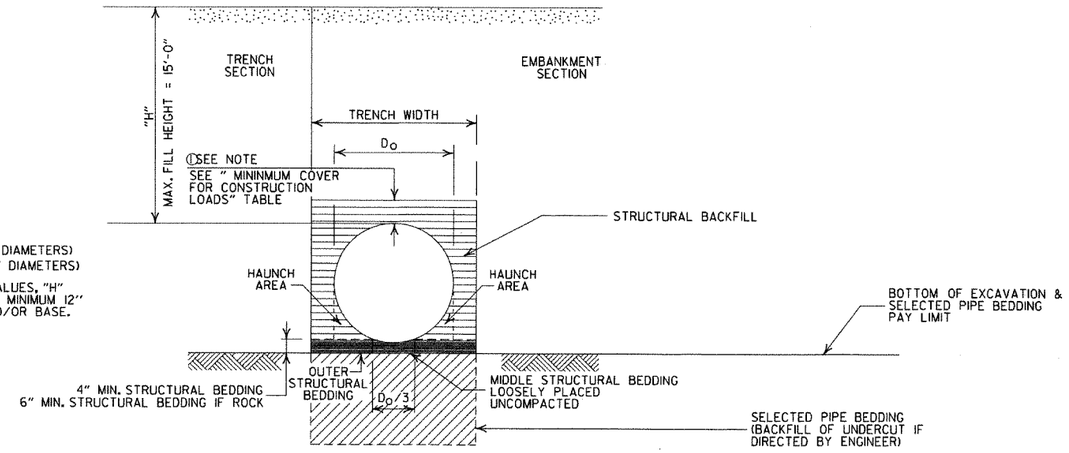
STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

## 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.




## TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

## MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

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

## MINIMUM COVER FOR CONSTRUCTION LOADS

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

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

## CONSTRUCTION SEQUENCE

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

## GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

## - LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 12-15-11 | REVISED GENERAL NOTES & MINIMUM COVER NOTE | |
| 11-17-10 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

# PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

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

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

SM3 WILL NOT BE ALLOWED.

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

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

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

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

## MULTIPLE INSTALLATION OF PVC PIPES

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

## MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

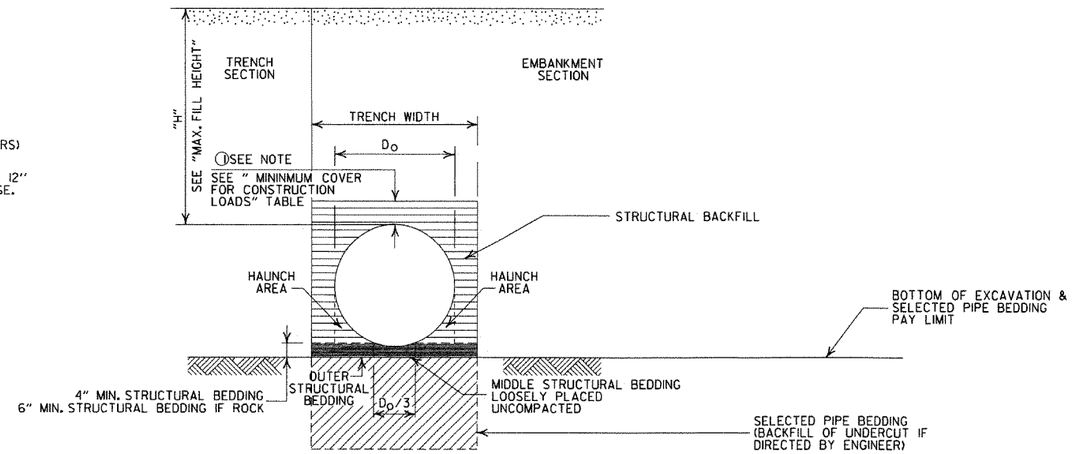
| PIPE DIAMETER | "H" |
|---|---|
| 18" | 45'-0" |
| 24" | 45'-0" |
| 30" | 40'-0" |
| 36" | 40'-0" |

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

## MINIMUM COVER FOR CONSTRUCTION LOADS

| PIPE DIAMETER | ② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS | | | |
|---|---|---|---|---|
| | 18.0-50.0 (KIPS) | 50.0-75.0 (KIPS) | 75.0-110.0 (KIPS) | 110.0-175.0 (KIPS) |
| 18" THRU 36" | 2'-0" | 2'-6" | 3'-0" | 3'-0" |

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




## TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

## CONSTRUCTION SEQUENCE

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

## GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

## - LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

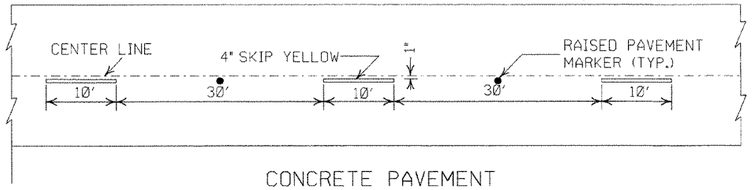
= UNDISTURBED SOIL

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 12-15-11 | REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL | |
| 11-17-10 | ISSUED | |

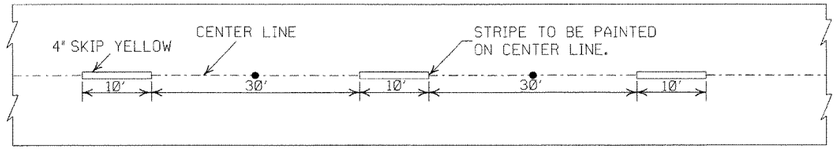
ARKANSAS STATE HIGHWAY COMMISSION

# PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

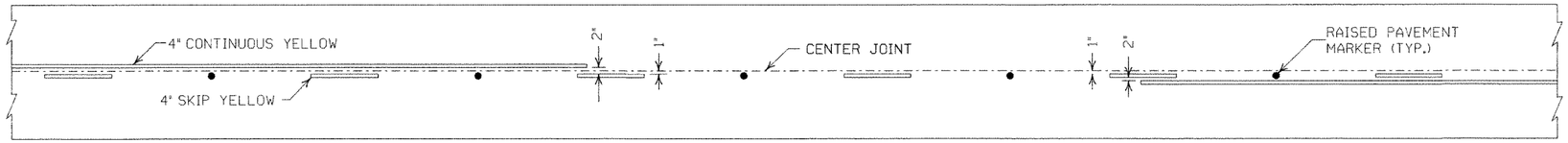



CONCRETE PAVEMENT

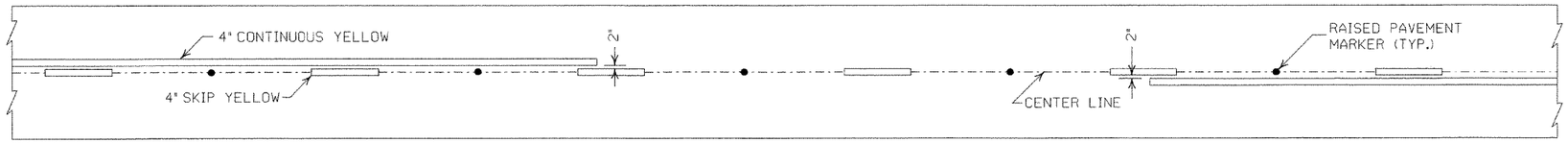



ASPHALT PAVEMENT

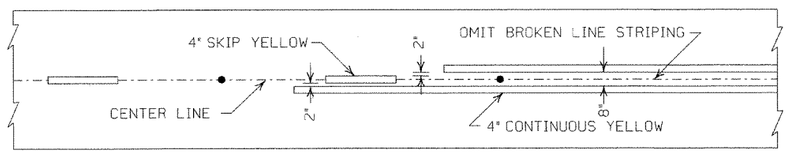
## BROKEN LINE STRIPING



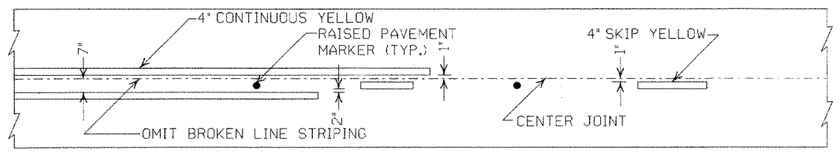

## SOLID LINE STRIPING ON CONCRETE PAVEMENT




## SOLID LINE STRIPING ON ASPHALT PAVEMENT

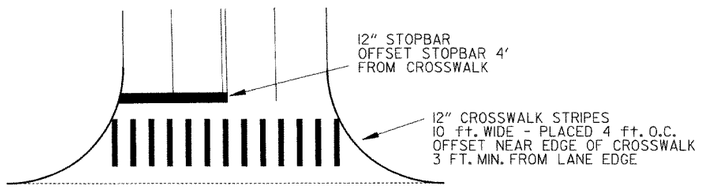



ASPHALT PAVEMENT




CONCRETE PAVEMENT

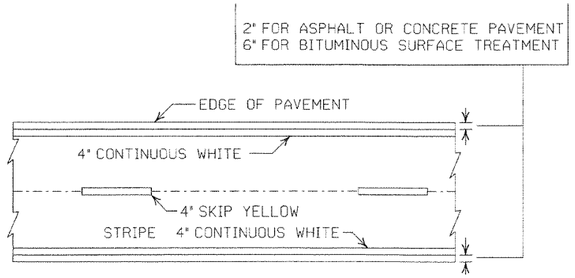
## STRIPING AT ADJACENT NO PASSING LANES



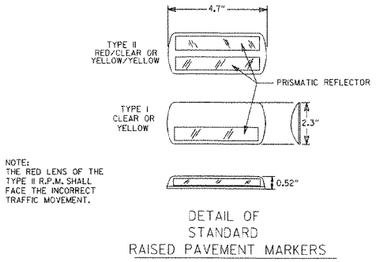

## CROSSWALK AND STOPBAR DETAILS

NOTES:

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




## PAVEMENT EDGE LINE MARKING




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

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

GENERAL NOTES:

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

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

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

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

ARKANSAS STATE HIGHWAY COMMISSION

# PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

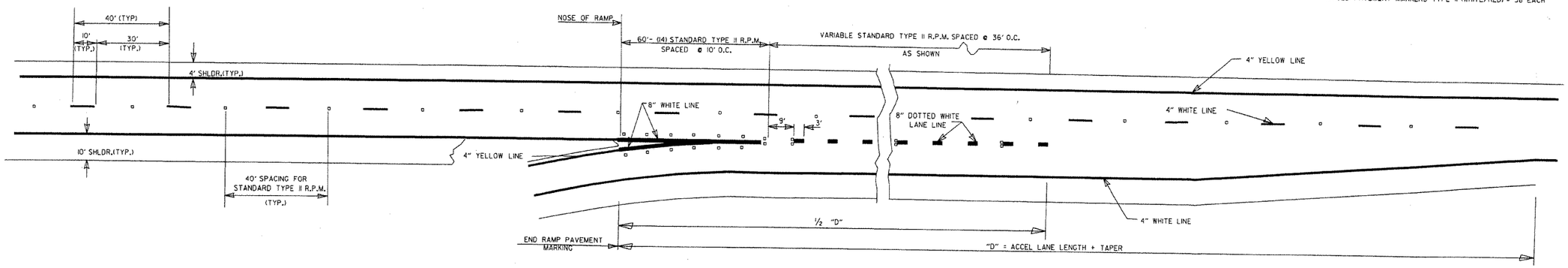
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

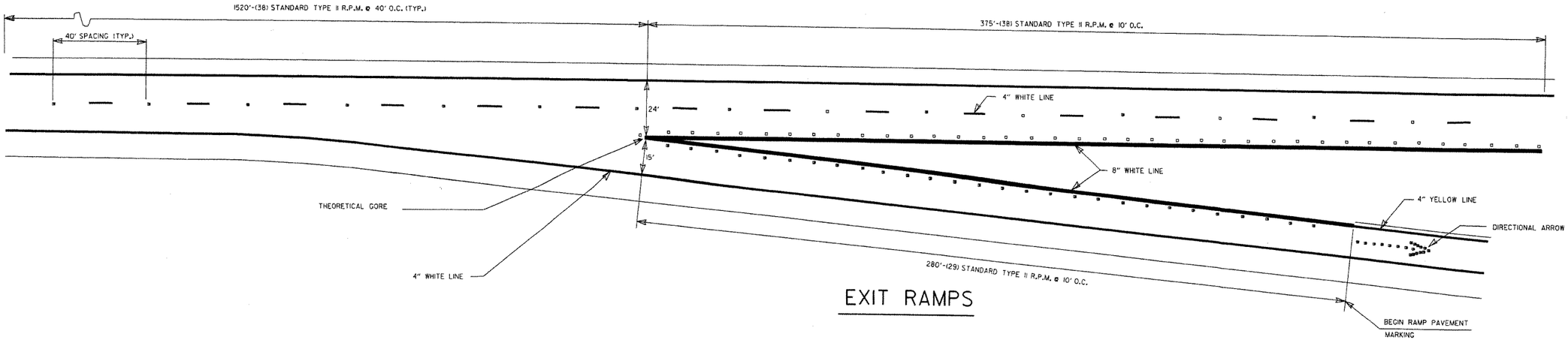
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

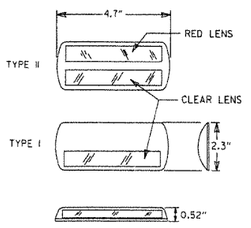
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH




## ENTRANCE RAMPS

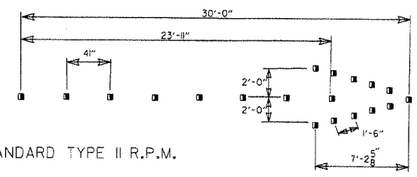



## EXIT RAMPS




DETAIL OF
STANDARD
RAISED PAVEMENT MARKERS

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




(19) STANDARD TYPE II R.P.M.

DIRECTIONAL ARROWS

GENERAL NOTES:

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

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

NOTE:

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

| DATE | REVISION | FILMED |
|---|---|---|
| 7/26/12 | REVISED RPM NOTATION | |
| 12-15-11 | REVISED RPMs ACCORDING TO LATEST POLICY | |
| 11-17-10 | REMOVED PLOWABLE PAVEMENT MARKERS | |
| 6-3-10 | REVISED PER 2009 MUTCD | |
| 11-18-04 | REVISED NOTES | |
| 8-22-02 | ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS | |
| 5-18-00 | REMOVED HASHMARKS | |
| 7-02-98 | CHANGED TYPES TO ROMAN NUMERALS | |
| 4-26-96 | ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP | |
| 2-2-95 | PLACED IN USE | 2-2-95 |

ARKANSAS STATE HIGHWAY COMMISSION

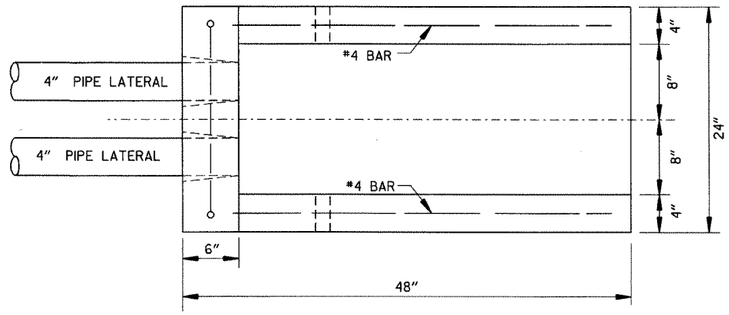
# PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

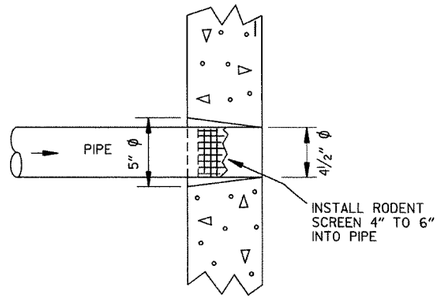
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

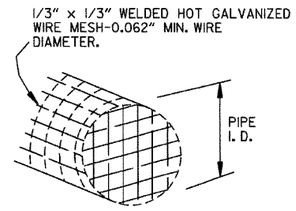
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



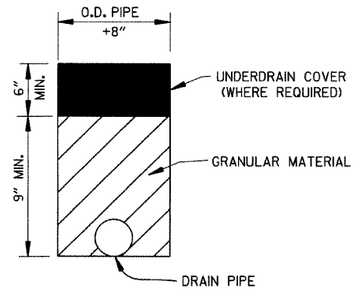

PLAN VIEW

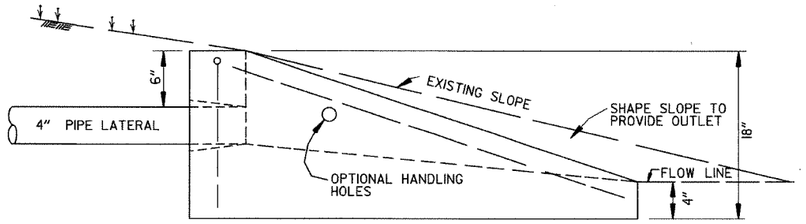



DETAIL OF HOLE FOR 4" PIPE

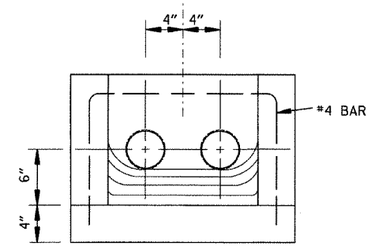



DETAIL OF RODENT SCREEN

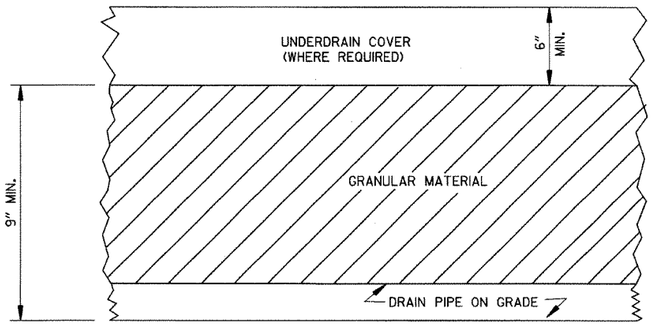



SIDE VIEW

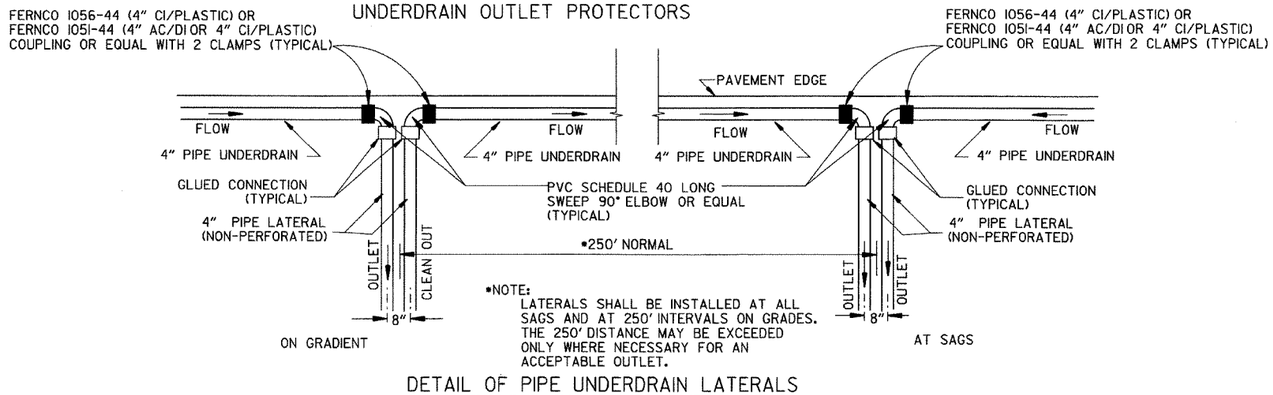



FRONT VIEW




DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS




DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 4-10-03 | REVISED NOTE 3 | |
| 1-12-00 | REVISED DETAIL OF UNDERDRAIN LATERALS | |
| 11-18-98 | REVISED NOTE | |
| 10-18-96 | REVISED MIN. DEPTH & GEOTEXTILE FABRIC | |
| 4-26-96 | ADDED LATERAL NOTE; 5½" TO 5" | |
| 11-22-95 | REVISED LATERALS | |
| 7-20-95 | REVISED LATERALS & ADDED NOTE | |
| 11- 3-94 | REVISED FOR DUAL LATERALS | 11- 3-94 |
| 10- 1-92 | SUBSTITUTED GEOTEXTILE | 10- 1-92 |
| 8-15-91 | ADDED POLYEDTHYLENE PIPE | 8-15-91 |
| 11- 8-90 | DELETED ALTERNATE NOTE | 11- 8-90 |
| 1-25-90 | ADDED 4" SNAP ADAPTER | 1-25-90 |
| 11-30-89 | DEL. (SUBGRADE); ADDED (WHERE REQUIRED) | 11-30-89 |
| 7-15-88 | ISSUED P.L.M. | 647-7-15-88 |

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

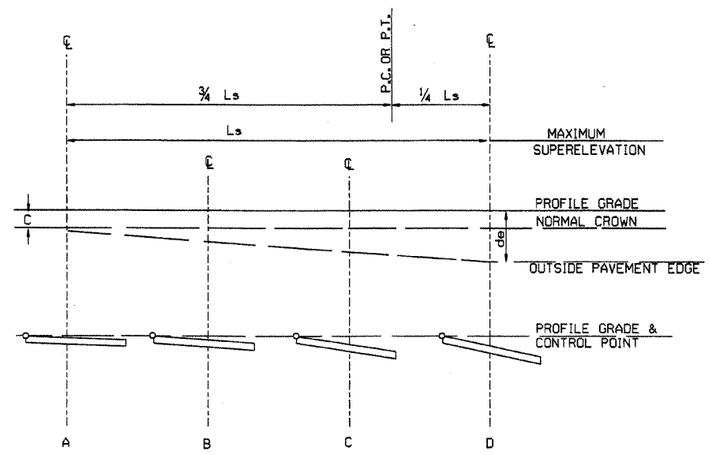
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

## SUPERELEVATION TABLE FOR ONE - WAY TRAFFIC

| DEGREE OF CURVE | 30 MPH e | 30 MPH Ls (FT) MINIMUM | 30 MPH Ls (FT) DESIRABLE | 40 MPH e | 40 MPH Ls (FT) MINIMUM | 40 MPH Ls (FT) DESIRABLE | 50 MPH e | 50 MPH Ls (FT) MINIMUM | 50 MPH Ls (FT) DESIRABLE | 55 MPH e | 55 MPH Ls (FT) MINIMUM | 55 MPH Ls (FT) DESIRABLE | 60 MPH e | 60 MPH Ls (FT) MINIMUM | 60 MPH Ls (FT) DESIRABLE | 65 MPH e | 65 MPH Ls (FT) MINIMUM | 65 MPH Ls (FT) DESIRABLE | 70 MPH e | 70 MPH Ls (FT) MINIMUM | 70 MPH Ls (FT) DESIRABLE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° 15′ | N. C. | | | N. C. | | | N. C. | | | N. C. | | | N. C. | | | N. C. | | | N. C. | | |
| 0° 30′ | N. C. | | | N. C. | | | N. C. | | | N. C. | | | N. C. | | | N. C. | | | N. C. | | |
| 0° 45′ | N. C. | | | N. C. | | | R. C. | | | 0.022 | | | 0.023 | | | 0.025 | | | 0.028 | | |
| 1° 00′ | N. C. | | | N. C. | | | 0.021 | | | 0.026 | | | 0.030 | | | 0.033 | 250 | 350 | 0.037 | 275 | 350 |
| 1° 15′ | N. C. | | | R. C. | | | 0.026 | | | 0.032 | | | 0.037 | 250 | 350 | 0.041 | | | 0.046 | | |
| 1° 30′ | N. C. | | | 0.021 | | | 0.031 | 200 | | 0.037 | 225 | 350 | 0.043 | | | 0.048 | | | 0.054 | | |
| 1° 45′ | N. C. | | | 0.025 | 175 | | 0.036 | | | 0.043 | | | 0.049 | | | 0.055 | | | 0.062 | | |
| 2° 00′ | R. C. | | | 0.028 | | | 0.040 | | | 0.048 | | | 0.055 | | | 0.062 | | | 0.070 | | |
| 2° 15′ | R. C. | | | 0.031 | | | 0.045 | | 300 | 0.053 | | | 0.061 | | | 0.069 | 265 | | 0.078 | 300 | 400 |
| 2° 30′ | 0.021 | | | 0.034 | | | 0.049 | | | 0.058 | | | 0.067 | | | 0.075 | 280 | | 0.085 | 315 | |
| 2° 45′ | 0.023 | | | 0.037 | | 250 | 0.053 | | | 0.063 | | | 0.072 | | | 0.081 | 300 | | 0.091 | 335 | |
| 3° 00′ | 0.025 | 150 | | 0.040 | | | 0.057 | | | 0.067 | 230 | | 0.077 | 260 | | 0.087 | 315 | | 0.096 | 350 | |
| 3° 15′ | 0.027 | | | 0.043 | | | 0.061 | | | 0.072 | 245 | | 0.082 | 275 | | 0.090 | 325 | 400 | 0.098 | 360 | 450 |
| 3° 30′ | 0.029 | | | 0.046 | | | 0.065 | 205 | | 0.076 | 255 | | 0.086 | 285 | | 0.095 | 340 | | 0.100 | 360 | |
| 3° 45′ | 0.031 | | 250 | 0.049 | | | 0.069 | 215 | | 0.080 | 265 | | 0.090 | 295 | 400 | 0.097 | 345 | | | | |
| 4° 00′ | 0.033 | | | 0.051 | | | 0.072 | 225 | | 0.083 | 270 | | 0.093 | 305 | | 0.099 | 350 | | | | |
| 4° 30′ | 0.037 | | | 0.056 | | | 0.078 | 240 | | 0.087 | 280 | | 0.096 | 315 | | | | | | | |
| 5° 00′ | 0.040 | | | 0.061 | | | 0.083 | 250 | | 0.091 | 295 | 400 | 0.098 | 320 | | | | | | | |
| 5° 30′ | 0.043 | | | 0.066 | 185 | | 0.088 | 260 | | 0.094 | 300 | | | | | | | | | | |
| 6° 00′ | 0.046 | | | 0.070 | 190 | | 0.092 | 270 | | 0.096 | 305 | | | | | | | | | | |
| 6° 30′ | 0.050 | | | 0.074 | 200 | | 0.095 | 280 | 350 | 0.100 | 315 | | | | | | | | | | |
| 7° 00′ | 0.053 | | | 0.078 | 210 | | 0.098 | 285 | | | | | | | | | | | | | |
| 7° 30′ | 0.056 | | | 0.081 | 215 | | 0.099 | 290 | | | | | | | | | | | | | |
| 8° 00′ | 0.059 | | | 0.084 | 220 | | 0.100 | 290 | | | | | | | | | | | | | |
| 8° 30′ | 0.061 | | | 0.087 | 225 | 300 | | | | | | | | | | | | | | | |
| 9° 00′ | 0.063 | | | 0.089 | 230 | | | | | | | | | | | | | | | | |
| 10° 00′ | 0.068 | 160 | | 0.094 | 235 | | | | | | | | | | | | | | | | |
| 11° 00′ | 0.072 | 170 | | 0.097 | 250 | | | | | | | | | | | | | | | | |
| 12° 00′ | 0.076 | 175 | | 0.099 | 250 | | | | | | | | | | | | | | | | |
| 13° 00′ | 0.080 | 180 | | 0.100 | 250 | | | | | | | | | | | | | | | | |
| 14° 00′ | 0.083 | 190 | | | | | | | | | | | | | | | | | | | |
| 15° 00′ | 0.086 | 195 | | | | | | | | | | | | | | | | | | | |
| 16° 00′ | 0.089 | 200 | | | | | | | | | | | | | | | | | | | |
| 17° 00′ | 0.091 | 200 | | | | | | | | | | | | | | | | | | | |
| 18° 00′ | 0.093 | 205 | | | | | | | | | | | | | | | | | | | |
| 19° 00′ | 0.095 | 210 | | | | | | | | | | | | | | | | | | | |
| 20° 00′ | 0.097 | 215 | 300 | | | | | | | | | | | | | | | | | | |
| 21° 00′ | 0.098 | 215 | | | | | | | | | | | | | | | | | | | |
| 22° 00′ | 0.099 | 215 | | | | | | | | | | | | | | | | | | | |
| 23° 00′ | 0.099 | 215 | | | | | | | | | | | | | | | | | | | |
| 24° 00′ | 0.100 | 220 | | | | | | | | | | | | | | | | | | | |

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 4° 15′ | D MAX = 3° 30′




ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$

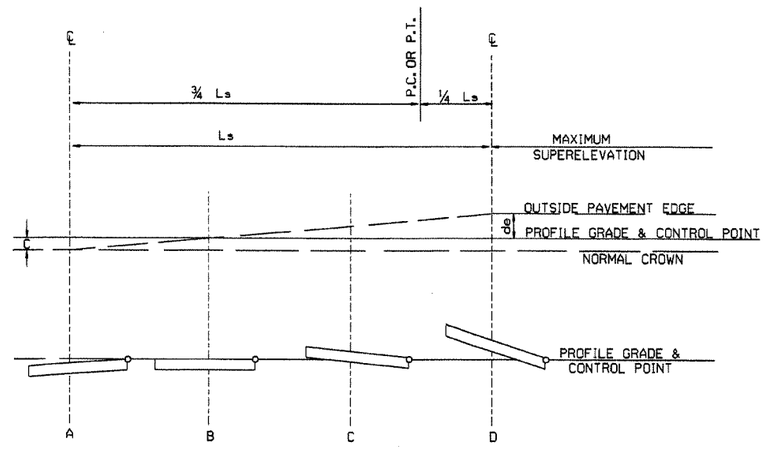
### ABBREVIATIONS

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

### GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%




ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 01-09-87 | ISSUED | 578-1-15-87 |

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

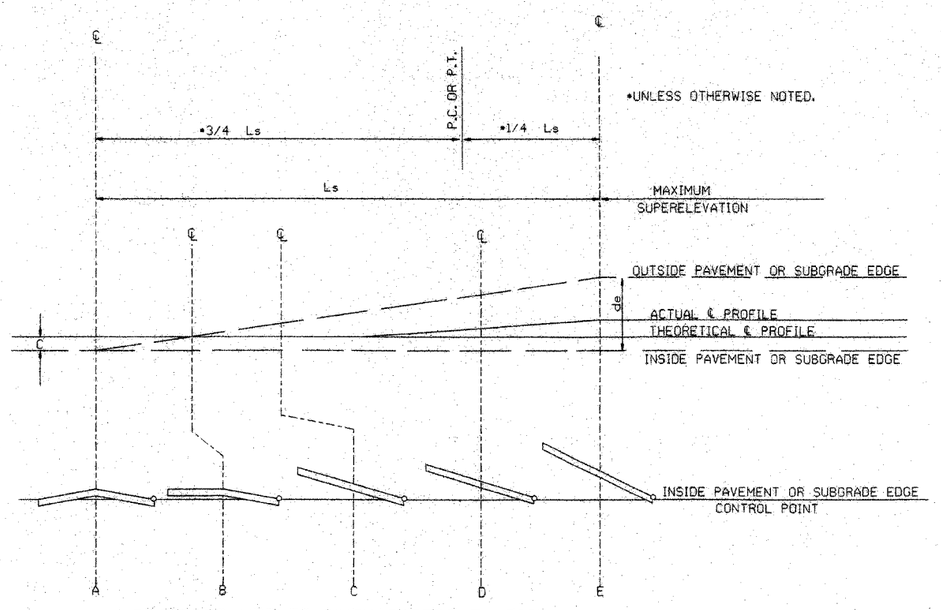
## SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

| DEGREE OF CURVE | 30 MPH e | 30 MPH Ls (FT) MINIMUM | 30 MPH Ls (FT) DESIRABLE | 40 MPH e | 40 MPH Ls (FT) MINIMUM | 40 MPH Ls (FT) DESIRABLE | 50 MPH e | 50 MPH Ls (FT) MINIMUM | 50 MPH Ls (FT) DESIRABLE | 55 MPH e | 55 MPH Ls (FT) MINIMUM | 55 MPH Ls (FT) DESIRABLE | 60 MPH e | 60 MPH Ls (FT) MINIMUM | 60 MPH Ls (FT) DESIRABLE | 70 MPH e | 70 MPH Ls (FT) MINIMUM | 70 MPH Ls (FT) DESIRABLE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° 15′ | N. C. | | | N. C. | | | N. C. | | | N. C. | | | N. C. | | | N. C. | | |
| 0° 30′ | N. C. | | | N. C. | | | N. C. | | | N. C. | | | N. C. | | | N. C. | | |
| 0° 45′ | N. C. | | | N. C. | | | R. C. | | | 0.022 | | | 0.023 | | | 0.028 | | |
| 1° 00′ | N. C. | | | N. C. | | | 0.021 | | | 0.026 | | | 0.030 | | | 0.037 | 275 | 300 |
| 1° 15′ | R. C. | | | R. C. | | | 0.026 | | | 0.032 | | | 0.037 | | | 0.046 | | |
| 1° 30′ | N. C. | | | 0.021 | | | 0.031 | 200 | | 0.037 | 225 | | 0.043 | 250 | | 0.054 | | |
| 1° 45′ | N. C. | | | 0.025 | 175 | | 0.036 | | | 0.043 | | 300 | 0.049 | | 300 | 0.062 | | |
| 2° 00′ | R. C. | | | 0.028 | | | 0.040 | | | 0.048 | | | 0.055 | | | 0.070 | | |
| 2° 15′ | R. C. | | | 0.031 | | | 0.045 | | 250 | 0.053 | | | 0.061 | | | 0.078 | 300 | 350 |
| 2° 30′ | 0.021 | | | 0.034 | | | 0.049 | | | 0.058 | | | 0.067 | | | 0.085 | 315 | |
| 2° 45′ | 0.023 | | | 0.037 | | 200 | 0.053 | | | 0.063 | | | 0.072 | | | 0.091 | 335 | |
| 3° 00′ | 0.025 | | | 0.040 | | | 0.057 | | | 0.067 | 230 | | 0.077 | 260 | | 0.096 | 350 | |
| 3° 15′ | 0.027 | 150 | | 0.043 | | | 0.061 | | | 0.072 | 245 | | 0.082 | 275 | | 0.098 | 360 | 400 |
| 3° 30′ | 0.029 | | | 0.046 | 185 | | 0.065 | 205 | | 0.076 | 255 | | 0.086 | 285 | | 0.100 | 360 | |
| 3° 45′ | 0.031 | | | 0.049 | 190 | | 0.069 | 215 | | 0.080 | 265 | | 0.090 | 296 | | | | |
| 4° 00′ | 0.033 | | | 0.051 | 200 | | 0.072 | 225 | | 0.083 | 270 | | 0.093 | 305 | 350 | | | |
| 4° 30′ | 0.037 | | | 0.056 | 210 | | 0.078 | 240 | | 0.087 | 280 | | 0.096 | 315 | | | | |
| 5° 00′ | 0.040 | | | 0.061 | 215 | | 0.083 | 250 | | 0.091 | 295 | | 0.098 | 320 | | | | |
| 5° 30′ | 0.043 | | | 0.066 | 225 | | 0.088 | 260 | | 0.094 | 300 | 350 | | | | | | |
| 6° 00′ | 0.046 | | | 0.070 | 230 | | 0.092 | 270 | | 0.096 | 305 | | | | | | | |
| 6° 30′ | 0.050 | | | 0.074 | 240 | | 0.095 | 280 | 300 | 0.100 | 315 | | | | | | | |
| 7° 00′ | 0.053 | | | 0.078 | 245 | | 0.098 | 285 | | | | | | | | | | |
| 7° 30′ | 0.056 | | | 0.081 | 255 | | 0.099 | 290 | | | | | | | | | | |
| 8° 00′ | 0.058 | | | 0.084 | 260 | | 0.100 | 290 | | | | | | | | | | |
| 8° 30′ | 0.061 | | | 0.087 | 265 | 250 | | | | | | | | | | | | |
| 9° 30′ | 0.063 | | | 0.089 | 270 | | | | | | | | | | | | | |
| 10° 00′ | 0.068 | 160 | | 0.094 | 285 | | | | | | | | | | | | | |
| 11° 00′ | 0.072 | 170 | | 0.097 | 290 | | | | | | | | | | | | | |
| 12° 00′ | 0.076 | 175 | | 0.099 | 295 | | | | | | | | | | | | | |
| 13° 00′ | 0.080 | 180 | | 0.100 | 295 | | | | | | | | | | | | | |
| 14° 00′ | 0.083 | 190 | | | | | | | | | | | | | | | | |
| 15° 00′ | 0.086 | 195 | | | | | | | | | | | | | | | | |
| 16° 00′ | 0.089 | 200 | | | | | | | | | | | | | | | | |
| 17° 00′ | 0.091 | 200 | | | | | | | | | | | | | | | | |
| 18° 00′ | 0.093 | 205 | | | | | | | | | | | | | | | | |
| 19° 00′ | 0.095 | 210 | | | | | | | | | | | | | | | | |
| 20° 00′ | 0.097 | 215 | 250 | | | | | | | | | | | | | | | |
| 21° 00′ | 0.098 | 215 | | | | | | | | | | | | | | | | |
| 22° 00′ | 0.099 | 215 | | | | | | | | | | | | | | | | |
| 23° 00′ | 0.099 | 215 | | | | | | | | | | | | | | | | |
| 24° 00′ | 0.100 | 220 | | | | | | | | | | | | | | | | |

D MAX = 24° 45′ | D MAX = 13° 15′ | D MAX = 8° 15′ | D MAX = 6° 30′ | D MAX = 5° 15′ | D MAX = 3° 30′

ABBREVIATIONS

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




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

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

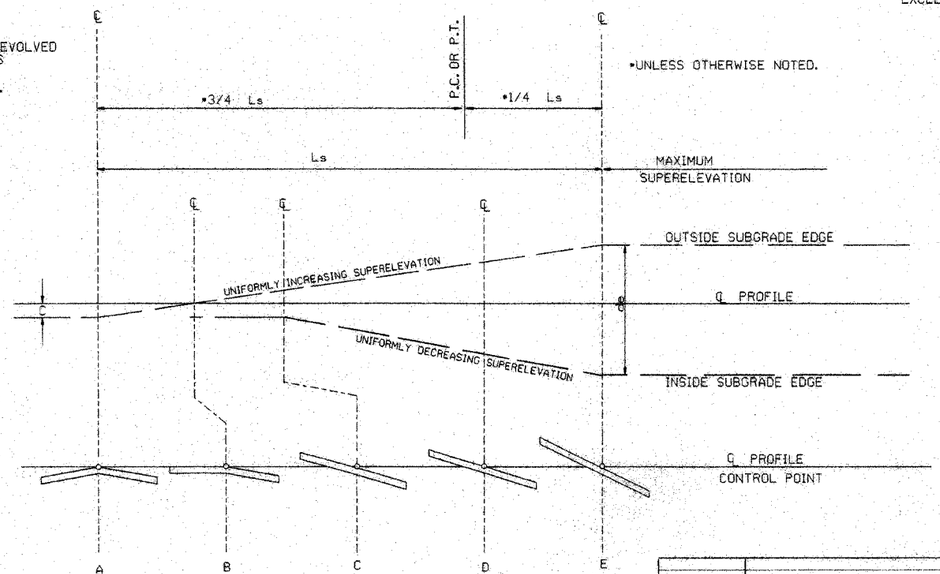
GENERAL NOTES

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

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

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 = $\frac{Lde}{Ls}$

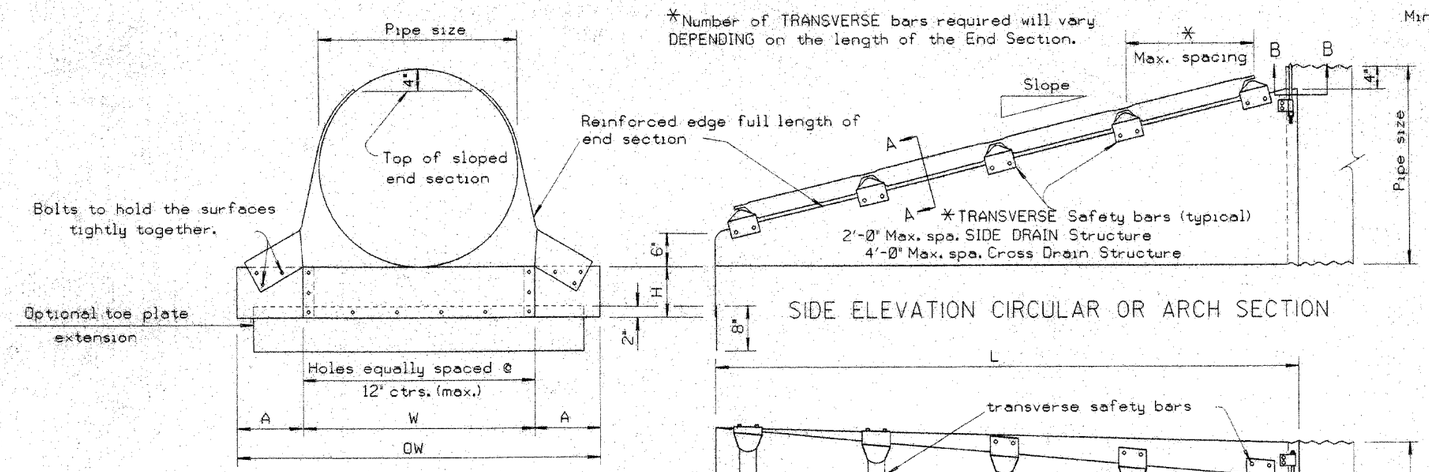
| DATE | REVISION | DATE FILMED |
|---|---|---|
| 10-18-96 | ADDED FORMULA | 10-18-96 |
| 01-09-87 | ISSUED | 534-1-9-87 |

ARKANSAS STATE HIGHWAY COMMISSION

# TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

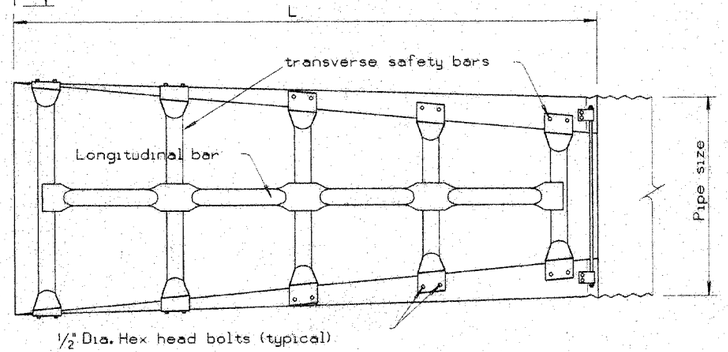
FILE STDSE2.DGN



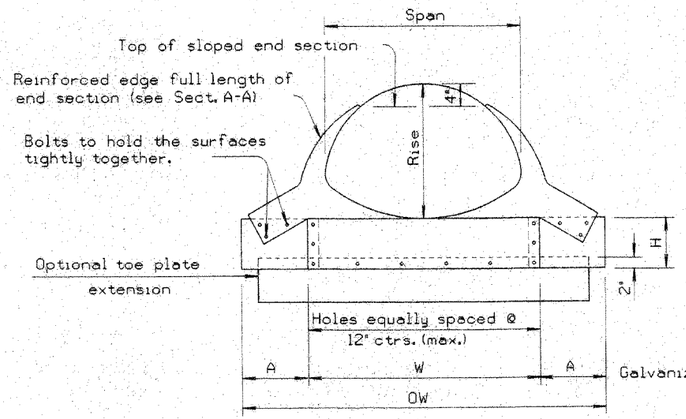

FRONT VIEW CIRCULAR PIPE




SIDE ELEVATION CIRCULAR OR ARCH SECTION



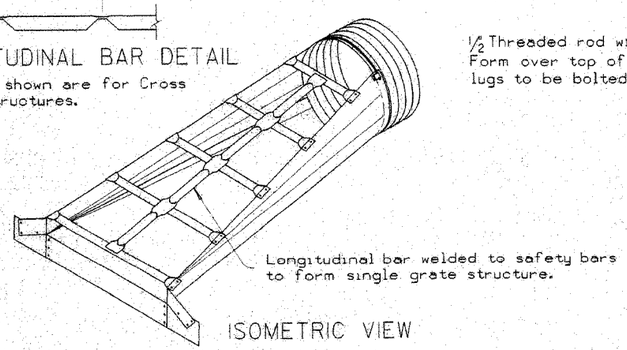

TOP VIEW CIRCULAR OR ARCH SECTION



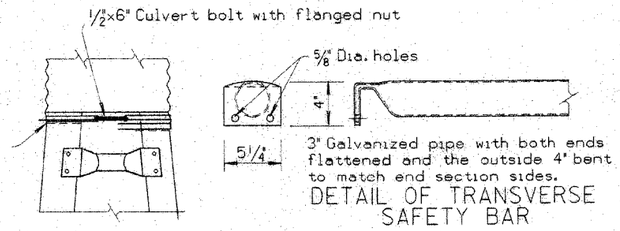

FRONT VIEW ARCH PIPE

LONGITUDINAL BAR DETAIL

Note: Bars shown are for Cross Drain Structures.



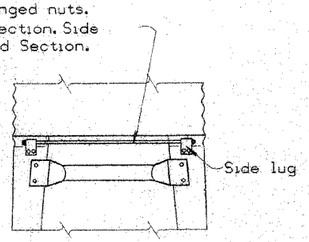

ISOMETRIC VIEW




DETAIL OF TRANSVERSE SAFETY BAR

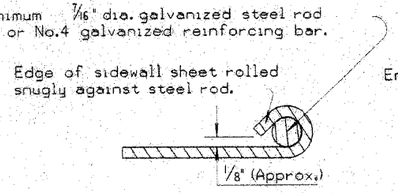
TYPE #1 CONNECTOR DETAIL

For 15" thru 24" pipe

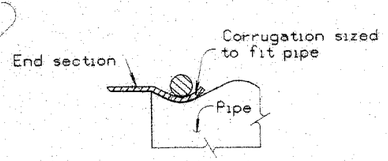



TYPE #2 CONNECTOR DETAIL

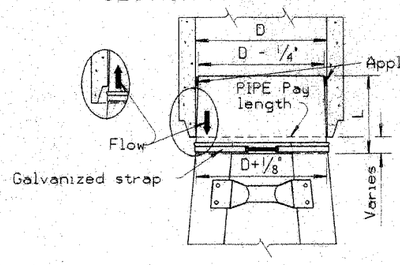
For 30" and larger round pipes & 21"x15" thru 64"x43" arch pipes




SECTION A-A




SECTION B-B




D - 12" to 24" L = 12"
D - 30" & Larger L = 16"

Note: Metal end section to be firmly wedged INTO PIPE END BEFORE BACKFILLING PIPE.

(Tapered sleeve to be 12 Ga. smooth galvanized steel in accordance with AASHTO M 218.)

STEEL END SECTION FOR CONCRETE PIPE
(Alternate for Concrete End Section)

GENERAL NOTES

End sections shall be fabricated from galvanzied steel meeting the requirements of SUBSECTION 606.02(c)(1) OF THE STANDARD SPECIFICATIONS.
When specified optional toe plate extension shall be punched and bolted to end section apron lip with 3/8" diameter galvanized bolts. Steel for toe plate extension shall be same gauge as end section.
Dimensions shall be overall width less 6" by 8" high.
Attachment to circular pipes 15" through 24" diameter shall be made with Type #1 straps. All other sizes shall be attached with Type #2 rods and lugs.
Safety bars shall be fabricated from steel pipe meeting the requirements of ASTM A-53 Schedule 40 Specifications. Safety bars shall be hot dipped galvanized after fabrication.
All work and materials required for construction and installation of safety end section shall be included in the PRICE BID EACH FOR SAFETY END SECTIONS FOR PIPE CULVERTS.
Longitudinal and transverse bars will be required for cross drain structures when span is greater than 30". no safety bars will be REQUIRED FOR 30" SPAN OR LESS WHEN USED ON CROSS DRAIN STRUCTURES.
Transverse bars will be required for all sizes of side drain structures.
Class I safety end sections shall be end sections with a 4:1 slope.
Class 2 safety end sections shall be end sections with a 6:1 slope.

| SAFETY END SECTIONS FOR ARCH PIPES | | | | | | | | | | | | | SAFETY END SECTIONS FOR CIRCULAR PIPES | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Equv. Dia. | Nom. W.W. Area Sq Ft | Pipe Arch Span (In.) | Pipe Arch Rise (In.) | Min. Gauge End Sect. | Dimensions in Inches A | H | W | OW | Slope | L (In) | Slope | L (In) | Pipe Dia. | Min. Gauge Ends | Dimensions in Inches A 1"Tol | H 1"Tol | W 2"Tol | OW | L Dimensions in Inches Slope | L | Slope | L |
| 18" | 1.6 | 21 | 15 | 16 | 8 | 6 | 27 | 43 | 4:1 | 20 | 6:1 | 30 | 15" | 16 | 8 | 6 | 21 | 37 | 4:1 | 20 | 6:1 | 30 |
| 21" | 2.2 | 24 | 18 | 16 | 8 | 6 | 30 | 46 | 4:1 | 32 | 6:1 | 48 | 18" | 16 | 8 | 6 | 24 | 40 | 4:1 | 32 | 6:1 | 48 |
| 24" | 2.9 | 28 | 20 | 16 | 8 | 6 | 34 | 50 | 4:1 | 40 | 6:1 | 60 | 21" | 16 | 8 | 6 | 27 | 43 | 4:1 | 44 | 6:1 | 66 |
| 30" | 4.5 | 35 | 24 | 14 | 12 | 9 | 41 | 65 | 4:1 | 56 | 6:1 | 84 | 24" | 16 | 8 | 6 | 30 | 46 | 4:1 | 56 | 6:1 | 84 |
| 36" | 6.5 | 42 | 29 | 12 | 12 | 9 | 48 | 72 | 4:1 | 76 | 6:1 | 114 | 30" | 12 | 12 | 9 | 36 | 60 | 4:1 | 80 | 6:1 | 120 |
| 42" | 8.9 | 49 | 33 | 12 | 16 | 12 | 55 | 87 | 4:1 | 92 | 6:1 | 138 | 36" | 12 | 12 | 9 | 42 | 66 | 4:1 | 104 | 6:1 | 156 |
| 48" | 11.6 | 57 | 38 | 12 | 16 | 12 | 63 | 95 | 4:1 | 112 | 6:1 | 168 | 42" | 12 | 16 | 12 | 48 | 80 | 4:1 | 128 | 6:1 | 192 |
| 54" | 14.7 | 64 | 43 | 12 | 16 | 12 | 70 | 102 | 4:1 | 132 | 6:1 | 198 | 48" | 12 | 16 | 12 | 54 | 86 | 4:1 | 152 | 6:1 | 228 |
| 60" | 18.1 | 71 | 47 | 12 | 16 | 12 | 77 | 109 | 4:1 | 148 | 6:1 | 222 | 54" | 12 | 16 | 12 | 60 | 92 | 4:1 | 176 | 6:1 | 264 |
| 72" | 26.0 | 83 | 57 | 12 | 16 | 12 | 89 | 121 | 4:1 | 188 | 6:1 | 282 | 60" | 12 | 16 | 12 | 66 | 98 | 4:1 | 200 | 6:1 | 300 |

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 10-18-96 | REVISED ASTM REF. TO AASHTO | 10-18-96 |
| 8-15-91 | DRAWN & ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

SAFETY END SECTION FOR CIRCULAR AND ARCH PIPES

STANDARD DRAWING SES-1

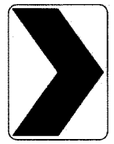
FILE stdsesi.dgn

| FED.RD. DIST.NO. | STATE | FED.AID PROJ.NO. | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|
| 6 | ARK. | | 165 | |
| JOB NO. | | | | |

(4) STD. HWY. SIGNS & SUP ASSEMB

R1-1
30"X30"

W1-3
30"X30"
(LT. OR RT.)

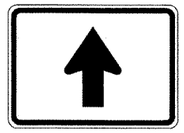


W1-8
18"X24"

W2-5
30"X30"

W3-1
36"X36"

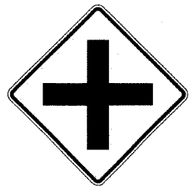
W5-1
36"X36"



M6-3
21"X15"

R1-2
36"X36"X36"

W1-4
30"X30"
(LT. or RT.)



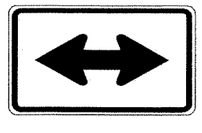
W2-1
30"X30"

S1-1
36"X36"

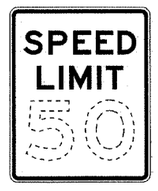
W3-2
36"X36"

County
Route Marker
M1-5
24"X24"

NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.

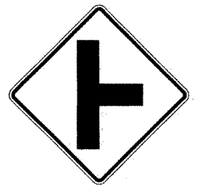


M6-4
21"X15"




R2-1
24"X30"

W1-5
30"X30"
(LT. or RT.)

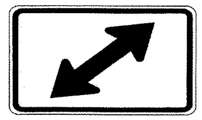


W2-2
30"X30"

W5-2
36"X36"

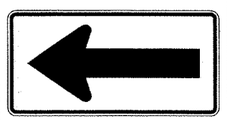
W8-3
36"X36"

R1-3
12"X6"

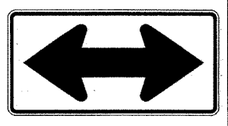


M6-5
21"X15"

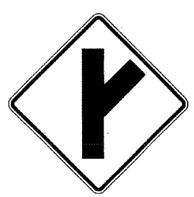
W1-1
30"X30"
(LT. or RT.)



W1-6
48"X24"

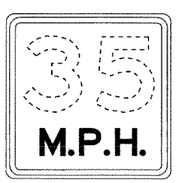


W1-7
48"X24"

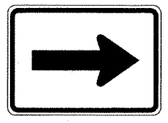


W2-3
30"X30"
(LT. or RT.)

W5-3
36"X36"

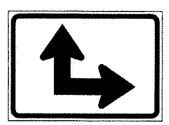



W13-1
18"X18"



M6-1
21"X15"

NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.

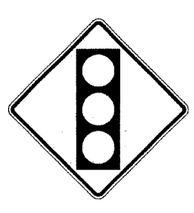


M6-6
21"X15"

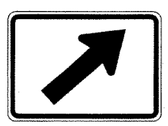
W1-2
30"X30"
(LT. or RT.)

W2-4
30"X30"

W10-1
36" DIAMETER

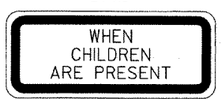


W3-3
36"X36"

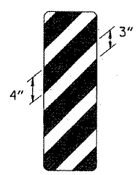


M6-2
21"X15"

S4-3
24"X8"



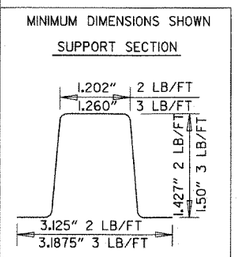

S4-2
24"X10"



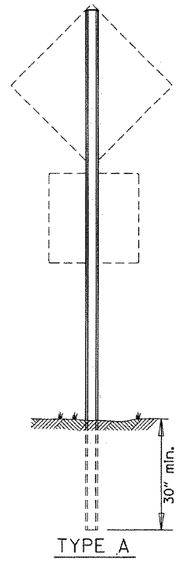

OM-3
12"X36"
(LT. or RT.)

MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION

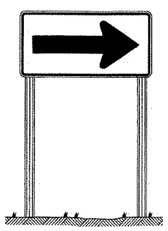



(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES

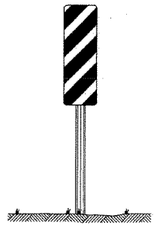



TYPE A

NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.



TYPE B



TYPE C

MINIMUM WEIGHT

TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

# STANDARD HIGHWAY SIGNS

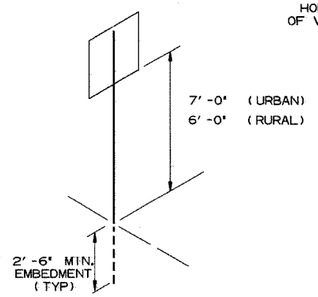
# SUPPORT ASSEMBLIES

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 4-17-08 | REVISED SIGN DESIGNATION - W3-1 & W3-2 | |
| 4-10-03 | REVISED W5-2, W8-3, OM-3; ADDED W1-8 | |
| 1-5-81 | REDRAWN | 960-1-15-81 |
| 9-15-78 | ADDED W14-3 | 877-9-15-78 |
| 9-2-76 | POST WT. | 623-9-3-76 |
| 5-3-76 | STEEL POST WT. FROM 2# - 3# ADDED S4-2 & S4-3 | 504-5-3-76 |
| 8-12-74 | REV. HT. TYPE "C" ASSEMBLY | 500-8-21-74 |
| 12-21-72 | ADDED M6-2,3,4,5,6 | 500-12-21-72 |
| 12-1-72 | ISSUED | 562-12-1-72 |

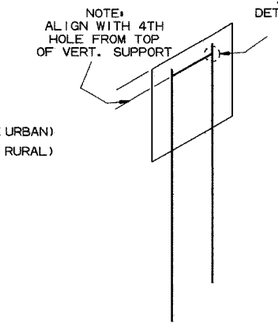
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS
AND SUPPORT ASSEMBLIES

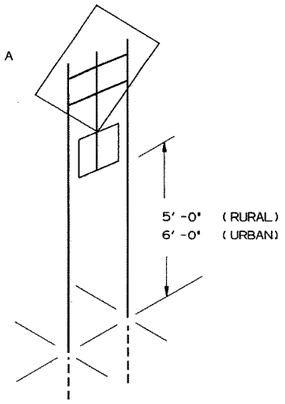
STANDARD DRAWING SHS-1



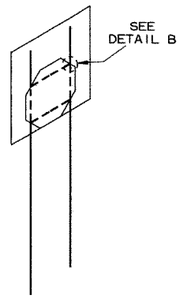

U-1



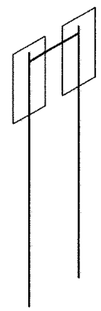

U-2



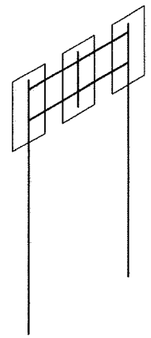

U-2 (A)



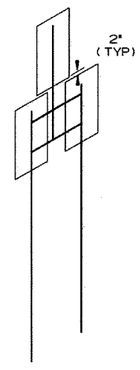

U-2 (B)



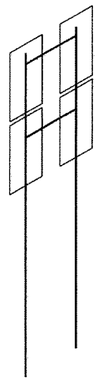
U-2 (1)



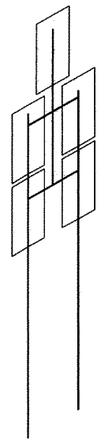
U-2 (2)



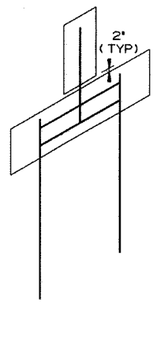

U-2 (3)



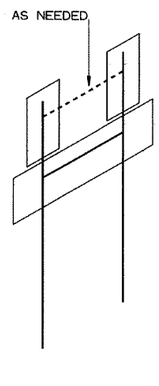
U-2 (4)



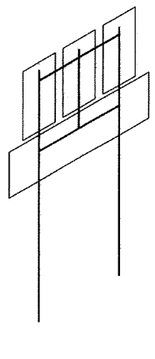
U-2 (5)



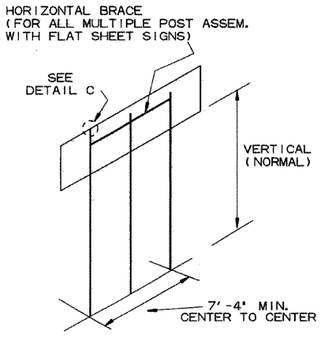

U-2 (6)



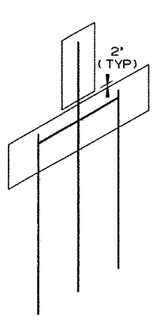

U-2 (7)



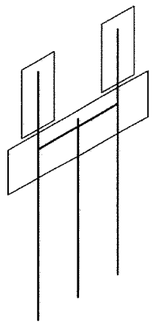
U-2 (8)



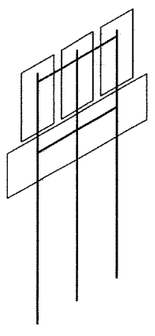

U-3



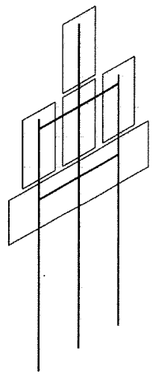

U-3 (1)



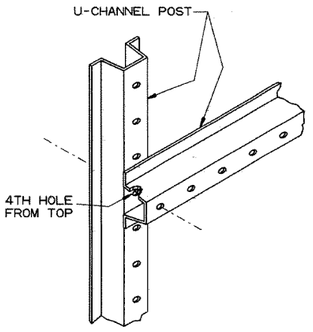
U-3 (2)



U-3 (3)

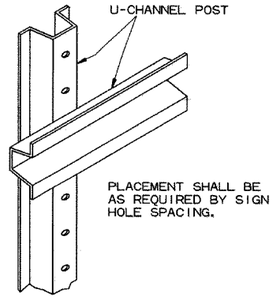


U-3 (4)



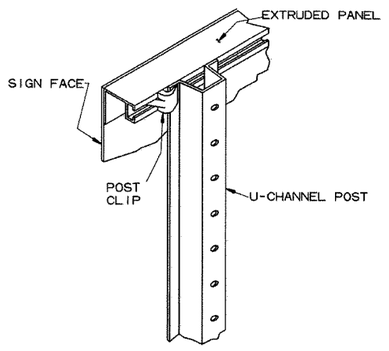

DETAIL A

SHOWING HORIZONTAL BRACE



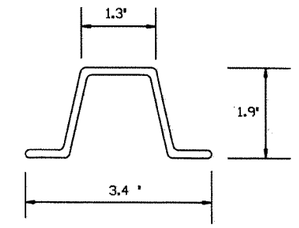

DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



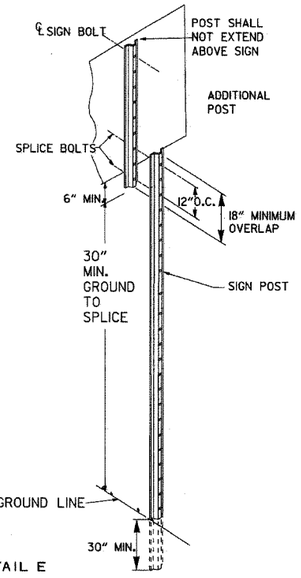

DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS




DETAIL D

(3 LB. U-CHANNEL POST)




DETAIL E

NOTES:

SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (E).

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. CARRIAGE BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS.

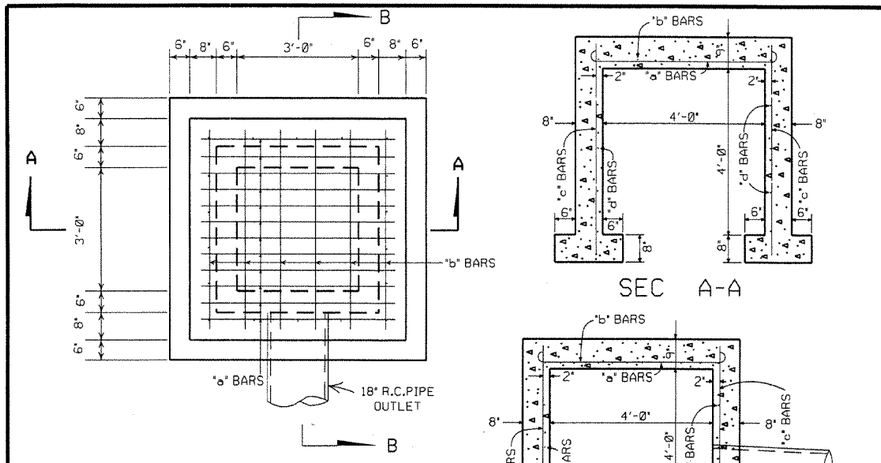
ALL SIGN POSTS SHALL BE PLUMB.

| DATE | REVISION | FILMED |
|---|---|---|
| 10-9-03 | REMOVED ROUND POST & REVISED SPACING | 10-9-03 |
| 10-12-95 | MOVED UPPER SPLICE | |
| 6-8-95 | REVISED SPLICE DETAIL | 6-8-95 |
| 2-2-95 | REDRAWN | 2-2-95 |

ARKANSAS STATE HIGHWAY COMMISSION

# U-CHANNEL POST ASSEMBLIES

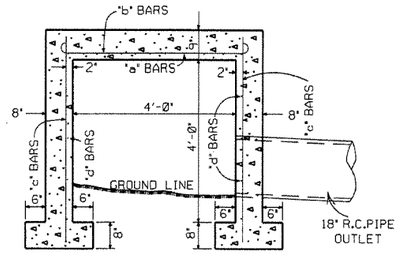
STANDARD DRAWING SHS-2







SEC A-A

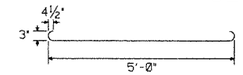



SEC B-B

STEEL SCHEDULE

| BARS | NUMBER | LENGTH | SPACING |
|---|---|---|---|
| "a" | 11 | 6'-0" | 5" |
| "b" | 6 | 6'-0" | 10" |
| "c" | 16 | 5'-1" | 12" |
| "d" | 16 | 5'-0" | 12" |

ALL STEEL TO BE #4 BARS




"a" & "b" BARS

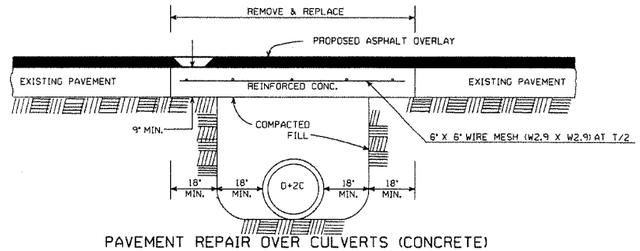
QUANTITIES

CONCRETE 3.40 CU. YDS.
REINFORCING STEEL 176 LB.

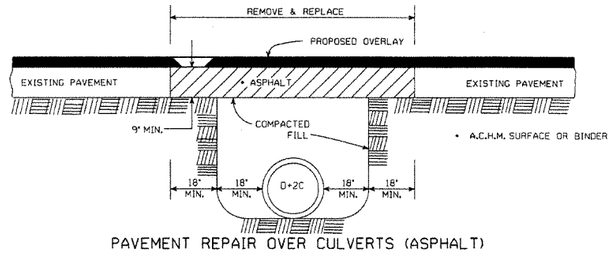
GENERAL NOTE:

THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITTIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

## REINFORCED CONCRETE SPRING BOX



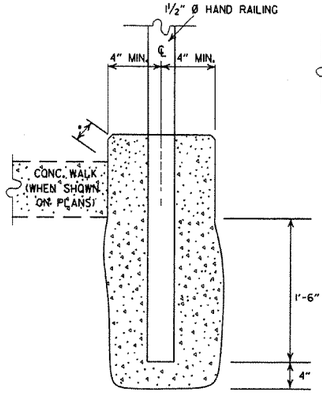

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



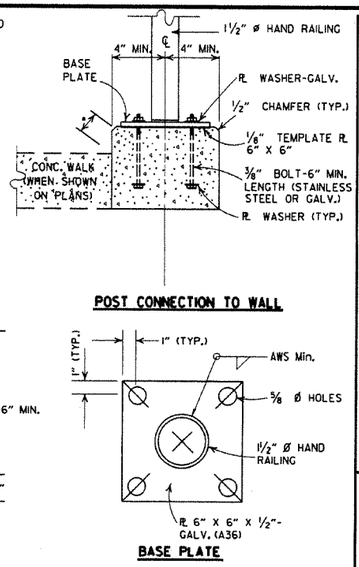

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

## DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

* A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.




DETAIL OF HAND RAILING SET IN CONCRETE

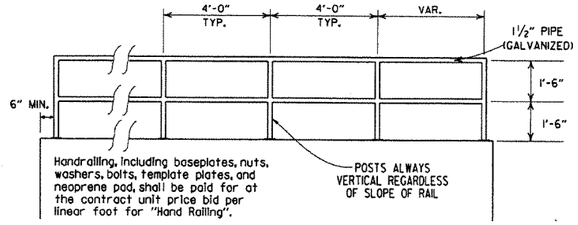



POST CONNECTION TO WALL

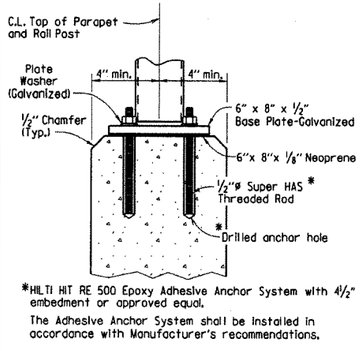



BASE PLATE

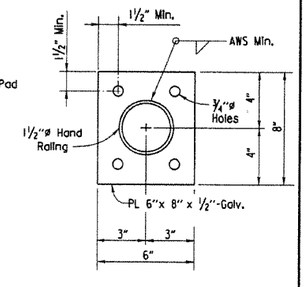
## POST CONNECTION DETAILS




Hand railing shall conform to Section 633.



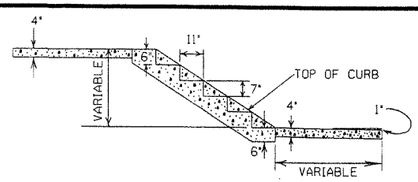

POST CONNECTION TO WALL




BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(EPOXY ADHESIVE ANCHORS)

## HAND RAILING DETAILS




GENERAL NOTES

1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45° INTERVALS.

## DETAILS OF CONCRETE STEPS & WALKS

| DATE | REVISION | DATE FILMED |
|---|---|---|
| 7-26-12 | REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS | |
| 4-17-08 | REV. JOINT & FOOTING STEP DETAILS | |
| 11-29-07 | REVISED RETAINING WALL DRAINAGE | |
| 5-25-06 | REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX | |
| 10-9-03 | REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS | |
| 4-10-03 | REVISED RETAINING WALL DRAWING | |
| 8-22-02 | ADDED HAND RAILING DETAIL | |
| 11-16-01 | REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES | |
| 11-18-98 | ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS | |
| 7-02-98 | ENLARGED PIPE | |
| 4-03-97 | ADDED NOTE TO STEEL BAR SCHED. | |
| 10-18-96 | CORRECTED SPELLING | |
| 4-26-96 | ADD WEEP HOLE;REV. JOINT SPACING IN RET. WALL | |
| 6-2-94 | CHANGED CONST. TO CONTRACTION JOINT | |
| 10-1-92 | CHANGED MESH FABRIC TO WIRE MESH | 10-1-92 |
| 8-15-91 | DELETED HDWL MODIFICATION DETAIL | 8-15-91 |
| 11-8-90 | DELETED COLD MIX FROM CULV'T. REPAIR | 11-8-90 |
| 11-30-89 | REV. RETAINING WALL STEEL SCHEDULE | 11-30-89 |
| 11-17-88 | V. BARS BEHIND ARROW | 665-11-17-88 |
| 7-15-88 | REV. PAVEMENT REPAIR | 649-7-15-88 |
| | ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS | |
| 11-1-84 | REV. TRENCH FOR PIPE UNDERDRAIN | 510-11-1-84 |
| 1-4-83 | ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE | 682-1-4-83 |
| 3-2-81 | SPELLING OF "UNDERDRAIN" | 721-3-2-81 |
| 4-20-79 | REV. UNDERDRAIN DET.& PAVEMENT REPAIR | 674-4-20-79 |
| 2-2-76 | 12"MIN. GRAN. MAT'L. OVER PIPE | 915-2-2-76 |
| 4-10-75 | REM. SPECS. FOR GRAN. MAT'L. | 568-4-10-75-853 |
| 5-22-74 | GRANULAR MAT'L. TO BE SB-3 | 567-5-22-74-740 |
| 10-2-72 | REVISED AND REDRAWN | 564-10-16-72 |

ARKANSAS STATE HIGHWAY COMMISSION

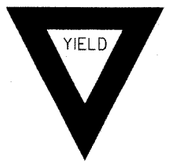
# DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI - 1

R1-1

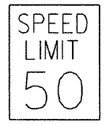
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2




STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1




STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5A

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-5C

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

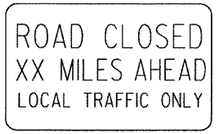
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2

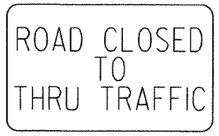
48"X30"

R11-3A




60"X30"

R11-4

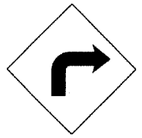



60"X30"

RSP-1

48"X30"

W1-1



STD. 36"X36"
FWY. 48"X48"

W1-2

STD. 36"X36"
FWY. 48"X48"

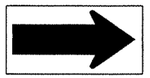
W1-3

STD. 48"X48"

W1-4

STD. 48"X48"

W1-6



STD. 48"X24"
SPECIAL 60"X30"

W1-8

STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

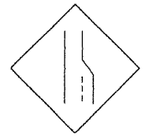
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

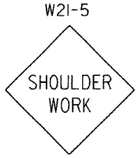
W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5




STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

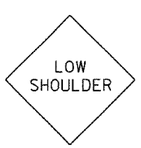
R56-1

STD. 18"X18"

W8-11

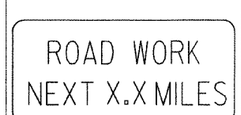
STD. 36"X36"
FWY. 48"X48"

W8-9



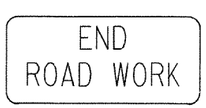

STD. 36"X36"
FWY. 48"X48"

G20-1



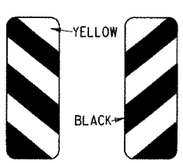

60"X24"

G20-2



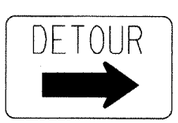

48"X24"

OM-3L OM-3R




12"X36"

M4-9

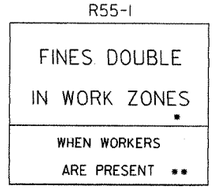



STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1




36"X60"

* USE 6" C LETTERS
** USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

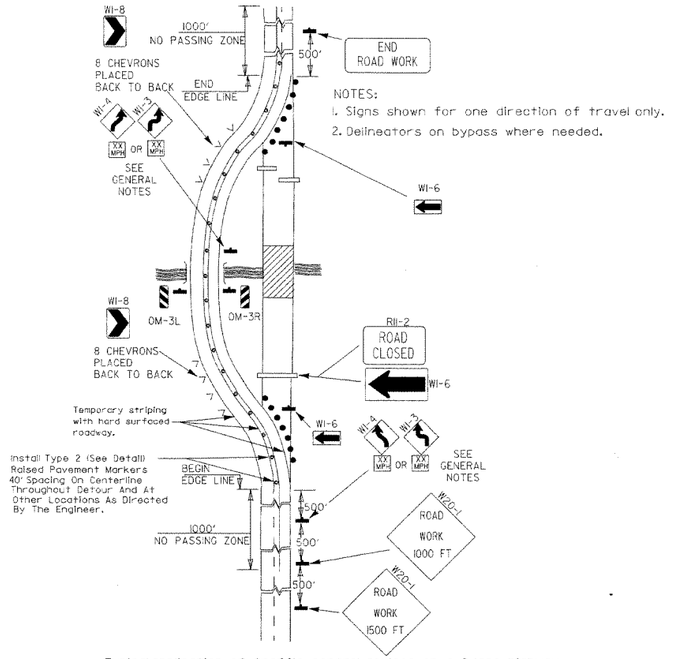
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

| DATE | REVISION | FILMED |
|---|---|---|
| 12-15-11 | REVISED W24-1 | |
| 11-17-10 | DELETED W8-9a & ADDED W8-9 | |
| 10-15-09 | ADDED REFERENCE TO MASH & ADDED SIGN W24-1 | |
| 4-17-08 | REVISED SIGN DESIGNATIONS | |
| 11-18-04 | REVISED NOTES | |
| 10-9-03 | REVISED NOTE 1 | |
| 11-16-01 | REVISED NOTE 7 | |
| 9-28-00 | REVISED NOTE | |
| 11-18-98 | ADDED NOTE | |
| 6-26-97 | REVISED NOTE 5 | |
| 4-03-97 | REVISED NOTE 5 | |
| 10-18-96 | ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7 | |
| 10-12-95 | ADDED R55-1 | |
| 6-8-95 | REVISED TO CORRECT SIGN ILLUSTRATIONS | 6-8-95 |
| 2-2-95 | REVISED PER PART VI, MUTCD SEPT. 3, 1993 | |
| 8-15-91 | DRAWN AND PLACED IN USE | |

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

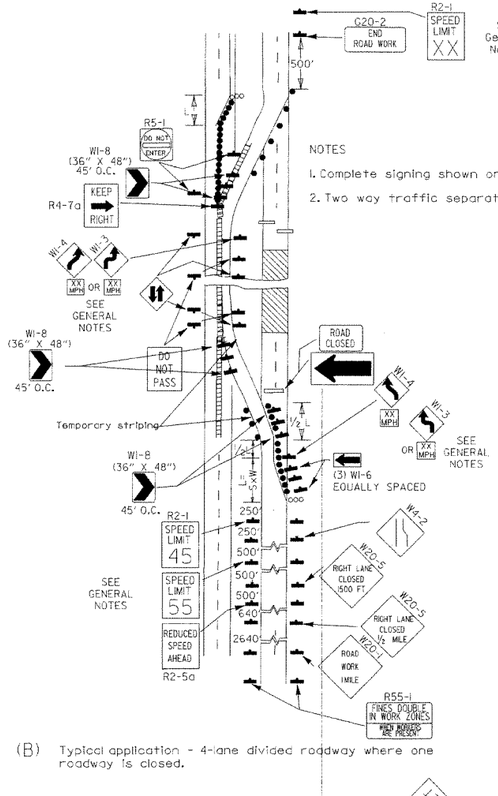
STANDARD DRAWING TC-1




NOTES:

1. Signs shown for one direction of travel only.
2. Delineators on bypass where needed.

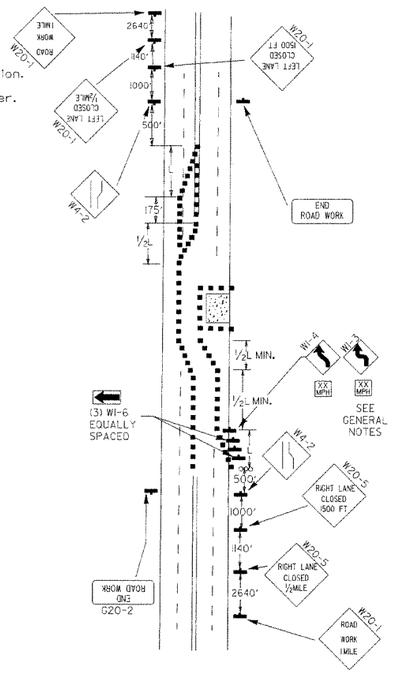
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



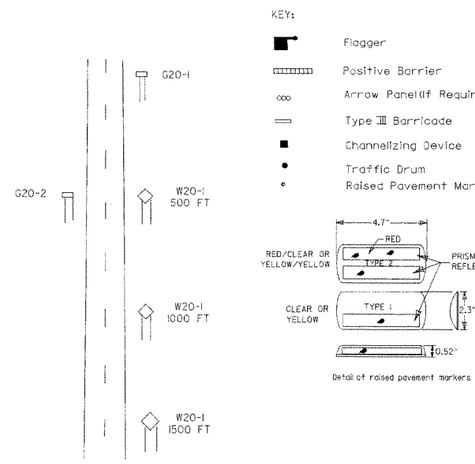

NOTES

1. Complete signing shown only in crossover direction.
2. Two way traffic separated with positive barrier.

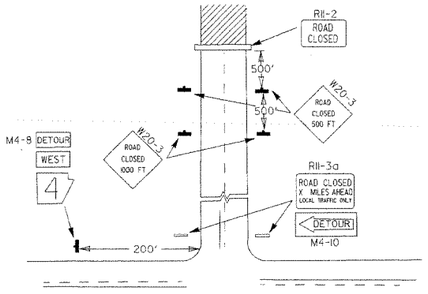
(B) Typical application - 4-lane divided roadway where one roadway is closed.




(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



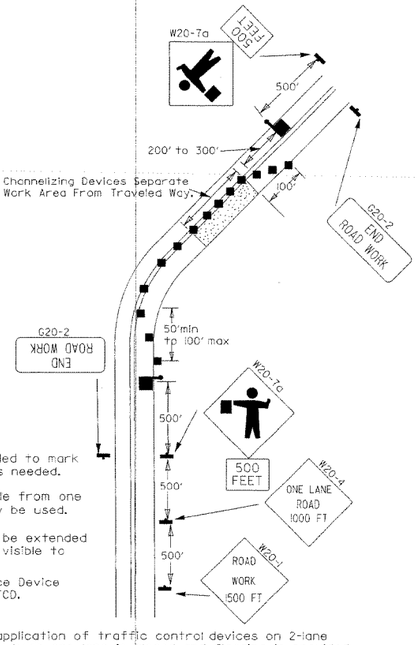

Typical advance warning sign placement




NOTES:

1. Regulatory traffic control devices to be modified as needed for the duration of the detour.
2. Street names may be used when desirable for directing detoured traffic.

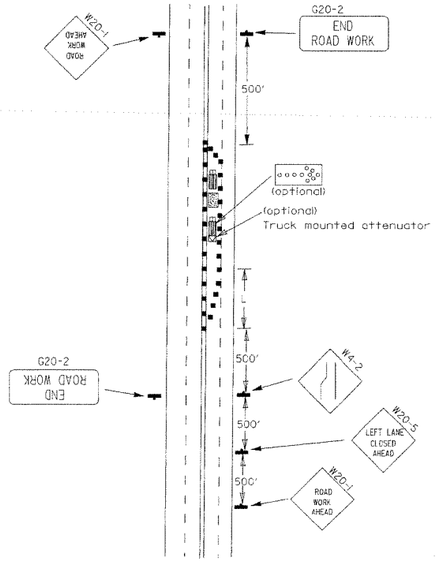
(D) Typical application - roadway closed beyond detour point.




NOTES:

1. Flood lights should be provided to mark flagger stations at night as needed.
2. If entire work area is visible from one station, a single flagger may be used.
3. Channelizing devices are to be extended to a point where they are visible to approaching traffic.
4. Automated Flagger Assistance Device (AFAD) optional. Refer to MUTCD.

(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.




(F) Typical application - 4-lane undivided roadway with inside lane closed.

Taper formulae:

L=SxW for speeds of 45mph or more.

$L = \frac{WS^2}{60}$ for speeds of 40mph or less.

Where:

L= Minimum length of taper.

S= Numerical value of posted speed limit prior to work or 85th percentile speed.

W= Width of offset.

GENERAL NOTES:

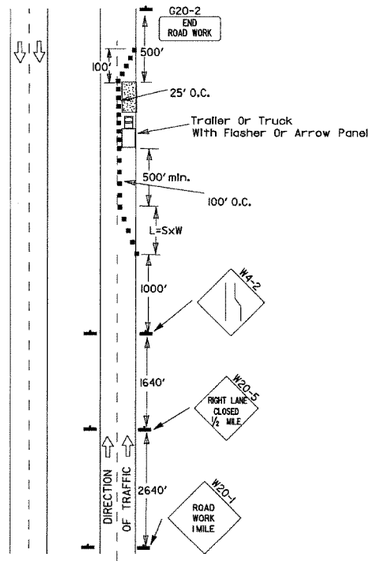
1. Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1mile intervals. At the end of the work area a R2-1(xx) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit, or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

| DATE | REVISION | FILMED |
|---|---|---|
| 3-11-10 | ADDED (AFAD) | |
| 11-20-08 | REVISED SIGN DESIGNATIONS | |
| 11-18-04 | ADDED GENERAL NOTE | |
| 10-18-96 | ADDED R55-1 | |
| 4-26-96 | CORRECTED (a) BEHIND G20-2 | |
| 6-8-95 | CORRECTED SIGN IDENT. ON W1-4A | 6-8-95 |
| 2-2-95 | REVISED PER PART VI, MUTCD, SEPT. 3, 1993 | |
| 8-15-91 | DRAWN AND PLACED IN USE | |

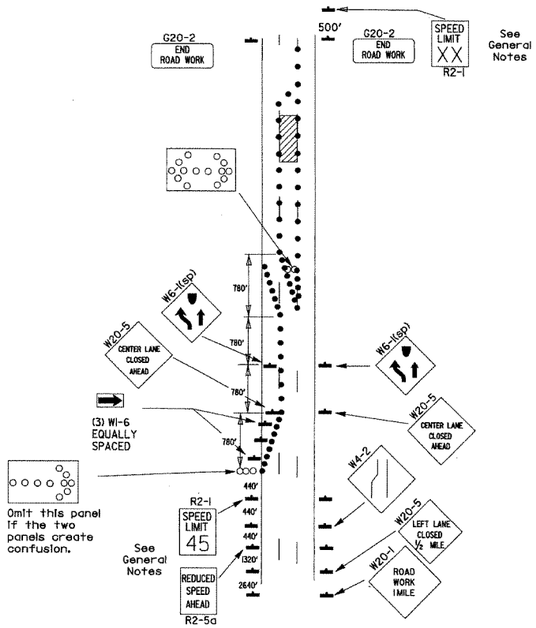
ARKANSAS STATE HIGHWAY COMMISSION

# STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

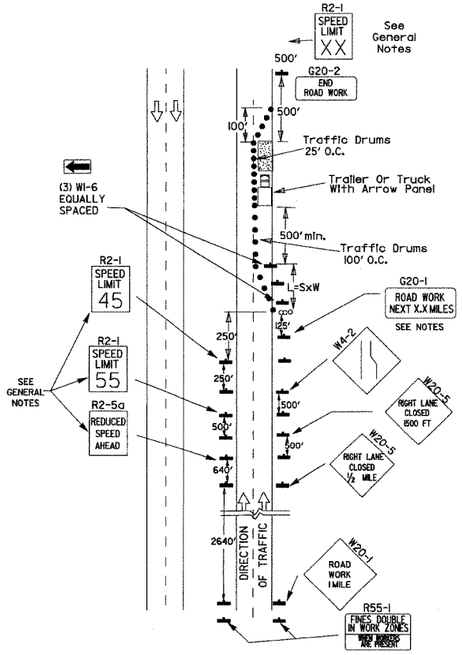
STANDARD DRAWING TC-2




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




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




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

KEY:

ooo Arrow Panel (If Required)

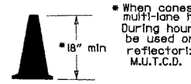
■ Channelizing Device

● Traffic drum

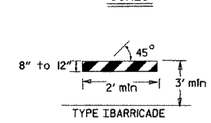
GENERAL NOTES:

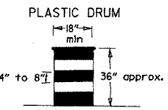
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional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

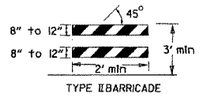
Channelizing devices

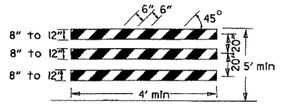



* When cones are used on freeways and multi-lane highways, they shall be 28" min. During hours of darkness, 28" cones shall be used on all roadways, and shall be reflectorized in accordance with the M.U.T.C.D.

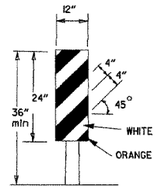


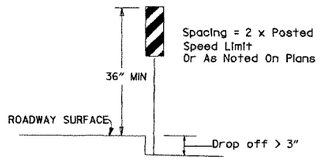




NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.




VERTICAL PANEL PLACEMENT



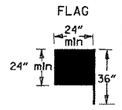

TRAFFIC CONTROL DEVICES
FOR
VERTICAL PAVEMENT DIFFERENTIALS

| VERTICAL DIFFERENTIAL | LOCATIONS | TRAFFIC CONTROL |
|---|---|---|
| 1" to 3" | Centerline, lane lines | W8-11 |
| 1" to 3" | Edge of shoulder | W8-9 |
| Greater than 3" | Lane lines | Standard lane closure required |
| Greater than 3" | Edge of traveled lane | *RSP-1 and vertical panels, drums or concrete barrier |
| Greater than 3" | Edge of shoulder | *Vertical panels, drums or concrete barrier |

* When shown on the plans concrete barrier will be used.

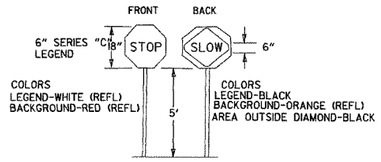
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

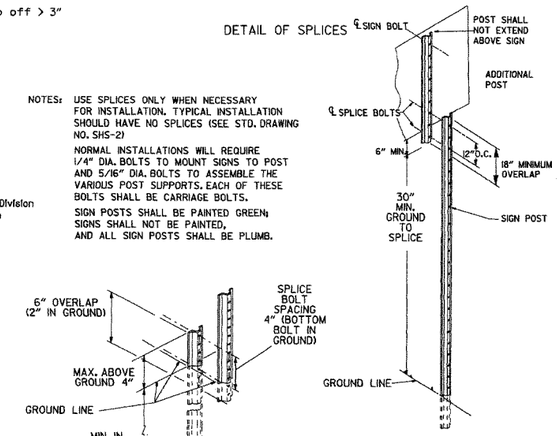
FLAG




Flag shall be of good grade red material

STOP SLOW PADDLE

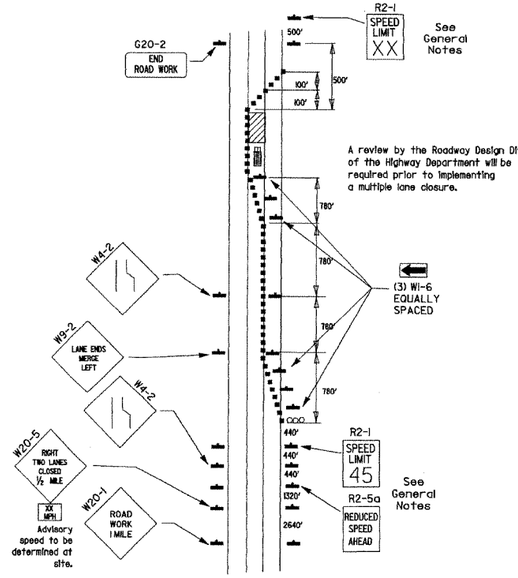



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.




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

| DATE | REVISION | FILMED |
|---|---|---|
| 10-15-09 | ADDED REFERENCE TO MASH | |
| 11-20-08 | REVISED SIGN DESIGNATIONS | |
| 11-18-04 | ADDED NOTE | |
| 10-1-98 | ADDED NOTE | |
| 4-03-97 | ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE | |
| 10-18-96 | ADDED R55-1 | |
| 10-12-95 | MOVED UPPER SPLICE | |
| 6-8-95 | REVISED SPLICE DETAIL, TEXT | 6-8-95 |
| 2-2-95 | REVISED PER PART VI, MUTCD, SEPT. 3, 1993 | |
| 8-15-91 | DRAWN AND PLACED IN USE | |

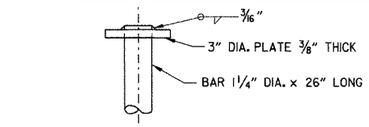
ARKANSAS STATE HIGHWAY COMMISSION

# STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

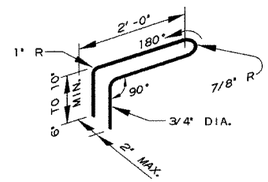
## REINFORCING BAR TABLE PER BARRIER UNIT

| MARK | LOCATION | BAR SIZE | (NO. BARS) | SKETCH |
|---|---|---|---|---|
| H-1 | HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS | #5 | (6) | 19'-3" |
| H-2 | CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY | #5 | (6) | 6'-6" |
| H-3 | TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1 | #4 | (2) | 1'-6" |
| S-1 | OVER LIFT HOLES | #4 | (2) | 2'-5", LIFTING HOLE, 90°, 3 3/8" R |
| S-2 | HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS | #4 | (2) | 1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP; TOTAL LENGTH 4'-9" |
| V-1 | VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS | #5 | (16) | 2 3/16" R, 12°, 1 1/2", ±9", 2'-1 3/8", 4 3/8" |

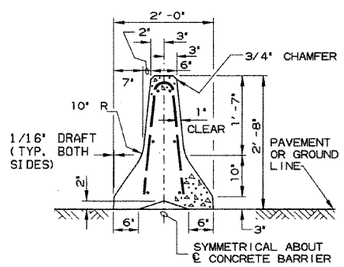



SECTION E-E

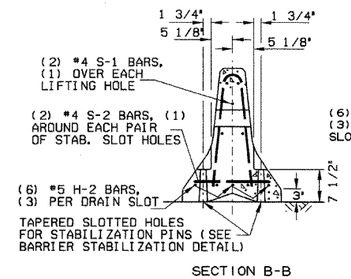
CONNECTION DETAILS



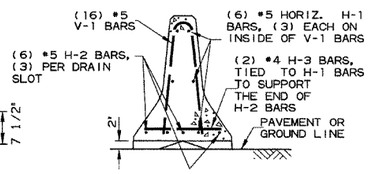

CONNECTION LOOP



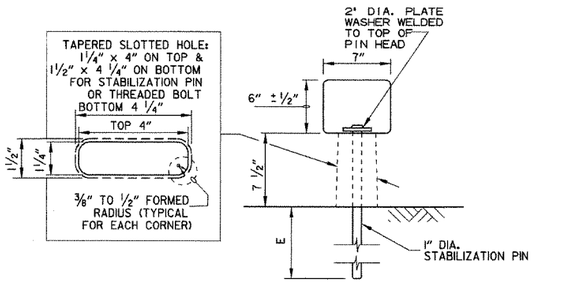

SECTION A-A




SECTION B-B



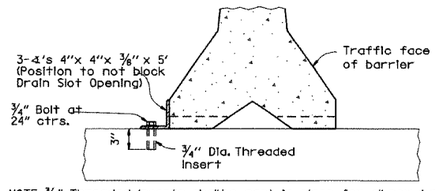

SECTION C-C




BARRIER STABILIZATION DETAIL

ROADWAY SECTION

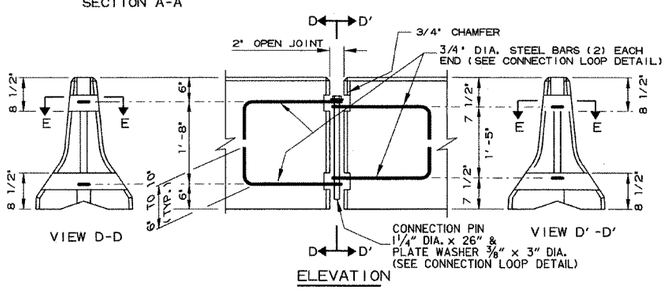
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



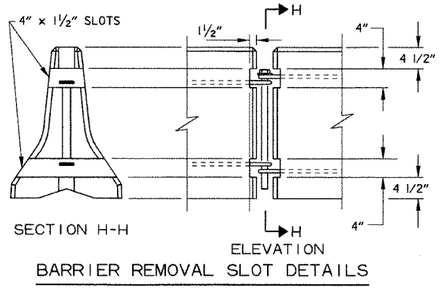

NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks to be retained. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

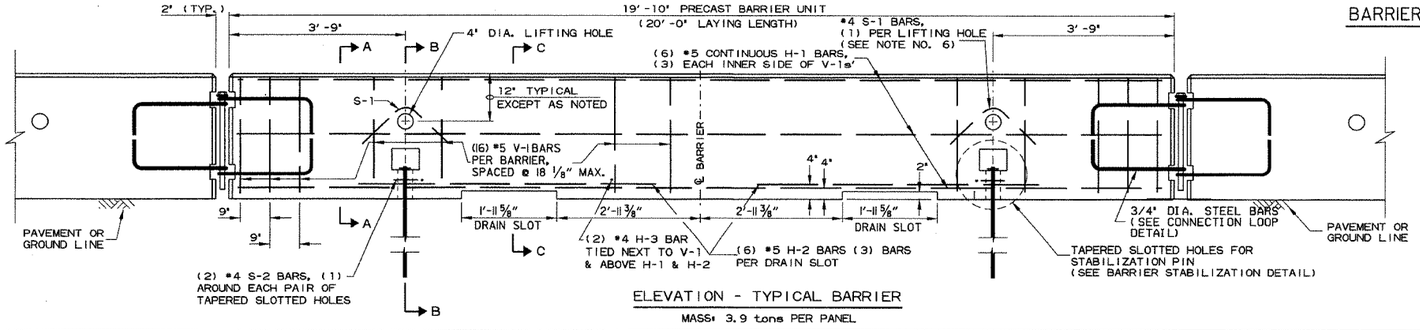
BRIDGE DECKS




ELEVATION




BARRIER REMOVAL SLOT DETAILS




ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

### General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier".
The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

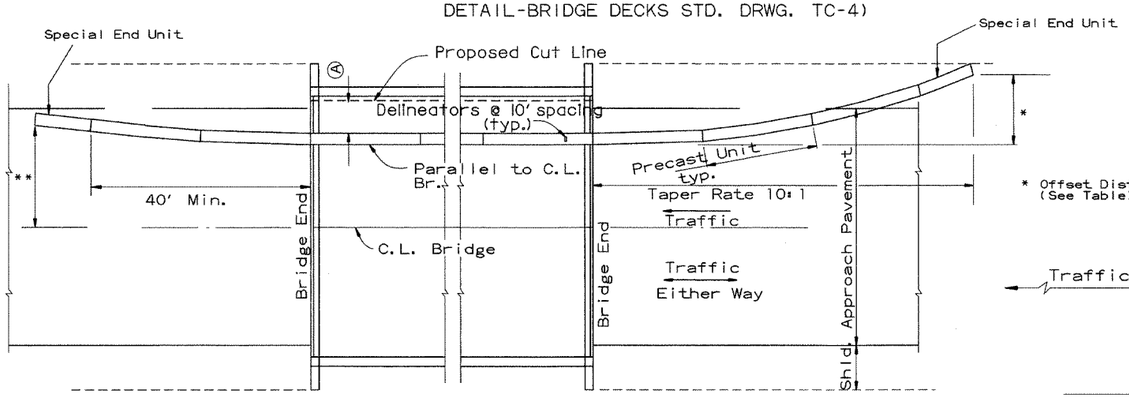
| DATE | REVISION | FILMED |
|---|---|---|
| 10-15-09 | ADDED REFERENCE TO MASH | |
| 8-5-09 | REV. NOTE 3 CONCERNING DRAIN SLOTS | |
| 11-29-07 | REVISED NOTE 3 | |
| 5-25-06 | DELETED GENERAL NOTE 7 | |
| 11-18-04 | REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS | |
| 4-10-03 | REVISED GENERAL NOTE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

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

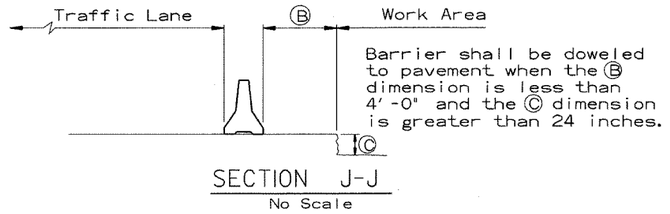
STANDARD DRAWING TC-4

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




BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

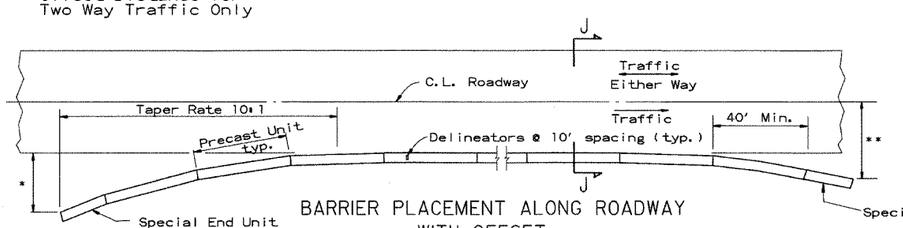



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only




BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

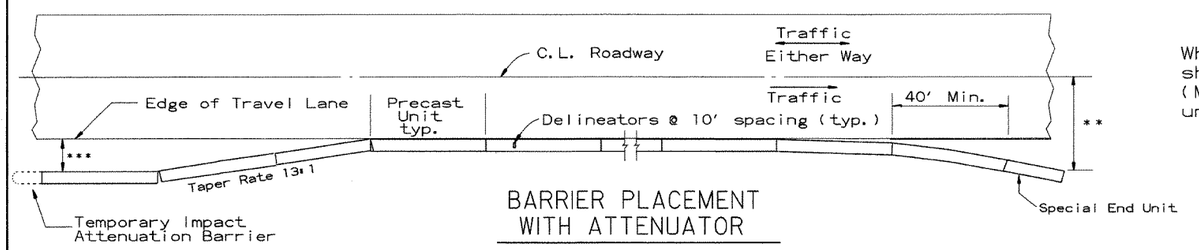
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

| Speed (MPH) | Offset Distance (FT.) |
|---|---|
| ≤ 45 | 12 |
| > 45 | 18 |

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.

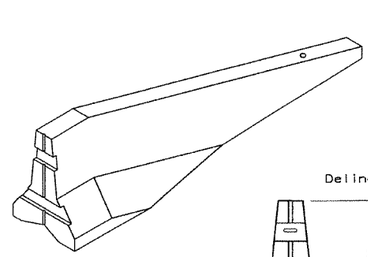


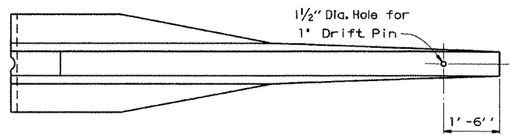

BARRIER PLACEMENT WITH ATTENUATOR

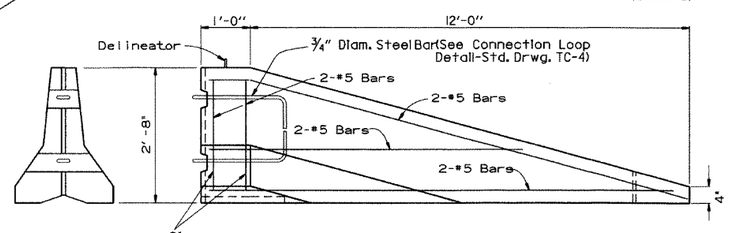
No Scale

** Offset Distance For Two Way Traffic Only

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






SPECIAL END UNIT

No Scale

## General Notes

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

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

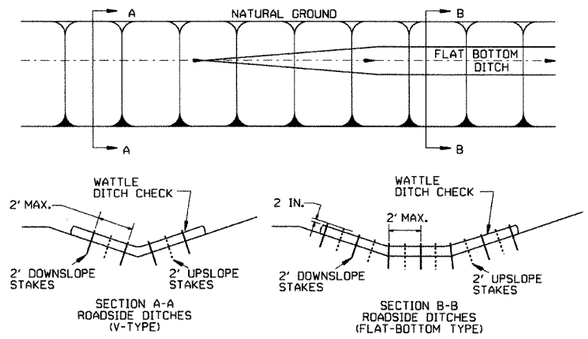
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

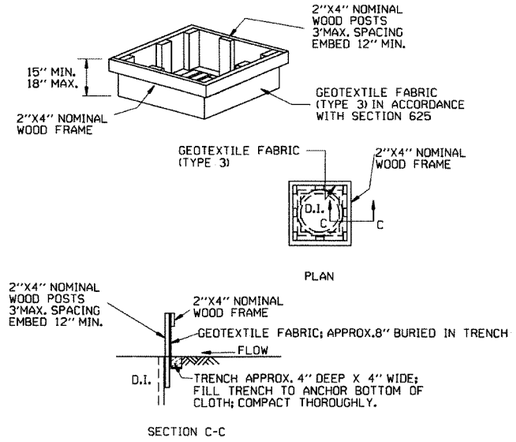
STANDARD DRAWING TC-5

GENERAL NOTES

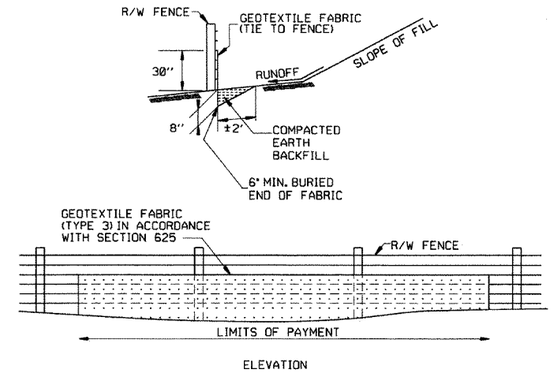
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.




WATTLE DITCH CHECK (E-1)




DROP INLET SILT FENCE (E-7)




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

GENERAL NOTES

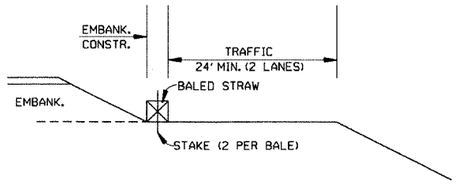
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

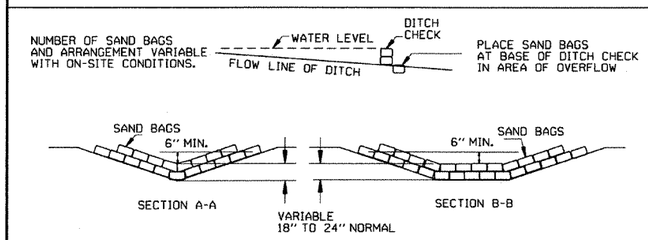
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

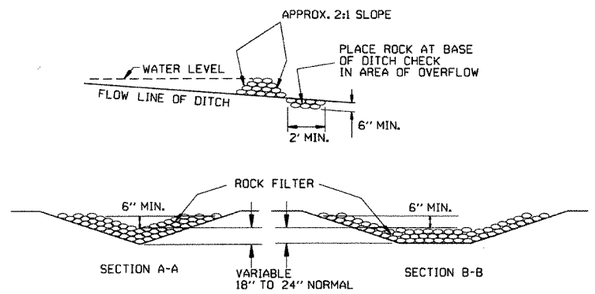
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



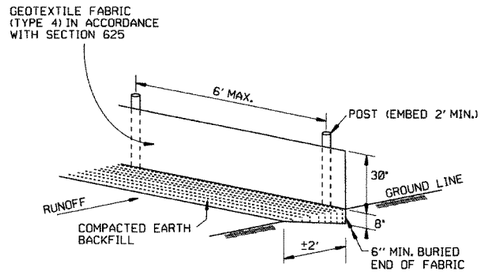

BALED STRAW FILTER BARRIER (E-2)




SAND BAG DITCH CHECK (E-5)




ROCK DITCH CHECK (E-6)




SILT FENCE (E-11)

GENERAL NOTES

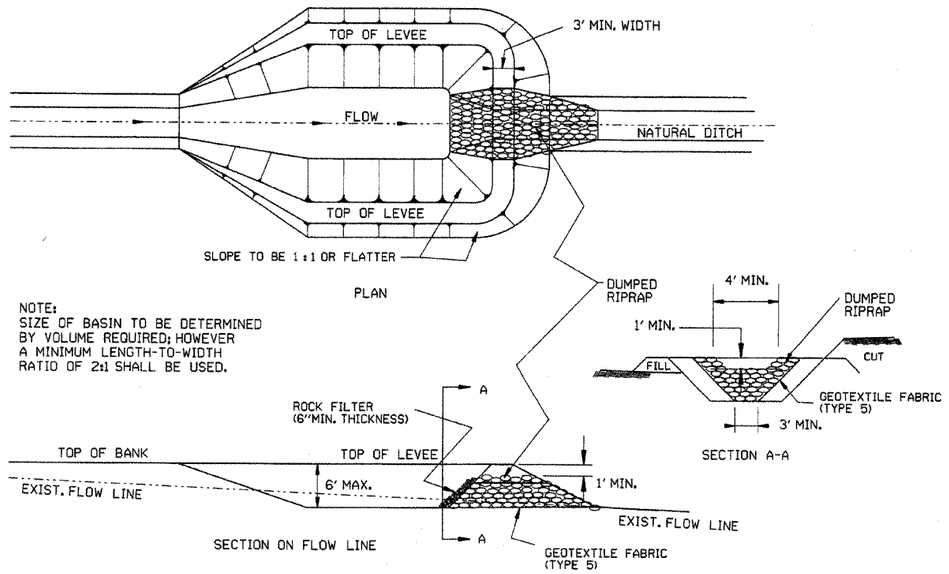
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

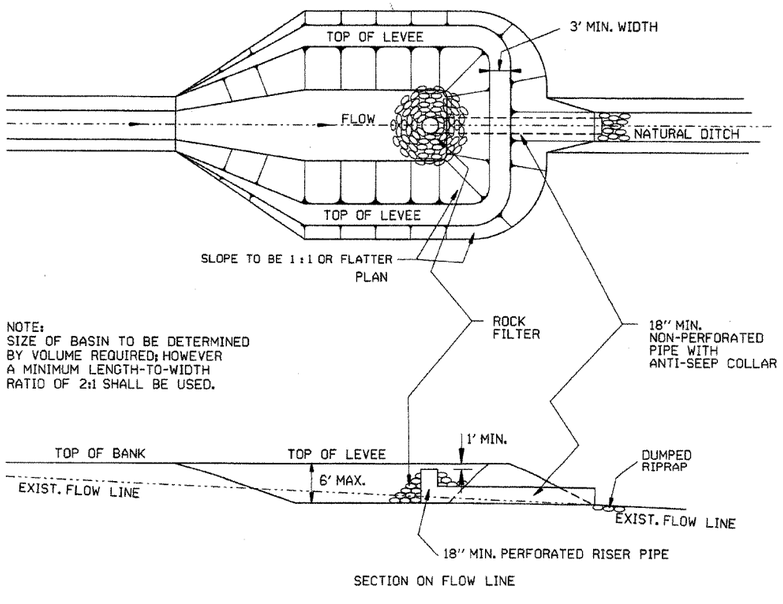
ARKANSAS STATE HIGHWAY COMMISSION

# TEMPORARY EROSION CONTROL DEVICES

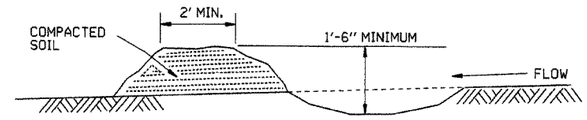
STANDARD DRAWING TEC-1



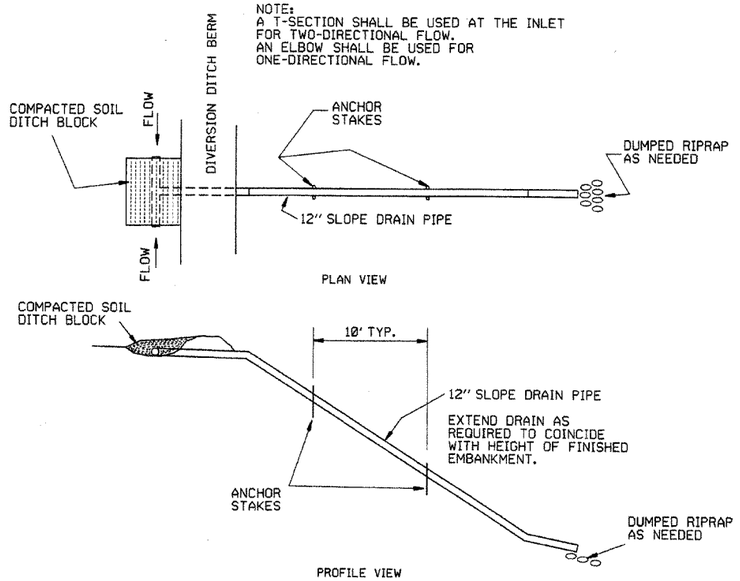

SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



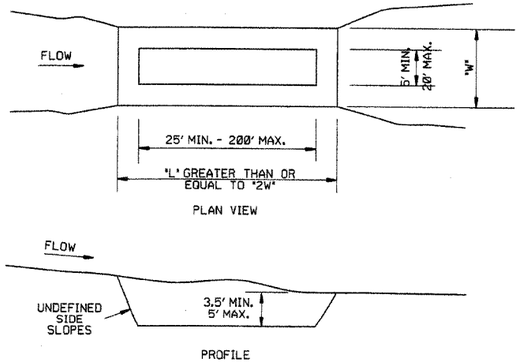

SEDIMENT BASIN WITH PIPE OUTLET (E-10)




DIVERSION DITCH (E-8)




SLOPE DRAIN (E-12)




SEDIMENT BASIN (E-14)

| DATE | REVISION | FILMED |
|---|---|---|
| 6-2-94 | Revised E-8 & E-12; Added E-14 & Deleted E-13 | |
| 4-1-93 | ISSUED | |

ARKANSAS STATE HIGHWAY COMMISSION

# TEMPORARY EROSION CONTROL DEVICES

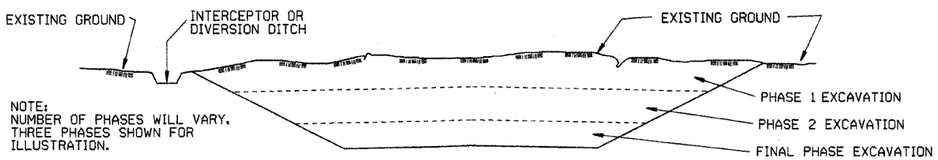
STANDARD DRAWING TEC-2

# CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

# EXCAVATION



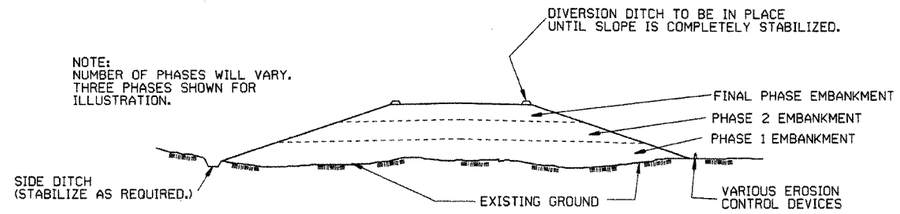

GENERAL NOTE

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

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

# EMBANKMENT




GENERAL NOTE

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

CONSTRUCTION SEQUENCE

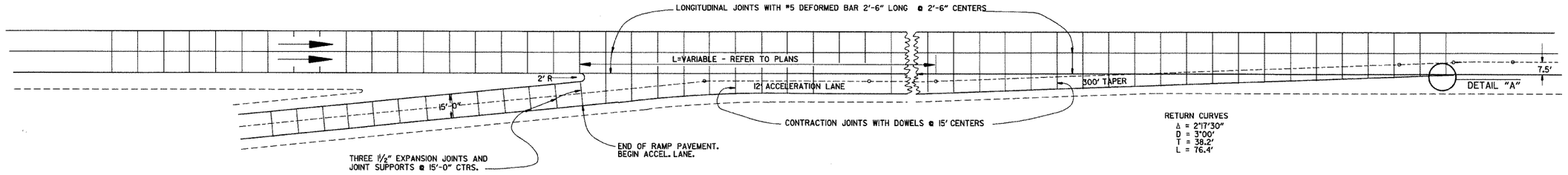
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD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

| DATE | REVISION | FILMED |
|---|---|---|
| 11-03-94 | CORRECTED SPELLING | |
| 6-2-94 | Drawn & Issued | 6-2-94 |

ARKANSAS STATE HIGHWAY COMMISSION

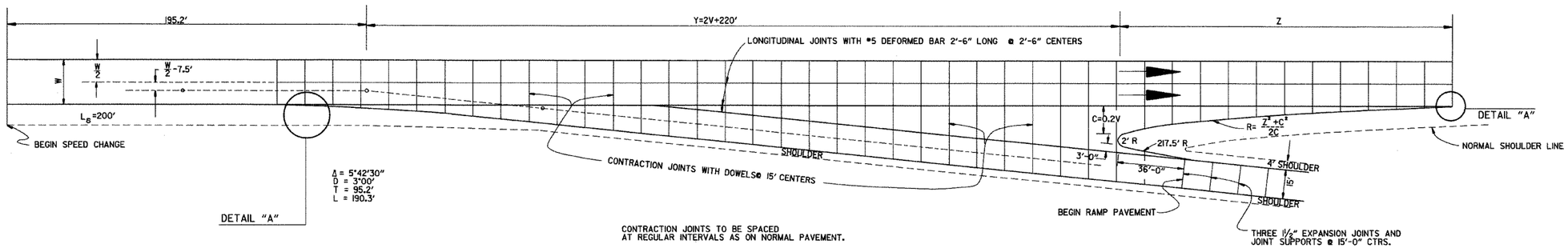
# TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3




## ENTRANCE RAMP

NOTE: JOINT SPACING ON THE MAIN LANES SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO THESE JOINT LAYOUTS. THE MAIN LANE JOINT SPACING MAY BE REDUCED TO A 12' MINIMUM.

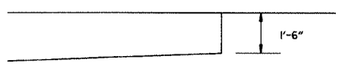



CONTRACTION JOINTS TO BE SPACED AT REGULAR INTERVALS AS ON NORMAL PAVEMENT.

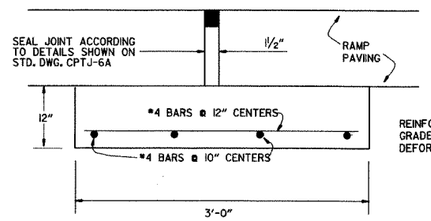
## EXIT RAMP

## EXIT RAMP

| DESIGN SPEED V | Y | NOSE OFFSET C | LENGTH NOSE TAPER Z | RETURN RADIUS R | ADDITIONAL SURFACING SQ. YDS. |
|---|---|---|---|---|---|
| 40 | 300.0 | 8.0 | 96.0 | 580.0 | 602.43 |
| 50 | 320.0 | 10.0 | 120.0 | 725.0 | 687.29 |
| 60 | 340.0 | 12.0 | 168.0 | 1182.0 | 790.55 |
| 70 | 360.0 | 14.0 | 210.0 | 1582.0 | 902.27 |




## DETAIL "A"




## DETAIL OF EXPANSION JOINT & JOINT SUPPORT

NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS). WHEN RAMP PAVING IS ASPHALT, EXPANSION JOINT IS NOT REQUIRED.
THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.

| DATE | REVISION | DATE FILM'D |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| 8-22-02 | DELETED NOTE | |
| 11-16-01 | CORRECTED SPELLING ON ENTRANCE RAMP NOTE | |
| 5-13-99 | ADDED, EDITED AND DELETED NOTES | |
| 11-03-94 | ADDED NOTE RE: REINF. BARS | |
| 10-1-92 | ADDED DETAIL A & OTHER MINOR CHANGES | 10-1-92 |
| 1-25-90 | REVISED EXPANSION JOINT | 1-25-90 |
| 7-15-88 | CONFORM'D TO 1988 SPECIFICATIONS | 65C-7-15-88 |
| 3-2-81 | ISSUED | 511-10-2-72 |

ARKANSAS STATE HIGHWAY COMMISSION

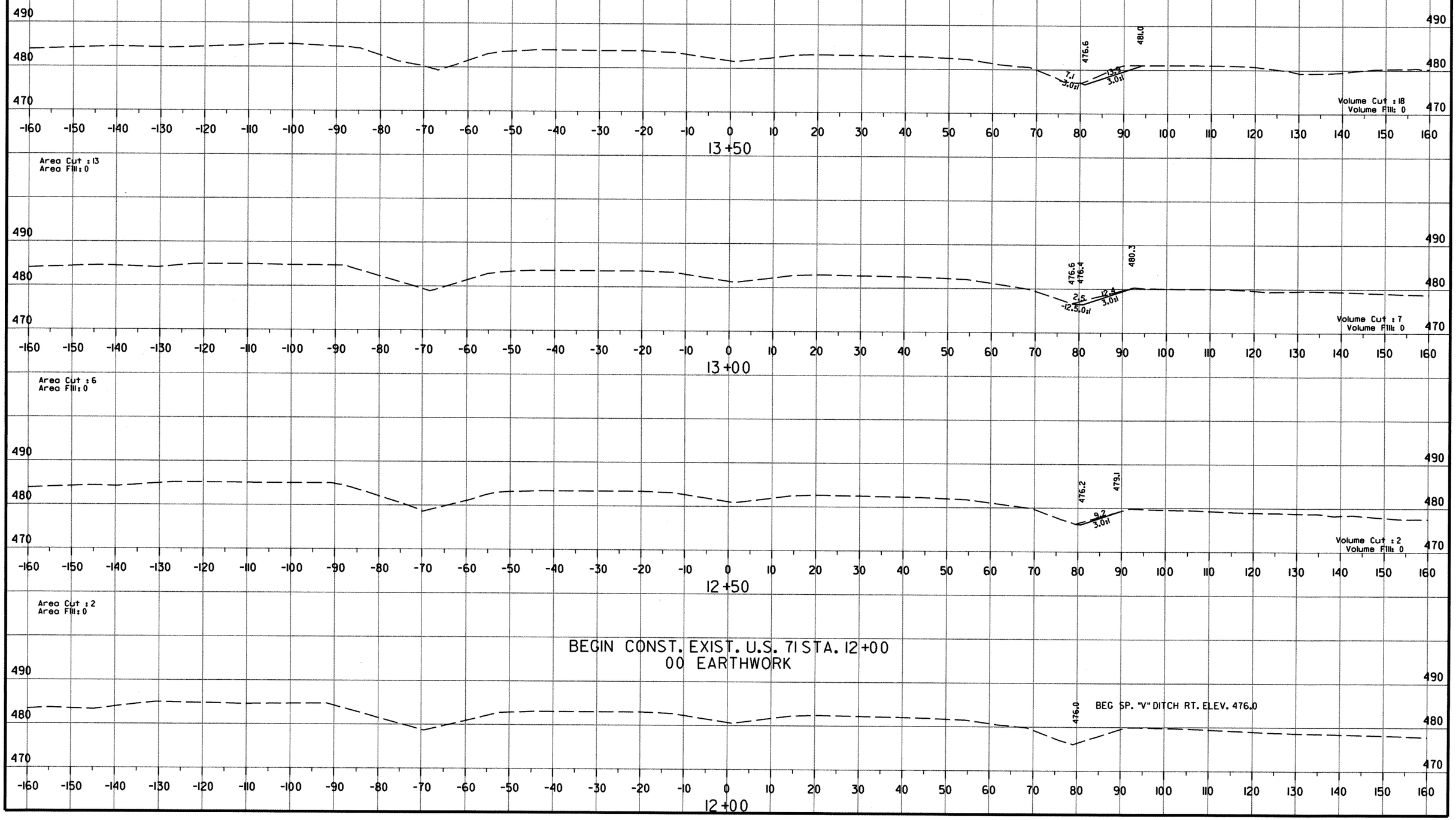
# DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)

STANDARD DRAWING TR-1A

| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 177 | 207 |

(2) X-SEC. STA. 12+00 TO STA. 13+50

EXIST. U.S. 71

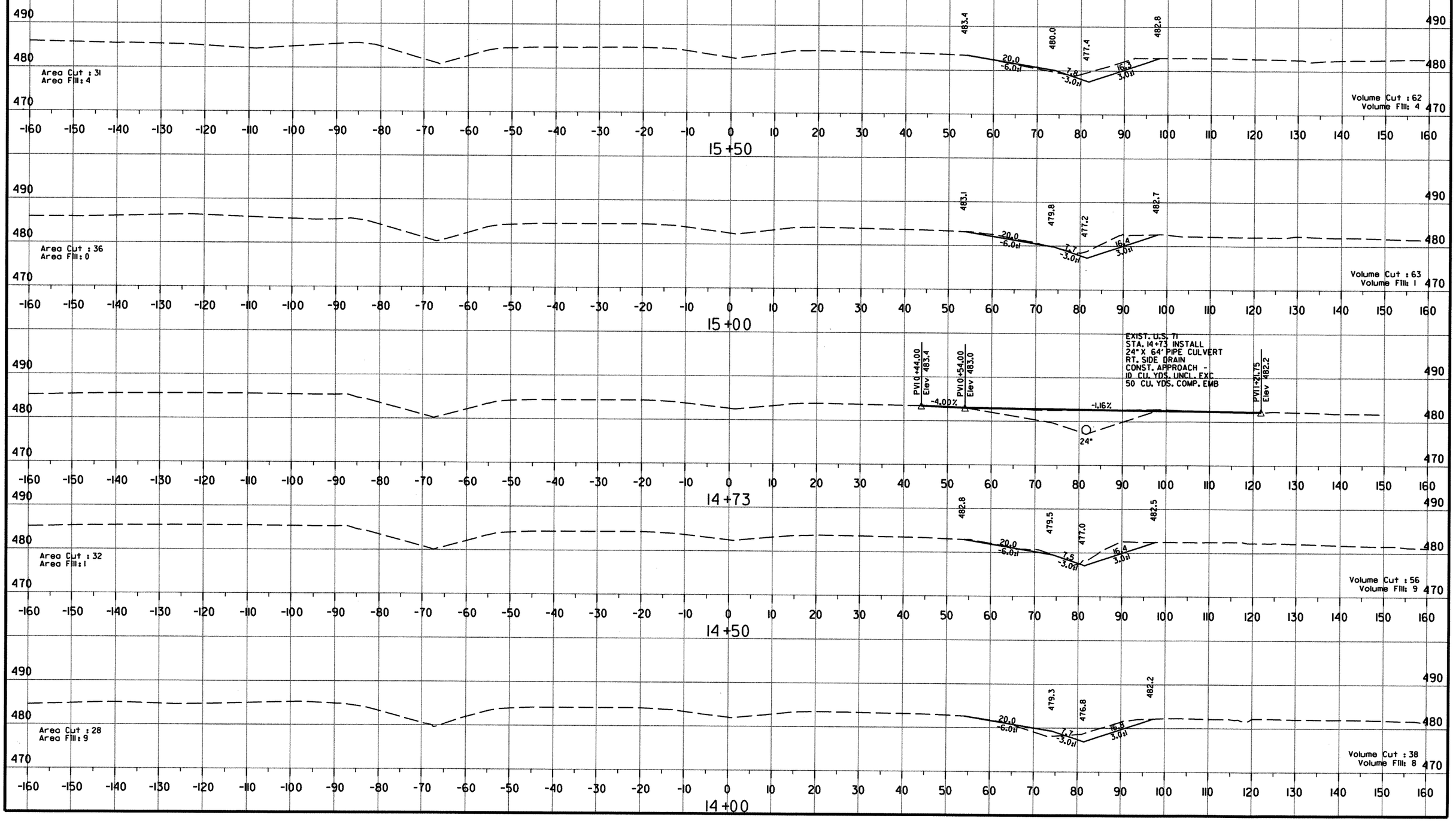



BEGIN CONST. EXIST. U.S. 71 STA. 12+00
00 EARTHWORK

| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 178 | 207 |

## (2) X-SEC. STA. 14+00 TO STA. 15+50

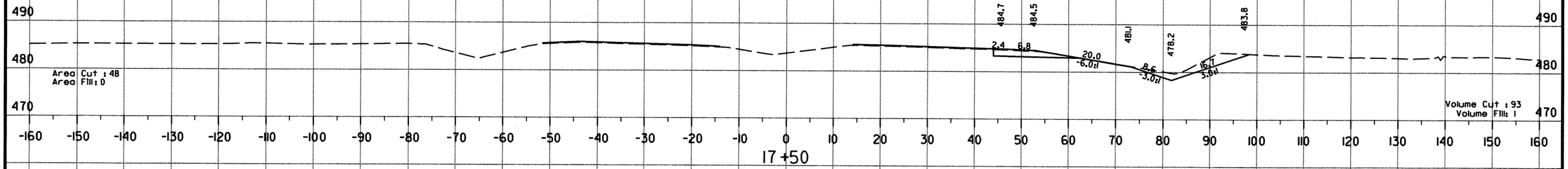
EXIST. U.S. 71



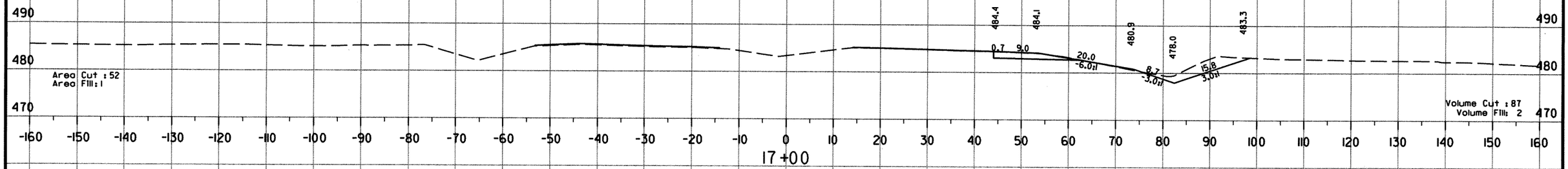
| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 179 | 207 |

## ② X-SEC. STA. 16+00 TO STA. 17+50

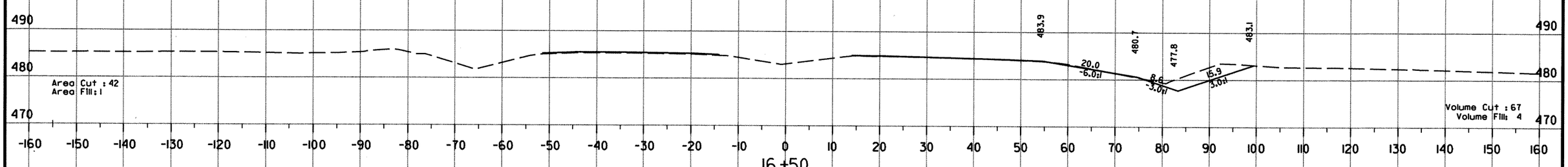
EXIST. U.S. 71




17+50



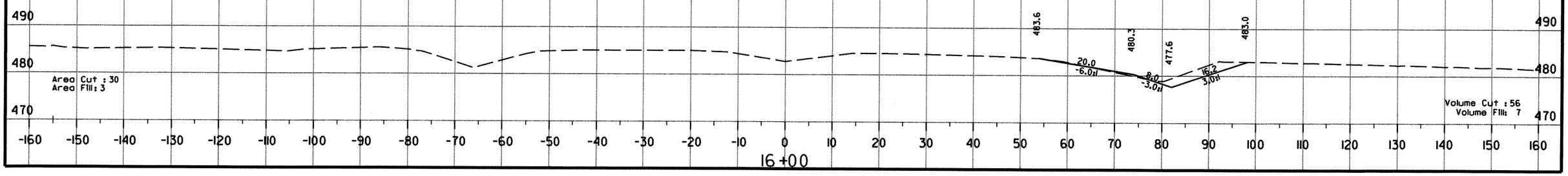

17+00




16+50

BEGIN PVMT. OVERLAY & WIDENING
EXIST. U.S. 71 STA. 16+38.18

STA. 16+38.18 BEG. RAMP 4 EXIT RT




16+00

| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 180 | 207 |

## (2) X-SEC. STA. 18+00 TO STA. 19+50

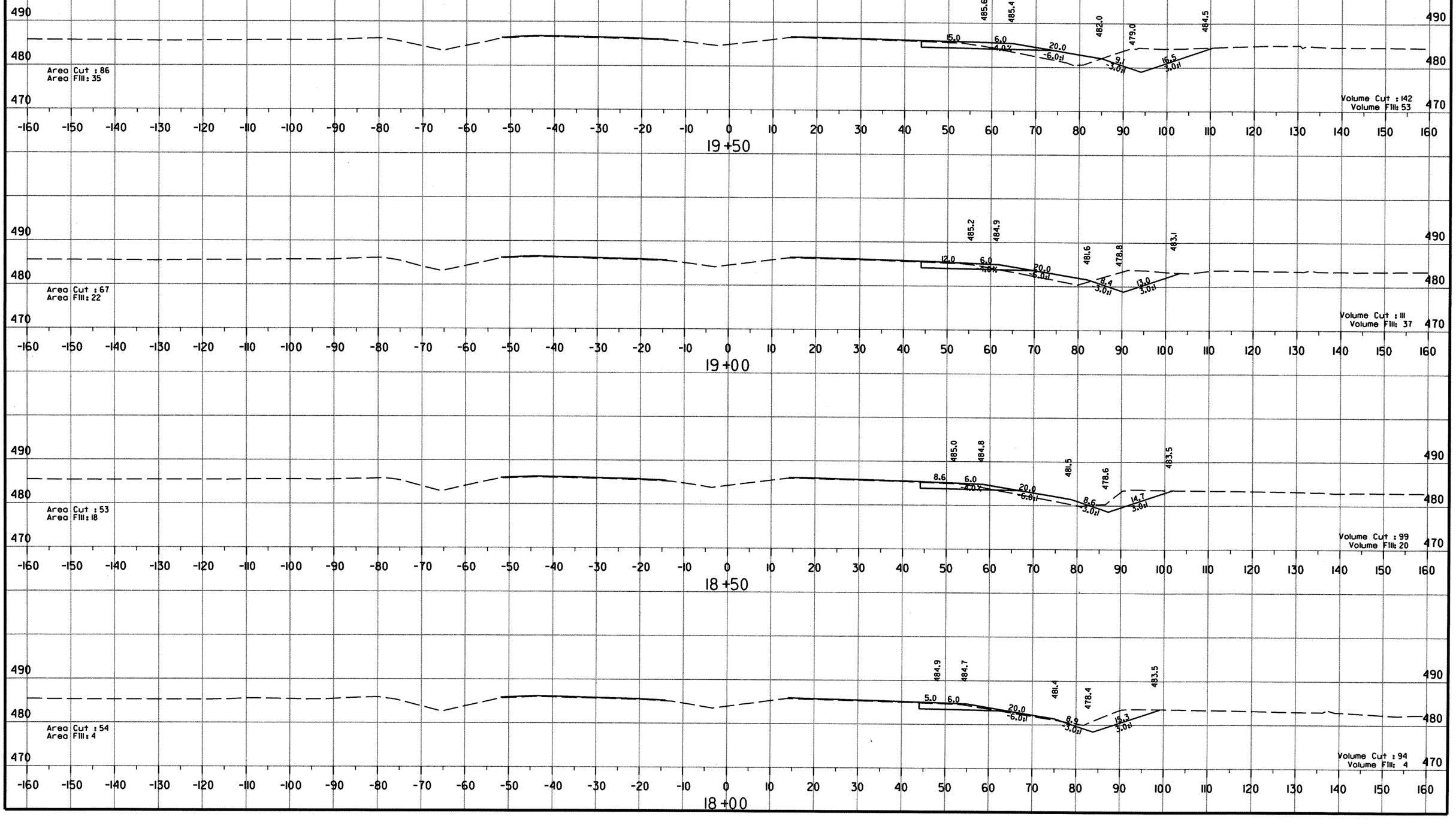
EXIST. U.S. 71

STA. 19+72 ℄ EXIST. U.S. 71 - IN PLACE TYPE "RM" DROP INLET WITH 24"X72" R.C. PIPE OUTLET & FES. REMOVE FES. & CONST. 24"X14' R.C. PIPE CULVERT EXTENSION (CLASS III) (TYPE 3 BEDDING) WITH S.E.S. (CLASS 2) RT.

EXISTING US 71

14' PIPE EXTENSION

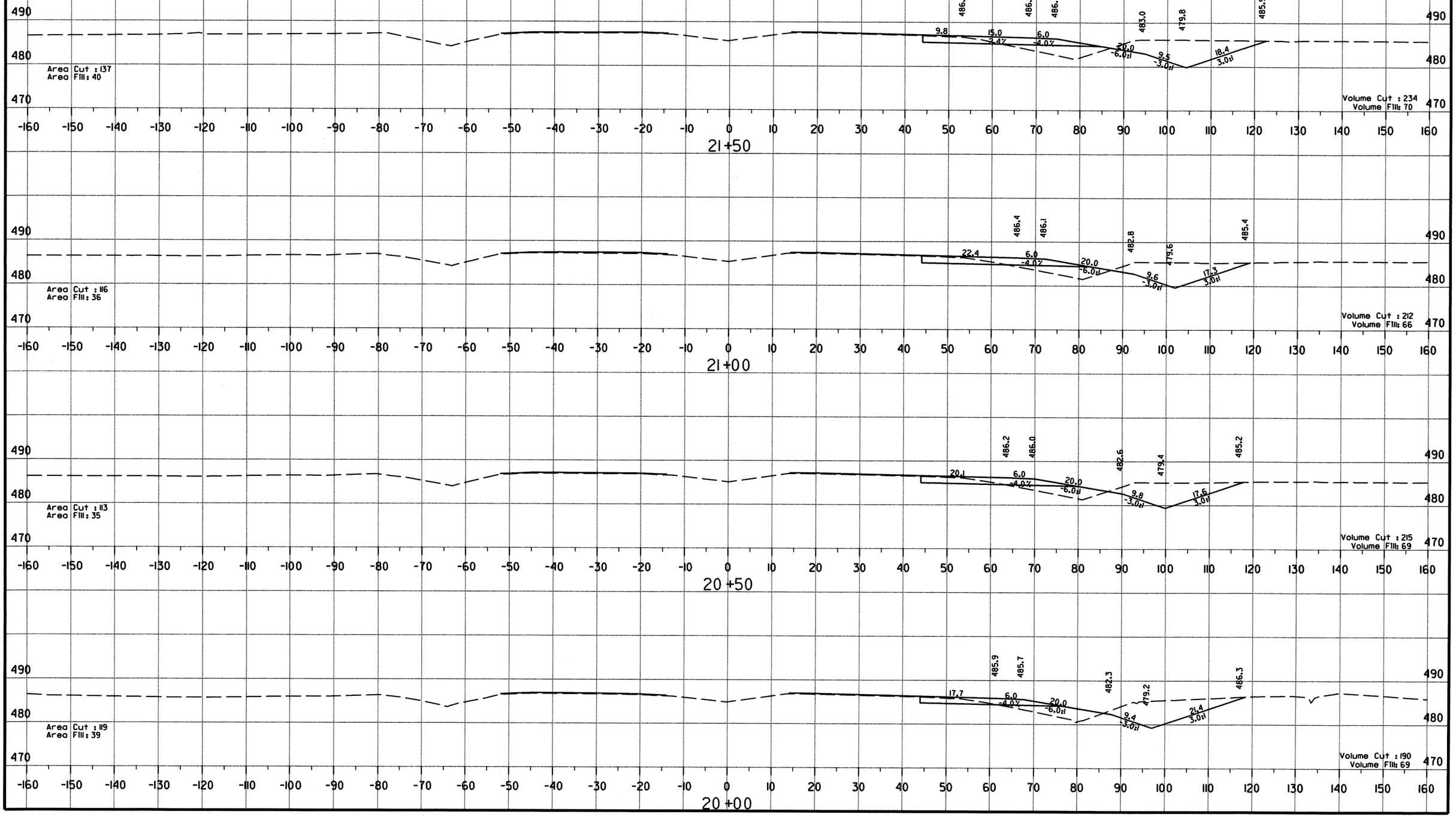
STA. 19+72
EXTEND EXISTING 24" RCP OUTLET INV. 480.1



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 181 | 207 |

## (2) X-SEC. STA. 20+00 TO STA. 21+50

EXIST. U.S. 71

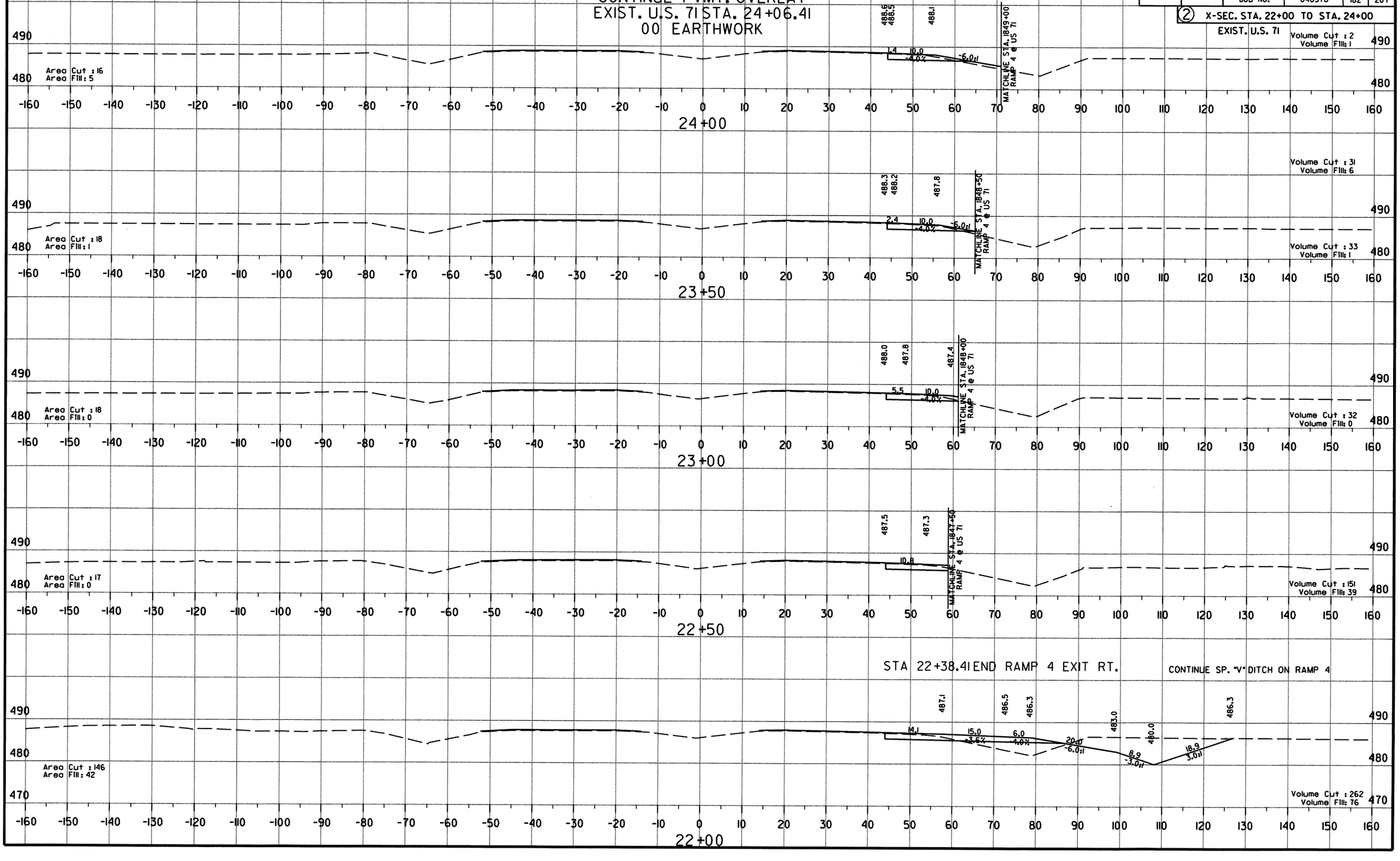


| DATE REVISED | DATE FILMED | FED. ROAD D. ST. NO. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 182 | 207 |

END WIDENING
CONTINUE PVMT. OVERLAY
EXIST. U.S. 71 STA. 24+06.41
00 EARTHWORK

(2) X-SEC. STA. 22+00 TO STA. 24+00

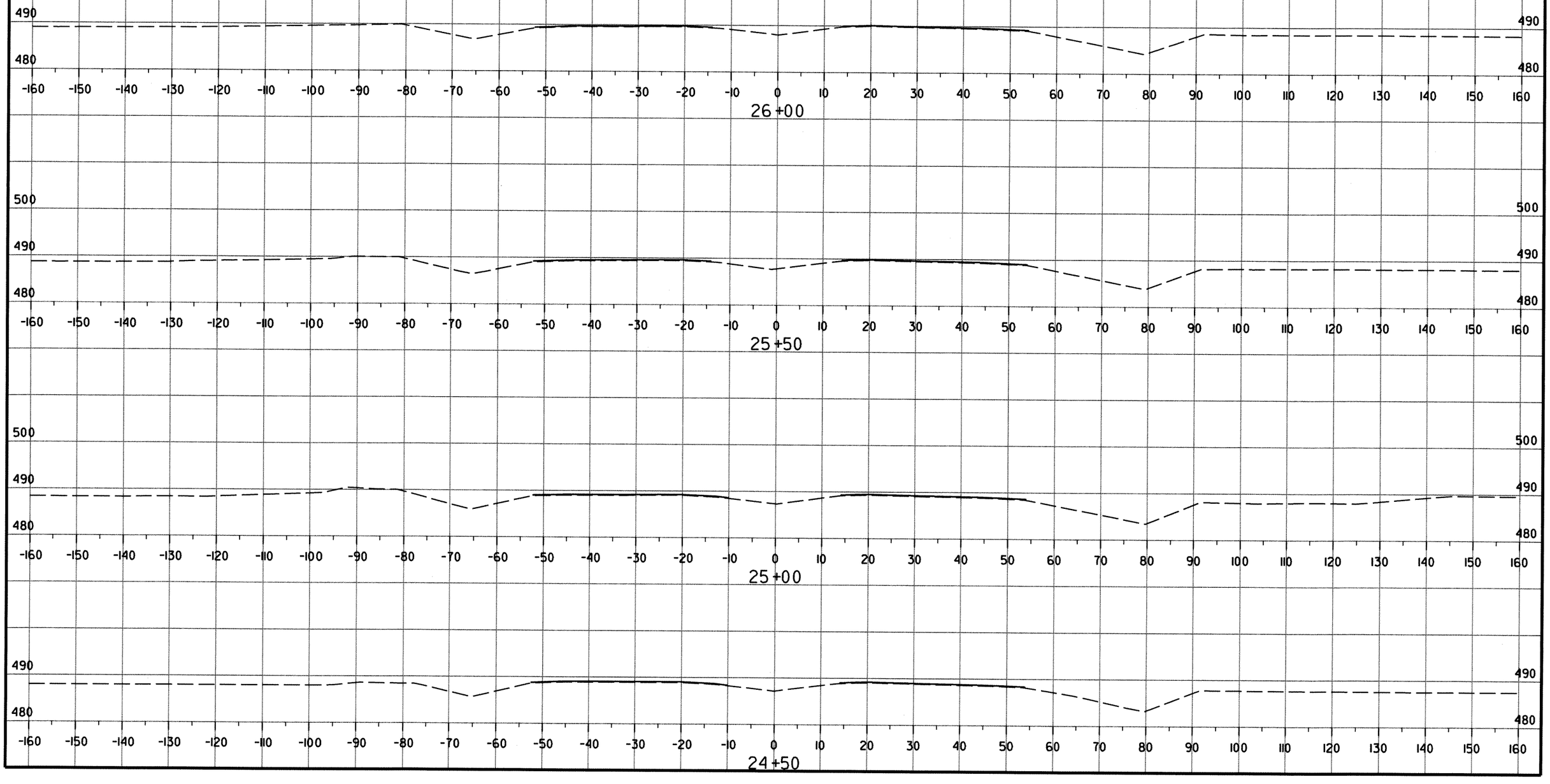
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 183 | 207 |

(2) X-SEC. STA. 24+50 TO STA. 26+00

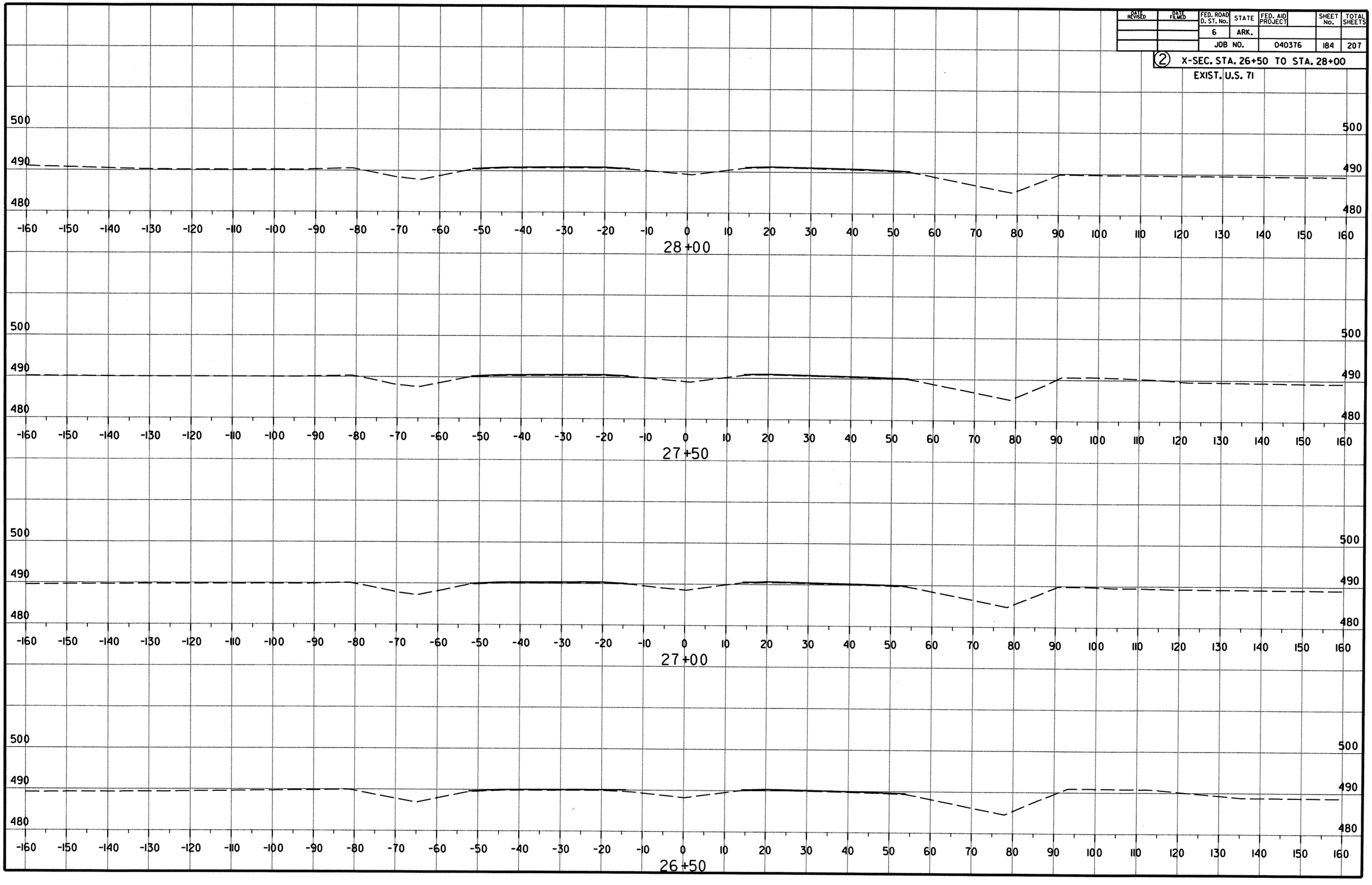
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 184 | 207 |

(2) X-SEC. STA. 26+50 TO STA. 28+00

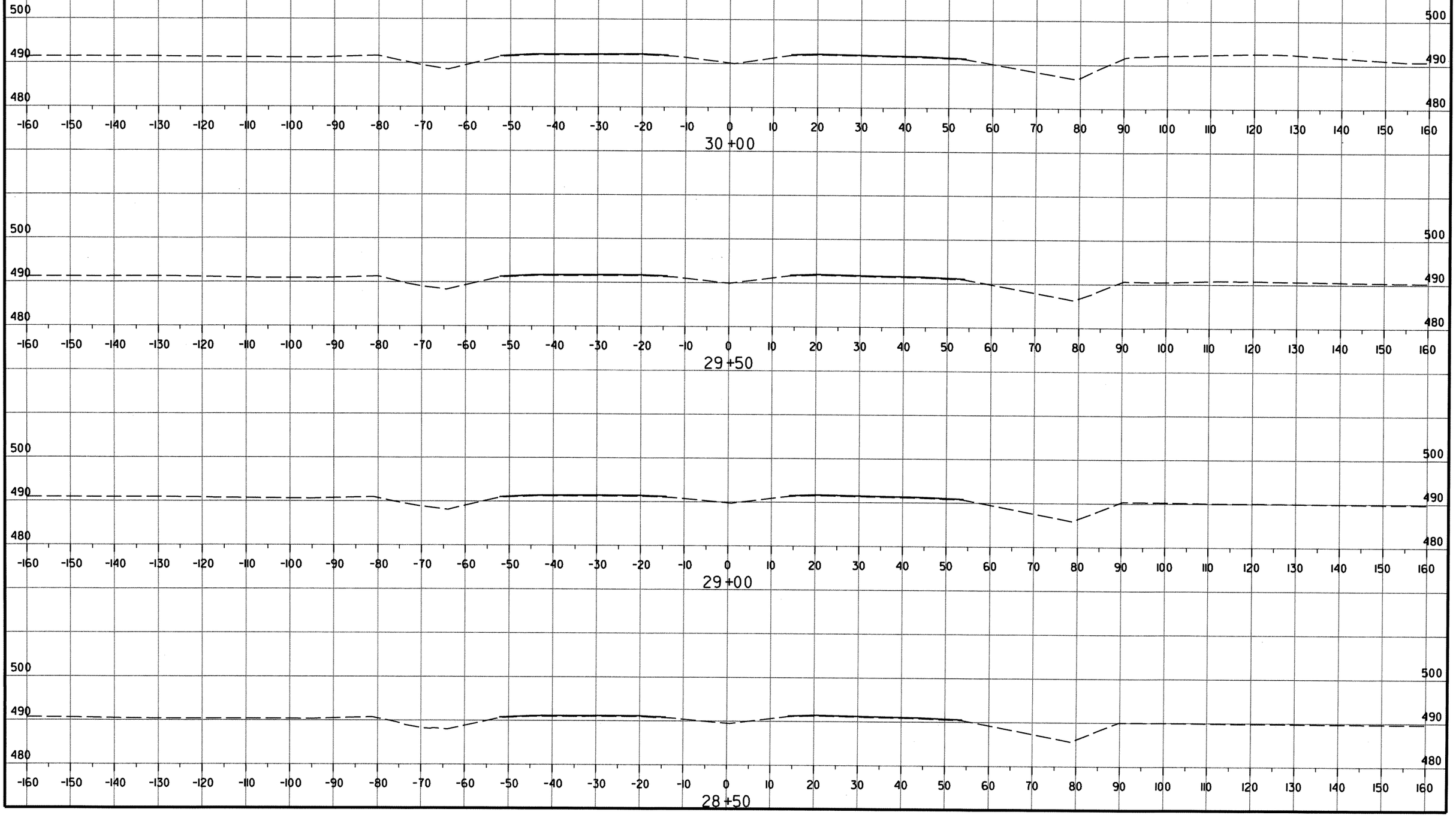
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 185 | 207 |

(2) X-SEC. STA. 28+50 TO STA. 30+00

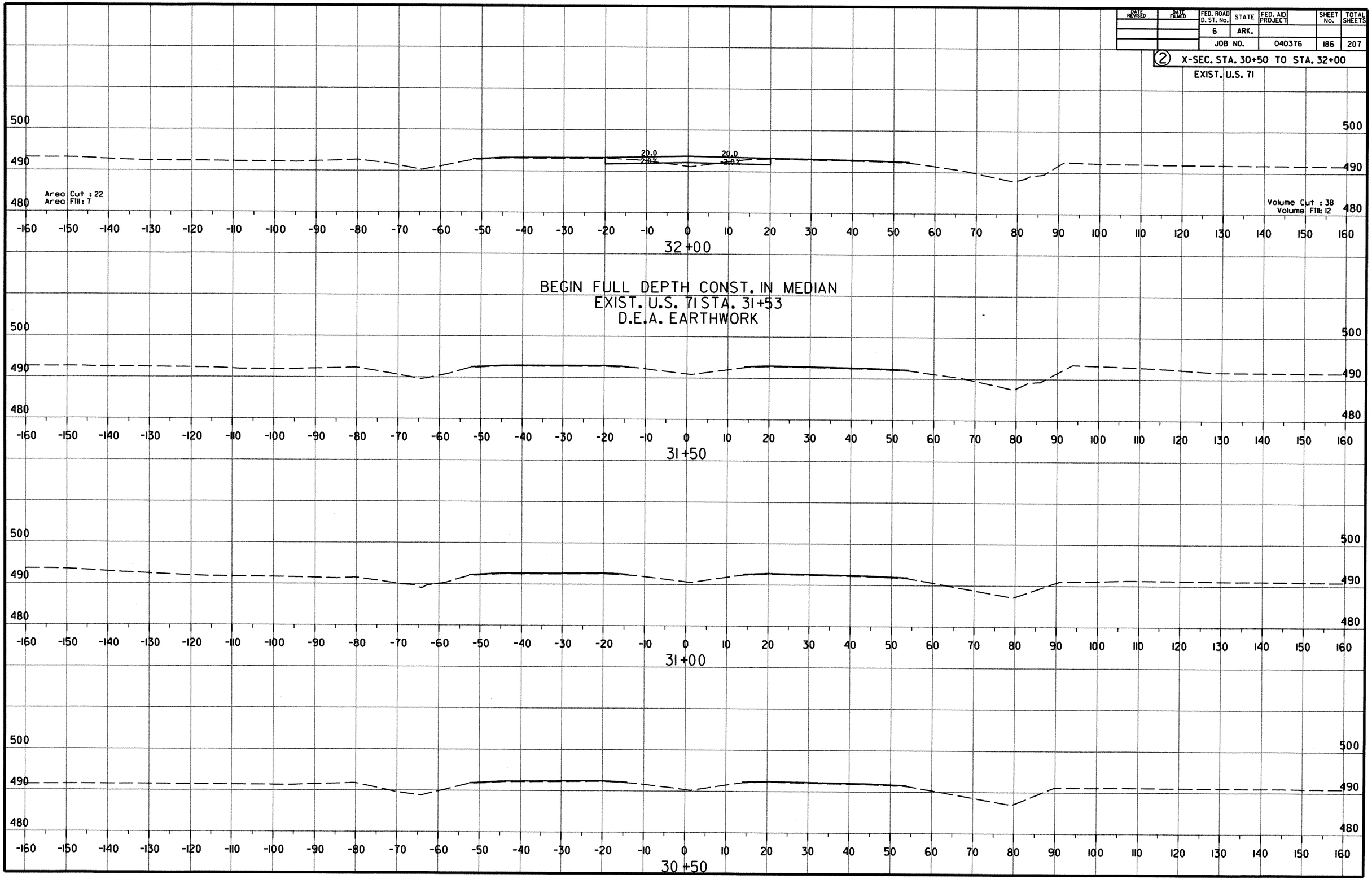
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 186 | 207 |

(2) X-SEC. STA. 30+50 TO STA. 32+00

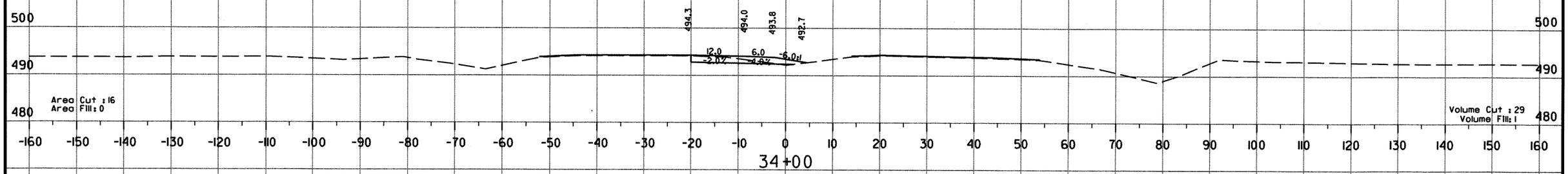
EXIST. U.S. 71

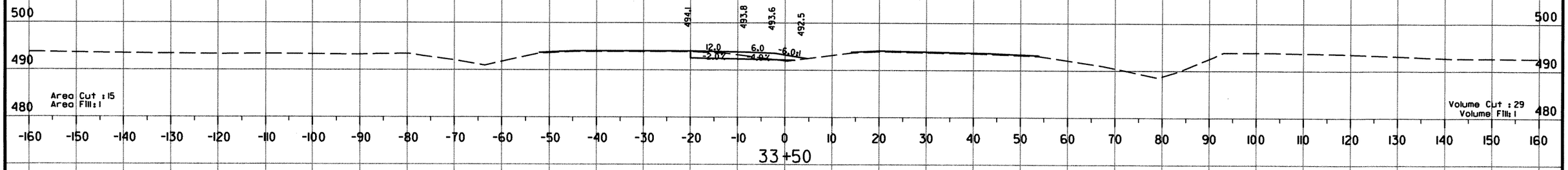


| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 187 | 207 |

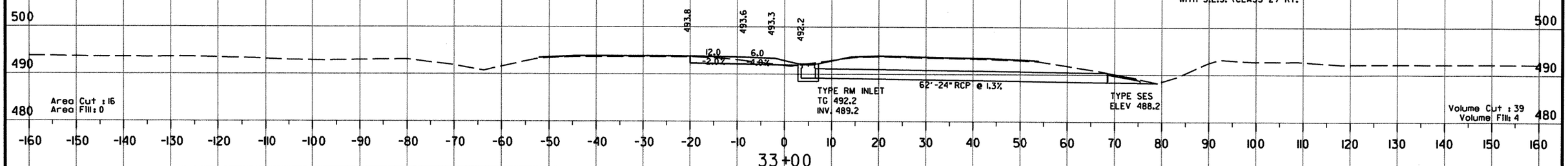
(2) X-SEC. STA. 32+50 TO STA. 34+00

EXIST. U.S. 71

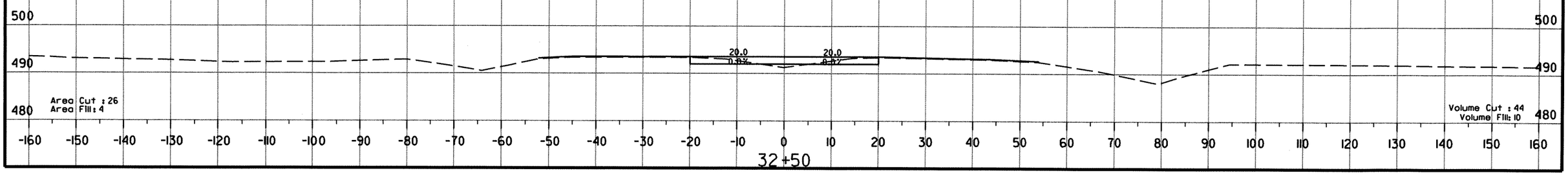



STA. 33+00 ℄ EXIST. U.S. 71 - CONST.
TYPE "RM" DROP INLET IN MEDIAN
5.0' OFFSET RT. OF ℄
4.0' X 3.0' X H = 3.0'
WITH 24" X 62" R.C. PIPE CULV'T
(CLASS III) WITH TYPE 3 BEDDING
WITH S.E.S. (CLASS 2) RT.



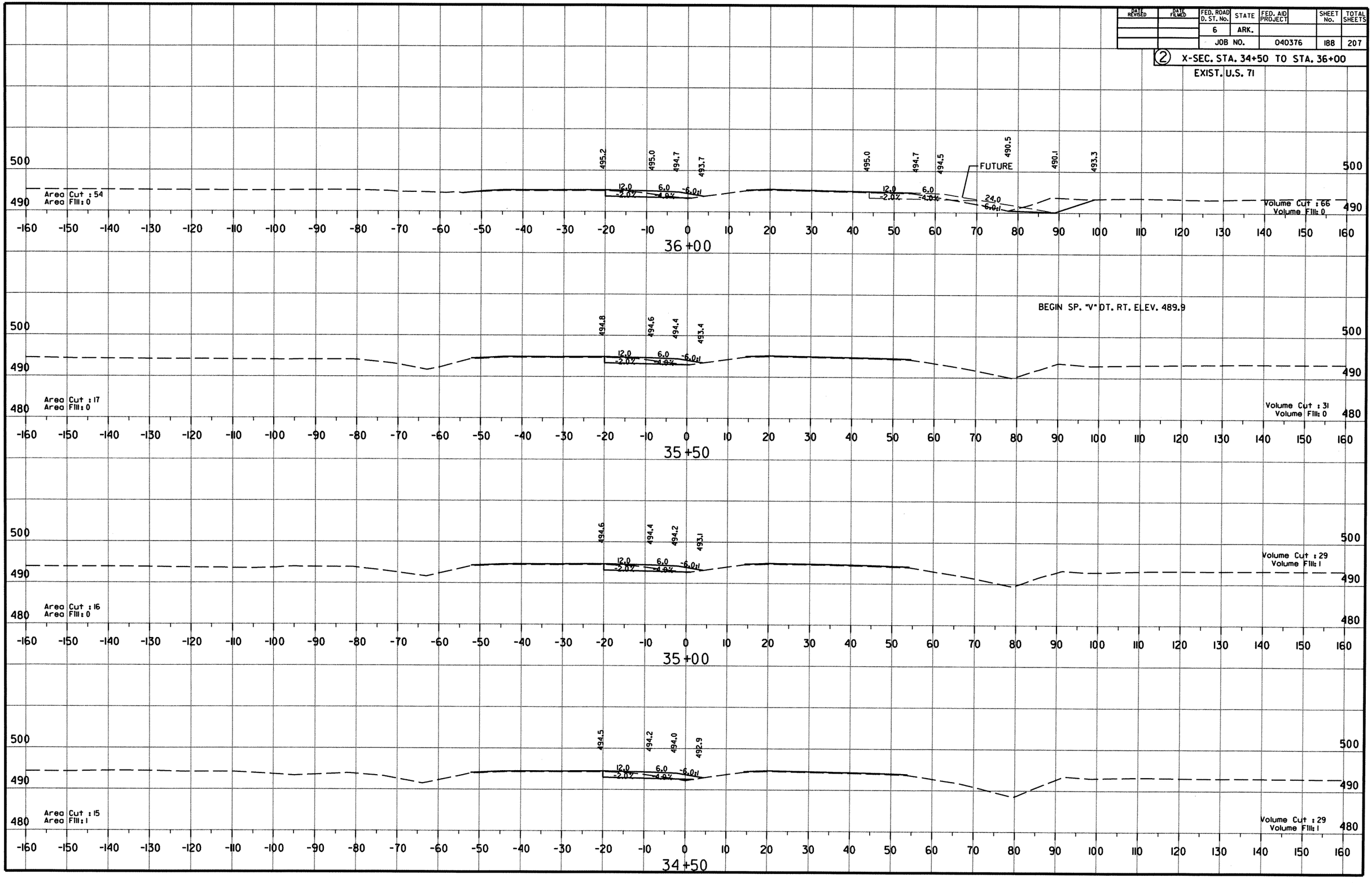

STA. 32+63 BEG S.B. LT TURN LANE IN MEDIAN



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 188 | 207 |

## ② X-SEC. STA. 34+50 TO STA. 36+00

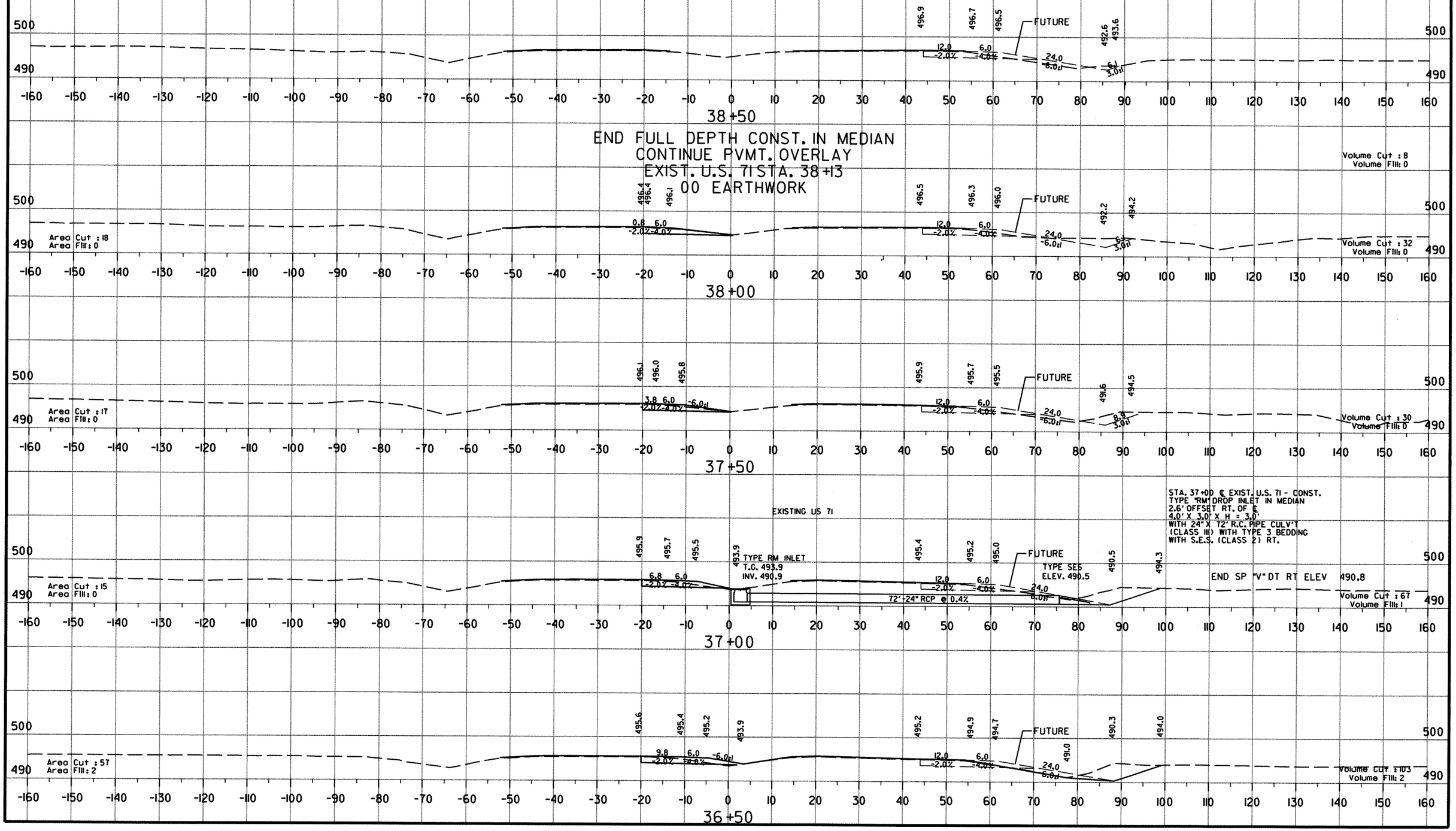
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 189 | 207 |

(2) X-SEC. STA. 36+50 TO STA. 38+50

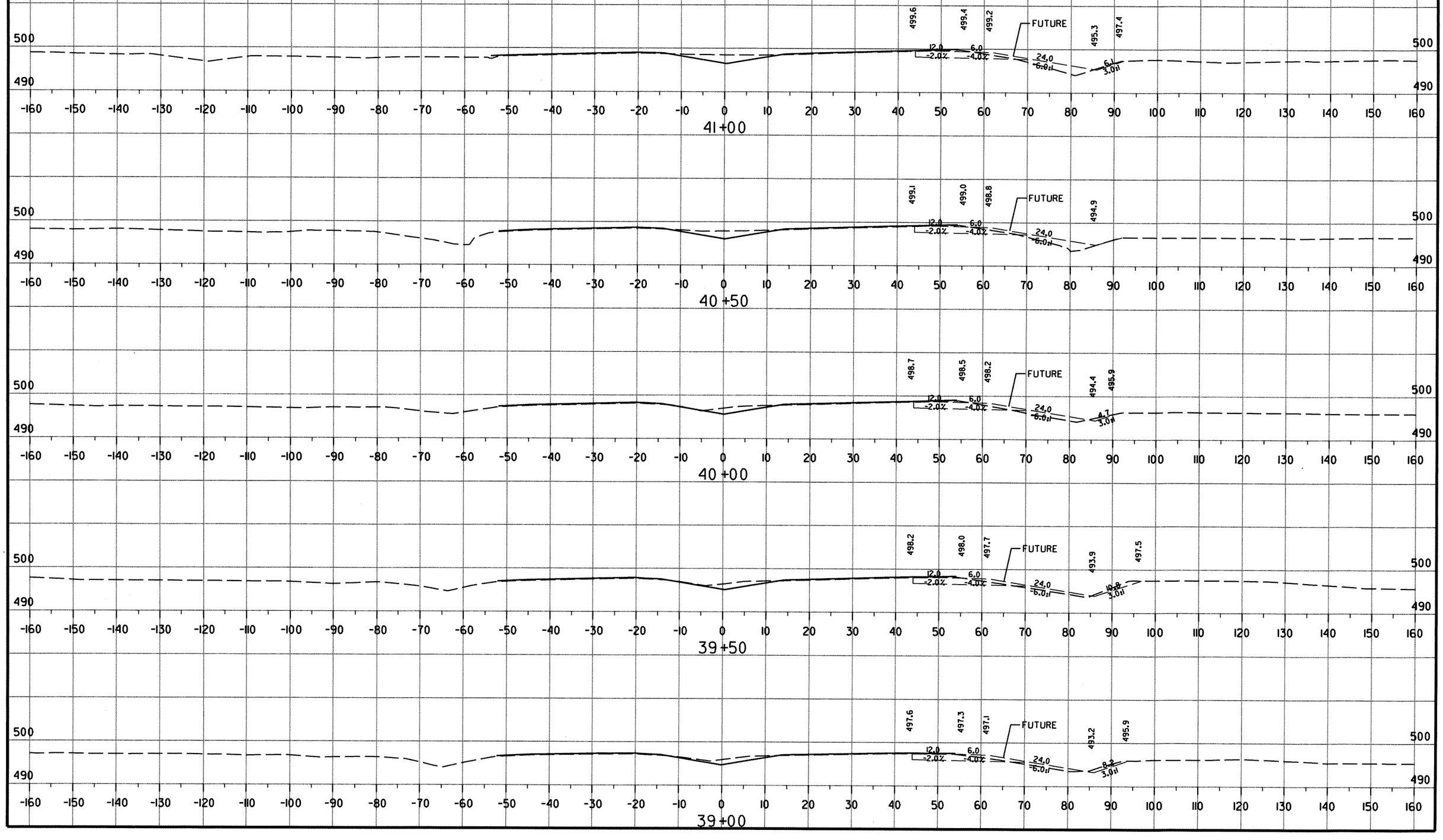
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 190 | 207 |

(2) X-SEC. STA. 39+00 TO STA. 41+00

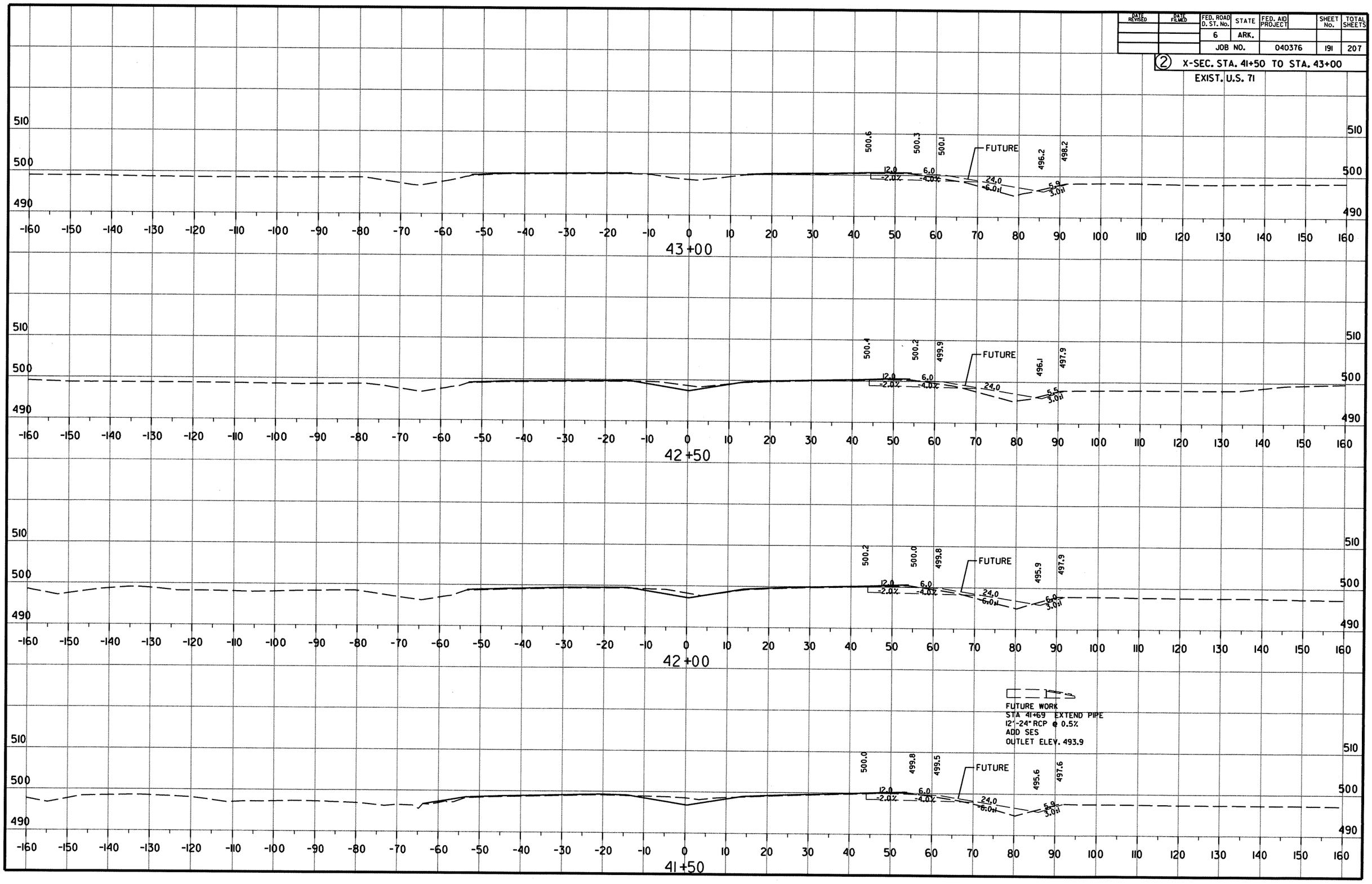
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 191 | 207 |

(2) X-SEC. STA. 41+50 TO STA. 43+00

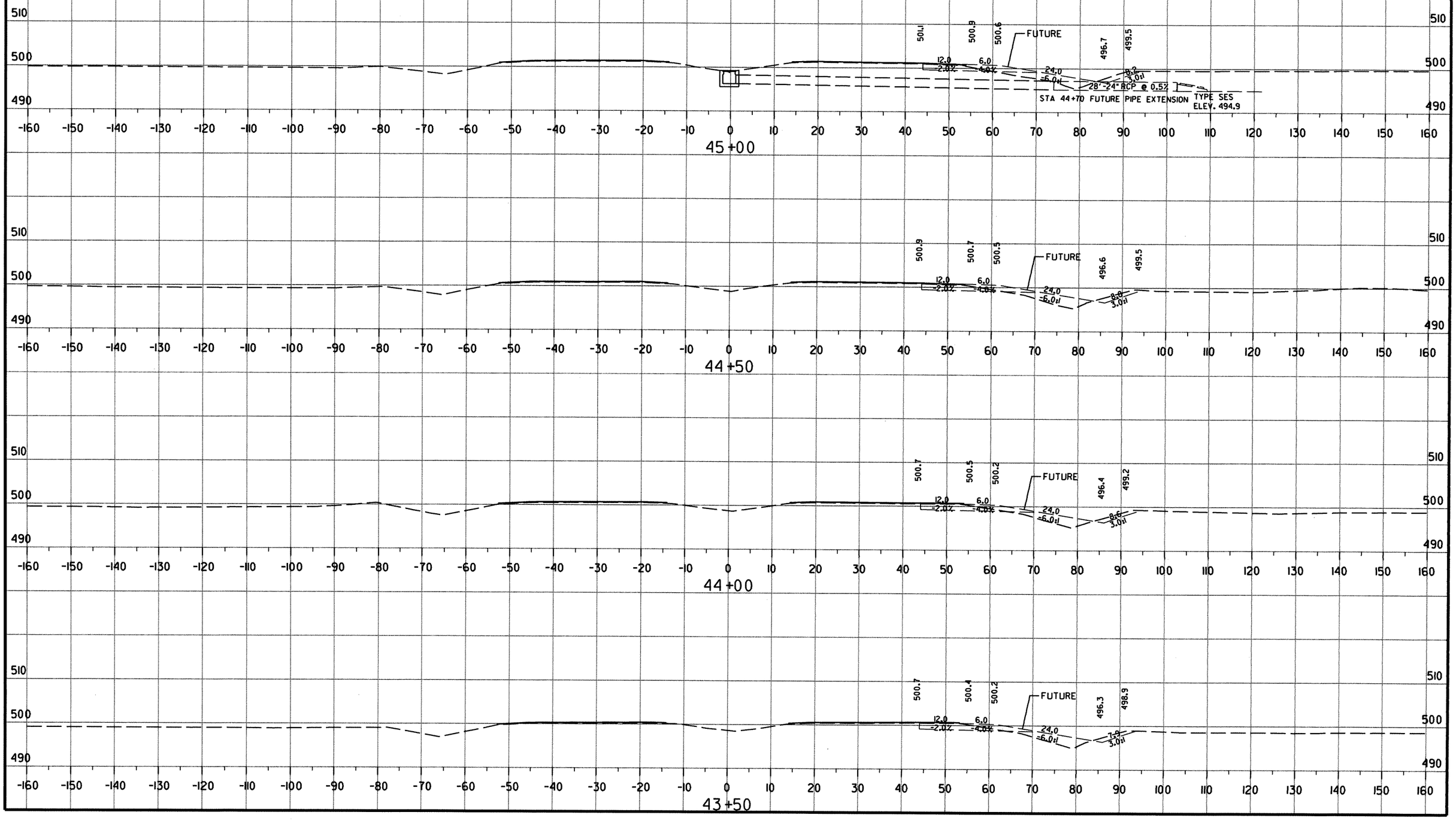
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 192 | 207 |

(2) X-SEC. STA. 43+50 TO STA. 45+00

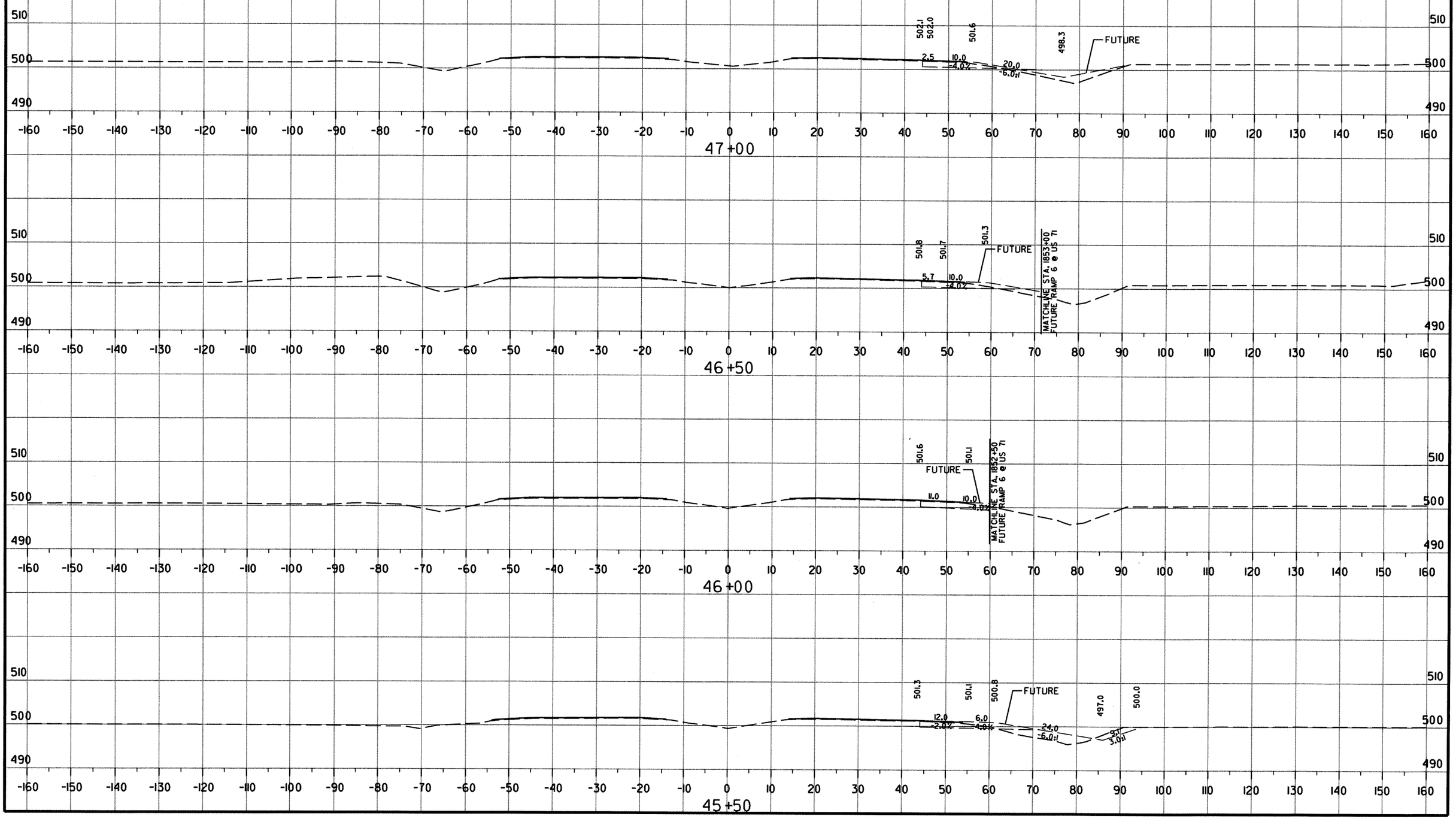
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 193 | 207 |

(2) X-SEC. STA. 45+50 TO STA. 47+00

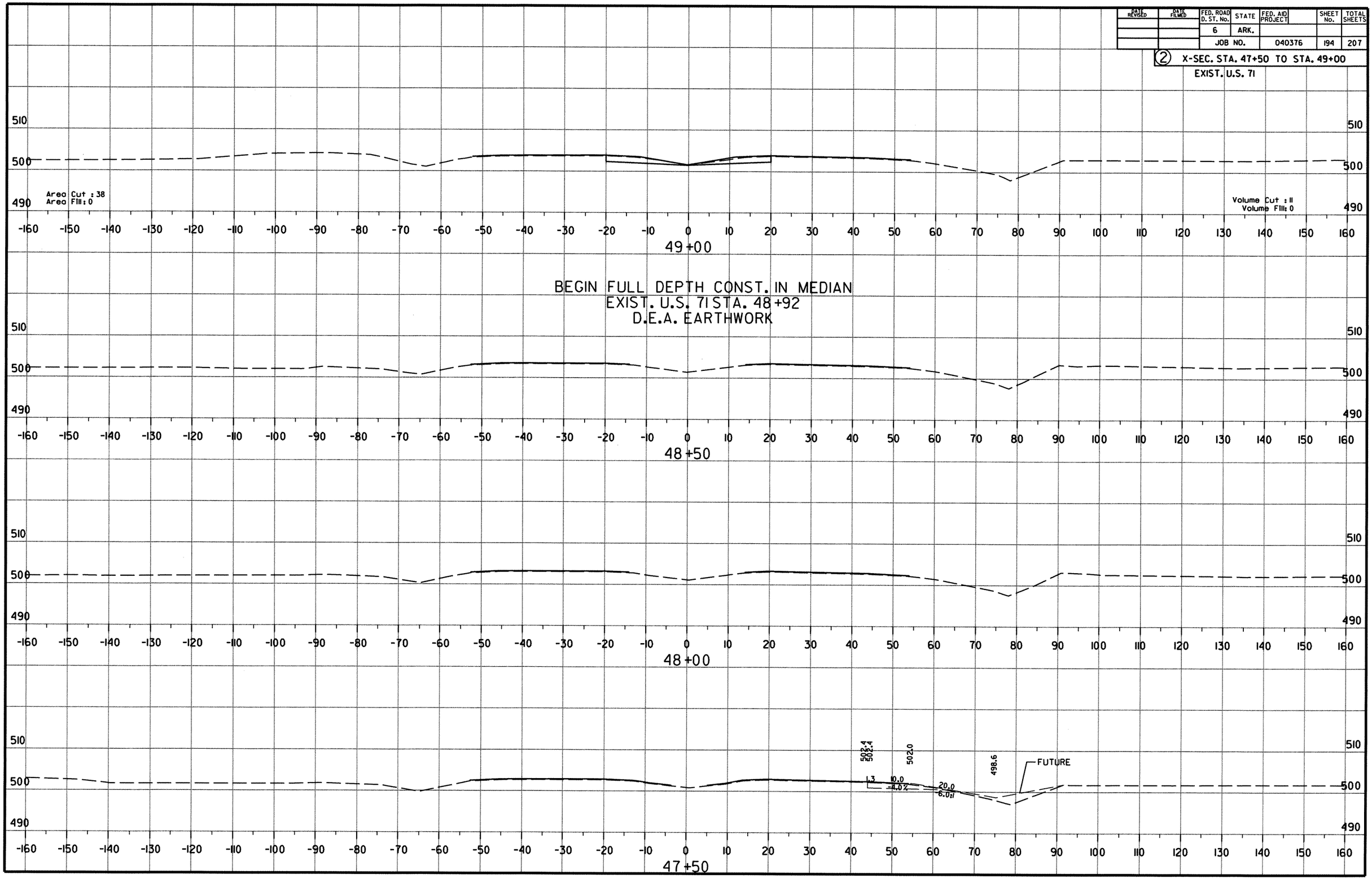
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. NO. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 194 | 207 |

(2) X-SEC. STA. 47+50 TO STA. 49+00

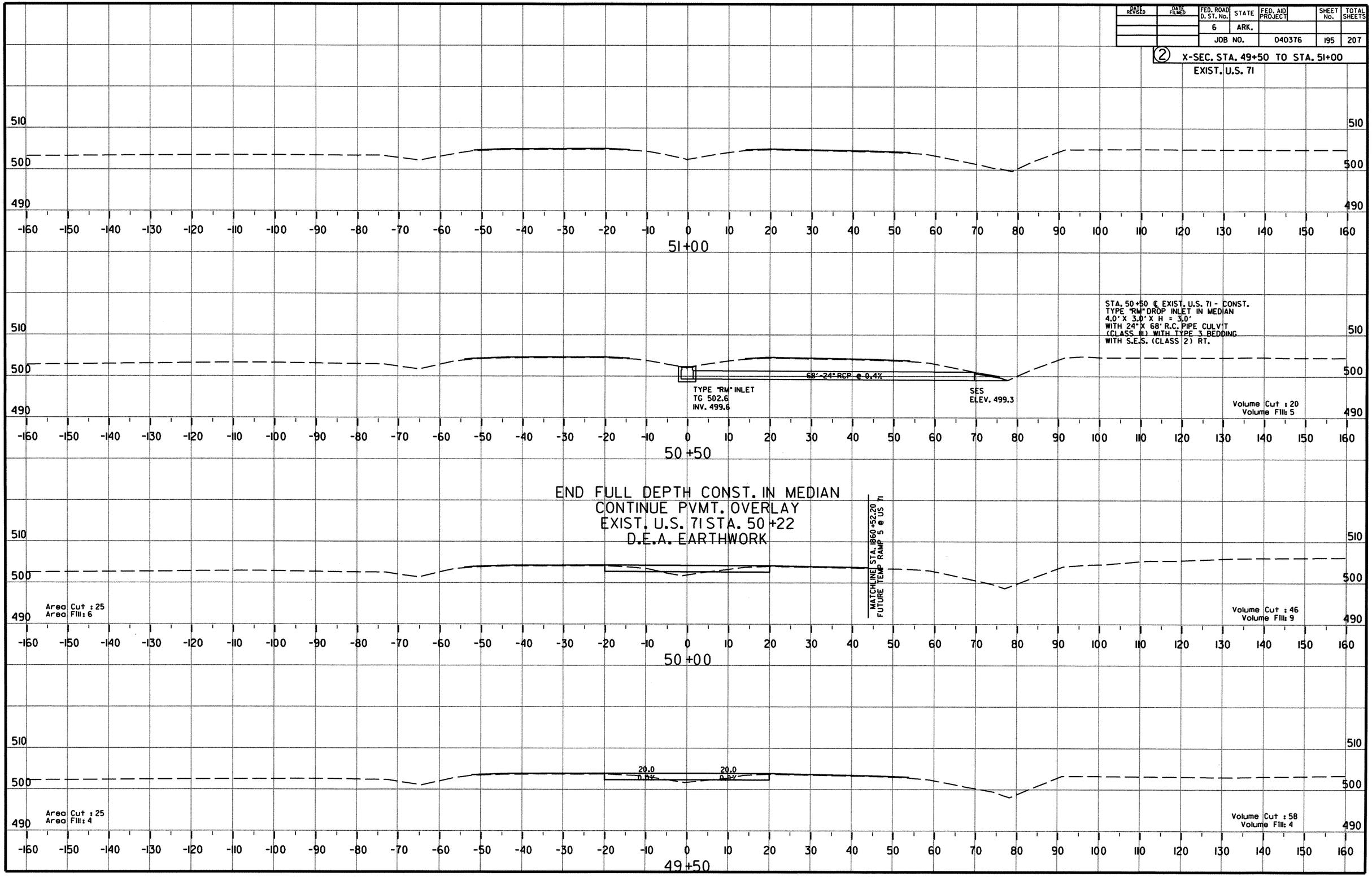
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 195 | 207 |

(2) X-SEC. STA. 49+50 TO STA. 51+00

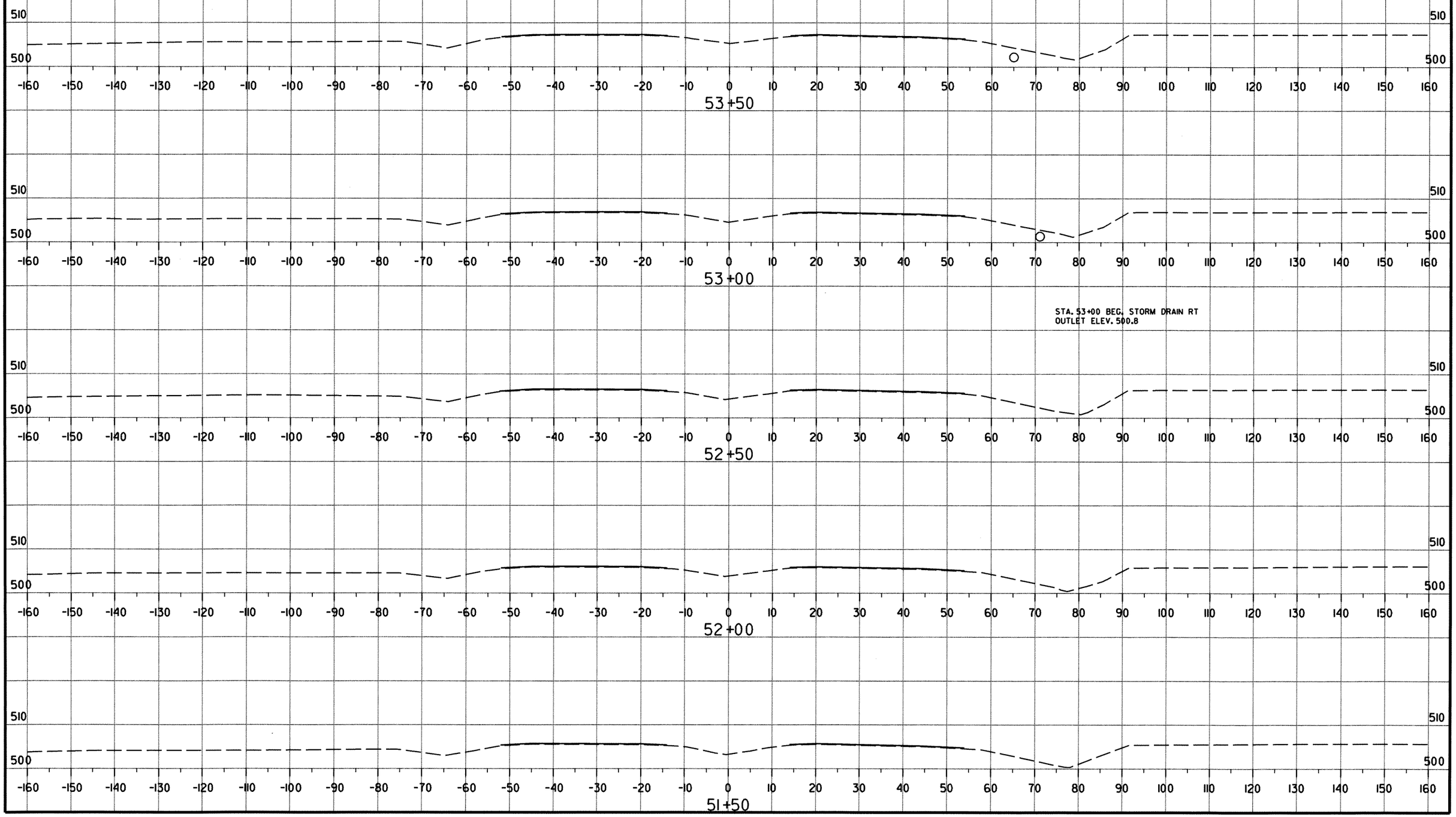
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 196 | 207 |

(2) X-SEC. STA. 51+50 TO STA. 53+50

EXIST. U.S. 71

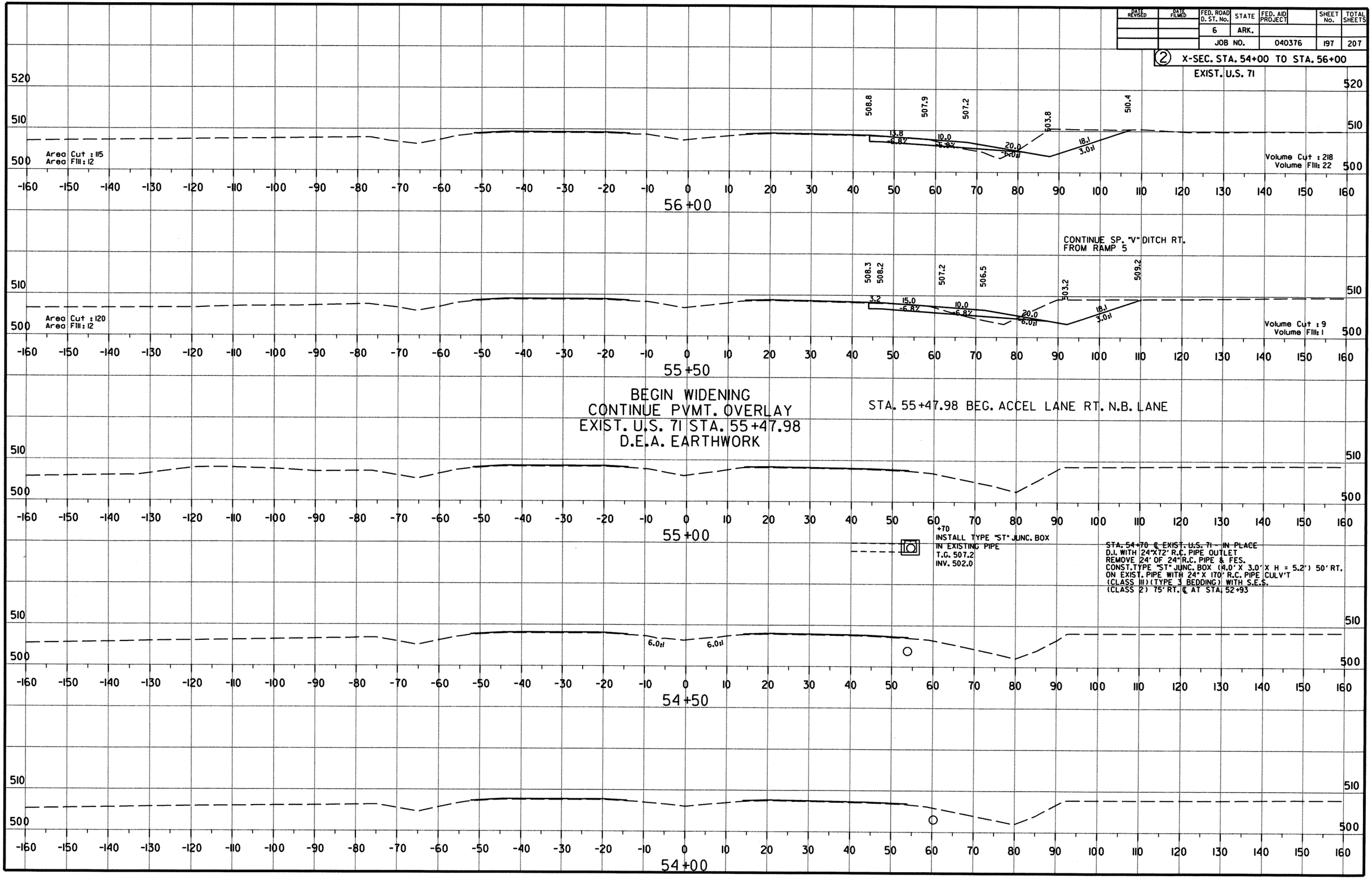



STA. 53+00 BEG. STORM DRAIN RT
OUTLET ELEV. 500.8

| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 197 | 207 |

(2) X-SEC. STA. 54+00 TO STA. 56+00

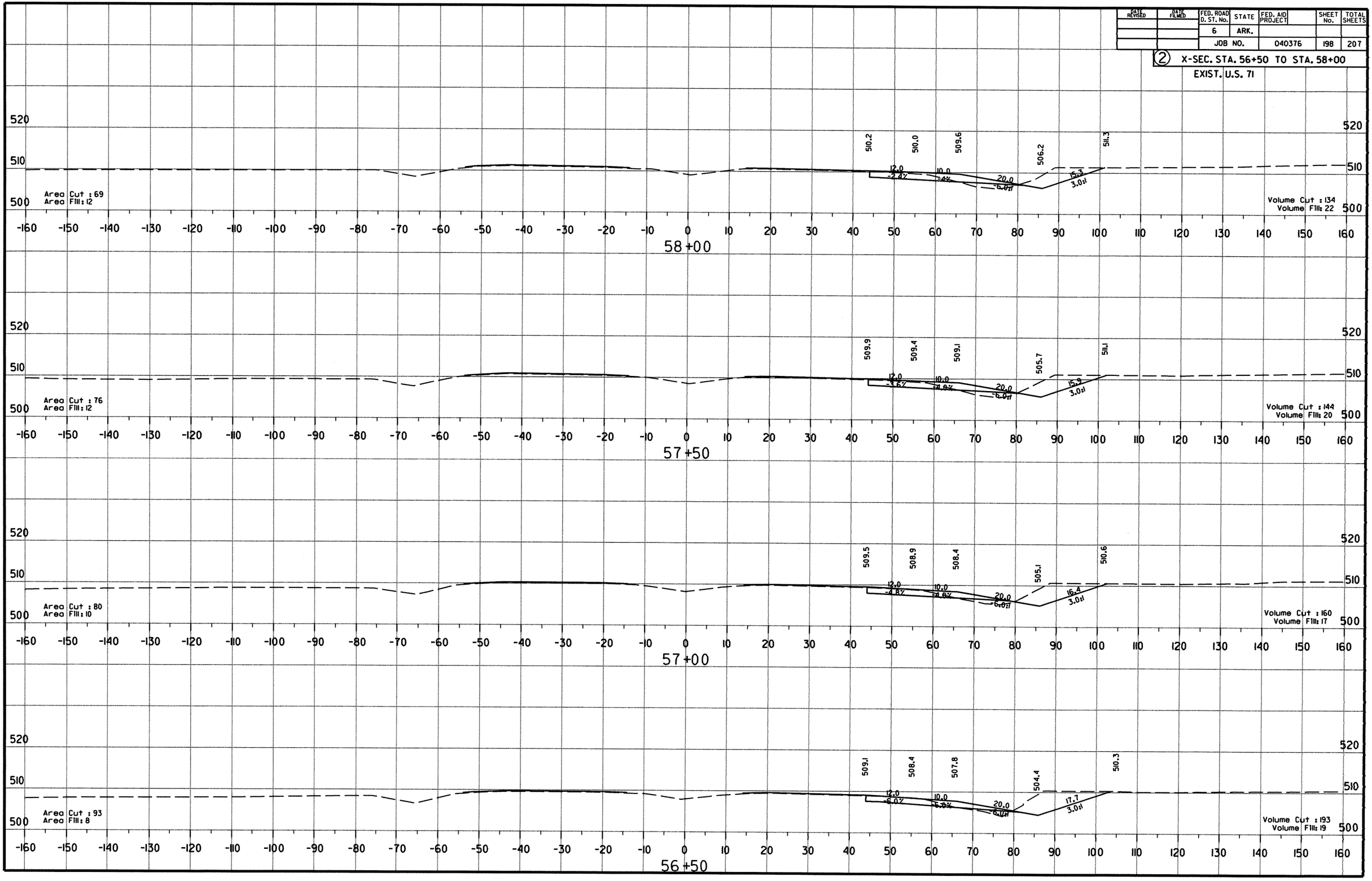
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 198 | 207 |

(2) X-SEC. STA. 56+50 TO STA. 58+00

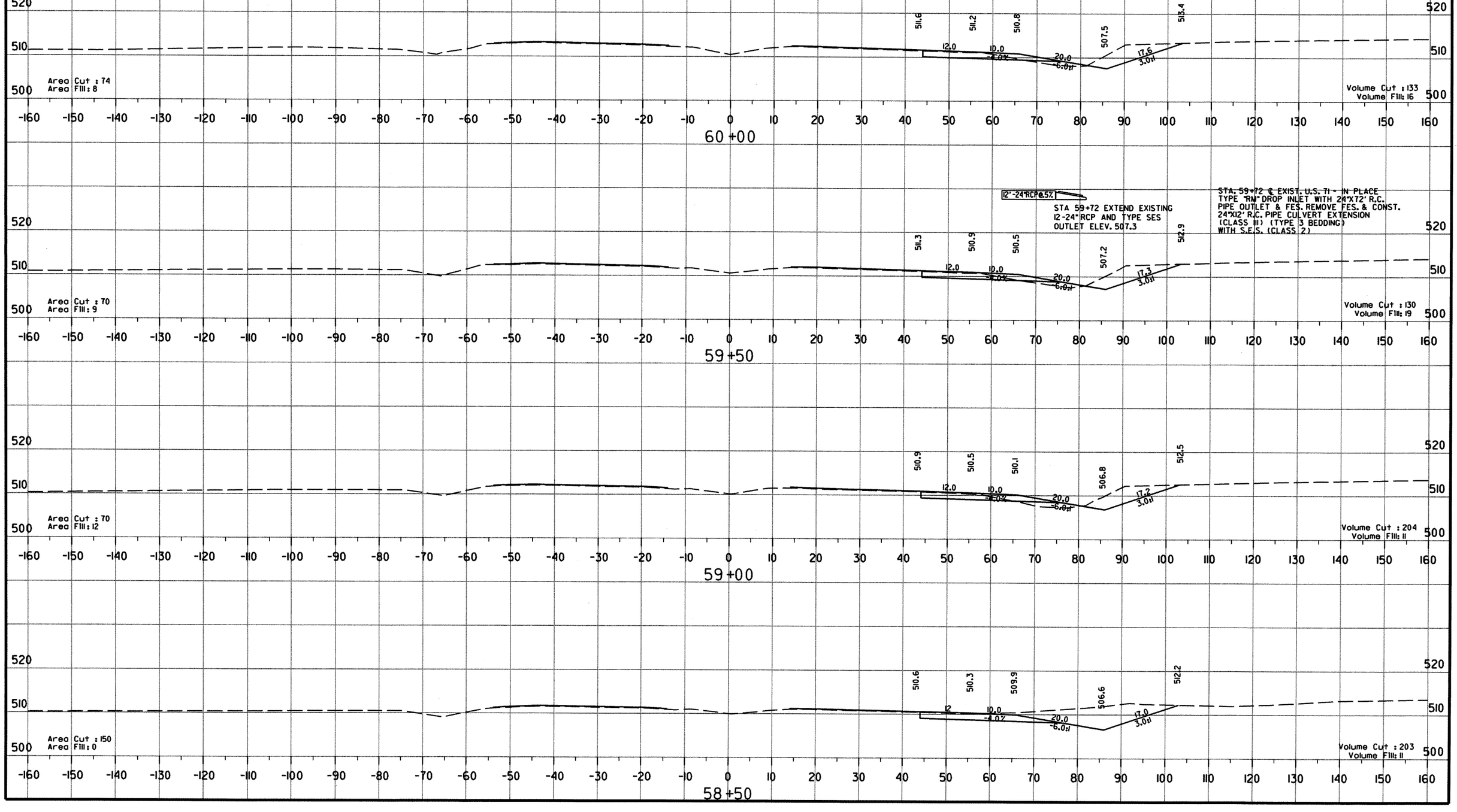
EXIST. U.S. 71



| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 199 | 207 |

## (2) X-SEC. STA. 58+50 TO STA. 60+00

EXIST. U.S. 71

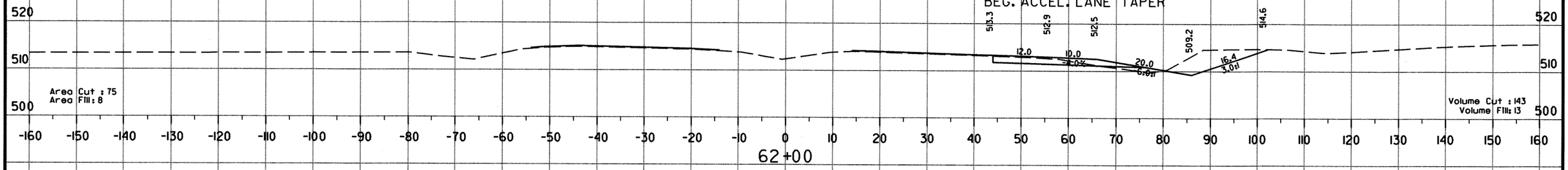


| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 200 | 207 |

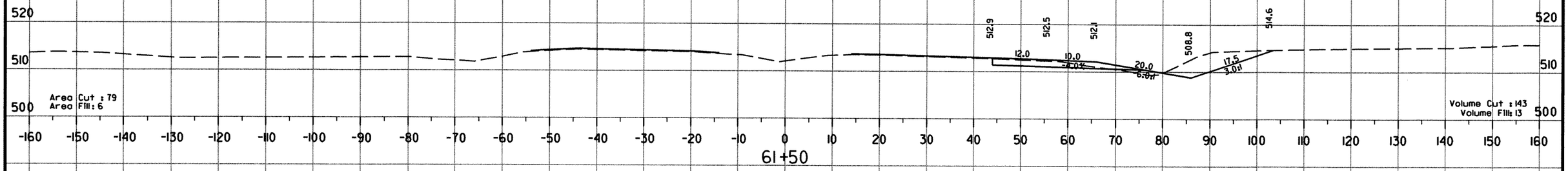
(2) X-SEC. STA. 60+50 TO STA. 62+00

EXIST. U.S. 71

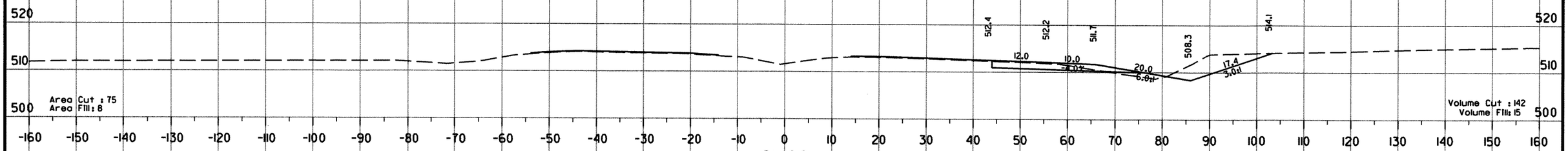
STA. 62+47.98 END. ACCEL LANE RT. N.B. LANE
BEG. ACCEL. LANE TAPER



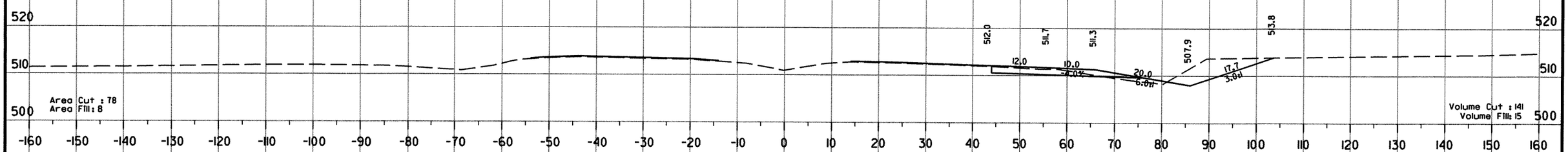

62+00




61+50




61+00




60+50

| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 201 | 207 |

## (2) X-SEC. STA. 62+50 TO STA. 64+50

EXIST. U.S. 71

### 64+50

Area Cut : 34
Area Fill : 0

516.7 516.6 516.2 512.9 517.6
3.9 10.0 -4.0% 20.0 -6.0% 14.1 3.0:1

Volume Cut : 63
Volume Fill : 3

### 64+00

Area Cut : 34
Area Fill : 3

515.8 515.7 515.3 511.9 516.9
5.9 10.0 -4.0% 20.0 -6.0% 14.8 3.0:1

Volume Cut : 73
Volume Fill : 10

8'-24"RCP @ 0.5%

STA 63+71 EXTEND 8' & ADD "SES"
ELEV. 511.5

STA. 63+71 ℄ EXIST. U.S. 71 - IN PLACE TYPE "RM" DROP INLET WITH 24"X72' R.C. PIPE OUTLET & FES. REMOVE FES. & CONST. 24"X8' R.C. PIPE CULVERT EXTENSION (CLASS III) (TYPE 3 BEDDING) WITH S.E.S. (CLASS 2) ON RT.

### 63+50

Area Cut : 45
Area Fill : 8

515.0 514.7 514.3 511.0 516.2
7.9 10.0 -4.0% 20.0 -6.0% 15.7 3.0:1

Volume Cut : 101
Volume Fill : 16

### 63+00

Area Cut : 64
Area Fill : 9

514.3 514.0 513.6 510.2 515.7
9.9 10.0 -4.0% 20.0 -6.0% 16.4 3.0:1

Volume Cut : 129
Volume Fill : 18

### 62+50

Area Cut : 75
Area Fill : 10

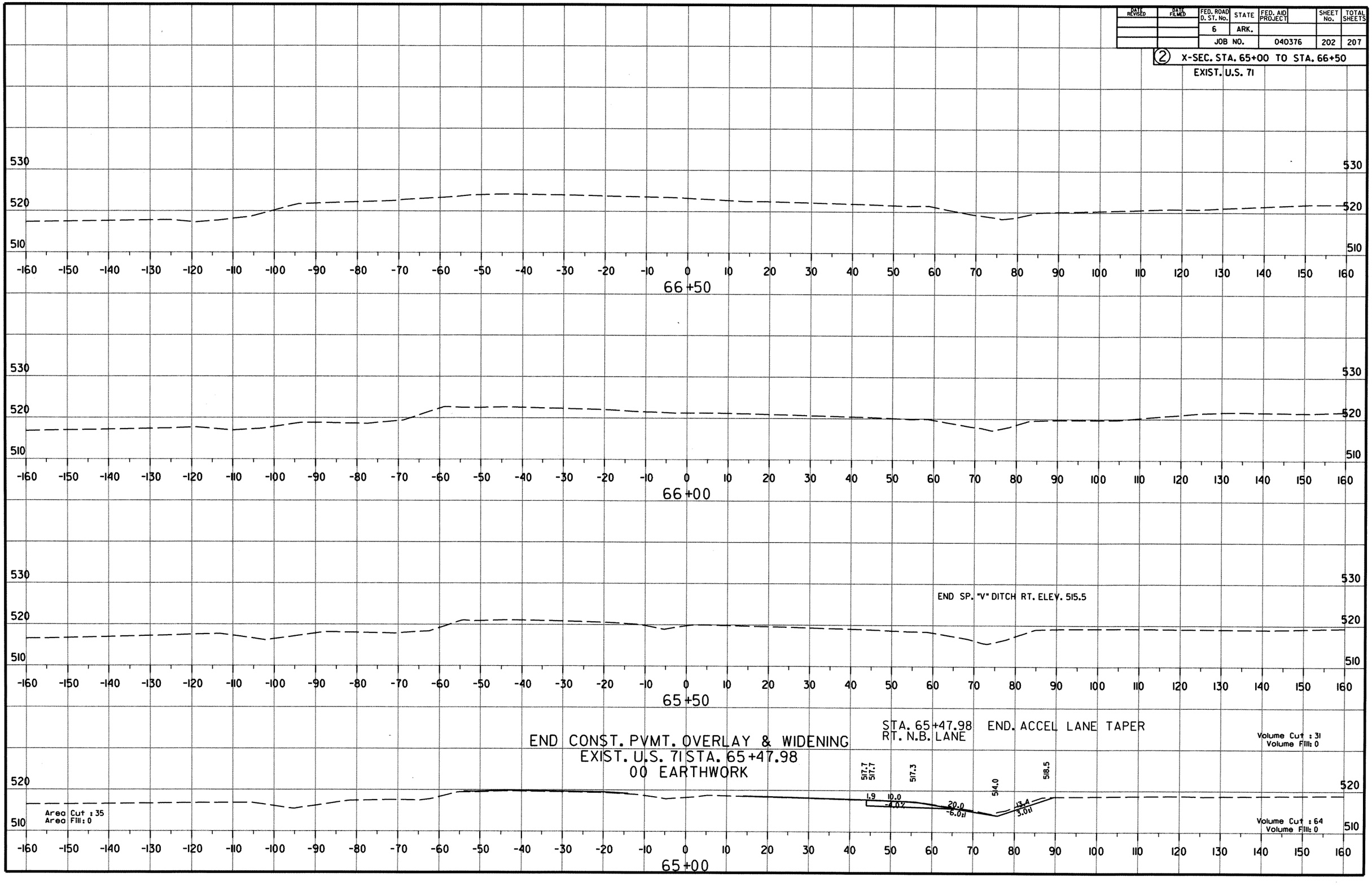
513.7 513.4 513.0 509.6 515.2
11.9 10.0 -4.0% 20.0 -6.0% 16.8 3.0:1

Volume Cut : 139
Volume Fill : 17

| DATE REVISED | DATE FILMED | FED. ROAD D. ST. No. | STATE | FED. AID PROJECT | | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | | |
| | | JOB NO. | | 040376 | | 202 | 207 |

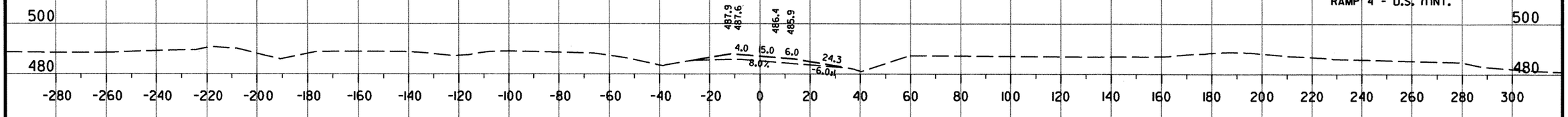
(2) X-SEC. STA. 65+00 TO STA. 66+50

EXIST. U.S. 71



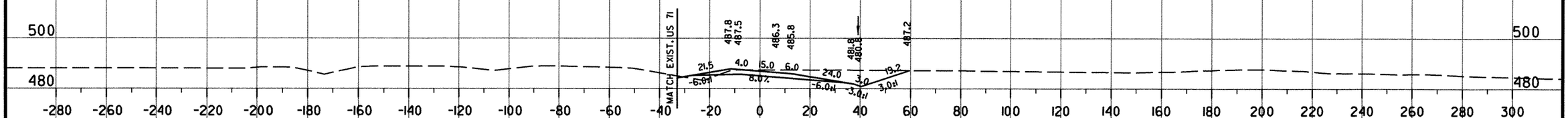
| DATE REVISED | DATE FILMED | FED. ROAD DIST. No. | STATE | FED. AID PROJ. NO. | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | |
| | | JOB NO. | | 040376 | 203 | 207 |

(2) X-SEC. STA. 1847+50 TO STA. 1849+50
RAMP 4 - U.S. 71 INT.




END GRADING RAMP 4 STA. 1849+50
D.E.A. EARTHWORK

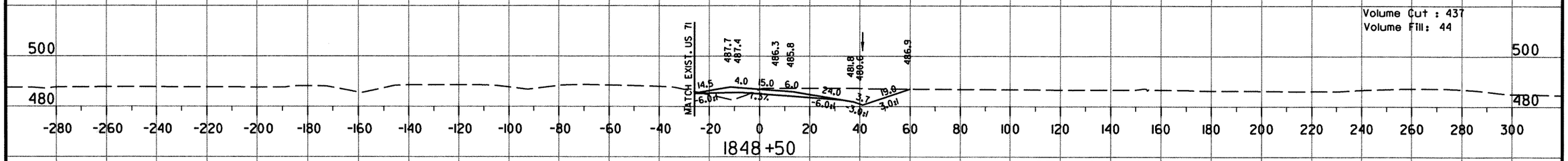
Volume Cut : 463
Volume Fill: 32




1849+00

Area Cut : 250
Area Fill: 17

Volume Cut : 437
Volume Fill: 44

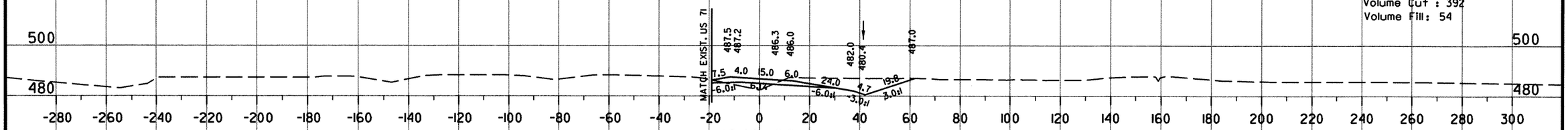



1848+50

Area Cut : 222
Area Fill: 30

STA. 1848+81.00 END SUPERELEVATION TRANSITION

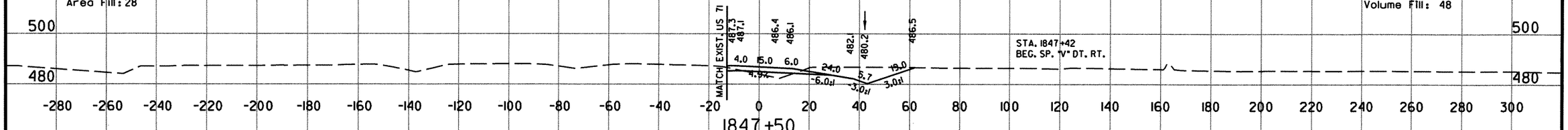
Volume Cut : 392
Volume Fill: 54




1848+00

Area Cut : 201
Area Fill: 28

Volume Cut : 337
Volume Fill: 48




STA. 1847+42
BEG. SP. "V" DT. RT.

1847+50

Area Cut : 163
Area Fill: 24

Volume Cut : 49
Volume Fill: 7

BEGIN GRADING RAMP 4 STA. 1847+41.92
D.E.A. EARTHWORK

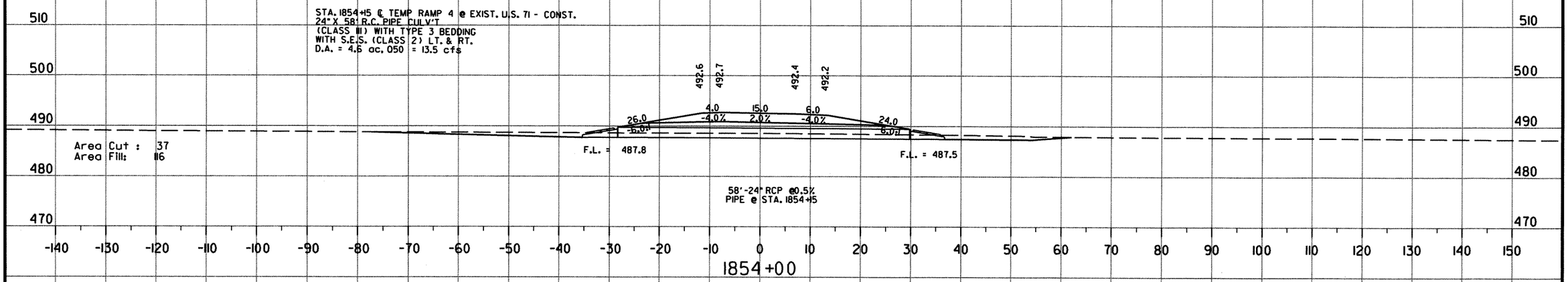
| DATE REVISED | DATE FILMED | FED. ROAD DIST. No. | STATE | FED. AID PROJ. No. | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | |
| | | JOB NO. | | 040376 | 204 | 207 |

(2) X-SEC. STA. 1853+25 TO STA. 1854+00

TEMP RAMP 4 - U.S. 71 INT.

## END GRADING TEMP. RAMP 4 STA. 1854+50
## D.E.A. EARTHWORK

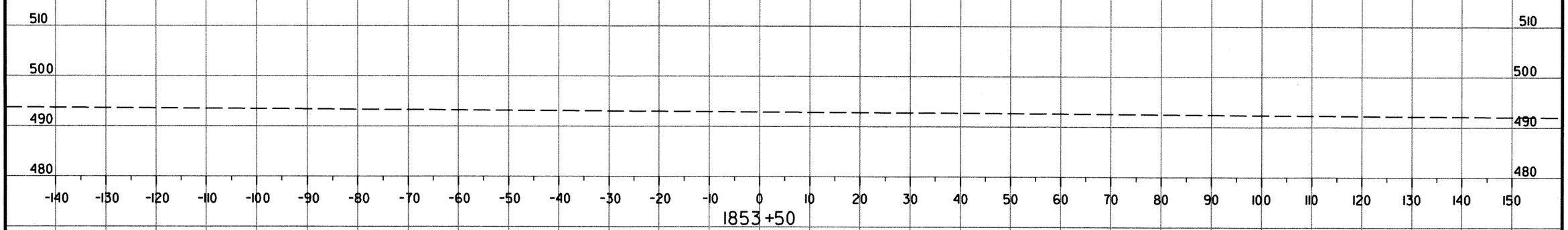
Volume Cut : 69
Volume Fill: 215



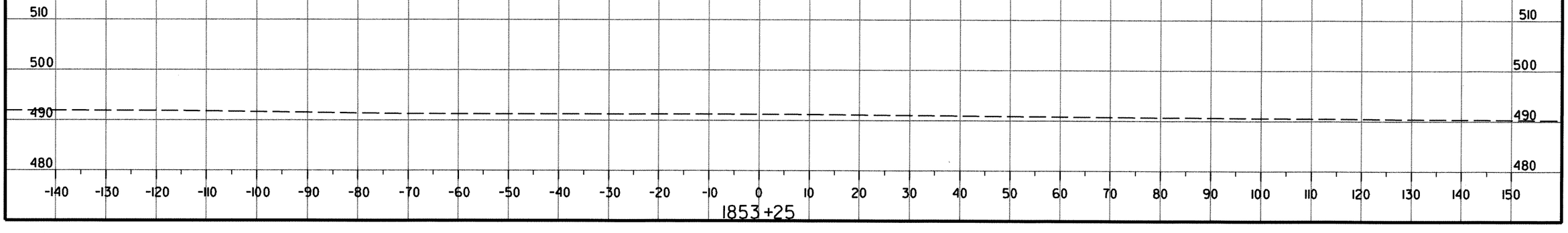

1854+00

Volume Cut : 43
Volume Fill: 135

## BEGIN GRADING TEMP. RAMP 4 STA. 1853+68.52
## D.E.A. EARTHWORK



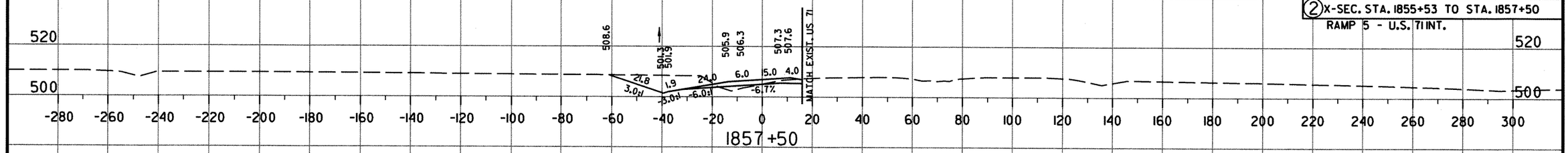

1853+50




1853+25

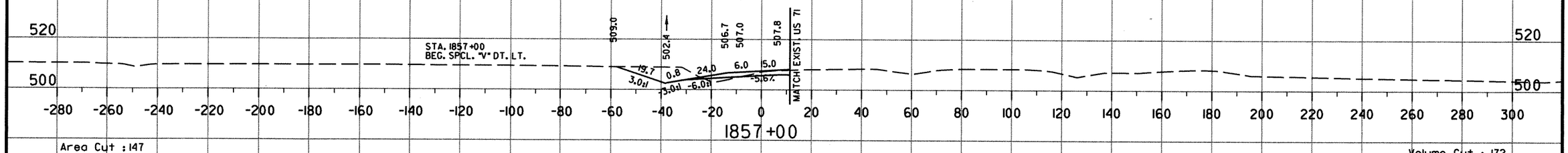
| DATE REVISED | DATE FILMED | FED. ROAD DIST. No. | STATE | FED. AID PROJ. NO. | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | |
| | | JOB NO. | | 040376 | 205 | 207 |

(2) X-SEC. STA. 1855+53 TO STA. 1857+50
RAMP 5 - U.S. 71 INT.




Area Cut : 194
Area Fill : 16

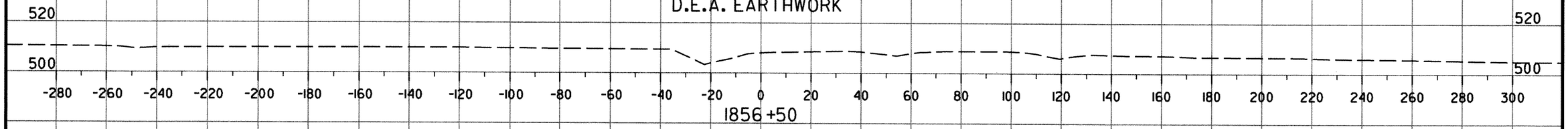
Volume Cut : 316
Volume Fill : 27



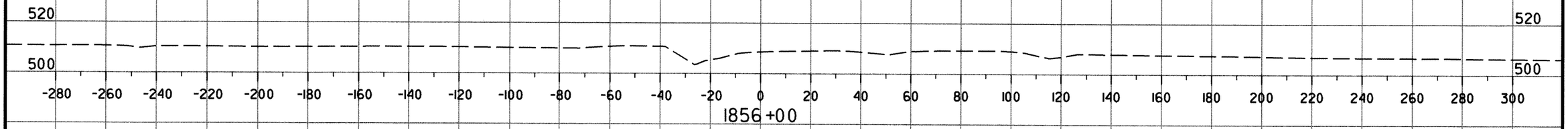

Area Cut : 147
Area Fill : 13

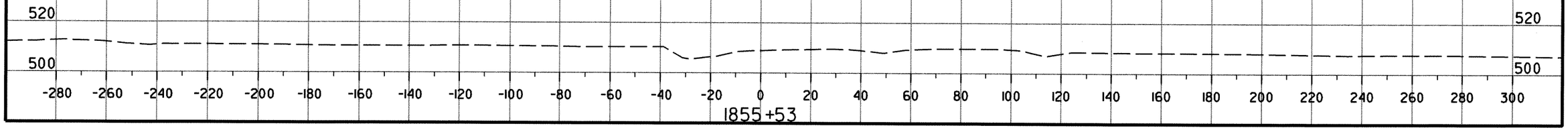
Volume Cut : 172
Volume Fill : 15

STA. 1856+68.36 BEGIN GRADING RAMP 5
D.E.A. EARTHWORK




STA. 1856+03.00 END SUPERELEVATION TRANSITION

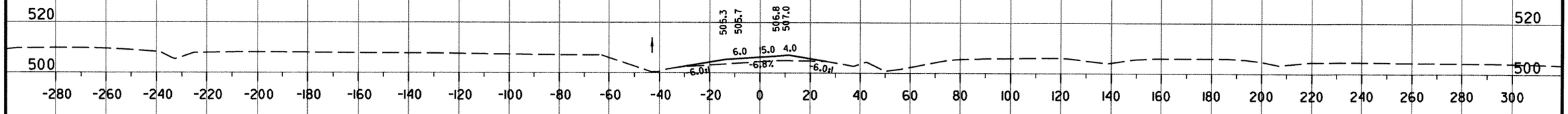


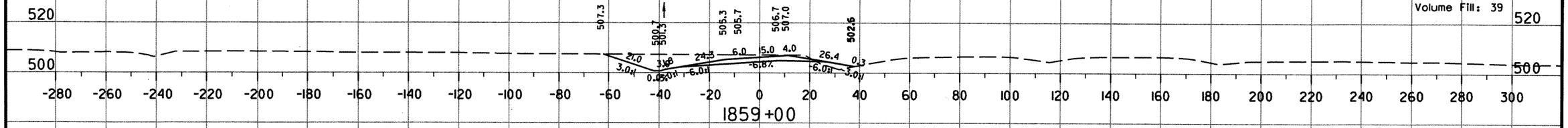
| DATE REVISED | DATE FILMED | FED. ROAD DIST. No. | STATE | FED. AID PROJ. NO. | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | |
| | | JOB NO. | | 040376 | 206 | 207 |

(2) X-SEC. STA. 1858+00 TO STA. 1859+50

RAMP 5 - U.S. 71 INT.




END GRADING RAMP 5 STA. 1859+50.00
D.E.A. EARTHWORK

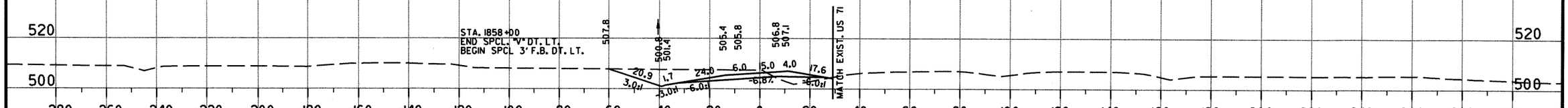



1859+00

Area Cut : 297
Area Fill: 21

Volume Cut : 512
Volume Fill: 54

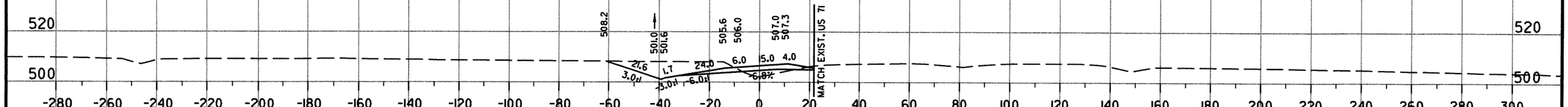
STA. 1858+00
END SPCL. "V" DT. LT.
BEGIN SPCL 3' F.B. DT. LT.




1858+50

Area Cut : 256
Area Fill: 37

Volume Cut : 449
Volume Fill: 63




1858+00

Area Cut : 229
Area Fill: 31

Volume Cut : 392
Volume Fill: 44

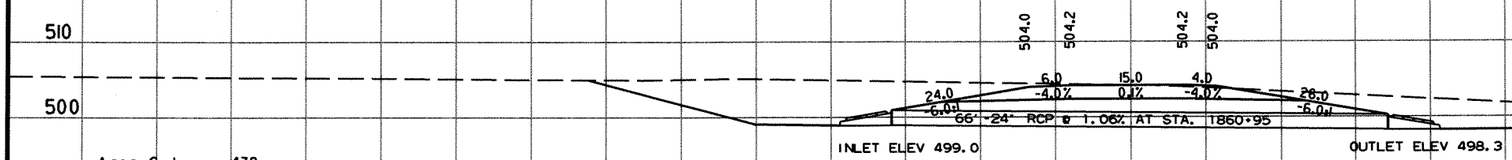
| DATE REVISED | DATE FILMED | FED. ROAD DIST. No. | STATE | FED. AID PROJ. No. | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| | | 6 | ARK. | | | |
| | | JOB NO. | | 040376 | 207 | 207 |

(2) X-SEC. STA. 1860+08 TO STA. 1861+00
TEMP RAMP 5 - U.S. 71 INT.

STA. 1860+95 ℄ TEMP RAMP 5 ℄ EXIST. U.S. 71 - CONST.
24" X 66' R.C. PIPE CULV'T (CLASS III) WITH TYPE 3 BEDDING WITH S.E.S. (CLASS 2) LT. & RT.
D.A. = 1.8 ac. Q50 = 7.5 cfs

## END GRADING TEMP. RAMP 5 STA. 1861+50
## D.E.A. EARTHWORK

Volume Cut : 811
Volume Fill: 0




Area Cut : 438
Area Fill: 0

520 / 510 / 500 / 490 / 480

-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1861+00

Volume Cut : 775
Volume Fill: 0

## BEGIN GRADING TEMP. RAMP 5 STA. 1860+52.20
## D.E.A. EARTHWORK

520 / 510 / 500 / 490

-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1860+50

520 / 510 / 500 / 490

-140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

1860+08