WELLS BAYOU STR. & APPRS. (S)

LINCOLN COUNTY

ROUTE 54 SECTION 3

JOB 020419

FED. AID PROJ. STPR-0040(23)

NOT TO SCALE

STA. 14+25.00
BEGIN JOB 020419
LOG MILE 1.60

STA. 28+50.58
END JOB 020419

- DESIGN TRAFFIC DATA -

DESIGN YEAR - 2035
2035 ADT - 1600
2035 DTH - 1400
2035 OTH - 154
DIRECTIONAL DISTRIBUTION - 60% TOWARDS
TRUCKS - 9%
DESIGN SPEED - 50 MPH

BRIDGE INFORMATION

BR. END STA. 19+03.49
BRIDGE NO. 07068
(28', 34', 28')
30' CLEAR ROADWAY
45° RT, FORWARD SKEW
93' = 1/4' BRIDGE LENGTH
BR. END STA. 19+96.51

DEPARTMENT OF HIGHWAYS, DIVISION OF
ARKANSAS STATE HIGHWAY & TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAYS

APPROVED

DEPUTY DIRECTOR
AND CHIEF ENGINEER
SUPERELEVATION SECTION

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

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

DETOUR ROAD - TANGENT SECTION
STA. 6+51.82 TO STA. 27+91.00

DETOUR ROAD - SUPERELEVATION SECTION

TYPICAL SECTIONS OF IMPROVEMENT
METHOD OF RAISING GRADE

NOTES:
1. THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.

2. QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.

3. IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS.

DETAIL FOR TRANSITIONS

WIDENING FOR GUARDRAIL

*REFER TO STANDARD DRAWING 21-9a AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEING GUARDRAIL.
**DETAILS OF RUMBLE STRIPS**

**LOCATION PLAN OF RUMBLE STRIPS**

**LEFT OR RIGHT SHOULDER**

**GENERAL NOTES**

1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULders.

2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED NECESSARY.

3. THE 4" OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.

4. RUMBLE STRIPS SHALL BE MEASURED BY THE LINEAL FOOT LONGITUDINALLY ALONG THE SHOULders. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULder ON WHICH RUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OF PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.

5. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 12" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.

**PLAN VIEW**

**DETAIL FOR GAP PATTERN RUMBLE STRIP**

**NOTE:** GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.
EROSION CONTROL GENERAL NOTES

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

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

REVISIONS

<table>
<thead>
<tr>
<th>DATE</th>
<th>REVISION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

STAGE 1
CONSTRUCT DETOUR TEMPORARY DRAWS AND MOST OF PERMANENT DRAWS STA 3+05 LT.
STAGE 2
SHIFT TRAFFIC TO DETOUR CONSTRUCT NEW BRIDGE AND MAIN LANES.
STAGE 3
SHIFT TRAFFIC TO C.L. CONSTR. DELIVERET DETOUR AND FINISH TIE-IN.
END OF JOB
PLACE GRASS SEEDING
**Temporary Erosion Control Details**

**Stage 1**
- Construct detour, temporary driveway.
- Most of permanent driveway STA 44+25.48 LT.
- Place final striping.

**Stage 2**
- Shift traffic to STA 44+25.48.
- Construct new bridge and main lanes.
- Place final striping.

**Stage 2**
- Shift traffic to STA 44+25.48.
- Construct new bridge and main lanes.
- Place final striping.

**End of Job**
STA 44+25.48

**Temporary Erosion Control Details**

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**EROSION CONTROL GENERAL NOTES**

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

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
EROSION CONTROL GENERAL NOTES

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLAN ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAINTAIN THE EFFECTIVENESS OF THE DEVICES ARE TO BE INSTALLED IN AN AREA.

REVISIONS

DATE

REVISION

STAGE 1: CONTRIBUTE DETOUR, TEMPORARY DRIVES AND MOST OF PERMANENT DRIVE STA. 2+65 LT.

STAGE 2: SHIFT TRAFFIC TO DETOUR, CONSTRUCT NEW BRIDGE AND MAIN LAKES.

STAGE 3: ALL TRAFFIC TO B, COMPLETE EROSION DETOUR END OF SHOULDER PLACE FINAL STRIPING

TEMPORARY EROSION CONTROL DETAILS

STAGE 3
**MAINTENANCE OF TRAFFIC**

**STAGE 1**

- **Stage:** Construct detour, temporary drives, and host of permanent drive Sta. 28+50 LT.
- **Stage 2:** Traffic to detour, construct new bridge and main lanes.
- **Stage 3:** Traffic to C.L. const., obliterate detour and finish tied-in.

**End of Job:** Place final striping.

**STA. 28+50.58 END JOB 020419**

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**C.L. CONSTRUCTION**
- P.L.: 28+50.00
- L.: 100.00
- R.T.: 200.00

**C.L. DETOUR**
- P.L.: 28+50.00
- L.: 100.00
- R.T.: 200.00

No superelevation.
The 4" yellow striping quantity has been estimated based on a double yellow centerline stripe for the entire project. The project must be marked for passing/no passing zones prior to the placement of any final striping. Contact the maintenance division after the final lift of surface course has been placed to schedule the zoning of the project.

**Permanent Pavement Marking Details**

<table>
<thead>
<tr>
<th>STA</th>
<th>Design</th>
<th>Color</th>
<th>Width</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>14+25.00</td>
<td>4&quot; red</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>44+25.48</td>
<td>4&quot; high performance contract pavement marking (yellow)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>STA, 18+35.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STA, 44+25.48</td>
<td>NOAH LANE</td>
<td>-</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>
END OF JOB

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

<table>
<thead>
<tr>
<th>Sign Number</th>
<th>Description</th>
<th>Sign Size</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>End of Job</th>
<th>Maximum Number Required</th>
<th>Total Signs Required</th>
<th>Traffic Drums</th>
<th>Barricades (Type II)</th>
</tr>
</thead>
<tbody>
<tr>
<td>W00-1</td>
<td>Road Work 1500 ft</td>
<td>48x48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>32</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>W01-1</td>
<td>Road Work 1000 ft</td>
<td>48x48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>32</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>W02-1</td>
<td>Road Work 500 ft</td>
<td>48x48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>32</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>W03-1</td>
<td>Road Work Ahead</td>
<td>48x48&quot;</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>16</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>D02-1</td>
<td>End Road Work</td>
<td>48x24&quot;</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>24</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>W04-1.R</td>
<td>Double Reverse Curve RT</td>
<td>36x36&quot;</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W04-1.L</td>
<td>Double Reverse Curve LT</td>
<td>36x36&quot;</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W12-1</td>
<td>Speed Limit (Advisory)</td>
<td>24x24&quot;</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R1-1.1</td>
<td>Road Closed</td>
<td>48x24&quot;</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W6-1</td>
<td>Large Arrow</td>
<td>48x24&quot;</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>24</td>
<td></td>
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<tr>
<td>W1-8</td>
<td>chevrons</td>
<td>18x24&quot;</td>
<td>14</td>
<td>14</td>
<td>2</td>
<td>14</td>
<td>14</td>
<td>42</td>
<td></td>
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<tr>
<td>R4-1.1</td>
<td>Do Not Pass</td>
<td>24x24&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td></td>
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<tr>
<td>R4-1.2</td>
<td>Pass With Care</td>
<td>24x24&quot;</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Traffic Drums</td>
<td></td>
<td>62</td>
<td>80</td>
<td>6</td>
<td>62</td>
<td>82</td>
<td>62</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>Type B Barricade RT (18')</td>
<td></td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>64</td>
<td>4</td>
<td>4</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>Type B Barricade LT (18')</td>
<td></td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>48</td>
<td>4</td>
<td>4</td>
<td>43</td>
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</tbody>
</table>

**Total:** 388, 82, 64, 48

**Note:** This is a low traffic volume road as defined in Section 804.03, standard specifications for highway construction.

### Construction Pavement Markings and Permanent Pavement Markings

<table>
<thead>
<tr>
<th>Description</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>End of Job</th>
<th>Removal of Permanent Pavement Markings</th>
<th>Construction Pavement Markings</th>
<th>Removable Construction Pavement Markings</th>
<th>Raised Pavement Markers</th>
<th>Reflectorized Paint Pavement Marking</th>
<th>High Performance Contrast Pavement Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LIN. FT.</td>
<td></td>
<td></td>
<td></td>
<td>LIN. FT.</td>
<td>LIN. FT.</td>
<td>LIN. FT.</td>
<td>LIN. FT.</td>
<td>LIN. FT.</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>Removal of Permanent Pavement Markings</td>
<td>1088</td>
<td></td>
<td></td>
<td></td>
<td>1688</td>
<td>10176</td>
<td>1084</td>
<td>1084</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Construction Pavement Markings</td>
<td>1700</td>
<td>9476</td>
<td></td>
<td></td>
<td>1884</td>
<td>1084</td>
<td>1084</td>
<td>1084</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Removable Construction Pavement Markings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Raised Pavement Markers (Type B (18')</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3438</td>
<td>3438</td>
<td>3438</td>
<td>3438</td>
<td>3438</td>
<td>3438</td>
</tr>
<tr>
<td>Reflectors Paint Pavement Marking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3084</td>
<td>3084</td>
<td>3084</td>
<td>3084</td>
<td>3084</td>
<td>3084</td>
</tr>
<tr>
<td>Reflectors Paint Pavement Marking Yellow</td>
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<td></td>
<td></td>
<td></td>
<td>186</td>
<td>186</td>
<td>186</td>
<td>186</td>
<td>186</td>
<td>186</td>
</tr>
<tr>
<td>High Performance Contrast Pavement Marking Yellow</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>1486</td>
<td>1486</td>
<td>1486</td>
<td>1486</td>
<td>1486</td>
</tr>
</tbody>
</table>

**Total:** 1486, 10176, 1084, 43, 3438, 3084, 186

**Note:** This is a low traffic volume road as defined in Section 804.03, standard specifications for highway construction.

**Quantities**
### DUMPED RIPRAP AND FILTER BLANKET

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Dumped Riprap Blanket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire To Be Used If and Where</td>
<td>Project Directed by the Engineer</td>
<td>8</td>
</tr>
</tbody>
</table>

**TOTAL:** 8 | 16

**Note:** Quantities estimated. See Section 104.03 of the Standard Specifications

### BENCH MARKS

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Bench Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>19+18.00</td>
<td>R.T. Side of Bridge End</td>
<td>Each</td>
</tr>
</tbody>
</table>

**TOTAL:** 1

**Note:** Shown for Information Only. Bench Marks Shall Be Furnished by State Forces.

### CLEARING AND GRUBBING

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Clearing and Grubbing</th>
</tr>
</thead>
<tbody>
<tr>
<td>18+00.00</td>
<td>28+00.00</td>
<td>Maryland Lines</td>
</tr>
<tr>
<td>24+00.00</td>
<td>29+00.00</td>
<td>Maryland Lines</td>
</tr>
</tbody>
</table>

**TOTAL:** 11 | 11

### MAILBOXES

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Mailbox Supports (Single)</th>
<th>(Double)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Project</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL:** 5 | 1 | 2

### GUARDRAIL

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Guardrail (Type A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17+48.34</td>
<td>19+79.39</td>
<td>Lt. Side</td>
</tr>
<tr>
<td>19+47.49</td>
<td>19+98.49</td>
<td>Lt. Side</td>
</tr>
<tr>
<td>19+00.00</td>
<td>20+04.00</td>
<td>Lt. Side</td>
</tr>
<tr>
<td>20+20.01</td>
<td>21+14.00</td>
<td>R.T. Side</td>
</tr>
</tbody>
</table>

**TOTAL:** 225 | 3 | 3 | 1

### SELECTED PIPE BEDDING

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Selected Pipe Bedding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Project to Be Used If and Where Directed by the Engineer</td>
<td>96</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Quantity estimated. See Section 104.03 of the STD. Specs.

### SOIL LOG

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Depth Feet</th>
<th>Liquid Limit</th>
<th>Plasticity Index</th>
<th>Aashto Classification</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>13+00.00</td>
<td>S-RT-CL</td>
<td>0-5</td>
<td>ND</td>
<td>ND</td>
<td>A-40</td>
<td>Brown</td>
</tr>
<tr>
<td>24+00.00</td>
<td>S-LT-CL</td>
<td>0-5</td>
<td>10</td>
<td>9</td>
<td>A-41</td>
<td>Brown</td>
</tr>
</tbody>
</table>

**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 are shown for information only. The state will not be responsible for variations in the soil characteristics and/or extent of same differing from the above tabulations. NP - Non-Plastic ND - Not Determined

### EROSION CONTROL

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Permanent Erosion Control</th>
<th>Temporary Erosion Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>13+25.00</td>
<td>29+50.00</td>
<td>Clearing and Grubbing Stage</td>
<td></td>
</tr>
<tr>
<td>13+25.00</td>
<td>43+40.00</td>
<td>Stage 2 - Main Lanes</td>
<td></td>
</tr>
<tr>
<td>13+25.00</td>
<td>43+40.00</td>
<td>Stage 3 - Main Lanes</td>
<td></td>
</tr>
<tr>
<td>13+75.00</td>
<td>30+14.00</td>
<td>Detour</td>
<td></td>
</tr>
<tr>
<td>40+03.87</td>
<td>44+59.00</td>
<td>Noah Lane</td>
<td></td>
</tr>
</tbody>
</table>

**Total:** 1.53 | 3.1 | 1.53 | 1.53 | 6.51 | 6.51 | 13.29 | 404 | 2305 | 82

**Basis of Estimate:**
Lime | 2 Tons / Acre of Seeding
Water | 102.0 M.G. / Acre of Seeding
Temporary Seeding Water | 20.4 M.G. / Acre of Temporary Seeding
Sand Bag Ditch Checks | 22 Bags / Location

**Note:** The Temporary Erosion Control Devices Shown Above and on the Plans Shall Be Installed in Such a Sequence as to Detter Erosion and Sedimentation on U.S. Waterways as Explained by the National Pollutant Discharge Elimination System Permit.

*Quantities Estimated.*
# Quantities

## 4" Pipe Underdrain

<table>
<thead>
<tr>
<th>Station</th>
<th>Pipe Underdrains</th>
<th>Outlet Protectors</th>
<th>Lin. Ft.</th>
<th>Each</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Project to be used if and when directed by the engineer</td>
<td>500</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total:** 506

*Note: Quantities estimated. See section 104.03 of the Std. Specs.*

## Removal and Disposal of Items

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Concreted Driveway</th>
</tr>
</thead>
<tbody>
<tr>
<td>15+66.00</td>
<td>Concrete Drive on Lt.</td>
<td>85</td>
</tr>
</tbody>
</table>

**Total:** 85

## Rumble Strips in Asphalt Shoulders

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Rumble Strips in Asphalt Shoulders</th>
</tr>
</thead>
<tbody>
<tr>
<td>14+25.00</td>
<td>Rt. Main Lanes</td>
<td>753</td>
</tr>
<tr>
<td>14+25.00</td>
<td>Lt. Main Lanes</td>
<td>794</td>
</tr>
</tbody>
</table>

**Total:** 1547

*Quantities estimated. See section 104.03 of the Std. Specs. To be used if and where directed by the engineer.*

## Temporary Culverts

<table>
<thead>
<tr>
<th>Station</th>
<th>Description</th>
<th>TEMPORARY CULVERTS</th>
<th>STD. DWG. NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>18+73.00</td>
<td>Rt. Main Lanes</td>
<td>PVC-1, PVC-1, PVC-1, PVC-2</td>
<td>129</td>
</tr>
<tr>
<td>19+60.00</td>
<td>Detour - Quad Pipe Culvert on 23&quot; Rt. Fw, Slew</td>
<td>PVC-1, PVC-1</td>
<td>344</td>
</tr>
<tr>
<td>21+36.00</td>
<td>Detour</td>
<td>PVC-1, PVC-1, PVC-1, PVC-2</td>
<td>72</td>
</tr>
</tbody>
</table>

**Total:** 441

*Note: For R.C. pipe culvert installations use Type 3 bedding unless otherwise specified. For C.M. pipe culvert installations use Type 2 bedding unless otherwise specified.*

## Driveways & Turnouts

<table>
<thead>
<tr>
<th>Station</th>
<th>Side</th>
<th>Location</th>
<th>Width (Feet)</th>
<th>Portland Cement Concrete Driveway</th>
<th>ACIP Surface Course (1/2&quot;)</th>
<th>200 Lbs.</th>
<th>Aggregate Base Course (Class 7)</th>
<th>Side Drains</th>
<th>Standard Drawings</th>
</tr>
</thead>
<tbody>
<tr>
<td>15+66.00</td>
<td>Lt. Main Lanes</td>
<td>30</td>
<td>51.00</td>
<td>PVC-1, PVC-1, PVC-1, PVC-2</td>
<td>20.5</td>
<td>1.00</td>
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<td></td>
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<tr>
<td>16+72.00</td>
<td>Rt. Main Lanes</td>
<td>30</td>
<td>52.21</td>
<td>PVC-1, PVC-1, PVC-1, PVC-2</td>
<td>20.5</td>
<td>1.00</td>
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</tr>
<tr>
<td>17+43.00</td>
<td>Lt. Main Lanes</td>
<td>30</td>
<td>53.45</td>
<td>PVC-1, PVC-1, PVC-1, PVC-2</td>
<td>20.5</td>
<td>1.00</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>18+34.00</td>
<td>Rt. Main Lanes</td>
<td>30</td>
<td>54.68</td>
<td>PVC-1, PVC-1, PVC-1, PVC-2</td>
<td>20.5</td>
<td>1.00</td>
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<tr>
<td>19+25.00</td>
<td>Lt. Main Lanes</td>
<td>30</td>
<td>55.91</td>
<td>PVC-1, PVC-1, PVC-1, PVC-2</td>
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<td>1.00</td>
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<tr>
<td>20+35.00</td>
<td>Rt. Main Lanes</td>
<td>30</td>
<td>57.14</td>
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<td>21+12.00</td>
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<td>58.37</td>
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<td></td>
<td></td>
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<tr>
<td>22+00.00</td>
<td>Rt. Main Lanes</td>
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<td>59.59</td>
<td>PVC-1, PVC-1, PVC-1, PVC-2</td>
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<td>1.00</td>
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</tr>
<tr>
<td>23+00.00</td>
<td>Lt. Main Lanes</td>
<td>30</td>
<td>60.82</td>
<td>PVC-1, PVC-1, PVC-1, PVC-2</td>
<td>20.5</td>
<td>1.00</td>
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</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td>291.00</td>
<td>PVC-1, PVC-1, PVC-1, PVC-2</td>
<td>579.00</td>
<td>34</td>
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</tbody>
</table>

*Basis of Estimate: ACIP Surface Course (1/2") 34.4% Min. AGIP 5-6% Asphalt Binder Maximum number of applications = 152 for PO 86-22

## Erosion Control Matting

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Length (Feet)</th>
<th>Class 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>14+00.00</td>
<td>Rt. Main Lanes</td>
<td>125.00</td>
<td>111.11</td>
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<td>Lt. Main Lanes</td>
<td>104.00</td>
<td>92.84</td>
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<tr>
<td>14+30.00</td>
<td>Lt. Main Lanes</td>
<td>128.00</td>
<td>113.78</td>
</tr>
<tr>
<td>14+45.00</td>
<td>Rt. Main Lanes</td>
<td>34.00</td>
<td>30.22</td>
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<tr>
<td>17+02.00</td>
<td>Rt. Main Lanes</td>
<td>49.00</td>
<td>42.87</td>
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<tr>
<td>17+17.00</td>
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<td>20.00</td>
<td>17.78</td>
</tr>
<tr>
<td>17+32.00</td>
<td>Lt. Main Lanes</td>
<td>30.00</td>
<td>27.78</td>
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<tr>
<td>17+47.00</td>
<td>Rt. Main Lanes</td>
<td>200.00</td>
<td>177.78</td>
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<tr>
<td>18+25.00</td>
<td>Lt. Main Lanes</td>
<td>54.00</td>
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<tr>
<td>18+40.00</td>
<td>Lt. Main Lanes</td>
<td>100.00</td>
<td>85.89</td>
</tr>
<tr>
<td>20+35.00</td>
<td>Lt. Main Lanes</td>
<td>49.00</td>
<td>40.00</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td>1000.89</td>
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</table>

*Note: Average Width = 6-0"*

---

**Quantities**

**Earthwork**

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Description</th>
<th>Unclassified Excavation (Yd.3)</th>
<th>Compacted Embankment (Yd.3)</th>
<th>Soil Stabilization (Ton)</th>
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<tbody>
<tr>
<td>13+25.00</td>
<td>Stage 1 Detour</td>
<td>212</td>
<td>848</td>
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<tr>
<td>13+30.00</td>
<td>Stage 2 Main Lanes</td>
<td>344</td>
<td>1176</td>
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</tr>
<tr>
<td>13+35.00</td>
<td>Stage 3 Detour + Obstruction</td>
<td>1056</td>
<td>329</td>
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<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td>1623</td>
<td>1175</td>
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</tbody>
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*Note: Earthwork quantities shown above shall be paid as plan quantity.*

---

**Summary**

- **4" Pipe Underdrain:**
  - Entire Project: 506 lin. ft.
  - Total: 506

- **Rumble Strips in Asphalt Shoulders:**
  - Entire Project: 1547 lin. ft.
  - Total: 1547

- **Temporary Culverts:**
  - Entire Project: 441 lin. ft.
  - Total: 441

- **Driveways & Turnouts:**
  - Entire Project: 291.00 lin. ft.
  - Total: 291

- **Erosion Control Matting:**
  - Entire Project: 1000.89 lin. ft.
  - Total: 1000.89

---

**Notes:**

- For R.C. pipe culvert installations use Type 3 bedding unless otherwise specified.
- For C.M. pipe culvert installations use Type 2 bedding unless otherwise specified.
- For C.M. pipe culvert installations use Type 3 bedding unless otherwise specified.
- See section 104.03 of the Std. Specs. To be used if and where directed by the engineer.
- See section 104.03 of the Std. Specs. To be used if and where directed by the engineer.
## SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 02049

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>205</th>
<th>601</th>
<th>602</th>
<th>603</th>
<th>604</th>
<th>605</th>
<th>606</th>
<th>607</th>
<th>608</th>
<th>812</th>
<th>816</th>
<th>816</th>
</tr>
</thead>
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<tr>
<td>UNIT OF QUANTITY</td>
<td>LUMP SUM</td>
<td>COL. YD.</td>
<td>COL. YD.</td>
<td>COL. YD.</td>
<td>GAL.</td>
<td>LB.</td>
<td>L.T. FT.</td>
<td>L. FT.</td>
<td>L. FT.</td>
<td>L. FT.</td>
<td>LB.</td>
<td>L.T. FT.</td>
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<tr>
<td>ITEM</td>
<td>UNCLASSIFIED EXCAVATION STRUCTURE</td>
<td>6</td>
<td>10.77</td>
<td>0.6</td>
<td>7.315</td>
<td>3</td>
<td>9</td>
<td>LUMP SUM</td>
<td>1,599</td>
<td>487</td>
<td>270</td>
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<tr>
<td>SANT NO. 1 &amp; 4</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>SANT NO. 2 &amp; 3</td>
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</tr>
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<td>TOTALS FOR ITEM NO. 02049</td>
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<td>95.10</td>
<td>94.80</td>
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<td>49,000</td>
<td>91.0</td>
<td>1</td>
<td>487</td>
<td>270</td>
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</tbody>
</table>

AILEEN SCHUEDEL
DESIGN SECTION SUPERVISOR

## SCHEDULE OF BRIDGE QUANTITIES
WELLS BAYOU STR. & APPR, (5)
LINCOLN COUNTY

ARKANSAS STATE HIGHWAY COMMISSION
ROUTE 54 SEC. 3
LITTLE ROCK, ARK.

DESIGNED BY: ARKANSAS STATE HIGHWAY COMMISSION
DRAFTED BY: ARKANSAS STATE HIGHWAY COMMISSION
DRAWN BY: ARKANSAS STATE HIGHWAY COMMISSION
PRELIMINARY PRINT NO.: 48264
DATE: 10/03/85
FILL FOOT PRINT NO.: 48264
DATE: 10/03/85
BRIDGE ENGINEER: ARKANSAS STATE HIGHWAY COMMISSION
NO.-07068
DRAWING NO.: 48264
Typical Anchor Bolt Layout

Scale: 1" = 1'-0"

Plan

Elevation

Scale: 1" = 1'-0"

Details of Bent No. 3
Wells Bayou

Arkansas State Highway Commission

LITTLE ROCK, ARK.

Bridges

Drawing No. 48270

No Scale

View Y-Y

No Scale

General Notes:

All concrete shall be Class "5" with a minimum 28 day compressive strength f'c = 3000 psi. Concrete shall be poured in the dry and all exposed corners to be chamfered 45° unless otherwise noted.

Reinforcing Steel shall be Grade 60 conforming to A615 Grade 60, Type A, with yield strength f_y = 60,000 psi.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly spaced to avoid damage

For additional information, see Bridge Layout.
GENERAL NOTE

The Bridge End Drainage shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge and extending to the side slopes and grades under the bridge and including around the end of abutments, embankment shoulders or abutments shall be constructed in a manner so as to allow proper drainage of water from the embankment and mechanical equivalent to the satisfaction of the Engineer. Refer to Subsections 1005.602 and 1005.602A for construction requirements.

EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL
AT VERTICAL WALL ABUTMENTS

EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS

EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL
AT SPILL-THROUGH END BENTS

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

EMBANKMENT & BACKFILL 155000

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWING NO. 55000
ARKANSAS HIGHWAY COMMISSION

DICK TRAMMEL - CHAIR

TOM SCHUECK - VICE CHAIR

ROBERT S. MOORE, JR.

FRANK D. SCOTT, JR.

DALTON A. "ALEC" FARMER, JR.

DIRECTOR - SCOTT E. BENNETT

DEPUTY DIRECTOR/CHIEF OPERATING OFFICER - LORIE H. TUDOR

DEPUTY DIRECTOR/CHIEF ENGINEER - EMMANUEL BANKS

CONTRACTOR

COMPANY NAME

YEAR

TYPICAL BRIDGE NAME PLATE

STANDARD DETAILS FOR

TYPE D BRIDGE NAME PLATE

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, AR

DRAWING NO.

50790

SHEET NO.

1

SCALE

4" = 1'-0"

UNITS

FEET

DRAFTED BY

P.L.

CHECKED BY

P.L.

DRAWN BY

P.L.

NOTE: The name of the bridge as shown on the plans shall be placed on Type 1-2 using 3/8-inch raised letters and numerals 3/8-inch high.
GENERAL NOTES:
- All bolts shall be sufficient length to extend through hole in rail, with clearance of the nut and no more than 6". 
- Bolt hole in W-beam guard rail continues the intermediate sections.
- Steel post shall be butt welded to guard rail.
- All steel components are shown in a 1/32" scale.
- Placement of bolts shall be as shown.
- All dimensions are shown in inches.

WOOD BLOCKOUT CONNECTIONS
- All bolts shall be sufficient length to extend through hole in rail, with clearance of the nut and no more than 6". 
- Bolt hole in W-beam guard rail continues the intermediate sections.
- Steel post shall be butt welded to guard rail.
- All steel components are shown in a 1/32" scale.
- Placement of bolts shall be as shown.
- All dimensions are shown in inches.

PLASTIC BLOCKOUT CONNECTIONS
- All bolts shall be sufficient length to extend through hole in rail, with clearance of the nut and no more than 6". 
- Bolt hole in W-beam guard rail continues the intermediate sections.
- Steel post shall be butt welded to guard rail.
- All steel components are shown in a 1/32" scale.
- Placement of bolts shall be as shown.
- All dimensions are shown in inches.

- STANDARD DRAWING GR-8

ARKANSAS STATE HIGHWAY COMMISSION

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

NOTE: GUARD RAIL TERMINAL TYPE 2 TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLAN

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

LEGEND
- THREE BEAM GUARD RAIL TERMINAL
- GUARD RAIL TERMINAL (TYPE 2)

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

DETAILS OF WIDENING FOR GUARD RAIL

SECTION B-B

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY

METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE
THREE BEAM RAIL WITH STEEL TUBING BLOCKOUT AND STEEL POST POSTS 1-7

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

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

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

W-BEAM TO THREE 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 western red cedar, structural or western larch hard firs or all. sec. 4 southern pine.

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-I0A
CONSTRUCTION SEQUENCE

1. PLATE STEEL OR BEDDING MATERIAL, TO GROUND, DO NOT COMPACT.
2. INSTALL PIPE TO DIMENSIONS.
3. CONSTRUCT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE, COMPLETE STRUCTURAL BEDDING OPERATIONS BY WORKING FROM SIDE TO SIDE. KEEP THE BEDDING MATERIAL IN ALUMINUM PIPE INSIDE THE BOTTOM 1/3 OF THE PIPE, EITHER REINFORCED WITH A DIFFERENTIAL MATERIAL, DIFFERENT FROM THE STRUCTURAL BEDDING MATERIAL, WHEREVER LESS THAN 2½." IN THICKNESS.

4. INSTALL PIPE TO DIMENSIONS.
5. COMPLETE STRUCTURAL BEDDING OPERATIONS BY WORKING FROM SIDE TO SIDE. KEEP THE BEDDING MATERIAL IN ALUMINUM PIPE INSIDE THE BOTTOM 1/3 OF THE PIPE, EITHER REINFORCED WITH A DIFFERENTIAL MATERIAL, DIFFERENT FROM THE STRUCTURAL BEDDING MATERIAL, WHEREVER LESS THAN 2½." IN THICKNESS.

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

- **LEGEND**
  - Cb: Outside diameter of pipe
  - Cm: Maximum
  - M: Minimum
  - H: Structural Backfill Material
  - S: Undisturbed Soil
  - E: Equivalent Diameter
  - W: Fill Cover Height over Pipe Feet

- **EXCAVATION DEPTH AS REQUIRED**
  - In SOIL, MIN. COVER OF PIPE & Trench Correlation Depth
  - In SOIL, MIN. COVER OF PIPE & Trench Correlation Depth

**EMBANKMENT AND TRENCH INSTALLATIONS**

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OTHER STRUCTURAL BEDDING MATERIAL, SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION FOR W-2 MAY BE USED FOR CORRUGATED STEEL, OR ALUMINUM PIPE SPECIFIED.
3. INSTALLATION TYPE W-1 MAY BE USED FOR CORRUGATED STEEL, OR ALUMINUM PIPE SPECIFIED.

**GENERAL NOTES**

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO THE ANNOATIONS OF THIS STANDARD SPECIFICATION.
2. ALL MATERIALS SHALL BE ORDERED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS STANDARD SPECIFICATION.
3. STRUCTURAL BACKFILL, EMBANKMENT, AND OTHER STRUCTURAL BEDDING MATERIAL, SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
4. INSTALLATION FOR W-2 MAY BE USED FOR CORRUGATED STEEL, OR ALUMINUM PIPE SPECIFIED.
MINIMUM TRENCH WIDTH
BASED ON FILL HEIGHT 'H'

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>&quot;H&quot; ≤ 60&quot;-0&quot;</th>
<th>&quot;H&quot; &gt; 60&quot;-0&quot;</th>
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<tbody>
<tr>
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<td>0&quot; (3&quot; DEPTH)</td>
<td>0&quot; (3&quot; DEPTH)</td>
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<tr>
<td>6&quot;</td>
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<td>8&quot;</td>
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<tr>
<td>12&quot;</td>
<td>0&quot; (3&quot; DEPTH)</td>
<td>0&quot; (3&quot; DEPTH)</td>
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</tbody>
</table>

MINIMUM COVER FOR CONSTRUCTION LOADS

<table>
<thead>
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<th>PIPE DIAMETER</th>
<th>CLEAR DISTANCE BETWEEN PIPES</th>
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<tbody>
<tr>
<td>4&quot;</td>
<td>24&quot; (60CM)</td>
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<tr>
<td>6&quot;</td>
<td>36&quot; (90CM)</td>
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<tr>
<td>8&quot;</td>
<td>48&quot; (120CM)</td>
</tr>
<tr>
<td>10&quot;</td>
<td>60&quot; (150CM)</td>
</tr>
<tr>
<td>12&quot;</td>
<td>72&quot; (180CM)</td>
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</tbody>
</table>

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASHTO HIGH DENSITY POLYETHYLENE PIPE MANUFACTURER'S SPECIFICATIONS.
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO ASHTO CULVERT DESIGN SPECIFICATIONS, FIFTH EDITION (2018).
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE ROOM TO PROPERS AND SAFETY AND COMPACT BACKFILL AND OTHER BACKFILL MATERIAL.
4. WHEN DIRECTED BY THE ENGINEER, UNCOMPACTED FILTER MATERIAL SHALL BE USED TO SEPARATE THE PIPE AND TRENCH WALLS TO PREVENT THE LOSS OF STABILIZED MATERIAL DURING INSTALLATION.
5. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE ROOM TO COMPACT BACKFILL AND OTHER BACKFILL MATERIAL.
6. WHEN DIRECTED BY THE ENGINEER, UNCOMPACTED FILTER MATERIAL SHALL BE USED TO SEPARATE THE PIPE AND TRENCH WALLS TO PREVENT THE LOSS OF STABILIZED MATERIAL DURING INSTALLATION.
7. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE ROOM TO COMPACT BACKFILL AND OTHER BACKFILL MATERIAL.
8. WHEN DIRECTED BY THE ENGINEER, UNCOMPACTED FILTER MATERIAL SHALL BE USED TO SEPARATE THE PIPE AND TRENCH WALLS TO PREVENT THE LOSS OF STABILIZED MATERIAL DURING INSTALLATION.
9. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE ROOM TO COMPACT BACKFILL AND OTHER BACKFILL MATERIAL.
10. WHEN DIRECTED BY THE ENGINEER, UNCOMPACTED FILTER MATERIAL SHALL BE USED TO SEPARATE THE PIPE AND TRENCH WALLS TO PREVENT THE LOSS OF STABILIZED MATERIAL DURING INSTALLATION.
11. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE ROOM TO COMPACT BACKFILL AND OTHER BACKFILL MATERIAL.
12. WHEN DIRECTED BY THE ENGINEER, UNCOMPACTED FILTER MATERIAL SHALL BE USED TO SEPARATE THE PIPE AND TRENCH WALLS TO PREVENT THE LOSS OF STABILIZED MATERIAL DURING INSTALLATION.
13. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE ROOM TO COMPACT BACKFILL AND OTHER BACKFILL MATERIAL.
14. WHEN DIRECTED BY THE ENGINEER, UNCOMPACTED FILTER MATERIAL SHALL BE USED TO SEPARATE THE PIPE AND TRENCH WALLS TO PREVENT THE LOSS OF STABILIZED MATERIAL DURING INSTALLATION.
15. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE ROOM TO COMPACT BACKFILL AND OTHER BACKFILL MATERIAL.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BACKFILL MATERIAL TO GRADE, DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BACKFILL OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 6" IN THICKNESS, THE LAYERS SHALL BE BUILT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING, OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

LEGEND

- "H" = FILL HEIGHT
- "L" = OUTSIDE DIAMETER OF PIPE
- "W" = MAXIMUM MINUS "L" = MINIMUM
- "S" = STRUCTURAL BACKFILL MATERIAL
- "O" = UNCOMPACTED FILTER MATERIAL
- "U" = UNCOMPACTED MATERIAL
- "U" = UNCOMPACTED SOIL
- "V" = UNCOMPACTED SOIL

ARAKANS STATE HIGHWAY COMMISSION
PLASTIC PIPE CULVERT
(HIGH DENSITY POLYETHYLENE)
STANDARD DRAWING PCP-1
MAXIMUM FILL HEIGHT
BASED ON STRUCTURAL BACKFILL

MINIMUM TRENCH WIDTH
BASED ON FILL HEIGHT "H"

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>MINIMUM TRENCH WIDTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>10&quot;</td>
<td>20'</td>
</tr>
<tr>
<td>12&quot;</td>
<td>24'</td>
</tr>
<tr>
<td>14&quot;</td>
<td>28'</td>
</tr>
</tbody>
</table>

MINIMUM COVER FOR CONSTRUCTION LOADS

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>MINIMUM COVER (FEET) FOR SELECTED CONSTRUCTION LOADS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10&quot;</td>
<td>16.0-30.0</td>
</tr>
<tr>
<td>12&quot;</td>
<td>22.0-45.0</td>
</tr>
<tr>
<td>14&quot;</td>
<td>28.0-60.0</td>
</tr>
</tbody>
</table>

NOTES:
1. MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO EARTH TOP OF THE MAINTAINED CONSTRUCTION HIGHWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.

MULTIPLE INSTALLATION OF PVC PIPES

<table>
<thead>
<tr>
<th>PIPE DIAMETER</th>
<th>CENTER TO CENTER DISPLACEMENT</th>
</tr>
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<tbody>
<tr>
<td>10&quot;</td>
<td>6'</td>
</tr>
<tr>
<td>12&quot;</td>
<td>6'</td>
</tr>
<tr>
<td>14&quot;</td>
<td>6'</td>
</tr>
</tbody>
</table>

GENERAL NOTES

1. PVC SHALL CONFORM TO ASHTO (A693) CLASS F.10. INSTALLATION SHALL CONFORM TO JOB SPECIFIC PROVISIONS. "PLASTIC PIPE AND EXCAVATION SIDE OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION CURRENT EDITION.

2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO ASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION WITH DISCHARGE DISH TRENCH.

3. THE MINIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUITABLE WIDTH TO ENSURE WORKING ROOM TO PROPERLY INSTALL AND MAINTAIN PVC AND OTHER BACKFILL MATERIAL.

4. MEDIUM SOIL MATERIAL SHOULD BE PLACED WITHIN 12" OF THE EXCAVATION TRENCH TO THE AREA IDENTIFIED AS "STRUCTURAL BEDDING," WHICH WILL BE COVERED WITH SELECTED PIPE MATERIAL. THE SELECTED PIPE MATERIAL WILL NOT BE LESS THAN 0.500 INCHES THICK.

5. When directed by the Engineer, unselectable material that is encountered at the bottom of the excavated trench, identified as "STRUCTURAL BEDDING," shall be removed and replaced with selected pipe material. The selected pipe material will not be less than 0.500 inches thick.

6. TIME FOR THE INSTALLATION MATERIAL EXPA NDED FOR THE PLACE OF THE SELECTED PIPE MATERIAL. THE SELECTED PIPE MATERIAL WILL BE USED TO INSTALL THE PIPE IF SUITABLE MATERIAL IS AVAILABLE.

7. PIPE TYPES THAT ARE NOT SMOOCH AT THE TOPS (ASHTO PL-44 AND D120) MUST BE SHOWN ON THE EXCAVATION PROFILE. THE PIPE TYPES THAT ARE NOT SMOOCH AT THE TOPS (ASHTO PL-44 AND D120) MUST BE SHOWN ON THE EXCAVATION PROFILE.

8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.

9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOL-TOOLING AS DESIGNED IN ASHTO LRFD 62-43-3 AND 62-43-3 ASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

 Arkasas State Highway Commission

Plastic Pipe Culvert (PVC F49)

Standard Drawing PCP-2

2-27-94

Revised General Note 1

12-9-94

Page 29
### Super-elevation Table for Two-Way Traffic

<table>
<thead>
<tr>
<th>Degree of Curve</th>
<th>20 MPH</th>
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<th>30 MPH</th>
<th>35 MPH</th>
<th>40 MPH</th>
<th>45 MPH</th>
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<tbody>
<tr>
<td>L (ft)</td>
<td>H (ft)</td>
<td>L (ft)</td>
<td>H (ft)</td>
<td>L (ft)</td>
<td>H (ft)</td>
<td>L (ft)</td>
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<td>300</td>
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<td>300</td>
</tr>
</tbody>
</table>

**Abbreviations:****

- NC: Normal Crown
- RE: Reverse Crown
- SRE: Super-elevation at normal crown slope
- Ls: Length of super-elevation transition (ft)
- L: Length of pavement or subgrade transition (ft)
- Y = Width of pavement or subgrade transition (ft)
- 1/2a: Width of pavement or subgrade transition (ft)

### General Notes:

1. In pavements with two-way traffic, the super-elevation shall be revolved on the inside pavement edge unless otherwise noted on the plan.
2. Super-elevation values shown on the cross sections are for 10 to 100 ft of normal crown.
3. Values for 10 to 100 ft of reverse crown shall be multiplied by a factor of 2 to 10 ft.
4. Pavements wider than 2 lanes shall have additional transition lengths as follows:
   - 0 lane(s) included: 200 ft
   - 1 lane(s) included: 100 ft
   - 2 lane(s) included: 50 ft
   - 3 lane(s) included: 25 ft

**Arkansas State Highway Commission**

**Tables and Method of Super-elevation for Two-Way Traffic**

**Standard Drawing SE-2**
GENERAL NOTES

1. STRAW BAILS SHALL BE INSTALLED SO THAT THE ENDINGS ARE DRAWER TOWARDS THE TOP RATHER THAN ALONG THE TOPS.
   ONE END OF THE BAILS, THE BAILS SHALL BE A MACHINABLE
   TYPE 33 IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BAILS.

3. BAILED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED.
   SHALL BE MONITORED BY THE COMMISSION AS NOTED
   BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT
   UNIT PRICE RED PER BAILE FOR BAILED STRAW DITCH CHECK.

SILT FENCE ON R/W FENCE (E-41)

DETECITABLE FABRIC SHALL BE SPACED TOGETHER WITH A SEAM SEAM

THE MILK IS BURIED IN THE SCREENS OF FENCE AND PER.

PAYMENT OF ADDITIONAL MATERIAL FOR DENTAL

WILL NOT BE MADE.

BAILED STRAW FILTER BARRIER (E-21)

GENERAL NOTES

DETECITABLE FABRIC SHALL BE SPACED TOGETHER WITH A SEAM SEAM

THE MILK IS BURIED IN THE SCREENS OF FENCE AND PER.

PAYMENT OF ADDITIONAL MATERIAL FOR DENTAL

WILL NOT BE MADE.

SILT FENCE (E-111)

DETECITABLE FABRIC SHALL BE SPACED TOGETHER WITH A SEAM SEAM

THE MILK IS BURIED IN THE SCREENS OF FENCE AND PER.

PAYMENT OF ADDITIONAL MATERIAL FOR DENTAL

WILL NOT BE MADE.

ARAKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE
1. Place perimeter controls (e.g., silt fences, diversion ditches, sediment basins, etc.).
2. Perform clearing and grubbing operation.

EXCAVATION

GENERAL NOTE
All cut slopes shall be protected with seeding and/or vegetation as specified in contract documents. Seeding i the excavations are not to exceed 2 feet in area or width.

CONSTRUCTION SEQUENCE
1. Excavate and stabilize interceptor ditch 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. Complete final Phase 2 excavation. Place permanent or temporary seeding.
5. Interceptor ditch or diversion ditches may be covered by erosion control devices as needed.

EMBANKMENT

GENERAL NOTE
All embankment slopes shall be protected with seeding and/or vegetation as specified in contract documents. Seeding in embankment not to exceed 2 feet in area or width.

CONSTRUCTION SEQUENCE
1. Construct embankment with temporary or diversion ditches.
2. Complete final Phase 2 excavation with permanent or temporary seeding.
3. Place Phase 2 embankment with permanent or temporary seeding.
4. Complete final Phase 2 excavation with permanent or temporary seeding.
5. Complete final Phase 2 excavation with permanent or temporary seeding.
6. Place permanent or temporary or diversion ditches.

ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3
** INSTALL BRIDGE END TERMINAL AS SHOWN. ELIMINATE OR MODIFY APPROACH CURVE SECTIONS TO FIT BRIDGE END TERMINAL. PAYMENT FOR ELIMINATING OR MODIFYING THESE CURVES SHALL BE CONSIDERED SUBSTITUTARY TO APPROACH GUTTERS (TYPE SPECIAL).**
STA. 18-35 MAIN LAKES INSTALL 24' x 96' PIPE CULVERT RT. SIDE DRAIN

F.I. INLET 167.00
F.I. OUTLET 165.03

STA. 43+61 TO STA. 44+00.00

F.I. INLET 167.00
F.I. OUTLET 165.03

STA. 43+72.00 TO STA. 44+00.00

Area Cut: 0
Area Fill: 0
Volume Cut: 2
Volume Fill: 146

Area Cut: 5
Area Fill: 225
Volume Cut: 1
Volume Fill: 71

Area Cut: 0
Area Fill: 209
Volume Cut: 0
Volume Fill: 164