HWY. 124 - FULL DEPTH

STA. 109+25.00 - STA. 109+33.92
STA. 112+73.79 - STA. 119+38.00

TYPICAL SECTIONS OF IMPROVEMENT

NOTES:

The final 2" of surface course is to be placed after all other courses have been laid. Longitudinal joints shall be at lane lines.

Refer to cross sections for deviation from the normal slopes. No changes shall be made from the planned slopes without the approval of the Engineer.

The thickness of aggregate base course shall be 10" minus 2" or minus one inch of the plan thickness and the thickness of aggregate surfacing course shall not exceed 2" or 3" in lieu of aggregate base course on the shoulders.

With the approval of the Engineer, the Contractor will be allowed to substitute, at no additional cost to the Department, the 10" lift of aggregate surfacing course as specified on the plans.
PROPOSED R/W OR TIE TO EXISTING DRIVeway WHICHEVER IS FURTHER.

ASPHALT CONCRETE HOT MIX SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.)
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH

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

DETAIL FOR DRIVEWAY TURNOUTS

WIDENING FOR GUARDRAIL DETAIL

NOTE: REFER TO SDG ONS CR-9A AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL.

DETAIL FOR TRANSITIONS

FLOWABLE SELECT MATERIAL AT BRIDGE ENDS
LEGEND

E-5 = SAND BAG DITCH CHECK
E-6 = ROCK DITCH CHECK
E-II = SILT FENCE

STA. 102+00.00
END JOB 080382

BRIDGE ENDS - INSTALL E-9 + ROK LNKFT. AROUND BRIDGE ENDS

THE JOB, UNLESS OTHERWISE SPECIFIED.

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

STAGE 1
TEMPORARY EROSION CONTROL DETAILS
### LEGEND

- **E-5** = Sand Bag Ditch Check
- **E-6** = Rock Ditch Check
- **E-8** = Silt Fence

---

STA. 02+00.00
END JOB 080382

* Maintain all erosion control devices until the end of the job, unless otherwise specified.

---

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

---

STAGE 2
Temporary Erosion Control Details
LEGEND

E-5 = SAND BAG DITCH CHECK
E-6 = ROCK DITCH CHECK
E-11 = SILT FENCE

END JOB 080382
STA. 123+00.00

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

DATE OF
REVISION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS
SEQUENCE OF OPERATIONS

STAGE 1

MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
PLACE LEVELING, IF ANY, AS DIRECTED BY THE ENGINEER
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT AVOID AND WIDEN ON LEFT SIDE OF HWY. 124
CONSTRUCT LEFT SIDE OF APPROACHES

STAGE 2

SHIFT TRAFFIC TO CONSTRUCT ALIGNMENT
PLACE CONSTRUCTION PAVEMENT WORKING ON LEFT
PLACE CONSTRUCTION PAVEMENT WORKING ON RIGHT
CONSTRUCT BRIDGE AND WIDEN ON RIGHT SIDE OF HWY. 124
REMOVE OLD BRIDGE AND EXISTING HWY. 36 PAVEMENT

STAGE 3

MAINTAIN TRAFFIC ON FINAL ALIGNMENT
COLD ROLL TRANSITIONS AT JOB ENDS
PLACE FINAL LIFT OF SURFACE
PLACE FINAL STRIPING

STA. 102+00.00
BEGIN JOB 080382

DO NOT PASS

MID. R-10

SHOULDER
CLOSED

RSP-1

WB-9A

STA. 102+00.00
BEGIN JOB 080382
SEQUENCE OF OPERATIONS

STAGE 1

MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
PLACE DRIVING LANE AND MARKED DELINEATOR BY THE ENGINEER
PLACE CONSTRUCTION MARKINGS ON MARGINS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NORTH AND WIDEN ON LEFT SIDE OF HWY, 124
CONSTRUCT BRIDGE
CONSTRUCT LEFT SIDE OF APPROACHES

STAGE 2

SHIFT TRAFFIC TO CONSTRUCT ALIGNMENT
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NORTH AND WIDEN ON RIGHT SIDE OF HWY, 124
REMOVE OLD BRIDGE AND EXISTING HWY, 38 PAVEMENT

STAGE 3

MAINTAIN TRAFFIC ON FINAL ALIGNMENT
COLD MILL TRANSITING AT JOBS END
PLACE FINAL LIFT OF SURFACE
PLACE FINAL STAGING

DO NOT PASS
SHOULDER CLOSED

RSP-1, R-1 & WB-9A TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

END JOB 080382
STA. 123+00.00

ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS
SEQUENCE OF OPERATIONS

STAGE I

MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
PLACE LEVELING IP AND WHERE DIRECTED BY THE ENGINEER
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT RAMP AND RAIL ON LEFT SIDE OF HWY. 126
CONSTRUCT BRIDGE
CONSTRUCT LEFT SIDE OF APPROACHES

STA. 102+00.00
BEGIN JOB 080382

TRAFFIC DRUMS 150° (O.C.) x 7 EACH

VERTICAL PANELS 130° (O.C.) x 8 EACH

STA. 102+00.00 - STA. 105+00.00 LT. OF EXIST. PAV'T
VERTICAL PANELS (50° O.C.) x 8 EACH

STA. 105+00.00 - STA. 109+00.00 LT. OF EXIST. PAV'T
TRAFFIC DRUMS 150° (O.C.) x 7 EACH

STA. 112+70.00 - STA. 119+70.00 LT. OF EXIST. PAV'T
TRAFFIC DRUMS 150° (O.C.) x 16 EACH

STA. 125+00.00 LT. OF EXIST. PAV'T
TRAFFIC DRUMS 150° (O.C.) x 16 EACH

STA. 125+00.00 - STA. 133+00.00 LT. OF EXIST. PAV'T
VERTICAL PANELS 130° (O.C.) x 6 EACH

STA. 102+00.00 - STA. 106+00.00
LT. AND RT. EDGE LINES AND ORL. C.L. CONSTRUCTION PAVEMENT MARKINGS + 1600 L.I.F. FT.
LT. AND RT. EDGE LINES AND ORL. C.L. CONSTRUCTION PAVEMENT MARKINGS + 2200 L.I.F. FT.
SEQUENCE OF OPERATIONS

STAGE I

PLACE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER
PLACE TRAFFIC SIGNS AND ARROWS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT SWITCH AND GROOVE ON LEFT SIDE OF HWY. 124
CONSTRUCT BRIDGE
CONSTRUCT LEFT SIDE OF APPROACHES

END JOB 080382
STA. 123+00.00

STA. 102+00.00 - STA. 105+00.00 LT. OF EXIST. PAY T
VERTICAL PANELS (50" O.C.) X 6 EACH

STA. 106+00.00 - STA. 109+00.00 LT. OF EXIST. PAY T
TRAFFIC DRUMS (50" O.C.) X 7 EACH

STA. 112+70.00 - STA. 119+70.00 LT. OF EXIST. PAY T
TRAFFIC DRUMS (50" O.C.) X 16 EACH

STA. 120+00.00 LT. OF EXIST. PAY T
TRAFFIC DRUM (6 PER DRIVE) X 6 EACH
STA. 120+00.00 - STA. 123+00.00 LT. OF EXIST. PAY T
VERTICAL PANELS (50" O.C.) X 6 EACH
STA. 102+00.00 - STA. 105+00.00
LT. AND RT. EDGE LINES AND GBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 1600 L.I.N. FT.
STA. 119+00.00 - STA. 123+00.00
LT. AND RT. EDGE LINES AND GBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 1600 L.I.N. FT.

STAGE I

MAINTENANCE OF TRAFFIC DETAILS
SEQUENCE OF OPERATIONS

STAGE 2

SHIFT TRAFFIC TO CONSTRUCT ALIGNMENT
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT WOTCH AND MEDIAN IN RIGHT SIDE OF HRV, 124
REMOVE OLD BRIDGE AND EXISTING RVR; 38 PAVEMENT

STA. 102-00.00 - STA. 105-50.00 RT. OF EXIST. PAV'T
VERTICAL PANELS (60' O.C.) = 8 EACH
STA. 106-00.00 - STA. 109-50.00 RT. OF EXIST. PAV'T
TRAFFIC DRUMS (50' O.C.) = 7 EACH
STA. 112-00.00 - STA. 119-50.00 RT. OF CONST. PAV'T
TRAFFIC DRUMS (50' O.C.) = 13 EACH
STA. 120-00.00 RT. OF CONST. PAV'T
TRAFFIC DRUMS (6 PER DRIVE) = 8 EACH
STA. 120-00.00 - STA. 123-00.00 RT. OF EXIST. PAV'T
VERTICAL PANELS (50' O.C.) = 7 EACH
STA. STA. 125-23.00 - STA. 111-00.00 (BRIDGE DECK)
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 2260 L.IN. FT.
STA. 109-25.00 - STA. 104-32.80
L. AND RT. EDGE LINES AND BCL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 2430 L.IN. FT.
STA. 111-00.00 - STA. 120-00.00
L. AND RT. EDGE LINES AND BCL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 4368 L.IN. FT.

TRAFFIC DRUMS (50' O.C.) = 4 EACH

END JOB 080382
STA. 123+00.00

MAINTENANCE OF TRAFFIC DETAILS

STAGE 2
STA, 109-33.92 - STA, 111-96.08 (BRIDGE DECK)
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS + 3336 L.N. FT.

STA, 100-00.00 - STA, 109-33.92
REFLECTORIZED PAINT PAVEMENT MARKINGS
DBL. YELLOW SOLID 1/4" CENTERLINE + 1768 L.N. FT.
SINGLE WHITE 1/4" RT. AND LT. EDGE LINE + 1768 L.N. FT.

STA, 109-33.92 - STA, 111-96.08
CONTRAST TAPE PAVEMENT MARKINGS
DBL. YELLOW SOLID 1/4" CENTERLINE + 525 L.N. FT.
REFLECTORIZED PAINT PAVEMENT MARKINGS
SINGLE WHITE 1/4" RT. AND LT. EDGE LINE + 525 L.N. FT.

STA, 111-96.08 - STA, 125-00.00
REFLECTORIZED PAINT PAVEMENT MARKINGS
DBL. YELLOW SOLID 1/4" CENTERLINE + 2608 L.N. FT.
SINGLE WHITE 1/4" RT. AND LT. EDGE LINE + 2608 L.N. FT.

*NOTE*
CONTACT MAINTENANCE DIVISION TO DETERMINE NO PASSING ZONES.

PERMANENT PAVEMENT MARKING DETAILS
### Construction Pavement Markings and Permanent Pavement Markings

<table>
<thead>
<tr>
<th>Description</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>END OF JOB</th>
<th>Construction Pavement Markings</th>
<th>Removal of Construction Pavement Markings</th>
<th>Removable Construction Pavement Markings</th>
<th>ReflectORIZED Paint Pavement Markings</th>
<th>High Performance Contrast Pavement Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSTRUCTION PAVEMENT MARKINGS</td>
<td>3200</td>
<td>6735</td>
<td>9965</td>
<td>3335</td>
<td>3335</td>
<td>3336</td>
<td>3336</td>
<td>3336</td>
</tr>
<tr>
<td>REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS</td>
<td>3336</td>
<td>3336</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REMOVABLE CONSTRUCTION PAVEMENT MARKINGS</td>
<td>3336</td>
<td>3336</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (4&quot;)</td>
<td>4901</td>
<td>4901</td>
<td>4901</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (1&quot;)</td>
<td>4376</td>
<td>4376</td>
<td>4376</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4&quot;)</td>
<td>525</td>
<td>525</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td>9965</td>
<td>3336</td>
<td>3336</td>
<td>4901</td>
<td>4376</td>
<td>525</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: This is a low traffic volume road as defined in section 619A.05, Standard Specifications for Highway Construction, 2020 Edition.

### 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>END OF JOB</th>
<th>MAXIMUM NUMBER REQUIRED</th>
<th>TOTAL SIGNS REQUIRED</th>
<th>VERTICAL PANELS</th>
<th>TRAFFIC DRUMS</th>
<th>BARRICADES (TYPE B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>W20-1</td>
<td>ROAD WORK 1000 FT</td>
<td>48&quot; x 48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>W20-1</td>
<td>ROAD WORK 1000 FT</td>
<td>48&quot; x 48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>W20-1</td>
<td>ROAD WORK 500 FT</td>
<td>48&quot; x 48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>W20-1</td>
<td>ROAD WORK AHEAD</td>
<td>48&quot; x 48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>G20-2</td>
<td>END ROAD WORK</td>
<td>48&quot; x 48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>R1-U-2</td>
<td>ROAD CLOSED</td>
<td>48&quot; x 48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>R1-U-2</td>
<td>LARGE ARROW</td>
<td>48&quot; x 48&quot;</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>R1-1</td>
<td>DO NOT PASS</td>
<td>24&quot; x 24&quot;</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>R1-1</td>
<td>SHOULDER CLOSED</td>
<td>24&quot; x 24&quot;</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>R1-1</td>
<td>SHOE. DROP-OFF</td>
<td>36&quot; x 36&quot;</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>VERTICAL PANELS</td>
<td></td>
<td></td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>TRAFFIC DRUMS</td>
<td></td>
<td></td>
<td>30</td>
<td>24</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>TYPE B BARRICADE RT (16&quot;)</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>TYPE B BARRICADE LT (16&quot;)</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>TOTALS:</td>
<td></td>
<td></td>
<td>278.0</td>
<td>14</td>
<td>30</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

QuanTIES
### Clearing and Grubbing

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Clearing</th>
<th>Grubbing</th>
</tr>
</thead>
<tbody>
<tr>
<td>100+00</td>
<td>100+00</td>
<td>Main Lanes</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>100+40</td>
<td>100+50</td>
<td>Main Lanes</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>101+50</td>
<td>101+60</td>
<td>Main Lanes</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>20</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

### Removal and Disposal of Guardrail

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Guardrail</th>
</tr>
</thead>
<tbody>
<tr>
<td>109+25</td>
<td>109+56</td>
<td>R.T. Main Lanes</td>
<td>30</td>
</tr>
<tr>
<td>109+25</td>
<td>109+56</td>
<td>L.T. Main Lanes</td>
<td>50</td>
</tr>
<tr>
<td>122+60</td>
<td>122+90</td>
<td>R.T. Main Lanes</td>
<td>30</td>
</tr>
<tr>
<td>122+60</td>
<td>122+90</td>
<td>L.T. Main Lanes</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>120</strong></td>
</tr>
</tbody>
</table>

### Removal and Disposal of Culverts

<table>
<thead>
<tr>
<th>Station</th>
<th>Description</th>
<th>Pipe Culverts</th>
</tr>
</thead>
<tbody>
<tr>
<td>120+88</td>
<td>18&quot; X 22 C.M. Pipe Culvert</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>

**Note:** Quantities shown above shall include removal & disposal of all headwalls and flared end sections if applicable.

### Earthwork

<table>
<thead>
<tr>
<th>Location/Description</th>
<th>Unclassified Excavation</th>
<th>Compacted Embankment</th>
<th>* Soil Stabilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Project</td>
<td>9474</td>
<td>2746</td>
<td>97</td>
</tr>
<tr>
<td>Entire Project</td>
<td>5200</td>
<td>1189</td>
<td>40</td>
</tr>
<tr>
<td>Entire Project</td>
<td>300</td>
<td>105</td>
<td>0</td>
</tr>
<tr>
<td>109+33.52, 111+98.98</td>
<td>315</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entire Project</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>8327</td>
<td>10992</td>
<td>50</td>
</tr>
</tbody>
</table>

**Note:** Earthwork quantities shown above shall be paid as plan quantity.

### Fencing

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Wire Fence Type</th>
<th>&quot;16'-4&quot; Gates</th>
</tr>
</thead>
<tbody>
<tr>
<td>109+40</td>
<td>109+40</td>
<td>LT Main Lanes</td>
<td>866</td>
<td></td>
</tr>
<tr>
<td>111+43</td>
<td>112+00</td>
<td>LT Main Lanes</td>
<td>1067</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>1717</strong></td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>

**Note:** Shown for information only. Bench marks shall be furnished and placed by state forces.

### Bench Marks

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Bench Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>111+66</td>
<td>111+66</td>
<td>Bridge End</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>1</strong></td>
</tr>
</tbody>
</table>

### Approach Gutters

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Approach Gutter Type B</th>
<th>Reinforcing Steel Ready (or 60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>109+33.92</td>
<td>109+33.92</td>
<td>R.T. Side Main Lanes</td>
<td>3.75</td>
<td>310100</td>
</tr>
<tr>
<td>109+33.92</td>
<td>109+33.92</td>
<td>L.T. Side Main Lanes</td>
<td>3.75</td>
<td>310100</td>
</tr>
<tr>
<td>111+98.98</td>
<td>111+98.98</td>
<td>R.T. Side Main Lanes</td>
<td>3.75</td>
<td>310100</td>
</tr>
<tr>
<td>111+98.98</td>
<td>111+98.98</td>
<td>L.T. Side Main Lanes</td>
<td>3.75</td>
<td>310100</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>16.00</strong></td>
<td><strong>1276</strong></td>
</tr>
</tbody>
</table>

**Note:** Denotes alternate bid item.
### Driveways & Turnouts

<table>
<thead>
<tr>
<th>Station</th>
<th>Side</th>
<th>Description</th>
<th>Width</th>
<th>Aggregate Base Course (Class 7)</th>
<th>Side Drains</th>
</tr>
</thead>
<tbody>
<tr>
<td>119-95</td>
<td>RT</td>
<td>Driveway</td>
<td>24</td>
<td>191.1</td>
<td>27.0</td>
</tr>
<tr>
<td>120-08</td>
<td>LT</td>
<td>Driveway</td>
<td>16</td>
<td>30.4</td>
<td>27.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>54.0</td>
</tr>
</tbody>
</table>

### Flowable Select Material

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Cu. Yd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>109+33.92</td>
<td>Bridge End</td>
<td>16.3</td>
</tr>
<tr>
<td>111+68.08</td>
<td>Bridge End</td>
<td>16.7</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>33.4</td>
</tr>
</tbody>
</table>

### 4" Pipe Underdrian

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>4&quot; Pipe Underdrains</th>
<th>Underdrain Outlet Protectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Project</td>
<td>To be used if and Where Directed by the Engineer</td>
<td>1000</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1000</td>
<td>8</td>
</tr>
</tbody>
</table>

### ACHM Patching of Existing Roadway

<table>
<thead>
<tr>
<th>Station</th>
<th>Description</th>
<th>Ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Project</td>
<td>To be used if and Where Directed by the Engineer</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

### Erosion Control

#### Permanent Erosion Control

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Seeding</th>
<th>Lime</th>
<th>Mulch Cover</th>
<th>Water</th>
<th>Second Seeding Application</th>
<th>Temporary Seeding</th>
<th>Mulch Cover</th>
<th>Water</th>
<th>Sand Bag Ditch Checks</th>
<th>Rock Ditch Checks</th>
<th>Sl.T. Fence</th>
<th>Sediment Basin (E-0)</th>
<th>Obliteration of Sediment Basin</th>
<th>Sediment Removal &amp; Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Project</td>
<td>Stage 1</td>
<td>11.01</td>
<td>22.02</td>
<td>11.01</td>
<td>112.5</td>
<td>11.01</td>
<td>250</td>
<td>13</td>
<td>404</td>
<td>88</td>
<td>15</td>
<td>9</td>
<td>7.00</td>
<td>7.00</td>
<td>142.8</td>
<td>154</td>
</tr>
<tr>
<td>Entire Project</td>
<td>Stage 2</td>
<td>10.64</td>
<td>21.28</td>
<td>10.64</td>
<td>108.53</td>
<td>10.64</td>
<td>250</td>
<td>13</td>
<td>404</td>
<td>88</td>
<td>15</td>
<td>9</td>
<td>7.00</td>
<td>7.00</td>
<td>142.8</td>
<td>154</td>
</tr>
<tr>
<td>Entire Project</td>
<td>To be used if and Where Directed by the Engineer</td>
<td>21.65</td>
<td>43.30</td>
<td>21.65</td>
<td>220.3</td>
<td>21.65</td>
<td>7.00</td>
<td>7.00</td>
<td>142.8</td>
<td>462</td>
<td>45</td>
<td>1404</td>
<td>100</td>
<td>100</td>
<td>188</td>
<td></td>
</tr>
</tbody>
</table>

#### Cold Milling Asphalt Paving

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Avg. Width</th>
<th>Cold Milling Asphalt Pavement</th>
</tr>
</thead>
<tbody>
<tr>
<td>119+00</td>
<td>120+00</td>
<td>Main Lanes</td>
<td>20</td>
<td>222.22</td>
</tr>
<tr>
<td>121+00</td>
<td>122+00</td>
<td>Main Lanes</td>
<td>20</td>
<td>222.22</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>444.44</td>
<td></td>
</tr>
</tbody>
</table>

### Cold Milling Asphalt Pavement

**Note:** Average Milling Depth 1".

### Erosion Control Matting

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Length</th>
<th>Class 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>119+00</td>
<td>120+00</td>
<td>Rt. Side</td>
<td>203.0</td>
<td>177.8</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>177.8</td>
</tr>
</tbody>
</table>

**Note:** Average Width = 8'-0".
### Base and Surfacing

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Aggregate Base Course (Class 7)</th>
<th>Tack Coat</th>
<th>ACHM Binder Course (1%)</th>
<th>ACHM Surface Course (12&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>FEET</td>
<td>TON</td>
<td>STATION</td>
<td>TOTAL W.D.</td>
</tr>
<tr>
<td><strong>Main Lanes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
</tbody>
</table>

#### Additional for Guardrail

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Aggregate Base Course (Class 7)</th>
<th>Tack Coat</th>
<th>ACHM Binder Course (1%)</th>
<th>ACHM Surface Course (12&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>FEET</td>
<td>TON</td>
<td>STATION</td>
<td>TOTAL W.D.</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
</tbody>
</table>

#### Additional for Lining

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Aggregate Base Course (Class 7)</th>
<th>Tack Coat</th>
<th>ACHM Binder Course (1%)</th>
<th>ACHM Surface Course (12&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>FEET</td>
<td>TON</td>
<td>STATION</td>
<td>TOTAL W.D.</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
</tbody>
</table>

#### Additional for Superelevation

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Aggregate Base Course (Class 7)</th>
<th>Tack Coat</th>
<th>ACHM Binder Course (1%)</th>
<th>ACHM Surface Course (12&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>FEET</td>
<td>TON</td>
<td>STATION</td>
<td>TOTAL W.D.</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
<tr>
<td>110-00</td>
<td></td>
<td>120.00</td>
<td>250.0</td>
<td>444.4</td>
<td>14.6</td>
</tr>
</tbody>
</table>

### Soil Log

<table>
<thead>
<tr>
<th>Station</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Location</th>
<th>Depth</th>
<th>Liquid Limit</th>
<th>Plasticity Index</th>
<th>AASHTO Classification</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>110-00</td>
<td>38.19</td>
<td>120.70</td>
<td>92</td>
<td>29</td>
<td>16.00</td>
<td>0.5</td>
<td>12</td>
<td>A-66</td>
</tr>
<tr>
<td>110-00</td>
<td>39.10</td>
<td>120.70</td>
<td>92</td>
<td>29</td>
<td>16.00</td>
<td>0.5</td>
<td>12</td>
<td>A-66</td>
</tr>
<tr>
<td>110-00</td>
<td>39.10</td>
<td>120.70</td>
<td>92</td>
<td>29</td>
<td>16.00</td>
<td>0.5</td>
<td>12</td>
<td>A-66</td>
</tr>
</tbody>
</table>

### Concrete Ditch Paving

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Length</th>
<th>CONC. DITCH PAVING</th>
<th>WATER</th>
<th>SOIL SODIUM</th>
<th>SOIL TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>110-00</td>
<td>113-00</td>
<td>104.00</td>
<td>4</td>
<td>42.22</td>
<td>42.22</td>
<td>0.68</td>
</tr>
</tbody>
</table>

### Asphalt Concrete Patching for Maintenance of Traffic

<table>
<thead>
<tr>
<th>Location</th>
<th>TON</th>
<th>TACK COAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

Note: Quantities are estimated. See Section 104.09 of the Std. Specs.
### SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 080382

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>200</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>900</th>
<th>1000</th>
<th>1100</th>
</tr>
</thead>
<tbody>
<tr>
<td>B65</td>
<td>25.45</td>
<td>2.165</td>
<td>76</td>
<td>620</td>
<td>1295.5</td>
<td>97</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B87</td>
<td>20.14</td>
<td>6399</td>
<td></td>
<td></td>
<td>2840.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B96</td>
<td>20.14</td>
<td>6399</td>
<td></td>
<td></td>
<td>2840.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B97</td>
<td>24.69</td>
<td>2.895</td>
<td>93</td>
<td>620</td>
<td>1295.5</td>
<td>26</td>
<td>396</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>260-6' CONT, COMP R-BEAM UNIT</td>
<td>274.40</td>
<td>263</td>
<td>65,410</td>
<td>2293.0</td>
<td></td>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITE NO.</td>
<td>1000</td>
<td>274.40</td>
<td>263</td>
<td>78,060</td>
<td>88</td>
<td>276,300</td>
<td>5828.0</td>
<td>1</td>
<td>32</td>
<td>4</td>
</tr>
</tbody>
</table>

**NOTES:**
- All steel pilings are required to have approved driving points which will not be paid for directly, but will be considered subsidiary to the item "Steel Piling #42835."
NOTES:

- For details of wings and rails, see Sec. No. 5741.
- Class I Protective Surface Treatment shall be applied to the top of the bridge and the roadway face and top of the concrete parapet roll.

PLAN

- Bent 1: Leading Back
- Bent 4: Leading Ahead

Typical Anchor Bolt Layout

- No Scale

Typical Anchor Bolt Layout

- No Scale

SECTION A-A

- Scale 1" = 1'-0"

General Notes

- All concrete shall be cured in accordance with a 28-day compressive strength of 3,500 psi. Concrete shall be poured in the dry and exposed areas, to be water cured unless otherwise noted.

- All reinforcing shall conform to A500B 60ksi or MS4 Grade 50 yield strength - 50ksi.

- All structural steel should be coated with MS495-B or MS495-B steel. Structural steel in the beans shall be painted with "Structural Steel in Base Face" 1-2" thick.

- Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or shear plate sleeves.

- No portion of the beans shall be poured before being in place. The portion of the beans below the expansion joint shall be poured, and the beams over the beam ends.

- All expansion joints shall be properly sealed to the interior of the expansion joint device in the beam end. See section 5741.01-

For additional information see Layout.

TABLE OF VARIABLES

<table>
<thead>
<tr>
<th>Beam No.</th>
<th>Dia. (in.)</th>
<th>Spacing (in.)</th>
<th>Length (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>35/4</td>
<td>48/8</td>
<td>240</td>
</tr>
<tr>
<td>2</td>
<td>35/4</td>
<td>48/8</td>
<td>240</td>
</tr>
<tr>
<td>3</td>
<td>35/4</td>
<td>48/8</td>
<td>240</td>
</tr>
<tr>
<td>4</td>
<td>35/4</td>
<td>48/8</td>
<td>240</td>
</tr>
</tbody>
</table>

ELEVATION

- Bent 1: Leading Back
- Bent 4: Leading Ahead

DETAILS OF END BENTS

COVE CREEK

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWING NO. 5741.01

ARCHITECT: R. L. PHELPS

CONTRACTOR: R. L. PHELPS

CONTRACT NO.: 000-0000

DATE: 1940

SCALE: 1/4" = 1'-0" or as required

DRAWING NO. 5741.01-01
## Reinforcing Plan & Deck Pouring Sequence

**NOTES:**

1. Pours with the same number may be placed simultaneously or sequentially.
2. All pours (1) must be placed before pour (1) can be placed.
3. Hours and minutes between the end of a pour and the start of the next pour.
4. Pour sequence must not be interrupted before the entire slab has been poured.
5. Pours must be poured by the Engineer in order to meet super-plasticizer requirements.
6. Pours must be poured in the order shown.

### Pouring Sequence

**Pouring Sequence:**

- **Pour 1:**
  - Completed 20' 11" Pour 2.
  - Completed 20' 11" Pour 2.
  - Completed 20' 11" Pour 1.

### Table of Dead Load Deflections - Inches

<table>
<thead>
<tr>
<th>Member</th>
<th>Elevation</th>
<th>Structural Steel</th>
<th>Structural Steel + Slab</th>
<th>Structural Steel + Slab</th>
<th>Structural Steel + Slab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>0.0</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>0.1</td>
<td>0.025</td>
<td>0.025</td>
<td>0.025</td>
<td>0.025</td>
</tr>
<tr>
<td></td>
<td>0.4</td>
<td>0.318</td>
<td>0.318</td>
<td>0.318</td>
<td>0.318</td>
</tr>
<tr>
<td></td>
<td>0.7</td>
<td>0.667</td>
<td>0.667</td>
<td>0.667</td>
<td>0.667</td>
</tr>
<tr>
<td></td>
<td>1.0</td>
<td>1.018</td>
<td>1.018</td>
<td>1.018</td>
<td>1.018</td>
</tr>
<tr>
<td></td>
<td>1.5</td>
<td>1.518</td>
<td>1.518</td>
<td>1.518</td>
<td>1.518</td>
</tr>
</tbody>
</table>

**Notes:**

1. **Slab Joint Detail:**
   - No scale.

2. **Slab Joint Detail:**
   - No scale.

3. **Slab Joint Detail:**
   - No scale.

### Slab Joint Details

- **No Scale:**

### Bar List

- **No Scale:**

### sunset

**ARAKANS STATE HIGHWAY COMMISSION**

**LITTLE ROCK, ARK**

**10-8-2003 (C-29) Project No. 02-362**

**Design:**

- **Slab:** 10-8-2003 (C-29) Project No. 02-362

**Details:**

- **Details A:**

---
The steel and additional concrete for the wall may not be paid for correctly but shall be considered to be included in the price bid for concrete ditch paving.

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佐沿溝填方 to be placed within 14 days of ditch paving construction.

4\1/2" 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 ARS 7610.0313.

Arkansas State Highway Commission
Concrete Ditch Paving
Standard Drawing CDP-1
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

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

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

SECTION A-A

SECTION B-B

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY

METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE
CONSTRUCTION SEQUENCE
1. Place structural, bedding material to grade, do not compact.
2. Round off all pipe with a pipe cutter and backfill to top of pipe.
3. Complete backfill according to specifications.

NOTES: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE PER LINEAL FOOT OF CONCRETE PIPE.

EMBANKMENT INSTALLATIONS
1. Material in the lower side, haunch, and outer structural bedding shall be compacted to 95% of the maximum density according to the type of material used.

TRENCH INSTALLATIONS
1. Material in the lower side, haunch, and outer structural bedding shall be compacted to 95% of the maximum density according to the type of material used.

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

MAXIMUM HEIGHT OF FILLED OVER R.C. PIPE CULVERTS

GENERAL NOTES
1. All pipe shall be protected during construction by a cover sufficient to prevent damage to the integrity of the structure.
2. The minimum trench width shall be 24 inches.
3. The maximum allowable trench width shall be the minimum practical for the materials used.
4. The material in the trench shall be installed with a minimum clearance of 24 inches.
5. If the trench width is greater than 24 inches, the minimum clearance shall be maintained at all points along the length of the pipe.

- LEGEND -

CONCRETE PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1
### Corrugated Steel Pipe (Round) H-20 Loading

<table>
<thead>
<tr>
<th>Pipe Diameter (Inches)</th>
<th>Max. Full Height Above Top of Pipe Feet</th>
<th>Metal Thicknesses</th>
<th>Metal Thickness in Inches</th>
<th>CAUSE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Steel</td>
<td>Zinc Coated</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.0214</td>
<td>0.0214</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.0271</td>
<td>0.0271</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.0344</td>
<td>0.0344</td>
<td></td>
</tr>
</tbody>
</table>

### Corrugated Aluminum Pipe (Round) H-20 Loading

<table>
<thead>
<tr>
<th>Pipe Diameter (Inches)</th>
<th>Max. Full Height Above Top of Pipe Feet</th>
<th>Metal Thicknesses</th>
<th>Metal Thickness in Inches</th>
<th>CAUSE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Steel</td>
<td>Zinc Coated</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.038</td>
<td>0.038</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.045</td>
<td>0.045</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.056</td>
<td>0.056</td>
<td></td>
</tr>
</tbody>
</table>

### Equivlant Metal Thickness and Gauges

<table>
<thead>
<tr>
<th>Metal Thickness in Inches</th>
<th>Steel</th>
<th>Zinc Coated</th>
<th>Uncoted</th>
<th>Aluminum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0214</td>
<td>0.0214</td>
<td>0.0214</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0271</td>
<td>0.0271</td>
<td>0.0271</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0344</td>
<td>0.0344</td>
<td>0.0344</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Corrugated Metal Pipe Arches (H-20 Loading)

<table>
<thead>
<tr>
<th>Pipe Dimension (Inches)</th>
<th>Minimum Full Height</th>
<th>Maximum Full Height</th>
<th>Minimum Metal Thickness</th>
<th>Maximum Metal Thickness</th>
<th>Minimum Metal Thickness Required</th>
<th>Maximum Metal Thickness Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-1/2</td>
<td>3</td>
<td>12</td>
<td>0.0364</td>
<td>0.0404</td>
<td>0.0364</td>
<td>0.0404</td>
</tr>
<tr>
<td>20</td>
<td>3</td>
<td>12</td>
<td>0.0394</td>
<td>0.0434</td>
<td>0.0394</td>
<td>0.0434</td>
</tr>
<tr>
<td>24</td>
<td>3</td>
<td>12</td>
<td>0.0424</td>
<td>0.0464</td>
<td>0.0424</td>
<td>0.0464</td>
</tr>
<tr>
<td>28</td>
<td>3</td>
<td>12</td>
<td>0.0455</td>
<td>0.0495</td>
<td>0.0455</td>
<td>0.0495</td>
</tr>
</tbody>
</table>

**General Notes**

- All pipes shall be protected during construction by a cover sufficient to prevent damage from passage of equipment.
- The maximum allowable thickness shall be the minimum thickness for the specific grade of pipe.
- Multiple pipe sections shall be installed with a minimum clearance of 2 inches.
- Only structural materials shall be used in lieu of selected pipe.

**설계 노트**

- 모든 유수관은 교통 증가로 인한 손상 위험을 예방하기 위해 충분한 보호를 가할 것이다.
- 최대 허용 두께는 표준 두께 이상으로 설정되어야 한다.
- 여러 개의 유수관 부품은 최소 간격 2인치 이상으로 설치되어야 한다.
- 구조재만 사용할 것임을 알림.

---

**Legend**

- PL: Outside Diameter of Pipe
- PM: Minimum Metal Thickness
- PS: Unstained Soil, Eutrophic Soil
- MB: Structural Backfill Material
- ML: Equivalent Diameter

**Design Installations**

- D-20-90
- D-20-97
- D-20-94
- D-20-93

**Date Revised**

- 12/27/94
- 12/27/97
- 12/27/94
- 12/27/94

**Revision**

- 12/27/94
- 12/27/97
- 12/27/94
- 12/27/94

**Date Filed**

- 12/27/94
- 12/27/97
- 12/27/94
- 12/27/94

**Arkansas State Highway Commission**

**Metal Pipe Culvert**

**Fill Heights & Bedding**

**Standard Drawing**

PCM-1
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
2. NPS 3 PIPE DEPTH OF COVER TO BE IN ACCORDANCE WITH EXISTING CONSTRUCTION.
3. GRANULAR MATERIAL SHALL BE INTRODUCED WITH GEOTEXTILE FABRIC AT FABRIC OR THE WIDTH OF THE TRENCH AT THE TOP.

PLAN VIEW

SIDE VIEW

FRONT VIEW

UNDERDRAIN OUTLET PROTECTORS

FLOW
4" PIPE UNDERDRAIN
GLUED CONNECTION (TYPICAL)
4" PIPE LATERAL
NON-PERFORATED

NOTE:
LATERALS SHALL BE INSTALLED AT EQUIDISTANT INTERVALS OR AT A DISTANCE NOT TO EXCEED 750MM.
THE 750MM DISTANCE MAY BE EXCEEDED ONLY WHERE NEEDED FOR AN ACCEPTABLE OUTLET.

DETAIL OF PIPE UNDERDRAIN LATERALS
WHEN PLACED ALONG PAVEMENT EDGE
NOTES PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 3548, LATEST EDITION FOR SCHEDULE 40 PVC.

UNDERDRAIN COVER WHERE REQUIRED
GRANULAR MATERIAL
DRAIN PIPE ON GRADE

DETAILS OF PIPE UNDERDRAIN

4" PIPE LATERAL
4" BAR

PIPE

1/4" X 1/4" WELDED MILD STEEL GUTTA PERCHA 1MM WIRE DIAMETER.

INSTALL RODENT SCREEN 4" TO 6" INTO PIPE

DETAIL OF HOLE FOR 4" PIPE

UNDERDRAIN COVER WHERE REQUIRED
GRANULAR MATERIAL
DRAIN PIPE

ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF PIPE UNDERDRAIN
STANDARD DRAWING PU-1
### SUPERELEVATION TABLE FOR TWO-WAY TRAFFIC

#### GENERAL NOTES

1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE RESOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE MINIMUM.
3. LENGTHS FOR L MAY BE ADJUSTED IN MULTIPLES OF 25 FT. TO 50 FT. BY APLANT SCALE CALCULATIONS.
4. PAVEMENT WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:
   - 2 LANE UNHEDGED : 2 X 25 FT.
   - 2 LANE UNHEDGED : 2 X 50 FT.
   - 6 LANE UNHEDGED : HD 50 FT.

#### APPENDIXES

- A: NORMAL CROWN
- B: REVERSE CROWN SUPERELEVATION AT NORMAL CROWN SLOPE
- C: RATE OF SUPERELEVATION AT MINIMUM SLOPE
- D: SUM OF MAXIMUM VALUES OF PAVEMENT AND SUBGRADE
- E: DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT
- F: WIDTH OF PAVEMENT (FT.)
- G: WIDTH OF SUBGRADE (FT.)
- H: NORMAL CROWN (FT.)

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

#### NOTES

- MAINTAIN NORMAL CROWN ON DISSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

### SUPERELEVATION FORMULA

\[ \text{Superelevation} = \frac{L}{L_a} \]

#### STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

### ARKANSAS STATE HIGHWAY COMMISSION

**TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC**

**STANDARD DRAWING SE-2**
CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE
1. PLACE PERIMETER CONTROLS (G.G., G.T. FENCES, DIVERSION DITCHES, EROSION BRIEFS, ETC.
2. PERFORM CLEARING AND GRUBBING OPERATION

EXCAVATION

EXISTING GROUND
INTERCEPTOR OR DIVERSION DITCH
EXISTING GROUND

NOTE: NUMBER OF PHASES WILL VARY, ILLUSTRATIONS SHOWN FOR ILLUSTRATION PURPOSES
GENERAL NOTE
ALL CUT SLOPES SHALL BE DREDGED, 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 PHASE 3 EXCAVATION, PLACE PERMANENT OR TEMPORARY SEEDING, STABILIZE DITCHES, CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, EROSION BANKS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT

SLOPE DITCH (STABILIZE AS REQUIRED)
EXISTING GROUND
VARIOUS EROSION CONTROL DEVICES

NOTE:
NUMBER OF PHASES WILL VARY, ILLUSTRATIONS SHOWN FOR ILLUSTRATION PURPOSES

GENERAL NOTE
ALL EMBANKMENT SLOPES SHALL BE DREDGED, 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 PHASE 1 EMBANKMENT DITCH FACES, SEEDING BARGES, G.T. FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EMBANKMENT, PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM PHASE 3 EMBANKMENT, PLACE PERMANENT OR TEMPORARY SEEDING.
5. PLACE PHASE 4 EMBANKMENT, PLACE PERMANENT SEEDING. RESULTING EMBANKMENT DITCHES AND SLOPES; PHASE 5 EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
6. PLACE EMBANKMENT DITCHES AND SLOPE DRAWS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

ARKANSAS STATE HIGHWAY COMMISSION
TEMPORARY EROSION CONTROL DEVICES
STANDARD DRAWING TEC-3
GENERAL NOTES:

These installations to be used where normal fencing installation would cause the collecting of drift in the channel, or the depression will not permit normal installation. Installations will be made only where directed by the engineer.

When a fence line approaches a ditch, gully, or depression, the last post on level ground shall be placed close enough to the edge of the drop off that the fence may be strong to the post in the depression without touching the ground. Excessive irregularity that may be encountered is not to exceed 3 feet. The last post shall continue on grade and the gullies or the ditches shall be bridged by means of 6" solid or cable (wire) coated fences as shown.

Payment for the type installation used will not be made separately, but will be included in the contract unit price bid for wire fence or chain-link fence.
**Type C Fence (Wood Posts)**

- **General Notes:**
  - Steel line posts shall be painted or galvanized.
  - Tubular and corner, full or gooseneck, braces must comply with the sizes specified on standard drawings. Approved alternate sizes are accepted.
  - The tolerance in length of tubular or wooden posts shall be ± 2'-0".
  - Tubular posts must be painted or galvanized.

- **Drive-way Gates:** Either single 10'-0" or double 15'-0" wide openings of the same type as the pedestrian gate shall be installed.
  - The right side of each opening shall be cut away, and a 1' guard rail shall be installed on the bank to the bridge structure. A guide rail shall be constructed between the fence on each side of the road where the clearance is not sufficient.
  - The fence shall be constructed of the same material as the guard rail on the side of the road adjacent to the bridge abutment or the stockswall.

- **Fence Construction:**
  - Type C fence shall be constructed of 4 x 4 or 5 x 5 in. construction grade material.
  - The fence shall be painted or galvanized.

- **Wire Fence:**
  - Use same approach shown for corner posts.

- **Typical Vehicular Gates:**
  - The method of securing gate catch and/or deadbolt shall meet the approval of the engineer.

---

**Arkansas State Highway Commission**

**Wire Fence Type C and D**

**Standard Drawing WF-4**

---