GENERAL NOTES

1. GRADE LINE DENOTES FINISH GRADE WHERE SHOWN ON PLAN.
2. UTILITIES INTERFERING WITH CONSTRUCTION SHALL BE MOVED BY THEOWNER.
3. PRIVILEGES APPLIED FOR CONSTRUCTION ARE SHOWN IN ACCORDANCE WITH SECTION 70.12 OF THE STANDARDS SPECIFICATIONS.
4. ALL AREAS WHICH DO NOT DIRECTLY INTERFER WITH THE PROPOSED CONSTRUCTION WORK ARE SHOWN AS DIRECTED BY THE OWNER.
5. SURVEYING SHALL BE PERFORMED IN ACCORDANCE WITH STO, 800.2 USING 40 M.P.H. DESIGN VALUES AND NODES ABOUT THE MID-CURVE OF PARALLEL CURVES UNLESS OTHERWISE SPECIFIED.
6. ALL APPROPRIATE UTILITIES SHALL BE SHOWN IN THE RIGHT-OF-WAY AND REMAIN THE PROPERTY OF THE CONSTRUCTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES AND STOCK ARE PERMITTED. THE FENCE MAY BE CONSTRUCTED RAISED OR LOWER THAN SHOWN. MILLER OF THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FENCE CONSTRUCTION.
8. THE ROAD WILL BE CLOSED TO TRAFFIC DURING CONSTRUCTION OF THE BRIDGE. THE BRIDGE WILL BE OPEN TO TRAFFIC AS SOON AS PRACTICAL.
9. THE CONTRACTOR WILL BE REQUIRED TO PROTECT THE BRIDGE DECK DURING PAVING AND FINISHING OPERATIONS.
10. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING U.S. 60/WALNUT WITHIN THE PROJECT LIMITS. SHOULD THISプラン BENS BE CONSTRUCTED, U.S. 60/WALNUT WILL NOT BE PENETRATED, AND PAYMENT WILL BE CALCULATED IN THE PRICE BID FOR THE VARIOUS ROAD ITEMS.
TANGENT SECTION

STA. 102+20 - STA. 106+52

NOTE: THE THICKNESS OF BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF 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.

NOTE: REFER TO CROSS SECTIONS FOR Deviation FROM THE NORMAL SLOPES. NO CHANGE SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

SUPERELEVATION SECTION

STA. 106+52 - STA. 113+78

NOTE: STA. 113+00 TO STA. 114+00 TRANSITION FROM SUPERELEVATION SECTION TO EXISTING ROADWAY SECTION.
Curb & Gutter Section
STA 100+50 - STA 102+15

Note: STA 100+50 to STA 102+15 transition from existing roadway section to curb & gutter section.

Note: The thickness of base course shall be within plus or minus one inch of 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.

Note: Refer to cross sections for deviation from the normal slopes, no change shall be made from the planned slopes without the approval of the engineer.

Rock Ditch Liner

Note: See special provision, plan & profile sheets and cross sections for details.
PRIVATE DRIVE STA, 108+85 LT.
PORTLAND CEMENT CONCRETE DRIVEWAY = 17 SQ. YDS.
*FOR MODIFIED CURB SEE STANDARD DRAWINGS CC-18 OR-4.

PRIVATE DRIVE STA, 103+67 LT.
ADDITIONAL BASE COURSE 16" COMPACTED DEPTH = 9 TONS
ADDITIONAL ACMH SURFACE COURSE = 94.3 SQ. YDS.

PRIVATE DRIVE STA, 101+80 RT.
REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS = 10 SQ. YDS.
PORTLAND CEMENT CONCRETE DRIVEWAY = 56 SQ. YDS.
ADDITIONAL BASE COURSE 16" COMPACTED DEPTH = 6 TONS
*FOR MODIFIED CURB SEE STANDARD DRAWINGS CC-18 OR-4.

PRIVATE DRIVE STA, 105+50 RT.
ADDITIONAL BASE COURSE 16" COMPACTED DEPTH = 25 TONS
ADDITIONAL ACMH SURFACE COURSE = 54.9 SQ. YDS.

PRIVATE DRIVE STA, 112+50 RT.
PORTLAND CEMENT CONCRETE DRIVEWAY = 152 SQ. YDS.

NOTE: THE ABOVE DETAILS MAY BE MODIFIED TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.
DETAILS OF WIDENING FOR GUARDRAIL
(28'-0" CLEAR ROADWAY CAST IN PLACE BRIDGE)

ADDITIONAL AGGREGATE BASE COURSE (TWO SIDES): 48 TONS
ADDITIONAL ACHM SURFACE COURSE (TWO SIDES): 220 SQ. YDS.
### Structures

<table>
<thead>
<tr>
<th>Station</th>
<th>Description</th>
<th>18'L</th>
<th>26'L</th>
<th>10'L</th>
<th>24'L</th>
<th>7'</th>
<th>3'</th>
<th>5'</th>
<th>1'H</th>
<th>2'H</th>
<th>3'H</th>
<th>4'H</th>
<th>5'H</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>59'</td>
<td>57'</td>
<td>57'</td>
<td>56'</td>
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<td>57'</td>
<td>56'</td>
<td>57'</td>
<td>56'</td>
<td>57'</td>
<td>56'</td>
</tr>
<tr>
<td>LIN. FT</td>
<td>LIN. FT</td>
<td>CU. YDS</td>
<td>CU. YDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>103+33</td>
<td>CONSTRUCT ARCH PIPE CULVERT W/ FES (RT. PWD. SKEW)</td>
<td>44</td>
<td>50</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>16</td>
<td>POM-1, PCE-1, FES-1 &amp; FES-2</td>
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<tr>
<td>105+50</td>
<td>INSTALL SIDE DRAIN ON RT.</td>
<td>34</td>
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<td>PGM/16 PGC-1</td>
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<td>2</td>
<td>8</td>
<td>16</td>
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**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.

### Temporary Erosion Control

<table>
<thead>
<tr>
<th>Station</th>
<th>Location</th>
<th>Temporary Seeding</th>
<th>Mulch Cover</th>
<th>Water</th>
<th>Sand Bag Ditch Checks (E-6)</th>
<th>Silt Fence (E-11)</th>
<th>Diversion Ditch (E-8)</th>
<th>Pipe for Slope Drains (E-12)</th>
<th>Sediment Removal and Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ACRE(S)</td>
<td>ACRE(S)</td>
<td>GALLS</td>
<td>LIN. FT</td>
<td>LIN. FT</td>
<td>LIN. FT</td>
<td>LIN. FT</td>
<td>CU. YDS</td>
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<tr>
<td>100+00</td>
<td>MAIN LAKES</td>
<td>2.25</td>
<td>2.25</td>
<td>46.9</td>
<td>130</td>
<td>550</td>
<td>350</td>
<td>80</td>
<td>27</td>
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<td></td>
<td>TOTALS</td>
<td>2.25</td>
<td>2.25</td>
<td>46.9</td>
<td>120</td>
<td>200</td>
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<td></td>
<td>18</td>
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</table>

**Basis of Estimate:**
Water: 20.4 M.G. / ACRE of Seeding Temporary Seeding

**Note:** The temporary erosion control devices shown above and on the plans shall be installed in such a sequence as to deter erosion and sedimentation on U.S. Waterways as explained by the National Pollutant Discharge Elimination System Permit.

*Note: Quantities are estimated. To be used if and where directed by the engineer. See Section 104.03 of the Standard Specifications.*

### Mailboxes

<table>
<thead>
<tr>
<th>Location</th>
<th>Malboxes</th>
<th>Mailbox Supports</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>EACH</td>
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</tbody>
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### Filter Blanket and Dumped Riprap

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Side</th>
<th>Dumped Riprap</th>
<th>Filter Blanket</th>
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<tbody>
<tr>
<td>103+37</td>
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<tr>
<td>103+13</td>
<td>103+33</td>
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<td>10</td>
<td>20</td>
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<td>TOTALS</td>
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</tbody>
</table>

**Note:** Estimated quantity to be used if and where directed by the engineer. See Section 104.03 of the Standard Specifications.

### Concrete Combination Curb & Gutter (Type B-1)

<table>
<thead>
<tr>
<th>Station</th>
<th>Station</th>
<th>Side</th>
<th>Concrete Combination Curb &amp; Gutter (Type B-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td>LIN. FT</td>
</tr>
<tr>
<td>100+50</td>
<td>102+15</td>
<td>LT.</td>
<td>330</td>
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<tr>
<td>100+50</td>
<td>102+15</td>
<td>LT.</td>
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<tr>
<td>TOTAL</td>
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### Rock Ditch Liner

<table>
<thead>
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<th>Station</th>
<th>Side</th>
<th>Rock Ditch Liner</th>
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<tr>
<td>102+15</td>
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<td>102+15</td>
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### Traffic Control Devices

<table>
<thead>
<tr>
<th>Description</th>
<th>1500</th>
<th>1000</th>
<th>500</th>
<th>Ahead</th>
<th>G2B-1</th>
<th>G2B-2</th>
<th>R1-2</th>
<th>R11-3A</th>
<th>12.50</th>
<th>24</th>
<th>TC-1-2A3</th>
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</thead>
<tbody>
<tr>
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<td>1</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>
<td>TC-1-2A3</td>
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<td>End Project</td>
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<td>1</td>
<td>1</td>
<td>1</td>
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<td>Int. S.H. 344 - C.R. 71</td>
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<td>1</td>
<td>1</td>
<td>TC-1-2A3</td>
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<td>Entire Project</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>TC-1-2A3</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<td>1</td>
<td>1</td>
<td>TC-1-2A3</td>
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</tbody>
</table>

*Note: Location of the traffic control devices to be as directed by the engineer. See Section 104.03 of the standard specifications.*

### Earthwork

<table>
<thead>
<tr>
<th>Station</th>
<th>Normal</th>
<th>Add'l</th>
<th>OB/Ex Row</th>
<th>Total</th>
<th>Normal</th>
<th>Add'l</th>
<th>Total</th>
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<tbody>
<tr>
<td>100+00</td>
<td>1384</td>
<td>40</td>
<td>1384</td>
<td>7604</td>
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</table>

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

### Clearing and Grubbing

<table>
<thead>
<tr>
<th>Station</th>
<th>Normal</th>
<th>Add'l</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>101+00</td>
<td>10</td>
<td>10</td>
<td>20</td>
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</tbody>
</table>

**Note:** Quantities are estimated. To be used if and where directed by the engineer. See Section 104.03 of the standard specifications.

### 4" Pipe Underdrains

<table>
<thead>
<tr>
<th>Location</th>
<th>4&quot; Pipe Underdrain Outlet Protectors</th>
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</thead>
<tbody>
<tr>
<td>Entire Project</td>
<td>2</td>
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</tbody>
</table>

**Note:** Estimated quantities to be used if and where directed by the engineer. See Section 104.03 of the standard specifications.

### Removal and Disposal of Rock Riprap

<table>
<thead>
<tr>
<th>Station</th>
<th>Side</th>
<th>Rock Riprap</th>
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</thead>
<tbody>
<tr>
<td>100+76</td>
<td>LT</td>
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**Total:** 16

### Removal and Disposal of Structures

<table>
<thead>
<tr>
<th>Station</th>
<th>Side</th>
<th>Description</th>
<th>Pipe Culvert</th>
<th>Concrete Driveways</th>
</tr>
</thead>
<tbody>
<tr>
<td>101+60</td>
<td>RT</td>
<td>Concrete Driveway</td>
<td>10</td>
<td>10</td>
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<tr>
<td>109+04</td>
<td>LT</td>
<td>30 x 237 Pipe Culvert</td>
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<td>1</td>
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**Total:** 10
## SURFACING QUANTITIES

<table>
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<tr>
<th>STATION</th>
<th>STATION</th>
<th>LOCATION</th>
<th>LENGTH</th>
<th>PRIME COAT</th>
<th>AGGREGATE BASE COURSE (CLASS 7)</th>
<th>ACHM SURFACE COURSE (1/2&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AVG WIDTH SQ YD</td>
<td>GALLONS PER SQ YD</td>
<td>GALLONS</td>
</tr>
<tr>
<td>100+00</td>
<td>100+50</td>
<td>MAIN LANES</td>
<td>50</td>
<td>513.33  0.40</td>
<td>205.3  110</td>
<td>55.0</td>
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<tr>
<td>102+25</td>
<td>102+45</td>
<td>MAIN LANES</td>
<td>15</td>
<td>46.67   0.40</td>
<td>18.7   153</td>
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<td>110+30</td>
<td>110+60</td>
<td>MAIN LANES</td>
<td>262</td>
<td>611.33  0.40</td>
<td>244.5  153</td>
<td>40.0</td>
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<tr>
<td>113+00</td>
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<td>MAIN LANES</td>
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<td>21'0&quot;   0.40</td>
<td>84.0   122</td>
<td>122.0</td>
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<tr>
<td>107+00</td>
<td>107+20</td>
<td>GUARDRAIL WIDENING</td>
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<td>110+38</td>
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<tr>
<td>111+39</td>
<td>111+59</td>
<td>GUARDRAIL WIDENING</td>
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<td>114+00</td>
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<td><strong>TOTALS:</strong></td>
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</tbody>
</table>

**USE:**  
BASIS OF ESTIMATE: ACHM SURFACE COURSE (1/2"), MIN. AGG. = 94.5%, ASPH. BINDER (PG 64-22) = 5.5%  
Nmax = 115  
* NOTE: ESTIMATED QUANTITY. TO BE USED AND WHERE DIRECTED BY THE ENGINEER. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

---

## APPROACH GUTTERS (TYPE B)

<table>
<thead>
<tr>
<th>STATION</th>
<th>STATION</th>
<th>SIDE</th>
<th>APPROACH GUTTERS (TYPE B)</th>
<th>REINFORCING STEEL ROADWAY (GRADE B0)</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>100+03</td>
<td>100+31</td>
<td>LT &amp; RT</td>
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<td>110+31</td>
<td>110+68</td>
<td>LT &amp; RT</td>
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<td><strong>TOTALS:</strong></td>
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<td>1275</td>
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**NOTE:** W = 4'-0"
### Erosion Control

<table>
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<tr>
<th>Station</th>
<th>Station</th>
<th>Location</th>
<th>Seeding</th>
<th>Lime</th>
<th>Mulch Cover</th>
<th>Water</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acres</td>
<td>Tons</td>
<td>Acres</td>
<td>M. Cals.</td>
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<tr>
<td>100+00</td>
<td>114+00</td>
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</table>

**Totals:**
- **2.25** Acres
- **5** Tons
- **2.25** M. Cals.

**Basis of Estimate:****
- **2 Tons/Acre of Seeding**
- **102.0 M.C. / Acre of Seeding, Permanent Seeding**

### Standard Highway Signs and Support Assemblies

<table>
<thead>
<tr>
<th>Station</th>
<th>Side</th>
<th>Standard Sign Number</th>
<th>Support Assemblies</th>
<th>Support Assemblies</th>
<th>Standard Drawing Number</th>
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<td></td>
<td></td>
<td>WI-2L 9.00</td>
<td>WI-2R 9.00</td>
<td>WI-3.1</td>
<td>W13-1 3.00</td>
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<td></td>
<td></td>
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<td>SQ ft</td>
<td>SQ ft</td>
<td>SQ ft</td>
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<tr>
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<tr>
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<td>2.25</td>
<td>1</td>
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**Totals:**
- **6.25 SQ ft**
- **18.00 SQ ft**
- **18.00 SQ ft**
- **4.50 SQ ft**
- **12.00 SQ ft**
- **12.00 SQ ft**

**Note:** All standard sign blanks to be 0.06" thick. Refer to standard drawing SHS-2 for channel post splicing details.

*Two CM-3S placed back to back on each side of a single Type C Support Assembly.*

### Portland Cement Concrete Driveway

<table>
<thead>
<tr>
<th>Station</th>
<th>Side</th>
<th>Portland Concrete Cement Driveway</th>
<th>SQ Yds.</th>
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<tbody>
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<td>LT</td>
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<tr>
<td>101+80</td>
<td>RT</td>
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<tr>
<td>112+50</td>
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**Total:** **225**

### Fencing

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<thead>
<tr>
<th>Station</th>
<th>Side</th>
<th>Removal and Disposal of Fence</th>
<th>Wire Fence (Type D-1)</th>
<th>10' G' Gates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lin. Ft.</td>
<td>Lin. Ft.</td>
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<tr>
<td>101+77</td>
<td>LT</td>
<td>716</td>
<td>101+28</td>
<td>101+38</td>
</tr>
<tr>
<td>101+77</td>
<td>LT</td>
<td>132</td>
<td>103+04</td>
<td>103+14</td>
</tr>
<tr>
<td>102+14</td>
<td>LT</td>
<td>632</td>
<td>105+42</td>
<td>105+52</td>
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<td>102+20</td>
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<td>322</td>
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<td>105+22</td>
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<td>103+04</td>
<td>LT</td>
<td>493</td>
<td>105+38</td>
<td>105+42</td>
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<td>103+22</td>
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<td>177</td>
<td>105+58</td>
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<td>105+31</td>
<td>LT</td>
<td>61</td>
<td>105+71</td>
<td>105+80</td>
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**Totals:**
- **1409 Lin. Ft.**
- **1094 10' G' Gates**

**Note:** Estimated quantities to be used if and where directed by the Engineer. See Section 104.03 of the Standard Specifications.

**Note:** All corner posts on the left side of the roadway shall be wooden posts. All corner posts on the right side of the roadway shall be steel posts.

### ReflectORIZED Paint Pavement Marking

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<th>Station</th>
<th>Yellow Marking</th>
<th>White Marking</th>
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<tr>
<td>From</td>
<td>To</td>
<td>Linear Feet</td>
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<tr>
<td>100+00</td>
<td>113+00</td>
<td>2600</td>
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**Note:** This is a low volume road as defined in Section 404.03 of the Standard Specifications for Highway Construction, Edition of 2003.
### SCHEDULE OF BRIDGE QUANTITIES - JOB NO. BR0404

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>UNIT OF MEASURE</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
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<td>550</td>
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<tr>
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<td>GA. YD.</td>
<td>26.96</td>
<td>254</td>
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</table>

BENT 1
- 103 cubic yards of concrete
- 76 pounds of rebar
- 26 pounds of reinforcing steel

BENT 2
- 74 cubic yards of concrete
- 73 pounds of rebar
- 26 pounds of reinforcing steel

BENT 3
- 74 cubic yards of concrete
- 73 pounds of rebar
- 26 pounds of reinforcing steel

**TOTALS FOR JOB NO. BR0404**
- 177 cubic yards of concrete
- 211.5 cubic yards of concrete
- 164 pounds of rebar
- 164 pounds of reinforcing steel
- 1 ton of structural steel
- 1 ton of elastomeric bearings
- 1 ton of steel pile

---

1. **Includes approx. 50 cu. yds of rock excavation.**
2. **These steel piles are required to have special pile tips which will not be paid for directly, but will be considered as part of the item "steel pile tip (SPT)."**

---

**SCHEDULE OF BRIDGE QUANTITIES**

**Osage Creek Str. & Apprs., (5)**

**Benton County**

**Col. RD. 71**

**Arkansas State Highway Commission**

**Little Rock, AR**

**Drawn by:**

**Checked by:**

**Designed by:**

**Bridge No. 04925**

**Drawing No. 53744**
### SUMMARY OF QUANTITIES

<table>
<thead>
<tr>
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<th>ITEM</th>
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<th>UNIT</th>
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<td>STATION</td>
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<td>203</td>
<td>GRUBBING</td>
<td>10</td>
<td>STATION</td>
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<tr>
<td>202</td>
<td>REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAYS</td>
<td>10</td>
<td>SQ. YD.</td>
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<tr>
<td>202</td>
<td>REMOVAL AND DISPOSAL OF FENCE</td>
<td>10</td>
<td>LIN. FT.</td>
</tr>
<tr>
<td>202</td>
<td>REMOVAL AND DISPOSAL OF PIPE CULVERTS</td>
<td>10</td>
<td>LIN. FT.</td>
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<tr>
<td>202</td>
<td>REMOVAL AND DISPOAL OF ROCK RIPRAP</td>
<td>16</td>
<td>SQ. YD.</td>
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<tr>
<td>411</td>
<td>PRIME COAT</td>
<td>1117</td>
<td>GAL</td>
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<td>637</td>
<td>MAILBOX SUPPORTS (SINGLE)</td>
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<td>638</td>
<td>REFOCTORIED PAINT PAVEMENT MARKING YELLOW (4&quot;)</td>
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### STRENGTHS OVER 30" 4" SPAN

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### ALTERNATE BID ITEM

### REVISIONS

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<td>8003</td>
<td>P. T.</td>
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<tr>
<td>8004</td>
<td>P. O. E.</td>
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**SURVEY CONTROL COORDINATES**

**Project Name:** 560-0406  
**Date:** 7/11/2012  
**Coordinate System:** ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.

**Units:** U.S. SURVEY FOOT

**Points**

<table>
<thead>
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<th>No.</th>
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<th>Easting</th>
<th>Elev</th>
<th>Feature</th>
<th>Description</th>
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**Note:** Refer to CAP 040049.

- Standard: 5/8" Rebar with 2" Aluminum Cap stamped.
- Use CAP = 1.0 FOR STAKEOUT FOR THIS PROJECT.
- PROJECT CAPS 040049 THROUGH 040055 HAVE BEEN USED TO COMPUTE THE GRID COORDINATES LISTED ABOVE.
- GRID COORDINATES ARE STORED UNDER FILE NAME: 560-040041.ČTL

**HORIZONTAL DATUM:** NAVO 88

**VERTICAL DATUM:** NAVO 88 POSITONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

**REFERENCE POINTS** (2,500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED. REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL.

**BASE OF BEARING**

- ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
- DETERMINED FROM GPS CONTROL POINTS 040049 - 040055
- CONVERGENCE ANGLES: 00'-18'-40" LEFT AT LT: 36'-14'-25" AT LG: 094'-15'-11.91
- GRID AZ/MTH = ASTRONOMIC AZ/MTH - CONVERGENCE ANGLE.

**FIGURE 301-19**

**SURVEY CONTROL DETAILS**
GENERAL NOTES

All concrete shall be Class "F" with a minimum 28-day compressive strength of 5,000 psi. Concrete shall be placed in the dry and all exposed surfaces to be chinketed. With otherwise noted.

Air entraining water shall be Grade 50, yield strength > 24,000 psi at 7 days, conforming to ASTM C496 or M240, Type A, with nil test reports.

Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal deck.

For additional information, see Layout.
TABLE OF VARIABLES

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<th>Panel Length</th>
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Note: The parapet shall be 3" long, grouted, with a smooth face, and shall be placed between the rails. The rails shall be grouted to the parapet with no gaps. The parapet shall be painted to match the guardrail. The parapet shall be painted with the same color as the guardrail. The parapet shall be painted with the same color as the guardrail. The parapet shall be painted with the same color as the guardrail.

ELEVATION - CONCRETE PARAPET RAIL

1/2" = 1'-0"

For location of full and partial depth parapet joints, see Sec. No. 53755.
SECTION THRU JOINT AT END BENT

**Recess drain as recommended by the joint manufacturer.

DETAIL OF POURED SILICONE JOINT

JOINT SEAL PLACEMENT AT CURB

CHANNEL CONNECTION DETAIL

SILICONE JOINT DATA

DETAIL FOR BLOCKING EXPANSION JOINT DEVICE

膨胀缝安装

- 扩展缝安装

- 具体使用方法

- 注意事项

- 安装步骤

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- 安装位置

- 维护保养

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- 材料要求
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)

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

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-9
THREE BEAM RAIL WITH STEEL TUBING BLOCKOUT AND STEEL POSTS 1-7

W-BEAM TO THREE BEAM TRANSITION RAIL WITH WOOD OR PLASTIC BLOCKOUT AND STEEL 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 and wood blocks shall be either grade A1, structural or better, or HDG 890, 776, or 1.415 GC Southern Pine.

ARRIKANS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A
### Corrugated Steel Pipe (Round)

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<th>Pipe Diameter Inches</th>
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<th>Metal Thickness Inches</th>
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### Corrugated Aluminum Pipe (Round)

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<th>Pipe Diameter Inches</th>
<th>Minimum Cover Top of PIPE</th>
<th>Maximum Cover Top of PIPE</th>
<th>Metal Thickness Inches</th>
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### Corrugated Metal Pipes (Arches)

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<td>0.072</td>
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</tbody>
</table>

### INSTALLATION

**Type 1:** Select materials class 6G-1, 6G-2, or 6G-4

**Type 2:** For TYPE 1 or TYPE 1 Installation Material.

**Zinc Coated:**
- Type 1: 0.004
- Type 2: 0.006

**Aluminum:**
- Type 1: 0.004
- Type 2: 0.006

### GENERAL NOTES


2. This specification shall be used for installation of corrugated steel pipe, or aluminum pipe, into metal pipe culvert fills for installation.

3. All pipe supports shall be designed with consideration of structural bedrock and bedrock material.

4. The Type of installation shall be determined by the engineer and shall be either Type 1, Type 2, or Type 3 as designated above.

5. The minimum width of clearances and structural bedding material is to be determined by the engineer.

6. The minimum clearance for pipe and bedding material shall be the minimum width for pipe and bedding material for the specified type of installation.

7. The minimum clearances shall be determined by the engineer and shall be the minimum width for pipe and bedding material for the specified type of installation.

8. The minimum clearances shall be determined by the engineer and shall be the minimum width for pipe and bedding material for the specified type of installation.

9. The minimum clearances shall be determined by the engineer and shall be the minimum width for pipe and bedding material for the specified type of installation.

10. The minimum clearances shall be determined by the engineer and shall be the minimum width for pipe and bedding material for the specified type of installation.

11. The minimum clearances shall be determined by the engineer and shall be the minimum width for pipe and bedding material for the specified type of installation.

12. The minimum clearances shall be determined by the engineer and shall be the minimum width for pipe and bedding material for the specified type of installation.

### Embankment and Trench Installations

1. Corrugated Steel Pipe, Embankment, and Outer Embankment Bedding Material shall be compacted to 95% of the maximum density according to the type or class of material used.

2. Installation TYPE 2 or TYPE 3 may be used for corrugated steel, or aluminum pipe, installations.

3. Installation TYPE 4 shall be used for corrugated steel or aluminum pipe installed with 1/2" or 1" corrugation.

4. Installation TYPE 5 or TYPE 6 may be used for corrugated steel or aluminum pipe installed with 3" or 3 1/2" corrugation.

### CONSTRUCTION SEQUENCE

1. Place structural bedding material to to-ride, do not compact.
2. Corrugated Steel Pipe, Bedding Outside the Middle Third of the Pipe, Bedding Material Shall Be Sufficient to Cover Structural Bedrock Material by 1/2". The Size of the Pipe, the Size of Structural Bedrock Material, and the Size of the Pipe Shall Be Determined by the Engineer and, in any case, the Size Shall Be Equal to the Size of the Pipe, Whatever the Size Shall Be.

### NOTES

- Structural bedding material shall not be used outside the middle third of the pipe.
- Structural bedding material shall be sufficient to cover structural bedding material by 1/2".
- The size of the pipe, the size of structural bedding material, and the size of the pipe shall be determined by the engineer.
- Structural bedding material shall not be used outside the middle third of the pipe.
MAXIMUM FILL HEIGHT
BASED ON STRUCTURAL BACKFILL

<table>
<thead>
<tr>
<th>DIAMETER (&quot;&quot;&quot;)</th>
<th>MINIMUM</th>
<th>MAXIMUM</th>
</tr>
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<td>12&quot;</td>
<td>24&quot;</td>
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<td>24&quot;</td>
<td>48&quot;</td>
<td>48&quot;</td>
</tr>
<tr>
<td>30&quot;</td>
<td>60&quot;</td>
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</tbody>
</table>

*(Note: 02" MIN - 36" DIAMETER)

MINIMUM COVER, "H", SHALL INCLUDE A MINIMUM "D" OF PAVEMENT PLUS OR BASE.

MINIMUM TRENCH WIDTH
BASED ON FILL HEIGHT "H"

<table>
<thead>
<tr>
<th>PIPE DIAMETER (&quot;&quot;&quot;&quot;)</th>
<th>MINIMUM TRENCH WIDTH (FEET)</th>
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</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>18&quot;</td>
<td>3.5</td>
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<td>24&quot;</td>
<td>4.5</td>
</tr>
<tr>
<td>30&quot;</td>
<td>5.5</td>
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</table>

MINIMUM COVER FOR CONSTRUCTION LOADS

<table>
<thead>
<tr>
<th>PIPE DIAMETER (&quot;&quot;&quot;&quot;)</th>
<th>MINIMUM COVER (&quot;&quot;&quot;&quot;) FOR UNACTED LOADS</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;</td>
<td>2.0</td>
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<tr>
<td>18&quot;</td>
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<td>24&quot;</td>
<td>3.0</td>
</tr>
<tr>
<td>30&quot;</td>
<td>3.5</td>
</tr>
</tbody>
</table>

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

MULTIPLE INSTALLATION OF PVC PIPES

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F924, PVC, 48" PLASTIC PIPE CAN BE USED TO SPECIFY THE USE OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 1993 EDITION.
2. PLASTIC PIPE COLLECTOR DESIGN SHALL CONFORM TO ASABE LED BID BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION.
3. THE MINIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SURPLUS WIDTH TO ENSURE WORKING ROOM TO PROPERTY HANDYMEN AND DRAINAGE AND OTHER BACKFILL MATERIAL.
4. MATERIALS MATERIALS SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE COLLECTOR TO PREVENT LOSS OF STRUCTURAL BENDING WHEN PROPER SCALE AND LOCATION AND OTHER BACKFILL MATERIAL.
5. WHEN DIRECTED TO THE COLLECTOR, MATERIAL HAVING A SCALE OF THE ELEVATED WATER LEVEL OF THE DRAINAGE AREA OF THE SELECTED PIPE DESIGN, THE SCALE DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS SELECTED PIPE DESIGN.
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNAVAILABE FOR REUSE OR THE PIPE TRENCH OF THE AREA IDENTIFIED ABOVE AS STRUCTURAL MATERIAL, MATERIAL OF MATERIAL, FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE, IF SUITABLE MATERIAL IS AVAILABLE.
7. FOR PIPE TYPES THAT ARE NOT STRONG ON THE OUTSIDE CORRUGATED OR PROFILE WALLS, BACKFILL GRAVITY CAN BE SELECTED THAT WILL PREVENT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC BORES OF DIAMETER OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN ASABE SECTION 2.6 AND 6.2.2.2.1.1.

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 THE LAYERS PLUS THE BACKFILL GRAVITY AND SCALE OF THE ELEVATION OF THE CROWN.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WOUND OR STRENGTHENED RAPID METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

= LEGEND =

<table>
<thead>
<tr>
<th>OPERATION</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>H</td>
<td>FILL HEIGHT ITJ</td>
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<tr>
<td>D</td>
<td>DIAMETER DIAMETER OF PIPE</td>
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<tr>
<td>N</td>
<td>MINIMUM</td>
</tr>
<tr>
<td>B</td>
<td>MAXIMUM</td>
</tr>
<tr>
<td>I</td>
<td>STRUCTURAL BACKFILL MATERIAL</td>
</tr>
<tr>
<td>S</td>
<td>UNDISTURBED SOIL</td>
</tr>
</tbody>
</table>

ARканон лЕСТ МАРКОМ
PLASTIC PIPE COLLECTOR
(PVC F949)
STANDARD DRAWING PCP-2

D-15-6 KEY GENERAL NOTES & DELETED MATERIAL
D-15-6 ISSUE
REVISED DATE FILED
### SUPERELEVATION TABLE FOR TWO-WAY TRAFFIC

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#### Abbreviations
- NC: Normal Crown
- AC: Reverse Crown
- SUP: Superelevation

#### General Notes
1. On pavement with two-way traffic, the superelevation shall be revolved on the inside pavement edge unless otherwise noted on the plan.
2. Superelevation values shown on the cross sections are standard. Tolerance to be not more than ±0.01 ft per 100 ft.
3. Superelevation to be placed in multiples of 0.5%, or 5 ft.
4. Payment's wider than 2 lanes shall have additional transition lengths as follows:
   - 3 lanes: 20 ft
   - 4 lanes: 40 ft
   - 5 lanes: 60 ft

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### 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 (e.g., Silt Fences, diversion ditches, sediment basins, etc.)
2. Perform clearing and grubbing operation

EXCAVATION

EXISTING GROUND
INTERCEPTOR OR DIVERSION DITCH
EXISTING GROUND

NOTE:
NUMBER OF PHASES WILL VARY. THREE PHASES SHOWN FOR ILLUSTRATION.

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 20 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 excavation, place permanent or temporary seeding, stabilize the ditch, construct ditch check, diversion ditch, sediment basins or other erosion control devices as required.

EMBANKMENT

DIVERSION DITCH TO BE IN PLACE UNTIL SLOPE IS COMpletely STABILIZED.

SIDE DITCH STABILIZE AS REQUIRED.

EXISTING GROUND

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 20 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE
1. Construct diversion ditches, ditch check, sediment basins, Silt Fences, or other erosion control devices as specified.
2. Place Phase 1 Embankment with permanent or temporary seeding.
3. Place Phase 2 Embankment with permanent or temporary seeding.
4. Place final Phase of Embankment with permanent or temporary seeding, place diversion ditches and slope drains and maintain until entire slope is stabilized.