GENERAL NOTES
1. ALL CONCRETE SHALL BE CLASS D (RED CONCRETE).
2. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE CONCRETE IS PLACED.
3. ALL CONSTRUCTION JOINTS NOT SHOWN ON THE PLANS SHALL BE CONSTRUCTED.
4. THE CONTRACTOR SHALL MAINTAIN THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.
5. STRUCTURAL EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH STANDARD PLAN M-200.
6. PRIOR TO ANY CONSTRUCTION JOINTS LEAST 30 FT OF FRESH, A PENETRATION INSPECTION AND REPORT ARE REQUIRED.
7. BACKFILL SHALL NOT BE PLACED UNTIL TOP SLAB HAS REACHED DESIGN STRENGTH.
8. SPLICE QUANTITIES FOR LONGITUDINAL AND TRANSVERSE BARS ARE NOT REQUIRED.
9. REINFORCING STEEL SHALL BE GRADE 60.
10. THE MINIMUM LAP SPLICE LENGTH FOR BLACK REINFORCING BARS SHALL BE:

SPACING 0'-6" 1'-0" 1'-2" 1'-2"
LAP SPLICE LENGTH 1'-6" 1'-4" 1'-7" 1'-11"

THE ABOVE SPLICE LENGTHS ARE FOR CLASS B SPLICES.
11. ALL CONSTRUCTION JOINTS NOT SHOWN ON THE PLANS SHALL BE CONSTRUCTED FOR TOP AND BOTTOM MATS.
12. THE MINIMUM LAP SPLICE LENGTH FOR EPOXY COATED REINFORCING BARS SHALL BE:

SPACING 0'-6" 1'-0" 1'-2" 1'-2"
LAP SPLICE LENGTH 2'-0" 1'-0" 1'-4" 1'-11"

THE ABOVE SPLICE LENGTHS ARE FOR CLASS B SPLICES.
13. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 1/4".
14. THE FILL HEIGHT IS THE DISTANCE MEASURED FROM THE TOP OF THE TOP SLAB TO THE TOP OF PAVEMENT.
15. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 1/4".
16. FOR FULL HEIGHTS LESS THAN 7 FT, A WEARING SURFACE SHALL BE PROVIDED FOR THE TOP OF THE TOP SLAB AND 18" DOWN ALONG THE TOPS OF THE EXTERIOR WALLS.
17. FOR FULL HEIGHTS LESS THAN 2 FT, THE 1" BARS FOR THE BOTTOM OF THE TOP SLAB SHALL BE AS FOLLING:

- IF HEADWALL MOUNT GUARDRAIL IS USED (SEE STANDARD PLAN M-606-1, SHEET 19), ANY SPECIAL DESIGN FOR STIRRUPS WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

REINFORCING
BAR SIZE: #4 #5 #6 #7 #8 #9 #10 #11
SPACING 0'-6" 1'-0" 1'-2" 1'-2"
LAP SPLICE LENGTH 1'-6" 1'-4" 1'-7" 1'-11"

CONSTRUCTION JOINT DETAIL FOR STAGED CONSTRUCTION

NOTE: THIS DETAIL IS FOR CONSTRUCTION JOINTS INSTALLED PEER TO PEER TO THE TOP SLAB ONLY. THE CONSTRUCTION JOINTS SHOWN ARE FOR STAGED CONSTRUCTION JOINTS INSTALLATION.

CONSTRUCTION JOIN DETAIL:

NOTE: THIS DETAIL IS FOR CONSTRUCTION JOINTS INSTALLED PEER TO PEER TO THE TOP SLAB ONLY. THE CONSTRUCTION JOINTS SHOWN ARE FOR STAGED CONSTRUCTION JOINTS INSTALLATION.
### HEADWALL AND TOEWALL QUANTITIES

<table>
<thead>
<tr>
<th>HEADWALL QUANTITY</th>
<th>50' TO 75'</th>
<th>75' TO 100'</th>
<th>100' TO 150'</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEADWALL CLEAN</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>HEADWALL TOEWALL</td>
<td>0.000</td>
<td>0.000</td>
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</tbody>
</table>

### NOTES

1. **Spacing:** The length of the span is 60 feet, and the headwall and toewall are 6 feet high at each end of the span. The headwall and toewall are 6 feet high at each end of the span.

2. **Quantities:** The quantities are given in cubic feet (FT^3), and the headwall and toewall are 6 feet high at each end of the span. The headwall and toewall are 6 feet high at each end of the span.

3. **Precautions:** The headwall and toewall are not recommended for spans greater than 60 feet. The headwall and toewall are 6 feet high at each end of the span.

4. **Design:** The design is based on the following criteria:
   - **Headwall and Toewall Designs:** The headwall and toewall designs are based on the following criteria:
   - **Headwall and Toewall Quantities:** The headwall and toewall quantities are based on the following criteria:
   - **Headwall and Toewall Costs:** The headwall and toewall costs are based on the following criteria:

5. **Materials:** The materials used are:
   - **Concrete:** The concrete used is:
   - **Rebar:** The rebar used is:

6. **Structural:** The structural design is based on the following criteria:
   - **Headwall and Toewall:** The headwall and toewall are 6 feet high at each end of the span.

7. **Safety:** The safety criteria are based on the following criteria:
   - **Headwall and Toewall:** The headwall and toewall are 6 feet high at each end of the span.

8. **Construction:** The construction is based on the following criteria:
   - **Headwall and Toewall:** The headwall and toewall are 6 feet high at each end of the span.

9. **Maintenance:** The maintenance is based on the following criteria:
   - **Headwall and Toewall:** The headwall and toewall are 6 feet high at each end of the span.

10. **Code:** The code is based on the following criteria:
    - **Headwall and Toewall:** The headwall and toewall are 6 feet high at each end of the span.

### DOUBLE CONCRETE BOX CULVERT (CAST-IN-PLACE)

<table>
<thead>
<tr>
<th>BOX SIDE</th>
<th>H/D SQUARE</th>
<th>L/D SQUARE</th>
<th>WALL THINNER</th>
<th>HEADWALL CLEAN</th>
<th>HEADWALL TOEWALL</th>
<th>TOEWALL CLEAN</th>
<th>TOEWALL TOEWALL</th>
<th>EROSION CONTROL</th>
<th>SEWER TRENCH</th>
<th>INVENTORY</th>
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### DOUBLE CONCRETE BOX CULVERT (CAST-IN-PLACE) SAME AS HEADWALL QUANTITIES

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### CONCRETE QUANTITY = 0.000 CF