MINIMUM PRECAST ROUND MANHOLE REQUIREMENTS

<table>
<thead>
<tr>
<th>MANHOLE DIAMETER</th>
<th>MINIMUM WALL THICKNESS</th>
<th>CIRCUMFERENTIAL REINFORCEMENT*</th>
<th>BASE SLAB THICKNESS**</th>
</tr>
</thead>
<tbody>
<tr>
<td>48&quot;</td>
<td>4&quot;</td>
<td>0.12 IN&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>60&quot;</td>
<td>5&quot;</td>
<td>0.15 IN&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>72&quot;</td>
<td>6&quot;</td>
<td>0.18 IN&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>84&quot;</td>
<td>7&quot;</td>
<td>0.21 IN&quot;</td>
<td>6&quot;</td>
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</tbody>
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ADDITIONAL MINIMUM REQUIREMENTS:

* MINIMUM VERTICAL REINFORCEMENT: ASSEMBLE EACH LINE OF HORIZONTAL REINFORCEMENT INTO A CAGE CONTAINING SUFFICIENT VERTICAL BARS OR MEMBERS TO MAINTAIN THE REINFORCEMENT IN SHAPE AND POSITION WITHIN THE FORM.

** MINIMUM BASE SLAB REINFORCEMENT: PROVIDE A MINIMUM OF ONE LAYER IN EACH DIRECTION, LOCATED ABOVE THE MIDPOINT. PROVIDE MINIMUM AREA OF 0.12 SQ. IN. PER LINEAR FOOT IN EACH LAYER.

*** ADDITIONAL REINFORCEMENT AT OPENINGS: PLACE 8 ADDITIONAL #4 BARS (2 HORIZ., 2 VERT., 4 DIAGONAL) AROUND EACH OPENING IN MANHOLE RISER OR BASE SECTIONS. MAKE BAR LENGTH = OPENING SIZE + 4".

STEPS SHALL BE INSTALLED IN ACCORDANCE WITH AASHTO M 199. STEPS ARE REQUIRED FOR ALL MANHOLES 4'-0" DEPTH OR GREATER.

NOTE:
1) CONSTRUCT ROUND MANHOLES IN ACCORDANCE WITH AASHTO M 199.
2) STRUCTURE BASE TOE IS RECOMMENDED TO COUNTERACT BUOYANCY.
3) PROVIDE A MINIMUM COVER OF 1/2" FOR ALL REINFORCEMENT.
4) SEE D-6, SHEET 3 OF 5, FOR GRADE RING DETAILS.
5) TFE D-6, SHEET 5 OF 5, FOR ROUND COVER SLAB DETAILS.
6) INSTALL PIPES FLUSH WITH MANHOLE WALL PER DELDOT STANDARD SPECIFICATIONS SECTION 602.3.
7) FABRICATOR IS RESPONSIBLE FOR LIFTING, HANDLING AND TRANSPORTATION STRESSES.
8) STEPS SHALL BE INSTALLED IN ACCORDANCE WITH AASHTO M 199.