

SUGGESTED INSTALLATION REQUIREMENTS FOR PRECAST REINFORCED CONCRETE BOX SECTIONS

1. Prior to installation, the subgrade should be compacted such that future line and grade will be maintained after installing precast reinforced concrete box sections.
 - a. If the water table is in the trench zone, then appropriate dewatering methods must be employed. The engineer must consider the effects of future water table levels as it applies to the backfill material around the precast concrete box sections. Migration of bedding and backfill material can not be allowed.
2. Place 3" to 4" of granular material on the trench bottom to provide a uniform bearing for the precast reinforced concrete box section. The fine granular material shall provide a slightly yielding uniform support under the bottom width and length of the box section.
3. A small transverse trench (shovel width wide x depth of granular material x width of box) shall be formed at the end of the last installed box section to allow granular material to fall into when the next box section is slid into place.
4. When joining box sections together, a "come-along", box puller, or other similar method should be used. Construction equipment, such as backhoes, frontend loaders, etc., must NOT have direct contact with the precast concrete box sections. If such construction equipment is used, a timber or other cushioning medium must be utilized.
5. The space between consecutive precast box sections shall be in accordance with the manufacturer's recommendations and/or contract specifications. Consecutive box sections shall be assembled together such that the joint material (preformed mastic, trowelable mastic, closed-cell rubber extrusion, cement grout, etc.) placed in the tongue and groove space will provide a soil tight system.
6. On multiple barrel installations, positive lateral support between the precast boxes must be provided. This support can be obtained with grout, fine sand, granular material, or compacted earth. The space between boxes will control the type of material needed to provide continuous lateral support. When fine sand or a cement slurry is used, the space between adjacent boxes should be in the range of 2" to 4".

7. Backfill shall be placed uniformly on each side of the precast concrete box sections as installation progresses. The backfill material to be placed, percent of compaction, depth of layers, etc., shall be as required by the contract specifications.
8. Lift holes shall be filled with a hole plug and/or grout mixture, or sealed with trowelable mastic.
9. The precast box section joints shall be sealed with either mastic (preformed or trowelable), a closed-cell rubber extrusion gasket, or cement grout, as applicable for the project.