

- E Prior to the delivery of any size of precast section on the job site, yard tests will be conducted at the point of manufacture. The precast sections to be tested will

- D After the joint has been made, check pipe for alignment and grade. The trench bottom shall form a continuous and uniform bearing and support for the pipe at every point between joints. Apply sufficient pressure in making the joint to assure that the joint is "home" as defined in the standard installation instructions provided by the pipe manufacturer. To assure proper pipe alignment and joint makeup, place sufficient pipe zone material to secure the pipe from movement before the next joint is installed.
- E When pipe is laid within a movable trench shield, take all necessary precautions to prevent pipe joints from pulling apart when moving the shield ahead.
- F Take the necessary precautions required to prevent excavated or other foreign material from getting into the pipe during the laying operation. At all times, when laying operations are not in progress, at the close of the day's work, or whenever the workers are absent from the job, close and block the open end of the last laid section of pipe to prevent entry of foreign material or creep of the gasketed joints.
- G Plug or close off pipes which are stubbed off for manhole construction or for construction by others, with temporary plugs.
- H Take all precautions necessary to prevent the "uplift" or floating of the line prior to the completion of the backfilling operation.
- I Where nonreinforced pipe is connected to manholes or concrete structures, make connection so that the standard pipe joint is located not more than 3' from the outside edge of the structure.
- J When cutting and/or machining the pipe is necessary, use only tools and methods recommended by the pipe manufacturer.

UNDERGROUND STRUCTURES

- A **Rock Base:** Prior to setting precast concrete base section, remove water from the excavation. Place a minimum of 6" of rock base and thoroughly compact with a mechanical vibrating or power tamper.
- B **Manhole Joint Seals:** Carefully inspect precast manhole sections to be joined. Sections with chips or cracks in the tongue shall not be used. Joint seals shall be installed in strict conformance with the manufacturer's recommendations. Only pipe primer furnished by the joint seal manufacturer will be approved.
- C **Precast Concrete Manholes:** Place precast concrete sections as shown on the drawings. Where manholes occur in pavements, set tops of frames and covers flush with finish surface. Elsewhere, set tops 3" above finish surface, unless otherwise indicated.
- D **Manhole Invert:** Construct manhole inverts in conformance with details shown on the drawings, and with smooth transitions to ensure an unobstructed flow through the manhole.

- E Provide rubber joint gasket complying with ASTM C-443.
- F Apply bituminous mastic coating at joints of sections.
- G Manhole Frames and Covers: Install frames and covers on top of manholes to positively prevent all infiltration of surface or groundwater into manholes. Frames shall be set in a bed of mortar with the mortar carried over the flange of the ring as shown in the Manhole Details on the drawings. Set frames so tops of covers are flush with surface of adjoining pavement or ground surface, unless otherwise shown or directed.

4 BACKFILLING

- A General: Conduct backfill operations of open-cut trenches closely following laying, jointing and bedding of pipe, and after initial inspection and testing are completed.
- B Place backfill and compact in accordance with provisions of Section 02200 - Earthwork.

CLEANING AND TESTING

- A Prior to final acceptance, the