

SECTION 44

TESTING AND INSPECTION FOR ACCEPTANCE OF GRAVITY SEWERS

44.1 GENERAL

All gravity sewers are subject to be tested for alignment, deflection and integrity prior to acceptance. A leakage test and/or video inspection may be required for gravity sewers, solely at the discretion of the CITY. The testing shall be performed by the CONTRACTOR who shall be responsible for furnishing all necessary labor and equipment to conduct such testing.

44.2 TESTING FOR LEAKAGE

44.2.1 TYPE OF TEST

If required by the CITY, gravity sewers shall be required to pass a leakage test before acceptance. Leakage tests shall be by the low-pressure air test as described below.

44.2.2 SELECTION OF TEST SECTIONS

Each test section shall not exceed four hundred (400) feet in length and shall be tested between adjacent manholes.

44.2.3 PREPARATION AND COORDINATION FOR TESTING

The CONTRACTOR shall flush all sewers with water sufficient in volume to obtain free flow through each line. Flushing water and debris shall not enter any pump station wet well. Water will be pumped from the sewer system during flushing to an acceptable discharge location. A visual inspection shall be made and all obstructions removed.

The CONTRACTOR shall notify the Utilities Department Inspector forty-eight (48) hours prior to performing any leakage testing.

The results of all leakage tests shall be presented by the CONTRACTOR to the CITY in neat, legible writing. These written results shall be formatted and adequately labeled so that they are easily understandable.

The CONTRACTOR shall install sufficient monitoring wells in the representative areas of the gravity system, acceptable to the CITY, to determine the groundwater elevations. Monitoring wells shall be installed a minimum twenty-four (24) hours prior to testing.

44.2.4 LEAKAGE TEST

Leakage testing shall be conducted in accordance with the procedure for "Recommended Practice For Low Pressure Air Testing of Installed Sewer Pipe" as established by the Uni-Bell PVC Pipe Association. Passing this test shall be presumed to establish leakage test limits of fifty (50) gallons per day per inch diameter per mile of sewer.

44.3 VIDEO INSPECTION FOR ALIGNMENT, DEFLECTION AND INTEGRITY

Internal video inspection for the gravity sewer may be required by the CITY to check for alignment and deflection. The video inspection shall also be used to check for cracked, broken or otherwise defective pipe, and overall pipe integrity.

Prior to video inspection, the CONTRACTOR shall flush all sewers with water sufficient in volume to obtain free flow through each line. Flushing water and debris shall not enter any PUMP station wet well. Water will be pumped from the sewer system during flushing to an acceptable discharge location. A visual inspection shall be made and all obstructions removed.

The video internal inspection will be performed in two (2) stages. The first inspection will be within thirty (30) days after Substantial Completion of the installation of the gravity sewer pipe, provided the road base is in place and the manhole rings and covers are to grade. The requirement of road base being in place shall be waived if the top of the sewer is twelve (12) feet below the finished grade. In such cases, the video inspection shall be performed once the trench has been compacted up to the road base. The second inspection of the gravity sewer pipe will be before the end of the two (2) year warranty period.

If the first or second video inspection reveals cracked, broken, or defective pipe, or pipe misalignment resulting in vertical sags in excess of one and one-half (1½) inch and in the case of PVC pipe a ring deflection in excess of five (5) percent, the CONTRACTOR shall be required to repair or replace the pipeline. The CITY reserves the right to pass a mandrel through the PVC pipe to confirm ring deflection.

Successful passage of both the leakage test (if required by the CITY) and video inspection is required before acceptance by the CITY.

Prior to repair or replacement of failed sewer pipe, the method of repair or replacement shall be submitted to the CITY for approval. Pressure grouting of pipe or manholes shall not be considered as an acceptable method of repair.