

# **SPECIFICATIONS FOR CONSTRUCTION**

The developer/applicant shall design and construct a sanitary sewer collection system including, but not limited to, sewer lines, manholes, drop manholes, doghouse manholes and all accessories capable of carrying the necessary sanitary flow from the proposed development/project.

The developer/applicant shall design and construct a water distribution system including, but not limited to, water mains, valves, hydrants, post hydrants and all accessories capable of supplying the necessary domestic flow plus fire protection flow to the proposed development/project.

Water mains/systems cannot be installed until after all curbing has been completed. The Authority may perform a distribution system analysis to check the adequacy of the distribution system. The approval will be based on the successful results of the analysis.

Water curb stops and sanitary sewer clean-outs are not permitted in driveways or sidewalks. They must be set to grade before the meter installation.

## **1.0 EXCAVATIONS**

Excavation shall not be carried below the required level. All excavations shall be kept free of water until the installation of the pipe and backfilling is completed. Excess excavation below required levels shall be backfilled with ¾" crushed stone as directed by the Authority.

Unstable soil shall be removed and replaced with ¾" crushed stone or crushed slag, which shall be thoroughly tamped. The Authority will determine what constitutes unstable soil and will specify the amount to be removed and replaced.

All applicable OSHA Rules and Regulations shall be followed.

### **1.1 TRENCH EXCAVATION**

The width of the trench at the top of the pipe shall be a minimum of 3 ½ feet or the outside diameter of the pipe at the joint plus 8 inches at each side for unsheeted trench or 12 inches for sheeted trench, whichever is greater. The bottom of the trench shall be rounded so that an arc of the circumference equal to 0.5 of the outside diameter of the pipe rests on undisturbed soil. Coupling holes shall be excavated accurately to size by hand. If a trench box is used, the bottom edges of the box shall at no time be below the proposed invert elevation of the pipe.

### **1.2 BRACING AND SHORING**

The contractor shall do all bracing, sheeting and shoring necessary to perform and protect all excavation as required for safety of the workers, public, existing utilities, structures, pavements and public and private property. When the sheet piling is driven below the bottom of the pipe or the structure, the Authority Engineer may direct the contractor to leave the sheeting in place.

### **1.3 BACKFILLING**

Backfilling shall be done with approved material free from large clods or stones. Any unsuitable bedding or backfill material shall be removed from the trench. Backfill material in trenches shall be

placed evenly and carefully around and over the pipe in 6 inches maximum layers. Each layer shall be thoroughly and carefully tamped until twelve inches of cover exists over the pipe.

The remainder of backfill material shall be placed in a maximum of twelve-inch lifts, moistened if necessary, and compacted in areas not to be paved (utility easements). No compacting shall be done when the material is too wet.

All forms, trash, and debris shall be removed and cleared away from manholes and other structures. Approved backfill material may be from excavation or borrow. It shall be free from rocks, lumber, debris and frozen material. Each layer shall be moistened and compacted with mechanical or hand tampers. In roadway or area to be paved, each layer shall be compacted to 98% of maximum density as determined by AASHTO Specification T-180 or such greater density that may be required by the governing authority over the area in which the work is performed and certified by a soils lab acceptable to the Authority.

The trenches shall be backfilled at the end of each workday, except when the conditions require them to be left open overnight. When the trenches are left open overnight, temporary fencing shall be built around them.

Even though testing may indicate that the required density has been attained, the contractor will be responsible for correcting any settlement or damage to the utilities.

#### **1.4 PAVEMENT RESTORATION**

Existing pavement shall be restored in accordance with the Rules and Regulations of the agency having jurisdiction over the roadway. That agency will determine if the roadway has been restored adequately.

#### **1.5 DEWATERING**

Dewatering shall be accomplished by methods, which ensure that the groundwater will be drawn down to an elevation two (2) feet below the bottom of the bedding. Upon removal of well points, deep wells or other dewatering equipment, contractors shall backfill, compact and pave all roads where it is required. Well point and deep well holes shall be compacted for the full depth to a density equal to in-situ soils.

Dewatering for the structures and pipelines shall commence when groundwater is first encountered and shall be continued as long as the trench is open.

#### **1.6 EROSION CONTROL**

Erosion control measures taken at the site shall be in full conformance with and meet all requirements of the "Standards for Soil Erosion and Sediment Control – New Jersey State Soil Conservation Committee." A Compliance Certificate from the Ocean County Soil Conservation District shall be submitted to the Authority.

#### **1.7 EASEMENT MARKERS**

Depending on the location of a particular easement, the Authority may require the applicant/developer to install easement marker posts, Carsonite Model CUM-375 or equal, as specified by the Authority

during the approval process, to identify the location of line valves, water mains, sewer mains, force mains and/or all other appurtenances.

## **1.8 MAINTENANCE OF TRAFFIC**

The contractor is responsible for submitting traffic control plans and acquiring all road opening, traffic detour and road closing permits from the appropriate agency. The requirements of the agency having jurisdiction over the road shall govern.

All work shall be performed in a manner that will ensure the least obstruction to traffic and shall be conducted at all times with not only motorists' safety in mind, but also of the pedestrians and their own employees.

Emergency vehicles shall be provided access at all times.