

310 CATCH BASINS AND CONNECTING PIPE

310.01 DESCRIPTION

[Refer to DC WASA Section 2720]

Work consists of excavation and backfill, disposal of excess excavated material, furnishing all materials and constructing various types and sizes of PCC catch basins and connecting pipe to manholes complete as shown in the contract documents or as directed.

Related Work specified elsewhere may include but is not limited to:

[207](#): Trench Excavation

[309](#): Sewer Manholes.

[314](#): Pipe Sewer.

Reference Codes and Specifications:

- (1) AASHTO M111-03: "Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- (2) AASHTO M170-02: "Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe".
- (3) AASHTO M315-03: "Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe".
- (4) AASHTO M199-99: "Standard Specification for Precast Reinforced Concrete Manhole Sections".
- (5) ASTM A36: "Specification for Structural Steel".
- (6) ASTM A48: "Standard Specification for Gray-Iron Castings".
- (7) ASTM C33: "Specification for Concrete Aggregates".

310.02 SUBMITTALS

Shop drawings per [105.02](#) shall be submitted for reinforcing steel layout, reinforced concrete pipe, water seal casting, catch basin tops and catch basin frames and covers.

310.03 MATERIALS

Trench Excavation – [207](#)

PCC Pipe – [808.01\(B\)](#), Class III

Reinforcing Steel – [812.02](#), Grade 60

Cast-in-Place PCC – [817, Class B](#), except Class G for Pipe Cradle

Precast Basin Tops – [822.04](#)

Joint Mortar – [806.05\(B\)\(4\)](#)

Water Seal Castings/Basin Frames and Covers – [815.04](#)

Steel Angles/Channels – [815.01\(A\)](#)

Foundation Gravel – [804.06](#).

310.04 CONSTRUCTION REQUIREMENTS

Excavation for catch basins and connecting pipe shall include removal of all materials and objects of whatever nature encountered in excavation, disposal of excavated materials as specified, construction, maintenance and subsequent removal of any sheeting, shoring and bracing, dewatering and precautions, and work necessary to prevent damage to adjacent properties resulting from this excavation.

No excavated material shall be deposited at any time so as to endanger portions of the new or an adjacent structure, either by direct pressure or indirectly by overloading banks contiguous to the operation, or in any other manner. Material, if stockpiled, shall be stored so as not to interfere with the established sequence of construction. If the area within project limits is insufficient for stockpiling, the Contractor shall arrange for his own stockpiling area.

When the catch basin is to rest on an excavated surface other than rock, care shall be taken not to disturb the bottom of the excavation; final removal of foundation material to subgrade shall be accomplished after forms are set.

If the foundation becomes wet and spongy or otherwise unsatisfactory prior to placing PCC, the Contractor shall, at no additional cost to the District, remove the unsuitable material and replace it with size No. 57 gravel per [804.06](#) to secure an adequate foundation.

In case of underground obstruction at planned locations, proposed basins or connecting pipe shall be relocated as directed. Excavations at obstructed locations shall be backfilled per [207](#). Payment for excavation and backfill at obstructed locations will be made per [207](#).

Inlets may be either cast-in-place or precast; precast basins require advance approval. Outlet pipe shall project from the inlet sufficiently to permit junction with connection pipe, and shall be cut flush with the inlet wall inside face; void between outlet pipe and wall shall be completely sealed on both sides of wall with non-shrink mortar. Water seal per [815.04](#) shall be aligned on same centerline as the outlet pipe.

If a catch basin is to connect to a combined system sewer, an approved water seal casting shall be installed in the basin wall, aligned on the same centerline as outlet pipe, and be connected to the inlet connection pipe.

Trench excavation and backfill for basin connecting pipe per [207](#) shall be included as part of work. If trench subgrade material is unsuitable, trench bottom shall be undercut and backfilled per [207.06\(A\)](#), measured and payment made per [207.06\(B\)](#).

All connecting pipe shall be included as part of work and shall be constructed as shown in the contract documents. All connecting pipe shall be furnished with rubber gaskets and the required concrete cradle with saddle blocks and mortar joints. Construction shall be per [314.04\(D\)](#). Field leakage test is not required for storm drain pipe.

PCC Cradle shall meet the requirements for Class G PCC per [817.01](#). PCC shall cure for at least four (4) days prior to backfilling.

Where PCC pipe connects to existing clay pipe or to a water seal, a Class B PCC collar shall be constructed around the connection joint such that there is at least three (3) inches collar thickness around the entire circumference of the joint. The collar shall overlap each side of joint by six (6) inches. Collar shall cure for at least four (4) days prior to backfilling.

Connecting pipe trench shall be backfilled per [207.07\(A\)](#).

Basin tops shall be precast with cast-iron frames and covers as shown on the contract documents and Standard Drawings.

The basin top shall have four (4) holes drilled or cast therein. Corresponding holes shall be drilled into the basin walls. Steel dowels shall be inserted through and into these holes and grouted to prevent lateral movement of top.

310.05 MEASURE AND PAYMENT

The unit of measure for the various types and sizes of Catch Basins will be each.

The unit of measure for Basin Connecting Pipe will be the linear foot measured from the inside face of catch basin or water seal to inside face of manhole, or to connection to existing connecting pipe.

Payment for the various types and sizes of Catch Basins will be made at the respective Contract unit price per each, which payment will include water seal castings, frames and covers, excavation and backfill, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

Payment for 15-inch and 18-inch Basin Connecting Pipe will be made at the respective Contract unit price per linear foot, which payment will include excavation for pipe and backfill, saddle blocks and concrete cradle, concrete collars at connection to existing clay pipe, and all labor, materials, tools, equipment and incidentals needed to complete work specified.