

**SECTION 604  
MANHOLES, INLETS, AND CATCH BASINS**

**604.01**      **DESCRIPTION** – Revise this subsection to read as follows:

This work consists of constructing concrete manholes, drainage manholes and catch basins.

**604.02**      **MATERIAL** – Delete the text of this subsection and substitute the following:

- a.      Bed course. Bed course material shall be compacted coral base conforming to subsection 301.02.B.
- b.      Backfill. Backfill material shall be compacted coral sub-base conforming to subsection 301.02.A.
- c.      Concrete and materials for concrete, reinforcing steel, formwork, joint filler, and grout shall conform to Section 601.
- d.      Frames, Grates, Covers, and Ladder Rungs. Catch basin metal frame, grate, and anchors to be of steel construction per ASTM A 36. Hot-dipped galvanized per AASHTO M 111, rated for heavy duty and H-20 traffic loads or non-traffic for the sizes indicated on the plans.

Manhole frames and covers shall be gray iron casting, Class 30, per AASHTO M105, rated for heavy duty, and H-20 traffic loads and non-traffic loads for the size shown on the plans.

**CONSTRUCTION REQUIREMENTS**

**604.03**      **GENERAL** - Revise this subsection to read as follows:

Perform structure excavation, bed course, and backfill work under Section 209. Place and compact the coral base bed course to the thickness indicated on the plans. Compact the base bed course and backfill to not less than 95 percent of its maximum dry density and check in-place density as specified in subsection 301.05.B.

Where depths of excavation require shoring per OSHA Regulations, Contractor to provide such shoring, designed by a Structural Engineer, licensed to practice in the CNMI.

**604.04**      **CONCRETE CONSTRUCTION** – Delete the text of this subsection and substitute the following:

- a.      Construct concrete manholes and catch basins in accordance with the plans and Section 601.

- b. Forms: Forms shall extend the full depth of the Section. Forms shall be clean, straight, free from warp with sufficient strength to resist the pressure of the concrete mix without displacement. Bracing and staking of forms shall be such that they remain in both horizontal and vertical alignment until their removal. All forms shall be clean and coated with an approved releasing agent before the concrete is placed.

Forms shall be left in place for 48 hours or until the concrete has set sufficiently so that the forms can be removed without injury to the catch basin.

- c. Finishing. The surfaces of the concrete catch basins, interior and exterior, shall be smooth and even.
- d. Patch minor defects, small honeycombed areas, form-tie holes in accordance with subsection 601.05.E.
- e. Large honeycombed areas or gravel pockets, which, in the opinion of the Contracting Officer, are too large for proper mortar patching shall be cut-out and replaced as described in sub-section 601.05.E.c.
- f. Channel Flow. Finish the channel flow line in catch basins accurately to match the pipe flowline.
- g. Metal Frames. When ready for installation, set metal frames in a full joint concrete bed of same 28-day compressive strength as the catch basin.
- h. Grout all openings around pipe joints watertight.

**604.08**

**ACCEPTANCE** – Delete the text of this subsection and substitute the following:

- a. Structure excavation, bedding, and backfill work will be evaluated under Section 209.
- b. Bed course material will be evaluated under subsection 301.02.B with in-place field density test under subsection 301.05.B.
- c. Backfill material will be evaluated under subsection 301.02.A. with in-place field density test under subsection 301.05.B.
- d. Concrete and other materials for concrete construction will be evaluated under Section 601.
- e. Construction of concrete catch basins will be evaluated under subsections 106.02 and 106.04.
- f. Frames and grates for catch basins will be evaluated with the plans under subsection 106.02 and 106.03.

**604.09**      **MEASUREMENT** – Delete the text of this subsection and substitute the following:

- a.      Measure drainage manholes with frame and cover by the each, for each manhole type and manhole depth category, including excavation, shoring, bedding, concrete, and backfill work.
- b.      Measure concrete catch basins with grate cover, frame, and anchors, by the each, for each catch basin type and catch basin depth category, including excavation, shoring, bedding, concrete and backfill work.
- c.      Measure field inlet with frame and cover by the each, including excavation, shoring, bedding, concrete and backfill work.

**604.10**      **PAYMENT** – Revise this subsection as follows:

The accepted quantities will be paid at the contract price per unit of measurement for the Section 604 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Payment will be made under:

Pay Item No.	Pay item	Pay Unit
60402(A)	Side Inlet Catch Basin (SICB) including Grate, Complete-in-place	Each
60402(B)	Drainage Manhole, including frame and cover complete-in-place	Each

**END OF SECTION 604**