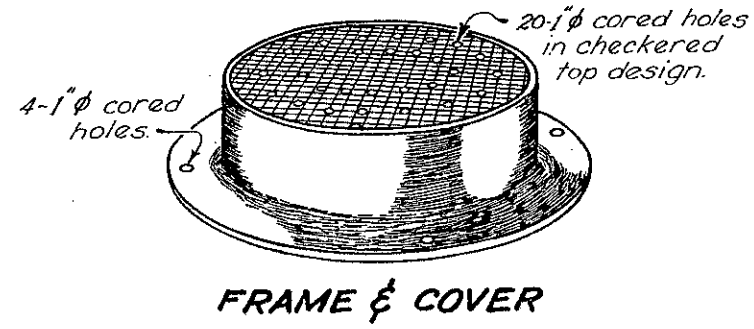
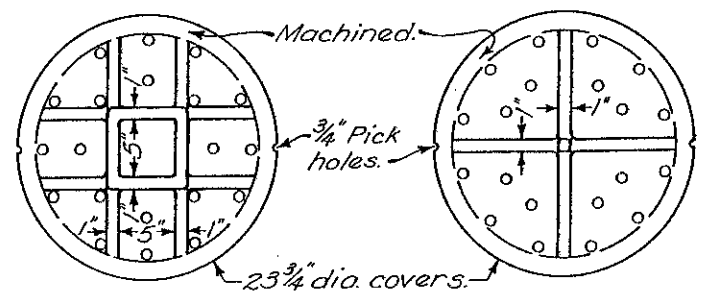


STEP DETAILS
Steps shall have a minimum cross sectional dimension of one inch for ferrous metal and 3/4" for aluminum.



NOTES
CONSTRUCTION: Number 1 manhole is for sewers 30" diameter or less. The design shown is for brick construction with every sixth course a stretcher course. The 6" bottom may be precast or cast in place concrete. The bottom channel sections shall be built with concrete and lined with split pipe or brick except curved channels may be formed in the concrete.

Precast solid concrete radial blocks or cast in place concrete reinforced with No. 4 bars on 12" centers both vertically and horizontally, may be used with a wall thickness of 6" or greater. Precast manholes detailed on MH-3 or MH-5 may be used in lieu of the design shown hereon unless otherwise required by the plans.

FRAME AND COVER shall be of heavy design (475 lbs. min. total weight) when the manhole is placed within the limits of the pavement or shoulder, otherwise the light design (275 lbs. min.) may be used. Bearing areas shall be finished smooth and fitted so as to provide a firm and even seat for all portions of the cover in the frame. Each cover shall seat in its frame without rocking and shall be marked as a matched frame and cover before delivery to the project. The base of the frame shall be set in a full bed of Portland cement mortar, and so adjusted to conform to the finished pavement or shoulder elevation and slope. Castings meeting Item 604 requirements and designed essentially the same and equally as strong as those shown hereon shall be provided.

STEPS shall conform to the material requirements of specification 604. All steps shall have a depressed tread or a 1/2" minimum cleat height at the ends.

Steps installed in fresh concrete shall be embedded to minimum depth of 4". Steps installed in mortar joints shall be embedded to a minimum depth of 7".

Friction-fit steps meeting the requirements of 711.31 with a 1/2" diameter rebar may be used in precast manholes. The receiving holes for friction-fit steps shall not penetrate the manhole wall.

The Engineer may require the contractor to test load a maximum of one step per manhole to a proof load of 400 lbs. in direct pull. The equipment and method used shall meet the approval of the Engineer.

If the selected step fails the pullout test, the remaining steps in that manhole shall also be tested. All steps not passing the pullout test shall be removed and a new step installed and tested to the satisfaction of the Engineer. Cost of testing shall be incidental to the unit price bid for the manhole.

DROP PIPE, when specified on the plans, shall be constructed as shown on MH-2.

SANITARY SEWER COVERS shall be without the pick and vent holes shown hereon and shall include a sealing gasket affixed to the bearing surface. Bolt-down covers shall not be used unless specified in the plans.

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

**No. 1
MANHOLE**

STANDARD
CONSTRUCTION
DRAWING
MH-1

APPROVED: [Signature] ENGR., L.F.D.

DATE
6-1-65
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