

Requirements for Changing the Elevation of Manhole Covers

1. “Adjustment” to Manhole

- a. To increase the rim elevation of a manhole cover between the limits of 0” and 15”, measured from the top of the cone or corbel section to the bottom of the cover frame, shall be done with concrete adjustment rings, or in the case of older brick-type manholes, with brickwork. In no case shall the adjusting rings or total brickwork (including existing brick) exceed 15”.
- b. To decrease the rim elevation of a manhole cover within the limits of existing adjusting rings or brickwork, remove the adjusting ring(s) or brick.
- c. For adjustments to manholes in pavements, see Page 3.
- d. For adjustments to manholes in flood-prone areas, see Page 4.

2. “Reconstruction” of Manhole

To decrease the rim elevation of a manhole cover beyond the limits of existing brick or adjusting rings, or increase the rim elevation of a manhole cover beyond the limits of an “adjustment”, change the elevation of the cone or tapered section.

- a. Pre-cast manholes are reconstructed by removing cone and/or straight section(s) and replacing with a section(s) of such length that the manhole cover will be at the correct elevation, or can be raised to the correct elevation by the addition of adjusting rings. In the case of older brick-type top sections, replace with brickwork. The limit of such adjustment is 15”.
- b. Brick manholes are reconstructed by removing all the brick courses that make up the cone or tapered section. By increasing or decreasing the height of the brickwork in the straight section of the manhole, the rebuilt brick cone section will position the manhole cover at the correct elevation or it can be raised to a maximum height of 15” by adjusting brickwork placed on the cone.

Plaster all reconstructed exterior masonry surfaces with 1:3 cement mortar, 1/2” thick covered with elastomeric seal and geo-membrane, to assure complete water tightness.

- c. For reconstruction of manholes in pavements, see Page 3.
- d. For reconstruction to manholes in flood-prone areas, see Page 4.

3. Replacement Materials

Materials used in the “adjustment” or “reconstruction” of manholes shall be the same as those used in the initial construction unless otherwise approved by the Oakland County Y æ^!Ü^•[~ !&• Commissioner (Y ÜÖ).

4. Inspection and Workmanship

All alterations to manholes owned and operated by the Y ÜC shall have Y ÜC full-time inspection. Contractors shall have in their possession, 48-hours prior to start of construction, an inspection permit for the proposed manhole alterations issued by the Y ÜC. Contractors must also have a \$5,000 surety bond and a \$500 cash deposit bond with the Y ÜC. All alterations shall be done in a workman-like manner and shall be completely watertight.

Criteria for Determining the Elevation of a Manhole Cover

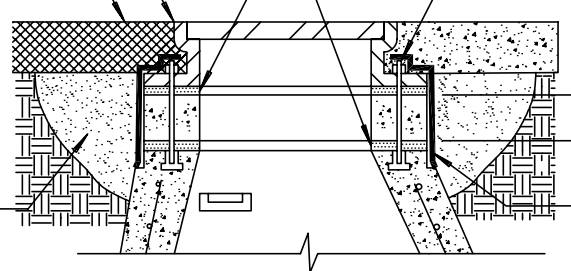
1. Covers of manholes located in pavement shall be at pavement grade.
2. Covers of manholes located in the shoulder of a road shall be at an elevation 6” below the adjacent edge of pavement.
3. Covers of manholes located in a drainage ditch shall be at the same elevation as the adjacent edge of pavement.
4. Covers of manholes located off the pavement and shoulder, but not in a drainage ditch, shall be at or above grade and visible at all times, and readily accessible for maintenance in all weather conditions. Final elevations shall be Y ÜC approved in the field.
5. Covers in flood-prone areas shall be at an elevation 12” above the highest known level of standing water.

BOLTED WATERPROOF CAST IRON MANHOLE COVER WITH BOLTED FRAME EQUAL TO EAST JORDAN NO. 1040 WITH PRESSURE TIGHT COVER.

PAVEMENT

MORTAR

FOUR CADMIUM COATED 5/8" DIA. THREADED STUDS WITH 3/4" x 2" x 1/8" THICK METAL WASHER, 3/4" x 2" x 1/16" THICK NEOPRENE SEALING WASHER AND NUTS.



3" OR 6" CONCRETE GRADE RINGS WITH FINISH TOP AND BOTTOM SURFACES, SET (TOP & BOTTOM) IN MORTAR OR BRICK AND MORTAR. MAXIMUM ADJUSTMENT = 15".

SAND OR GRAVEL BACKFILL COMPACTED TO 100% DENSITY.

ELASTOMERIC SEAL (PRESS SEAL GASKET CO., EASY STIK ALL WEATHER TROWELABLE BUTYL BK-0069-1) SPREAD OVER ALL ADJUSTMENT MATERIAL.

GEOMEMBRANE 6 MIL. PLASTIC COVER OVER BUTYL.

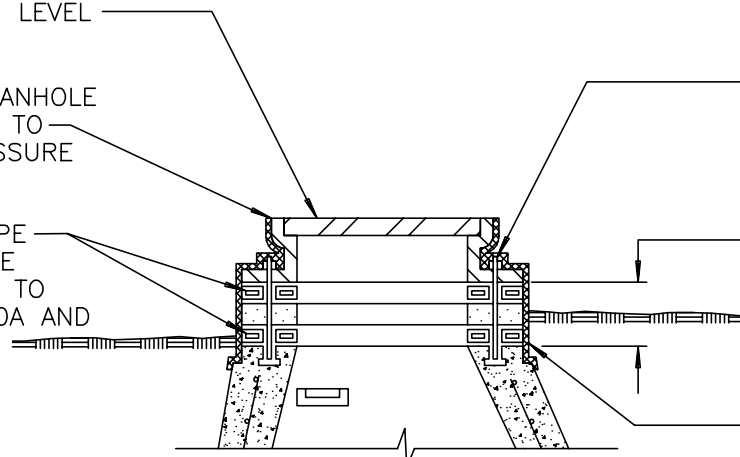
SEE STANDARD MANHOLE DRAWING FOR OTHER MANHOLE DETAILS.

ADJUSTMENT DETAILS MANHOLE TOPS WITHIN PAVEMENT AREAS

SET RIM A MINIMUM OF 12" ABOVE LEVEL OF STANDING WATER.

BOLTED WATERPROOF CAST IRON MANHOLE COVER WITH BOLTED FRAME EQUAL TO EAST JORDAN NO. 1040 WITH PRESSURE TIGHT COVER.

1"x1" BUTYL RUBBER FLEXIBLE ROPE 2 EACH COURSE (OUTSIDE & INSIDE OF THREADED STUDS) CONFORMING TO FEDERAL SPECIFICATION SS-SS-Z10A AND AASHTO M-198



FOUR CADMIUM COATED 5/8" DIA. THREADED STUDS WITH 3/4" x 2" x 1/8" THICK METAL WASHER, 3/4" x 2" x 1/16" THICK NEOPRENE SEALING WASHER AND NUTS.

3" OR 6" CONCRETE GRADE RINGS WITH FINISH TOP AND BOTTOM SURFACES. MAXIMUM ADJUSTMENT = 15".

ELASTOMERIC SEAL (PRESS SEAL GASKET CO., EASY STIK ALL WEATHER TROWELABLE BUTYL BK-0069-1) SPREAD OVER ALL ADJUSTMENT MATERIAL.

GEOMEMBRANE 6 MIL. PLASTIC COVER OVER BUTYL.

SEE STANDARD MANHOLE DRAWING FOR OTHER MANHOLE DETAILS.

ADJUSTMENT DETAILS MANHOLE TOPS WITHIN FLOOD PRONE AREAS