

ROAD COMMISSION FOR OAKLAND COUNTY

SPECIAL PROVISION  
FOR

**ADJUSTMENT AND RECONSTRUCTION OF PUBLIC UTILITIES –  
DEPARTMENT OF PUBLIC WORKS AND OTHER UTILITY STRUCTURES**

RCOC/DESIGN:JR/JO

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RCOC20SP403A

ORG:03-29-22

**a. Description**

This work shall consist of adjusting, reconstructing, and installing new waterproof covers on public utility structures to maintain the integrity of these structures and to keep water infiltration to an absolute minimum. This work shall be done in accordance with section 403 of the *Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction*, any Public Utilities owner's requirements, this specification, and any details shown in the plans. "Public Utilities" include all other structures not under the jurisdiction of RCOC or MDOT which include watermain and sanitary structures under the jurisdiction of the Local Municipal Department of Public Works (LM-DPW), or watermain, sanitary, and storm drainage structures under the jurisdiction of Oakland County Water Resources Commission (OCWRC), or telecommunication, gas, oil, electric structures under the jurisdiction of various public and or private corporations.

**b. Materials**

All materials shall be as specified in this special provision or in any details that may be in the plans.

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 Engineer and public utility owner.

**c. Construction**

1. Permit and Inspection Requirements

Permit and inspection may be required. For more details regarding any financial requirements, refer to the *Special Provision for Permits and Inspection Fees*.

The Contractor must fulfill all permit requirements as applicable, including but not limited to, posting of all required fees, bonds, and insurance, and provide notice to the public utility owner in order to schedule and fulfill any and all inspection requirements.

Before start of work, the public utility owner or their representative(s), RCOC, and the Contractor shall meet and collectively inspect each structure prior to beginning work and make a determination as to the type of treatment that is necessary. The Contractor shall arrange this meeting.

All structures are to be opened by the Contractor for inspection by the Engineer and Utility representatives for confirmation and/or change of adjustment and

reconstruction quantities prior to beginning any work. Payment for inspection of structures shall be paid as part of the structure adjustment items. When work is being performed, the Contractor shall notify the Engineer and utility owner (utility, city, OCWRC, etc.) for inspection. Final work shall not be accepted until written acceptance is received from the utility owner.

## 2. Requirements for Changing the Elevation of Manhole Covers

In no case shall the adjusting rings or total brickwork (including existing brick) exceed 15 inches. All alterations shall be done in a workman-like manner and shall be completely watertight.

### A. Adjusting Structure - "Adjustment"

Adjusting a manhole cover applies when the elevation is changed up or down 6 inches or less while within the limits as follows.

(1) To increase the rim elevation of a manhole cover between the limits of 0 inches and 15 inches, 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.

(2) 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.

### B. Additional Depth of Adjusting Structure - "Reconstruction"

Reconstruction of a manhole cover applies when the elevation is changed up or down more than 6 inches or any change that is outside of the limits of "adjustment"

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.

(1) 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 maximum height of the chimney shall be 15 inches as measured between the top of the corbel section to the underside of the frame.

(2) 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 inches by adjusting brickwork placed on the cone.

Plaster all reconstructed exterior masonry surfaces with MDOT Type R2 cement

mortar, 0.5-inch-thick to assure complete water tightness. When reconstructing manhole maintain 16-inch step spacing.

3. Criteria for Determining the Elevation of a Manhole Cover

The Engineer and public utility owner shall approve the final elevation in the field.

A. Final adjustment of public utility structures shall be made prior to placing the top course of pavement.

B. Covers of manholes located in the pavement shall be placed at the existing or proposed pavement grade.

C. Covers of manholes located in the gravel shoulder of a roadway shall be placed at an elevation of at least 6 inches below the top of the edge of the shoulder. Place shoulder material over structure cover.

D. Covers of manholes located in shoulders that are to be sodded or grassed, shall be placed at the finished earth grade of the grassed shoulder.

E. Covers of manholes located in ditches shall be placed at the elevation of the top of the adjacent edge of pavement.

F. Covers of manholes located outside of the road and ditch area shall be at the existing earth grade and readily visible at all times.

G. Covers in flood-prone areas shall be at an elevation 12 inches above the highest known level of standing water.

4. Backfill of Structures

All structures within the roadway shall be backfilled with granular material class II up to the subgrade elevation, or to an elevation determined by the Engineer. After final adjustment of the structure to the proposed elevation, the void area around the structure shall be completely backfilled with concrete or with a material as directed by the Engineer, to provide a stable base around the structure. A minimum 24 hours cure time shall be provided prior to beginning paving operations in these areas.

**d. Measurement and Payment**

The completed work, as described, will be measured and paid for at the contract unit price for the following pay items:

<b>Pay Item</b>	<b>Pay Unit</b>
Public Utility Structure Cover, Adj, Case .....	Each
Public Utility Structure, Adj, Add Depth.....	Foot
Public Utility Structure Cover.....	Each
Public Utility Structure, Temp Lowering.....	Each

1. Pay items include all materials, equipment and labor necessary to complete the work.
2. Public Utility Structure Covers. When new covers are placed on existing structures, the Engineer will measure and the Department will pay for **Public Utility Structure Cover, Adj, Case \_** in addition to the new cover.

The unit price for **Public Utility Structure Cover, Adj, Case 1** includes the cost of the following:

- A. Sawcutting existing pavement, curb, and curb and gutter;
- B. Adjusting the cover up or down, no greater than 6 inches; and
- C. Removing and replacing pavement adjacent to the adjusted cover
- D. Salvaging and reusing existing cover and frame, as directed by the Engineer.

The Department will pay separately for removing and replacing curb and gutter adjacent to the adjusted structure.

3. The Department will only pay for **Public Utility Structure Cover, Adj, Case 2** for structure adjustments located outside existing pavement, curb, and curb and gutter.
  - A. Salvaging and reusing existing cover and frame, as directed by the Engineer.

4. The unit price for **Public Utility Structure Cover, Adj**, of the case required includes the cost of repairs for uniform contact of temporary steel plate to the top of structures.

5. The Engineer will measure **Public Utility Structure, Adj, Add Depth**, of the required diameter and depth, beginning 6 inches from the level of the existing structure, in the direction of adjustment, to the limit of the additional adjustment depth. If the contract includes a pay item for **Public Utility Structure, Adj, Add Depth**, the contract will also include a pay item for **Public Utility Structure Cover, Adj**, of the case required. The unit price for **Public Utility Structure, Adj, Add Depth** includes the cost of drainage structure taps, within the limits of the adjustment.

The Department will pay for drainage structure taps outside the limits of the adjustment as **Dr Structure, Tap**. The Department will pay for taps to existing sewers as **Sewer Tap**, of the size required, in accordance with subsection 402.04.

6. The unit price for **Public Utility Structure, Temp Lowering** includes the cost of the following:

- A. Match marking;
- B. Removing, salvaging, and transporting castings to and from site;
- C. Storing the existing structure castings;
- D. Plating the structure;
- E. HMA patching; and
- F. Removing the plate and HMA patching materials for final adjustment.

The Department will pay separately for the final adjustments to public utility structures. The unit price for **Public Utility Structure Cover, Adjust, Case 1** includes the cost of removing pavement to lower the structure. The cost of repairs is included in unit price for the related public utility structure adjustment pay item.

The cost of obtaining permits and inspection fees, if any, shall be paid for separately in accordance with the *Special Provision for Permits and Inspection Fees* contained in this proposal.

Existing structure covers that have been replaced are to be disposed of in a legal manner off the project by the Contractor included in the structure adjustment pay items.

When new covers are required on an existing structure that does not require adjustment or reconstruction, **Public Utility Structure Cover, Adj**, of the case required will be paid for in addition to the new cover.

**Public Utility Structure Cover** includes the cost of obtaining a frame and cover that meets the specifications of the Engineer and public utility owner and the details shown in the plans.