

**1.0 GENERAL**

**1.1 Scope**

- .1 The items of work governed by this Section of the Specifications are those required to adjust the surface elevations of existing valve boxes, curb boxes, catch basin covers, and manhole covers to the required finished elevations.

**1.2 Measurement for Payment**

- .1 Adjustment of appurtenances will be measured for payment for the number of units adjusted, and shall include all labour and material necessary except replacement parts supplied by the Owner for boxes, frames or covers broken before the Contractor started work on the site.

A manhole or catch basin adjustment is defined as the addition or removal of at least one grade ring or course of brickwork, resetting disturbed grouting and change of rim elevations. An adjustment does not include the removal or addition of manhole blocks or precast manhole rings.

- .2 Manholes which cannot be adequately adjusted shall be reconstructed. Measurement and payment for manhole reconstruction will be by the vertical metre from the elevation of the undisturbed portion of the manhole to the revised rim elevation. Payment shall include all labour and material necessary for the work indicated.

**2.0 PRODUCTS**

**2.1 Valve Box Extensions**

- .1 Valve box extensions shall be 150 mm cast iron and are to be completely coated with an asphaltic type varnish to prevent corrosion.

**2.2 Manhole Grade Rings and Blocks**

- .1 Precast grade rings and blocks for manhole grade adjustment shall conform to ASTM C478 and C139 respectively.
- .2 Final adjustment riser/ring shall be composite rubber INFRA-RISER as Manufactured by East Jordan Iron Works or approved equal.

**2.3 Mortar**

- .1 Mortar shall be Sulphate Resistant ASTM Type 50.

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**3.0 EXECUTION****3.1 Inspection of Existing Appurtenances**

- .1 Prior to the start of construction on any street or block, the Contractor shall locate and inspect all manholes, catch basins, and valves in order to satisfy himself that they are all in proper working condition. Any damaged materials shall be brought to the immediate attention of the Engineer, who will make arrangements with the Owner for replacement parts. Damaged materials, which are not brought to the immediate attention of the Engineer, will be the sole responsibility of the Contractor and shall be repaired by the Contractor at his own expense.

**3.2 Valve and Cub Boxes**

- .1 Adjustment of valve box tops and curb box tops shall include the repair of any broken boxes. The Owner will supply necessary replacement parts except those parts broken by the Contractor. The Contractor shall shorten or lengthen the boxes and stems as required and block the boxes to prevent any settlement. The adjustments shall be so made that the valves operate as effectively as before the adjustment.

**3.3 Manhole and Catch Basins**

- .1 Manhole and catch basin covers shall be adjusted so that the cover conforms to the required finished elevation. All adjustments are to be made with mortar and brick or grade rings firmly set in position and grouted.
- .2 Final adjustment shall include a minimum of 25 mm composite rubber grade ring below frame and cover. Maximum height of stacked composite rubber adjustment risers should not exceed 75 mm.
- .3 Steel extensions for frame and cover shall not be used unless accepted in writing by the Engineer.
- .4 The Contractor shall notify the Engineer if existing manholes or catch basins have less than 150 mm of grade rings, more than 300 mm of grade rings, existing grade rings are damaged, or existing cone appears to be damaged prior to or during construction.

**3.4 Manhole Reconstruction**

- .1 Manholes may be reconstructed or lowered using precast rings or blocks where an adjustment is not possible. The blocks shall meet the requirements of A.S.T.M. Specification C139.

**3.5 Backfill**

.1 Should any backfill be required around the valve box, manhole or catch basin cover below the elevation of the road subbase surface, Granular backfill shall be used and properly compacted in place.

.2 Granular Backfill

.1 Clean, hard, durable uncoated particles, free from clay lumps, cementation, organic and other objectionable material, meeting following gradation limits:

<u>ASTM Sieve Designation</u>	<u>Per Cent Passing</u>
50.0 mm	100
31.5 mm	60 - 100
16.0 mm	40 - 75
4.75 mm	25 - 60
2.0 mm	20 - 45
0.425 mm	10 - 25
0.075 mm	0 - 10

**END OF SECTION**