

OFFICE OF THE EXECUTIVE ENGINEER (PLANNING) COLONY
DELHI JAL BOARD: GOVT. OF NCT OF DELHI
VARUNALAYA PHASE-I, KAROL BAGH, NEW DELHI

No.DJB/EE(Plg)Col./2021/ 195

Dated :- 11/11/21

CIRCULAR

Subject: -Implementation of precast RCC manhole with frame and cover in place of brick manhole in Delhi Jal Board.

The Board in its 158th meeting held on 26.10.2021 vide Resolution no. 1203, S. No. 05 has Suo-motto resolved and directed that in future all the sewer line manholes should be of precast concrete in place of brick masonry chamber, wherever feasible. Minimum size of sewer should be 300 mm dia in place of 250 mm dia considering future increase of population in Delhi. The present cost of change in size from 250 to 300 mm dia is nominal as compared to cost of replacement in future. The Board further resolved to accord in-principle approval of variation in cost on these account, if any in ongoing works. The Board in-principally approved and instructed the Implementation of Precast RCC manholes with frame and cover in place of brick manhole in DJB for speedy construction and least inconvenience to public. Subsequently, a special technical committee meeting was conducted on 01.11.2021 and after detailed deliberations, the committee also recommended and approved the implementation of precast RCC manholes with frame and cover in place of Brick Manholes for adoption in Delhi Jal Board wherever technically feasible, with the directions to the Planning cell to circulate necessary rates.

The cost of the precast manhole along with frame and cover has been analyzed based on lowest quotation received from various manufactures, The details of the rates worked out for 1000, 1200, and 1500 mm internal dia and the cost on account of extra depth have also been worked out as below. These rates are being circulated for implementation in DJB in ongoing as well as proposed works.

Since BIS/IS code are not available, the available ASTM (American Association for Testing of Materials) / International Standard Codes like C-478, C-597, C-76 & C-913 and others ASTMs will be referred for Design and Installation of Precast / RCC manholes. It will be the responsibility of the manufacture/ supplier and executing agencies to get the design of precast RCC manholes vetted by IIT or equivalent institute and such conditions will be incorporated in the Contract Agreement. In the event of the failure of the items like conical portion/ riser, the responsibility will lie upon the manufacturer and the executing agency.

Prog - I
S. P. Singh
12.11.2021
EE(EDP)

Addl. Chief Engineer (Project)-I
EOP Cell, Delhi Jal Board, GNCTD
Dy. No. 2089 dt. 12-11-2021

S.No.	Item Description	Unit	Rate (Rs.)
	1000 mm dia ID		
1(a)	<p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes with internal dia 1.0m and depth 1.125m, for 250 mm (ID) pipe, having pre-cast RCC M-40 grade circular manhole cover frame (ID 0.56m), conical piece (top ID 0.56m, bottom ID 1.0m, vertical height 0.805m, wall thickness 125mm)duly fitted with SFRC Footrests, having steel reinforcement @ not less than 80 kg per cum of concrete in conical piece, including cast-in-situ CC M-10 grade foundation of 1.625m dia and 150mm thickness, CC M15 grade circular wall ID 0.925m, wall thickness 200mm, height equal to OD of sewer pipe + 50 mm, CC M15 grade benching and channel portion including neat cement punning up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing heavy duty SFRC manhole cover as per IS 12592 (Part I and II), including cost of shuttering, steel reinforcement, testing for water tightness etc complete in all respect as per drawing, specifications and as per direction of the Engineer-In-Charge.</p> <p>Note: 1. This item will be used in cases where depth of manhole is greater than or equal to 1.125m. 2. Excavation of earth work and road cutting for manhole will be measured and paid separately.</p>	Each	17,164.00
1(b)	<p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes with internal dia 1.0m and depth 1.18 m, for 300 mm (ID) pipe, having pre-cast RCC M-40 grade circular manhole cover frame (ID 0.56m), conical piece (top ID 0.56m, bottom ID 1.0m, vertical height 0.805m, wall thickness 125mm)duly fitted with SFRC Footrests, having steel reinforcement @ not less than 80 kg per cum of concrete in conical piece, including cast-in-situ CC M-10 grade foundation of 1.625m dia and 150mm thickness, CC M15 grade circular wall ID 0.925m, wall thickness 200mm, height equal to OD of sewer pipe + 50 mm, CC M15 grade benching and channel portion including neat cement punning up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing heavy duty SFRC manhole cover as per IS 12592 (Part I and II), including cost of shuttering, steel reinforcement, testing for water tightness etc complete in all respect as per drawing, specifications and as per direction of the Engineer-In-Charge.</p> <p>Note: 1. This item will be used in cases where depth of manhole is greater than or equal to 1.18 m. 2. Excavation of earth work and road cutting for manhole will be measured and paid separately.</p>	Each	17,738.00
2.	<p>Extra per meter depth of 1.0 m internal dia circular Pre-cast RCC M-40 grade manhole beyond 1.125 m for 250mm (ID) pipe and 1.18m for 300mm (ID) pipe, up to I.L. 1.67 m depth built with 1.0 m internal dia Precast risers of M-40 grade RCC circular risers of height 150 / 300 mm and wall thickness of 125mm duly fitted with SFRC Foot rests and all complete as per drawings, specifications and as per direction of the Engineer-In-Charge.</p>	per meter	11,859.00

Note:- Excavation of earth work for extra depth of manhole will be measured and paid separately.

3.	<p style="text-align: center;">1200 mm dia ID</p> <p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes with internal dia 1.20 m and depth 1.67m for 300mm (ID) pipe, having pre-cast RCC M-40 grade circular manhole cover frame ID 0.56m, conical piece top ID 0.56m, bottom ID 1.20 m, vertical height 1.005m, wall thickness 125mm duly fitted with SFRC Footrests), and circular risers of required heights (ID 1.20 m, height 150 / 225/ 300 /600 /900 mm, wall thickness 125mm duly fitted with SFRC Footrests) below conical piece as per required depth of manhole and having steel reinforcement @ not less than 80 kg per cum of concrete in conical piece, including cast-in-situ CC M-10 grade foundation of 1.825m dia and 150mm thickness, CC M15 grade circular wall ID 1.125 m, wall thickness 200mm, height equal to OD of sewer pipe + 50 mm, CC M15 grade benching and channel portion including neat cement punning up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing Extra heavy duty SFRC manhole cover as per IS 12592 (Part II), including cost of shuttering, steel reinforcement, testing for water tightness etc complete in all respect as per drawing, specifications and as per direction of the Engineer-In-Charge.</p> <p>Note:- Excavation of earth work and road cutting for manhole will be measured and paid separately.</p>	Each	26,960.00
4.	<p>Extra per meter depth of 1.20 m internal dia circular Pre-cast RCC M-40 grade manhole beyond 1.67 m up to I.L. 2.28 m depth built with 1.20 m internal dia Precast risers of M-40 grade RCC circular risers of height 150 / 225/ 300 /600/ 900 mm and wall thickness of 125mm duly fitted with SFRC Footrests and all complete as per drawings, specifications and as per direction of the Engineer-In-Charge.</p> <p>Note:- Excavation of earth work for extra depth of manhole will be measured and paid separately.</p>	per meter	13,102.00
5	<p style="text-align: center;">1500 mm dia ID</p> <p>Providing, fixing and constructing of pre-cast RCC M-40 grade circular manholes with internal dia 1.50 m and depth 2.28 m having pre-cast RCC M-40 grade circular manhole cover frame ID 0.56m, conical piece top ID 0.56m, bottom ID 1.50 m, vertical height 1.305m, wall thickness 125mm duly fitted with SFRC Foot rests, and circular risers of required heights (ID 1.50 m, height 150 /225 / 300 /600 /900 / 1200 mm, wall thickness 125mm duly fitted with SFRC Foot rests) below conical piece as per required depth of manhole and having steel reinforcement @ not less than 80 kg per cum of concrete in conical piece, including cast-in-situ CC M-10 grade foundation of 2.125 m dia and 150mm thickness, CC M15 grade circular wall ID 1.425 m, wall thickness 200mm, height equal to OD of sewer pipe + 50 mm, CC M15 grade benching and channel portion including neat cement punning up to top level of sewer pipe etc complete with curing compaction and form work, supplying and fixing Extra heavy duty SFRC manhole cover as per IS 12592 (Part II), including cost of shuttering, steel reinforcement, testing for water tightness etc complete in all respect as per drawing,</p>	Each	42,010.00

	specifications and as per direction of the Engineer-In-Charge. Note:- Excavation of earth work and road cutting for manhole will be measured and paid separately.		
6.	Extra per meter depth of 1.50 m internal dia circular Pre-cast RCC M-40 grade manhole beyond 2.28 m up to I.L. 11.27 m depth built with 1.50 m internal dia Precast risers of M-40 grade RCC circular risers of height 150 /225 / 300 /600/ 900 / 1200 mm and wall thickness of 125mm duly fitted with SFRC Foot rests and all complete as per drawings, specifications and as per direction of the Engineer-In-Charge. Note:- Excavation of earth work for extra depth of manhole will be measured and paid separately.	per meter	16,708.00

Sd/-
EE(Planning)Colony

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