

MUNICIPAL CORPORATION OF GREATER MUMBAI

STORM WATER DRAINS DEPARTMENT



VOLUME-I

**UNIFIED SCHEDULE OF RATES FOR
STORM WATER DRAINS
DEPARTMENT 2018**



Municipal Corporation Of Greater Mumbai

FOREWORD



Municipal Corporation Of Greater Mumbai

Foreword

Ever since establishment of Bombay Municipal Corporation (now Municipal Corporation of Greater Mumbai) in 1888 by the erstwhile British rulers in India, in the last 125 years of the history of its existence MCGM has catered to every aspect of the citizen of Mumbai that can be conceived of. Look to heritage buildings like Victoria Terminus (Chhatrapati Shivaji Terminus), Office of Municipal Corporation, Dadabai Naoroji Road, Dr. Babasaheb Ambedkar Road, Marine Drive (Netaji Subhash Road), Prince of Wales Museum, Gateway of India, Malabar Hill Reservoir, Nair Hospital, Lokmanya Tilak Hospital, KEM Hospital etc which are the service centers for the citizens. Municipal Services have also been provided in the suburban and extended suburban areas merged in 1950 & 1957 respectively. The obligatory duties are performed well but still there is need to improve in quantity and quality of services to be provided to the citizens.

Ethical governance and righteous work culture will certainly bring positive changes in design and implementation of projects. One may take an example of the first Municipal Head Quarter Building, that was completed in year 1893, in four years, designed by F W Stevens and the execution part was dealt by Project Engineer Shri Raosaheb Sitaram Khanderrao Vaidya, who executed the project of 77.70m high structure and saved Rs.68,000/- as against estimated cost of Rs. 11.80 Lakhs.

The need is to work with precision and accuracy. There shall be harmony between planning and execution so as to evolve best economics with focused goals.

MCGM is one of the largest local self-governments in the Asian Continent. In observance of historic traditions of strong civic activism, with the change in time and living conditions to match with the urbanization, MCGM has focused in providing variety of engineering services viz, storm water drain, sewerage, water supply, roads, bridges, solid waste management, environmental services. Beside this, the Corporation is also providing dedicated services in the Health sector by establishing Major and Peripheral hospitals.

To update and modernize the mechanism being used for working on related projects from the stage of conceptualization to execution, the need was realized to revise prevailing



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“Schedule Of Rates” along with specifications which were in operation with various departments and being prepared individually as per their need and revised at different span of time, resulting into various anomalies. To overcome all these, it was essential to revise the schedule of rates, not only with simple mechanized revision but incorporating major changes to keep up with the pace of urbanization, civilization, construction techniques / mechanization and voluminous developments by restructuring items in the schedule to cover all requirements. This exercise would provide comfort with designs and field necessities and will assist in effective checks on creation of extra items during execution.

A conscious decision has been taken to prepare Unified Schedule of Rates to keep pace with the changing time; a first step forward in this direction. Since long time, there have been demands made by the stake holders like Municipal Engineers and Contractors to remove non-uniformity, anomalies and discrepancies in various schedules of rates for work contracts of various departments of MCGM. Every department had its own expertise and way of functioning which got reflected in its independent schedule of rates, which however, had no linkage with the fair market rates and schedules of other departments, resulting into extra items and fair rates. In place of earlier 9 Schedule Of Rates, the Unified Schedule of Rates is an effort and seeks to rectify the defects, discrepancies and non-uniformities which will provide ease and accuracy of estimation to the Engineers.

The Unified Scheduled of Rates is linked with its comprehensive specifications of basic important activities so as to have clarity in execution. These specifications follow a chronology of general scope of the item, material required, processing of material, construction operation, finishing and mode of measurement. Rigid Standard Operating Procedures (SOPs) and complete control on processes will certainly satisfy quality parameter. The need for checking the quality of construction is quite apparent and shall be ensured throughout the construction process. To achieve this, the Unified Scheduled of Rates incorporates quality assurance procedures.

All the rates are also linked to their detailed specifications and wherever required, with drawings. Though there are about 10282 items, every item is now given a Unique Code No. which will eliminate the repetition.

It has been our endeavour to include all the necessary modern materials and technologies in Unified Schedule of Rates, for example, the concept of green building, which will go a long way to have control on creation of extra items and fair rates. A salient feature of this Unified



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Schedule of Rates is 'Starring of items' specified categorically which can be used only at certain works or locations.

Another salient feature is 'Dynamic Rate System' which will be based on study of data base of quantities and bidding prices of awarded contracts on the basis of which necessary corrections can be applied to the Unified Schedule of Rates at specified intervals. Accordingly M.C.G.M. had finalized Unified Schedule of Rates and same were uploaded in October 2013.

The central government has enacted the law of Goods and Services Tax and issued the directive to implement the goods and services tax with effect from 1st July 2017. With G.S.T. coming into effect force, Octroi, VAT, etc. were abolished and one single tax structure came into effect. The Unified schedule of Rates of M.C.G.M. has been revised with the help of M/s Tata consulting Engineers by taking due cognizance of G.S.T.

Highlights of the Revised Schedule:

- The items in schedule of rates are linked to the rate analysis and further they rate analysis is linked to basic material rates, labour rates and machinery rates.
- Also, various items are linked to their comprehensive specifications of basicv important activities and drawings so as to have clarity in execution.
- The whole rate analysis format is revised by taking due cognizance of GST.v The new rate analysis format in excel, has been formulated separately showing the taxes applicable, in order to have clear understanding of the taxes levied on material, machinery, labour etc.
- Further revisions in U.S.O.R. shall become a simple process due to they current rate analysis format.
- All these items are provided with technical specifications, in fixed chronologyv with unified code for each item with linkages for rate analysis and specifications
- This will also assist in minimizing and to have effective checks on creation ofv extra items.
- This complete exercise is certainly going to facilitate Engineers working in they office for the estimation as well as in execution.
- A new nomenclature for G.S.T. with the prefix R2 has been adopted tov highlight the revision of schedule. I am sure that Revised 'Unified



I am sure that this 'Unified Scheduled of Rates' will be a milestone in civic governance by MCGM. This publication shall be of great help and guidance to the officers engaged in the project work of MCGM.

-Sd/-
Ch.Eng.(SWD)

-Sd/-
Dir.(E.S. &P.)

-Sd/-
A.M.C. (W.S.)



Municipal Corporation Of Greater Mumbai

GENERAL NOTES



GENERAL NOTES

A. COMMON GENERAL NOTES

1. The schedule of rates will be operative from 20/06/2018
2. The unified schedule of rates includes following department:
 - i. Buildings
 - ii. Water Supply Projects
 - iii. Hydraulic Engineering
 - iv. Sewerage Projects
 - v. Storm Water Drainage
 - vi. Roads
 - vii. Bridges
 - viii. Traffic and Signals
 - ix. Mechanical and Electrical
 - x. Garden Works
3. Volume-I contains USR, basic rate list and approved makes and Volume-II contains specification along with drawings wherever necessary and mandatory tests.
4. The specification of the items shall be as per latest Indian Standard Codes unless otherwise specified.
5. The rates of the items in this schedule of rates are worked out assuming average lead for Greater Mumbai area for all sorts of materials.
6. The rates are inclusive of transportation, duties, taxes and charges of all Government, Municipal or any other statutory body, applicable from time to time but exclusive of Works Contract Tax and Labour Cess levied by Government of Maharashtra.
7. The rates also include overheads @ 5% and Contractor's Profit @10% which is inclusive of labour supervision charges, tools and plants.
8. Rates of common material and labour is attached in the Annexure-A in Volume-I.



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9. The building Schedule of Rates 2018 includes the existing items of FMA, FMB 2009, USOR 2013, Retrofitting works item with deletion of obsolete items, merger of similar items Fair items for HIC and value addition of new items in line with modern technology and trends in accordance with latest rules, regulation, byelaws etc.
10. As per the Government policy the use fly ash is done for framing the items of work in accordance with the latest provisions of IS Codes. Also green building items have been introduced in new schedule to minimize the consumption of energy during construction and occupancy of building and also maintaining ecological balance.
11. From safety, health and environment point of view two legged steel tubular scaffolding shall be used, without making any holes in the outer face of the building or any structure. And no extra payment shall be made for works like scaffolding, centering for any height unless otherwise specified.
12. All materials shall be as per approved list of MCGM or equivalent material having quality standards as per relevant IS codes and shall be of first quality unless otherwise specified.
13. Following basic rates are considered in the USR:
 - i. Cement : Rs. 6,000/ MT
 - ii. Mild Steel : Rs. 47,400/ MT
 - iii. HYSD Steel (Fe415) : Rs. 48,400/ MT
 - iv. T.M.T. (Fe500) : Rs. 49,400/ MT
 - v. Structural Steel : Rs. 53,400/ MT
14. **Rates given in SOR are for estimation purpose. The rates should be finalized with the items uploaded on SAP System.**
15. Rates of items and specification for excavation, concrete, plaster and brickwork shall be referred from common schedule unless and otherwise not mentioned in concerned department's schedule.

For Earthwork:
16. Lead will be admissible only within MCGM limits. The distance between centerlines shall be taken as the lead which shall be measured by the shortest route on the plan and not the actual route taken by the Contractor. Here



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Centerlines represents the center point (for area/mass excavation) and the centerchainage for linear excavation.

- 17.** The Engineer In Charge shall exclusively include these directions in the Tender/Bid document and the Tenders/Bidders shall be insisted to make the declaration of the dumping plot at the time of submission of Bid.
- 18.** The Engineer In Charge shall take the quantity in account for the disposal only upto Municipal Limits for the Shortest Route and payment will be made as per the actual distance within municipal limit. The payment will be restricted to the shortest distance upto the Municipal limit for the plot identified outside the Municipal limit.

For Lift:

- 19.** For the depth beyond 1.5 meter, the excavated quantity shall be worked out with the base rate plus the rate of respective slab of the lift. This is elaborated as below:

If total depth of excavation is 6 meter, wherein for first 4.5 meter soft soil is there and beyond it hard rock is available, then estimate shall be worked out as follows:

Assumed dimension 1 meter x 1 meter x 6 meter

Upto 4.5 meter depth, amount shall be calculated as:

(1x1x4.5) Cu.M x Rs. 220 (Item no. CS-EW-1) +

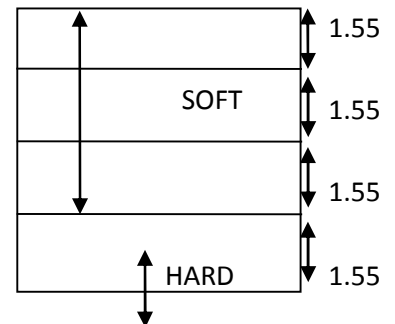
(1x1x1.5) Cu.M x Rs. 48 (Item no. CS-EW-2-a) +

(1x1x1.5) Cu.M x Rs. 71 (Item no. CS-EW-2-b)

For next hard strata excavation (4.5 – 6.0 meter), amount shall be calculated as:

(1x1x1.5) Cu.M x Rs. 873 (Item no. CS-EW-4) +

(1x1x1.5) Cu.M x Rs. 220 (Item no CS-EW-7-c)



- 20.** Coding of items:

- The Coding procedure for Basic master material is as follows:
 - Code will start with the common prefix of “MA” which stands for materials



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- Followed by Abbreviation code for each schedule of rate for eg H.E. for Building works, SP for Sewerage, WSP for water supply and so on and so forth.
 - The first item category in the list will be numbered as “1”
 - The last part of the code will be a number starting with “a” to indicate the item number in the master list.
 - The alpha numerics will be separated by (dash).
 - The code will look like: MA-GN-01
- The Coding procedure for SOR is as follows:
- Code will start from abbreviation for Department name “SWD” or “HE” or “WSP” or “SP”
 - The USR will be subdivided into chapters according to the item classification; these chapters will be numbered as 1, 2, 3
 - The items under the chapter will be numbered from 1
 - The sub items will be numbered as a, b, c
 - The code will look like R2-SWD-1
- Abbreviations to be used for Department

Sr. No.	Department	Abbreviation
1	Building works/Common Schedule	CS
2	Roads	RW
3	Traffic and Signaling	RT
4	Bridges	BW
5	Water Supply Projects	WSP
6	Hydraulic Engg.	HE
7	Sewerage Projects	SE
8	Storm Water Drains	SWD
9	Mechanical and electrical	ME
10	Garden Works	GW



B. SALIENT FEATURES OF SOR FOR BUILDING WORKS

- 1) All the rates are for all heights and levels unless noted otherwise.
- 2) Chloropyrifos EC 20 has been considered for anti termite treatment.
- 3) Artificial sand (crushed sand) has been considered for flooring bedding and for concrete work.
- 4) All the items are excluding fixtures otherwise not specified in respective item. In such case, items of Hardware section shall be used for fixtures.
- 5) For plastering and mortar work, river sand has been considered.
- 6) For plastering work all the rates are for all heights and levels and architectural decorative surface.
- 7) All external plaster items are including waterproofing compound except plastering item for structures like compound wall, masonry pedestals, pillars, etc.
- 8) Items for ashlar masonry, dewatering, self compacting concrete, vacuum dewatered concrete flooring and TMT steel bars have been introduced.
- 9) Rates of all the items in roofing work are inclusive of staging or scaffolding for any height.
- 10) Non-asbestos cement sheet provided in place of asbestos cement sheet roofing.
- 11) Concreting of pile shall be done with RMC only.
- 12) Rates of piling are inclusive of Chiseling of intermediate local boulders. No separate payment shall be made for the same
- 13) While estimating the quantity for Grouting of bentonite slurry in bored precast piles shall be measured as per bore dia. and pile dia. Exact quantity can be measured while execution and shall be paid accordingly
- 14) Rates considered in concrete items are including pumping of concrete upto placing point.
- 15) New items like Self compacting concrete, vacuum dewatered concrete flooring and TMT steel bars have been introduced.
- 16) The dismantling and demolishing chapter covers only removing old items and repair work covers both removing old items and re-fixing the new.
- 17) For heritage works the rate includes the statutory charges for heritage committee and conservation architect and no extra payment will be made.
- 18) APP (Atactic poly-propylene) modified polymeric membrane water proofing will be used only for trial basis on approval of City Engineer and/or Chief Engineer (P&D).
- 19) In plumbing waterless urinals, fly ash bricks, fly ash concrete for green building concept have been introduced.



Star Rating:

In view of ambiguity related to choice of quality or grade of materials and subsequent items of works to be used at Ward level projects, Centralized projects or Special projects of and for smooth functioning during planning stage of a project, the new concept of Star Rating has been introduced for building works depending on the life expectancy of building, degree of occupancy of building and comfort to the end user. The buildings or structures rated are as follows:

- i. Two Star ** - Ward offices and Central dept. Offices, schools, Small Hospitals, Primary Health Center, Fire Station, Crematorium, Slaughter Houses, Markets, Swimming Pools, Zoos, Chowkies, Libraries, Staff quarters and residential colonies, Public Toilets and Water tanks.
- ii. Three Star *** - Super specialty Hospitals, Drama Theatres, MCGM Mayor's and Officer's bungalow, Heritage Structures, Head Office and Engineer's Hub.

The items or work not marked as two star or three star are assumed to be applicable for all the star buildings or structures mentioned above.

For 3 star rating items specific approval of Dir.(ES&P) shall be taken

Annexure – I:

The items under Annexure -1 contains some specialised unique brand items. **Prior approval of AMC (WS) is needed for using these items.**



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
CHAPTER-I	<u>Desilting works</u>			
R2-SWD-1	Desilting underground storm water drains of any size and shape for all depths by any means without human entry inside the closed drains, manholes etc including pumping out liquid waste or sewage / plugging or diverting the flow in the drain if necessary, sprinkling approved disinfectant on the removed silt to avoid bad smell as directed within a radius of 300m, Stacking the same for transportation purpose including taking precautionary & safety measures such as test for gases, use of safety belts, dry cell torches for lighting inside the manholes and drains etc. complete as directed by Engineer in Charge. (for payment purpose 30% will be deducted for voids in silt and 40% for stones and boulders.)	CUM	569	
R2-SWD-2	Systematically cleaning of 230 mm to 600 mm dia storm water drain by mechanical means as directed and specified including sprinkling, approved disinfectant on the silt removed to avoid bad smell as directed within a radius of 300 m, stacking the same properly for transportation purpose and including taking precautionary and safety measures such as test for gases, use of safety belts, dry cell torches for lighting inside the manholes and drains etc. complete as directed by Engineer in Charge. The work should be followed as specified and directed during day and night	MTR	49	
R2-SWD-3	Systematically cleaning of 700 mm to 1200 mm dia storm water drain by mechanical means as directed and specified including sprinkling, approved disinfectant on the silt removed to avoid bad smell as directed within a radius of 300 m, stacking the same properly for transportation purpose and including taking precautionary and safety measures such as test for gases, use of safety belts, dry cell torches for lighting inside the manholes and drains etc. complete as directed by Engineer in Charge. The work should be followed as specified and directed during day and night.	MTR	123	
R2-SWD-4	Desilting the nalla upto 3.0 m depth by mechanical means as directed and specified and spreading around/stacking the desilted material for transportation purpose within a distance of 30 m including spreading of disinfectant, etc. complete as directed by Engineer in Charge.	CUM	198	
R2-SWD-5	Desilting the nalla upto 3.0 m depth by mechanical means as directed and specified and spreading around/stacking the desilted material for transportation purpose for lead more than 30m and upto 1 km including spreading of disinfectant, etc. complete as directed by Engineer in Charge.	CUM	235	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-6	Desilting the nalla for a depth above 3.0 m and width upto 15 m by mechanical means including spreading around / stacking the desilted material for transportation purpose upto a lead of 30 m including spreading of disinfectant, etc. complete as directed by Engineer in Charge.	CUM	295	
R2-SWD-7	Extra over item no SWD-6 for lead more than 30 m and up to 1 km etc.complete as directed by Engineer in Charge.	CUM	39	
R2-SWD-8	Desilting the nalla upto 8 m depth and width upto 20 m by means of crane including spreading/ stacking the desilted material for transportation purpose upto a lead of 30 m including spreading of disinfectant, etc. complete as directed by Engineer in Charge.	CUM	255	
R2-SWD-9	Desilting the nalla having depth upto 8 m and width more than 20 m by means of crane having boom more than 20 m and spreading/stacking the desilted material within distance of 30 m as required as specified and/or as directed by Engineer in Charge. including spreading of disinfectant .	CUM	286	
R2-SWD-10	Supply of labourers during monsoon for removing floating material, cleaning screens and maintaining free flow with tools and implements without human entry inside the closed drains, manholes for a shift of 8 hours per day.	EA	598	
R2-SWD-11	Removing from site the excavated material of any kind from the work site by any means as and when directed to any prescribed site at a distance between 0.3 km. To 3 km. from work site and using the same for refilling the trenches and bringing back the same by any means as specified and/or as directed by Engineer in Charge.(30% will be deducted. for voids from lorry or depot measurements).	CUM	830	
R2-SWD-12	Extra over item no SWD-11 for every additional 3 km lead or part thereof as directed.	CUM	150	
CHAPTER-II	Concrete works			
R2-SWD-13	DELETED			
R2-SWD-14	DELETED			
R2-SWD-15	DELETED			
R2-SWD-15-A	Providing and laying RMC (Ready Mixed Concrete) M-15 grade Plain cement concrete in foundation including boxing,curing by any means, etc. complete as specified and/or as directed by Engineer in Charge.	CUM	6764	
R2-SWD-16	DELETED			



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-16-A	Providing and laying RMC (Ready Mixed Concrete) M-15 grade Plain cement concrete in full encasement, cradle sides, haunches and/or block coping including boxing, curing by any means, etc. complete as specified and/or as directed by Engineer in Charge.	CUM	8026	
R2-SWD-17	DELETED			
R2-SWD-17-A	Providing and laying RMC (Ready Mixed Concrete) M-25 grade RCC (Reinforced Cement Concrete) work in dhapas, beams and slabs, etc. with reinforcement between 0.8% to 1%, including curing by any means, providing, placing, removing, launching, cleaning, stripping the form work, finished with cement sand plaster 12 mm thick in 1:2 proportion, etc. complete as directed by Engineer in Charge.	CUM	16195	
R2-SWD-18	DELETED			
R2-SWD-18-A	Providing and laying RMC (Ready Mixed Concrete) M-20 grade RCC (Reinforced Cement Concrete) work in dhapas, beams and slabs, etc. without reinforcement including curing by any means, providing, placing, removing, launching, cleaning, stripping the form work, finished with cement sand plaster 12 mm thick in 1:2 proportion, etc. complete as directed by Engineer in Charge.	CUM	11159	
R2-SWD-19	DELETED			
R2-SWD-20	DELETED			
R2-SWD-21	DELETED			
R2-SWD-22	DELETED			
R2-SWD-22-A	Providing and laying M-20 grade RCC (Reinforced Cement Concrete) in RCC walls 150 mm thick including curing by any means, providing, placing, removing, cleaning, stripping the form work, so as to give form finish, with minimum reinforcement of mild steel round bars 10 mm dia at 150 mm c/c vertically and horizontally or as per detailed drawing design, etc. complete and as directed by Engineer in Charge. (Only reinforcement will be paid separately).	SQM	1578	
R2-SWD-23	DELETED			



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-24	Providing and placing in position controlled cement Ready Mix Concrete of M-20 grade in raft slab by using ordinary Portland cement including curing by any means, as specified & as directed by Engineer in Charge. (Reinforcement and form work will be paid separately).	CUM	6713	
R2-SWD-25	Providing and placing in position controlled cement Ready Mix Concrete of M-25 grade in raft slab by using ordinary Portland cement including curing by any means, as specified & as directed by Engineer in Charge. (Reinforcement and form work will be paid separately).	CUM	6979	
R2-SWD-26	Providing and placing in position controlled Ready Mix Concrete of M-30 grade in raft slab by using ordinary Portland cement including curing by any means, as specified & as directed by Engineer in Charge. (Reinforcement and form work will be paid separately).	CUM	7245	
R2-SWD-27	Providing and placing in position controlled Ready Mix Concrete of M-35 grade in raft slab by using ordinary Portland cement including curing by any means, as specified & as directed by Engineer in Charge. (Reinforcement and form work will be paid separately).	CUM	7511	
R2-SWD-28	DELETED			
R2-SWD-29	Providing and placing in position controlled Ready Mix Concrete of M-20 grade in walls, deck slab above or below ground level at any height/depth by using ordinary Portland cement including curing by any means, as specified & as directed by Engineer in Charge. (Reinforcement and form work will be paid separately).	CUM	8469	
R2-SWD-30	Providing and placing in position controlled Ready Mix Concrete of M-25 grade in walls, deck slab above or below ground level at any height/depth by using ordinary Portland cement including curing by any means, as specified & as directed by Engineer in Charge. (Reinforcement and form work will be paid separately).	CUM	8735	
R2-SWD-31	Providing and placing in position controlled Ready Mix Concrete of M-30 grade in walls, deck slab above or below ground level at any height/depth by using ordinary Portland cement including curing by any means, as specified & as directed by Engineer in Charge. (Reinforcement and form work will be paid separately).	CUM	9001	
R2-SWD-32	Providing and placing in position controlled Ready Mix Concrete of M-35 grade in walls, deck slab above or below ground level at any height/depth by using ordinary Portland cement including curing by any means, as specified & as directed by Engineer in Charge. (Reinforcement and form work will be paid separately).	CUM	9267	
R2-SWD-33	Rebate over item Nos. SWD-13 to SWD- 32 for using Sulphate Resistant Cement.	BAG	-44	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-34	Cutting down stone, concrete, brick masonry work by any means in lime or cement mortar including removal of plaster, pointing in compound walls, arches, piers/wing walls, abutments, etc. complete, as specified & as directed by Engineer in Charge.	CUM	484	
R2-SWD-35	Cutting down existing cement / lime concrete works by any means in pavement, bedding below foundation, coping, walls arches, stone, brick pavement coping etc. of any thickness of any height / depth above or below ground level etc.complete, as specified & as directed by Engineer in Charge.	CUM	1314	
R2-SWD-36	Cutting down completely RCC slab, walls, beams , columns, arches, piles, pile caps of any thickness and or size of any height / depth by any means below or above ground level including cutting down steel reinforcement, removing and stacking them properly as directed etc.complete, as specified & as directed by Engineer in Charge.	CUM	1588	
CHAPTER-III	<u>Masonry and Plastering works</u>			
R2-SWD-38	Providing Brick masonry in cement mortar 1:5 as specified & as directed by Engineer in Charge.	CUM	11670	
R2-SWD-39	Providing Brick masonry in cement mortar 1:4 as specified as directed by Engineer in Charge.	CUM	11723	
R2-SWD-40	Providing Brick masonry in cement mortar 1:3 as specified as directed by Engineer in Charge.	CUM	11859	
R2-SWD-41	Providing Brick masonry in cement mortar 1:2 as specified & as directed by Engineer in Charge.	CUM	12121	
R2-SWD-42	Providing Brick masonry in cement mortar 1:1 as specified & as directed by Engineer in Charge.	CUM	12540	
R2-SWD-43	DELETED			
R2-SWD-44	Providing and laying Brick masonry in cement mortar 1:3 for manholes with 12 mm thick plaster (in cement mortar 1:1) both inside and outside face as specified & as directed by Engineer in Charge.	CUM	14548	
R2-SWD-45	Supplying and providing blue trap stones of approved quality and laying hand set dry rubble packing 25 cm. thick to required level and grade, camber including filling in the interstices with 60 mm. metal and small stone chips, etc. and thoroughly rammed, consolidated, etc.as specified & as directed by Engineer in Charge.	CUM	846	
R2-SWD-46	DELETED			
R2-SWD-46-A	Constructing uncoursed rubble masonry in cement mortar 1:5 of first sort (with contractors rubble), as specified & as directed by Engineer in Charge.	CUM	6678	
R2-SWD-47	Constructing uncoursed rubble masonry in cement mortar 1:4 of first sort (with contractors rubble), as specified & as directed by Engineer in Charge.	CUM	6695	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-48	Constructing uncoursed rubble masonry in cement mortar 1:3 of first sort (with contractors rubble), as specified & as directed by Engineer in Charge.	CUM	6740	
R2-SWD-49	DELETED			
R2-SWD-50	Constructing uncoursed rubble masonry in cement mortar 1:5 of first sort using Municipal rubble, as specified & as directed by Engineer in Charge.	CUM	5805	
R2-SWD-51	Providing and Laying 230mm thick Rubble Stone for Pitching on sloping ground or wherever directed, properly arranging and placing the rubble stones to achieve a plane top surface, set in regular line & slope, including breaking, laying gravel, quarry spells underneath and manually packing the voids with rubble chips, flush pointing with cement mortar 1:4 up to 25mm deep, etc. complete as specified & as directed. (Note: The rate includes the royalty and other taxes if any)	SQM	535	
R2-SWD-52	Providing and Laying 230mm thick Rubble Stone for Pitching on sloping ground or wherever directed, with stone brought from borrowed area, properly arranging and placing the rubble stones to achieve a plane top surface, set in regular line & slope, including breaking, laying gravel, quarry spells underneath and manually packing the voids with rubble chips, tuck pointing with cement mortar 1:2 up to 25mm deep, etc. complete as specified & as directed. (Note: The rate includes the royalty and other taxes if any)	SQM	539	
R2-SWD-53	DELETED			
R2-SWD-54	DELETED			
R2-SWD-55	Providing 12 mm thick colgrout finish to the wall wherever required on masonry facing in cement and sand grout of 1 : 3 by weight, etc. complete as specified & as directed by Engineer in Charge.	SQM	933	
R2-SWD-56	Providing 12 mm thick cement plaster in cement mortar 1:2 including neat cement rendering (without water proofing compound) as specified & as directed by Engineer in Charge.	SQM	217	
R2-SWD-57	Providing 12 mm thick cement plaster in cement mortar 1:2 including neat cement rendering with approved water proofing compound (with a proportion as specified by the manufacturer per bag of cement) as specified & as directed by Engineer in Charge.	SQM	271	
R2-SWD-58	Providing 20 mm thick cement plaster in cement mortar 1:2 including neat cement rendering (without water proofing compound) as specified & as directed by Engineer in Charge.	SQM	376	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-59	Providing 20 mm thick cement plaster in cement mortar 1:2 including neat cement rendering with approved water proofing compound (with proportion as specified by the manufacturer per bag of cement) as specified & as directed by Engineer in Charge.	SQM	389	
R2-SWD-60	Providing 25 mm thick cement plaster in cement mortar 1:2 including neat cement rendering (without water proofing compound) as specified & as directed by Engineer in Charge. .	SQM	504	
R2-SWD-61	Providing 25 mm thick cement plaster in cement mortar 1:2 including neat cement rendering with approved water proofing compound (with a proportion as specified by the manufacturer per bag of cement as specified & as directed by Engineer in Charge.	SQM	520	
R2-SWD-62	Providing 12 mm thick cement plaster in cement mortar 1:1 including neat cement rendering (without water proofing compound) as specified & as directed by Engineer in Charge. .	SQM	296	
R2-SWD-63	Providing 12 mm thick cement plaster in cement mortar 1:1 including neat cement rendering with approved water proofing compound (with proportion as specified by the manufacturer per bag of cement) as specified & as directed by Engineer in Charge.	SQM	309	
R2-SWD-64	Providing 20 mm thick cement plaster in cement mortar 1:1 including neat cement rendering (without water proofing compound) as specified & as directed by Engineer in Charge. .	SQM	436	
R2-SWD-65	Providing 20 mm thick cement plaster in cement mortar 1:1 including neat cement rendering with approved water proofing compound (with a proportion as specified by the manufacturer per bag of cement) as specified & as directed by Engineer in Charge.	SQM	418	
R2-SWD-66	Providing 25 mm thick cement plaster in cement mortar 1:1 including neat cement rendering (without water proofing compound) as specified & as directed by Engineer in Charge. .	SQM	595	
R2-SWD-67	Providing 25 mm thick cement plaster in cement mortar 1:1 including neat cement rendering with approved water proofing compound (with a proportion as specified by the manufacturer per bag of cement) as specified & as directed by Engineer in Charge.	SQM	621	
R2-SWD-68	Extra for using approved water proofing compound in plaster work in the proportion as per manufacturers specifications,etc. complete as specified & as directed by Engineer in Charge.	KG	44	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-69	Providing flush cement pointing in cement mortar 1:1 to stone masonry face including raking out mortar upto 20 mm depth etc. complete, as specified & as directed by Engineer in Charge.	SQM	296	
R2-SWD-70	Providing tuck cement pointing in cement mortar 1:1 to stone masonry face including raking out mortar upto 20 mm depth, etc. complete, as specified & as directed by Engineer in Charge.	SQM	378	
R2-SWD-71	Providing flush cement pointing in cement mortar 1:1 to blue stone pavement face including raking out mortar upto 20 mm depth etc. complete, as specified & as directed by Engineer in Charge.	SQM	296	
CHAPTER-IV	<u>Pipe works</u>			
R2-SWD-72	Providing and laying 150mm dia NP2 Class R.C.C. Hume pipes with Collar joints conforming to IS 458:2003 and laid on approved bedding as per IS 783:1985 (reaff. 2010) including jointing the pipes and filleting with hemp and stiff mix of cement mortar 1:2, including testing of pipes at contractors costs (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer in Charge. (excluding necessary earthwork & bedding).	MTR	612	
R2-SWD-73	Providing and laying 250mm dia NP2 Class R.C.C. Hume pipes with Collar joints conforming to IS 458:2003 and laid on approved bedding as per IS 783:1985 (reaff. 2010) including jointing the pipes and filleting with hemp and stiff mix of cement mortar 1:2, including testing of pipes at contractors costs (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer in Charge. (excluding necessary earthwork & bedding).	MTR	1008	
R2-SWD-74	Providing and laying 300mm dia NP2 Class R.C.C. hume pipes with Collar joints conforming to IS 458:2003 and laid on approved bedding as per IS 783:1985 (reaff. 2010) including jointing the pipes and filleting with hemp and stiff mix of cement mortar 1:2, including testing of pipes at contractors costs (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer in Charge. (excluding necessary earthwork & bedding).	MTR	1180	
R2-SWD-75	DELETED			



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-76	Providing and laying 450mm dia NP2 Class R.C.C. Hume pipes with Collar joints conforming to IS 458:2003 and laid on approved bedding as per IS 783:1985 (reaff. 2010) including jointing the pipes and filleting with hemp and stiff mix of cement mortar 1:2, including testing of pipes at contractors costs (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer in Charge. (excluding necessary earthwork & bedding).	MTR	2041	
R2-SWD-76-A	Providing and laying 450mm dia NP3 Class R.C.C. Hume (spigot & socket ended) pipes with rubber ring roll on joints conforming to IS 458:2003 and laid on approved bedding as per IS 783:1985 (reaff. 2010) including jointing the pipes and filleting with stiff mix of cement mortar 1:2, including testing of pipes (in presence of municipal staff) as per IS 3597 etc. complete as specified & as directed by Engineer in Charge. (excluding necessary earthwork & bedding)	MTR	2985	
R2-SWD-77	DELETED			
R2-SWD-77-A	Description same as item no. SWD-76-A, for Pipe Dia 500 mm (NP3 class)	MTR	3427	
R2-SWD-78	DELETED			
R2-SWD-78-A	Description same as item no. SWD-76-A, for Pipe Dia 600 mm (NP3 class)	MTR	4132	
R2-SWD-79	DELETED			
R2-SWD-79-A	Description same as item no. SWD-76-A, for Pipe Dia 700 mm (NP3 class)	MTR	5052	
R2-SWD-80	DELETED			
R2-SWD-80-A	Description same as item no. SWD-76-A, for Pipe Dia 800 mm (NP3 class)	MTR	6410	
R2-SWD-81	DELETED			
R2-SWD-81-A	Description same as item no. SWD-76-A, for Pipe Dia 900 mm (NP3 class)	MTR	7366	
R2-SWD-82	DELETED			
R2-SWD-82-A	Description same as item no. SWD-76-A, for Pipe Dia 1000 mm (NP3 class)	MTR	8974	
R2-SWD-83	DELETED			
R2-SWD-83-A	Description same as item no. SWD-76-A, for Pipe Dia 1200 mm (NP3 class)	MTR	11134	
R2-SWD-84	DELETED			
R2-SWD-84-A	Description same as item no. SWD-76-A, for Pipe Dia 1400 mm (NP3 class)	MTR	11825	
R2-SWD-85	DELETED			
R2-SWD-85-A	Description same as item no. SWD-76-A, for Pipe Dia 1600 mm (NP3 class)	MTR	14138	
R2-SWD-86	DELETED			



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-86-A	Description same as item no. SWD-76-A, for Pipe Dia 1800 mm (NP3 class)	MTR	18436	
R2-SWD-86-B	Description same as item no. SWD-76-A, for Pipe Dia 2000 mm (NP3 class)	MTR	28238	
R2-SWD-86-C	Description same as item no. SWD-76-A, for Pipe Dia 2200 mm (NP3 class)	MTR	36150	
CHAPTER-V	<u>Stormwater Manholes and chambers</u>			
R2-SWD-87	Providing and constructing stormwater drain brick masonry conical manhole as per standard drawings (Dwg No. MCGM/SWD/2013-01), with 1.20 m internal dia at bottom , 0.56m internal dia at top as per IS 4111: Part 1:1986 Cl.4.9 for a depth 1.50 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both internal and external faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 300 mm thick M-15 grade cement concrete in foundation and in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vata all round the external portion of the manhole and the foundation concrete in cement mortar 1:1 ,and supporting the incoming and outgoing pipes with brick masonry wherever necessary, including 300 mm high cap in M-30 grade concrete finishing with cement plaster on both sides in CM 1:1, with necessary centering , shuttering etc. all complete as per Standard Specification no SP-SWD-2 and as per drawing (Dwg No. MCGM/SWD/2013-01), and/or as specified & as directed by Engineer-in-Charge, excluding cost of excavation, providing & fixing frame and covers.	EA	29730	
R2-SWD-88	Extra over item no R2-SWD-87 per meter depth above 1.50m and upto 2.30m, etc complete as specified and as directed by Engineer in Charge.	MTR	20043	



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R2-SWD-89	Providing and constructing stormwater drain brick masonry conical manhole as per standard drawings (Dwg No. MCGM/SWD/2013-02), with 1.50 m internal dia at bottom , 0.56 m internal dia at top as per IS 4111: Part 1:1986 Cl.4.9 for a depth 2.30 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both external and internal faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 300 mm thick M-15 grade cement concrete in foundation and in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vata all round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming and outgoing pipes with brick masonry wherever necessary,including 300 mm high cap in M-30 grade concrete finishing with cement plaster on both sides in CM 1:1, with necessary centering , shuttering etc. all complete as per Standard Specification no SP-SWD-2 and/or as specified & as directed by Engineer-in-Charge, excluding cost of excavation, providing & fixing frame and covers.	EA	48262	
R2-SWD-90	Extra over item no R2-SWD-89 per meter depth above 2.30m and upto 5.0m including safety chain and extra Co-polymer polypropylene steel reinforced steps on either side of benching, etc complete as specified & as directed by Engineer in Charge.	MTR	37398	
R2-SWD-91	Extra over item no R2-SWD-89 per meter depth above 5.0m and upto 9.0m including additional safety chain per meter depth,etc complete as specified & as directed by Engineer in Charge.	MTR	43460	



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R2-SWD-92	Providing and constructing stormwater drain brick masonry conical manhole as per standard drawings (Dwg No. MCGM/SWD/2013-02), with 1.80 m internal dia at bottom , 0.56 m internal dia at top as per IS 4111: Part 1:1986 Cl.4.9 for a depth 2.90 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both internal and external faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 300 mm thick M-15 grade cement concrete in foundation and in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vata all round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming and outgoing pipes with brick masonry wherever necessary, including 300 mm high cap in M-30 grade concrete finishing with cement plaster on both sides in CM 1:1, with necessary centering , shuttering etc. all complete as per Standard Specification no SP-SWD-2 and/or as specified & as as directed by Engineer-in-Charge, excluding cost of excavation, providing & fixing frame and covers.	EA	90911	
R2-SWD-93	Extra over item no R2-SWD-92 per meter depth above 2.90m and upto 5.0m including safety chain and extra Co-polymer polypropylene steel reinforced steps on either side of benching, etc complete as specified & as directed by Engineer in Charge.	MTR	40410	
R2-SWD-94	Extra over item no R2-SWD-92 per meter depth above 5.0m and upto 9.0m including safety chain per metre depth , etc complete as specified & as directed by Engineer in Charge.	MTR	53014	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-95	<p>Providing and constructing stormwater drain brick masonry trapezoidal manhole , with internal sizes 1.50 m x 0.90m at bottom and 0.90m x 0.45m at top for a depth 1.20 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both internal and external faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 300 mm thick M-15 grade cement concrete in foundation and in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vata all round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming and outgoing pipes with brick masonry wherever necessary, including 300 mm high cap in M-30 grade concrete finishing with cement plaster on both sides in CM 1:1, with necessary centering , shuttering etc. all complete as per Standard Specification no SP-SWD-2 and/or as specified & as directed by Engineer-in-Charge, excluding cost of excavation, providing & fixing frame and covers.</p>	EA	30172	
R2-SWD-96	<p>Extra over item no R2-SWD-95 per meter depth above 1.20m and upto 2.30m, etc complete as specified and as directed by Engineer in Charge.</p>	MTR	22063	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-97	Providing and constructing stormwater drain brick masonry trapezoidal manhole , with internal sizes 1.50 m x 1.20m at bottom and 0.90m x 0.60m at top for a depth 1.20 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both internal and external faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 300 mm thick M-15 grade cement concrete in foundation and in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vataall round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming and outgoing pipes with brick masonry wherever necessary, including including 300 mm high cap in M-30 grade concrete finishing with cement plaster on both sides in CM 1:1, with necessary centering , shuttering etc. all complete as per Standard Specification no SP-SWD-2 , and/or as specified & as directed by Engineer-in-Charge, excluding cost of excavation, providing & fixing frame and covers.	EA	34561	
R2-SWD-98	Extra over item no R2-SWD-97 per meter depth above 1.20m and upto 2.30m, etc complete as specified and as directed by Engineer in Charge.	MTR	24259	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-99	Providing and constructing stormwater drain brick masonry scraper manhole , with internal sizes 1.50 m x 1.50m at bottom and 1.20m x 0.90m at top for a depth 2.90 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both internal and external faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 0.30 m thick M-15 grade cement concrete in foundation as per IS 4111: Part 1:1986 Cl.4.2 and M-15 grade in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vata all round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming pipes with brick masonry wherever necessary, including 0.30m high cap in M-30 grade concrete finished with necessary centering , shuttering etc. all complete as per Standard Specification no SP-SWD-2 , and/or as specified & as directed by Engineer-in-Charge, excluding cost of excavation, providing & fixing frame and covers.	EA	113244	
R2-SWD-100	Extra over item no R2-SWD-99 per meter depth above 2.9 m and upto 5.0 m, etc complete as specified and as directed by Engineer in Charge.	MTR	39816	
R2-SWD-101	Extra over item no R2-SWD-99 per meter depth above 5.0 m and upto 9.0 m, etc complete as specified and as directed by Engineer in Charge.	MTR	55092	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-102	Providing and constructing stormwater drain brick masonry scraper manhole as per standard drawings, with internal sizes 1.80m x 1.80m at bottom and 1.20m x 0.90m at top for a depth 2.90 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both internal and external faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 0.300 m thick M-15 grade cement concrete in foundation as per IS 4111: part 1:1986 Cl.4.2 and M-15 grade in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vataall round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming pipes with brick masonry wherever necessary, including 0.30 m high cap in M-30 grade concrete finished with necessary centering , shuttering etc. all complete as per Standard Specification no SP-SWD-2, and/or etc complete as specified & as directed by Engineer in Charge., excluding cost of excavation, providing & fixing frame and covers.	EA	130798	
R2-SWD-103	Extra over item no R2-SWD-102 for scraper mahhole 1.80m x 1.80m internal bottom size for depth above 2.90m and upto 5.0m etc complete as per standard drawings and as specified & as directed by Engineer in Charge. (measured in per meter depth)	MTR	45114	
R2-SWD-104	Extra over item no R2-SWD-102 for scraper mahhole 1.80m x 1.80m internal bottom size for depth above 5.0m and upto 9.0m etc complete as per standard drawings and as specified & as directed by Engineer in Charge. (measured in per meter depth)	MTR	63021	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-105	<p>Providing and constructing stormwater drain brick masonry trapezoidal manhole as per standard drawings (Dwg No. MCGM/SWD/2013-04), with internal sizes 2.40 m x 1.50m at bottom and 0.90m x 0.60m at top for a depth 4.60 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both internal and external faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 300 mm thick M-15 grade cement concrete in foundation and in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vataall round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming and outgoing pipes with brick masonry wherever necessary, including 300 mm high cap in M-30 grade concrete finishing with cement plaster on both sides in CM 1:1, with necessary centering , shuttering , including safety chain and extra Co-polymer polypropylene steel reinforced steps on either side of benching etc. all complete as per Standard Specification no SP-SWD-2 and/or as specified & as directed by Engineer in Charge., excluding cost of excavation, providing & fixing frame and covers.</p>	EA	179755	
R2-SWD-106	<p>Extra over item no R2-SWD-105 per meter depth above 4.60m and upto 9.0m , etc complete as specified & as directed by Engineer in Charge.</p>	MTR	67187	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-107	Constructing brick masonry scraper type manhole on storm water drain 2.40 M x 1.50 M at bottom 1.20 M x 0.90 M at top upto a depth 4.6M, and built in brick masonry in C.M. 1:2 plastered both inside and outside with 20 mm thick cement plaster in C.M. 1:1 and neat cement rendering so as to give a smooth surface 300 mm thick M 15 cement concrete foundation and in haunches and finished smooth with 20 mm cement plaster in C.M. 1:1 and providing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c including 75 mm wide vataall round the external portion of the manhole and foundation concrete in cement mortar 1:1 and supporting the incoming pipes with brick masonry wherever necessary including 300 mm high cap in M-30 grade concrete finishing with cement plaster on both sides in CM 1:1, etc complete as per standard drawings (Dwg No. MCGM/SWD/2013-04), and /or as specified & as as directed by Engineer-in-Charge, excluding cost of excavation, providing & fixing frame and covers.	EA	186371	
R2-SWD-108	Extra over item no R2-SWD-107 per meter depth above 4.60m and upto 9.0m , etc complete as specified & as directed by Engineer in Charge.	MTR	66347	
R2-SWD-109	Constructing brick masonry scraper type manhole on storm water drain 2.40 M x 2.40 M at bottom and 1.20 M x 0.90 M at top for a depth 4.6m, built in brick masonry in C.M. 1:2 plastered both inside and outside with 20 mm thick cement plaster in C.M. 1:1 and neat cement rendering so as to give a smooth surface 300 mm thick M 15 cement concrete foundation and in haunches and finished smooth with 20 mm cement plaster in C.M. 1:1 and providing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c including 75 mm wide vataall round the external portion of the manhole and foundation concrete in cement mortar 1:1 and supporting the incoming pipes with brick masonry wherever necessary including 300 mm high cap in M-30 grade concrete finishing with cement plaster on both sides in CM 1:1, and / or as specified & as as directed by Engineer-in-Charge, excluding cost of excavation, providing & fixing frame and covers.	EA	224014	
R2-SWD-110	Extra over item no R2-SWD-109 per meter depth above 4.60m and upto 9.0m , etc complete as specified & as directed by Engineer in Charge.	MTR	78881	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-111	Providing and constructing stormwater drain brick masonry rectangular manhole with internal sizes 2.40 m x 1.80m for a depth 2.40 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both internal and external faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 300 mm thick M-15 grade cement concrete in foundation and in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vataall round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming and outgoing pipes with brick masonry wherever necessary, including RCC slab in cement concrete M-30 grade, 300mm high RCC cap in M-30 grade cement concrete including reinforcements finished with cement plaster in cement mortar 1:1 both inside and outside including necessary centering , shuttering etc. all complete as per Standard Specification no SP-SWD-3, and/or as specified & as directed by Engineer-in-Charge, excluding cost of excavation, providing & fixing frame and covers.	EA	151263	
R2-SWD-112	Extra over item no R2-SWD-111 per meter depth above 2.40m including additional safety chain per meter depth ,etc complete as specified & as directed by Engineer in Charge. (Rebate at the same rate will be taken if the depth of manhole is less than 2.40 m)	MTR	60454	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-113	Providing and constructing stormwater drain brick masonry rectangular manhole as per standard drawings, with internal sizes 1.50 m x 1.50m for a depth 1.60 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both internal and external faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 300 mm thick M-15 grade cement concrete in foundation and in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vataall round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming and outgoing pipes with brick masonry wherever necessary, including RCC slab in cement concrete M-30 grade, 300mm high RCC cap in M-30 grade cement concrete including reinforcements finished with cement plaster in cement mortar 1:1 both inside and outside including necessary centering, shuttering etc. all complete as per Standard Specification no SP-SWD-2 , and/or as specified & as directed by Engineer in Charge., excluding cost of excavation, providing & fixing frame and covers	EA	69278	
R2-SWD-114	Extra over item no R2-SWD-113 per meter depth above 1.60m , etc complete as specified & as directed by Engineer in Charge. (Rebate at the same rate will be taken if the depth of manhole is less than 1.60 m.)	MTR	35026	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-115	Providing and constructing storm water drain brick masonry rectangular manhole with internal sizes 1.80 m x 1.80m for a depth 2.0 m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both internal and external faces of walls in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 300 mm thick M-15 grade cement concrete in foundation and in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vata all round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming and outgoing pipes with brick masonry wherever necessary, including RCC slab in cement concrete M-30 grade, 300 mm high RCC cap in M-30 grade cement concrete including reinforcements finished with cement plaster in cement mortar 1:1 both inside and outside including necessary centering , shuttering etc. all complete as per Standard Specification no SP-SWD-2 , and/or as specified & as directed by Engineer-in-Charge, excluding cost of excavation, providing & fixing frame and covers.	EA	99918	
R2-SWD-116	Extra over item no R2-SWD-115 per meter depth above 2.0m , etc complete as specified & as directed by Engineer in Charge. (Rebate at the same rate will be taken if the depth of manhole is less than 2.0 m.)	RMT	45114	
R2-SWD-117	Providing and Constructing brick masonry inspection chamber rectangular 0.9M x 0.45M and 0.6M deep on sewer with 230mm brick walls in cement mortar 1:3 plastered both inside & outside with 20 mm thick cement mortar 1:2 and neat cement rendering so as to give a smooth surface including 230mm cement concrete bedding (M 15) and cement concrete (M 15) in haunches and channels finished smooth with 20 mm thick cement mortar(1:1) and fixing C.I. heavy duty airtight rectangular frame & cover of size 0.9M x 0.45M weighing minimum 225Kg. resting on 300 mm high c.c. cap M 20 with (1:1) cement plaster on both the sides & necessary C.I. steps (weighing 5.4 kg each)staggered at 300mm c/c. including 75 mm wide vata all round the external portion of the chamber and the foundation concrete in C.M. 1:1 etc. complete as per plan in and as per drawing (Dwg No. MCGM/SWD/2013-06), etc complete as specified & as directed by Engineer in Charge. (without excavation) .	EA	40697	



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R2-SWD-118	Extra over item no R2-SWD-117 per meter depth above 0.60 m and upto 2.5m , etc all complete as specified & as directed by Engineer in Charge.	RMT	13530.9	
R2-SWD-119	Providing and Constructing brick masonry inspection chamber rectangular 0.9M x 0.60M and 0.6M deep on sewer with 230mm brick walls in cement mortar 1:3 plastered both inside & outside with 20 mm thick cement mortar 1:2 and neat cement rendering so as to give a smooth surface including 230mm cement concrete bedding (M 15) and cement concrete (M 15) in haunches and channels finished smooth with 20 mm thick cement mortar(1:1) and fixing C.I. heavy duty airtight rectangular frame & cover of size 0.9M x 0.45M weighing minimum 270Kg. resting on 300 mm high c.c. cap M 20 with (1:1) cement plaster on both the sides & necessary C.I. steps (weighing 5.4 kg each)staggered at 300mm c/c. including 75 mm wide vata all round the external portion of the chamber and the foundation concrete in C.M. 1:1 etc. complete as per plan in and as per drawing (Dwg No. MCGM/SWD/2013-03), etc complete as specified & as directed by Engineer in Charge. (without excavation) .	EA	49457.43	
R2-SWD-120	Extra over item no R2-SWD-119 per meter depth above 0.60m and upto 2.5m , etc all complete as specified & as directed by Engineer in Charge.	RMT	15442.39	
R2-SWD-121	DELETED			
R2-SWD-122	DELETED			
R2-SWD-123	DELETED			
R2-SWD-124	DELETED			



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
CHAPTER-VI	<u>Water Entrances</u>			
R2-SWD-125	DELETED			
R2-SWD-126	DELETED			
R2-SWD-126-A	DELETED			
R2-SWD-127	DELETED			
R2-SWD-128	DELETED			
R2-SW`-129	Shifting & reconstructing single water entrance in BM 1:4, 12 mm thick internal plaster in C.M. 1:2, utilising existing frame, gratings, R.C.C. runners, beams, pardis and dhapas (without excavation and refilling) including breaking old masonry, blocking the openings of old connection, including bed concrete in M-15, coping in M-20, fixing the frames & covers in M-20, etc., complete e as specified and as directed by Engineer in Charge.	EA	15818	
R2-SWD-130	Demolishing existing single or double water entrances, including cutting down of old brick masonry and concrete, removing of all serviceable material such as grating, runner beams, pardis etc.and handing over the same to nearest Municipal depot etc.complete as directed by Engineer in Charge.	EA	841	
R2-SWD-131	DELETED			
R2-SWD-132	DELETED			
R2-SWD-133	Constructing row of gratings connected to the water entrance including M-15 C.C. foundation channel, brick masonry 230 mm thick in Cement mortar 1:4, coping in M-20 , fixing Ms gratings with frame, R.C.C. runner beams, including finishing the inside with 12 mm thick plaster 1:2. etc. complete as directed by Engineer-in-Charge excluding excavation and as per the drawing available in Dy.Ch.E.(S.W.D.) Citys office (size of gratings 0.60m x 0.50m)	MTR	22585	
R2-SWD-134	DELETED			
R2-SWD-135	DELETED			
R2-SWD-135-A	Manufacturing and supplying R.C.C. M-20 precast runners for single and double water entrances in length as per standard drawings (Dwg No. MCGM/SWD/2013-16), etc complete as specified and as directed by Engineer in Charge.	MTR	642	
R2-SWD-136	Removing stone dhapas and stacking the same wherever directed.	SQM	63	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-137	Removing and refixing dhapas in C.M. 1:6 including dressing the joints etc. complete as directed by Engineer in Charge.	SQM	193	
R2-SWD-138	Transporting and fixing C.I./ M.S.Jali over water entrance and carry out minor repairs whenever necessary and as directed by Engineer-in-Charge, including transporting C.I./M.S. Jali from open market (payment for jali will be made separately)	NOS	1210	
R2-SWD-139	DELETED			
R2-SWD-140	DELETED			
R2-SWD-141	Constructing double water entrance of internal size 0.60m x 1.20m with cast-in-situ coping in M-20 grade, fixing gratings in M -20 as per standard drawings (Dwg No. MCGM/SWD/2013-13), etc complete as specified and as directed by Engineer in Charge. (excluding excavation, providing and fixing of gratings and frame)	EA	17168	
R2-SWD-142	Constructing single water entrance of internal size 0.50m x 0.60m with cast-in-situ coping in M-20 grade, fixing of grating in M -20 as per standard drawings (Dwg No. MCGM/SWD/2013-14), etc complete as specified and as directed by Engineer in Charge. (excluding excavation, providing and fixing of gratings and frame)	EA	11641	
R2-SWD-143	Constructing single water entrance of internal size 0.45m x 0.45m with cast-in-situ coping in M-20 grade, fixing of grating in M -20 as per standard drawings (Dwg No. MCGM/SWD/2013-11), etc complete as specified and as directed by Engineer in Charge. (excluding excavation, providing and fixing of gratings and frame)	EA	10575	
R2-SWD-144	Supplying and fixing C.I. steps weighing 5.44 kg. each conforming to IS 5455-1969 (reaffirmed 2003) etc., complete as specified and as directed by Engineer in Charge.	EA	716	
CHAPTER-VII	<u>Covers and Gratings</u>			
R2-SWD-145	Supplying and fixing 0.56m internal dia circular C.I. air-tight cover and frame weighing Between weighing minimum 208kg of material grade of min. FG 150 conforming to IS 210:2009 and specification no SP-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991.including testing as per CL 10 and inspection as per CL.11 of IS 1726:1991,as per specification as per Standard Specification no SP-SWD-3 etc. complete, as specified and as directed .	EA	23096	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-146	Supplying and fixing 1.20m x 0.90m internal size of rectangular C.I. air-tight cover and frame weighing minimum 910 kg of material grade of min. FG 150 conforming to IS 210:2009 and specification no SP-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991.including testing as per CL 10 and inspection as per CL.11 of IS 1726:1991, as per specification as per Standard Specification no SP-SWD-3, etc. complete, as specified and as directed by Engineer in Charge.	EA	94200	
R2-SWD-147	Supplying and fixing 0.90m x 0.45m internal size of rectangular C.I. air-tight cover and frame weighing minimum 225 of material grade of min. FG 150 conforming to IS 210:2009 and specification no -3 with the grade designation of HD 20 conforming to IS 1726:1991including testing as per CL 10 and inspection as per CL.11 of IS 1726:1991, as per specification as per Standard Specification no SP-SWD-3, etc. complete, as specified and as directed by Engineer in Charge.	EA	28889	
R2-SWD-148	Supplying and fixing 0.90m x 0.60m internal size of rectangular C.I. air-tight cover and frame weighing minimum 270 of material grade of min. FG 150 conforming to IS 210:2009 and specification no SP-SWD-3 with the grade designation of HD 20 conforming to IS 1726:1991including testing as per CL 10 and inspection as per CL.11 of IS 1726:1991, as per specification as per Standard Specification no SP-SWD-3, etc. complete, as specified and as directed by Engineer in Charge.	EA	31371	
R2-SWD-149	DELETED			
R2-SWD-150	Removing and refixing C.I. frame and cover (any size and shape) fixing in CC M-30	NOS	714	
R2-SWD-151	Removing and refixing frame and grating in CC M-20 (any size).	EA	1115	
R2-SWD-152	Removing C.I. frame and cover (any size) and transporting to ward office as directed.	EA	359	
R2-SWD-153	DELETED			
R2-SWD-153-A	Constructing cofferdam of puddle bags with clay etc. as specified & as directed by Engineer in Charge.	CUM	5282	
R2-SWD-154	Providing & Fixing 100 mm. dia PVC. Pipes of approved quality as weep holes in nalla/retaining walls etc.complete as directed by Engineer in Charge.	MTR	355	
R2-SWD-155	DELETED			
R2-SWD-156	Extra for pumping out water from trenches by 5 H.P. pump per shift of 8hrs. (Item to be operated in abnormal conditions with permission of competent authority.)	SFT	1995	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-157	.. Do do .. 10 H.P. ..do .. (item to be operated in abnormal conditions with permission of competent authority.)	SFT	2394	
R2-SWD-158	Extra for providing locking arrangement to C.I.Circular /rectangular manhole frame & cover over and above the rate of providing and fixing C.I. Circular/ rectangular frame and cover.	EA	798	
R2-SWD-159	DELETED			
R2-SWD-160	Hiring poclain machine for Municipal work such as desilting, levelling etc. including transportation two way,diesel, lubricants, charges for operators and helpers, etc complete. (Minimum output requirement of 300 Cu. M per shift in Ideal condition in which clear access along the bank of nalla/river is available, free of encroachment & width of nalla is less)	SFT	27930	
R2-SWD-160-A	Hiring Poclain machine for Municipal work such as desilting, levelling etc. including transportation two way,diesel, lubricants, charges for operators and helpers, etc complete. (Minimum output requirement of 100 Cu. M per shift in Hardship condition in which nallas are accessible from very few points due to encroachment and where width of nalla and distance for dragging of silt along the nalla upto lifting points is more)	SFT	27930	
R2-SWD-161	Hiring of pontoon mounted Poclain for municipal work such as desilting , levelling etc including transportation two way,diesel, lubricants, charges for operators and helpers, etc complete. (Minimum output requirement of 200 Cu. M per shift in Ideal condition in which clear access along the bank of nalla/river is available, free of encroachment & width of nalla is less)	SFT	27600	
R2-SWD-161-A	Hiring of pontoon mounted Poclain for Municipal work such as desilting, levelling,removal of buried obstructions etc.including transportation two way,diesel, lubricants, charges for operators and helpers, etc complete. Minimum output requirement of 100 Cu. M per shift in Hardship condition in which nallas are accessible from very few points due to encroachment and where width of nalla and distance for dragging of silt along the nalla upto lifting points is more) .	SFT	27600	
R2-SWD-162	Transportation charges for pontoon mounted Poclain to the work site, including lowering with the help of Crane.	TRP	21014	
	The rates mentioned for Item No. SWD-160 to SWD-162 includes cost of Oil, Payment of the Driver and Cleaner, Cost of Diesel and other miscellaneous expenses.			
R2-SWD-163	DELETED			
R2-SWD-164	DELETED			



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-165	DELETED			
R2-SWD-166	Providing and constructing stormwater drain brick masonry rectangular manhole as per standard drawings (Dwg No. MCGM/SWD/2013), with internal sizes 3.0m x 3.0m for a depth 2.40m built in brick masonry in cement mortar 1:2, 20 mm thick plastering both inside and outside in cement mortar 1:1 (without waterproofing compound) and neat cement rendering so as to give a smooth surface, including 300 mm thick M-15 grade cement concrete in foundation and in haunches and channels finished smooth with 20 mm thick cement plaster in cement mortar 1:1 and providing & installing approved Co-polymer polypropylene steel reinforced manhole safety step (weighing between 0.8 to 0.9 Kg) at 375 mm c/c, including 75 mm wide vataall round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming pipes with brick masonry wherever necessary, including RCC slab in cement concrete M-30 grade,C.I. heavy airtight rectangular frame and covers (Two Nos of size 0.90m, x 0.60m or one nos of 0.90m x 1.20m of grade FG150 / HD20 conforming to 1726:1991, resting on 300 mm high RCC cap in M-30 grade cement concrete including reinforcements finished with cement plaster in cement mortar 1:1 both inside and outside including necessary centering , shuttering etc. all complete as per Standard Specification no SP-SWD-2 and as per drawing (Dwg No. MCGM/SWD/2013), and/or as specified & as as directed, excluding cost of excavation, providing & fixing frame and covers.	EA	243243	
R2-SWD-167	Extra over item no R2-SWD-166 per meter depth above 2.40m , etc all complete as specified & as directed by Engineer in Charge. (Rebate at the same rate will be taken if the depth of M.H. is less than 2.40 M.)	RMT	102588	
R2-SWD-168	Providing & Fixing 0.45m X 0.45m clear internal size of M.S. Galvanised hinged type grating and frame (weighing minimum 53 kg) with minimum 75 microns zinc coating by hot dipped galvanising the MS grating and frame as per IS 2629. (The contractor shall furnish the certificate of galvanising from the Galvaniser.) including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers works, as per Standard Specification no SP-SWD-2 and as per drawing (Dwg No. MCGM/SWD/2013-08), etc complete as specified & as directed by Engineer in Charge.	EA	7363	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-169	Providing & Fixing 0.60m X 0.50m clear internal size of M.S. Galvanised hinged type grating and frame (weighing minimum 71 kg) with minimum 75 microns zinc coating by hot dipped galvanising the MS grating and frame as per IS 2629. (The contractor shall furnish the certificate of galvanising from the Galvaniser.) including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers works, as per Standard Specification no SP-SWD-3 and as per drawing (Dwg No. MCGM/SWD/2013-03), etc complete as specified & as directed by Engineer in Charge.	EA	9441	
R2-SWD-170	DELETED			
R2-SWD-171	DELETED			
R2-SWD-172	Hiring J.C.B. / Bull dozer for Municipal work such as desilting, levelling ,etc.(including diesel, lubricants, charges for operators and helpers, etc complete)	SFT	8645	
R2-SWD-173	Supplying and fixing Uniquely designed Copolymer Polypropylene, Steel reinforced manhole safety step as per manufacturers design. Steps weighing between 0.8 to 0.9 Kg each wherever as directed by Engineer in Charge.	EA	375	
R2-SWD-174	Supply of 0.45m X 0.45m clear internal size of M.S. Galvanised hinged type grating and frame (weighing minimum 53 kg) of grade HD20,with minimum 75 microns zinc coating by hot dipped galvanising the MS grating and frame as per IS 2629. (The contractor shall furnish the certificate of galvanising from the Galvaniser.) including testing, inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers works, as per drawing (Dwg No. MCGM/SWD/2013-08), etc complete as specified & as directed by Engineer in Charge.A228	EA	6962	
R2-SWD-174-A	Providing & Fixing 0.45m X 0.45m clear internal size of DI hinged type grating and frame (weighing minmum 56 kg) with grade designation of C250 with black bitumen coating to DI gratings & frame confirming to EN124 including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers works, as per Standard Specification no SP-SWD-3 and as per drawing (Dwg No. MCGM/SWD/2013-10), etc complete as specified & as directed by Engineer in Charge.	EA	10359	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-174-B	Supply of 0.45m X 0.45m clear internal size of DI hinged type grating and frame (weighing minimum 56 kg) with grade designation of C250 with black bitumen coating to DI gratings & frame confirming to EN124 including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers works, as per Standard Specification no SP-SWD-3 and as per drawing (Dwg No. MCGM/SWD/2013-10), etc complete as specified & as directed by Engineer in Charge.	EA	9250	
R2-SWD-175	Supply of 0.60m X 0.50m clear internal size of M.S. Galvanised hinged type grating and frame (weighing minimum 71 kg) of grade HD20, with minimum 75 microns zinc coating by hot dipped galvanising the MS grating and frame as per IS 2629. (The contractor shall furnish the certificate of galvanising from the Galvaniser.) including testing ,inspection of material sample and finished product as per IS standards and as per Standard Specification no SP-SWD-3 and as per drawing (Dwg No. MCGM/SWD/2013-03), etc complete as specified & as directed by Engineer in Charge.	EA	9328	
R2-SWD-175-A	Providing & Fixing 0.60m X 0.50m clear internal size of DI hinged type grating and frame (weighing minimum 80 kg) with grade designation of C250 with black bitumen coating to DI gratings & frame confirming to EN124 including testing ,inspection of material sample and finished product as per IS standards and as per Standard Specification no SP-SWD-3 and as per drawing (Dwg No. MCGM/SWD/2013-10), etc complete as specified & as directed by Engineer in Charge.	EA	14786	
R2-SWD-175-B	Supply of 0.60m X 0.50m clear internal size of DI hinged type grating and frame (weighing minimum 80 kg) with grade designation of C250 with black bitumen coating to DI gratings & frame confirming to EN124 including testing ,inspection of material sample and finished product as per IS standards and as per Standard Specification no SP-SWD-3 and as per drawing (Dwg No. MCGM/SWD/2013-10), etc complete as specified & as directed by Engineer in Charge.	EA	12710	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-176	Supply of 1.20m X 0.60m clear internal size of M.S. Galvanised hinged type grating and frame (weighing minimum 130 kg) of grade HD20,with minimum 75 microns zinc coating by hot dipped galvanising the MS grating and frame as per IS 2629. (The contractor shall furnish the certificate of galvanising from the Galvaniser.) including testing ,inspection of material sample and finished product as per IS standards and as per Standard Specification no SP-SWD-3 and as per standard drawing , etc complete as specified & as directed by Engineer in Charge.	EA	16755	
R2-SWD-176-A	Providing & Fixing 1.20m X 0.60m clear internal size of M.S. Galvanised hinged type grating and frame (weighing minimum 130 kg) of grade HD20, with minimum 75 microns zinc coating by hot dipped galvanising the MS grating and frame as per IS 2629. (The contractor shall furnish the certificate of galvanising from the Galvaniser.) including testing ,inspection of material sample and finished product as per IS standards and as per Standard Specification no SP-SWD-3 and as per standard drawing , etc complete as specified & as directed by Engineer in Charge.	EA	17084	
R2-SWD-177	DELETED			
R2-SWD-178	Providing & placing in position controlled Ready Mix Concrete of grade M- 40 in raft slab by using Ordinary Portland Cement including transportation to site anywhere in Mumbai including curing by any means etc. complete as directed by Engineer in Charge. (Reinforcement & Formwork shall be paid separately).	CUM	7777	
R2-SWD-179	Providing & placing in position controlled Ready Mix Concrete of grade M- 40 in walls and deck slab above or below ground level at any height / depth by using Ordinary Portland Cement including Transportation anywhere in Mumbai including curing by any means etc complete as directed by Engineer in Charge. (Reinforcement & Formwork shall be paid separately).	CUM	9569	
R2-SWD-180	Excavation in hard rock by using modern machinery (Poclairn / Pantoon Mounted Poclairn with Rock Breaker) upto any depth including stacking the rock as directed.(Minimum output requirement 20 cu.m per shift) Note sanction of Ch E (SWD) is required to be obtained, if the out per shift is less than the desired.	CUM	1872	
R2-SWD-181	DELETED			



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-181-A	Excavation of Extra ordinary Hard Igneous Rock having minimum Scratch Hardness- Mohs scale : 5, minimum Water Absorption :2.0% by using modern machinery (Poclain wih Rock breaker) in river beds having width more than 40 m and in inter tidal zone under water with necessary arrangement of access and coffer dam and dewatering upto any depth including stacking the excavated rock as directed by Engineer in Charge. This item shall be executed with specific sanction of Director (E.S. & P.) including removal of access and coffer dam after the completion of work.	CUM	7152	
R2-SWD-182	Supplying and fixing 0.56m internal dia D.I. air-tight hinged type cover and frame (weighing minimum 55 kg.) of material grade SG-500/7 as per IS 1865-1991with grade designation of B125 as per EN-124, specification no SP-SWD-3 , including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer in Charge.	NOS	10381	
R2-SWD-182-A	Supplying and fixing 0.56m internal dia D.I. air-tight hinged type cover and frame (weighing minimum 80 kg.) of material grade SG-500/7 as per IS 1865-1991with grade designation of C250 as per EN-124, specification no SP-SWD-3 , including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed. as directed by Engineer in Charge.	NOS	14504	
R2-SWD-182-B	Supplying and fixing 0.56m internal dia D.I. air-tight hinged type cover and frame (weighing minimum 95 kg.) of material grade SG-500/7 as per IS 1865-1991with grade designation of D400 as per EN-124, specification no SP-SWD-3 , including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer in Charge.	NOS	11657	
R2-SWD-183	Supplying and fixing 1.20m x 0.90m (2 nos of 0.60m x 0.90m) internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 300 kg.) of material grade SG-500/7 as per IS 1865-1991with grade designation of C250 as per EN-124, specification no 3, including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer in Charge.	NOS	52771	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-184	Supplying and fixing 0.90m x 0.45m internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 75 kg.) of material grade SG-500/7 as per IS 1865-1991with grade designation of B125 as per EN-124, specification no SP-SWD-3 , including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer in Charge.	NOS	15591	
R2-SWD-184-A	Supplying and fixing 0.90m x 0.45m internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 125 kg.) of material grade SG-500/7 as per IS 1865-1991with grade designation of C250 as per EN-124, specification no SP-SWD-3 , including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer in Charge.	NOS	24775	
R2-SWD-184-B	Supplying and fixing 0.90m x 0.45m internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 160 kg.) of material grade SG-500/7 as per IS 1865-1991with grade designation of D400 as per EN-124, specification no SP-SWD-3 , including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer in Charge.	NOS	28203	
R2-SWD-185	Supplying and fixing 0.90m x 0.60m internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 105 kg.) of material grade SG-500/7 as per IS 1865-1991with grade designation of B125 as per EN-124, specification noSP-SWD-3 , including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer in Charge.	NOS	19240	
R2-SWD-185-A	Supplying and fixing 0.90m x 0.60m internal size rectangular D.I. air-tight hinged type cover and frame (weighing minimum 150 kg.) of material grade SG-500/7 as per IS 1865-1991with grade designation of C250 as per EN-124, specification no XX, including testing and inspection as per guidelines of IS specifications, including fixing with M-30 concrete and locking arrangement etc. complete as specified and as directed by Engineer in Charge.	NOS	26668	
R2-SWD-185-B	DELETED			
R2-SWD-186	DELETED			



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-187	Providing and fixing Circular Manhole Cover of 0.56m internal dia in SFRC (Reinforced Concrete with Steel Fibre) with grade designation HD20 as per IS 12592 :2002 air tight fixed to Manhole frame, including testing and inspection as per the guidelines of IS 12592. (fibre reinforcement for shrinkage crack resistance & steel as main reinforcement as per IS 12592) , including fixing with M-30 concrete and locking arrangement ,as per specification no SP-SWD-3 etc. complete as specified and as directed by Engineer in Charge.	NOS	3957	
R2-SWD-187-A	Providing and fixing Circular Manhole Cover of 0.56m internal dia in SFRC (Reinforced Concrete with Steel Fibre) with grade designation EHD35 as per IS 12592 :2002 air tight fixed to Manhole frame, including testing and inspection as per the guidelines of IS 12592. (fibre reinforcement for shrinkage crack resistance & steel as main reinforcement as per IS 12592) , including fixing with M-30 concrete and locking arrangement ,as per specification no SP-SWD-3 etc. complete as specified and as directed by Engineer in Charge.	NOS	4489	
R2-SWD-188	Supplying 0.56m internal dia circular air tight composite resin manhole cover of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.9 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	8698	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-188-A	Supplying 0.56m internal dia circular air tight composite resin manhole cover of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.9 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	11430	
R2-SWD-189	Supplying 0.56m internal dia circular air tight composite resin manhole cover and frame of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.9 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	20283	
R2-SWD-189-A	Supplying 0.56m internal dia circular air tight composite resin manhole cover and frame of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.9 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	24605	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-190	Supplying 1.2m x 0.90m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 3 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	59185	
R2-SWD-190-A	Supplying 1.2m x 0.90m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 3 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	68894	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-191	Supplying 0.90m x 0.45m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.5 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	21945	
SWD-191-A	Supplying 0.90m x 0.45m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.5 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	27598	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-192	Supplying 0.90m x 0.60m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 2 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	28263	
R2-SWD-192-A	Supplying 0.90m x 0.60m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 2 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	34447	
R2-SWD-193	DELETED			
R2-SWD-194	DELETED			



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-194-A	Supplying 0.45m X 0.45m internal size of rectangular composite resin grating and frame (with minimum waterway areas 35% of internal size) of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.5 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	15827	
R2-SWD-194-B	Supplying 0.45m X 0.45m internal size of rectangular composite resin grating and frame (with minimum waterway areas 30% of internal size) of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.5 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	21214	
R2-SWD-195	DELETED			



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-195-A	Supplying 0.60m X 0.50m internal size of rectangular composite resin grating and frame (with minimum waterway areas 35% of internal size) of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.7 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	20283	
R2-SWD-195-B	Supplying 0.60m X 0.50m internal size of rectangular composite resin grating and frame (with minimum waterway areas 35% of internal size) of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.7 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	26467	
R2-SWD-196	DELETED			



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R2-SWD-196-A	Supplying 1.20m X 0.60m internal size of rectangular composite resin grating and frame (with minimum waterway areas 30% of internal size) of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 2 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	42228	
R2-SWD-196-B	DELETED			
R2-SWD-197	Providing and fixing 0.56m internal dia circular air tight composite resin manhole cover and frame of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.9 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.) Including fixing with M-30 concrete and locking arrangement, as per specification no SP-SWD-3 etc. complete as specified and as directed by Engineer in Charge.	NOS	21933	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-197-A	Providing and fixing 0.56m internal dia circular air tight composite resin manhole cover and frame of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.9 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	25902	
R2-SWD-198	Providing and fixing 1.2m x 0.90m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 2 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	61979	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-198-A	Providing and fixing 1.2m x 0.90m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 2 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	72287	
R2-SWD-199	Providing and fixing 0.90m x 0.45m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.5 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.) including fixing with M-30 concrete and locking arrangement ,as per specification no SP-SWD-3 etc. complete as specified and as directed by Engineer in Charge.	NOS	23930	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-199-A	<p>Providing and fixing 0.90m x 0.45m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.5 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.) including fixing with M-30 concrete and locking arrangement ,as per specification no SP-SWD-3 etc. complete as specified and as directed by Engineer in Charge.</p>	NOS	29582	
R2-SWD-200	<p>Providing and fixing 0.90m x 0.60m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 2 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)</p>	NOS	30247	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-200-A	Providing and fixing 0.90m x 0.60m internal size rectangular air tight composite resin manhole cover and frame of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. Covers & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 2 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.) including fixing with M-30 concrete and locking arrangement ,as per specification no SP-SWD-3 etc. complete as specified and as directed by Engineer in Charge.	NOS	36432	
R2-SWD-201	DELETED			
R2-SWD-202	DELETED			
R2-SWD-202-A	Providing & Fixing 0.45m X 0.45m internal size of rectangular composite resin gully grating and frame (with minimum waterway areas 35% of internal size) of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.5 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.) including fixing with M-20 concrete and locking arrangement ,as per specification no SP-SWD-3 etc. complete as specified and as directed by Engineer in Charge.	NOS	16936	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-202-B	Providing & Fixing 0.45m X 0.45m internal size of rectangular composite resin gully grating and frame (with minimum waterway areas 35% of internal size) of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.5 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.) including fixing with M-20 concrete and locking arrangement ,as per specification no SP-SWD-3 etc. complete as specified and as directed by Engineer in Charge.	NOS	22322	
R2-SWD-203	P/F 500 mm x 600 mm (Clear opening) Grating and Frame of approved brand, Medium Duty, conforming to relevant Grade Designation: MD – 10 as per IS: 1726; 1991, etc. complete. (Inspection shall be as per guidelines of IS Specifications.)	NOS	DELETED	
R2-SWD-203-A	Providing & Fixing 0.60m X 0.50m internal size of rectangular composite resin gully grating and frame (with minimum waterway areas 35% of internal size) of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.7 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.) including fixing with M-20 concrete and locking arrangement ,as per specification no SP-SWD-3 etc. complete as specified and as directed by Engineer in Charge.	NOS	21512	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-203-B	Providing & Fixing 0.60m X 0.50m internal size of rectangular composite resin gully grating and frame (with minimum waterway areas 35% of internal size) of approved brand with grade designation D400 as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 1.7 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work , etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.) including fixing with M-20 concrete and locking arrangement ,as per specification no SP-SWD-3 etc. complete as specified and as directed by Engineer in Charge.	NOS	27990	
R2-SWD-204	DELETED			
R2-SWD-204-A	Providing & Fixing 1.20m X 0.60m internal size of rectangular composite resin gully grating and frame (with minimum waterway areas 30% of internal size) of approved brand with grade designation C250 as per EN-124 standard with bolt and lever type locking arrangement. gully gratings & frame shall have top abrasion resistant layer conforming to IS-15658:2006 and permissible permanent set value of 2 mm after the application of 2/3 test load in five continuous applications as per EN-124, the testing shall be performed in fully equipped and NABL certified test lab with random batch test (2% of lot size) as per testing procedure stated in EN-124 standard, including testing ,inspection of material sample and finished product in presence of M.C.G.M. Engineers (3 nos.) at Manufacturers work, etc. complete as specified and as directed by Engineer in Charge. (Inspection shall be as per guidelines of IS and EN-124 standard specifications.)	NOS	45053	
R2-SWD-205	DELETED			
R2-SWD-221	Providing and spreading herbal disinfectant greendust or equivalent make in powder form for the removal of foul smell on the stacked desilted material or as per the manufacturers guidelines and as directed by Engineer in Charge.(One Kg Powder to be spread over maximum 10 Sq.M.area.)	SQM	11	



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R2-SWD-221-A	Providing and spreading herbal disinfectant greenoxy or equivalent make in liquid form (doses as per the manufacturers specifications) for the removal of foul smell on the stacked desilted material as per the manufacturers specifications and guidelines and as directed by Engineer in Charge.(one liter concentration to be diluted in 100 ltr of water and spread over maximum 80 Sq.M.area.)	SQM	13	
CHAPTER-VIII	Rehabilitation Works			
R2-SWD-222	Preparation of brick arch, masonry wall or invert surface for receiving appropriate lining by removing existing decomposed/damaged lined surface by chiselling ,drilling and cleaning the surface by water jet including removal of weeds, algae etc., scaffolding, disposing the debris to approved disposal site etc complete as directed by Engineer in Charge.	SQM	67	
R2-SWD-223	Repairs to inner course of brick arch, masonry walls or invert including breaking out ,extraction ,removal, disposing the debris to approved disposal site as directed and re-constructing the same in cement mortar 1:3 including scaffolding and curing etc complete, as directed by Engineer in Charge.	SQM	2075	
R2-SWD-224	Repairs to inner course of brick arch, masonry walls or invert including breaking out, extraction, removal, disposing the debris to approved disposal site as directed and re-constructing the same in (min 100 mm thick) cement concrete of GradeM30 including necessary scaffolding, shuttering, de-shuttering and curing etc complete, as directed by Engineer in Charge.	SQM	1603	
R2-SWD-225	Raising of manholes / chambers to the required level including removing the old frame and cover, brickwork with min 16cm thick coping in CC M30, plastering the wall in C.M. 1:3 externally and internally with neat cement rendering , curing, refixing the frame and cover etc complete, as directed by Engineer in Charge.	NOS	3155	
R2-SWD-226	Lowering of manholes / chambers to the required level including removing the old frame and cover, dismantling the brickwork, coping, plastering to the required level with disposal of debris to the approved site, refixing the frame and cover with min 15cm thick coping in CC M30 ,curing,etc. complete, as directed by Engineer in Charge.	NOS	1485	
R2-SWD-227	Drilling 50 mm diameter holes at any height in the masonry of the Arch abutment zones, walls etc. for grouting including all tools and equipment's with necessary set ups ,scaffolding, materials and transportation. etc complete, as directed by Engineer in Charge.	SQM	179	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-228	Pressure grouting at any height for arch abutment zones and masonry wall surface in Portland cement grout including all tools and equipments with necessary setups ,scaffolding, grout materials and grout mixing, transportation and injection of grout etc complete as directed by Engineer in Charge .	SQM	758	
R2-SWD-229	Providing and applying 6 mm thick protective coating (Solvent less Elastomeric Polyurea Coating) of Cipy make (Securea SC) or equivalent approved make, Including primer, thinner & Fine Quartz (FQ) sand required for coating on dry concrete surface including surface preparation as per manufactures recommendations by spraying to the type I and type II lining system of storm water drains including sweep Blasting, filling of opened bug holes due to sweep blasting by using Epoxy primer (Cipoxy 16D or equivalent) mixed with FQ sand including thinner (PUT502 or equivalent) for cleaning tools, etc complete as directed by Engineer In Charge, (Rate is inclusive of all site tests required as specified by manufacture).	SQM	6497	
R2-SWD-230	Providing and applying 3 mm thick protective coating (Solvent less Elastomeric Polyurea Coating) of Cipy make (Securea SC) or equivalent approved make, Including primer, thinner & Fine Quartz (FQ) sand required for coating on dry concrete surface including surface preparation as per manufactures recommendations by spraying to the type I and type II lining system of storm water drains including sweep Blasting, filling of opened bug holes due to sweep blasting by using Epoxy primer (Cipoxy 16D or equivalent) mixed with FQ sand including thinner (PUT502 or equivalent) for cleaning tools, etc complete as directed by Engineer In Charge, (Rate is inclusive of all site tests required as specified by manufacture).	SQM	3721	
R2-SWD-231	Providing and applying 2 mm thick protective coating (Solvent less Elastomeric Polyurea Coating) of Cipy make (Securea SC) or equivalent approved make, Including primer, thinner & Fine Quartz (FQ) sand required for coating on dry concrete surface including surface preparation as per manufactures recommendations by spraying to the type I and type II lining system of storm water drains including sweep Blasting, filling of opened bug holes due to sweep blasting by using Epoxy primer (Cipoxy 16D or equivalent) mixed with FQ sand including thinner (PUT502 or equivalent) for cleaning tools, etc complete as directed by Engineer In Charge, (Rate is inclusive of all site tests required as specified by manufacture).	SQM	2769	



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ITEM CODE	DESCRIPTION	UNIT	RATE IN Rs	Remark
R2-SWD-232	Providing the Shotcreting conforming to IS: 9012 at any height of thickness 100 mm to 230 mm as per the drawing as directed by Engineer- in charge to sides and arch of drain in concrete grade of M40 with the aggregate size not more than 10mm including cost of all materials ,machinery, labour, ventilation, lighting, drainage and all other ancillary operations including all safety procedures, preconstruction testing, as per Cl. 6.0 of IS 9012 , finishing, curing , cleaning of all the waster material by disposing it to the approved disposal site etc. as directed by Engineer In Charge.	SQM	1729	

