



## BIRLA INDUSTRIAL & TECHNOLOGICAL MUSEUM

(A unit of NCSM)

19A, Gurusaday Road, Kolkata – 700019.

### Bill Of Quantity

**Name of work: Construction of exterior storm water drainage system & miscellaneous civil work at DSC Purulia.**

Item no.	Description of item	Quantity	Unit	Rate (Rs)	Amount (Rs)
1.0	Earth work in excavation of foundation trenches or drains, in all sorts of soil (including mixed soil but excluding laterite or sandstone) including removing, spreading or stacking the spoils within a lead of 75 m. as directed. The item includes necessary trimming the sides of trenches, levelling, dressing and ramming the bottom, bailing out water as required complete. Depth of excavation not exceeding 1,500 mm.	25	Cu.M	119.27	2,981.8
2.0	Earth work in filling in foundation trenches or plinth with good earth, in layers not exceeding 150 mm. including watering and ramming etc. layer by layer complete. (Payment to be made on the basis of measurement of finished quantity of work) With earth obtained from excavation of foundation.	20	Cu.M	77.54	1,550.8
3.0	Filling in foundation or plinth by fine sand in layers not exceeding 150 mm as directed and consolidating the same by thorough saturation with water, ramming complete including the cost of supply of sand. (payment to be made on measurement of finished quantity)	18	Cu.M	572.55	10,305.9
4.0	Dismantling all types of masonry excepting cement concrete plain or reinforced, stacking serviceable materials at site and removing rubbish as directed within a lead of 150m. At any floor including roof.	1	Cu.M	447.00	447.0
5.0	Dismantling all types of plain cement concrete works, stacking serviceable materials at site and removing rubbish as directed with a lead of 150m at any level.	0.5	Cu.M	1417.00	708.5
6.0	Brick work with 1st class bricks (Class designation 75) in cement mortar (1:6) In superstructure, upto 2nd floor.	0.5	Cu.M	4466.00	2,233.0
7.0	125mm thick brick work with 1st class bricks in cement mortar (1:4) at any floor.	2	Sq.M	592.00	1,184.0
8.0	Hire and labour charges for shuttering with centering and necessary staging upto 4 m using approved stout props and thick hard wood planks of approved thickness with required bracing for concrete slabs, beams, columns, lintels curved or straight including fitting, fixing and striking out after completion of works. 25mm to 30mm thick wooden shuttering as per decision & direction of Engineer-In-Charge.	20	Sq.M	324.00	6,480.0
9.0	Neat cement punning about 1.5mm thick in wall, dado, window, sill, floor etc. NOTE: Cement 0.152 cu.m per 100 Sq.M	10	Sq.M	34.00	340.0
10.0	Brick soling with picked Jhama bricks including preparation of bed as necessary with brick joints properly filled in and packed with powdered earth and including necessary cushion of similar material below the soling (and in between layers when more than one layer is used) completes as per direction. Single brick flat soling (thickness 75 mm.)	80	Sq.M	336.00	26,880.0

Item no.	Description of item	Quantity	Unit	Rate (Rs)	Amount (Rs)
11.0	Plaster (to wall, floor, ceiling etc.) with sand and cement mortar including rounding off or chamfering corners as directed and raking out joints including throating, nosing and drip course, scaffolding/staging where necessary at any height. With 1:6 cement mortar, 20mm thick plaster.	10	Sq.M	153.00	1,530.0
12.0	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level .				
12.1	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	5.5	Cu.M	6393.90	35,166.5
12.3	1:3:6 (1 Cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources)	4.5	Cu.M	5932.30	26,695.4
13.0	Constructing Inspection pit of inside measurement 600mm X 600mm X upto 600mm (depth) with 250 mm thick 1st. class brick work in cement mortar (1:4) on all sides, bottom of the pit consisting of 100 mm thick cement concrete (1:3:6) with stone chips over a layer of jhama brick flat soling, 15 mm thick (1:4) cement plaster to inside walls and out-side walls upto G.L. and 20 mm.thick (1:4) plaster to bottom of the pit, providing necessary invert with cement concrete (1:3:6) with stone chips as per direction, neat cement finishing to entire internal surfaces, top of the pit covered with 100 mm thick R.C.C. slab (1:1.5:3) with stone chips and necessary reinforcements upto 1% and shuttering including 6 mm thick cement plaster (1:4) in all external surfaces of the slab and one 5 MT load bearing capacity round manhole cover provided with two lifter hooks fitted with matching frame of size: Cover: 565 mm X 65 mm Frame: 665 mm X 125 mm opening: 470mm Weight: 90 kg (approx) necessary earthwork in excavation in all sorts of soil, filling sides of the pit with earth and removing spoils after work complete in all respect with all costs of labour and materials. With Pakur variety (Other than SAIL/ TATA/RINL).				
13.1	Upto depth 600 mm.	3	Each	8450.00	25,350.0
13.2	Upto depth 750 mm.	3	Each	9436.00	28,308.0
13.3	Upto depth 900 mm.	1	Each	10422.00	10,422.0

Item no.	Description of item	Quantity	Unit	Rate (Rs)	Amount (Rs)
14.0	Constructing rainwater catch pit of inside measurement 600mm X 600mm X upto 600mm (depth) with 250 mm thick 1st. class brick work in cement mortar (1:4) on all sides, bottom of the pit consisting of 100 mm thick cement concrete (1:3:6) with stone chips over a layer of jhama brick flat soling, 15 mm thick (1:4) cement plaster to inside walls and out-side walls upto G.L. and 20 mm.thick (1:4) plaster to bottom of the pit, providing necessary invert with cement concrete (1:3:6) with stone chips as per direction, neat cement finishing to entire internal surfaces, top of the pit covered with 100 mm thick R.C.C. slab (1:1.5:3) with stone chips and necessary reinforcements upto 1% and shuttering including 6 mm thick cement plaster (1:4) in all external surfaces of the slab and one 5 MT load bearing capacity gully pit cover with frame and hinge arrangement for opening of size Cover: 470 mm X 420 mm X 80 mm Frame: 590 mm X 550 mm X 170 mm opening: 380mm x 305mm Weight: 100 kg (approx) necessary earthwork in excavation in all sorts of soil, filling sides of the pit with earth and removing spoils after work complete in all respect with all costs of labour and materials. With Pakur variety (Other than SAIL/ TATA/RINL).				
14.1	Upto depth 600 mm.	3	Each	7869.00	23,607.0
14.2	Upto depth 750 mm.	3	Each	8855.00	26,565.0
14.3	Upto depth 900 mm.	1	Each	9841.00	9,841.0
15.0	Providing and laying non-pressure NP2 class (light duty) R.C.C.pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete : <b>300 mm dia. R.C.C. pipe</b>	80	Metre	783.08	62,646.4
16.0	Collapsible gate with 40mm x 40mm x 6mm Tee as top and bottom guide rail, 20mm x 10mm x 2mm vertical channels 100mm apart in fully stretched position 20mm x 5mm M.S. flats as collapsible bracings properly rivetted and washered including 38mm steel rollers including locking arrangements, fitted and fixed in position with lugs set in cement concrete and including cutting necessary holes, chasing etc. in walls, floors etc. and making good damages complete. (Payment will be made on the area of the gate covered by two guard rails and two extreme channels)	7	Sq.M	3402.00	23,814.0
17.0	Supplying, fitting and fixing steel rolling shutter profile type with 18 B.G . of approved type steel latch section 75mm wide, fitted with coil wire spring to necessiate the fitting of required Nos. of C.I. Pulleys on heavy type solid drawn seamless steel tube complete with locking arrangements both inside and outside specially builtup side guide channels including providing a hood for the steel rolling shutter in the room, painting two coats of approved aluminium paint over a coat of red lead primer complete. (1.Measurement will be made on the area of opening covered by the rolling shutter corrected upto 2 decimal.) 2. Payment of painting to be separately.)	9	Sq.M	2170.00	19,530.0
18.0	Priming one coat on steel or other metal surface with synthetic oil bound primer of approved quality including smoothening surfaces by sand papering etc.	30	Sq.M	29.00	870.0

Item no.	Description of item	Quantity	Unit	Rate (Rs)	Amount (Rs)
19.0	Painting with best quality synthetic enamel paint of approved make and brand including smoothening surface by sand papering etc. including using of approved putty etc. on the surface, if necessary : <b>On steel or other metal surface :Two coats (with any shade except white)</b>	22	Sq.M	79.00	1,738.0
20.0	Painting with superior quality aluminium paint of approved make and brand including smoothening surface by sand papering etc. on steel surface : <b>Two coats</b>	8	Sq.M	57.00	456.0
21.0	Supplying, fitting and fixing PVC pipes of approved make of Schedule 80 (medium duty) conforming to ASTM D - 1785 and threaded to match with GI Pipes as per IS : 1239 (Part - I). with all necessary accessories, specials viz. socket, bend, tee, union, cross, elbo, nipple, long screw, reducing socket, reducing tee, short piece etc. fitted with holder bats clamps, including cutting pipes, making threads, fitting, fixing etc. complete in all respect including cost of all necessary fittings as required, jointing materials and two coats of painting with approved paint in any position above ground. (Payment will be made on the centre line measurements of total pipe line including all specials. No separate payment will be made for accessories, specials. Payment for painting will be made separately) <b>Dia 25mm</b>	25	Metre	177.00	4,425.0
22.0	M.S. structural works with hollow sections (square or rectangular shape) conforming to IS: 806-1968 & IS:1161-1998) connected to one another with bracket, gusset, cleat as per design, drawing & direction of Engineer-in-Charge complete including cutting to requisite shape & size, fabrication including metal arc welding conforming to IS: 816-1969 & IS: 9595 using electrodes of approved make and brand conforming to IS:814- 2004, haulage, hoisting and erection all complete. The rate includes the cost of all M.S. Hollow section, all consumables such as electrodes, gas and hire charges of all tools and plants and labour required for execution and all incidental charges (such as electricity, labour insurance) etc. complete. <b>For roof truss works</b> Payment to be made on the basis of calculated weight of structural members of MS Hollow Section as specified in relevant IS code in finished work. Payment for gusset, bracket, cleat may be made by adding the actual weight of such items with weight of finished structural members. For roof truss works, Span up to 12 Mtr.	0.35	MT.	58832.00	20,591.2
23.0	M.S. structural works in columns, beams etc. with simple rolled structural members (e.g. joists, angle, channel sections conforming to IS: 226, IS: 808 & SP (6)- 1964 connected to one another with bracket, gussets, cleats as per design, direction of Engineer-in-charge complete including cutting to requisite shape and length, fabrication with necessary bolting, metal arc welding conforming to IS: 816- 1969 & IS: 1995 using electrodes of approved make and brand conforming to IS:814- 2004, haulage, hoisting and erection all complete. The rate includes the cost of rolled steel section, consumables such as electrodes, gas and hire charge of all tools and plants and labour required for the work including all incidental charges such as electricity charges, labour insurance charges etc. For structural members of specified sections weighing less than 22.5 Kg/m	0.06	MT.	59119.00	3,547.1

Item no.	Description of item	Quantity	Unit	Rate (Rs)	Amount (Rs)
24.0	Supplying and laying true to line and level High Grip, Scratch resistant, Neutral to UV rays, Full Body Vitrified Tiles conforming to IS:15622-2006 & IS 4457-2007 and tested in accordance with IS:13630 [Non- modular sizes for tiles with Skid resistance: 0.6, Mohr's hardness > 7.0, Staining resistance: Class- 1, Water Absorption E < 0.5%] & MOR > 35N/sq.mm and Breaking strength > 1500 N for Outdoor area of building e. g. Gang-way, Corridor, Driveway, Parking lots, Courtyards, Sloping ramps, Entrance lobbies, Patios, Portico etc. set over necessary underlay and 2 mm thick cement slurry at back side of tiles using cement @ 2.91 Kg./Sq.m, joints grouted with admixture of white cement and colouring pigment to match with colour of tiles and removal of wax coating of top surface of tiles with warm water and cleaning the tiles using soft and dry cloth complete including the cost of materials, labour and all other incidental charges complete including backside slurry but excluding the cost of underlay and true to the manufacturer's specification and direction of Engineer-in-Charge. In Ground Floor: Sizes-300 mm x 300 mm x10 mm . Make: Kajaria (Digital Print)	40	Sq.M	785.00	31,400.0
25.0	Supplying, fitting & fixing Zn-Al alloy (55% Al & 45% Zn) coating of 150 grams per sq. metre (followed by colour coated on both side) steel sheet work having minimum yield strength of 550 Mpa of trapizoidal profile of approved make as per IS: 15965: 2012 and IS: 14246: 2013 (excluding the supporting frame work) fitted and fixed with 55 mm & 25 mm self tapping screw, EPDM Washer 16 mm dia & 3 mm th. washer etc. complete with 150 mm end lap and one corrugation minimum side lap. In Roof:-With 0.5 mm thick sheet(Payment to be made on area of finished work).	45	Sq.M	896.00	40,320.0
26.0	Removal of rubbish, earth, scrap material etc. from the working site and dispose off the same beyond the compound in truck loads in conformity with Municipal/Corporation rules and as per instruction of Engineer – in – Charge.	1	L.S.	5000.00	5,000.0

Cost of Civil work :::  4,54,933.49  
GST, as applicable over cost of Civil work @ 18% :::  81,888.03  
Cost of Civil works excluding labour welfare cess :::  5,36,821.52  
Labour welfare cess @ 1% :::  5,368.22  
**Total amount of Civil Work :::  5,42,189.73**  
**Say Rs.  5,42,190.00**