



NAYA RAIPUR DEVELOPMENT AUTHORITY

**Tender Document for the
Infrastructure Development for Sector 7, 15 & 16 (Phase-I) in
Naya Raipur**

(Following Three-Envelope Tender Procedure)

**Schedule – A
Price Tender
To be submitted in ENVELOPE-3**

NIT No.: 115 / I D P-I /S-7, 15, 16/ EE C-IV / CE (E) / NRDA / 2014-15, Raipur,

Dated: 08.12.2014

Issued by: Chief Executive Officer,
Naya Raipur Development Authority (NRDA)
1st floor, Utility block, Capitol Complex, Sector-19,
Naya Raipur 492 002, Chhattisgarh
E-mail: ceo@nayarapur.com

Tender Document Contains

- (a) Only schedule "A" and Section-I of schedule "D" are to be filled & signed by the tenderer
 (b) All the certificates as per pre qualification criteria shall be appended with relevant forms of schedule "D"

1. PART ONE (NRDA F-1)-(Attached herewith, to be submit along the tender)

Part (A)

- a) Press Notice
 b) Detailed NIT

Part (B)

a) Schedule-A

- (i) Cost Abstract
 (ii) Bill of Quantities

- b) Schedule-B –NIL
 c) Schedule-C –NIL
 d) Schedule-D

Section-I..... Technical tender forms

- (i) Letter of Technical Tender
 (ii) Tenderer's Information Sheet
 (iii) Annual Turnover
 (iv) Specific Construction Experience
 (v) Declaration
 (vi) Check list for Technical tender evaluation

Section –IIScope of work

Section –III..... Technical specifications of work

Section –IV..... Special Conditions of Contract

Section –V..... List of approved makes

Section –VI..... Drawings

- e) Schedule-E
 f) Schedule-F

2. PART TWO (NRDA F-2/3)-Standard form (Not Attached herewith, and not to be submitted along the tender)

Important note: - Link site <http://nayaraipur.com/documents/gcc.pdf>

1. General Guidelines
2. Tender
3. General rules and directions
4. Conditions of contract
5. Clauses of contract
6. Model rules relating to labour, water supply and sanitation in labour camps safety code
7. Contract forms
 - (a) Draft Format for Performance Security
 - (b) Earnest Money Deposit Form (Bank Guarantee)
 - (c) Format of Contract Agreement
 - (d) Draft Format for Performance Guarantee for Water Proofing and Anti-termite Works
 - (e) Indemnity Bond
 - (f) Indenture Bond
 - (g) Notice for Appointment of Arbitrator
8. Proforma of schedules (Schedule 'A' to Schedule 'F')

Naya Raipur Development Authority (NRDA) Raipur, Chhattisgarh

Document details

Name of work: Infrastructure Development for Sector 7, 15 & 16 (Phase-I) in Naya Raipur

Name of Tenderer:

Details

a) Cost of Tender Document : Rs

b) EMD : Rs

Signature of Tenderer

Date: _____

Signature of Contractor.....

Signature of NRDA.....

COST ABSTRACT
Infrastructure Development for Sector 7, 15 & 16 (Phase-I) in Naya Raipur

Sl. No.	Description of Items	Amount in Figures (In INR)	Amount in Words (In INR)
A	Road Works	Rs. -	
B	Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,	Rs. -	
Total		Rs. -	

Bill of Quantities						
Infrastructure Development for Sector 7, 15 & 16 (Phase-I) in Naya Raipur						
A Road Works						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
1	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or ctioned up to a lead of 1000 meters including removal and disposal of top organic soil not exceeding 150 mm in thickness if required and as per relevant clauses of section-200.	ha	26.00			-
2	Excavation for roadway in soil using including loading in truck for carrying of cut earth to embankment site with all lifts and lead complete as per relevant clauses of section 300.	cum	51859.00			-
3	Construction of Embankment with Material Deposited from Roadway Cutting (Construction of embankment with approved materials deposited at site from way cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2)	cum	51859.00			-
4	Construction of embankment with Material obtained from borrow pits (Construction of embankment with approved material/selected soil having C.B.R>5 unless sspecified otherwise in the contract) obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirment of table 300-2)	cum	129646.00			-
5	Construction of median and Island above road level with approved material brought from borrow pits, spread, sloped and compacted as per clause 407	cum	6742.00			-
6	Compacting Original Ground supporting embankment Loosening, leveling and compacting original ground to facilitate placement of first layer of embankment, scarified to a depth of 150 mm, mixed with water at O.M.C. and then compacted by rolling so as to achieve minimum dry density as given in table 300-2 for embankment construction	cum	15817.00			-
7	Construction of Granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, reading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401 - Grade III Material - Plant Mix Method	cum	45709.00			-

A Road Works						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
8	Providing, laying, spreading and compacting graded stone aggregate to Wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	cum	33881.00			-
9	Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.85 kg/sqm using mechanical means	Sqm	181159.00			-
10	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.25 kg/sqm on the prepared bituminous/granular surface cleaned with mechanical broom.					
a	Prime surface	Sqm	181159.00			-
b	Bituminous surface	Sqm	181159.00			-
11	Providing and laying dense graded bituminous macadam with 100- 120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause No. 507 complete in all respects.- Grade-I (40mm Nominal Size) with Sensor Paver Finisher	cum	8153.00			-
12	Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 509 complete in all respects- Grade -1 (19mm Nominal Size) with Sensor Paver Finisher	cum	9058.00			-

A Road Works						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
13	Precast interlocking concrete paver blocks: Providing & laying factory made conform technical specification of Bureau of Indian Standards 15658 of 2006 of heavy duty pavers resulting in consistent and uniform quality, rubber moulded, white cement based, pigmented block lacquer coating and cured through drying process mechanically vibrated and compacted precast interlocking premium concrete paver blocks in M40 grade, 60mm thickness of approved size, design and colour with providing and laying in position over 40 mm thick average complete coarse sand bed with joints of 3mm thick filled by fine sand including leveling with surface vibrator, temping and sweeping etc. complete. Coloured pigment precast interlock concrete blocks. as per direction of engineer in charge. (Make: Ultra Spectra/ Eurocon/ Duracrete).	Sqm	46936.00			-
14	Footpaths and Separators (Construction of footpath by providing a 150 mm compacted granular sub base as per clause 401 and 25 mm thick cement concrete grade M15, over laid with pre-polished cement concrete floor tiles conform to IS 1237:1980 (Reaffirmed in 1996) for heavy duty tiles (Exterior Grade) of 22-25mm thick in cement mortar 1:4 including provision of all drainage arrangements but excluding kerb channel..) as per pattern, size and colour as approved by engineer . (Make of CC tiles :Ultra/ Eurocon/ Duracrete).	Sqm	7073.00			-
15	Cast in Situ Cement Concrete M20 kerb (top and bottom width 115 and 165 mm respectively, 250mm high in M20 grade PCC on M10 grade foundation on 150mm thick, foundation having 50mm projections beyond kerb stone, kerb stone rate laid with kerb laying machine all complete as per clause 408	Rmt	28801.00			-
16	Cast in Situ Cement Concrete M20 kerb (top and bottom width 115 and 165 mm respectively, 250mm high in M20 grade PCC on M10 grade foundation on 150mm thick, kerb channel 300mm wide, foundation having 50mm projections beyond kerb stone, kerb stone rate laid with kerb laying machine all complete as per clause 408	Rmt	28801.00			-
17	Road Marking with Hot Applied Thermoplastic compound with Reflectorizing Glass Beads on Bituminous Surface (Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorizing glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35-1997. The finished surface to be level, uniform and free from streaks and holes.)	Sqm	11778.00			-

A Road Works						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
18	Providing and fixing of retro-reflectorised cautionary, mandatory, Informatory sign boards as per IRC:67-2012 and Type VIII fixed over 3 mm thk with 0.25 mm aluminium skin thickness on both side, ACM (Aluminum Composite Material) sheet, supported with back support frame of 25 X 25 X 3 mm mild steel angle and supported on hot dip galvanized hexagonal post, structure will be hot dip galvanized as per BS EN : ISO 1461, firmly fixed to the ground by means of properly designed foundation with M-20 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per approved drawings/ direction of Engineer-In-charge. An authorisation letter from the Retro Reflective Sheet Manufacturer and 7 Years outdoor weather exposure certificate (as per IRC 67-2012) for Retro Reflective sheeting from the original sheeting manufacturer is to be produced during the bid. (Make : Bajaj/ equivalent)					
a	90 cm equilateral triangle	Nos	120.00			-
b	60 cm equilateral triangle	Nos	120.00			-
c	60 cm circular	Nos	120.00			-
d	80 cm x 60 cm rectangular	Nos	120.00			-
e	60 cm x 45 cm rectangular	Nos	120.00			-
f	60 cm x 60 cm square	Nos	120.00			-
g	90 cm high octagon	Nos	120.00			-

A		Road Works				
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
19	Providing Object Marker of size 30 cm equilateral Triangle made of 3 mm thk with 0.25 mm aluminium skin thickness on both side, ACM (Aluminum Composite Material) sheet pasted with High intensity Grade Retro Reflective Sheeting duly treated with HLVA complete with post of angle size 50X50X6 mm of 0.75 m and fixing the same in M20 concrete block of size 30 X 30 X 30 cm including transportation etc. complete. (Make : Bajaj/ equivalent)	Nos	120.00			-
20	Avenue Plantation: Planting of Trees and their Maintenance for one Year (Planting of trees by the road side (Avenue trees) in 0.60 m dia. holes, 1 m. deep dug in the ground, mixing the soil with decayed farm yard/sludge manure, planting the saplings, backfilling the trench, watering, fixing the tree guard and maintaining the plants for one year)	Nos	2355.00			-
Sub Total of Road Work						-

Bill of Quantities

Infrastructure Development for Sector 7, 15 & 16 (Phase-I) in Naya Raipur

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
1	Excavation for drain (Earth work in excavation for drain/chamber as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.)	Cum	64389.00			-
2	Earth work in excavation for pipe trench in ordinary soil are as including dressing, watering and ramming and disposal of excavated earth lead up to 50meter sand lift up to 1.5m, disposal earth to be leveled, neatly dressed.					
a	upto 1.5 m deep	Cum	57773.00			-
b	>1.5m and upto3.0m deep	Cum	29673.00			-
c	>3.0m and upto 4.5m deep	Cum	33502.00			-
d	>4.5m and upto 6.0m deep	Cum	30.00			-
3	Earth work in Excavation for pipe trench in Hard Soil areas including dressing, watering and ramming and disposal of Excavated earth lead up to 50 meter sand lift up to 1.5m, disposal earth to be leveled, neatly dressed.					
a	upto 1.5 m deep	Cum	1846.00			-
b	>1.5m and upto 3.0m deep	Cum	7144.00			-
c	>3.0m and upto4.5m deep	Cum	9844.00			-
d	>4.5m and upto 6.0m deep	Cum	30.00			-

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
4	Earth work in excavation for pipe trench in all kinds of rocks in areas including dressing, stacking of useful material and disposal of unserviceable one up to 50 m lead and lift up to 1.5 m.					
	Hard rock requiring chiselling / where blasting is prohibited					
a	upto 1.5 m deep	Cum	30.00			-
b	>1.5m and upto 3.0m deep	Cum	30.00			-
c	>3.0m and upto4.5m deep	Cum	7016.00			-
d	>4.5m and upto 6.0m deep	Cum	30.00			-
5	Extra for every additional lead upto 50m or part here of over item 1 to 3	Cum	18756.00			-
6	Filling available excavated earth in trenches, plinth sides of foundation in layers not exceeding 20cm. in depth including consolidation of each layer by ramming watering, lead upto 50m and lift up to 1.5m in all kinds of soils	cum	109156.00			-
7	Providing and laying mechanically mixed cement concrete with crushed stone aggregate excluding centering and shuttering (with 40mm nominal size graded stone aggregate)					
a	M-10 Grade	Cum	3828.00			-
8	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete work including concrete laying, cost of centering, shuttering, finishing and including Admixtures in recommended proportions as per IS9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. M-20 grade design mix reinforced cement concrete by using 405 kg. of cement per cum of concrete. All work upto plinth level excluding the cost of reinforcement.					
a	M-20	Cum	22860.00			-
9	Providing and fixing one side polished 30 mm thick RAJIM SAND STONE shelves fixed in Drain wall top complete as per drawing.	sqm	18657.00			-

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
10	Providing, laying and placing of precast cement concrete cover of drain M-35 grade in superstructure including form work but excluding reinforcement complete .					
a	RCC M35 grade	Cum	1872.00			-
11	Providing and placing in position cold twisted or un-coated HYSD steel bar and hot rolled deformed steel reinforcement for R.C.C. work i/c cutting, bending, binding etc. complete i/c cost of binding wire and wastage.	kg	1370601.00			-
12	Structural steel hot dip galvanized MS angle welded over a base plate including cutting, welding ,hoisting and fixing in position with 3 nos. of 12mm diameter fastners etc. complete as per drawings and direction of Engineer complete etc.	kg	37620.00			-
13	Providing, laying, Jointing & field testing of High Density Polyethylene pipes, (HDPE) Conforming to IS4984/ 14151/ 12786/ 13488 with necessary jointing material like mechanical connector or jointing pipes by heating to the ends of pipes with the help of Teflon coated electric mirror/ heater to the required temperature and then pressing the ends together against each other, to form a monolithic & leak proof joint by thermo setting process. It may be required to be done with Jacks/ Hydraulic Jacks /But fusion machine. (50mm & above fusion jointed & below 50 mm mechanical jointed)					
a	110 mm dia.(PE-100) 6 Kg/sq.cm	Rm	6145.00			-
b	160 mm dia.(PE-100) 6 Kg/sq.cm	Rm	1170.00			-
c	200 mm dia.(PE-100) 6 Kg/sq.cm	Rm	11210.00			-
d	315 mm dia.(PE-100) 6 Kg/sq.cm	Rm	7245.00			-
14	Providing, laying and jointing socket & spigot centrifugally cast (Spun) Ductile Iron pressure pipes with inside cement mortar lining (class K-7) Conforming to IS 8329/2000 with suitable Rubber Gasket (Push on) joints as per IS:5382/85 including testing of joint (laying Conforming to IS 12288 : 1987)					
a	300mm diameter.	Rm	3810.00			-

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
b	400mm diameter.	Rm	3305.00			-
c	500mm diameter.	Rm	50.00			-
15	Providing & Supplying D.I. Specials & Fittings For all types of specials, bends, tees.. etc.					
a	80mm to 300 mm dia	Kg	300.00			-
16	Providing lead caulked joints to S.C.I or C.I. (spun) pipes and specials including testing of joints but excluding the cost of pig lead:					
a	200 mm diameter pipe	Each	6.00			-
17	Supplying pig lead at site of work.	quintal	0.15			-
18	Providing flanged joints to double flanged C.I./ D.I. pipes, valves and specials including rubber insertion 3mm thick, suitable bolts and nuts and testing of joints complete:					
a	100 mm diameter pipe	Each	23.00			-
b	150 mm diameter pipe	Each	2.00			-
c	200 mm diameter pipe	Each	27.00			-
d	300 mm diameter pipe	Each	24.00			-
e	400 mm diameter pipe	Each	2.00			-

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
f	500 mm diameter pipe	Each	1.00			-
19	Providing, lowering, laying, aligning, fixing in position at and jointing at all level/ depths HDPE pipe accessories/ fittings of PE-100 grade for potable water as per IS 8360 for fabricated (amended upto date) within pipe line in trenches complete including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer.(
	Providing and laying Equal Tee Conforming to IS specifications.					
a	110 mm dia. (6 Kg/sq.cm)	Each	60.00			-
b	160mm dia. (6 Kg/sq.cm)	Each	10.00			-
c	200 mm dia. (6 Kg/sq.cm)	Each	30.00			-
d	315 mm dia. (6 Kg/sq.cm)	Each	15.00			-
20	Providing and laying Bend 90°Conforming to IS specifications.					
a	110 mm dia. (6 Kg/sq.cm)	Each	60.00			-
b	160mm dia. (6 Kg/sq.cm)		10.00			-
c	200 mm dia. (6 Kg/sq.cm)	Each	30.00			-
d	315 mm dia. (6 Kg/sq.cm)	Each	15.00			-
21	Providing and laying Reducer 6kg/sq.cm: Conforming to IS specifications.					

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
a	110 mm dia. (STEP I)	Each	60.00			-
b	160 mm dia. (STEP I)	Each	10.00			-
c	200 mm dia. (STEP I)	Each	30.00			-
d	315 mm dia. (STEP I)	Each	15.00			-
22	Providing and laying End Cap Conforming to IS specifications.					
a	110mm dia (6 Kg/sq.cm)	Each	22.00			-
b	200 mm dia (6 Kg/sq.cm)	Each	15.00			-
c	315 mm dia (6 Kg/sq.cm)	Each	15.00			-
23	Providing & fixing of Cast iron double flanged sluice valves as per I.S.:14846-2000 fitted with cast iron cap including jointing & testing with cost of jointing material such as bolts, nuts, rubber insertions etc. all complete. (Steel Spindle)					
	Sluice Valve/Scour valve					
a	100 mm dia. PN-1.6	Nos	23.00			-
b	150 mm dia. PN-1.6	Nos	2.00			-
c	200 mm dia. PN-1.6	Nos	22.00			-

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
d	300 mm dia. PN-1.6	Nos	24.00			-
e	400 mm dia. PN-1.6	Nos	7.00			-
f	500 mm dia. PN-1.6	Nos	1.00			-
24	Providing & fixing cast iron double air valves, flanged without in-built isolating valve as per IS:14845-2000 including jointing & testing with cost of jointing material and rubber insertion all complete as per IS :13095-1991					
a	100 mm dia PN-1.6	Each	24.00			-
25	Providing and constructing Brick masonry valvechamber with 15cm thick 1:3:6 proportion PCC bedding excluding excavation, Brick masonry in C.M. 1:6 proportion, cement concrete grade M15 (Nominal mix) with stone aggregate 20 mm Nominal size for benching, precast RCC as directed by Engineer-in-Charge. (Note :- Wall thickness : 0.23 M for depth of 1.2M and 0.35 M for balance depth exceeding 1.2M. 12 mm plaster 1:3 inside chamber).					
a	Valve chamber with precast RCC cover	No	109.00			-
b	Size 1.2m x 1.2m, depth 1.2 M with cover	No	109.00			-
c	Add 30 cm or part thereof	30 cm depth	30.00			-
47	Providing, laying and jointing following P.V.C.-U pipes with solvent cement joint for Non-pressure gravity drain and sewer applications including testing of joints, cost of jointing materials etc. complete in all respect. [Conform to IS 15328:2003; solvent cement shall conform to IS 14182]. SN-8 (Make KML Classic/ Equivalent)					
a	250 mm	RM	4000.00			-

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
b	315 mm	RM	11050.00			-
48	Granular filling:-Providing 1 st class bedding below pipes with graded sand or other granular materials passing through 5.6 mm sieve as per clause 2904.	Cum	1744.00			-
49	HDPE manhole: Construction of prefabricated HDPE manhole: Providing, lowering, laying, aligning, fixing in position at all level/ depths High Density Poly Ethylene (HDPE) manhole conforming to EN 13598-2:2009, man entry type of 1000mm diameter for depth specified below, shall be of single wall construction OR modular construction conforming to EN 681-1 with triple safety seal (three side lip/element) made of 100% virgin PE material without recycling or foam content, including connecting the according to EN 681-1 and the manholes shall be safeguarded against uplift pressure with solid horizontal reinforcement ribs of appropriate thickness and with at regular intervals all along the outside of the manhole. The manhole shall have corrosion resistant steps at a vertical distance of 25cm and reinforced concrete load distribution ring placed around the neck of the manhole 150mm thickness , 1050mm OD & 635ID and designed to handle heavy load as approved by Engineer, distribution ring below M20 grade concrete thick 200mm with 1.5 dia. manhole around, Manhole bottom PCC (1:3:6)150mm thick 1.5m dia. Around manhole, including supply installation in position and back filling around the manhole in complete all accessories/ fittings, all material, labour, testing and commissioning as per detailed specifications, drawings all complete as directed by Engineer in charge.(Make : VECTUS INDUSTRIES LTD / equivalent)					
a	For depths up to 1.5m	Nos.	30.00			-
b	For depth above 1.5m and up to 1.8m	Nos.	55.00			-
c	For depth above 1.8m and up to 2.6m	Nos.	75.00			-
d	For depth above 2.6m and up to 3.2m	Nos.	130.00			-
e	For depth above 3.2m and up to 3.8m	Nos.	105.00			-
f	For depth above 3.8m and up to 4.2m	Nos.	55.00			-

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
g	For depth above 4.2m and up to 4.8m	Nos.	45.00			-
h	For depth above 4.8m and up to 5.4m	Nos.	15.00			-
i	For depth above 5.4m and up to 6.0m	Nos.	15.00			-
50	Horizontal directional drilling					
	Providing, Laying, Jointing, and commissioning of sewer networks by trench less method by carrying out horizontal directional drilling (HDD) along roads as per the requirement at various locations as per detailed design and drawing approved by the authority including survey, information collection regarding under ground utilities, sensing of utilities by sensing equipment, pit making, pilot drilling, pre-reaming pulling the ducts of suitable size as per the designed invert levels. Providing barricades and necessary signal lights, closing of pits with excavated earth including cost of casing pipe of 12mm thick MS pipe with epoxy paint and carrier pipe of GRP ,consolidating pit are, including road restoration, cost of all materials, labour, conveyance, hire charges etc. complete preparation of pit by excavated soil/ hard morum & refilling compacting surface as it is position / horizontal drilling across road for pipe line laying propose as per guide line and detail technical specifications all complete as per direction of Engineer in charge. The rate shall be inclusive of supplying, laying and testing of casing pipe and all other structures need to be constructed to meet the requirements of the sanctioning authority including necessary excavation, dewatering, refilling, transportation of surplus stuff of earth,as per technical specification and as per direction of Engineer in charge etc, complete.					
a	800mm diameter pipe	Rmt	150.00			-
51	Providing and constructing brick masonry chamber for underground C.I. inspection chamber and bends with well burnt modular clay bricks crushing strength not less than 35kg/cm ² in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) R.C.C. top slab with 1:2:4 mix (1 cement :2 coarse sand : 4 graded stone aggregate 20 mm nominal size) foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design :					
a	Inside dimensions 500x700 mm and 45 cm deep for pipe line with one or two inlets	Each	15.00			-
b	Inside dimensions 600x 850 mm and 45 cm deep for pipe line with three or more inlets :	Each	45.00			-

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
52	Providing SCI drop connection with SCI drop pipe and bend encased all-round with Cement concrete grade M-5 (Nominal Mix) with stone aggregate 40 mm nominal size including cutting holes and making good with brick work in cement mortar 1:5 (1cement:5finesand) plastered with cement mortar 1:3 (1cement:3coarsesand) on inside walls including lead caulked joint sand jointing SW pipes & SCI pipes with stiff cement mortar1:1(1cement:1sand) including making required channel etc.complete.					
a	For 150mm dia drop connection	each	15.00			-
53	Extraratefordepthsofdropmorethan60 cm					
a	150mm dia Sand cast iron drop connection	each	15.00			-
54	Providing and laying Reinforced Cement Concrete pipe NP 3 / prestressed concrete pipe. (Laying Reinforced cement concrete pipe NP3 /prestressed concrete pipe for culverts including fixing collar with cement mortar 1:2 but excluding bedding below pipes, excavation, protection works, backfilling, concrete and masonry works in head walls and parapets .)					
a	300 mm dia	Rmt	1908.00			-
b	450 mm dia	Rmt	962.00			-
c	600 mm dia	Rmt	108.00			-
d	1000 mm dia	Rmt	192.00			-
55	Providing, Laying and jointing non-pressure (NP2) RCC socket & spigot pipes with rubber gasket joint including testing of joints.[Conforming to IS ; 458-1988, ISI marked laying as per IS 783:1985)					
a	150 mm dia	Rmt	300.00			-
56	Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 40 kg each complete as per drawing and Technical specification.	Cum	375.00			-

B Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts,						
Sr. No.	Description of Items	Unit	Quantity	Rate (in INR)	Rate in words (in INR)	Total Amount (In INR)
57	Excavation for Structures (Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.)					
a	Ordinary soil Mechanical Means(Upto 3 m depth)	Cum	4456.00			-
58	Plain/Reinforced cement concrete in open foundation including formwork etc.complete as per drawing and technical specifications					
a	Using concrete mixer (PCC Grade M15)	Cum	289.00			-
59	Furnishing and Placing Reinforced/Prestressed cement concrete in super-structure as per drawing and Technical Specification sections 1500, 1600 and 1700					
a	Height upto 5 m For Solid Slab Super Structure Using Concrete MixerR.C.C. Grade M-20	Cum	33.00			-
b	Height upto 5m For Solid Slab Super Structure Using Concrete Mixer RCC Grade M 30	Cum	672.00			-
60	Providing and laying Plain/Reinforced cement concrete in sub-structure complete as per drawing and technical specifications section 1500, 1700 and 2200 including formwork etc.					
a	Height upto 5m Using concrete Mixer R.C.C. Grade M-30	Cum	2065.00			-
61	Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications	MT	64.00			-
62	Supplying, fitting and placing HYSD bar reinforcement in sub-structure complete as per drawing and technical specifications section 1600 and 2200	MT	186.00			-
Sub Total of Water supply, sewerage, Recycle water, drainage, RCC trench, Utility pipes, Pipe culverts and Box culverts						-