



Public Health Engineering Department

Government of West Bengal

GOVERNMENT OF WEST BENGAL
DEPARTMENT OF PUBLIC HEALTH ENGINEERING
NEW SECRETARIAT BUILDINGS (7th floor), KOLKATA – 700001

Memo no: - PHE/IV / 2583 /W-82/2021


Date: 02.11.2021

ORDER

The undersigned is directed by order of the Governor to say that, the Governor is pleased to accept the Schedule of Rates (Civil & Mechanical/Electrical) recommended by the Schedule Committee formed vide Order No. PHE/IV/2018/W-108/2020 dated 04.12.2020 at its meeting held on 04.10.2021.

2. This order issues in tandem with the approval of Secretary of this Department.
3. All concerned are being informed.

By order of the Governor,



Additional Secretary
to the Government of West Bengal

Memo no: - PHE/IV/ 2583 /W-82/2021

Date: 02.11.2021

Copy forwarded for necessary action to the:-

1. Principal Accountant General (Audit), West Bengal.
2. Principal Accountant General (A&E), West Bengal (Express Budget Section)
3. Principal Accountant General (R.W & L.B.A), West Bengal.
4. Principal Accountant General (General & Social Sector), West Bengal.
5. Accountant General (Economic & Revenue Sector Audit), West Bengal.
6. Dy. Accountant General (A/Cs & VLC), Express-A.M.-I Section, Treasury Bldgs, Kol-1
7. Director of Treasuries & Accounts, West Bengal.
8. Special Secretary/ Joint Secretary, Finance Department (Group N), Nabanna.
9. Special Secretary/ Joint Secretary, Finance Department (Group F), Nabanna.
10. Special Secretary/ Joint Secretary, Finance Department (Group T), Nabanna.
11. Sr. P.S. to Minister-in-Charge, PHE Department.
12. Sr. P.A to the Secretary, PHE Department
13. P.A. to the Engineer-in-Chief, PHE Department.
14. P.A. to the Additional Secretary, PHE Department.
15. Financial Advisor, PHE Department.
16. Chief Engineer (H.Qs), PHE Directorate
17. Chief Engineer (Planning & WQM), PHE Directorate
18. Chief Engineer (Western Zone), PHE Directorate.
19. Chief Engineer (Northern Zone), PHE Directorate.
20. Chief Engineer, Northern Zone (M/E), PHE Directorate.
21. Chief Engineer (Southern Zone), PHE Directorate.
22. Project Director, PMU, Purulia, WBPWSP, PHE Dte.
23. Chief Engineer & Project Director, WBDWSIP, PHE Dte.
24. File Copy.


Deputy Secretary (Technical)
to the Government of West Bengal

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NOTE SHEET

With a view to prepare a common schedule of Rates (SOR) for frequently used electro-mechanical works under PHE Dte. like supply, installation of pumping machineries, electrical panels & others accessories, which will be applicable for all Divisions under all circles of PHE Dte. in different district of West Bengal, a Schedule Committee was formed for finalizing the Schedule of Rates in terms of G.O. No. PHE/IV/2018/W-108/2020 dated. 04-12-2020.

It may be noted that rates for various items of electrical works which are already covered under SOR of West Bengal PHE (Mechanical / Electrical) – July 2019 (vide G.O. No. PHE/1723/IT-10/189 dated. 08-08-2018). Rate for automatic plunger type chlorinator (Flow rate 0-100 LPH & 0-200 LPH), repairing of automatic chlorinator by supplying of different spares at different W/S Scheme were not included in the SOR July – 2019. Hence, schedule for automatic plunger type chlorinator (Flow rate 0-100 LPH), repairing of automatic chlorinator by supplying of different spares at different W/S Scheme are prepared.

Rates for the items already exists in the SOR of West Bengal PHE (Mechanical / Electrical) – July 2019 have also reviewed by this SOR Committee. After review, the rate for diaphragm-type Automatic Chlorinator (0-200 LPH) has been modified and incorporated as amendment in this SOR.

For items like i) Schedule of Rates for Wiring with PVC Insulated & Unsheathed Copper Wires in PVC Rigid Conduit, ii) Schedule of Rates for Earthing Installation, iii) Schedule of Rates for Installation of Lightning Conductor, iv) Schedule of Rates for Fixing of Approved Materials (Main Switch, Distribution Boards, Fittings, Fans etc.), etc rates are taken from PWD Schedule of Rates (Electrical Works) Vol. I November 2017.

In order to arrive at the rate, the prevailing market rates of chlorinator and its spares have been considered along with carrying & forwarding charges @ 5% & contractor's profit @ 10%. GST as applicable will have to be added to the rate of any item of this SOR in order to arrive at the final rate of that item for preparation of estimate of supply work or GST @ 12% & Labour Cess @ 1% are to be added at the end of the estimate for any composite work.

Put up for approval please.

04/10/21
Executive Engineer
(Mech./Elec.)
PIU, North 24 Parganas,
WBDWSIP, P.H.Engg. Dte.
Govt. of West Bengal.

04/10/21
Superintending Engineer,
Planning Circle-I,
P.H.Engg. Dte.
and Convenor, SOR
Committee
P.H.Engg. Dte.
Govt. of West Bengal.

04/10/21
Chief Engineer
(Mech./Elec.),
Southern Zone,
P.H.Engg. Dte.
Govt. of West Bengal.

Chief Engineer,
Planning & WQM,
and Chairman, SOR
Committee
P.H.Engg. Dte.
Govt. of West Bengal.

1st CORRIGENDA & ADDENDA
FOR SCHEDULE OF RATES OF PHED ORIGINALLY
PUBLISHED ON JULY 2019, Page No-A1, Sl No- 1(b) & 2(b)

Supply, delivery and installation of Diaphragm type automatic chlorinator of different capacities.

Sl. No.	Description	Unit	Rate
1.	Supply, delivery and storage at site of automatically controlled diaphragm type chlorinator dosing pump. With flow rate 200 LPH and maximum pressure of 12 kg/cm ² [As detailed in Annexure-II].	Nos.	232733.00
2.	Installation and commissioning of item 1 (as detailed in Annexure-II)	Nos.	18000.00

Supply, Delivery and Installation of Automatic Plunger Type Chlorinator

Sl. No.	Description	Unit	Rate
1)	Supply, Delivery and storage at site of automatically controlled plunger type chlorinator dosing pump. (a) With flow rate 0 - 100 LPH and maximum pressure of 10kg/cm2 with all accessories including suitable prime mover, storage tank etc. [As detailed in Annexure-I].	nos.	63223.00
2.	Installation and commissioning of Item 1(a) (as detailed in Annexure-I)	nos.	4100.00

Annexure – I

Specification for Supply, Delivery and Installation of Automatic Plunger Type Chlorinator having flow rate of 0 – 100 LPH and maximum pressure of 10 kg / cm² (should be included in tender document)

Sl. No.	Description
1)	Supply & delivery of automatic plunger type chlorinator for feeding accurately automatic controlled dosage of chlorine solution into the water by connecting metering pump with flow rate of water 0 – 100 LPH with maximum pressure of 10 kg / cm ² suitable dosing pump and other necessary accessories on the delivery pipe line as required. The pump shall be coupled with ½ HP motor having 3 phase power and 1440 RPM (\pm 4%) [Make of Machine. As per attached vendor list of PHED].
2)	Installation and commissioning of above supplied chlorinator pump set and drawing of power line by supplying of necessary wire and continuous earthing connected to auto / manual panel. This includes the cost of making necessary brick foundation base with neat cement finish by supplying all required materials and testing the entire set as per direction of EIC.

N.B. : 1) Test Certificate & Guarantee Certificate of pump & motor needed.

2) All works should be carried out as per relevant & latest IS code.

Supply, Delivery and Installation of Automatic Plunger Type Chlorinator

Sl. No.	Description	Unit	Rate
1)	Supply, Delivery and storage at site of automatically controlled plunger type chlorinator dosing pump. (b) With flow rate 0 - 200 LPH and maximum pressure of 12kg/cm2 with all accessories including suitable prime mover, storage tank etc. [As detailed in Annexure-II].		
		nos.	232733.00
2.	Installation and commissioning of Item 1(a) (as detailed in Annexure-I)	nos.	18000.00

Annexure – II

Specification for Supply, Delivery and Installation of Automatic Plunger Type Chlorinator having flow rate of 0 – 200 LPH and maximum pressure of 12 kg / cm² (should be included in tender document)

Sl. No.	Description
1)	Supply & delivery of automatic plunger type chlorinator for feeding accurately automatic controlled dosage of chlorine solution into the water by connecting metering pump with flow rate of water 0 – 200 LPH with maximum pressure of 12 kg / cm ² suitable dosing pump and other necessary accessories on the delivery pipe line as required. The pump shall be coupled with 2 HP motor having 3 phase power and 1440 RPM ($\pm 4\%$) [Make of Machine. As per attached vendor list of PHED].
2)	Installation and commissioning of above supplied chlorinator pump set and drawing of power line by supplying of necessary wire and continuous earthing connected to auto / manual panel. This includes the cost of making necessary brick foundation base with neat cement finish by supplying all required materials and testing the entire set as per direction of EIC.

N.B. : 1) Test Certificate & Guarantee Certificate of pump & motor needed.

2) All works should be carried out as per relevant & latest IS code.

**REPAIRING OF AUTOMATIC CHLORINATOR BY SUPPLYING OF DIFFERENT SPARES AND OTHER WORKS
AT DIFFERENT W/S SCHEME**

Sl. No.	Description	Quantity	Rate
1)	Dismantling of chlorine machine part by part as per direction of EIC.	1 no.	500.00
2)	Supply of following spares as below		
(i)	15mm dia braided hose pipe	/mtr.	34.00
(ii)	Tail piece(200 mm long)	1 no.	25.00
(iii)	15mm dia GI Elbow	1 no.	23.00
(iv)	Long screw	1 no.	40.00
(v)	GM Gate valve(15 mm)	1 no.	370.00
(vi)	Mobil oil	/ltr.	335.00
(vii)	Starter Coil	1 no.	462.00
(viii)	Starter for chlorine motor (approve make).	1 no.	2657.00
(ix)	15 mm dia. NRV (approve make).	1 no.	370.00
(x)	100 liter chlorine tank (PVC)	1 no.	1860.00
(xi)	Diaphragm	1 no.	982.00
(xii)	GI pipe, 15mm	1 no.	46.00
(xiii)	SL Indicator	1 no.	5487.00
(xiv)	15mm dia. GI Tee	1 no.	35.00
(xv)	Gasket Set	1 no.	144.00
(xvi)	Short piece (100mm)	1 no.	14.00
(xvii)	15mm dia flexible pvc pipe for supply chlorine solution (approved make)	/mtr.	34.00
(xviii)	Worm Wheel suitable for positive chlorine pump.(MOC: PB2)	1 set	2743.00
(xix)	Eccentric Strap (MOC: EN8)	1 no.	2541.00
(xx)	Eccentric (MOC: EN8)	1 no.	2541.00
(xxi)	Coupling Rubber	1 no.	116.00
(xxii)	Bearing (approve make).	1 no.	474.00
(xxiii)	Slider (MOC: EN8)	1 no.	2512.00
(xxiv)	Worm Shaft (MOC: EN8)	1 no.	2541.00
3)	Washing, cleaning of chlorine machine unit including chlorine tank, pipe & specials etc. by engaging skilled personnel once in a month with supply of fast moving spares parts such as gland packing, clamp, nut & bolt etc. as required to keep the unit in healthy condition.	1 times	394.00
4)	Carrying of burnt out 0.5 HP chlorine Motor from work site to nearest work shop for repairing.	1 item	400.00
5)	Rewinding of 0.5 HP Chlorine motor with suitable size copper wire including heat varnishing and all complete as per direction.	1 item	2000.00
6)	Carrying of repaired 0.5 HP chlorine Motor from work shop to work site.	1 item	400.00
7)	Reassemble the above chlorine dosing pump part by part with newly supplied materials as exactly required [from Sl. No. (i) to (xxiv)] including old serviceable spares and testing complete as per direction of EIC.	1 item	1000.00

Annexure – III**SPECIFICATION FOR REPAIRING OF AUTOMATIC CHLORINATOR BY SUPPLYING OF DIFFERENT SPARES AND OTHER WORKS AT DIFFERENT W/S SCHEME (should be included in tender document)**

Sl. No.	Description
1)	Dismantling of chlorine machine part by part as per direction of EIC.
2)	Supply of following spares as below
(i)	15mm dia braided hose pipe
(ii)	Tail piece(200 mm long)
(iii)	15mm dia GI Elbow
(iv)	Long screw
(v)	GM Gate valve(15 mm)
(vi)	Mobil oil
(vii)	Starter Coil
(viii)	Starter for chlorine motor (approve make).
(ix)	15 mm dia. NRV (approve make).
(x)	100 liter chlorine tank (PVC)
(xi)	Diaphragm
(xii)	GI pipe, 15mm
(xiii)	SI. Indicator
(xiv)	15mm dia. GI Tee
(xv)	Gasket Set
(xvi)	Short piece (100mm)
(xvii)	15mm dia flexible pvc pipe for supply chlorine solution (approved make)
(xviii)	Worm Wheel suitable for positive chlorine pump.(MOC: PB2)
(xix)	Eccentric Strap (MOC: EN8)
(xx)	Eccentric (MOC: EN8)
(xxi)	Coupling Rubber
(xxii)	Bearing (approve make).
(xxiii)	Slider (MOC: EN8)
(xxiv)	Worm Shaft (MOC: EN8)
3)	Washing, cleaning of chlorine machine unit including chlorine tank, pipe & specials etc. by engaging skilled personnel once in a month with supply of fast moving spares parts such as gland packing, clamp, nut & bolt etc. as required to keep the unit in healthy condition.
4)	Carrying of burnt out 0.5 HP chlorine Motor from work site to nearest work shop for repairing.
5)	Rewinding of 0.5 HP Chlorine motor with suitable size copper wire including heat varnishing and all complete as per direction.
6)	Carrying of repaired 0.5 HP chlorine Motor from work shop to work site.
7)	Reassemble the above chlorine dozing pump part by part with newly supplied materials as exactly required [from Sl. No. (i) to (xxiv)] including old serviceable spares and testing complete as per direction of EIC.



SCHEDULE OF RATES

FOR CIVIL WORKS

Effective from 1st July, 2019

PUBLIC HEALTH ENGINEERING DEPARTMENT
GOVERNMENT OF WEST BENGAL

PREFACE

A Schedule Committee was formed in terms of G. O. No. PHE/1723/IT-10/18 dated 08.08.2018 of the PHE Department, Govt. of West Bengal for finalization and publishing schedule of rates to bring uniformity and consistency in different schedule items related to Civil Engineering works for execution of piped water supply schemes and other water supply related works under different Circles of Public Health Engineering Directorate, Govt. of West Bengal.

The purpose of the Committee was to frame the Schedule of Rates for Civil Engineering works in such a fashion so that it may be utilized both by the Planning & Working counterparts of PHED, whereas the working Circles could utilize the schedule of rates to frame estimates for water supply related works, the Planning counterpart could refer the same schedule for preparation of budgetary estimates.

The G.O. referred to above with detailed constitution of the Committee is given as Annexure-I. The Committee was further strengthened by inducting some senior Engineers from time to time whose valued opinion was found necessary for developing a comprehensive & well framed Schedule of Rates. A works group of Engineers was formed which was entrusted with the works of data collection, rate analysis and drafting.


It may be noted that rates for various items of civil works which are already considered under West Bengal PWD schedule of rates have not been covered in this Schedule of Rates.


Keeping in view the geography and geological characteristics, the entire state has been divided into six different zones and the zone-wise rates are arrived at and are given in this schedule.


For convenience of framing estimates as also for obtaining technical sanction, a standard proforma is included in this schedule which is given as Annexure-II.

All efforts have been taken to keep the schedule error free. However, effective & constructive suggestions are always welcome for corrections, addition & alterations of the scheduled items, if necessary for further improvement.

This Schedule of Rates will be effective from 01.07.2019.


Superintending Engineer,
Western Circle,
PHE Directorate
&
Convener of the Schedule
Committee of PHED


Superintending Engineer,
North Bengal Circle,
PHE Directorate


Chief Engineer,
Planning & Water Quality Mgmt.,
PHE Directorate
&
Chairman of the Schedule
Committee of PHED

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- I) Copy of PHED notification of formation of a committee for finalising the schedule of rates (both Mech. & Civil) along with general template for tendering, all type of tender.
- II) Template for general abstract of cost.

SECTION - A

GENERAL

A.1 INTRODUCTION:-

- Most of the items in the schedule of rates for PHED have been framed as per the specification as laid down in the relevant IS codes.
- The rates of the items have been derived mostly from the CPWD's analysis of rates & current PWD schedule of rates & amendments.
- Prices of major construction materials like stone materials, bricks, sand etc. have been taken from recent PWD schedule of rates.
- If not specifically indicated in the items, the rates appearing in this schedule are inclusive of cost of all supply, carriage, handling, fitting, fixing, toll charges, ferry charges etc. & all other incidental works, hire charges of tools & plants and all ancillary materials but excluding of GST.
- 5% over head charges & 10% contractors profit have been considered along with the aforesaid material cost, labour costs & other costs for arriving at the rate of different item of this schedule.

The basic price of different items of work was arrived with the following considerations: -

- i) For construction works where use of water is necessary, rates were framed considering 1% sundries, 1% water charges, 5% overhead and 10% contractor's profit.
- ii) For laying & other labour oriented items where no water is required, only 5% overhead & 10% contractor's profit has been considered.
- iii) For supply of materials, such as valves, specials etc. only 10% contractor's profit has been considered.
- iv) All the rates in the schedule are excluding GST and labour welfare Cess. After framing estimates, GST and labour welfare Cess should be added as applicable as per current norms (Please refer Annexure-II).

A.2 GENERAL GUIDELINES FOR WORK:-

A.2(a) Extras:-

(a) In riverine areas connected by river route and/or ferry crossing under Extra Rate

- | | |
|--|---------|
| (i) Hasnabad & Bhangore P. S. | @ 15% |
| (ii) Haroa, Canning, Kultali, Namkhana & Kakdwip P. S. | @ 15% |
| (iii) Gosaba, Basanti, Sandeshkhali, Hingalganj & Minakhan P. S. | @ 22.5% |
| (iv) Patharpratima & Sagar P.S. | @ 30% |

(b) In all other areas under Kakdwip PWD Sub-Division excluding the jurisdiction of Kakdwip P.S. in riverine areas connected by river route and/or Ferry crossing. @ 10%

- i) If repair works required inside running wards / cabins of hospitals are restricted by hospital authority in writing for duration less than usual working hours an extra rate of 10% will be allowed.
- ii) If for unavoidable circumstances works are to be done in emergency cases at night, extra rate @10% will be applicable to items of night work only strictly under certificate of Engineer- in-Charge.
- iii) For works at Bhutni under Manikchawk P.S. in Malda District Extra 15% (Fifteen per cent) over and above the rates provided in this schedule is allowed.

A.2(b) Rates of all the items will be enhanced by:-

- i) 20% for works in the following places (a) Hill area of Garubathan Block (b) Kalimpong Municipal Area (c) Dow hill area of Kurseong Sub-Division (d) Miric Block (e) Section from Mane Bhanjan to Phalut of Simana Sandakphu Phalut Road (f) Section from Peshoke Khola to Lopchu Tea Garden of S. H. No. 12 (g) within 10 km. from Mongpu under Takda Block (h) Ghoom Tiger Hill Road (i) Section Pankhabari Bazarto the Starting of Kurseong Municipal Road of Garidhura- Kurseong Road (j) Kalimpong Block I/II and Mongpo & Takda Block. k) Bijanbari Block l) Sukia Pokhri Block.

- ii) 20% of works in the following places:- (a) Darjeeling Municipal area (b) Kurseong Municipal area (excluding Dow Hill area) (c) Rangit (d) Health Centers at Singritam, Pokhriabong, Lodhama, Takling, Girdabling, Samathahar. Saimolbong & Sittong.
- iii) The rates under sections stated above for Jalpaiguri district are to be enhanced by 15% for works in Boxa Hills
- iv) The rate of this schedule will be enhanced due to various circumstances as mentioned below:- (a) By 10% (Ten percent) for works done within the Hilly region of Ajodhya in the District of Purulia.

[Note:- A region will be treated as hills if the altitude is more than 200 meters from the level of any adjoining area within 10 km radius.]

- v) By 5 % (Five percent) for works done within the region of Khanakul-I & II Block under the District of Hooghly.

A.2(c) Other general guidelines

- i) All materials brought to site must have approval of Engineer in-Charge. Rejected material must be removed by the contractor from the site within 24 hours of the issue of orders to that effect. In case of non-compliance with such orders, the 'Engineer-in-Charge' shall have the authority for removal of those rejected materials at the cost and expenses of contractor and the contractor shall not be entitled to any loss or damage on that account.
- ii) The site must be cleared by the contractor from time to time by removing rubbish, debris etc. as accumulated during the work and on completion the whole site must be left in a clean and tidy condition to the satisfaction of Engineer-in-Charge or his representative.
- iii) Carriage of materials (unless specifically considered in the Rate Analysis) is the sole responsibility of the contractor for which no extra payment should be made (unless in exigency a few of those seem to be justified by the Engineer-in-Charge, when the same are to be approved by the concerned Superintending Engineer).

- iv) Both metallic and non-metallic pipes may be considered for pipe dia up to 300 mm, the selection being guided by cost, accessibility, nature of soil, social behavior of the beneficiaries and traffic load. The respective BIS code for different types of pipe should also be consulted for this purpose.
- v) For Saline areas use of UPVC / HDPE pipe is preferred.
- vi) For Rocky areas use of HDPE / DI K7 and K9 pipe is preferred.
- vii) For Zone – VI, HDPE (PE 100, PN10) pipe can be used as per direction of EIC.

A.4 ZONE CONSIDERATIONS:-

ZONE-I	ZONE-II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
Kolkata / N-24 Parganas / S-24 Parganas / Howrah / Hoogly / Nadia / Purba Midnapore	Purba Bardhaman / Bankura / Birbhum / Murshidabad	Paschim Bardhaman / Jhargram / Paschim Midnapore / Purulia	Malda / Dakshin Dinajpur / Uttar Dinajpur	Alipurduar / Coochbehar / Jalpaiguri / Siliguri Sub-Division	Darjeeling & Kalimpong (Hill Area)

SECTION - B

ORIGINAL WORKS

SECTION – B.1

RIG BORE DEEP TUBE-WELL

Section - B.1: RIG BORED TUBE WELL

Rig Bored Tubewell by Direct/Reverse Rotary method of drilling

Item No.	Description of Items	Unit	Rate (Rs.)
1	Site Preparation, Temporary Latrine, Placement & levelling of Rig Machine, Mast hoisting and Casing drilling (Upto 6 mtr.) Placement of Casing with all allied works necessary to commence drilling woks and wind up of all machineries after completion of Drilling.	LS	₹ 64,146.00
2	Drilling by Direct Rotary method of drilling using 9 7/8" dia.bit for pilot bore follwed by subsequently reaming using 12 1/4" dia. ,15 " dia. and 17.5" dia. Rock Roller Bits/ Drag Bits in consolidated, semi consolidated and soft formation up to required depth including casing boring and casing lowering as required including cost of fuels and lubricants etc. as required for drilling.		
	Note: 1)Rate only for pilot drilling will be @ 50%. of item rate. 2)Rate for reaming by 12 1/4 " dia. bit will be @ 14% of item rate. 3)Rate for reaming by 15 " dia. bit will be @ 16% of item rate. 4)Rate for reaming by 17.5 " dia. bit will be @ 20% of item rate.		
a)	From 6 Mtr. to 60 Mtr.	Mtr	885.00
b)	From 60 Mtr. to 90 Mtr.	Mtr	974.00
c)	From 90 Mtr. to 120 Mtr.	Mtr	1,071.00
d)	From 120 Mtr. to 150 Mtr.	Mtr	1,178.00
e)	From 150 Mtr. to 180 Mtr.	Mtr	1,296.00
f)	From 180 Mtr. to 210 Mtr.	Mtr	1,426.00
g)	From 210 Mtr. to 240 Mtr.	Mtr	1,569.00
h)	From 240 Mtr. to 270 Mtr.	Mtr	1,726.00
i)	From 270 Mtr. to 300 Mtr.	Mtr	1,899.00
j)	From 300 Mtr. to 330 Mtr.	Mtr	2,089.00
k)	From 330 Mtr. to 360 Mtr.	Mtr	2,298.00
l)	From 360 Mtr. to 390 Mtr.	Mtr	2,528.00
m)	From 390 Mtr. to 420 Mtr.	Mtr	2,781.00
n)	From 420 Mtr. to 450 Mtr.	Mtr	3,059.00
3	Drilling by Reverse Rotary method of drilling using 9 7/8" dia.bit for pilot bore follwed by subsequently reaming using 12 1/4" dia. ,15 " dia. and 17.5" dia. Rock Roller Bits/ Drag Bits in consolidated, semi consolidated and soft formation up to required depth including casing boring and casing lowering as required including cost of fuels and lubricants etc. as required for drilling.		

Section - B.1: RIG BORED TUBE WELL

Rig Bored Tubewell by Direct/Reverse Rotary method of drilling

Item No.	Description of Items	Unit	Rate (Rs.)
	Note: 1)Rate only for pilot drilling will be @ 50%. of item rate. 2)Rate for reaming by 12 1/4 " dia. bit will be @ 14% of item rate. 3)Rate for reaming by 15 " dia. bit will be @ 16% of item rate. 4)Rate for reaming by 17.5 " dia. bit will be @ 20% of item rate.		
a)	From 6 Mtr. to 60 Mtr.	Mtr	796.50
b)	From 60 Mtr. to 90 Mtr.	Mtr	876.60
c)	From 90 Mtr. to 120 Mtr.	Mtr	963.90
d)	From 120 Mtr. to 150 Mtr.	Mtr	1,060.20
e)	From 150 Mtr. to 180 Mtr.	Mtr	1,166.40
f)	From 180 Mtr. to 210 Mtr.	Mtr	1,283.40
g)	From 210 Mtr. to 240 Mtr.	Mtr	1,412.10
h)	From 240 Mtr. to 270 Mtr.	Mtr	1,553.40
i)	From 270 Mtr. to 300 Mtr.	Mtr	1,709.10
j)	From 300 Mtr. to 330 Mtr.	Mtr	1,880.10
k)	From 330 Mtr. to 360 Mtr.	Mtr	2,068.20
l)	From 360 Mtr. to 390 Mtr.	Mtr	2,275.20
m)	From 390 Mtr. to 420 Mtr.	Mtr	2,502.90
n)	From 420 Mtr. to 450 Mtr.	Mtr	2,753.10
4	Lowering the tube well assembly (UPVC Casing pipe ,well pipe, strainer along with UPVC accessories) vertically in a position with proper lowering arrangement by applying necessary jointing compound including labour cost for subsequent gravel packing and machine operation cost etc.	LS	26,571.00
5	Cost of Consumables for drilling rigs and machineries.	LS	22,077.00
6	Development (Min. 8 Hr. continuous) of tube well by using suitable air compressor (Min. Capacity: 600CFM & operating Pressure 14 Bar) followed by yield testing with BHT pump (Head :45 to 50mtr.,Discharge :1100 to 1000 LPM and 25 BHP engine) all complete including To & Fro Transportation cost and Cost of fuels, lubricants & Labour etc.	LS	56,908.00
7	Water sample collection and chemical test including Arsenic Test.	LS	2,425.00
8	Transportation cost of drilling equipment and accessories rig machine etc. including cost of fuel,Lubricant & loading unloading the materials from store/stack yard /suppliers godown and unloading /stacking the same at site. (Upto 60.0 km distance)	LS	59,786.00

Section - B.1: RIG BORED TUBE WELL

Rig Bored Tubewell by Direct/Reverse Rotary method of drilling

Item No.	Description of Items	Unit	Rate (Rs.)
9	Supply and delivery of UPVC pipe (CD) conforming to IS 12818:2010. (CIPET Certified)		
	a) 300 mm dia.	Mtr	4,662.00
	b) 250 mm dia.	Mtr	3,325.00
	c) 200 mm dia.	Mtr	2,173.00
	d) 150 mm dia.	Mtr	1,157.00
10	Supply and delivery of UPVC Deep Well Screen (RDS) Pipes with Ribs conforming to IS 12818:2010 .(CIPET Certified)		
	a) 200 mm dia.	Mtr	3,280.00
	b) 150 mm dia.	Mtr	1,832.00
11	Supply and delivery of UPVC pipe (CM) conforming to IS 12818:2010. (CIPET Certified)		
	a) 300 mm dia.	Mtr	3,628.00
	b) 250 mm dia.	Mtr	2,578.00
	c) 200 mm dia.	Mtr	1,684.00
	d) 150 mm dia.	Mtr	925
12	Supply and delivery of UPVC Medium Well Screen (RMS) Pipes with Ribs conforming to IS 12818:2010. (CIPET Certified)		
	a) 200 mm dia.	Mtr	2,546.00
	b) 150 mm dia.	Mtr	1,502.00
13	Supply and delivery of UPVC Reducer		
	a) 300mmx 200 mm dia. (300mmx250mm-1 no & 250mmx200mm-1 no)		6,989.00
	b) 250mmx 150 mm dia. (250mmx200mm-1 no & 200mmx150mm-1 no)		2,477.00
	c) 250mmx 200 mm dia.	Each	1,415.00
	d) 200mmx 150 mm dia.	Each	1,062.00
14	Supply and delivery of UPVC Cap		
	a) 300 mm dia.	Each	1,179.00
	b) 250 mm dia.	Each	975
	c) 200 mm dia.	Each	767
	d) 150 mm dia.	Each	302
15	Supply and delivery of M.S. Housing clamp 250 mm dia.	Set	3,252.00
16	Supply and delivery of M.S .Centre guide (Special Type).	Set	950
17	Supply and delivery of Washed gravels size ranging from 1.80 mm to 4.74 mm. conforming to IS 4097 : 1967.	m ³	3,810.00
18	Supply and delivery of Bentonite Powder conforming to IS 6186 : 1986.	MT	13,963.00
19	Electro-logging charge.	LS	15715

Section - B.1 : RIG BORED TUBE WELL

Deep Tubewell by ODEX-115 method of drilling

Item No.	Description of Items	Unit	Rate (Rs.)
1	Drilling borehole by Rig machine with Odex-115 (Simultaneous driving of casing pipe) method of drilling through any kind of soil, boulder, rock etc. upto the required depth. This item includes the cost of hiring of Rig machine, Compressor, Supporting vehicle and other machinery & equipments with operators, drivers, laborers etc. Proportionate cost of drilling tools and accessories such as Hammer, Pilot bit, Reamer bit, Guide device, Guide sleeve etc. Cost of consumable materials like fuel & lubricants, electrode for welding, any other related equipment, materials and service etc.		
	a). GL to 60 mtr.	Mtr	1105.00
	b). 60 mtr. to 100 mtr.	Mtr	1215.00
	c). 100 mtr. to 120 mtr.	Mtr	1326.00

FOR INDIA MARK-II HAND PUMP FITTED TW (Item 2 to item 5)

2	Lowering and placing of filter assembly of required length and Extraction and partening off the casing pipe of required length.	LS	5000.00
3	Mobilisation and transportation of the Rig machine and its accessories and others materials, etc. to the site.	LS	8000.00
4	Development of the tubewell by Air Compressor upto the satisfaction of EIC. It includes arrangement of all machinery, supply of fuel & lubricants, laborers, any others etc.	LS	8000.00
5	Construction of Platform and installation of India Mark-II hand pump as per technical specification.	LS	5900.00

FOR SUBMERSIBLE PUMP FITTED TW (Item 6 to item 8)

6	Lowering and placing of filter assembly of required length and Extraction and partening off the casing pipe of required length.	LS	8000.00
7	Mobilisation and transportation of the Rig machine and its accessories and others materials, etc. to the site.	LS	10000.00
8	Development of the tubewell by Air Compressor and BHT/ other suitable pump and Yield Testing by BHT/ other suitable pumping machinery upto the satisfaction of EIC. It includes arrangement of all machinery, supply of fuel & lubricants, laborers, any others etc.	LS	30000.00
9	Supply and delivery of 128 mm ID/139 mm OD MSERW fin cut pipe	Mtr	990.00
10	Supply and delivery of 80 mm dia x 3 mtr. Long HDPE Jacketed Strainer	Each	5932.00
11	Supply and delivery of Bit tube (0.67mtr. Long) for Odex-115	Each	670.00
12	Supply and delivery of Casing Shoe (for Odex-115)	Each	4404.00

Section - B.1 : RIG BORED TUBE WELL

Deep Tubewell by ODEX-115 method of drilling

Item No.	Description of Items	Unit	Rate (Rs.)
13	Supply and delivery of Packer Assembly (for Odex-115)	Each	2717.00
FOR INDIA MARK-II HAND PUMP FITTED TW (Item 14 to item 15)			
14	Supply and delivery of MS TW Specials (Clamp, Cap, Bail plug, Lugs, Ring etc.)	LS	1200.00
15	Supply and delivery of India Mark-II hand pump set	Set	13624.00
FOR SUBMERSIBLE PUMP FITTED TW (Item 16)			
16	Supply and delivery of MS TW Specials (Clamp, Cap, Bail plug, Lugs, Ring etc.)	LS	1800.00

Section - B.1 : RIG BORED TUBE WELL

Deep Tubewell by ODEX-165 method of drilling

Item No.	Description of Items	Unit	Rate (Rs.)
1	Drilling borehole by Rig machine with Odex-165 (Simultaneous driving of casing pipe) method of drilling through any kind of soil, boulder, rock etc. upto the required depth. This item includes the cost of hiring of Rig machine, Compressor, Supporting vehicle and other machinery & equipments with operators, drivers, laborers etc. Proportionate cost of drilling tools and accessories such as Hammer, Pilot bit, Reamer bit, Guide device, Guide sleeve etc. Cost of consumable materials like fuel & lubricants, electrode for welding, any other related equipment, materials and service etc.		
	a). GL to 60 mtr.	Mtr	2332.00
	b). 60 mtr. to 100 mtr.	Mtr	2565.00
	c). 100 mtr. to 120 mtr.	Mtr	2798.00
2	Lowering and placing of filter assembly of required length and Extraction and partening off the casing pipe of required length.	LS	18700.00
3	Mobilisation and transportation of the Rig machine and its accessories and others materials, etc. to the site.	LS	18000.00
4	Development of the tubewell by Air Compressor and BHT/ other suitable pump and Yield Testing by BHT/ other suitable pumping machinery upto the satisfaction of EIC. It includes arrangement of all machinery, supply of fuel & lubricants, laborers, any others etc.	LS	40000.00
5	Supply and Delivery of 183 mm ID/196 mm OD MSERW fin cut pipe	Mtr	1470.00
6	Supply and Delivery of 125 mm dia LCG/HDPE/other suitable filter	Mtr	2050.00
7	Supply and Delivery of Bit tube (1.5mtr. Long) for Odex-165	Each	3000.00
8	Supply and Delivery of Casing Shoe (for Odex-165)	Each	15330.00
9	Packer Assembly (for Odex-165)	Each	11555.00
10	Supply and Delivery of MS TW Specials (Clamp, Cap, Bail plug, Lugs, Ring etc.)	Item	3390.00

Section - B.1 : RIG BORED TUBE WELL

Rig Bored Tubewell by DTH method of drilling (125mm x 115mm)

Item No.	Description of Items	Unit	Rate (Rs.)
1	Drilling bore hole in DTH method through any kind of soils and rocks in overburden suitable for lowering and fitting fixing of 125 mm dia. casing pipe up to an average depth of 23 mtrs. and subsequently 115 mm diameter boring through any kind of rocky formation upto a total depth of 70 mtrs including all other works necessary for boring as per direction of E.I.C This item includes the cost of hiring of Rig machine, Compressor, Supporting vehicle and other machinery & equipments with operators, drivers, laborers etc. Proportionate cost of drilling tools and accessories such as Hammer, Bit, etc. Cost of consumable materials like fuel & lubricants, any other related equipment, materials and service etc. as per technical specification.		
	a). 0 to 23 mtr (Over burden)	Mtr	₹ 411.00
	b). Over burden / from 23 mtr to 70 mtrs and above	Mtr	₹ 496.00
2	Supply & delivery of 125mm internal dia UPVC casing pipe (minimum wall thickness 6.5 mm) having 3 mtr length each both end threaded and one end socketed as per IS-12818CM/CS (CEPET test may be performed before supply at store as per direction of EIC)	Mtr	₹ 726.00
3	Mobilisation and transportation of the Rig machine and its accessories and others materials, etc. to the site.	L.S	₹ 8,000.00
4	Supply and delivery of India Mark-II hand pumps as per standard specification approved by PHE Dte.	Set	₹ 13,624.00
5	Construction of Platform and installation of India Mark-II hand pump as per technical specification.	each	₹ 5,900.00
	<p>N.B</p> <p>1. Necessary cement, sand and stone chips are to be supplied by the agency and construction of platform is to be done in 1:2:4 ratios.</p> <p>2. No transportation charge for transporting the any material from PHE store to sites and sites to PHE store will be paid by PHE Dte.</p>		

SECTION – B.2

DIFFERENT CATEGORY OF PIPELINE WORKS
FOR
WATER SUPPLY PROJECTS.

PUBLIC HEALTH ENGINEERING DEPARTMENT (GOVT. OF WEST BENGAL)

SCHEDULE OF RATES FOR DIFFERENT CATEGORY OF PIPE LINE WORKS FOR WATER SUPPLY PROJECTS

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
1	<p>Carrying CI/DI pipes with specials and valves and lowering placing in position and laying carefully inside the trenches in proper alignment and gradient etc. including earth work in excavation of adequate width as per specification having min. clear cover from top of pipe is 1.10mtr. below existing ground level in any kind of soil including mixed with boulder, road sub-grade and its flank, but excluding moorum and laterite and stone etc. without damaging the existing telephone/electric cable etc. (in case of damaged if any type of cable line during execution, necessary damaged charges as applicable by the respective authority will be borne by the agency in his own cost) preparing the bottom surface for continuous bedding of pipe line and laying pipes, fitting, fixing specials and valves with bailing out water if any including carriage of pipes, specials and valves from local depts. store within 8KM and back filling the trenches with excavated earth in layers to original condition as per specification and direction of EIC. The surplus materials after execution of work are to be return to the depts. store.</p> <p>N.B: i) Any deviation from required clear cover of 1.10mtr., due to site adverse condition, prior permission is to be obtained from the EIC in exceptional situation and payment will be made on prorated basis over the rate of entire item</p> <p>ii) No payment will be made without hydraulic test of the pipe line either part or full</p> <p>iii) The pipes, specials and valves, rubber gasket will be supplied depts. free of cost.</p>							

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	a) 80mm dia	Mtr.	₹ 67.00	₹ 67.00	₹ 67.00	₹ 67.00	₹ 67.00	₹ 67.00
	b) 100mm dia.	Mtr.	₹ 72.00	₹ 72.00	₹ 72.00	₹ 72.00	₹ 72.00	₹ 72.00
	c) 125mm dia.	Mtr.	₹ 100.00	₹ 100.00	₹ 100.00	₹ 100.00	₹ 100.00	₹ 100.00
	d) 150mm dia.	Mtr.	₹ 112.00	₹ 112.00	₹ 112.00	₹ 112.00	₹ 112.00	₹ 112.00
	e) 200mm dia.	Mtr.	₹ 136.00	₹ 136.00	₹ 136.00	₹ 136.00	₹ 136.00	₹ 136.00
	f) 250mm dia.	Mtr.	₹ 164.00	₹ 164.00	₹ 164.00	₹ 164.00	₹ 164.00	₹ 164.00
	g) 300mm dia.	Mtr.	₹ 192.00	₹ 192.00	₹ 192.00	₹ 192.00	₹ 192.00	₹ 192.00
	h) 350mm dia.	Mtr.	₹ 225.00	₹ 225.00	₹ 225.00	₹ 225.00	₹ 225.00	₹ 225.00
	i) 400mm dia.	Mtr.	₹ 260.00	₹ 260.00	₹ 260.00	₹ 260.00	₹ 260.00	₹ 260.00
	j) 450mm dia.	Mtr.	₹ 297.00	₹ 297.00	₹ 297.00	₹ 297.00	₹ 297.00	₹ 297.00
	k) 500mm dia.	Mtr.	₹ 331.00	₹ 331.00	₹ 331.00	₹ 331.00	₹ 331.00	₹ 331.00
	l) 600mm dia.	Mtr.	₹ 416.00	₹ 416.00	₹ 416.00	₹ 416.00	₹ 416.00	₹ 416.00
	m) 700mm dia.	Mtr.	₹ 501.00	₹ 501.00	₹ 501.00	₹ 501.00	₹ 501.00	₹ 501.00
	n) 750mm dia.	Mtr.	₹ 545.00	₹ 545.00	₹ 545.00	₹ 545.00	₹ 545.00	₹ 545.00
	o) 800mm dia.	Mtr.	₹ 591.00	₹ 591.00	₹ 591.00	₹ 591.00	₹ 591.00	₹ 591.00
	p) 900mm dia.	Mtr.	₹ 706.00	₹ 706.00	₹ 706.00	₹ 706.00	₹ 706.00	₹ 706.00
	q) 1000mm dia.	Mtr.	₹ 828.00	₹ 828.00	₹ 828.00	₹ 828.00	₹ 828.00	₹ 828.00

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
2	<p>Supplying, laying, fitting, fixing and jointing of UPVC pipes conforming to IS:4985-2000 with latest revision and amendments, if any, with necessary UPVC/CI specials, CIDF sluice valves, as per relevant I.S. specification including labour charges for earth work in excavation in any kind of soil including mixed soil with boulder ,road sub-grade and its flanks but excluding moorum and laterite or sand stonehard arock including cutting of brick payment without damaging the existing telephone/electrical cable line etc.(in case of damage of any type of cable line during excavation, necessary damaged charges as applicable by the respaective authority will be borne by the agency in his own cost. Loading, unloading, carrying of pipes, specials, valves from the local store to work site and lowering laying of pipes specials valves carefully in trenches maintaining proper levels and alignment ,jointing the pipe and specials including supplying of good quality/approved brand solvent cement (as per IS:14182-1994 including cost of all fabricated PVC fitting i.e. tees,bend, reducers, adopter etc.as per IS:101-1988 and making flange joints including supplying required quantity of nuts, bolts and rubber insertion (CIDF sluice valves will be supplied by the department free of cost) as required at site by adopting suitable method so as to facilate the maintenance of pipe line locally as per conventional method including back filling the trenches with good earth obtained from excavation of trenches including consolidation with watering in layer not exceeding 150mm thk. with maintaining an average depth of</p> <p>cushion of 1.10mtr. from the top of pipe line including making interconnection with distribution pipes etc. all complete as per drawing direction and satisfaction of the E.I.C.</p> <p>N.B. i) Manufacturer's test certificate for UPVC pipe & specials to be produced before laying of pipe line.</p>							

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	<p>ii) 3rd party inspection of UPVC pipe & specials to be done by CEPET or (India) SGS/NTH Kolkata or as per direction of EIC as per approved vender list.</p> <p>iii)No part payment at any stage on account of supply of materials shall be entertained.</p> <p>iv)Payment will be made on actual consumption of materials.</p> <p>v)UPVC pipes for the works to be supplied as per approved vendor list and as per direction & satisfaction of EIC. No pipes will be allowed beyond recommended vendor list.</p> <p>vi)Submission of drawing of pipe line with statement of materials consumed between node to node points against each R.A. & final bill.if so.</p> <p>vii) Any deviation from required clear cover of 1.10mtr.due to site adverse condition, prior permission is to be obtained from EIC and payment for such work will be made on prorata basis over the rate of entire item.</p> <p>viii)All pipe connection shall be completed in all respect and as per directionof EIC. Decision of EIC in this respect is final & binding. In case of any deviation/or any left out pipe connections an amount of Rs.10,000.00 for each pipe connection will be realized/recovered from the bill.</p>							
	(A) Pressure Rating : Class - III							
	(i) Laying of pipe line including cost of pipe only excluding cost of specials/fittings & valves.							
	a) 75mm(OD)	Mtr.	₹ 181.00	₹ 181.00	₹ 181.00	₹ 181.00	₹ 181.00	
	b) 90mm (OD)	Mtr.	₹ 238.00	₹ 238.00	₹ 238.00	₹ 238.00	₹ 238.00	
	c) 110mm(OD)	Mtr,	₹ 319.00	₹ 319.00	₹ 319.00	₹ 319.00	₹ 319.00	
	d) 125mm(OD)	Mtr.	₹ 424.00	₹ 424.00	₹ 424.00	₹ 424.00	₹ 424.00	
	e) 140mm(OD)	Mtr.	₹ 518.00	₹ 518.00	₹ 518.00	₹ 518.00	₹ 518.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	f) 160mm(OD)	Mtr.	₹ 645.00	₹ 645.00	₹ 645.00	₹ 645.00	₹ 645.00	
	g) 180mm(OD)	Mtr.	₹ 813.00	₹ 813.00	₹ 813.00	₹ 813.00	₹ 813.00	
	h) 200mm(OD)	Mtr.	₹ 989.00	₹ 989.00	₹ 989.00	₹ 989.00	₹ 989.00	
	i) 225mm(OD)	Mtr.	₹ 1,232.00	₹ 1,232.00	₹ 1,232.00	₹ 1,232.00	₹ 1,232.00	
	j) 250mm(OD)	Mtr.	₹ 1,515.00	₹ 1,515.00	₹ 1,515.00	₹ 1,515.00	₹ 1,515.00	
	k) 280mm(OD)	Mtr.	₹ 1,894.00	₹ 1,894.00	₹ 1,894.00	₹ 1,894.00	₹ 1,894.00	
	l) 315mm(OD)	Mtr.	₹ 2,390.00	₹ 2,390.00	₹ 2,390.00	₹ 2,390.00	₹ 2,390.00	
	(ii) Laying of pipe line including cost of pipe & fittings/specials but excluding cost of valves.							
	a) 75mm(OD)	Mtr.	₹ 187.00	₹ 187.00	₹ 187.00	₹ 187.00	₹ 187.00	
	b) 90mm (OD)	Mtr.	₹ 247.00	₹ 247.00	₹ 247.00	₹ 247.00	₹ 247.00	
	c) 110mm(OD)	Mtr,	₹ 332.00	₹ 332.00	₹ 332.00	₹ 332.00	₹ 332.00	
	d) 125mm(OD)	Mtr.	₹ 441.00	₹ 441.00	₹ 441.00	₹ 441.00	₹ 441.00	
	e) 140mm(OD)	Mtr.	₹ 540.00	₹ 540.00	₹ 540.00	₹ 540.00	₹ 540.00	
	f) 160mm(OD)	Mtr.	₹ 672.00	₹ 672.00	₹ 672.00	₹ 672.00	₹ 672.00	
	g) 180mm(OD)	Mtr.	₹ 848.00	₹ 848.00	₹ 848.00	₹ 848.00	₹ 848.00	
	h) 200mm(OD)	Mtr.	₹ 1,033.00	₹ 1,033.00	₹ 1,033.00	₹ 1,033.00	₹ 1,033.00	
	i) 225mm(OD)	Mtr.	₹ 1,287.00	₹ 1,287.00	₹ 1,287.00	₹ 1,287.00	₹ 1,287.00	
	j) 250mm(OD)	Mtr.	₹ 1,584.00	₹ 1,584.00	₹ 1,584.00	₹ 1,584.00	₹ 1,584.00	
	k) 280mm(OD)	Mtr.	₹ 1,982.00	₹ 1,982.00	₹ 1,982.00	₹ 1,982.00	₹ 1,982.00	
	l) 315mm(OD)	Mtr.	₹ 2,502.00	₹ 2,502.00	₹ 2,502.00	₹ 2,502.00	₹ 2,502.00	
	(iii) Laying of pipe line including cost of pipe, fittings/specials & valves.							
	a) 75mm(OD)	Mtr.	₹ 200.00	₹ 200.00	₹ 200.00	₹ 200.00	₹ 200.00	
	b) 90mm (OD)	Mtr.	₹ 265.00	₹ 265.00	₹ 265.00	₹ 265.00	₹ 265.00	
	c) 110mm(OD)	Mtr,	₹ 376.00	₹ 376.00	₹ 376.00	₹ 376.00	₹ 376.00	
	d) 125mm(OD)	Mtr.	₹ 498.00	₹ 498.00	₹ 498.00	₹ 498.00	₹ 498.00	
	e) 140mm(OD)	Mtr.	₹ 612.00	₹ 612.00	₹ 612.00	₹ 612.00	₹ 612.00	
	f) 160mm(OD)	Mtr.	₹ 763.00	₹ 763.00	₹ 763.00	₹ 763.00	₹ 763.00	
	g) 180mm(OD)	Mtr.	₹ 967.00	₹ 967.00	₹ 967.00	₹ 967.00	₹ 967.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	h) 200mm(OD)	Mtr.	₹ 1,179.00	₹ 1,179.00	₹ 1,179.00	₹ 1,179.00	₹ 1,179.00	
	i) 225mm(OD)	Mtr.	₹ 1,472.00	₹ 1,472.00	₹ 1,472.00	₹ 1,472.00	₹ 1,472.00	
	j) 250mm(OD)	Mtr.	₹ 1,813.00	₹ 1,813.00	₹ 1,813.00	₹ 1,813.00	₹ 1,813.00	
	k) 280mm(OD)	Mtr.	₹ 2,270.00	₹ 2,270.00	₹ 2,270.00	₹ 2,270.00	₹ 2,270.00	
	l) 315mm(OD)	Mtr.	₹ 2,866.00	₹ 2,866.00	₹ 2,866.00	₹ 2,866.00	₹ 2,866.00	
	(B) Pressure Rating : Class V							
	(i) Laying of pipe line including cost of pipe only excluding cost of specials/fittings valves.							
	a) 75mm(OD)	Mtr.	₹ 260.00	₹ 260.00	₹ 260.00	₹ 260.00	₹ 260.00	
	b) 90mm (OD)	Mtr.	₹ 330.00	₹ 330.00	₹ 330.00	₹ 330.00	₹ 330.00	
	c) 110mm(OD)	Mtr,	₹ 477.00	₹ 477.00	₹ 477.00	₹ 477.00	₹ 477.00	
	d) 125mm(OD)	Mtr.	₹ 618.00	₹ 618.00	₹ 618.00	₹ 618.00	₹ 618.00	
	e) 140mm(OD)	Mtr.	₹ 773.00	₹ 773.00	₹ 773.00	₹ 773.00	₹ 773.00	
	f) 160mm(OD)	Mtr.	₹ 993.00	₹ 993.00	₹ 993.00	₹ 993.00	₹ 993.00	
	g) 180mm(OD)	Mtr.	₹ 1,244.00	₹ 1,244.00	₹ 1,244.00	₹ 1,244.00	₹ 1,244.00	
	h) 200mm(OD)	Mtr.	₹ 1,454.00	₹ 1,454.00	₹ 1,454.00	₹ 1,454.00	₹ 1,454.00	
	i) 225mm(OD)	Mtr.	₹ 1,824.00	₹ 1,824.00	₹ 1,824.00	₹ 1,824.00	₹ 1,824.00	
	j) 250mm(OD)	Mtr.	₹ 2,240.00	₹ 2,240.00	₹ 2,240.00	₹ 2,240.00	₹ 2,240.00	
	k) 280mm(OD)	Mtr.	₹ 2,788.00	₹ 2,788.00	₹ 2,788.00	₹ 2,788.00	₹ 2,788.00	
	l) 315mm(OD)	Mtr.	₹ 3,486.00	₹ 3,486.00	₹ 3,486.00	₹ 3,486.00	₹ 3,486.00	
	(ii) Laying of pipe line including cost of pipe & fittings/specials but excluding cost of valves.							
	a) 75mm(OD)	Mtr.	₹ 271.00	₹ 271.00	₹ 271.00	₹ 271.00	₹ 271.00	
	b) 90mm (OD)	Mtr.	₹ 344.00	₹ 344.00	₹ 344.00	₹ 344.00	₹ 344.00	
	c) 110mm(OD)	Mtr,	₹ 497.00	₹ 497.00	₹ 497.00	₹ 497.00	₹ 497.00	
	d) 125mm(OD)	Mtr.	₹ 645.00	₹ 645.00	₹ 645.00	₹ 645.00	₹ 645.00	
	e) 140mm(OD)	Mtr.	₹ 807.00	₹ 807.00	₹ 807.00	₹ 807.00	₹ 807.00	
	f) 160mm(OD)	Mtr.	₹ 1,038.00	₹ 1,038.00	₹ 1,038.00	₹ 1,038.00	₹ 1,038.00	
	g) 180mm(OD)	Mtr.	₹ 1,301.00	₹ 1,301.00	₹ 1,301.00	₹ 1,301.00	₹ 1,301.00	
	h) 200mm(OD)	Mtr.	₹ 1,521.00	₹ 1,521.00	₹ 1,521.00	₹ 1,521.00	₹ 1,521.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	i) 225mm(OD)	Mtr.	₹ 1,909.00	₹ 1,909.00	₹ 1,909.00	₹ 1,909.00	₹ 1,909.00	
	j) 250mm(OD)	Mtr.	₹ 2,345.00	₹ 2,345.00	₹ 2,345.00	₹ 2,345.00	₹ 2,345.00	
	k) 280mm(OD)	Mtr.	₹ 2,920.00	₹ 2,920.00	₹ 2,920.00	₹ 2,920.00	₹ 2,920.00	
	l) 315mm(OD)	Mtr.	₹ 3,652.00	₹ 3,652.00	₹ 3,652.00	₹ 3,652.00	₹ 3,652.00	
	(iii) Laying of pipe line including cost of pipe, fittings/specials & valves.							
	a) 75mm(OD)	Mtr.	₹ 291.00	₹ 291.00	₹ 291.00	₹ 291.00	₹ 291.00	
	b) 90mm (OD)	Mtr.	₹ 371.00	₹ 371.00	₹ 371.00	₹ 371.00	₹ 371.00	
	c) 110mm(OD)	Mtr,	₹ 566.00	₹ 566.00	₹ 566.00	₹ 566.00	₹ 566.00	
	d) 125mm(OD)	Mtr.	₹ 733.00	₹ 733.00	₹ 733.00	₹ 733.00	₹ 733.00	
	e) 140mm(OD)	Mtr.	₹ 919.00	₹ 919.00	₹ 919.00	₹ 919.00	₹ 919.00	
	f) 160mm(OD)	Mtr.	₹ 1,184.00	₹ 1,184.00	₹ 1,184.00	₹ 1,184.00	₹ 1,184.00	
	g) 180mm(OD)	Mtr.	₹ 1,488.00	₹ 1,488.00	₹ 1,488.00	₹ 1,488.00	₹ 1,488.00	
	h) 200mm(OD)	Mtr.	₹ 1,740.00	₹ 1,740.00	₹ 1,740.00	₹ 1,740.00	₹ 1,740.00	
	i) 225mm(OD)	Mtr.	₹ 2,188.00	₹ 2,188.00	₹ 2,188.00	₹ 2,188.00	₹ 2,188.00	
	j) 250mm(OD)	Mtr.	₹ 2,688.00	₹ 2,688.00	₹ 2,688.00	₹ 2,688.00	₹ 2,688.00	
	k) 280mm(OD)	Mtr.	₹ 3,349.00	₹ 3,349.00	₹ 3,349.00	₹ 3,349.00	₹ 3,349.00	
	l) 315mm(OD)	Mtr.	₹ 4,189.00	₹ 4,189.00	₹ 4,189.00	₹ 4,189.00	₹ 4,189.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
3	Supplying HDPE (Materials grade PE-80) pipes conforming to IS 4984-1995 with latest revision & amendments if any with necessary HDPE specials (excluding cost of CIDF valves) including labour charges for earth work in excavation in any kind of soil including mixed soil with boulder,road sub-grade and aits flank but excluding moorum laterite or sand stone / hard rock cutting with chisel required including cutting road flank/ brick pavement etc. without damaging the exisiting telephone/electrical cable line etc.(in case of damage of any type of cable line by the agency at the time of execution necessary damage charge as applicable by the respective authority will have to be brone by the agency at his own cost)upto the depth (av.) so as to maintain 1.10m.earth cushion from top of the pipe upto G.L. including loading unloading carrying lowering laying fitting fixing carefully pipes, valves and specials with the all types of jointing materials in trenches maintaining proper levels and alignment jointing the pipes and specials by butt welding/ adopting suitable method (But weld jointing with help of hydraulic tack and trimming machines, Hitter etc. for reaching at necessary melting point of HDPE pipe so that joint can be monolithic) so as to facilitate the maintenance of pipe line locally as per conventional method in future.							
	(A) Pressure Rating : PN 6							
	(i) Laying of pipe line including cost of pipe only excluding cost of specials/fittings & valves.							
	a) 75mm(OD)	Mtr.	₹ 276.00	₹ 276.00	₹ 276.00	₹ 276.00	₹ 276.00	
	b) 90mm (OD)	Mtr.	₹ 367.00	₹ 367.00	₹ 367.00	₹ 367.00	₹ 367.00	
	c) 110mm(OD)	Mtr,	₹ 513.00	₹ 513.00	₹ 513.00	₹ 513.00	₹ 513.00	
	d) 125mm(OD)	Mtr.	₹ 661.00	₹ 661.00	₹ 661.00	₹ 661.00	₹ 661.00	
	e) 140mm(OD)	Mtr.	₹ 808.00	₹ 808.00	₹ 808.00	₹ 808.00	₹ 808.00	
	f) 160mm(OD)	Mtr.	₹ 1,028.00	₹ 1,028.00	₹ 1,028.00	₹ 1,028.00	₹ 1,028.00	
	g) 180mm(OD)	Mtr.	₹ 1,271.00	₹ 1,271.00	₹ 1,271.00	₹ 1,271.00	₹ 1,271.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	h) 200mm(OD)	Mtr.	₹ 1,550.00	₹ 1,550.00	₹ 1,550.00	₹ 1,550.00	₹ 1,550.00	
	i) 225mm(OD)	Mtr.	₹ 1,928.00	₹ 1,928.00	₹ 1,928.00	₹ 1,928.00	₹ 1,928.00	
	j) 250mm(OD)	Mtr.	₹ 2,353.00	₹ 2,353.00	₹ 2,353.00	₹ 2,353.00	₹ 2,353.00	
	k) 280mm(OD)	Mtr.	₹ 2,912.00	₹ 2,912.00	₹ 2,912.00	₹ 2,912.00	₹ 2,912.00	
	l) 315mm(OD)	Mtr.	₹ 3,651.00	₹ 3,651.00	₹ 3,651.00	₹ 3,651.00	₹ 3,651.00	
	(ii) Laying of pipe line including cost of pipe & fittings/specials but excluding cost of valves.							
	a) 75mm(OD)	Mtr.	₹ 286.00	₹ 286.00	₹ 286.00	₹ 286.00	₹ 286.00	
	b) 90mm (OD)	Mtr.	₹ 381.00	₹ 381.00	₹ 381.00	₹ 381.00	₹ 381.00	
	c) 110mm(OD)	Mtr,	₹ 535.00	₹ 535.00	₹ 535.00	₹ 535.00	₹ 535.00	
	d) 125mm(OD)	Mtr.	₹ 688.00	₹ 688.00	₹ 688.00	₹ 688.00	₹ 688.00	
	e) 140mm(OD)	Mtr.	₹ 842.00	₹ 842.00	₹ 842.00	₹ 842.00	₹ 842.00	
	f) 160mm(OD)	Mtr.	₹ 1,073.00	₹ 1,073.00	₹ 1,073.00	₹ 1,073.00	₹ 1,073.00	
	g) 180mm(OD)	Mtr.	₹ 1,327.00	₹ 1,327.00	₹ 1,327.00	₹ 1,327.00	₹ 1,327.00	
	h) 200mm(OD)	Mtr.	₹ 1,620.00	₹ 1,620.00	₹ 1,620.00	₹ 1,620.00	₹ 1,620.00	
	i) 225mm(OD)	Mtr.	₹ 2,015.00	₹ 2,015.00	₹ 2,015.00	₹ 2,015.00	₹ 2,015.00	
	j) 250mm(OD)	Mtr.	₹ 2,461.00	₹ 2,461.00	₹ 2,461.00	₹ 2,461.00	₹ 2,461.00	
	k) 280mm(OD)	Mtr.	₹ 3,047.00	₹ 3,047.00	₹ 3,047.00	₹ 3,047.00	₹ 3,047.00	
	l) 315mm(OD)	Mtr.	₹ 3,822.00	₹ 3,822.00	₹ 3,822.00	₹ 3,822.00	₹ 3,822.00	
	(iii) Laying of pipe line including cost of pipe, fittings/specials & valves.							
	a) 75mm(OD)	Mtr.	₹ 306.00	₹ 306.00	₹ 306.00	₹ 306.00	₹ 306.00	
	b) 90mm (OD)	Mtr.	₹ 410.00	₹ 410.00	₹ 410.00	₹ 410.00	₹ 410.00	
	c) 110mm(OD)	Mtr,	₹ 604.00	₹ 604.00	₹ 604.00	₹ 604.00	₹ 604.00	
	d) 125mm(OD)	Mtr.	₹ 777.00	₹ 777.00	₹ 777.00	₹ 777.00	₹ 777.00	
	e) 140mm(OD)	Mtr.	₹ 954.00	₹ 954.00	₹ 954.00	₹ 954.00	₹ 954.00	
	f) 160mm(OD)	Mtr.	₹ 1,218.00	₹ 1,218.00	₹ 1,218.00	₹ 1,218.00	₹ 1,218.00	
	g) 180mm(OD)	Mtr.	₹ 1,511.00	₹ 1,511.00	₹ 1,511.00	₹ 1,511.00	₹ 1,511.00	
	h) 200mm(OD)	Mtr.	₹ 1,846.00	₹ 1,846.00	₹ 1,846.00	₹ 1,846.00	₹ 1,846.00	
	i) 225mm(OD)	Mtr.	₹ 2,301.00	₹ 2,301.00	₹ 2,301.00	₹ 2,301.00	₹ 2,301.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	j) 250mm(OD)	Mtr.	₹ 2,811.00	₹ 2,811.00	₹ 2,811.00	₹ 2,811.00	₹ 2,811.00	
	k) 280mm(OD)	Mtr.	₹ 3,485.00	₹ 3,485.00	₹ 3,485.00	₹ 3,485.00	₹ 3,485.00	
	l) 315mm(OD)	Mtr.	₹ 4,372.00	₹ 4,372.00	₹ 4,372.00	₹ 4,372.00	₹ 4,372.00	
	(B) Pressure Rating : PN 10							
	(i) Laying of pipe line including cost of pipe only excluding cost of specials/fittings & valves.							
	a) 75mm(OD)	Mtr.	₹ 379.00	₹ 379.00	₹ 379.00	₹ 379.00	₹ 379.00	
	b) 90mm (OD)	Mtr.	₹ 517.00	₹ 517.00	₹ 517.00	₹ 517.00	₹ 517.00	
	c) 110mm(OD)	Mtr.	₹ 732.00	₹ 732.00	₹ 732.00	₹ 732.00	₹ 732.00	
	d) 125mm(OD)	Mtr.	₹ 951.00	₹ 951.00	₹ 951.00	₹ 951.00	₹ 951.00	
	e) 140mm(OD)	Mtr.	₹ 1,173.00	₹ 1,173.00	₹ 1,173.00	₹ 1,173.00	₹ 1,173.00	
	f) 160mm(OD)	Mtr.	₹ 1,501.00	₹ 1,501.00	₹ 1,501.00	₹ 1,501.00	₹ 1,501.00	
	g) 180mm(OD)	Mtr.	₹ 1,877.00	₹ 1,877.00	₹ 1,877.00	₹ 1,877.00	₹ 1,877.00	
	h) 200mm(OD)	Mtr.	₹ 2,288.00	₹ 2,288.00	₹ 2,288.00	₹ 2,288.00	₹ 2,288.00	
	i) 225mm(OD)	Mtr.	₹ 2,870.00	₹ 2,870.00	₹ 2,870.00	₹ 2,870.00	₹ 2,870.00	
	j) 250mm(OD)	Mtr.	₹ 3,514.00	₹ 3,514.00	₹ 3,514.00	₹ 3,514.00	₹ 3,514.00	
	k) 280mm(OD)	Mtr.	₹ 4,372.00	₹ 4,372.00	₹ 4,372.00	₹ 4,372.00	₹ 4,372.00	
	l) 315mm(OD)	Mtr.	₹ 5,497.00	₹ 5,497.00	₹ 5,497.00	₹ 5,497.00	₹ 5,497.00	
	(ii) Laying of pipe line including cost of pipe & fittings/specials but excluding cost of valves.							
	a) 75mm(OD)	Mtr.	₹ 394.00	₹ 394.00	₹ 394.00	₹ 394.00	₹ 394.00	
	b) 90mm (OD)	Mtr.	₹ 538.00	₹ 538.00	₹ 538.00	₹ 538.00	₹ 538.00	
	c) 110mm(OD)	Mtr.	₹ 764.00	₹ 764.00	₹ 764.00	₹ 764.00	₹ 764.00	
	d) 125mm(OD)	Mtr.	₹ 993.00	₹ 993.00	₹ 993.00	₹ 993.00	₹ 993.00	
	e) 140mm(OD)	Mtr.	₹ 1,225.00	₹ 1,225.00	₹ 1,225.00	₹ 1,225.00	₹ 1,225.00	
	f) 160mm(OD)	Mtr.	₹ 1,569.00	₹ 1,569.00	₹ 1,569.00	₹ 1,569.00	₹ 1,569.00	
	g) 180mm(OD)	Mtr.	₹ 1,964.00	₹ 1,964.00	₹ 1,964.00	₹ 1,964.00	₹ 1,964.00	
	h) 200mm(OD)	Mtr.	₹ 2,394.00	₹ 2,394.00	₹ 2,394.00	₹ 2,394.00	₹ 2,394.00	
	i) 225mm(OD)	Mtr.	₹ 3,004.00	₹ 3,004.00	₹ 3,004.00	₹ 3,004.00	₹ 3,004.00	
	j) 250mm(OD)	Mtr.	₹ 3,680.00	₹ 3,680.00	₹ 3,680.00	₹ 3,680.00	₹ 3,680.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	k) 280mm(OD)	Mtr.	₹ 4,580.00	₹ 4,580.00	₹ 4,580.00	₹ 4,580.00	₹ 4,580.00	
	l) 315mm(OD)	Mtr.	₹ 5,760.00	₹ 5,760.00	₹ 5,760.00	₹ 5,760.00	₹ 5,760.00	
	(iii) Laying of pipe line including cost of pipe, fittings/specials & valves.							
	a) 75mm(OD)	Mtr.	₹ 425.00	₹ 425.00	₹ 425.00	₹ 425.00	₹ 425.00	
	b) 90mm (OD)	Mtr.	₹ 582.00	₹ 582.00	₹ 582.00	₹ 582.00	₹ 582.00	
	c) 110mm(OD)	Mtr.	₹ 868.00	₹ 868.00	₹ 868.00	₹ 868.00	₹ 868.00	
	d) 125mm(OD)	Mtr.	₹ 1,127.00	₹ 1,127.00	₹ 1,127.00	₹ 1,127.00	₹ 1,127.00	
	e) 140mm(OD)	Mtr.	₹ 1,394.00	₹ 1,394.00	₹ 1,394.00	₹ 1,394.00	₹ 1,394.00	
	f) 160mm(OD)	Mtr.	₹ 1,788.00	₹ 1,788.00	₹ 1,788.00	₹ 1,788.00	₹ 1,788.00	
	g) 180mm(OD)	Mtr.	₹ 2,242.00	₹ 2,242.00	₹ 2,242.00	₹ 2,242.00	₹ 2,242.00	
	h) 200mm(OD)	Mtr.	₹ 2,736.00	₹ 2,736.00	₹ 2,736.00	₹ 2,736.00	₹ 2,736.00	
	i) 225mm(OD)	Mtr.	₹ 3,438.00	₹ 3,438.00	₹ 3,438.00	₹ 3,438.00	₹ 3,438.00	
	j) 250mm(OD)	Mtr.	₹ 4,213.00	₹ 4,213.00	₹ 4,213.00	₹ 4,213.00	₹ 4,213.00	
	k) 280mm(OD)	Mtr.	₹ 5,247.00	₹ 5,247.00	₹ 5,247.00	₹ 5,247.00	₹ 5,247.00	
	l) 315mm(OD)	Mtr.	₹ 6,601.00	₹ 6,601.00	₹ 6,601.00	₹ 6,601.00	₹ 6,601.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
4	Supplying HDPE (Materials grade PE-100) pipes conforming to IS 4984-1995 with latest revision & amendments if any with necessary HDPE specials (excluding cost of CIDF valves) including labour charges for earth work in excavation in any kind of soil including mixed soil with boulder,road sub-grade and aits flank but excluding moorum laterite or sand stone / hard rock cutting with chisel required including cutting road flank/ brick pavement etc. without damaging the exisiting telephone/electrical cable line etc.(in case of damage of any type of cable line by the agency at the time of execution necessary damage charge as applicable by the respective authority will have to be brone by the agency at his own cost)upto the depth (av.) so as to maintain 1.10m.earth cushion from top of the pipe upto G.L. including loading unloading carrying lowering laying fitting fixing carefully pipes, valves and specials with the all types of jointing materials in trenches maintaining proper levels and alignment jointing the pipes and specials by butt welding/ adopting suitable method (But weld jointing with help of hydraulic tack and trimming machines, Hitter etc. for reaching at necessary melting point of HDPE pipe so that joint can be monolithic) so as to facilitate the maintenance of pipe line locally as per conventional method in future.							
	(A) Pressure Rating : PN 6							
	(i) Laying of pipe line including cost of pipe only excluding cost of specials/fittings valves.							
	a) 75mm(OD)	Mtr.	₹ 244.00	₹ 244.00	₹ 244.00	₹ 244.00	₹ 244.00	
	b) 90mm (OD)	Mtr.	₹ 319.00	₹ 319.00	₹ 319.00	₹ 319.00	₹ 319.00	
	c) 110mm(OD)	Mtr,	₹ 436.00	₹ 436.00	₹ 436.00	₹ 436.00	₹ 436.00	
	d) 125mm(OD)	Mtr.	₹ 568.00	₹ 568.00	₹ 568.00	₹ 568.00	₹ 568.00	
	e) 140mm(OD)	Mtr.	₹ 693.00	₹ 693.00	₹ 693.00	₹ 693.00	₹ 693.00	
	f) 160mm(OD)	Mtr.	₹ 874.00	₹ 874.00	₹ 874.00	₹ 874.00	₹ 874.00	
	g) 180mm(OD)	Mtr.	₹ 1,083.00	₹ 1,083.00	₹ 1,083.00	₹ 1,083.00	₹ 1,083.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	h) 200mm(OD)	Mtr.	₹ 1,308.00	₹ 1,308.00	₹ 1,308.00	₹ 1,308.00	₹ 1,308.00	
	i) 225mm(OD)	Mtr.	₹ 1,635.00	₹ 1,635.00	₹ 1,635.00	₹ 1,635.00	₹ 1,635.00	
	j) 250mm(OD)	Mtr.	₹ 1,980.00	₹ 1,980.00	₹ 1,980.00	₹ 1,980.00	₹ 1,980.00	
	k) 280mm(OD)	Mtr.	₹ 2,456.00	₹ 2,456.00	₹ 2,456.00	₹ 2,456.00	₹ 2,456.00	
	l) 315mm(OD)	Mtr.	₹ 3,074.00	₹ 3,074.00	₹ 3,074.00	₹ 3,074.00	₹ 3,074.00	
	(ii) Laying of pipe line including cost of pipe & fittings/specials but excluding cost of valves.							
	a) 75mm(OD)	Mtr.	₹ 252.00	₹ 252.00	₹ 252.00	₹ 252.00	₹ 252.00	
	b) 90mm (OD)	Mtr.	₹ 331.00	₹ 331.00	₹ 331.00	₹ 331.00	₹ 331.00	
	c) 110mm(OD)	Mtr,	₹ 454.00	₹ 454.00	₹ 454.00	₹ 454.00	₹ 454.00	
	d) 125mm(OD)	Mtr.	₹ 590.00	₹ 590.00	₹ 590.00	₹ 590.00	₹ 590.00	
	e) 140mm(OD)	Mtr.	₹ 722.00	₹ 722.00	₹ 722.00	₹ 722.00	₹ 722.00	
	f) 160mm(OD)	Mtr.	₹ 911.00	₹ 911.00	₹ 911.00	₹ 911.00	₹ 911.00	
	g) 180mm(OD)	Mtr.	₹ 1,129.00	₹ 1,129.00	₹ 1,129.00	₹ 1,129.00	₹ 1,129.00	
	h) 200mm(OD)	Mtr.	₹ 1,365.00	₹ 1,365.00	₹ 1,365.00	₹ 1,365.00	₹ 1,365.00	
	i) 225mm(OD)	Mtr.	₹ 1,708.00	₹ 1,708.00	₹ 1,708.00	₹ 1,708.00	₹ 1,708.00	
	j) 250mm(OD)	Mtr.	₹ 2,070.00	₹ 2,070.00	₹ 2,070.00	₹ 2,070.00	₹ 2,070.00	
	k) 280mm(OD)	Mtr.	₹ 2,568.00	₹ 2,568.00	₹ 2,568.00	₹ 2,568.00	₹ 2,568.00	
	l) 315mm(OD)	Mtr.	₹ 3,216.00	₹ 3,216.00	₹ 3,216.00	₹ 3,216.00	₹ 3,216.00	
	(iii) Laying of pipe line including cost of pipe, fittings/specials & valves.							
	a) 75mm(OD)	Mtr.	₹ 269.00	₹ 269.00	₹ 269.00	₹ 269.00	₹ 269.00	
	b) 90mm (OD)	Mtr.	₹ 354.00	₹ 354.00	₹ 354.00	₹ 354.00	₹ 354.00	
	c) 110mm(OD)	Mtr,	₹ 511.00	₹ 511.00	₹ 511.00	₹ 511.00	₹ 511.00	
	d) 125mm(OD)	Mtr.	₹ 665.00	₹ 665.00	₹ 665.00	₹ 665.00	₹ 665.00	
	e) 140mm(OD)	Mtr.	₹ 815.00	₹ 815.00	₹ 815.00	₹ 815.00	₹ 815.00	
	f) 160mm(OD)	Mtr.	₹ 1,032.00	₹ 1,032.00	₹ 1,032.00	₹ 1,032.00	₹ 1,032.00	
	g) 180mm(OD)	Mtr.	₹ 1,283.00	₹ 1,283.00	₹ 1,283.00	₹ 1,283.00	₹ 1,283.00	
	h) 200mm(OD)	Mtr.	₹ 1,553.00	₹ 1,553.00	₹ 1,553.00	₹ 1,553.00	₹ 1,553.00	
	i) 225mm(OD)	Mtr.	₹ 1,946.00	₹ 1,946.00	₹ 1,946.00	₹ 1,946.00	₹ 1,946.00	
	j) 250mm(OD)	Mtr.	₹ 2,361.00	₹ 2,361.00	₹ 2,361.00	₹ 2,361.00	₹ 2,361.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	k) 280mm(OD)	Mtr.	₹ 2,933.00	₹ 2,933.00	₹ 2,933.00	₹ 2,933.00	₹ 2,933.00	
	l) 315mm(OD)	Mtr.	₹ 3,675.00	₹ 3,675.00	₹ 3,675.00	₹ 3,675.00	₹ 3,675.00	
	(B) Pressure Rating : PN 10							
	(i) Laying of pipe line including cost of pipe only excluding cost of specials/fittings valves.							
	a) 75mm(OD)	Mtr.	₹ 332.00	₹ 332.00	₹ 332.00	₹ 332.00	₹ 332.00	₹ 332.00
	b) 90mm (OD)	Mtr.	₹ 449.00	₹ 449.00	₹ 449.00	₹ 449.00	₹ 449.00	₹ 449.00
	c) 110mm(OD)	Mtr,	₹ 627.00	₹ 627.00	₹ 627.00	₹ 627.00	₹ 627.00	₹ 627.00
	d) 125mm(OD)	Mtr.	₹ 816.00	₹ 816.00	₹ 816.00	₹ 816.00	₹ 816.00	₹ 816.00
	e) 140mm(OD)	Mtr.	₹ 1,001.00	₹ 1,001.00	₹ 1,001.00	₹ 1,001.00	₹ 1,001.00	₹ 1,001.00
	f) 160mm(OD)	Mtr.	₹ 1,284.00	₹ 1,284.00	₹ 1,284.00	₹ 1,284.00	₹ 1,284.00	₹ 1,284.00
	g) 180mm(OD)	Mtr.	₹ 1,602.00	₹ 1,602.00	₹ 1,602.00	₹ 1,602.00	₹ 1,602.00	₹ 1,602.00
	h) 200mm(OD)	Mtr.	₹ 1,947.00	₹ 1,947.00	₹ 1,947.00	₹ 1,947.00	₹ 1,947.00	₹ 1,947.00
	i) 225mm(OD)	Mtr.	₹ 2,445.00	₹ 2,445.00	₹ 2,445.00	₹ 2,445.00	₹ 2,445.00	₹ 2,445.00
	j) 250mm(OD)	Mtr.	₹ 2,976.00	₹ 2,976.00	₹ 2,976.00	₹ 2,976.00	₹ 2,976.00	₹ 2,976.00
	k) 280mm(OD)	Mtr.	₹ 3,700.00	₹ 3,700.00	₹ 3,700.00	₹ 3,700.00	₹ 3,700.00	₹ 3,700.00
	l) 315mm(OD)	Mtr.	₹ 4,654.00	₹ 4,654.00	₹ 4,654.00	₹ 4,654.00	₹ 4,654.00	₹ 4,654.00
	(ii) Laying of pipe line including cost of pipe & fittings/specials but excluding cost of valves.							
	a) 75mm(OD)	Mtr.	₹ 345.00	₹ 345.00	₹ 345.00	₹ 345.00	₹ 345.00	₹ 345.00
	b) 90mm (OD)	Mtr.	₹ 467.00	₹ 467.00	₹ 467.00	₹ 467.00	₹ 467.00	₹ 467.00
	c) 110mm(OD)	Mtr,	₹ 654.00	₹ 654.00	₹ 654.00	₹ 654.00	₹ 654.00	₹ 654.00
	d) 125mm(OD)	Mtr.	₹ 850.00	₹ 850.00	₹ 850.00	₹ 850.00	₹ 850.00	₹ 850.00
	e) 140mm(OD)	Mtr.	₹ 1,045.00	₹ 1,045.00	₹ 1,045.00	₹ 1,045.00	₹ 1,045.00	₹ 1,045.00
	f) 160mm(OD)	Mtr.	₹ 1,341.00	₹ 1,341.00	₹ 1,341.00	₹ 1,341.00	₹ 1,341.00	₹ 1,341.00
	g) 180mm(OD)	Mtr.	₹ 1,674.00	₹ 1,674.00	₹ 1,674.00	₹ 1,674.00	₹ 1,674.00	₹ 1,674.00
	h) 200mm(OD)	Mtr.	₹ 2,036.00	₹ 2,036.00	₹ 2,036.00	₹ 2,036.00	₹ 2,036.00	₹ 2,036.00
	i) 225mm(OD)	Mtr.	₹ 2,558.00	₹ 2,558.00	₹ 2,558.00	₹ 2,558.00	₹ 2,558.00	₹ 2,558.00
	j) 250mm(OD)	Mtr.	₹ 3,115.00	₹ 3,115.00	₹ 3,115.00	₹ 3,115.00	₹ 3,115.00	₹ 3,115.00
	k) 280mm(OD)	Mtr.	₹ 3,875.00	₹ 3,875.00	₹ 3,875.00	₹ 3,875.00	₹ 3,875.00	₹ 3,875.00

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	l) 315mm(OD)	Mtr.	₹ 4,875.00	₹ 4,875.00	₹ 4,875.00	₹ 4,875.00	₹ 4,875.00	₹ 4,875.00
	(iii) Laying of pipe line including cost of pipe, fittings/specials & valves.							
	a) 75mm(OD)	Mtr.	₹ 371.00	₹ 371.00	₹ 371.00	₹ 371.00	₹ 371.00	₹ 371.00
	b) 90mm (OD)	Mtr.	₹ 504.00	₹ 504.00	₹ 504.00	₹ 504.00	₹ 504.00	₹ 504.00
	c) 110mm(OD)	Mtr.	₹ 740.00	₹ 740.00	₹ 740.00	₹ 740.00	₹ 740.00	₹ 740.00
	d) 125mm(OD)	Mtr.	₹ 963.00	₹ 963.00	₹ 963.00	₹ 963.00	₹ 963.00	₹ 963.00
	e) 140mm(OD)	Mtr.	₹ 1,186.00	₹ 1,186.00	₹ 1,186.00	₹ 1,186.00	₹ 1,186.00	₹ 1,186.00
	f) 160mm(OD)	Mtr.	₹ 1,526.00	₹ 1,526.00	₹ 1,526.00	₹ 1,526.00	₹ 1,526.00	₹ 1,526.00
	g) 180mm(OD)	Mtr.	₹ 1,909.00	₹ 1,909.00	₹ 1,909.00	₹ 1,909.00	₹ 1,909.00	₹ 1,909.00
	h) 200mm(OD)	Mtr.	₹ 2,323.00	₹ 2,323.00	₹ 2,323.00	₹ 2,323.00	₹ 2,323.00	₹ 2,323.00
	i) 225mm(OD)	Mtr.	₹ 2,924.00	₹ 2,924.00	₹ 2,924.00	₹ 2,924.00	₹ 2,924.00	₹ 2,924.00
	j) 250mm(OD)	Mtr.	₹ 3,562.00	₹ 3,562.00	₹ 3,562.00	₹ 3,562.00	₹ 3,562.00	₹ 3,562.00
	k) 280mm(OD)	Mtr.	₹ 4,436.00	₹ 4,436.00	₹ 4,436.00	₹ 4,436.00	₹ 4,436.00	₹ 4,436.00
	l) 315mm(OD)	Mtr.	₹ 5,582.00	₹ 5,582.00	₹ 5,582.00	₹ 5,582.00	₹ 5,582.00	₹ 5,582.00
5	Making rubber gasket joint to CI/DI pipes maintaining proper alignment level etc. by mechanical arrangement with or without using mobile cranes where necessary and with help of all other equipments tools and tackles etc. as required providing lubricants of approved quality and direction of EIC. (rubber gasket will be supplied depts. free of cost)							
	a) 80mm dia	Each	₹ 13.00	₹ 13.00	₹ 13.00	₹ 13.00	₹ 13.00	₹ 13.00
	b) 100mm dia.	Each.	₹ 20.00	₹ 20.00	₹ 20.00	₹ 20.00	₹ 20.00	₹ 20.00
	c) 125mm dia.	Each.	₹ 38.00	₹ 38.00	₹ 38.00	₹ 38.00	₹ 38.00	₹ 38.00
	d) 150mm dia.	Each.	₹ 38.00	₹ 38.00	₹ 38.00	₹ 38.00	₹ 38.00	₹ 38.00
	e) 200mm dia.	Each.	₹ 51.00	₹ 51.00	₹ 51.00	₹ 51.00	₹ 51.00	₹ 51.00
	f) 250mm dia.	Each.	₹ 64.00	₹ 64.00	₹ 64.00	₹ 64.00	₹ 64.00	₹ 64.00
	g) 300mm dia.	Each.	₹ 76.00	₹ 76.00	₹ 76.00	₹ 76.00	₹ 76.00	₹ 76.00
	h) 350mm dia.	Each.	₹ 76.00	₹ 76.00	₹ 76.00	₹ 76.00	₹ 76.00	₹ 76.00
	i) 400mm dia.	Each.	₹ 102.00	₹ 102.00	₹ 102.00	₹ 102.00	₹ 102.00	₹ 102.00
	j) 450mm dia.	Each	₹ 114.00	₹ 114.00	₹ 114.00	₹ 114.00	₹ 114.00	₹ 114.00

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	k) 500mm dia.	Each.	₹ 121.00	₹ 121.00	₹ 121.00	₹ 121.00	₹ 121.00	₹ 121.00
	l) 600mm dia.	Each.	₹ 165.00	₹ 165.00	₹ 165.00	₹ 165.00	₹ 165.00	₹ 165.00
	m) 700mm dia.	Each.	₹ 196.00	₹ 196.00	₹ 196.00	₹ 196.00	₹ 196.00	₹ 196.00
	n) 750mm dia.	Each	₹ 196.00	₹ 196.00	₹ 196.00	₹ 196.00	₹ 196.00	₹ 196.00
	o) 800mm dia.	Each	₹ 216.00	₹ 216.00	₹ 216.00	₹ 216.00	₹ 216.00	₹ 216.00
	p) 900mm dia.	Each	₹ 254.00	₹ 254.00	₹ 254.00	₹ 254.00	₹ 254.00	₹ 254.00
	q) 1000mm dia.	Each	₹ 280.00	₹ 280.00	₹ 280.00	₹ 280.00	₹ 280.00	₹ 280.00
6	Making flange joint to DI/CI pipes, specials and valves where necessary with supply of required rubber insertion and nut bolts, washers etc. of approved quality and type all complete as per specification and direction of EIC (Nut and bolts shall be of TATA/GKW rate).							
	a) 80mm dia	Each	₹ 112.00	₹ 112.00	₹ 112.00	₹ 112.00	₹ 112.00	₹ 112.00
	b) 100mm dia.	Each.	₹ 182.00	₹ 182.00	₹ 182.00	₹ 182.00	₹ 182.00	₹ 182.00
	c) 125mm dia.	Each.	₹ 189.00	₹ 189.00	₹ 189.00	₹ 189.00	₹ 189.00	₹ 189.00
	d) 150mm dia.	Each.	₹ 220.00	₹ 220.00	₹ 220.00	₹ 220.00	₹ 220.00	₹ 220.00
	e) 200mm dia.	Each.	₹ 237.00	₹ 237.00	₹ 237.00	₹ 237.00	₹ 237.00	₹ 237.00
	f) 250mm dia.	Each.	₹ 329.00	₹ 329.00	₹ 329.00	₹ 329.00	₹ 329.00	₹ 329.00
	g) 300mm dia.	Each.	₹ 351.00	₹ 351.00	₹ 351.00	₹ 351.00	₹ 351.00	₹ 351.00
	h) 350mm dia.	Each.	₹ 448.00	₹ 448.00	₹ 448.00	₹ 448.00	₹ 448.00	₹ 448.00
	i) 400mm dia.	Each.	₹ 518.00	₹ 518.00	₹ 518.00	₹ 518.00	₹ 518.00	₹ 518.00
	j) 450mm dia.	Each	₹ 628.00	₹ 628.00	₹ 628.00	₹ 628.00	₹ 628.00	₹ 628.00
	k) 500mm dia.	Each.	₹ 666.00	₹ 666.00	₹ 666.00	₹ 666.00	₹ 666.00	₹ 666.00
	l) 600mm dia.	Each.	₹ 821.00	₹ 821.00	₹ 821.00	₹ 821.00	₹ 821.00	₹ 821.00
	m) 700mm dia.	Each.	₹ 1,004.00	₹ 1,004.00	₹ 1,004.00	₹ 1,004.00	₹ 1,004.00	₹ 1,004.00
	n) 750mm dia.	Each	₹ 1,070.00	₹ 1,070.00	₹ 1,070.00	₹ 1,070.00	₹ 1,070.00	₹ 1,070.00
	o) 800mm dia.	Each	₹ 1,249.00	₹ 1,249.00	₹ 1,249.00	₹ 1,249.00	₹ 1,249.00	₹ 1,249.00
	p) 900mm dia.	Each	₹ 1,457.00	₹ 1,457.00	₹ 1,457.00	₹ 1,457.00	₹ 1,457.00	₹ 1,457.00
	q) 1000mm dia.	Each	₹ 1,836.00	₹ 1,836.00	₹ 1,836.00	₹ 1,836.00	₹ 1,836.00	₹ 1,836.00

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
7	Cutting DI pipe (all class & type) to required length with cutting device etc. and grinding the cutting portion with file as per direction and satisfaction of EIC.							
	a) 80mm.dia. to 125mm.dia pipe	Each	₹ 109.00	₹ 109.00	₹ 109.00	₹ 109.00	₹ 109.00	₹ 109.00
	b) 150mm.dia.to 200mm.dia pipe	Each.	₹ 141.00	₹ 141.00	₹ 141.00	₹ 141.00	₹ 141.00	₹ 141.00
	c) 250mm.dia.to 350mm.dia pipe	Each.	₹ 263.00	₹ 263.00	₹ 263.00	₹ 263.00	₹ 263.00	₹ 263.00
	d) 400mm.dia.to 450mm.dia pipe	Each.	₹ 385.00	₹ 385.00	₹ 385.00	₹ 385.00	₹ 385.00	₹ 385.00
	e) 500mm.dia.to 600mm.dia pipe	Each.	₹ 436.00	₹ 436.00	₹ 436.00	₹ 436.00	₹ 436.00	₹ 436.00
	f) 700mm.dia.pipe	Each	₹ 539.00	₹ 539.00	₹ 539.00	₹ 539.00	₹ 539.00	₹ 539.00
	g) 750mm.dia to 800mm.dia.pipe	Each	₹ 706.00	₹ 706.00	₹ 706.00	₹ 706.00	₹ 706.00	₹ 706.00
	h) 900mm.dia to 1000mm.dia pipe	Each	₹ 873.00	₹ 873.00	₹ 873.00	₹ 873.00	₹ 873.00	₹ 873.00
8	Chamfering the spigot end of all type/class of DI pipe for proper using of push joint by means of grinder set at site for proper joint etc. all complete as per direction of EIC.							
	a) 80mm dia	Each	₹ 81.00	₹ 81.00	₹ 81.00	₹ 81.00	₹ 81.00	₹ 81.00
	b) 100mm dia.	Each.	₹ 82.00	₹ 82.00	₹ 82.00	₹ 82.00	₹ 82.00	₹ 82.00
	c) 125mm dia.	Each.	₹ 85.00	₹ 85.00	₹ 85.00	₹ 85.00	₹ 85.00	₹ 85.00
	d) 150mm dia.	Each.	₹ 108.00	₹ 108.00	₹ 108.00	₹ 108.00	₹ 108.00	₹ 108.00
	e) 200mm dia.	Each.	₹ 113.00	₹ 113.00	₹ 113.00	₹ 113.00	₹ 113.00	₹ 113.00
	f) 250mm dia.	Each.	₹ 120.00	₹ 120.00	₹ 120.00	₹ 120.00	₹ 120.00	₹ 120.00
	g) 300mm dia.	Each.	₹ 160.00	₹ 160.00	₹ 160.00	₹ 160.00	₹ 160.00	₹ 160.00
	h) 350mm dia.	Each.	₹ 185.00	₹ 185.00	₹ 185.00	₹ 185.00	₹ 185.00	₹ 185.00
	i) 400mm dia.	Each.	₹ 209.00	₹ 209.00	₹ 209.00	₹ 209.00	₹ 209.00	₹ 209.00
	j) 450mm dia.	Each	₹ 280.00	₹ 280.00	₹ 280.00	₹ 280.00	₹ 280.00	₹ 280.00
	k) 500mm dia.	Each.	₹ 313.00	₹ 313.00	₹ 313.00	₹ 313.00	₹ 313.00	₹ 313.00
	l) 600mm dia.	Each.	₹ 369.00	₹ 369.00	₹ 369.00	₹ 369.00	₹ 369.00	₹ 369.00
	m) 700mm dia.	Each.	₹ 501.00	₹ 501.00	₹ 501.00	₹ 501.00	₹ 501.00	₹ 501.00
	n) 750mm dia.	Each	₹ 549.00	₹ 549.00	₹ 549.00	₹ 549.00	₹ 549.00	₹ 549.00
	o) 800mm dia.	Each	₹ 613.00	₹ 613.00	₹ 613.00	₹ 613.00	₹ 613.00	₹ 613.00
	p) 900mm dia.	Each	₹ 729.00	₹ 729.00	₹ 729.00	₹ 729.00	₹ 729.00	₹ 729.00

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	q) 1000mm dia.	Each	₹ 768.00	₹ 768.00	₹ 768.00	₹ 768.00	₹ 768.00	₹ 768.00
9	Filling the pipe line with water, testing hydraulically as per I.S 3114-1965 (Article-6) in section of a length not exceeding 500mtr. for head of pressure as per specification including supplying installing and fixing all equipments such as diesel pump set, blank flange, pressure gauge, valve, pressure pump and all other tools and plants including drilling topping and plugging of necessary holes to pipes, blocking ends providing temporary thrust block and subsequent blocking of holes and other jointing materials and dismantling and removal of the same including disposal of water etc. all complete as per specification and direction of EIC. The rate is inclusive of cost of requisite water to be arranged by the contractor (Recovery rate of water @ Rs.10.00/m ³ , if contractor used water from deptt. source).							
	A) For CI/DI pipe							
	a) 80mm dia	Mtr.	₹ 3.17	₹ 3.17	₹ 3.17	₹ 3.17	₹ 3.17	₹ 3.17
	b) 100mm dia.	Mtr.	₹ 3.33	₹ 3.33	₹ 3.33	₹ 3.33	₹ 3.33	₹ 3.33
	c) 125mm dia.	Mtr.	₹ 3.71	₹ 3.71	₹ 3.71	₹ 3.71	₹ 3.71	₹ 3.71
	d) 150mm dia.	Mtr.	₹ 4.20	₹ 4.20	₹ 4.20	₹ 4.20	₹ 4.20	₹ 4.20
	e) 200mm dia.	Mtr.	₹ 5.61	₹ 5.61	₹ 5.61	₹ 5.61	₹ 5.61	₹ 5.61
	f) 250mm dia.	Mtr.	₹ 6.66	₹ 6.66	₹ 6.66	₹ 6.66	₹ 6.66	₹ 6.66
	g) 300mm dia.	Mtr.	₹ 7.22	₹ 7.22	₹ 7.22	₹ 7.22	₹ 7.22	₹ 7.22
	h) 350mm dia.	Mtr.	₹ 7.67	₹ 7.67	₹ 7.67	₹ 7.67	₹ 7.67	₹ 7.67
	i) 400mm dia.	Mtr.	₹ 8.87	₹ 8.87	₹ 8.87	₹ 8.87	₹ 8.87	₹ 8.87
	j) 450mm dia.	Mtr.	₹ 9.43	₹ 9.43	₹ 9.43	₹ 9.43	₹ 9.43	₹ 9.43
	k) 500mm dia.	Mtr.	₹ 10.00	₹ 10.00	₹ 10.00	₹ 10.00	₹ 10.00	₹ 10.00
	l) 600mm dia.	Mtr.	₹ 11.55	₹ 11.55	₹ 11.55	₹ 11.55	₹ 11.55	₹ 11.55
	m) 700mm dia.	Mtr.	₹ 13.10	₹ 13.10	₹ 13.10	₹ 13.10	₹ 13.10	₹ 13.10
	n) 750mm dia.	Mtr.	₹ 14.26	₹ 14.26	₹ 14.26	₹ 14.26	₹ 14.26	₹ 14.26
	o) 800mm dia.	Mtr.	₹ 15.36	₹ 15.36	₹ 15.36	₹ 15.36	₹ 15.36	₹ 15.36
	p) 900mm dia.	Mtr.	₹ 17.45	₹ 17.45	₹ 17.45	₹ 17.45	₹ 17.45	₹ 17.45
	q) 1000mm dia.	Mtr.	₹ 19.72	₹ 19.72	₹ 19.72	₹ 19.72	₹ 19.72	₹ 19.72

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	B) For UPVC/HDPE Pipe							
	a) 75mm dia (OD)	Mtr.	₹ 3.15	₹ 3.15	₹ 3.15	₹ 3.15	₹ 3.15	₹ 3.15
	b) 90mm dia (OD)	Mtr.	₹ 3.60	₹ 3.60	₹ 3.60	₹ 3.60	₹ 3.60	₹ 3.60
	c) 110mm dia (OD)	Mtr.	₹ 3.78	₹ 3.78	₹ 3.78	₹ 3.78	₹ 3.78	₹ 3.78
	d) 125mm dia (OD)	Mtr.	₹ 3.82	₹ 3.82	₹ 3.82	₹ 3.82	₹ 3.82	₹ 3.82
	e) 140mm dia (OD)	Mtr.	₹ 4.24	₹ 4.24	₹ 4.24	₹ 4.24	₹ 4.24	₹ 4.24
	f) 160mm dia (OD)	Mtr.	₹ 4.78	₹ 4.78	₹ 4.78	₹ 4.78	₹ 4.78	₹ 4.78
	g) 180mm dia (OD)	Mtr.	₹ 5.17	₹ 5.17	₹ 5.17	₹ 5.17	₹ 5.17	₹ 5.17
	h) 200mm dia (OD)	Mtr.	₹ 5.64	₹ 5.64	₹ 5.64	₹ 5.64	₹ 5.64	₹ 5.64
	i) 225mm dia (OD)	Mtr.	₹ 6.44	₹ 6.44	₹ 6.44	₹ 6.44	₹ 6.44	₹ 6.44
	j) 250mm dia (OD)	Mtr.	₹ 6.79	₹ 6.79	₹ 6.79	₹ 6.79	₹ 6.79	₹ 6.79
	k) 280mm dia (OD)	Mtr.	₹ 7.66	₹ 7.66	₹ 7.66	₹ 7.66	₹ 7.66	₹ 7.66
	l) 315mm dia (OD)	Mtr.	₹ 8.18	₹ 8.18	₹ 8.18	₹ 8.18	₹ 8.18	₹ 8.18
10	Cleaning thoroughly the inner surface of pipe line including specials and valves by flushing with water and subsequently disinfection of the same pipe line by flushing again with water containing bleaching powder resulting in residual chlorine not less than 15mg/ltrs. after 24hrs. of such filling including laboratory testing of water samples obtain from the disinfested pipe line and disposal of water from the pipe line after completion of the work. The rates including of cost of requisite water to be arranged by the contractor) (The rate of water @Rs. 10/m ³ may be recovered, if the contractor used water from deptt. source).							
	A) For CI/DI pipe							
	a) 80mm dia	Mtr.	₹ 0.76	₹ 0.76	₹ 0.76	₹ 0.76	₹ 0.76	₹ 0.76
	b) 100mm dia.	Mtr.	₹ 0.94	₹ 0.94	₹ 0.94	₹ 0.94	₹ 0.94	₹ 0.94
	c) 125mm dia.	Mtr.	₹ 1.21	₹ 1.21	₹ 1.21	₹ 1.21	₹ 1.21	₹ 1.21
	d) 150mm dia.	Mtr.	₹ 1.54	₹ 1.54	₹ 1.54	₹ 1.54	₹ 1.54	₹ 1.54
	e) 200mm dia.	Mtr.	₹ 2.38	₹ 2.38	₹ 2.38	₹ 2.38	₹ 2.38	₹ 2.38
	f) 250mm dia.	Mtr.	₹ 3.47	₹ 3.47	₹ 3.47	₹ 3.47	₹ 3.47	₹ 3.47
	g) 300mm dia.	Mtr.	₹ 4.80	₹ 4.80	₹ 4.80	₹ 4.80	₹ 4.80	₹ 4.80

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	h) 350mm dia.	Mtr.	₹ 6.36	₹ 6.36	₹ 6.36	₹ 6.36	₹ 6.36	₹ 6.36
	i) 400mm dia.	Mtr.	₹ 8.17	₹ 8.17	₹ 8.17	₹ 8.17	₹ 8.17	₹ 8.17
	j) 450mm dia.	Mtr.	₹ 10.22	₹ 10.22	₹ 10.22	₹ 10.22	₹ 10.22	₹ 10.22
	k) 500mm dia.	Mtr.	₹ 12.51	₹ 12.51	₹ 12.51	₹ 12.51	₹ 12.51	₹ 12.51
	l) 600mm dia.	Mtr.	₹ 17.82	₹ 17.82	₹ 17.82	₹ 17.82	₹ 17.82	₹ 17.82
	m) 700mm dia.	Mtr.	₹ 24.09	₹ 24.09	₹ 24.09	₹ 24.09	₹ 24.09	₹ 24.09
	n) 750mm dia.	Mtr.	₹ 27.71	₹ 27.71	₹ 27.71	₹ 27.71	₹ 27.71	₹ 27.71
	o) 800mm dia.	Mtr.	₹ 31.45	₹ 31.45	₹ 31.45	₹ 31.45	₹ 31.45	₹ 31.45
	p) 900mm dia.	Mtr.	₹ 39.65	₹ 39.65	₹ 39.65	₹ 39.65	₹ 39.65	₹ 39.65
	q) 1000mm dia.	Mtr.	₹ 48.82	₹ 48.82	₹ 48.82	₹ 48.82	₹ 48.82	₹ 48.82
	B) For UPVC/HDPE Pipe							
	a) 75mm dia (OD)	Mtr.	₹ 0.69	₹ 0.69	₹ 0.69	₹ 0.69	₹ 0.69	₹ 0.69
	b) 90mm dia (OD)	Mtr.	₹ 0.88	₹ 0.88	₹ 0.88	₹ 0.88	₹ 0.88	₹ 0.88
	c) 110mm dia (OD)	Mtr.	₹ 1.08	₹ 1.08	₹ 1.08	₹ 1.08	₹ 1.08	₹ 1.08
	d) 125mm dia (OD)	Mtr.	₹ 1.24	₹ 1.24	₹ 1.24	₹ 1.24	₹ 1.24	₹ 1.24
	e) 140mm dia (OD)	Mtr.	₹ 1.44	₹ 1.44	₹ 1.44	₹ 1.44	₹ 1.44	₹ 1.44
	f) 160mm dia (OD)	Mtr.	₹ 1.73	₹ 1.73	₹ 1.73	₹ 1.73	₹ 1.73	₹ 1.73
	g) 180mm dia (OD)	Mtr.	₹ 2.05	₹ 2.05	₹ 2.05	₹ 2.05	₹ 2.05	₹ 2.05
	h) 200mm dia (OD)	Mtr.	₹ 2.42	₹ 2.42	₹ 2.42	₹ 2.42	₹ 2.42	₹ 2.42
	i) 225mm dia (OD)	Mtr.	₹ 2.93	₹ 2.93	₹ 2.93	₹ 2.93	₹ 2.93	₹ 2.93
	j) 250mm dia (OD)	Mtr.	₹ 3.50	₹ 3.50	₹ 3.50	₹ 3.50	₹ 3.50	₹ 3.50
	k) 280mm dia (OD)	Mtr.	₹ 4.27	₹ 4.27	₹ 4.27	₹ 4.27	₹ 4.27	₹ 4.27
	l) 315mm dia (OD)	Mtr.	₹ 5.28	₹ 5.28	₹ 5.28	₹ 5.28	₹ 5.28	₹ 5.28

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
11	Submission of complete detailed drawing of distribution system, rising main etc. after execution of work showing position of different types of valves, fittings/specials sluice valve chamber with location, node to node wise in the sanctioned drawing as completion drawing of the water supply scheme as per direction and satisfaction of EIC. The list of dia wise fitting/specials, different pipes ;of valve used in the rising main should be shown in the completion drawing (not separate) with verified by SAE & AE in-charge of the scheme. The above drawing will be submitted in 5 copies.	Mtr.	₹ 0.38	₹ 0.38	₹ 0.38	₹ 0.38	₹ 0.38	₹ 0.38
12	Bituminous pucca road (approx. 450mm depth) cutting by using gaiti, chisel, hammer etc. and picking up the withdrawing excavated materials and remove the same within distance of 30mtr. at least all complete for fixing/crossing all dia of pipe line as per direction of EIC	cum	₹ 1,023.00	₹ 1,023.00	₹ 1,023.00	₹ 1,023.00	₹ 1,023.00	₹ 1,023.00
13	Dismantling all type of plain cement concrete works, stacking serviceable materials of site and removing rubbish as directed within a lead of 75mtr. for laying all dia pipe line in ground floor, upto 150mm thick. Ref. Item 2(a), page-10, PWD SOR Vol-I	cum	₹ 939.00	₹ 939.00	₹ 939.00	₹ 939.00	₹ 939.00	₹ 939.00
14	Construction of different dia Sluice valve /Air valve /Washout chamber in different sizes for village road where light traffic run and for main road where heavy traffic run as deptt.approved drawing with 25cm thick brick work (1:6) over cement concrete (4:2:1) over a single B/F soling over150mm.thick sand filling in foundation including earth work in excavation and disposal of excess earth from work site with RCC (1:1.5:3) cover slab 100mm / 150mm thick slab on top of chamber with 1% reinforcement in RCC cover slab with necessary opening for operation of valve all complete including cost of labour & materials as per Departmental Dwg. [Reinforcement type:- Other manufactuerers not specified]							
	i) 80 mm to 150 mm dia pipe	Each	₹ 12,649.00	₹ 11,804.00	₹ 12,055.00	₹ 11,990.00	₹ 11,835.00	
	i) 200 mm dia pipe	Each	₹ 16,045.00	₹ 14,965.00	₹ 15,289.00	₹ 15,194.00	₹ 14,997.00	

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	i) 250 mm to 350 mm dia pipe	Each	₹ 19,964.00	₹ 18,606.00	₹ 19,020.00	₹ 18,881.00	₹ 18,636.00	
	i) 400 mm to 450 mm dia pipe	Each	₹ 23,585.00	₹ 21,972.00	₹ 22,472.00	₹ 22,286.00	₹ 21,998.00	
15	Making holes in two sides of wall of culvert/drain or any other structures in any places for laying any dia pipe line within structures into two sides of wall of culvert /drain /any structure at any places and mending good damages all complete as per direction of EIC.	Each Side	₹ 574.00	₹ 567.00	₹ 565.00	₹ 571.00	₹ 568.00	₹ 583.00
16	Making lighting arrangement for continuation work during night including all charges (Applicable exclusively for emergency situation and as per direction of EIC.)	Hour	₹ 182.00	₹ 182.00	₹ 182.00	₹ 182.00	₹ 182.00	₹ 182.00
17	a) Construction of RCC street stand post (700mm height) of RCC (1:1.5:3) footing over 75mm thick 4:2:1 P.C.C over a single B/F soling with 1% reinforcement, connected with saddle piece & 15mm dia brass ferrule with supplying fitting, fixing 15mm dia G.I. nipple, G.I.socket, G.I. 200mm x 150mm reducing elbow and 20mm dia GI(m) TATA pipe of (avg.) 2.6mtr. long and one 15mm dia alloy Iron with brass spindle bib cock with socket and 20mm G.I. elbow 2nos. with 15mm GI(m) TATA pipe of 0.225mtr. for connection of stand post to distribution line as per deptt. design and drawing as per direction of EIC along with Construction of platform of size CC platform (1:2:4) over a single B/F soling below G.L over 150mm.thick sand filling, neat cement finish over platform and inner side of band and 15mm thick cement plaster (4:1) on top of platform band and outside upto G.L. as per deptt. drawing and as per direction of EIC	Each	₹ 7,549.00	₹ 7,166.00	₹ 7,256.00	₹ 7,215.00	₹ 7,152.00	₹ 8,117.00

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
18	Carriage of different type of departmental pipes from Divisional/Sub-divisional store to the work site by truck including loading, unloading, stacking etc. including cost of fuel, lubricant and also cost of driver, helper etc. and all other taxes and charges as applicable as per direction of EIC							
	a) Any distance upto 5 Km	Trip	₹ 956.00	₹ 956.00	₹ 956.00	₹ 956.00	₹ 956.00	₹ 956.00
	b) Above 5 Km upto 10 Km	Trip	₹ 1,360.00	₹ 1,360.00	₹ 1,360.00	₹ 1,360.00	₹ 1,360.00	₹ 1,360.00
	c) Above 10 Km upto 20 Km	Trip	₹ 2,057.00	₹ 2,057.00	₹ 2,057.00	₹ 2,057.00	₹ 2,057.00	₹ 2,057.00
	d) Above 20 Km upto 30 Km	Trip	₹ 2,658.00	₹ 2,658.00	₹ 2,658.00	₹ 2,658.00	₹ 2,658.00	₹ 2,658.00
	e) Above 30 Km upto 40 Km	Trip	₹ 3,213.00	₹ 3,213.00	₹ 3,213.00	₹ 3,213.00	₹ 3,213.00	₹ 3,213.00
	f) Above 40 Km upto 50 Km	Trip	₹ 3,754.00	₹ 3,754.00	₹ 3,754.00	₹ 3,754.00	₹ 3,754.00	₹ 3,754.00
	g) Above 50 Km (Extra cost per Km)	Km	₹ 57.00	₹ 57.00	₹ 57.00	₹ 57.00	₹ 57.00	₹ 57.00
19	Making barricading of excavation trenches of road width upto 15mtr. to avoid any accident by providing 75mm dia bamboo post placed vertically & horizontally with the help of 6"size iron rail as per direction and satisfaction of EIC. (Applicable where critical situation arise and take up the work as per direction of EIC)	Mtr.	₹ 118.00	₹ 118.00	₹ 118.00	₹ 118.00	₹ 118.00	₹ 118.00

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE -I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
20	<p>Excavation of Trench as per drawing and laying,fixing and jointing with detachable joints AC pressure pipes with necessary spaceals and valves, cutting pipes to required size, if necessary in any kind of soil (including mix soil with boulder, road sub-grade and its flank) preparing the bottom surface for continous bedding of pipe line in proper alignment as per specification instuction with joint holes, sluice valve, wash out valve etc. bailing out water where necessary including carrage of all materials from local store within 25 Km., making a clear cover of 1.00 mtr.between top of the pipe in trench and existing ground level and backfilling the depth of the trench in layers as directed (useing excavated earth) two original conditions with progresive submission of drawings of pipe lines layed and with a statement of materials consumed against each R.A and Final Bill.</p> <p>N.B.</p> <p>(i) Any deviation from required depth of 1.00 mtr over pipe line in trench has to be got permitted by the EIC and payment will be made on prorata basis over the rate of entair item, if executed with permission of EIC.</p> <p>(ii) 25% payment against this item will be withheld till hydraulic test of pipe line is not done as provided separately.</p>							
	a) 80mm dia	Mtr.	₹ 60.00	₹ 60.00	₹ 60.00	₹ 60.00	₹ 60.00	
	b) 100mm dia.	Mtr.	₹ 62.00	₹ 62.00	₹ 62.00	₹ 62.00	₹ 62.00	
	c) 125mm dia.	Mtr,	₹ 87.00	₹ 87.00	₹ 87.00	₹ 87.00	₹ 87.00	
	d) 150mm dia.	Mtr.	₹ 97.00	₹ 97.00	₹ 97.00	₹ 97.00	₹ 97.00	
	e) 200mm dia.	Mtr.	₹ 113.00	₹ 113.00	₹ 113.00	₹ 113.00	₹ 113.00	
	f) 250mm dia.	Mtr.	₹ 130.00	₹ 130.00	₹ 130.00	₹ 130.00	₹ 130.00	

SECTION – B.3

OVERHEAD RESERVOIR

OVERHEAD RESERVOIR

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
1	Cleaning compound premises of shrubs, plants, jungles etc. as per direction of E.I.C.	sqm	Refer respective Item of PWD SOR				
2	Providing Bored Cast-in-situ R.C.C. pile in position as per specifications in all kinds of soil including cost of boring using drilling mud to stabilize the bore and flushing the bore of excess mud with freshly prepared drilling fluid by using pumps prior to placing concrete by tremie pipe in one continuous operation and including the cost of all materials and labour for placing of concrete and also including the cost of mobilization and hire charges of all equipment necessary for boring, welding of reinforcement cage as necessary and lowering of reinforcement cage, preparation and placing of concrete, including the cost of concrete but excluding the cost of reinforcement and labour for bending binding etc. complete as per Drawing and Technical Specifications and removal of excavated earth with all lifts and lead upto 1000 m. Work to be executed as per IS: 2911 (Part II Sec 2). (Using tripod, winches) / (Using Hydraulic Piling Rig)		Refer respective Item of PWD SOR				
	Pile diameter :- (As per design)	Mtr.					
	i) (The rate provided to be used is exclusive of cost of concrete.) Construction wing is to add cost of concrete of desired grade for volume corresponding to 1.0m length of pile length, to arrive at the complete rate. Also the desired crushing strength is to be mentioned. The Rate of providing the temporary steel casing upto 3m depth is included.						
	ii) To obtain the complete rate the construction wing have to add cost of concrete volume for 1.0 mtr. Length of pile, multiplied by a factor, [1+{Dummy length of Pile(Max 1.50mtr.)/Individual Length of Pile}]						
	iii) Rate for concrete may be adopted same as for bottom plug vide item no. 12.09(C) (IV).						
	iv) The cost of dismantling the length of the pile above cut off level is to be added.						

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
3	Plain / Reinforced Cement Concrete, in pile foundation with coarse aggregates of appropriate nominal size and grading, fine aggregate (sand) conforming to proper grading zone, both of approved quality, cement and water reducing admixtures, as necessary, including labour, cost and carriage of all materials and including preparation of design mix, approval of the same by the Engineer-in-Charge and cost for quality control, sampling, testing etc. all complete as per drawing and technical specification including the cost of necessary form work and staging complete. (PCC Grade M25 with providing 10 % extra cement and Using concrete mixer) { From durability consideration, the value of minimum cement content and maximum water cement ratio to be considered in the mix design shall be 420 kg/cu.m. and 0.4 respectively. }		Refer respective Item of PWD SOR				
	Pile diameter :- (As per design)	Cum					
4	Performing Vertical load test on single Pile in accordance with IS:2911(Part-IV) by hydraulic jackson pile/piles with 1.5 times the design load including preparation of the head of piles with concrete of required strength for receiving the jacks with all ancillary arrangements for setting up gauges, construction of suitable platforms, keeping the loads and dismantling and removing all arrangement etc. complete as per IS specification and direction of Engineer-in-charge		Refer respective Item of PWD SOR				
	a) Testing load upto 100T	Each					
	b) Testing load between 100 T to 150T	Each					
	c) Testing load between 150T to 200T	Each					
	d) Testing load between 200T to 250T	Each					
	e) Testing load between 250T to 300T	Each					
	N.B. This test shall be done on working piles only in a pile group and should satisfy the provisions of routine test as given in IS-2911 (Part-4) 1985.						

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
5	Performing Lateral load test on two piles or two groups of piles by introducing a hydraulic jack with gauge between two piles or pile groups under test by applying horizontal loads in increments of about 20% of the estimated safe load at each stage and applying the next increment after the rate of displacement is nearer to 0.1 mm. per 30 minutes till the total displacement becomes, 12 mm at the cut-off level including the cost of arranging the entire set-up, hire charges of all implements including at least two dial gauges, preparing the pile head if necessary, and removal of all arrangement after completion etc. complete in all respect including cost of carriage of all materials and as per IS specification and direction of Engineer-in-charge.	Each	Refer respective Item of PWD SOR				
6	Reinforcement for piling work including main bars, stirrups, binders etc. initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending to correct shape. Cost of mobilization and welding of reinforcement cage as necessary and lowering of reinforcement cage placing in proper position , including labour cost complete as per drawing and direction. a) HYSD bars (Tor steel)	M.T	Refer respective Item of PWD SOR				
7	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 75m. as directed. The item includes necessary trimming the sides of trenches, levelling, dressing and ramming the bottom, bailing out water as required complete.		Refer respective Item of PWD SOR				
	(a) Depth of excavation not exceeding 1.50m.	cum					
	(b) Depth 1.50m. and upto 3.00m.	cum					
	Add extra for excavation of morrum soil	cum					
	Add extra for cutting laterite /sand stone with chiseling	cum					
	Add extra for cutting with blasting	cum					
8	Extra over the corresponding item of earth work for semi liquied mud or slashy earth by iron pans , buckets etc.	cum	Refer respective Item of PWD SOR				
9	Bailing out water from foundation trench.	cum	Refer respective Item of PWD SOR				

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
10	Earth work in filling in foundation trenches or plinth with good earth, in layers not exceeding 150mm. including watering and ramming etc. layer by layer complete. (Payment to be made on the basis of measurement of finished quantity of work)		Refer respective Item of PWD SOR				
	(a) With earth obtain for excavation of foundation	cum					
	(b) With earth obtained by fresh excavation (including cost of excavation upto 1,800mm.depth)from land arranged by the Deptt. within a lead of 100m.	cum					
	(c) With carried earth arranged by the contractor within a radius of 1km.including cost of carried earth.	cum					
	(d) With carried earth arranged by the contractor within a radius of 3km.including cost of carried earth.	cum					
	(e) With carried earth arranged by the contractor within a radius exceeding 3km.but not exceeding 5km. including cost of carried earth.	cum					
	(f) With carried earth arranged by the contractor within a radius exceeding 5km.but not exceeding 10km.including cost of carried earth.	cum					
11	Filling in foundation or plinth by silver sand in layers not exceeding 150mm 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)	cum	Refer respective Item of PWD SOR				
12	Filling in foundation plinth by fine sand	cum	Refer respective Item of PWD SOR				
13	Hire and labour charges for shoring work (including necessary close plank walling, framing, Eucalyptus/ Jhoubulla piling, strutting etc) complete as per direction of the Engineer-in- charge for foundation excavation (vertical surface are incontact with supported earth is to be measured.) (This item should be executed on specific direction of the Enginner in charge).						
	a) Depth upto 1.5mtr.	sqm	Refer respective Item of PWD SOR				
	b) For add. depth beyond 1.5m.upto 3m.	sqm					
14	Single Brick Flat Soling of picked jhama bricks including ramming and dressing bed to proper level and filling joints with local sand.	sqm	Refer respective Item of PWD SOR				
15	Ordinary Cement concrete (mix1:2:4) with graded stone chips (20mm nominal size) excluding shuttering and reinforcement, if any, in ground floor as per relevant IS codes.						
	(a) Pakur variety OH -4	cum	Refer respective Item of PWD SOR				

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
16	Controlled Cement concrete with well graded stone chips (20mm graded nominal size) excluding shuttering and reinforcement with complete design of concrete as per IS: 456 and relevant special publications, submission of job mix formula after preliminary mix design after testing of concrete cubes as per direction of Engineer- incharge. Consumption of cement will not be less than 300Kg of cement with Super plasticiser per cubic meter of controlled concrete but actual consumption will be determined on the basis of preliminary test and job mix formula. In ground floor and foundation.						
	M-25 grade : i) Pakur variety	cum	Refer respective Item of PWD SOR				
17	Add extra over the rate of ground floor for basement and each additional floor above ground floor						
	a) From G.L 4mtr. upto 8mtr.	cum	Refer respective Item of PWD SOR				
	b) From G.L 8mtr. upto 12mtr.	cum					
	c) From G.L 12mtr. upto 16mtr.	cum					
	d) From G.L 16mtr. upto 20mtr.	cum					
	e) From G.L 20mtr. upto 24mtr.	cum					
	f) From G.L 24mtr. upto 28mtr.	cum					
18	Controlled Cement concrete with well graded stone chips (20mm nominal size) excluding shuttering and reinforcement with complete design of concrete as per IS:456 and relevant special publications, submission of job mix formula after preliminary mix design after testing of concrete cubes as per direction of Engineer- incharge. Consumption of cement will not be less than 320Kg of cement with super plasticiser per cubic meter of controlled concrete but actual consumption will be determined on the basis of preliminary test and job mix formula. In ground floor and foundation. M-30 grade						
	i) Pakur variety (for Tank wall, Tank floor, top & bottom ring beam heal beam etc. above work)						
	a) 20mtr. to 24mtr.	cum	Refer respective Item of PWD SOR				
	b) 24mtr. to 28mtr.	cum					

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
19	Hire and labour charges for shuttering for concrete work in overhead R.C. Reservoir on separate R.C. frame including fitting, fixing and striking of shutter after completion of work including staging upto 4m using ply board or steel shuttering.	sqm	Refer respective Item of PWD SOR				
20	Extra for Staging beyond 4m [mode of measurement: Area of unsupported horizontal projection (where staging beyond 4m is practically unavoidable) x mean height of staging] above initial 4m D= Outer dia of cell wall of tank, h= ht. of G.L. to bottom of Head beam A=0.785 x D ² ; V=A x h	cum	Refer respective Item of PWD SOR				
21	Reinforcement for reinforced concrete work in all sorts of structures including distribution bars, stirrups, binder set initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending to correct shape, placing in proper position and binding with 16 gauge black annealed wire at every intersection, complete as per drawing and direction.						
	a) For works in foundation, basement & upto roof of ground floor/4mtr.	M.T.	Refer respective Item of PWD SOR				
	(i) Tor steel/Mild steel.						
	b) Extra for work beyond roof of ground floor/initial 4mtr.						
	i) 4mtr. to 8mtr.	Qntl.	Refer respective Item of PWD SOR				
	ii) 8mtr. to 12mtr.	Qntl.					
	iii) 12mtr. to 16mtr.	Qntl.					
	iv) 16mtr. to 20mtr.	Qntl.					
	v) 20mtr. to 24mtr.	Qntl.					
	vi) 24mtr. to 28mtr.	Qntl.					
22	Artificial stone in floor, dado, stair case etc with cement concrete (1:2:4) with stone chips, laid in panels as directed with topping made with ordinary or white cement (as necessary) and marble dust in proportion (1:2) including smooth finishing and rounding off corners including raking out joints or roughening of concrete surface and application of cement slurry before flooring works using cement @ 1.75kg/sq. m complete including all materials and labour.						

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
	a) 25mm.thick for wall and floor of tank Add extra @ 1.5% for each additional floor upto 4 th .floor and @ 1.75% for each additional floor above 4 th .floor for original item.	sqm	Refer respective Item of PWD SOR				
23	Plaster (toe wall, floor, ceilingetc.) with sand and cement mortar including rounding of for chamfering corners as directed and raking out joints including throating, no singanddrip course, scaffolding / staging where necessary (Groundfloor). [Excluding cost of chipping over concrete surface]						
	I) With (1:4) cement mortar external surface(a) 20mm thick	sqm	Refer respective Item of PWD SOR				
	Extra for each addl. floor over the rate of ground floor as above.						
	i) 4mtr. to 8mtr.	sqm	Refer respective Item of PWD SOR				
	ii) 8mtr. to 12mtr.	sqm					
	iii)12mtr. to 16mtr.	sqm					
	iv)16mtr. to 20mtr.	sqm					
	v) 20mtr. to 24mtr.	sqm					
	vi)24mtr. to 28mtr..	sqm					
	II) with (1:3) cement mortar Internal surface (a) 15mm thick	sqm	Refer respective Item of PWD SOR				
	Extra for each addl. floor over the rate of ground floor as above.						
	i) 4mtr. to 8mtr.	sqm	Refer respective Item of PWD SOR				
	ii) 8mtr. to 12mtr.	sqm					
	iii)12mtr. to 16mtr.	sqm					
	iv)16mtr. to 20mtr.	sqm					
	v) 20mtr. to 24mtr.	sqm					
	vi)24mtr. to 28mtr.	sqm					
24	Neat cement punning about 1.5mm.thick	sqm	Refer respective Item of PWD SOR				
25	Expansion joint in floor,roof wall etc. formed with V strips made of 22.50cm wide strips of 24gauge aluminium sheets with anchor am projecting on each side(and end turned) embedded in adjacent cement concrete , including shaping and finishing the edges on either side of the joint(Including the cost of bituminous filler if any) complete as per direction.	Mtr.	Refer respective Item of PWD SOR				

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
26	Applying 2 (two) coats of bonding agent with synthetic multi functional rubber emulsion having adhesive and water proofing properties by making with water in proportion (1 bonding agent : 4 water : 6 cement) as per manufacturer's specification.	sqm					
27	Extra rate for using water proofing and plastering admixture @ 0.2%by weight of cement (or at manufacturer's specified rate for concrete of various grades).	/Kg					
28	Apply exterior grade Acrylic primer of approved quality						
	Ground floor, Two coats upto 4mtr. from G.L.	sqm					
	Add extra for each adding floor over the rate for ground		Refer respective Item of PWD SOR				
	i) 4mtr. to 8mtr.	sqm	Refer respective Item of PWD SOR				
	ii) 8mtr. to 12mtr.	sqm					
	iii)12mtr. to 16mtr.	sqm					
	iv)16mtr. to 20mtr.	sqm					
	v) 20mtr. to 24mtr.	sqm					
	vi) 24mtr. to 28mtr.	sqm					
29	Protective and Decorative Acrylic exterior emulsion paint of approved quality, as per manufacturer's specification and as per direction of EIC to be applied over acrylic primer as required. The rate includes cost of material, labour, scaffolding and allincidental charges but excluding the cost of primer. (two coat)						
	a) Premium 100% Acrylic emulsion upto 4mtr.	sqm	Refer respective Item of PWD SOR				
	Add extra for each adding floor over the rate for ground						
	i) 4mtr. to 8mtr.	sqm	Refer respective Item of PWD SOR				
	ii) 8mtr. to 12mtr.	sqm					
	iii)12mtr. to 16mtr.	sqm					
	iv)16mtr. to 20mtr.	sqm					
	v) 20mtr. to 24mtr.	sqm					
	vi) 24mtr. to 28mtr.	sqm					
30	Bitumen paint on roof domes including scraping & polishing as per drawing and direction including cost of paint. i)Two coats (for top of roof	sqm	Refer respective Item of PWD SOR				

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
31	a) M.S or W.I ornamental grill.						
	i) Grill wt. above 10kg./m2 and upto16kg/m2	Qntl.	Refer respective Item of PWD SOR				
	ii) Grill wt. above 16kg./m2 and above	Qntl.	Refer respective Item of PWD SOR				
32	Priming one coat on steel or metal surface	sqm	Refer respective Item of PWD SOR				
33	Painting with best quality synthetic						
	a)On steel or other metal surface with super gloss (hi-gloss)						
	i)Two coat (any shade except white)	sqm	Refer respective Item of PWD SOR				
34	Supplying at site filling ,fixing ,erecting and building in position where necessary 600mm.wide M.S. Cat ladder as per design consisting of 2nos.ISMC 150, 8mm.thick with necessary base plate of 8mm.thick 100mm.wide M.S. plate as steep @ 300mm.a/c supported on ISA 50x50x6 , ISA 60x60x8mm.thick both side as per requirement.900mm.ht. as post on one side/both side @ 1000 and ISA 45x45x6 as horiz. Runner to cover side railing including fabrication, welding ,drilling etc.as per drawing and direction and finished with two coats of synthetic enamel painting over a coat of primer etc. all complete as per direction of EIC. for cat ladder, railing of stair & platform, walkway etc.						
	a) Upto 2 nd Lift (upto 8.0mtr. from G.L)	Kg.	₹ 78.99	₹ 78.99	₹ 78.99	₹ 78.99	₹ 78.99
	b) from 8mtr. to 12mtr. @ 1.5%extra of (a)	Kg.	₹ 80.17	₹ 80.17	₹ 80.17	₹ 80.17	₹ 80.17
	c) from 12mtr. to 16mtr. @ 1.5%extra of (b)	Kg.	₹ 81.37	₹ 81.37	₹ 81.37	₹ 81.37	₹ 81.37
	d) from 16mtr. to 20mtr. @ 1.5%extra of (c)	Kg.	₹ 82.59	₹ 82.59	₹ 82.59	₹ 82.59	₹ 82.59
	e) from 20mtr. to 24mtr. @ 1.5%extra of (d)	Kg.	₹ 83.83	₹ 83.83	₹ 83.83	₹ 83.83	₹ 83.83
	f) from 24mtr. to 28mtr. @ 1.5%extra of (e)	Kg.	₹ 85.09	₹ 85.09	₹ 85.09	₹ 85.09	₹ 85.09
35	Supplying at site hoisting, fitting, fixing erecting and building in position where necessary 450mm.wide ladder as per design consisting of 2nos. M.S.Plate of 8mm.thick with necessary base plate 60mm wide; and 16mm.dia M.S.round or square bar as steeps placed @ 300 c/c including fabrication, welding drilling etc. as per drawing and direction and finished with two coats of synthetic enamel painting over a coat of red lead primer etc. all complete as per ;direction of the EIC	Mtr.	₹ 1,067.00	₹ 1,067.00	₹ 1,067.00	₹ 1,067.00	₹ 1,067.00

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
36	Supplying & labour for mixing of super plasticizer of approved make brand sika/cico conforming to IS-2645-1975 & IS-9130-1979 to be need in mortar admixture @ 0.20% by wt. of cement (i.e 100ml per 50kg of cement) for improving workability, reducing shrinkage and improvement of water tightness of the concrete.	/Kg.	₹ 139.00	₹ 139.00	₹ 139.00	₹ 139.00	₹ 139.00
37	Supplying, fitting, fixing 900 mm high G.I. pipe railing for R.C.C stair cat ladder walk way fabrication,erection,welding of 40 mm G.I (NON TATA medium) pipe place at top of railing and 2 nos 25 mm dia. G.I pipe (NON TATA medium) placed equally in between railing top & floor, vertical post of railing are 40 mm dia. G.I pipe (NON TATA medium) placed at 900 mm c/c . The each end of the vertical post is join by the 62 mm (25 mm X 6 mm X 0.062 m long) MS flat and 150 mm length (propes pipes) are grouted in concrete base of stair, walk way etc. All complete with supplying of all materials including hoisting up to the any height complete with 2 coats of painting with super gloss (Hi gloss) in any shade except white and black over a coat of primer complete as per direction of E.I.C. Analysis of rate enclosed in seperate sheets. (Analysis Rate)	Mtr.	₹ 1,804.00	₹ 1,804.00	₹ 1,804.00	₹ 1,804.00	₹ 1,804.00
38	Bituminous filer of approved type in excavation joint between the shell wall & roof including finishing the top surface as per ;drawing, specification and direction of EIC	cum	₹ 54,737.00	₹ 54,737.00	₹ 54,737.00	₹ 54,737.00	₹ 54,737.00
39	Supplying hoisting, fitting fixing approved type water level indicator with copper float, guide pulley, wire boards etc. as per standard specification and direction and satisfaction of EIC	Each	₹ 64,271.00	₹ 64,271.00	₹ 64,271.00	₹ 64,271.00	₹ 64,271.00
40	Supplying fitting and fixing in position reinforced cement polymer concrete manhole cover with matching frame as per IS-12592 (MD)						
	a) 5MT load bearing capacity round manhole cover parovided with two nos. lifter hook with machining frame of size 550mm x 65mm(cover) and 650mm x 125mm(frame) opening 470mm and WT. 90KG. approx.	Each	₹ 3,013.00	₹ 3,013.00	₹ 3,013.00	₹ 3,013.00	₹ 3,013.00
41	Band moulding (Horizontal/vertical) rectangular section made with cement plaster(1:4) complete						
	a) Depth or width (75mm to 100mm) [Cement 1.25kg/mtr.]	Mtr.	Refer respective Item of PWD SOR				

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
42	(A) Earthing with 50mm.dia G.I. pipe 3.64mm.thick x 3mtr. (10"-0") long and 1 x 4SWG G.I. (Hot dip) wire 4mtr. long 13mm. dia x 80mm.long G.I.Bolts, double nuts, washer including S&F 15mm.dia G.I.pipe protection (1mtr. long) to be filled with bitumen partly below ground level to an av. Depth of 3.65m below G.L. and restoring the surface duly rammed as per IEE rule i) For soft soil.						
	a) By ISI Medium G.I.Pipe.	Set.	₹ 1,715.00	₹ 1,715.00	₹ 1,715.00	₹ 1,715.00	₹ 1,715.00
	b) By TATA Medium G.I.Pipe	Set.	₹ 1,890.00	₹ 1,890.00	₹ 1,890.00	₹ 1,890.00	₹ 1,890.00
	ii) For Moorum soil						
	a) By ISI Medium G.I.Pipe	Set.	₹ 1,786.00	₹ 1,786.00	₹ 1,786.00	₹ 1,786.00	₹ 1,786.00
	b) By TATA Medium G.I.Pipe.	Set.	₹ 1,961.00	₹ 1,961.00	₹ 1,961.00	₹ 1,961.00	₹ 1,961.00
	(B) Extra for treatment of soil by salt and charcoal coke for pipe electrode	Item.	₹ 598.00	₹ 598.00	₹ 598.00	₹ 598.00	₹ 598.00
	(C) Connecting the equipments to earth Bushbar including S&F G.I. (Hot Dip) wire of size as below on wall / floor with staples buried inside wall/floor as required and making connection to equipments with bolts, nuts, washer, cable lugs etc. as required and mending good damages as per IEE rule.						
	i) No.8 SWG	Mtr.	₹ 10.00	₹ 10.00	₹ 10.00	₹ 10.00	₹ 10.00
43	Horn gap lighting arrestor complete parts and pin insulators supplying, fitting fixing all complete as per direction of E.I.C.	Set.	₹ 2,739.00	₹ 2,739.00	₹ 2,739.00	₹ 2,739.00	₹ 2,739.00
44	Provision for embossing the name and capacity of reservoir with 20mm.thick (3:1) raised sand cement plaster with letter size 30cm x 20cm. on the outside of shell wall of the reservoir painted complete as per direction of EIC	Each.	₹ 108.00	₹ 108.00	₹ 108.00	₹ 108.00	₹ 108.00
45	Making arrangement for water tightness test conforming to the provision laid in IS:3370(Pt-I) 1956 by filling with water upto top water level (TWL) as shown in the drawing and as per direction of EIC. . (if water is supplied by the Department rate shall be reduced as per prevailing departmental rate))	cum	₹ 95.00	₹ 95.00	₹ 95.00	₹ 95.00	₹ 95.00
46	Disinfection and washing the tank and pipe connection including clearing the inside of the tank etc. complete as per direction of EIC.	Item.	₹ 4,751.00	₹ 4,751.00	₹ 4,751.00	₹ 4,751.00	₹ 4,751.00

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
47	Construction of masonry drain 300 mm X 250 mm inner section with 1st class 250 mm th. Brick work in cement mortar(1:4) over a layer of single brick flat soling , sand filling 100mm th. and 100 mm th. weak cement concrete(6:3:1) with graded stone ballast pakur variety (40mm size) including earth work in excavation , 15mm th. Cement plaster(4:1) and neat cement punning all rounding the drain etc. all complete as per approved design , drawing and direction of the Engineer in-charge. (Ref. Deptt. Dwg)	Mtr.	Refer respective Item of PWD SOR				
48	Fitting, fixing Duck foot bend including construction of cement concrete(4:2:1) base with approved grade stone chips and including excavation of earth & filling etc. all complete in all respect as per direction of EIC.						
	a) 400mm.dia (Base size 450mmx450mmx600mm.deep)	Each.	₹ 950.00	₹ 950.00	₹ 950.00	₹ 950.00	₹ 950.00
	b) 300mm.dia (Base size 350mmx350mmx500mm.deep)	Each.	₹ 527.00	₹ 527.00	₹ 527.00	₹ 527.00	₹ 527.00
	c) 250mm.dia (Base size 300mmx300mmx450mm.deep)	Each.	₹ 367.00	₹ 367.00	₹ 367.00	₹ 367.00	₹ 367.00
	d) 200mm.dia (Base size 250mmx250mmx400mm.deep)	Each.	₹ 261.00	₹ 261.00	₹ 261.00	₹ 261.00	₹ 261.00
	e) 150mm.dia (Base size 200mmx200mmx350mm.deep)	Each.	₹ 168.00	₹ 168.00	₹ 168.00	₹ 168.00	₹ 168.00
49	Supplying mosquito proof net made of polythene (NETLON) size 75cm. X 75cm. for ventilator including fitting, fixing in the best sal wood frame of 8cm. X 5cm. cross section with necessary wooden batten fixing the assembly with necessary MS clamp in RCC wall at the lantern.	Sqm.	₹ 1,681.00	₹ 1,681.00	₹ 1,681.00	₹ 1,681.00	₹ 1,681.00
50	Supplying fitting and fixing door made with IRC febric mesh of 75mm x50mmx4.5mmx2.7mm on 50mm x 50mm x 6mm angle iron frames all round and one 37.5mm x 6mm M.S. flat bar over the netting all round welded to angle iron frame and providing locking arrangements if necessary and with two coats of synthetic enamel paint(Other than Hi-gloss) fitted and fixed with clamps or haskal doomney etc. complete at the lantern of R.C.C. over head reservoir.	Sqm	₹ 2,850.00	₹ 2,850.00	₹ 2,850.00	₹ 2,850.00	₹ 2,850.00

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
51	Providing water thirable non-toxic expoxy coating (techoxy or equivalent brand of approved quality) 2(two) finished coats over 2(two) of primer of same brand to the ceiling of roof dome including supply of requisite coating materials, cleaning of the substrate properly to make it free from dirt, paint, oil and grease, sludge, blister, loose plaster, fungus, moss and all other undesirable particles using wire brush, sand papers etc. including mending good all damages all complete as per direction of EIC & his satisfaction.	sqm	₹ 299.00	₹ 299.00	₹ 299.00	₹ 299.00	₹ 299.00
52	Labour for chipping of concrete surface before taking up plastering work.	sqm	Refer respective Item of PWD SOR				
53	<u>PIPING ARRANGEMENT</u> Making flange joint to CIDF pipe, specials, valves etc. with supply of necessary nuts and bolts, rubber insertion of 6kg/m ² (3mm gauge) and materials required including dewatering if any tools and plants, labour cost etc. as per specification and direction of EIC (Nut and bolts shall be of TATA/GKW make) for						
	i) 300mm.dia.	Each	₹ 849.00	₹ 849.00	₹ 849.00	₹ 849.00	₹ 849.00
	ii) 250mm.dia.	Each	₹ 693.00	₹ 693.00	₹ 693.00	₹ 693.00	₹ 693.00
	iii) 200mm.dia.	Each	₹ 508.00	₹ 508.00	₹ 508.00	₹ 508.00	₹ 508.00
	iv) 150mm.dia.	Each	₹ 431.00	₹ 431.00	₹ 431.00	₹ 431.00	₹ 431.00
	v) 100mm.dia.	Each	₹ 399.00	₹ 399.00	₹ 399.00	₹ 399.00	₹ 399.00
	vi) 80mm.dia.	Each	₹ 239.00	₹ 239.00	₹ 239.00	₹ 239.00	₹ 239.00
54	Hoisting, fitting, fixing of C.I. bell mouth with puddle collar in RCC work as per drawing specification and direction of EIC all complete.						
	a) 300mm.dia.	Each	₹ 151.00	₹ 151.00	₹ 151.00	₹ 151.00	₹ 151.00
	b) 250mm.dia.	Each	₹ 113.00	₹ 113.00	₹ 113.00	₹ 113.00	₹ 113.00
	c) 200mm.dia.	Each	₹ 90.00	₹ 90.00	₹ 90.00	₹ 90.00	₹ 90.00
	d) 150mm.dia.	Each	₹ 75.00	₹ 75.00	₹ 75.00	₹ 75.00	₹ 75.00
	e) 100mm.dia.	Each	₹ 65.00	₹ 65.00	₹ 65.00	₹ 65.00	₹ 65.00
55	Hoisting, erection, placing connecting with pipes and specials CIDF pipes, specials) securing with building specials providing stays, clamps as required including cost of staging platform for the work etc. all complete in all respects as per drawing and direction of EIC.						

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
	a) 300mm.dia.	Mtr	₹ 152.00	₹ 152.00	₹ 152.00	₹ 152.00	₹ 152.00
	b) 250mm.dia.	Mtr	₹ 122.00	₹ 122.00	₹ 122.00	₹ 122.00	₹ 122.00
	c) 200mm.dia.	Mtr	₹ 105.00	₹ 105.00	₹ 105.00	₹ 105.00	₹ 105.00
	d) 150mm.dia.	Mtr	₹ 91.00	₹ 91.00	₹ 91.00	₹ 91.00	₹ 91.00
	e) 100mm.dia.	Mtr	₹ 84.00	₹ 84.00	₹ 84.00	₹ 84.00	₹ 84.00
56	Laying of CIDF /D.I Pipes with specials, valves etc. in trenches including excavation in all sorts of soil, moorum, soft rock and refilling the trenches after laying & jointing of pipes etc. all complete as per specification and direction of EIC.						
	a) 300mm.dia.	Mtr.	₹ 192.00	₹ 192.00	₹ 192.00	₹ 192.00	₹ 192.00
	b) 250mm.dia.	Mtr.	₹ 164.00	₹ 164.00	₹ 164.00	₹ 164.00	₹ 164.00
	c) 200mm.dia.	Mtr.	₹ 136.00	₹ 136.00	₹ 136.00	₹ 136.00	₹ 136.00
	d) 150mm.dia.	Mtr.	₹ 112.00	₹ 112.00	₹ 112.00	₹ 112.00	₹ 112.00
	e) 100mm.dia.	Mtr.	₹ 72.00	₹ 72.00	₹ 72.00	₹ 72.00	₹ 72.00
57	Construction of different dia Sluice valve /Air valve /Washout chamber in different sizes for village road where light traffic run and for main road where heavy traffic run as deptt. approved drawing with 25cm thick brick work (1:6) over cement concrete (4:2:1) over a single B/F soling over 150mm. thick sand filling in foundation including earth work in excavation and disposal of excess earth from work site with RCC (1:1.5:3) cover slab 100mm / 150mm thick slab on top of chamber with 1% reinforcement in RCC cover slab with necessary opening for operation of valve all complete including cost of labour & materials as per Departmental Dwg. [Reinforcement type:- Other manufacturerers not specified]						
	a) 300mm.dia.	Each	₹ 19,964.00	₹ 18,606.00	₹ 19,020.00	₹ 18,881.00	₹ 18,636.00
	b) 250mm.dia.	Each	₹ 19,964.00	₹ 18,606.00	₹ 19,020.00	₹ 18,881.00	₹ 18,636.00
	c) 200mm.dia.	Each	₹ 16,045.00	₹ 14,965.00	₹ 15,289.00	₹ 15,194.00	₹ 14,997.00
	d) 150mm.dia.	Each	₹ 12,649.00	₹ 11,804.00	₹ 12,055.00	₹ 11,990.00	₹ 11,835.00
	e) 100mm.dia.	Each	₹ 12,694.00	₹ 11,804.00	₹ 12,055.00	₹ 11,990.00	₹ 11,835.00
58	Supply the following materials for connection of inlet, outlet, overflow, washout of OHR as per deptt. Drawings.						
	(A) CIDF pipe Class-B as per I.S. 7181-1986 with latest revision.	Kg	₹ 63.00	₹ 63.00	₹ 63.00	₹ 63.00	₹ 63.00

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
	N.B: For OHR use CIDF class B pipe for inlet, outlet, overflow and washout.						
	(B) CIDF Duck foot bend as per I.S. 1538 1976 with latest revision.	Kg	₹ 61.00	₹ 61.00	₹ 61.00	₹ 61.00	₹ 61.00
	(C) CIDF Bell mouth pes. with puddle collar as per ISI 1538-1976 with latest revision	Kg	₹ 61.00	₹ 61.00	₹ 61.00	₹ 61.00	₹ 61.00
	(D) C.I.D.F 90° Bend as per I.S.1538 (Part-XXI)-1976 with latest amended	Kg	₹ 61.00	₹ 61.00	₹ 61.00	₹ 61.00	₹ 61.00
59	Supply and delivery of CIDF sluice valve (Special type) PW-1.00 of different dia make with CI double flanged non rusting spindle sluice valves conforming to IS 14846 -2000 with latest emended having body dome/bonnet and cover of C.I.Gr-F.G 210mtr. spindle of IS-6603 G.R-12/Gr-13 non-magnetic, nuts seat rings are of Gunonetal as per IS:318 LTB-2 flanges and drilled to IS:1538 Part IV & VI valves are suitable for max. working pressure of 10kg/cm2(seat test) and body tested to 15kg/cm2. N.B: The above item should be procured from the reputed manufactures as per deptt. approved vender list						
	i) 300mm.dia.	Each	₹ 29,700.00	₹ 29,700.00	₹ 29,700.00	₹ 29,700.00	₹ 29,700.00
	ii)250mm.dia.	Each	₹ 24,420.00	₹ 24,420.00	₹ 24,420.00	₹ 24,420.00	₹ 24,420.00
	iii)200mm.dia.	Each	₹ 16,632.00	₹ 16,632.00	₹ 16,632.00	₹ 16,632.00	₹ 16,632.00
	iv)150mm.dia.	Each	₹ 9,174.00	₹ 9,174.00	₹ 9,174.00	₹ 9,174.00	₹ 9,174.00
	v) 100 mm dia.	Each	₹ 6,138.00	₹ 6,138.00	₹ 6,138.00	₹ 6,138.00	₹ 6,138.00
60	Removal of rubbish, earth etc. from the working site and disposal of the same beyond the compound, inconformity with the Municipal/Corporation Rules for such disposal, loading in to truck and cleaning the site inall respect as per direction of Engineer in charge	Cum	Refer respective Item of PWD SOR				
61	Commissioning the R.C.C. over head reservoir by operating of all category of sluice valves , testing of hoisted pipe joints including repairing the leakage(s) if detected , including making inter connections,flange jointing/lead jointing with the newly laid rising main and distribution main all complete as per direction of the EIC.	Each	₹ 6,000.00	₹ 6,000.00	₹ 6,000.00	₹ 6,000.00	₹ 6,000.00

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
62	Soil Investigation studies for all disturbed & un-disturbed soil in different areas for selection of nature of foundation of structural works including supplying, preparation & submission of report in six copies giving relevant information, data, site plan borelog and water table, test results, calculations discussion suggestion and recommendation in respect of suitable foundation etc including determination of silt factor, calculation of water ways and complete design of foundation including analysis of bearing capacities and settlements in bound and presentable form complete as per direction of EIC.	Item.	Refer respective Item of PWD SOR				

SECTION – B.4

IRON ELIMINATION PLANT

PRESSURE TYPE IRON ELIMINATION PLANT

Item No.	Description of Items	Unit	Rate (Rs.)
1	Supplying, Fabrication, Erection on suitable RCC foundation and Commissioning with 3 (three) months Trial Run (including cost of routine testing of water sample for performance evaluation) of pressure type Iron removal plant as per design norms of the P.H.E. Dte. with necessary accessories viz. MS fabricated shell with minimum 10 mm thick MS plate with 2 (two) coats of anticorrosive paint & minimum 12 mm thick MS media supporting plate fitted with required no. of pot strainer, MS fabricated oxidation chamber with minimum 10 mm thick plate with necessary pipe connection, valves, Gauges & other instruments as required as per departmental approved design & drawing including cost of filter media, Air Compressor & Air blower with motor, starter, main switch etc. of required capacity & approved specification including power connection from main line etc. all complete.		
	Rate excludes the cost of Concrete Platform & drain, and the cost of Blower Room		
	For more than 50 cum/hr, twin unit of equal size in parallel shall be adopted.		
i)	5 cum/hr	1	612400.00
ii)	10 cum/hr	1	732100.00
iii)	15 cum/hr	1	788100.00
iv)	20 cum/hr	1	862800.00
v)	25 cum/hr	1	940300.00
vi)	30 cum/hr	1	1027900.00
vii)	35 cum/hr	1	1084400.00
viii)	40 cum/hr	1	1144300.00
ix)	45 cum/hr	1	1196200.00
x)	50 cum/hr	1	1312700.00

SECTION – B.5

ARSENIC-CUM-IRON REMOVAL PLANT

RATES OF ARSENIC-CUM-IRON REMOVAL PLANT (AIRP)

SL No	Description of Item	Rate	Unit
1	Construction of Arsenic-cum-Iron Removal Plant (AIRP) to reduce Arsenic concentration to 10 ppb (0.01 mg/l) and Iron to 100 ppb (0.1 mg/l) from influent concentration upto 500 ppb (0.5 mg/l) and 3000 ppb (3 mg/l) respectively (single / multi-stage) based on oxidation followed by chemical co-precipitation, filtration etc. and departmental process/hydraulic design consisting of inlet arrangement, oxidation chamber (30 minute detention time), flash mixer, flocculation and sedimentation unit, filtration unit with Back washing arrangement (including the cost of 2 years polishing media where applicable) with air and water, back wash water tank of suitable capacity, and staging height, air compressors, blower etc, with or without activated alumina chamber all with pneumatic valve and control arrangements, clear water reservoir (30 minute detention time), Solid-liquid sludge separation bed with 100% recirculation facility, including the cost of all mechanical and electrical items (but excluding the cost of Raw water inlet pumps and clear water pumps), all accessories & RCC sludge storage tank etc, chemical house-cum-store, administrative building (with minimum 100 m ² plinth area), allied pipeline, integration of total plant etc. all complete showing all necessary arrangements, structural & hydraulic detail based on departmental drawing and specification with trial run for a period of 3 (three) months after completion of the works and 3 months maintenance after successful trial run including the cost of chemicals but excluding the cost of electricity charges.		
A	Type-1 - Fully Gravity System with RG Filter — with baffled flocculator, plain sedimentation tank, rapid gravity filter, with or without gravity type activated alumina chamber all complete as per departmental drawing no. PC I/AIRP/Type-1/Sheet- 1 & 2.	A s p e r C h a r t	Each
B	Type-2- Fully Gravity System with Mechanised Clariflocculator -- With mechanized clariflocculator, rapid gravity filter, with or without gravity type activated alumina chamber all complete as per departmental drawing no. PC- I/AIRP/Type-2/Sheet-1 & 2.		Each
C	Type-3- Partial Gravity System With RG Filter and Pressurized Upflow Polishing Unit — with mechanized clariflocculator, rapid gravity filter, with or without pressurized up-flow activated alumina chamber all complete as per departmental drawing no. PC-I/AIRP/Type-3/Sheet-1 & 2.		Each
D	Type-4- Partial Gravity System with Pressure Filter and Pressurized Upflow Polishing Unit — with mechanized clariflocculator, pressure filter, with or without pressurized up-flow activated alumina chamber all complete as per departmental drawing no. PC-I/AIRP/Type-4/Sheet-1 & 2.		Each

RATE CHART

COST OF CONSTRUCTION OF ARSENIC-CUM-IRON ELIMINATION PLANT (AIRP)
(in Rs. Lakh)

ZONE I

CAPACITY	UNIT	WITH ACTIVATED ALUMINA POLISHING UNIT				WITHOUT ACTIVATED ALUMINA POLISHING UNIT			
		TYPE -1	TYPE-2	TYPE-3	TYPE-4	TYPE -1	TYPE-2	TYPE-3	TYPE-4
30 Cum/Hr	1 Unit	119	114	117	113	102	97	98	94
50 Cum/Hr	1 Unit	135	126	127	123	109	100	101	97
70 Cum/Hr	1 Unit	155	143	144	142	119	107	108	106
90 Cum/Hr	1 Unit	176	162	-	-	131	118	-	-
120 Cum/Hr	1 Unit	220	204	-	-	159	143	-	-
135 Cum/Hr	1 Unit	234	218	-	-	166	149	-	-
150 Cum/Hr	1 Unit	250	231	-	-	175	155	-	-
180 Cum/Hr	1 Unit	290	267	-	-	201	178	-	-

RATE CHART

COST OF CONSTRUCTION OF ARSENIC-CUM-IRON ELIMINATION PLANT (AIRP)
(in Rs. Lakh)

ZONE II

CAPACITY	UNIT	WITH ACTIVATED ALUMINA POLISHING UNIT				WITHOUT ACTIVATED ALUMINA POLISHING UNIT			
		TYPE -1	TYPE-2	TYPE-3	TYPE-4	TYPE -1	TYPE-2	TYPE-3	TYPE-4
30 Cum/Hr	1 Unit	119	113	116	112	102	96	97	93
50 Cum/Hr	1 Unit	134	125	126	123	108	99	100	96
70 Cum/Hr	1 Unit	154	142	143	142	118	107	107	106
90 Cum/Hr	1 Unit	174	161	-	-	130	117	-	-
120 Cum/Hr	1 Unit	219	203	-	-	157	142	-	-
135 Cum/Hr	1 Unit	233	216	-	-	165	148	-	-
150 Cum/Hr	1 Unit	248	229	-	-	173	154	-	-
180 Cum/Hr	1 Unit	288	265	-	-	200	177	-	-

RATE CHART

COST OF CONSTRUCTION OF ARSENIC-CUM-IRON ELIMINATION PLANT (AIRP)
(in Rs. Lakh)

ZONE IV

CAPACITY	UNIT	WITH ACTIVATED ALUMINA POLISHING UNIT				WITHOUT ACTIVATED ALUMINA POLISHING UNIT			
		TYPE -1	TYPE-2	TYPE-3	TYPE-4	TYPE -1	TYPE-2	TYPE-3	TYPE-4
30 Cum/Hr	1 Unit	118	113	116	112	101	96	97	93
50 Cum/Hr	1 Unit	134	125	126	122	108	99	100	96
70 Cum/Hr	1 Unit	153	142	143	141	118	106	107	105
90 Cum/Hr	1 Unit	174	161	-	-	130	116	-	-
120 Cum/Hr	1 Unit	218	203	-	-	157	142	-	-
135 Cum/Hr	1 Unit	232	216	-	-	164	148	-	-
150 Cum/Hr	1 Unit	247	229	-	-	173	154	-	-
180 Cum/Hr	1 Unit	287	265	-	-	199	177	-	-

SECTION - C

MAINTENANCE WORK

Schedule of Rates for Maintenance related works of Water Supply Scheme.

Sl. No.	Description Of Item	Rate	Unit
<u>PART - A</u>			
1	Opening & closing of all the different dia Sluice Valves (80 rum dia to 350 mm dial on different places along the alignment of the rising main and distribution main at different places over the command area daily as and when required for regulating the supply of water and distributing' water all over the command area smoothly including changing and restoration of gland packing of sluice valve, air valve if required including opening the cap / plug of wash out point or opening the sluice valves including de-jointing flange joints (80 mm to 350 mm dial including repairing works and cleaning the pipeline or changing of gate, spindle or liner etc. of sluice valves all complete, restoration works to be done including earth work in the excavation bailing out of water, re-filling the excavated earth, taking out of RCC slab or slab cover and refaxing true to position etc. all complete as per the specification and direction of EIC. # Please see the special clause against this item in Tender Document	387.00	Each per day.
<u>PART - B</u>			
2	Labour charges for repairing the bursting/damage/leakage of 80 mm. dia, to 200 mm. dia. A.C. Pipeline with detachable joints including earth work in excavation tracing out the actual position of burst/leak, cutting pipe of required length, refitting the same with new pipes and old/new detachable joints after chiseling and shaping the pipe, bailing out water from the trenches and refilling the trenches to its original condition all complete as per direction of E.I.C. (Extra A.C. Pipes and detachable joints with rubber ring, nuts and bolts etc. will be supplied from the scheme store, Surplus and unserviceable pipes and specials will have to be returned to the same store. The rates are inclusive of carriage to site of work and back carriage of materials to and from scheme store as mentioned above.)		
	i) 80mm to 125 mm dia	496.00	Each
	ii) 150mm to 200 mm dia	552.00	Each
3	Extra repairing charges over item no 2 for changing of gland packing of sluice valve/air valve with supplying of gland packing grease etc. bailing out of water including removing the top cover slab of valve chamber and refixing the same after completion of work as per direction of EIC.		
	a) 80 mm dia. to 125 mm dia.	230.00	Each
	b) 150 mm dia. to 250 mm dia.	322.00	Each
	c) 300 mm dia to 350 mm dia.	488.00	Each
4	Repairing of flange joint after dismantling the joints, removing the unserviceable rubber insertion and supply new rubber insertion and supply upto 50 % of new nuts and bolts all complete including necessary earth work dewatering & supply of washer etc. all complete as per direction of EIC		
	a) 80 mm dia. to 100 mm dia.	311.00	Each
	b) 125 mm dia. to 200 mm dia.	545.00	Each
	c) 250 mm dia to 350 mm dia.	744.00	Each
	d) 400 mm dia to 500 mm dia.	888.00	Each
	e) 600 mm dia to 700 mm dia.	1269.00	Each
5	Repairing of air valves by changing the ball with changing the requisite nuts and bolts and rubber insertion all complete as per direction of EIC.	260.00	Each
6	Making barricading for protecting the trench to avoid any accident including making arrangement of road light during the night.	962.00	Each location

Sl. No.	Description Of Item	Rate	Unit
7	Renewing lead joint to CI pipes and specials and spun yarn including reusing 60% of old and using 40% new lead of approved quality new span yarn and caulking the same properly including labour charges for dismantling the existing damaged portion complete as per direction of EIC. Approved quality lead, spun yarn, fuel and other materials will be supplied by the agency including necessary earth work in excavation & back filling in same trenches (Lead if supplied by the department will be recovered @ 145/- per kg) NB:-This item will be executed as per specific direction of EIC		
	a) 80 mm dia. to 150 mm dia.	1080.00	Each
	b) 200 mm dia. to 250 mm dia.	1412.00	Each
	c) 300 mm dia to 350 mm dia.	2214.00	Each
	d) 400 mm dia. with supply of 10.80 Kg lead & 750 gms yarn to each.	2254.00	Each
	e) 450 mm dia. with supply of 12.20 Kg lead & 950 gms yarn to each.	2545.00	Each
	f) 500 mm dia. with supply of 15.00 Kg lead & 1.00 Kg. yarn to each.	2957.00	Each
	g) 600 mm dia. with supply of 19.00 Kg lead & 1.20 Kg. yarn to each.	3831.00	Each
	h) 700 mm dia. with supply of 22.00 Kg lead & 1.35 Kg. yarn to each.	4337.00	Each
8	(i) Carrying charges of materials M.S. Rod, D.I. Pipe, G.I. Pipe, TW materials, C.I.Dt. Joints, A.C. Coupling, Brass Strainer, H.D.P. Strainer, A.C. Pressure Pipes, M.S. Pipes etc. by road from different stack yard to any places within West Bengal including loading (upto a lead of 20 mtr. from loading point), packing, unloading and stacking charges etc. complete as per direction.		
	a) For distance 0 Km. to 5 Km.	44.42	MT/Km.
	b) For distance (above) 5 Km.to 10 Km. [Subject to minimum of Rs. 222.10/MT]	24.87	MT/Km.
	c) For distance (above) 10 Km.to 15 Km. [Subject to minimum of Rs. 248.70/MT]	23.20	MT/Km.
	d) For distance (above) 15 Km.to 25 Km. [Subject to minimum of Rs. 348.00/MT]	19.84	MT/Km.
	e) For distance (above) 25 Km.to 50 Km. [Subject to minimum of Rs. 496.00/MT]	15.68	MT/Km.
	f) For distance (above) 50 Km.to 100 Km. [Subject to minimum of Rs. 784.00/MT]	14.07	MT/Km.
	g) For distance (above) 100 Km.to 125 Km. [Subject to minimum of Rs. 1407.00/MT]	13.14	MT/Km.
	h) For distance (above) 125 Km.to 150 Km. [Subject to minimum of Rs. 1642.00/MT]	10.99	MT/Km.
	i) For distance (above) 150 Km.to 200 Km. [Subject to minimum of Rs. 1648.00/MT]	8.53	MT/Km.
	(ii) Carriage of pipe and specials from Depttl. Store including loading and unloading and stacking at store of any PWSS. (By Van or other means)	638.00	Trip
9	Cleaning silt (every month) from the over head reservoir, cleaning washing and disinfecting the same with bleaching powder, including machinery, tools and plants as per direction of EIC complete (Bleaching powder will be supplied by the agency).		
	a) Upto 1.50 lakh gallon capacity OHR.	2408.00	/Occ
	b) Above 1.50 lakh gallon and upto 2.5 lakh gallon capacity OHR	2852.00	/Occ
10	Withdrawing and relaying of DI/CI pipes / AC pipe after excavation of earth and with the help of chain pully derrick etc. by dismantling & jointing by rubber gasket joint or lead joint or flange joint and stacking the withdrawn pipes and specials at site store /road flank, godown etc. all complete in the excavated same trench & as per direction of EIC.		
	a) 80 mm dia to 125 mm dia	144.00	/Mtr.
	b) 150 mm dia to 200 mm dia	147.00	/Mtr.
	c) 250 mm dia to 350 mm dia	191.00	/Mtr.
11	Withdrawing of DI/CI pipes / AC pipe after excavation of earth and with the help of chain pully derrick etc. by dismantling of jointing of rubber gasket joint or lead joint or flange joint and stacking the withdrawn pipes and specials at site store /road flank godown etc. all complete as per direction of EIC.		

Sl. No.	Description Of Item	Rate	Unit
	a) 80 mm to 125 mm AC/DI/CI Pipe	210.00	/Mtr.
	b) 150 mm dia to 200 mm AC/DI/CI Pipe	213.00	/Mtr.
	c) 250 mm dia to 350 mm dia DI/CI Pipe	281.00	/Mtr.
12	Dismantling existing ferule with fitting and refixing the same after cleaning and washing of pipe line upto stand post.	394.00	Each
13	Labour charges for repairing of UPVC pipe by using UPVC socket and solvent cement including earth work in excavation with dewatering and necessary tracing out the actual position of brusting / leakage, cutting the pipe to required length in the trenches and replacing the same with new pipe (as per required length) including fitting fixing after roughing the UPVC surface & supplying and applying solvent cement, back filling the trenches with excavated earth upto the same as per direction of EIC all complete (UPVC pipes and specials, solvent cement to be supplied by the Agency). Unserviceable broken withdrawn surplus materials are to be deposited to the Deptt. store.		
	i) 63 mm Dia	575.00	Each
	ii) 75 mm Dia	603.00	Each
	iii) 90 mm Dia	653.00	Each
	iv) 110 mm Dia	736.00	Each
	v) 125 mm Dia	819.00	Each
	vi) 140 mm Dia	1202.00	Each
	vii) 160 mm Dia	1345.00	Each
	viii) 180 mm Dia	1493.00	Each
	ix) 200 mm Dia	1714.00	Each
14	Opening the cap / plug of washout point and opening sluice valve to clean the pipe, cleaning the cap / plug and sluice valve after completion of the work including earth work in excavation and refilling the same, draining out washed water etc. as per direction of EIC and replacing RCC Top slab cover where necessary including refixing the opened cap/plug in position complete.		
	a) Cap Opening.	410.00	Each
15	Bailing or pumping out water from foundation trenches.	Ref : PWD SOR	
16	Dewatering from the excavated trenches for repairing any type of pipe line including Hire Charge of pump / carriage / Fuel & lubricant / Operator etc. for big dia pipes more, than 200 mm dia all complete as per direction of EIC. (This item will be executed after the permission of E.I.C.)	931.00	/ Hour
17	Charges for health check-up for water borne disease of the workers deputed in maintenance work (including testing of blood (T.C, D.C, ESR, HB %), Urine (R/E), Stool (R/E) by a registered Medical Practitioner. N.B:- i) This item to be completed within a month from date of receiving of work order and applicable for once in a year ii) All test reports in original to be submitted within 45 days from date of receiving of work order.	750.00	L.S
18	C.W.R cleaning, washing and disinfecting the same with bleaching powder, including machinery, tools & plants etc. as per direction of EIC complete (bleaching power will be supplied by the agency)		
	a) Up to 20,000 gallon Capacity	1683.00	Each/Occ
	b) Above 20,000 gallon capacity	2079.00	Each/Occ
19	Cleaning the chokage of AC/DI/CI / UPVC Pipes in the existing line by split bamboo passing through the new pit on the line and cleaning silt, bats or any obstructed materials in the line and cleaning by washed water. (Work to be executed as per prior approval and direction of EIC).	84.00	Mtr.

Sl. No.	Description Of Item	Rate	Unit
20	Taking out of old and damaged valve of any type from the existing line after dismantling of Flange Joint or Socket Joint and fitting, fixing of New Valve. (Cost of dismantling of joint and renewing the same to be added with this item to complete the job in all respect)		
	i) 80 mm to 100 mm dia	250.00	Each
	ii) 125 mm to 150 mm dia	280.00	Each
	iii) 200 mm to 250 mm dia	500.00	Each
	iv) 300 mm to 350 mm dia	844.00	Each
21	Charges for day to day conveyance towards reporting related to operation and maintenance of smooth water supply from the scheme including cost of Tele-communication charges etc. all complete whatsoever required for the purpose as per direction and satisfaction of the E.I.C.	30.00	per day
22	Supplying Bleaching Powder of approved brand (DCM/Modi/Kanoria) including all charges and free delivery at site.	50.00	Kg.
23	Supplying Alum bar of approved brand including all charges and free delivery at site.	50.00	Kg.
24	Supplying of UPVC Coupler 6Kg., class – III conforming to IS : 4985 – 2000 with latest revision and amendments (This item is applicable for maintenance/ repairing work of pipe line only).		
	a) 63 mm dia (OD)	35.00	Each
	b) 75 mm dia (OD)	48.00	Each
	c) 90 mm dia (OD)	67.00	Each
	d) 110 mm dia (OD)	99.00	Each
	e) 140 mm dia (OD)	185.60	Each
	f) 160 mm dia (OD)	347.50	Each
25	Supplying bolts with nuts matching with different dia. C.I. detachable joint as per IS : 8794 -1988 with latest amendment.	119.00	Kg.
	a) 10 to 25 mm dia.		
26	Supplying rubber ring matching with different dia. C.I. detachable joint as per IS : 8794 -1988 with latest amendment.		
	a) For 80mm dia.	4.80	Each
	b) For 100mm dia.	5.45	Each
	c) For 125mm dia.	6.25	Each
	d) For 150mm dia.	7.00	Each
	e) For 200 mm dia.	8.50	Each

SECTION – D

SPECIFICATION FOR TUBEWELLS AND IRON
ELIMINATION PLANT

Technical Specification

1 Construction of Platform and Installation of IM-II Hand Pump / Extra Deep Tube well at different RBTW (Spot Source).

Construction of Platform & Installation of IM-II hand Pump as per following specification: Construction of cement concrete platform of 1:2:4 cement mortar with 1.00 mtr. Long drain (plaster with neat cement finish) so far practically feasible at sites and as per enclosed departmental drawing, dimension, specification, etc.

A stand assembly (Pedestal) of IM-II hand pump is to be grouted with the C.C. Platform keeping the spout of water tank in the centre of the platform. This item include excavation of earth as per requirement, supply of requisite quantity of sand, 20mm. size local variety chips, 4(four) bags cement for each platform.

Installation of IM-II hand pump assembly with its mountings and accessories at a minimum depth of 25 mtr. (Cylinder with 8 nos 3.05mtr. long riser pipe and connecting rod) upto the requirement considering the SWL of the tube well as per direction of the E.I.C. including testing. (IM-II hand pump set, extra riser pipe & connecting rod (if required) will be supplied by the department.)

a). For lowering upto 42 mtr. (IM-II Hand Pump) Rs.5,900/- each

b). For lowering Beyond 42 mtr. (Extra Deep Hand Pump)Rs.6,500/- each

2 193.7 mm OD MSERW fin cut pipe for odex-165 /symmetrix-165 drilling

- 1) MSERW Fin cut pipe (Bid Removed), composition of materials should conforming to IS:4270 with upto date amendment, inside fin of the pipes should be appropriately cut to suit for construction of Rig Bored Tube wells with Tubex-165(Odex-165 /Symmetrix-165).

Minimum ID : 182 mm

Maximum OD : 196 mm

Tolerance on OD (193.7 mm) : $\pm 1\%$

- 2) Thickness of the pipe : **5.4 mm** (Tolerance : $\pm 10\%$)
- 3) Both end of the pipe should be beveled to an angle of $30^\circ (+5^\circ)$ measured from a line perpendicular to the axis of pipe and with a root face of 1.6 ± 0.8 mm
- 4) End faces of the pipe should be on a plane surface exactly perpendicular to the axis of the pipe. No waviness on the end face will be tolerated.
- 5) Each pipe shall be externally painted as per the clause 12.1 of IS : 4270
- 6) Length of each pipe should be of 6.00 mtr. or as per BOQ (Tolerance : +10.00 mm, - 0.00 mm).
- 7) Grade of the steel should be Fe 410
- 8) No circumferential joint is allowed in a single length of pipe.
- 9) The repair of defects should not be permissible in the weld seam of ERW pipes.
- 10) The pipe must be exactly straight along the length. Curve / bend pipe shall not be accepted.
- 11) Specification should be meticulously adhered in order to suit Tubex-165(Odex-165 /Symmetrix-165) method of drilling.

3 128 mm ID MSERW Fin cut pipe for Odex-115 drilling

- 1) MSERW Fin cut pipe (Bid Removed) pipes, composition of materials should conforming to IS:4270 with upto date amendment, inside fin of the pipes should be appropriately cut to suit for construction of Rig Bored Tube wells with Tubex-115 attachment.
Minimum ID : 128 mm
Maximum OD : 139 mm
Thickness : 5.00 mm
- 2) Thickness of the pipe should not be less than 5.00 mm
- 3) Both end of the pipe should be beveled to an angle of 30° (+5°) measured from a line perpendicular to the axis of pipe and with a root face of 1.6 ± 0.8 mm
- 4) End faces of the pipe should be on a plane surface exactly perpendicular to the axis of the pipe. No waviness on the end face will be tolerated.
- 5) Each pipe shall be externally painted as per the clause 12.1 of IS : 4270
- 6) Length of each pipe should be of 3.00 mtr./4.5mtr/6.0mtr/as per BOQ (Tolerance:+5.00 mm, - 2.00 mm)
- 7) Grade of the steel should be Fe 410
- 8) No circumferential joint is allowed in a single length of pipe.
- 9) The repair of defects should not be permissible in the weld seam of ERW pipes.
- 10) The pipe must be exactly straight along the length. Curve / bend pipe shall not be accepted.
- 11) Specification should be meticulously adhered in order to suit Tubex- 115 method of drilling.

Section: D.2 BRIEF SPECIFICATION Pressure Type Iron Elimination Plant

1 Size and no of unit of MS Filter Chamber and Oxidation Chamber.

Sl No.	Capacity of Iron Elimination Plant	Filter Chamber			Oxidation Chamber		
		No. of unit	Diameter (m)	Height (m)	No. of unit	Diameter (m)	Height (m)
i)	5 cum/hr	1	1	1.5	1	0.6	1
ii)	10 cum/hr	1	1.4	1.5	1	0.8	1
iii)	15 cum/hr	1	1.6	1.5	1	0.9	1
iv)	20 cum/hr	1	1.9	1.5	1	0.9	1
v)	25 cum/hr	1	2.1	1.5	1	0.9	1
vi)	30 cum/hr	1	2.3	1.5	1	0.9	1
vii)	35 cum/hr	1	2.5	1.5	1	0.9	1
viii)	40 cum/hr	1	2.7	1.5	1	0.9	1
ix)	45 cum/hr	1	2.8	1.5	1	1	1
x)	50 cum/hr	1	3	1.5	1	1	1.2

2 Diameter of hole in the bed plate for strainer shall be 16mm and no of hole in the strainer shall be 110 nos/sqm.

3 Bolt for tightening of screwed stainer (@16nos/kg) shall be GKW/TATA make.

4 Media for Filter Chamber

a) Anthracite (Coal & sand) of size 1 mm to 4 mm depth = 300mm

b) Filter Sand (16/32 mesh) of depth = 450mm

c) Gravel Size

i) 20 mm to 12 mm 100mm depth

ii) 12 mm to 6 mm 100mm depth

iii) 6 mm to 3 mm 100mm depth

5 Painting

a) 2 coats Anticorrosive paint in inside side wall for filter & oxidation chamber & dish of vessel.

b) One coat primer followed by Synthetic anamel paint to outside of MS vessel.

SECTION – E

QUALITY ASSURANCE PLAN

QUALITY ASSURANCE PLAN

Different Type of uPVC Pipes As Per IS-4985/2000

SEC:-E.1

01 of
01

INSPECTION

Dimensional, Visual, Physical & Chemical Properties

Sl. No.	Parameter	Instrument	Sampling size & frequency	Manufacturer	Third Party/ Department
1	Visual Appearance	--	Every pipe	Perform	Witness
2	Dimension of Pipe a) Mean Outside Diameter b) O.D at any Point c) Wall Thickness d) Length	Pi Tape. Vernier Caliper Ball ended Micrometer	As per IS:4985/2000 CL. - D-1.4, Table-13	Perform	Witness
3	Opacity	Opacity Tester	As per IS:4985/2000 Annex. - D, CL-2.1.1	Perform	Witness
4	Effect on Water	Titration	As per IS:4985/2000 Annex. - D, CL-2.1.2	Perform	Witness
5	Reversion Test	Vernier Caliper & Reversion Bath	As per IS:4985/2000 CL. - D-1.5 & D-1.6, Table-14	Perform	Witness
6	Vicat Softening Temperature	VSP Apparatus			
7	Density	Electronic Balance	As per IS:4985/2000 CL. – D-1.7, Table-14	Perform	Witness
8	Sulphated Ash content	Muffle Furnace & Electronic Balance	As per IS:4985/2000 CL. – D-1.8, Table-14 (But Limited to 9%)	Perform	Witness

INSPECTION					
<i>Mechanical Properties</i>					
Sl. No.	Parameter	Instrument	Sampling size & frequency	Manufacturer	Third Party/ Department
9	Hydraulic charecteristics a) Type Test	Hydraulic testing machine & End fittings	As per IS:4985/2000 Annex – D, CL.-2.1.3	Review Report	Review Report
	b) Acceptance test		As per IS:4985/2000 CL. – D.1.10, Table-17	Perform	Witness
10	Resistance to external blows at zero degree Centigrade	Deep Freezer & Impact Testing M/C	As per IS:4985/2000 CL. - D-1.9, Table-16	Perform	Witness
11	Marking			Perform	Witness

Calibration Certificate of all measuring & testing equipments will be provided for review.

QUALITY ASSURANCE PLAN

SEC:-E.2

Different Type of Pipes As Per IS-4984-2016

ITEM DETAILS : HDPE Pipes as per IS :4984-2016										
Sections: Raw Material / In-Process / Final testing										
Sr.N o.	Clause No. of IS: 4984-2016	Description of test	Test Method	Type test / Acceptance Test	Gauges & Test Equip	Sampling Method for Manufacture	Inspection by	Inspection by	Acceptance Standards	Remarks / Sampling plan
1	2	3	4	5	6	7	8	9	10	11
1.00	RAW MATERIAL									
1.A	5.2	Melt Flow Rate	Annex- A-1 of IS : 7328	Acceptance Test	MFI Test Apparatus/ Balance	Review Raw Material Manf. T/C For Each	R	R	As per IS 7328	
1.B	5.2.1	Density Polyethylene	As per IS: 7328	Acceptance Test	Density Test Apparatus / Balance / N Butyl	Review Raw Material Manf. T/C For Each	R	R	As per IS 7328	
2.00	IN - PROCESS INSPECTION BY MANUFACTURER / FINAL / INSPECTION BY EXTRENAL AGENCY									
2.A	4.2	Width of strip	IS:4984:2016	Acceptance Test	Vernier calliper	Once in each hour	W	W	Table 7 of IS: 4984:2016	Table 9 of IS: 4984:2016
2.B	6.1	Mean Outside Diameter	IS:4984:2016	Acceptance Test	1.Pi tape 2. vernier Caliper	Once in each hour	W	W	Table 2 of IS: 4984:2016	Table 9 of IS: 4984:2016
2.C	6.2	Wall Thickness	Table No 4 of IS: 4984:2016	Acceptance Test	1.Dial Thickness Gauge	Once in each hour	W	W	Table No.3,4 & 5	Table 9 of IS: 4984:2016
2.D	6.3.2	Ovality	Table 3 of IS: 4984:2016	Acceptance Test	Vernier calliper	Once in each hour	W	W	Table No. 2	Table 9 of IS: 4984:2016
2.E	6.4	length of Straight Pipe	IS- 4984: 2016	Acceptance Test	Length Measuring tape	Once in each hour	W	W	6 mtr to 20 mtr	Table 9 of IS: 4984:2016
2.F	6.5	Coiling	IS- 4984: 2016	Acceptance Test	Length Measuring tape	Once in each hour	W	W	25 times of nominal Dia	Table 9 of IS: 4984:2016
2.G	7	Visual Appearance	IS- 4984: 2016	Acceptance Test	-	Each & Every Pipe	W	W	-	Table 9 of IS: 4984:2016
2.H	8.1	Hydraulic characteristics	Table 5 of IS- 4984: 2016	Acceptance Test	Pressure Gauges / Water Bath & Fittings	Table 5 of IS- 4984: 2016	W	W	Acceptance	Table 10 of IS: 4984:2016
2.I	8.1	Hydraulic characteristics	Table 5 of IS- 4984: 2016	Acceptance Test	Pressure Gauges / Water Bath & Fittings	One in 3 Months	W	W	-	(ok)
2.J	8.2	Reversion Test	Hot Air Oven	Acceptance Test	Vernier calliper / Hot Air Oven	Each Control Unit	W	W	Type Test	Table 10 of IS: 4984:2016
2.K	8.3	Carbon Black Content	IS: 2530:1963	Acceptance Test	CBC Test Apparatus / Nitroen	Each Control Unit	W	W	As Per IS: 2530:1963	Table 10 of IS: 4984:2016
2.L	8.3	Carbon Black Content	IS: 2530:1963	Acceptance Test	Hot Plate / Micro slide / Microscope	Each Control Unit	W	W	As Per IS: 2530:1963	Table 10 of IS: 4984:2016
2.M	8.4	Melt Flow Rate	MFI Test Apparatus	Acceptance Test	Balance / MFI Test Apparatus	Each Control Unit	W	W	IS: 7328:1992	Table 10 of IS: 4984:2016
2.N	8.5	Oxidation Induction Time	IS- 4984: 2016	Acceptance Test	OIT Test apparatus	Each Control Unit	W	W	IS- 4984: 2016	Table 10 of IS: 4984:2016
2.O	8.6	Overall Migration Test	Over all Test Apparatus	Acceptance Test	Balance / Hot Air Oven	Each Control Unit	W/R	W/R	IS: 9845: 1986 &	Table 10 of IS: 4984:2016
2.P	8.7	Density	IS: 7328	Acceptance Test	Density Test Apparatus / Balance / N Butyl	Each Control Unit	W	W	IS: 9845: 1986 & is:	Table 10 of IS: 4984:2016
2.Q	8.8	Tensile for Butt Fusion	IS- 4984: 2016	Acceptance Test/Type test	UTM Test apparatus	Once in year	W/R	W/R	IS- 4984: 2016	Table 10 of IS: 4984:2016
2.R	8.9	Elongation At break	IS- 4984: 2016	Acceptance Test	UTM Test apparatus	Each Control Unit	W	W	IS- 4984: 2016	Table 10 of IS: 4984:2016
2.S	8.1	Slow crack growth rate Test	IS- 4984: 2016	Acceptance Test/Type test	Pipe Notch Cutter Test apparatus	Once in year	W/R	W/R	IS- 4984: 2016	Table 10 of IS: 4984:2016

SECTION – F

RESOURCE PROCUREMENT

LIST OF DEPARTMENTAL MATERIALS SUPPLIED

BY

THE RESOURCES DIVISION, PHED.

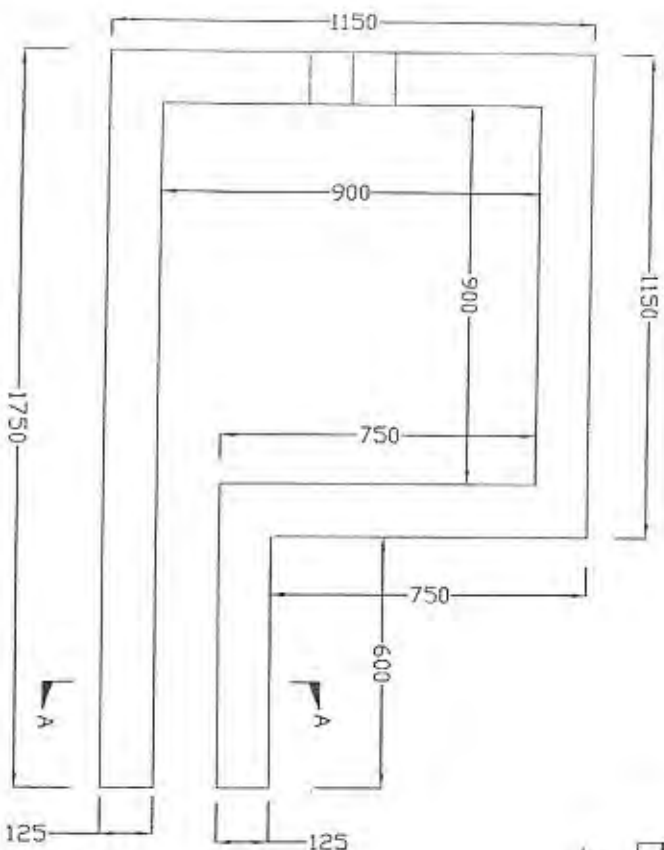
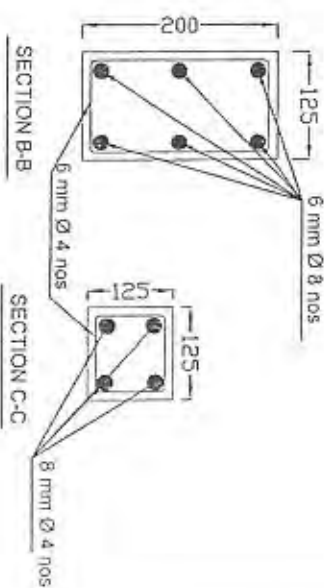
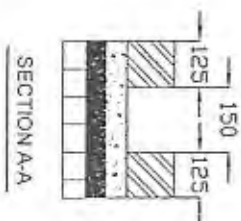
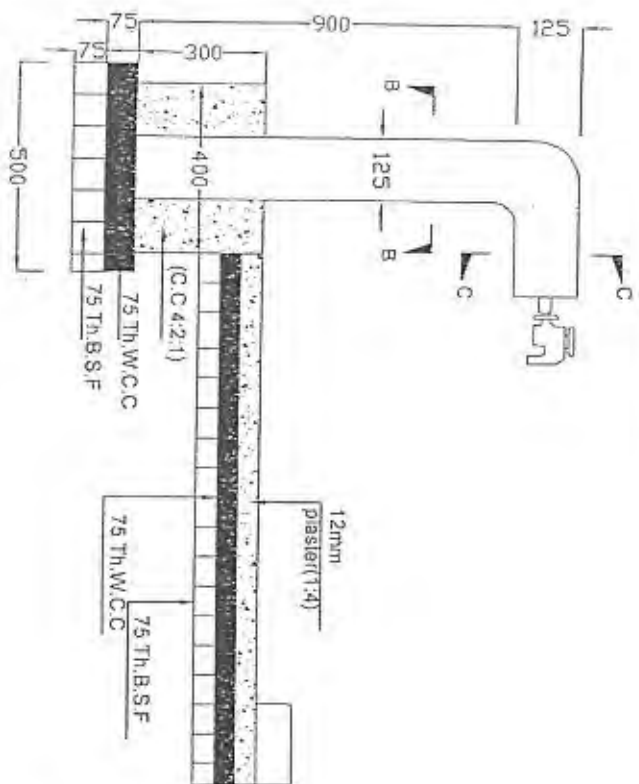
SL. NO.	LIST OF ITEMS	REMARKS
1	DI PIPES OF DIFFERNT DIAMETER (K-9 & K-7)	Issue rate of the Listed materials will be available from the Executive Engineer, Resources Division, PHED as required.
2	DI SPECIALS OF DIFFERENT DIAMETERS (K-9 & K-7)	
3	MARK –II TUBEWELL HEAD SET & ATTACHMENTS	
4	AC PIPES OF DIFFERNT DIAMETER	
5	DETACHABLE JOINTS OF DIFFERNT DIAMETER	

SECTION – G

SUPPORTING DRAWINGS

SCHEDULE OF DRAWINGS

Sl. No.	Description	Drawing No.
1.	STREET STAND POST	S.S.P/I/SCH
2.	SLUICE VALVE CHAMBER	
a)	80 M.M-150 M.M DIA PIPE	SVC/I/SCH
b)	200 M.M DIA PIPE	SVC/II/SCH
c)	250 M.M-350 M.M DIA PIPE	SVC/III/SCH
d)	400 M.M-450 M.M DIA PIPE	SVC/IV/SCH
3.	OVERHEAD RESERVOIR RELATED OTHER DRAWING	OHR/OD/1



STREET STAND POST

DWG No. : SSP/I/SC4

SUPERINTENDING ENGINEER, PLANNING CIRCLE-I
PUBLIC HEALTH ENGINEERING DTE, GOVERNMENT OF W.B.

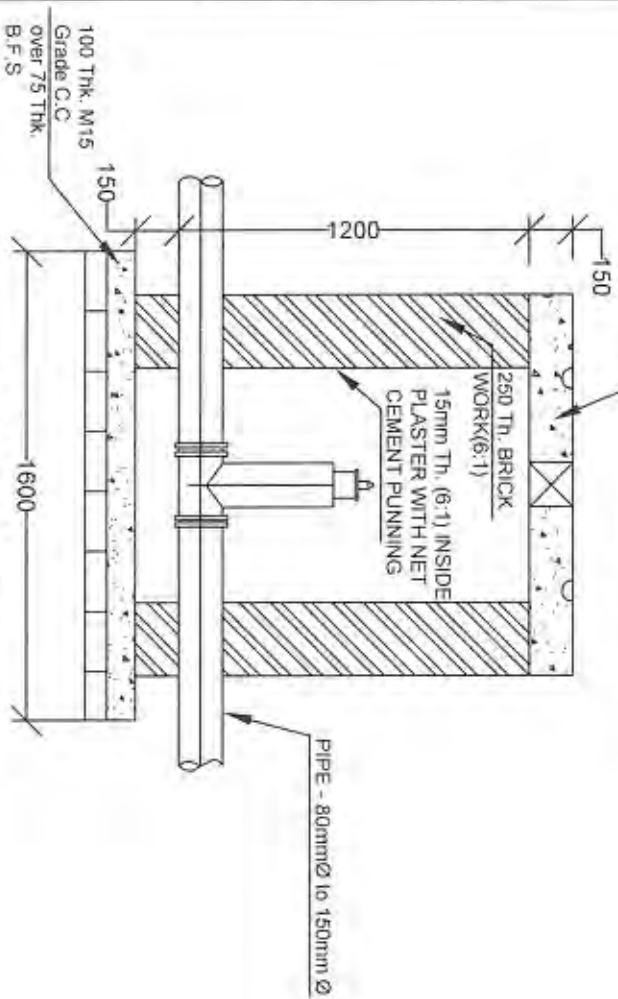
ASSISTANT ENG.

EXECUTIVE ENG.

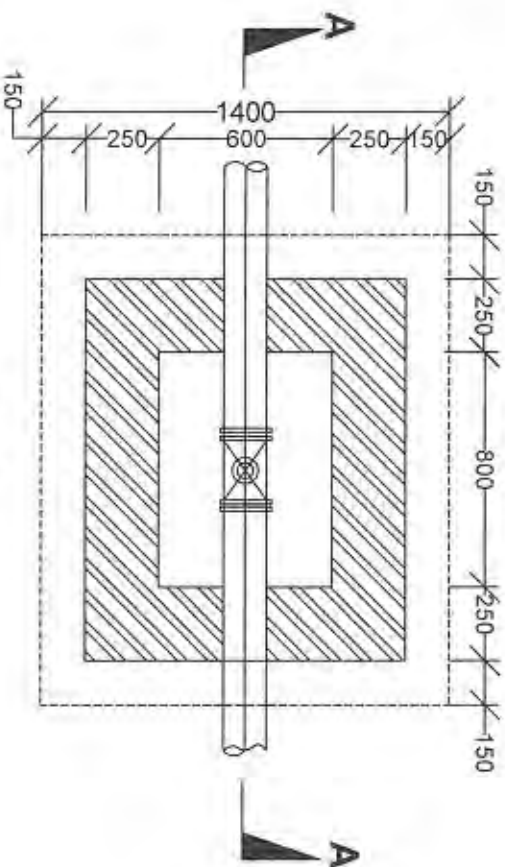
SUPERINTENDING ENG.

DETAILS OF SLUICE VALVE CHAMBER(800 TO 1500)

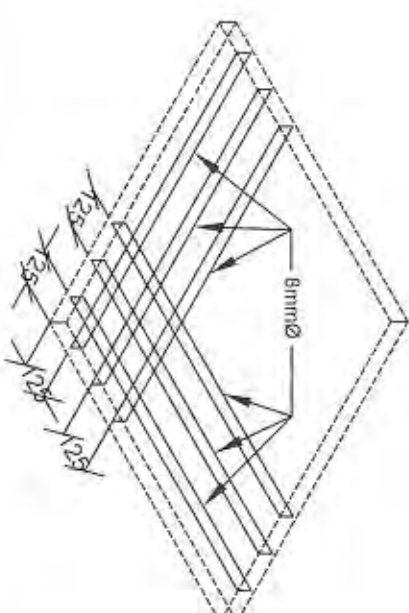
PRE CAST M20 GRADE R.C.C ONE PIECE SLAB WITH
LIFTING ARRANGEMENT (8mm TOR @ 125 mm C/C
BOTH WAY AT TOP & BOTTOM)



SECTION A-A



PLAN



REINFORCEMENT ARRANGEMENT OF TOP SLAB

GOVERNMENT OF WEST BENGAL
P.H.E. DTE.

TITLE :
DETAILS OF SLUICE VALVE CHAMBER(800 TO 1500)

JUNIOR ENGINEER

ASSISTANT ENGINEER

EXECUTIVE ENGINEER

SUPERINTENDING ENGINEER

Drg. No. : SVC/I/SCH

DATE :

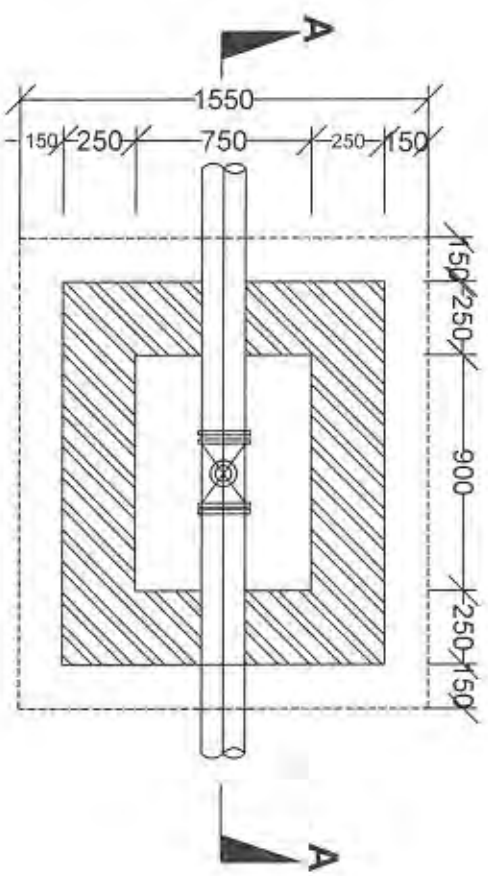
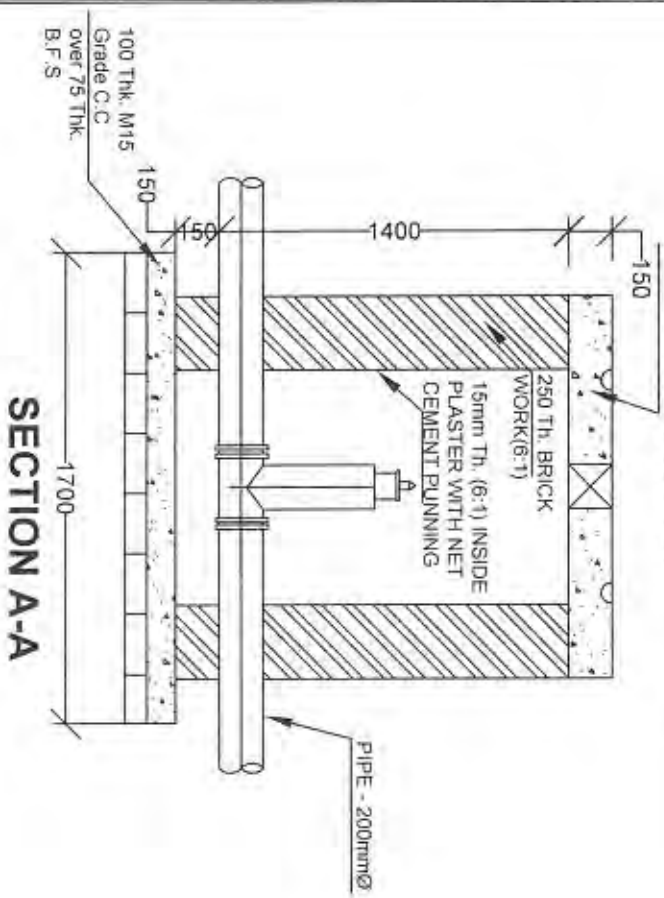
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Drawn By :

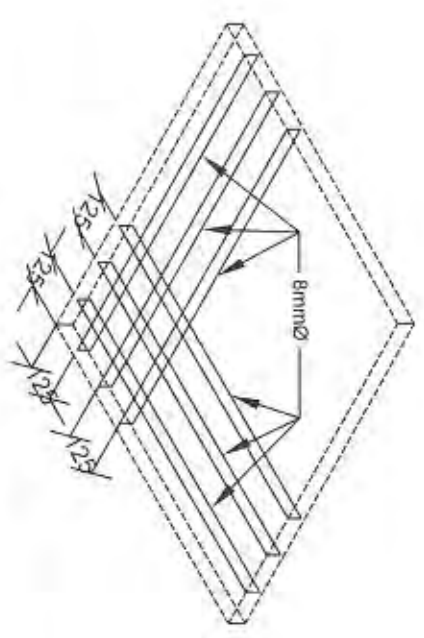
D-2

DETAILS OF SLUICE VALVE CHAMBER(200Ø)

PRE CAST M20 GRADE R.C.C ONE PIECE SLAB WITH
LIFTING ARRANGEMENT (8mm TOR @125 mm C/C
BOTH WAY AT TOP & BOTTOM)



PLAN

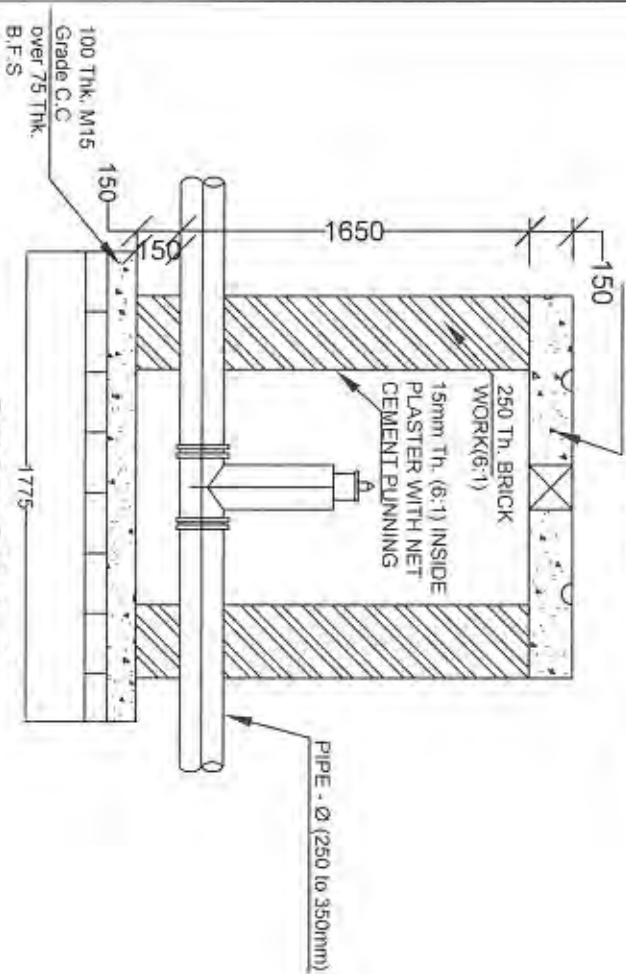


REINFORCEMENT ARRANGEMENT OF TOP SLAB

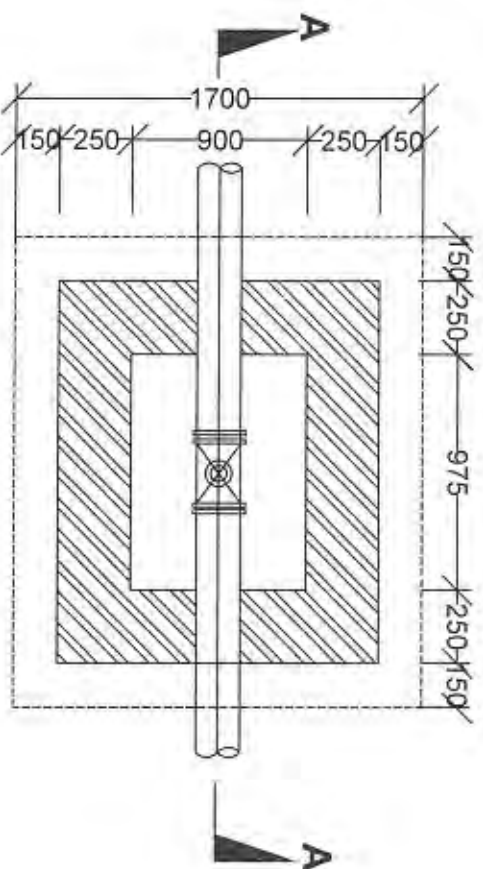
<p align="center">GOVERNMENT OF WEST BENGAL P.H.E. DTE.</p>			
<p>TITLE : DETAILS OF SLUICE VALVE CHAMBER(200Ø)</p>			
JUNIOR ENGINEER	ASSISTANT ENGINEER	EXECUTIVE ENGINEER	SUPERINTENDING ENGINEER
Dwg. No. : SVC/II/SCH	DATE :	SCALE (R.F.) = 1 : 100	Drawn By :

DETAILS OF SLUICE VALVE CHAMBER(250Ø TO 350Ø)

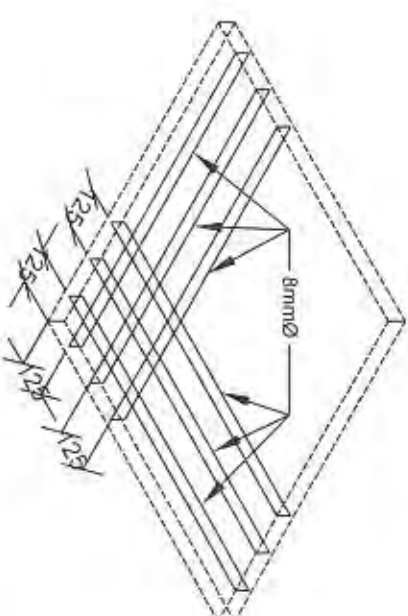
PRE CAST M20 GRADE R.C.C ONE PIECE SLAB WITH
LIFTING ARRANGEMENT (8mm TOR @125 mm C/C
BOTH WAY AT TOP & BOTTOM)



SECTION A-A



PLAN



REINFORCEMENT ARRANGEMENT OF TOP SLAB

GOVERNMENT OF WEST BENGAL
P.H.E. DTE.

TITLE :
DETAILS OF SLUICE VALVE CHAMBER(250Ø TO 350Ø)

JUNIOR ENGINEER

ASSISTANT ENGINEER

EXECUTIVE ENGINEER

SUPERINTENDING ENGINEER

Dwg. No. : SVC/ III/ SCH

DATE :

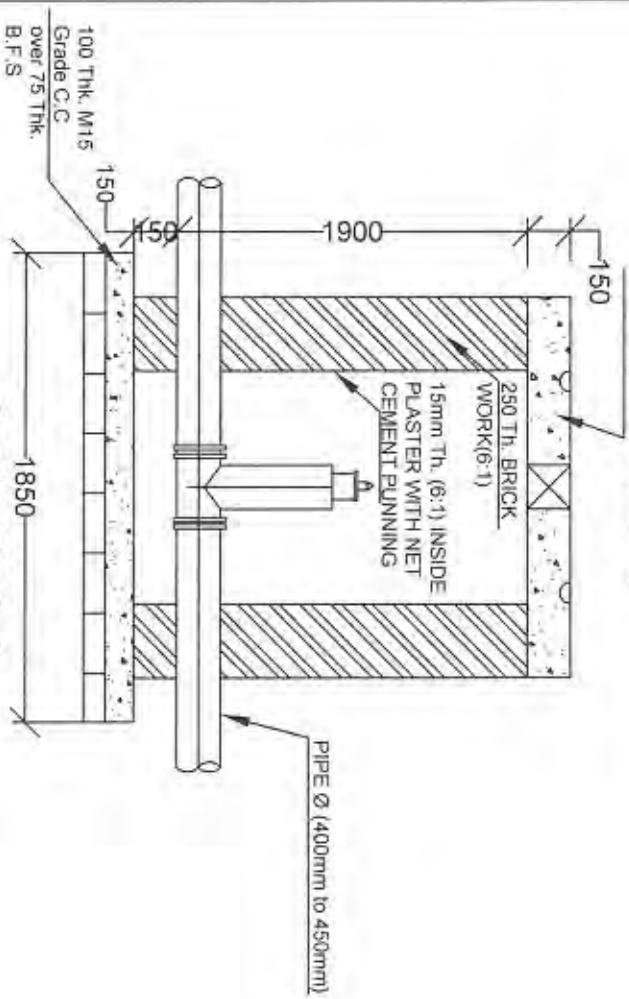
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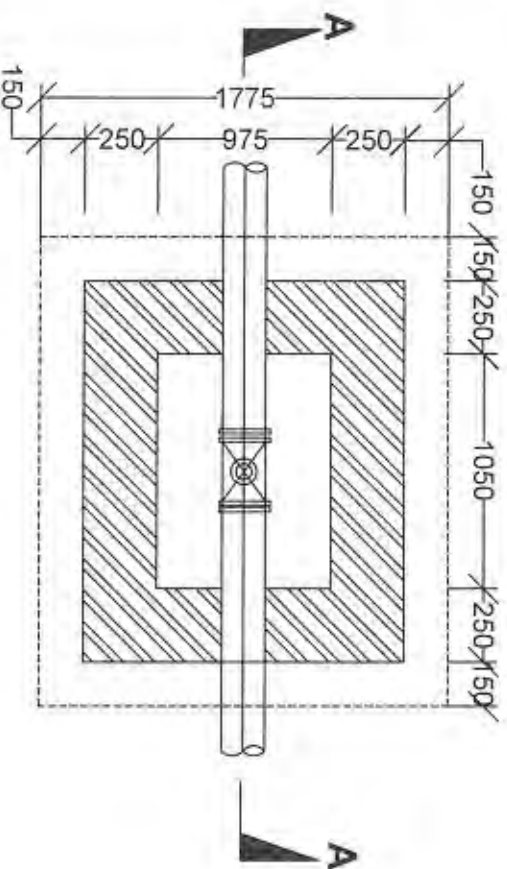
D-4

DETAILS OF SLUICE VALVE CHAMBER(400Ø TO 450Ø)

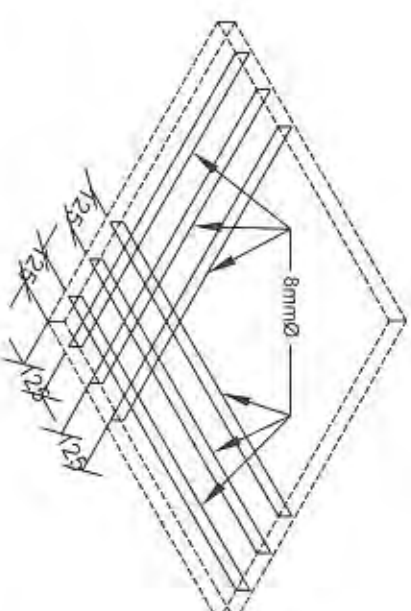
PRE CAST M20 GRADE R.C.C ONE PIECE SLAB WITH
LIFTING ARRANGEMENT (8mm TOR @125 mm C/C
BOTH WAY AT TOP & BOTTOM)



SECTION A-A



PLAN



REINFORCEMENT ARRANGEMENT OF TOP SLAB

GOVERNMENT OF WEST BENGAL
P.H.E. DTE.

TITLE :
DETAILS OF SLUICE VALVE CHAMBER(400Ø TO 450Ø)

JUNIOR ENGINEER

ASSISTANT ENGINEER

EXECUTIVE ENGINEER

SUPERINTENDING ENGINEER

Drg. No. : SVC/ IV /SCH

DATE :

SCALE (R.F.) = 1 : 100

Drawn By :

0-5

ANNEXURES

Government of West Bengal
Department of Public Health Engineering
New Secretariat Buildings (7th Floor),
1, K.S. Roy Road, Kolkata - 700001.

No. PHE/1723/1T-10/18

Dated, Kolkata the 8th August, 2018

Notification

Sub : Formation of a Committee for finalising the schedule of rates
(both Mechanical & Civil) along with general template for
tendering, for all types of tenders.

The undersigned is directed by the order of the Governor to state that the Governor has been pleased to constitute a Committee for the above mentioned subject with the following Members :

1. Chief Engineer (Planning & WQM), PHE Dte. - Chairman
2. Chief Engineer (M/E), NZ, PHE Dte.
3. Superintending Engineer, Western Circle, PHE Dte. - Convener
4. Superintending Engineer, North Bengal Circle-II, PHE Dte.
5. Executive Engineer, Mechanical/Electrical, Planning Wing, PHE Dte.

Am 08.08.18
Joint Secretary to the
Government of West Bengal

No. PHE/1723/1(6)/1T-10/18

Dated, Kolkata the 8th August, 2018

Copy forwarded for information and necessary action to the :

1. Engineer-in-Chief, PHE Department.
2. Chief Engineer (Planning & WQM), PHE Dte.
3. Chief Engineer (M/E), NZ, PHE Dte.
4. Superintending Engineer, Western Circle, PHE Dte.
5. Superintending Engineer, North Bengal Circle-II, PHE Dte.
6. Executive Engineer, Mechanical/Electrical, Planning Wing, PHE Dte.

C. Jha
Assistant Secretary to the
Government of West Bengal

SCHEDULE COMMITTEE

Members:-

1. Mr. Soumitra Sengupta, Chief Engineer, Planning & WQM, PHE Dte.
2. Mr. Joydeep Ghosh, Chief Engineer, Mechanical/Electrical, (Northern Zone), PHE Dte.
3. Mr. Shibu Bhusan Das, Superintending Engineer, Western Circle, PHE Dte.
4. Mr. Indrajeet Sen, Superintending Engineer, North Bengal Circle-II, PHE Dte.
5. Mr. Amit Sarkar, Executive Engineer, Mechanical/Electrical, Planning Wing, PHE Dte.

Co-opted Members:-

1. Mr. Hemanta Koley, Superintending Engineer, Planning Circle-I, PHE Dte.
2. Mr. Debashis Gharami, Superintending Engineer, Mechanical Circle-III, PHE Dte.

Working Groups for CIVIL WORKS:-

1. Mr. Apurba Jyoti Chakraborty, Executive Engineer, Survey Division, PHE Dte.
2. Mrs. Mousumi Datta, Executive Engineer, Investigation Unit, PHE Dte.
3. Mr. Nairit Kumar Mukherjee, Assistant Engineer, Survey Sub Division-I, PHE Dte.
4. Mrs. Nandini Naskar, Assistant Engineer, Investigation Unit, PHE Dte.
5. Mr. Ananta Kumar Ghanty, Assistant Engineer, Survey Sub Division-IV, PHE Dte.
6. Mr. Arindam Basu, Estimator, Planning Circle-I, PHE Dte.
7. Mr. Prasun Banerjee, Junior Engineer, Survey Sub Division-I, PHE Dte.
8. Mr. Somen Ghosh, Junior Engineer, Survey Division, PHE Dte.
9. Mr. Sudip Das, Junior Engineer, Planning & Design Division-I, PHE Dte.
10. Mrs. Jayeeta Auddya Lodh, Junior Engineer, Planning & Design Division-I, PHE Dte.
11. Miss Susmita Das, Junior Engineer, Planning & Design Division-I, PHE Dte.

A.3 GENERAL ABSTRACT OF COST:-

Project Title: COST ESTIMATE OF PROPOSED WORK AT.....

<i>Sl. No.</i>	<i>Description</i>	<i>Amount(Rs.)</i>
<i>1</i>	<i>Cost for Tube well Works</i>	<i>X</i>
<i>2</i>	<i>Cost for Pipe line Works</i>	<i>Y</i>
<i>3</i>	<i>Cost for Ancillary Works, if any</i>	<i>Z</i>
<i>4</i>	<i>Sub-total Cost (1+2+3)</i>	<i>A=(X+Y+Z)</i>
<i>5</i>	<i>GST, as applicable on Sl No.- 4</i>	<i>B</i>
<i>6</i>	<i>Cost of civil works excluding labour welfare cess (4+5)</i>	<i>C=(A+B)</i>
<i>7</i>	<i>Labour welfare cess @ 1% on Sl No.- 6</i>	<i>D</i>
<i>8</i>	<i>Cost of civil works including labour welfare cess (6+7)</i>	<i>E=(C+D)</i>

Note: Contingency charge @3% is to be considered on Sl. No. – 6.

SCHEDULE OF RATES

FOR

MECHANICAL – ELECTRICAL WORKS

PUBLIC HEALTH ENGINEERING DEPARTMENT

GOVERNMENT OF WEST BENGAL

SEPTEMBER - 2021

NOTE SHEET

With a view to prepare a common schedule of Rates (SOR) for frequently used electro-mechanical works under PHE Dte. like supply, installation of pumping machineries, electrical panels & others accessories, which will be applicable for all Divisions under all circles of PHE Dte. in different district of West Bengal, a Schedule Committee was formed for finalizing the Schedule of Rates in terms of G.O. No. PHE/IV/2018/W-108/2020 dated. 04-12-2020.


It may be noted that rates for various items of electrical works which are already covered under SOR of West Bengal PHE (Mechanical / Electrical) – July 2019 (vide G.O. No. PHE/1723/IT-10/189 dated. 08-08-2018). Rate for automatic plunger type chlorinator (Flow rate 0-100 LPH & 0-200 LPH), repairing of automatic chlorinator by supplying of different spares at different W/S Scheme were not included in the SOR July – 2019. Hence, schedule for automatic plunger type chlorinator (Flow rate 0-100 LPH), repairing of automatic chlorinator by supplying of different spares at different W/S Scheme are prepared.


Rates for the items already exists in the SOR of West Bengal PHE (Mechanical / Electrical) – July 2019 have also reviewed by this SOR Committee. After review, the rate for diaphragm-type Automatic Chlorinator (0-200 LPH) has been modified and incorporated as amendment in this SOR.


For items like i) Schedule of Rates for Wiring with PVC Insulated & Unsheathed Copper Wires in PVC Rigid Conduit, ii) Schedule of Rates for Earthing Installation, iii) Schedule of Rates for Installation of Lightning Conductor, iv) Schedule of Rates for Fixing of Approved Materials (Main Switch, Distribution Boards, Fittings, Fans etc.), etc rates are taken from PWD Schedule of Rates (Electrical Works) Vol. I November 2017.


In order to arrive at the rate, the prevailing market rates of chlorinator and its spares have been considered along with carrying & forwarding charges @ 5% & contractor's profit @ 10%. GST as applicable will have to be added to the rate of any item of this SOR in order to arrive at the final rate of that item for preparation of estimate of supply work or GST @ 12% & Labour Cess @ 1% are to be added at the end of the estimate for any composite work.

Put up for approval please.


Executive Engineer
(Mech./Elec.)
PIU, North 24-Parganas,
WBDWSIP, P.H.Engg. Dte.
Govt. of West Bengal.


Superintending Engineer,
Planning Circle-I,
P.H.Engg. Dte.
and Convenor, SOR
Committee
P.H.Engg. Dte.
Govt. of West Bengal.


Chief Engineer
(Mech./Elec.),
Southern Zone,
P.H.Engg. Dte.
Govt. of West Bengal.


Chief Engineer,
Planning & WQM,
and Chairman, SOR
Committee
P.H.Engg. Dte.
Govt. of West Bengal.

1st CORRIGENDA & ADDENDA
FOR SCHEDULE OF RATES OF PHED ORIGINALLY
PUBLISHED ON JULY 2019, Page No-A1, SI No- 1(b) & 2(b)

Supply, delivery and installation of Diaphragm type automatic chlorinator of different capacities.

Sl. No.	Description	Unit	Rate
1.	Supply, delivery and storage at site of automatically controlled diaphragm type chlorinator dosing pump. With flow rate 200 LPH and maximum pressure of 12 kg/cm ² [As detailed in Annexure-II].	Nos.	232733.00
2.	Installation and commissioning of item 1 (as detailed in Annexure-II)	Nos.	18000.00

Supply, Delivery and Installation of Automatic Plunger Type Chlorinator

Sl. No.	Description	Unit	Rate
1)	Supply, Delivery and storage at site of automatically controlled plunger type chlorinator dosing pump. (a) With flow rate 0 - 100 LPH and maximum pressure of 10kg/cm ² with all accessories including suitable prime mover, storage tank etc. [As detailed in Annexure-I].	nos.	63223.00
2.	Installation and commissioning of Item 1(a) (as detailed in Annexure-I)	nos.	4100.00

Annexure – I

**Specification for Supply, Delivery and Installation of Automatic Plunger Type Chlorinator having flow rate of 0 – 100 LPH and maximum pressure of 10 kg / cm²
(should be included in tender document)**

Sl. No.	Description
1)	Supply & delivery of automatic plunger type chlorinator for feeding accurately automatic controlled dosage of chlorine solution into the water by connecting metering pump with flow rate of water 0 – 100 LPH with maximum pressure of 10 kg / cm ² suitable dosing pump and other necessary accessories on the delivery pipe line as required. The pump shall be coupled with ½ HP motor having 3 phase power and 1440 RPM (± 4%) [Make of Machine. As per attached vendor list of PHED].
2)	Installation and commissioning of above supplied chlorinator pump set and drawing of power line by supplying of necessary wire and continuous earthing connected to auto / manual panel. This includes the cost of making necessary brick foundation base with neat cement finish by supplying all required materials and testing the entire set as per direction of EIC.

N.B. : 1) Test Certificate & Guarantee Certificate of pump & motor needed.

2) All works should be carried out as per relevant & latest IS code.

Supply, Delivery and Installation of Automatic Plunger Type Chlorinator

Sl. No.	Description	Unit	Rate
1)	Supply, Delivery and storage at site of automatically controlled plunger type chlorinator dosing pump. (b) With flow rate 0 - 200 LPH and maximum pressure of 12kg/cm ² with all accessories including suitable prime mover, storage tank etc. [As detailed in Annexure-II].		
2.	Installation and commissioning of Item 1(a) (as detailed in Annexure-I)	nos.	232733.00
		nos.	18000.00

Annexure – II

Specification for Supply, Delivery and Installation of Automatic Plunger Type Chlorinator having flow rate of 0 – 200 LPH and maximum pressure of 12 kg / cm² (should be included in tender document)

Sl. No.	Description
1)	Supply & delivery of automatic plunger type chlorinator for feeding accurately automatic controlled dosage of chlorine solution into the water by connecting metering pump with flow rate of water 0 – 200 LPH with maximum pressure of 12 kg / cm ² suitable dosing pump and other necessary accessories on the delivery pipe line as required. The pump shall be coupled with 2 HP motor having 3 phase power and 1440 RPM ($\pm 4\%$) [Make of Machine. As per attached vendor list of PHED].
2)	Installation and commissioning of above supplied chlorinator pump set and drawing of power line by supplying of necessary wire and continuous earthing connected to auto / manual panel. This includes the cost of making necessary brick foundation base with neat cement finish by supplying all required materials and testing the entire set as per direction of EIC.

N.B. : 1) Test Certificate & Guarantee Certificate of pump & motor needed.

2) All works should be carried out as per relevant & latest IS code.

**REPAIRING OF AUTOMATIC CHLORINATOR BY SUPPLYING OF DIFFERENT SPARES AND OTHER WORKS
AT DIFFERENT W/S SCHEME**

Sl. No.	Description	Quantity	Rate
1)	Dismantling of chlorine machine part by part as per direction of EIC.	1 no.	500.00
2)	Supply of following spares as below		
(i)	15mm dia braided hose pipe	/mtr.	34.00
(ii)	Tail piece(200 mm long)	1 no.	25.00
(iii)	15mm dia GI Elbow	1 no.	23.00
(iv)	Long screw	1 no.	40.00
(v)	GM Gate valve(15 mm)	1 no.	370.00
(vi)	Mobil oil	/ltr.	335.00
(vii)	Starter Coil	1 no.	462.00
(viii)	Starter for chlorine motor (approve make).	1 no.	2657.00
(ix)	15 mm dia. NRV (approve make).	1 no.	370.00
(x)	100 liter chlorine tank (PVC)	1 no.	1860.00
(xi)	Diaphragm	1 no.	982.00
(xii)	GI pipe, 15mm	1 no.	46.00
(xiii)	SI. Indicator	1 no.	5487.00
(xiv)	15mm dia. GI Tee	1 no.	35.00
(xv)	Gasket Set	1 no.	144.00
(xvi)	Short piece (100mm)	1 no.	14.00
(xvii)	15mm dia flexible pvc pipe for supply chlorine solution (approved make)	/mtr.	34.00
(xviii)	Worm Wheel suitable for positive chlorine pump.(MOC: PB2)	1 set	2743.00
(xix)	Eccentric Strap (MOC: EN8)	1 no.	2541.00
(xx)	Eccentric (MOC: EN8)	1 no.	2541.00
(xxi)	Coupling Rubber	1 no.	116.00
(xxii)	Bearing (approve make).	1 no.	474.00
(xxiii)	Slider (MOC: EN8)	1 no.	2512.00
(xxiv)	Worm Shaft (MOC: EN8)	1 no.	2541.00
3)	Washing, cleaning of chlorine machine unit including chlorine tank, pipe & specials etc. by engaging skilled personnel once in a month with supply of fast moving spares parts such as gland packing, clamp, nut & bolt etc. as required to keep the unit in healthy condition.	1 times	394.00
4)	Carrying of burnt out 0.5 HP chlorine Motor from work site to nearest work shop for repairing.	1 item	400.00
5)	Rewinding of 0.5 HP Chlorine motor with suitable size copper wire including heat varnishing and all complete as per direction.	1 item	2000.00
6)	Carrying of repaired 0.5 HP chlorine Motor from work shop to work site.	1 item	400.00
7)	Reassemble the above chlorine dozing pump part by part with newly supplied materials as exactly required [from Sl. No. (i) to (xxiv)] including old serviceable spares and testing complete as per direction of EIC.	1 item	1000.00

Annexure – III

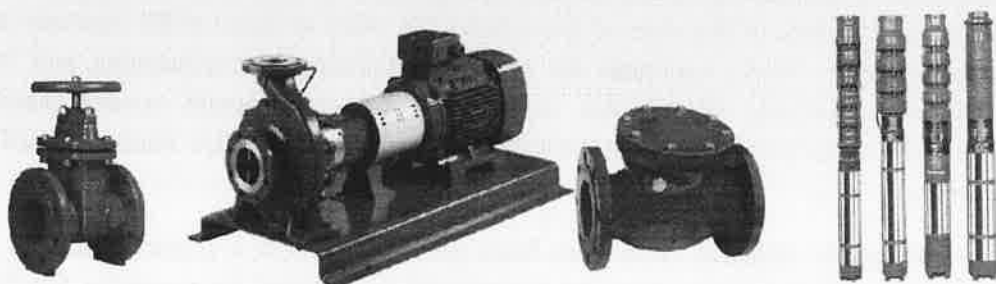
SPECIFICATION FOR REPAIRING OF AUTOMATIC CHLORINATOR BY SUPPLYING OF DIFFERENT SPARES AND OTHER WORKS AT DIFFERENT W/S SCHEME (should be included in tender document)

Sl. No.	Description
1)	Dismantling of chlorine machine part by part as per direction of EIC.
2)	Supply of following spares as below
(i)	15mm dia braided hose pipe
(ii)	Tail piece(200 mm long)
(iii)	15mm dia GI Elbow
(iv)	Long screw
(v)	GM Gate valve(15 mm)
(vi)	Mobil oil
(vii)	Starter Coil
(viii)	Starter for chlorine motor (approve make).
(ix)	15 mm dia. NRV (approve make).
(x)	100 liter chlorine tank (PVC)
(xi)	Diaphragm
(xii)	GI pipe, 15mm
(xiii)	SI. Indicator
(xiv)	15mm dia. GI Tee
(xv)	Gasket Set
(xvi)	Short piece (100mm)
(xvii)	15mm dia flexible pvc pipe for supply chlorine solution (approved make)
(xviii)	Worm Wheel suitable for positive chlorine pump.(MOC: PB2)
(xix)	Eccentric Strap (MOC: EN8)
(xx)	Eccentric (MOC: EN8)
(xxi)	Coupling Rubber
(xxii)	Bearing (approve make).
(xxiii)	Slider (MOC: EN8)
(xxiv)	Worm Shaft (MOC: EN8)
3)	Washing, cleaning of chlorine machine unit including chlorine tank, pipe & specials etc. by engaging skilled personnel once in a month with supply of fast moving spares parts such as gland packing, clamp, nut & bolt etc. as required to keep the unit in healthy condition.
4)	Carrying of burnt out 0.5 HP chlorine Motor from work site to nearest work shop for repairing.
5)	Rewinding of 0.5 HP Chlorine motor with suitable size copper wire including heat varnishing and all complete as per direction.
6)	Carrying of repaired 0.5 HP chlorine Motor from work shop to work site.
7)	Reassemble the above chlorine dozing pump part by part with newly supplied materials as exactly required [from Sl. No. (i) to (xxiv)] including old serviceable spares and testing complete as per direction of EIC.

SCHEDULE OF RATES

FOR

MECHANICAL-ELECTRICAL WORKS



PUBLIC HEALTH ENGINEERING DEPARTMENT

GOVERNMENT OF WEST BENGAL

JULY-2019

PREFACE

With a view to prepare a common Schedule of Rates (SOR) for frequently used electro-mechanical works under PHE Dte. like supply, installation of pumping machineries, electrical panels & others accessories, which will be applicable for all Divisions under all circles of PHE Dte. in different districts of West Bengal, a Schedule Committee was formed for finalizing the Schedule of Rates in terms of G.O. No. PHE/1723/1T-10/189 dated.08.08.2018.

It may be noted that rates for various items of electrical works which are already covered under West Bengal PWD (Electrical) schedule of rates have not been included in this Schedule of Rates. In order to arrive at the rates, the prevailing market rates of different items like pumps, panels, chlorinator etc. have been considered along with carrying & forwarding charges of 5%, contractor's profit of 10%. Labour Cess of 1% and GST as applicable will have to be added to price of any item of this schedule in order to arrive at the final rate of any item of supply/work. Model estimates for supply, installation, commissioning and trial run of submersible pumping machineries along with auto-cum-manual control panel, suitable chlorination arrangement, voltage stabilizer, valves etc. have also been enclosed for ready reference.

Rates for different items have been given along with a related literature. Prevailing rates under different circles have been compared and studied for preparing this Schedule of Rates.

Extra rates, in the form of Riverine Charges, will be allowed in respect of all scheduled items to overcome the difficulties encountered in riverine areas. The Riverine charges will be applicable to sites connected through ferry crossing only as per the following rates and in addition to district charges:-

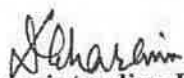
- | | | |
|-----|-------------------------------------|----|
| i) | For crossing a single river. | 5% |
| ii) | For crossing each additional river. | 5% |


Enhancement of rate by 5% every year is to be considered.


All out efforts have been made to make this S.O.R error free. However, any suggestions and constructive comments are welcome for making this SOR useful.

Lastly, we on behalf of schedule committee would like to convey our sincere thanks to all who have cooperated with their invaluable suggestions.

The schedule of rates will take effect from July-2019.


Superintending Engineer,
Mechanical Circle-III,
PHE Directorate


Chief Engineer,
(Mech./Elec.) NZ,
PHE Directorate
&
Member of the Committee


Chief Engineer,
(Planning & WQM),
PHE Directorate
&
Chairman of the Committee

:: SCHEDULE COMMITTEE ::

➤ **Members:-**

1. Mr. Soumitra Sengupta, Chief Engineer, Planning & W.Q.M., P.H.E. Dte.
2. Mr. Joydeep Ghosh, Chief Engineer, Mech./Elec., (Northern Zone), P.H.E. Dte.
3. Mr. Shibu Bhusan Das, Superintending Engineer, Western Circle, P.H.E. Dte.
4. Mr. Indrajeet Sen, Superintending Engineer, North Bengal Circle-II, P.H.E. Dte.
5. Mr. Amit Sarkar, Executive Engineer, Mech./elec., Planning Wing, P.H.E. Dte.

➤ **Co-opted Members:-**

1. Mr. Hemanta Koley, Superintending Engineer, Planning Circle-I, P.H.E. Dte.
2. Mr. Debashis Gharami, Superintending Engineer, Mechanical Circle-III, P.H.E. Dte.

➤ **Working Groups for Mech./Elec. Works:-**

1. Mr. Arup Bhattacharya, Dy. Superintending Engineer, Mechanical Circle-III, P.H.E. Dte.
2. Mr. Kaustuv Chakraborty, Assistant Engineer, Electrical Division, P.H.E. Dte.
3. Mr. Ratan Basak, Assistant Engineer, Mech./Elec. Planning Wing, P.H.E. Dte.
4. Mr. Samir Karmakar, Sub-Assistant Engineer, Mechanical Circle-III, P.H.E. Dte.
5. Mr. Pradipta Nan, Sub-Asst. Engineer, New Town Kolkata Mech. Division, P.H.E. Dte.
6. Mr. Gopen Roy, Sub-Assistant Engineer, Central Drilling Division, P.H.E. Dte.
7. Mr. Hasanur Jaman Mandal, Sub-Asst. Engineer, South 24 Pgs Mech. Div., P.H.E. Dte.

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-::Introduction::-

All the rates required for supply, delivery & installation of Pumping machinery, Electrical Panels, Chlorinators, Voltage Stabilizers and valves have been prepared after due verification of different market rates of different vendors (approved by P.H.E. Dte.). For achieving the final rate of any item, existing prevailing methodology, adopted in different Mechanical Circles of P.H.E. Dte., have been followed. It is also to mention that the rate considered here, whether for supply, delivery or for installation, conforms to all the common and existing norms as per IE Rules, relevant IS codes, and also conforms to essential requirements and precautions to be taken in respect of execution of all types of works including prevention of fire hazards and protection of structures from lightning. And, also, electrical items must be chosen complying Highest Star rating (5 Star)/ energy efficient/ ECBC Rating (Super ECBC) /BIS as practically available in market. More Technical Specifications are to be incorporated as per latest BIS/Govt. Manuals. KVAR OF Panel may change if P.F. changes from rated value of 0.99.

The following methodologies, step by step, have been followed, while preparing different rates of each item.

Step-I:- Quotation papers have been collected from different vendors for each item. Even, the existing rate for the said item in different Mechanical Circles of P.H.E. Dte. have also been considered/followed.

Step-II:- After sorting out the rate of a particular item, 5% enhancement has been given for transportation, handling etc. and 10% profit has been given after that.

The rate achieved, after completion of Step-I & Step-II, has been listed in this SOR for different items, and, of different capacities, table wise chronologically as given in the Index.

Where displayed price lists are available, the following Formulae should be used to calculate the rate.

$$\text{Rate} = \text{List Price} \times 1.1 \times 1.05$$

To get the final rate, respective GST and Cess applicable to particular item, will have to be added from the end of the respective executing Divisions and Circles of P.H.E. Dte.

Supply, delivery and installation of automatic chlorinator of different capacities.

Sl. No.	DESCRIPTION	Quantity	Rate
1.	Supply, delivery and storage at site of automatically controlled diaphragm type chlorinator dosing pump-		
	a) With flow rate 100LPH and maximum pressure of 10kg/cm ² with all accessories including suitable prime mover, storage tank etc. [As detailed in Annexure-I]	1	76314.00
	b) With flow rate 200LPH and maximum pressure of 12kg/cm ² [As detailed in Annexure-II]	1	274348.00
2.	a) Installation and commissioning of item 1(a) (as detailed in Annexure-I)	1	4500.00
	b) Installation and commissioning of item 1(b) (as detailed in Annexure-II)	1	20000.00

Annexure-I

Estimate for : Supply, delivery and installation of automatically controlled Chlorinator having flow rate of 100 LPH and maximum pressure of 10 kg/cm².

Sl. No.	Description of Item
1.	Supply, delivery and storage at site of automatically controlled diaphragm type Chlorinator dosing pump with flow rate 100 LPH and maximum pressure of 10 kg/CM ² with all accessories for pump & motor, foundation bolt, suction and discharge flange and with storage tank of dosing solution of 100 Ltr. Capacity and the prime mover to be coupled with pump of 0.5 H.P., 3 Phase, 1450 RPM, squirrel cage TEFC induction motor, Motor will be IE3. [Make of Machine: As per attached vendor list of PHED.]
2.	Installation and commissioning of the above supplied Chlorinator with all accessories, PVC tank and drawing of power line as per IE rules by supplying of necessary wire and continuous earthing. This include the cost of all necessary CC foundation [at least 200mm height] with concrete mixture [sand, cement, stone, chips] and neat cement finish by supplying of all required materials and testing the entire set as per direction of EIC. [Power will be feed from PLC panel of pumping machinery]

N.B. 1) T.C. & G.C. of pump & motor needed.

2) All works should be carried out as per relevant & latest IS code.

Annexure-II

Estimate for: Supply, delivery and installation of automatically controlled Chlorinator having flow rate of 200 LPH and maximum pressure of 12 kg/cm².

Sl. No.	Description of Item
1.	Supply , delivery and automatically controlled diaphragm type Chlorinator dosing pump with flow rate 200 LPH and maximum pressure of 12 kg/ CM ² with built in relief valve & diaphragm rupture indicator, pressure gauge, pressure switch, base plate, flexible coupling guard for pump & motor, foundation bolt, suction and discharge flange and with storage tank of dosing solution of 200 Ltr. Capacity and the prime mover to be coupled with pump of 2 H.P. 3 Phase, 1450 RPM squirrel cage TEFC induction motor, Motor will be IE2/ IE3. [Make of Machine: As per attached vendor lists of PHED.]
2.	Installation and commissioning of above supplied Chlorinator with all accessories, PVC tank and drawling of power line as per IE rules by supplying of necessary wire and continuous earthing. This include the cost of all necessary CC foundation [at least 200mm height] with concrete mixture [sand, cement, stonechips] and neat cement finish by supplying of all required materials and testing the entire set as per direction of EIC. [Power will be feed from PLC panel of pumping machinery]

N.B. 1) T.C. & G.C. of pump & motor needed.

2) All works should be carried out as per relevant & latest IS code.

PDB cum MCC wall mounted Panel of Different Capacities :-

Sl. No.	CAPACITY & DESCRIPTION	Approved Rate (Including all charges except GST)
1.	Supply & delivery of 415 V MCC cum PDB. with minimum 2mm thickness and degree of protection IP-54, conforming to IS-8623 with suitable Bus bar, Digital Voltmeter Ammeter, Contactor, delay timer, MCB, Valve Actuator starter etc. with PLC Logic & UPS as detailed in Annex.-I,II,III	2,27,535.00
	c) 5-7.5 HP with DOL (Direct On-line) starter (Detailed specified in Annexure-I).	2,35,620.00
	d) 7.5-12.5 HP with SDS (Star, delta starter) (Detailed specified in Annexure-II).	2,49,480.00
	e) 15-25 HP with SDS (Star, delta starter) (Detailed specified in Annexure-III).	

Technical specifications and feeder details of PDB cum MCC wall mounted Panel (5-7.5 HP DOL)

- 1.01 The 415V MCC cum PDB shall comprise of factory assembled switch board for indoor installation. The board shall be totally enclosed, metal clad, dead front, cubicle type. Sheet metal thickness shall be minimum 2mm and degree of protection shall be IP-54. Front door of the panel shall be hinged type with neoprene rubber gasket. All cubicle doors shall be interlocked with switch handle so that doors cannot be opened without putting the switch in the off position. All hinged doors shall be earthed by means of flexible copper wires. All outgoing feeders will be designed for receiving cables from bottom of the MCC. All bare current carrying parts at 415V in accessible location shall be properly shrouded to avoid any accidental contact. The panel shall conform to IS-8623.
- 1.02 The panel shall be suitable for wall mounting. Feeder/ board labels shall be made out of black anodized Aluminium plate with engraved letters.
- 1.03 All meters shall be digital type and all indicating lamps cluster LED type. All meters will have class 1.0 accuracy.
- 1.04 All control, CT circuit and instrumentation wiring shall be of 1.1KV grade, PVC insulated 2.5sq. Mm. stranded flexible copper wires (FRLSH).
- 1.05 Both inside and outside of the panel shall be painted by means of synthetic enamel paint using powder coating method. Paint shade shall be RAL-7032.
- 1.06 Starters of pumps and actuators shall be suitable for both in manual and auto mode through PLC.
- 2.00 Bus Bars :
- The bus bars of the 415V PDB cum MCC will be air insulated and made of E91E grade Aluminium of adequate cross-section so that temperature rise is limited to 35°C over an ambient temperature of 50°C and shall be PVC sleeved (1.1KV Grade) with proper phase marking. The main bus bars are suitably braced with non-hygroscopic Glass Fibre Reinforced Polyester (FRP) supports/ SMC supports to provide a through fault withstand capacity of 50KA RMS symmetrical for 1 sec. Bus bar supports shall be spaced not more than 250mm. Even neutral bus bars and earth bars shall have to be designed for 50KA RMS as per requirements to IS: 8623 on factory built assemblies. Adequate numbers of floating sturdy supports are to be provided to brace the bus bars against fault conditions. Maximum current density of bus bar shall be 1A/ sq. mm. Minimum rating of bus bars shall be equal to the incoming breaker rating. Phase to Earth Gap & Phase to Neutral/ Earth Gap shall be 32mm and 26mm respectively. Starters of the panel shall be manual as well as PLC operated.

3.00 Feeder Details:

Qty.	Description	RATING	Quantity (Nos. /Set)
A.	INCOMER - 1 NO. Comprising of:		
1	4P MCCB TMD RELEASE WITH O/C,S/C	100A/36KA	1
2	ROM FOR ABOVE MCCB		1
3	DIGITAL AMMETER 96 SQ MM	0-60A	1
4	DIGITAL VOLTMETER 96 SQ MM	0-500V	1
5	ASS	10A	1
6	VSS	10A	1
7	CT,15VA, CL.I TAPE WOUND	60/5A	3
8	INDICATION LAMPS LED TYPE (RED, YELLOW)	230V AC	2
9	INDICATION LAMPS LED TYPE (BLUE)	230V AC	1
10	3P MCB FOR METERING	6A	1
11	POWER TERMINAL 4WAY	150A	1
12	SURGE PROTECTION DEVICE	40KA	1
13	MCB, 4P FOR SURGE PROTECTION DEVICE	25A	1

B.	AUTO PHASE CORRECTOR		
1	SIVMR7 SPP RELAY	415V AC	1
2	3P POWER CONTACTOR 230V AC COIL	32A	2
3	SP MCB FOR CONTROL	6A	1
4	ON DELAY TIMER	230V AC	1
5	2N0+2NC AUX. CONTACTOR 230V AC	4A	1
6	INDICATION LAMPS LED TYPE (RED,YELLOW)	230V AC	2
7	INDICATION LAMPS LED TYPE (BLUE)	230V AC	1
	OUTGOING FEEDERS		
C.	5-7.5 HP DOL-1NO.COMPRING OF:		
1	3P MPCB	10-16A	1
2	DIGITAL MOTOR PROTECTION RELAY (BOCR-3DE)	0.5-60A	1
3	3P POWER CONTACTOR 230V AC COIL	32A	1
4	1NO/ 1NC AUXILARY CONTACT BLOCK FOR ABOVE CONTACTOR		2
5	3P POWER CONTACTOR 230V AC COIL (FOR CAPACITOR)	12A	1
6	CAPACITOR 440V NORMAL DUTY	3 KVAR	1
7	3P MCB FOR CAPACITOR	25A	1
8	SP MCB FOR CONTROL	6A	1
9	ON DELAY TIMER (FOR CAPACITOR)	230V AC	1
10	ILLUMINATED PUSH BUTTON (GREEN)	10A	1
11	ILLUMINATED PUSH BUTTON (RED)	10A	1
12	EMERGENCY PUSH BUTTON (RED)	10A	1
13	INDICATION LAMPS LED TYPE (AMBER)	230V AC	2
14	A/M SELECTOR SWITCH	10A	1
15	U/V, O/V & SPP RELAY	415V AC	1
16	POWER TERMINAL 3WAY	150A	2
D.	YARD LIGHT -1 NO. COMPRESSING OF :		
1	3P MCB	25A	1
2	3P POWER CONTACTOR 230V AC COIL	18A	1
3	1NC CONTACT BLOCK FOR ABOVE CONTACTOR		1
4	A/M SELECTOR SWITCH	10A	1
5	INDICATION LAMPS LED TYPE (GREEN)	230V AC	1
6	24 Hr TIME SWITCH (DIGITAL)	230V AC	1
7	POWER TERMINAL 4WAY	150A	1
E.	VALVE ACTUATOR STARTER -1 NO. COMPRESSING OF :		
1	3P MCB	16A	1
2	3P POWER CONTACTOR 230V AC COIL	9A	2
3	1NC CONTACT BLOCK FOR ABOVE CONTACTOR		2
4	THERMAL OVERLOAD RELAY	1-1.4A	1
5	MOUNTING KIT FOR ABOVE OVERLOAD RELAY		1
6	INDICATION LAMPS LED TYPE (AMBER)	230V AC	1
7	SP MCB FOR CONTROL	6A	1
8	ILLUMINATED PUSH BUTTON (GREEN)	10A	1
9	ILLUMINATED PUSH BUTTON (RED)	10A	1
10	PUSH BUTTON (RED]	10A	1
11	2N0+2NC AUX. CONTACTOR 230V AC	4A	2
12	POWER TFRMINAL 3 WAY	150A	1

F.	CHLORINATOR STARTER-1 NO. COMPRISING OF :		
1	3P MCB	16A	1
2	3P POWER CONTACTOR 230V AC COIL	9A	1
3	1NC CONTACT BLOCK FOR ABOVE CONTACTOR		1
4	THERMAL OVERLOAD RELAY	1-1.4A	1
5	MOUNTING KIT FOR ABOVE OVERLOAD RELAY		1
6	INDICATION LAMPS LED TYPE (AMBER)	230V AC	1
7	ILLUMINATED PUSH BUTTON (GREEN)	10A	1
8	ILLUMINATED PUSH BUTTON (RED)	10A	1
9	2NO+2NC AUX. CONTACTOR 230V AC	4A	1
10	ON DELAY TIMER	230V AC	1
11	WATER LEVEL CONTROLLER	230V AC	1
12	POWER TERMINAL 3 WAY	150A	1
G.	32A MCCB FDR. FOR IEP/MISC. PURPOSE - 1 NO. COMPRISING OF:		
1	TP MCCB TMD RELEASE WITH O/C, S/C	32A/25KA	1
	ROM FOR ABOVE MCCB		1
2	POWER TERMINAL 3WAY	150A	2
H.	32A MCCB FOR IN HOUSE LIGHT-1 NO. COMPRISING OF:		
1	TP MCCB TMD RELEASE WITH O/C, S/C	32A/25KA	1
	ROM FOR ABOVE MCCB		1
2	POWER TERMINAL 3WAY	150A	2
I.	PLC FEEDER -1 NO. COMPRISING OF :		
1	PLC DI/DO 8/4	24V DC	1
2	4 CHANNEL RELAY BOARD	24V DC	1
3	SMPS	2.5A	1
4	UPS	600VA	1
5	PUSH BUTTON (YELLOW)	10A	1
6	CONTROL TERMINAL	2.5SQ. MM.	15

N.B. Test Certificate (Routine and Type) should be submitted at the time of Delivery.

Make:-As per Vendor List.

Technical specifications and feeder details of PDB cum MCC wall mounted Panel (7.5-12.5 HP SDS)

- 1.01 The 415V MCC cum PDB shall comprise of factory assembled switch board for indoor installation. The board shall be totally enclosed, metal clad, dead front, cubicle type. Sheet metal thickness shall be minimum 2mm and degree of protection shall be IP-54. Front door of the panel shall be hinged type with neoprene rubber gasket. All cubicle doors shall be interlocked with switch handle so that doors cannot be opened without putting the switch in the off position. All hinged doors shall be earthed by means of flexible copper wires. All outgoing feeders will be designed for receiving cables from bottom of the MCC. All bare current carrying parts at 415V in accessible location shall be properly shrouded to avoid any accidental contact. The panel shall conform to IS-8623
- 1.02 The panel shall be suitable for wall mounting. Feeder/ board labels shall be made out of black anodized Aluminium plate with engraved letters.
- 1.03 All meters shall be digital type and all indicating lamps cluster LED type. All meters will have class 1.0 accuracy.
- 1.04 All control, CT circuit and instrumentation wiring shall be of 1.1KV grade, PVC insulated 2.5sq. Mm. stranded flexible copper wires (FRLSH).
- 1.05 Both inside and outside of the panel shall be painted by means of synthetic enamel paint using powder coating method. Paint shade shall be RAL-7032.
- 1.06 Starters of pumps and actuators shall be suitable for both in manual and auto mode through PLC.
- 2.00 Bus Bars :
- The bus bars of the 415V PDB cum MCC will be air insulated and made of E91E grade Aluminium of adequate cross-section so that temperature rise is limited to 35°C over an ambient temperature of 50°C and shall be PVC sleeved (1.1KV Grade) with proper phase marking. The main bus bars are suitably braced with non-hygroscopic Glass Fibre Reinforced Polyester (FRP) supports/ SMC supports to provide a through fault withstand capacity of 50KA RMS symmetrical for 1 sec. Bus bar supports shall be spaced not more than 250mm. Even neutral bus bars and earth bars shall have to be designed for 50KA RMS as per requirements to IS: 8623 on factory built assemblies. Adequate numbers of floating sturdy supports are to be provided to brace the bus bars against fault conditions. Maximum current density of bus bar shall be 1A/ sq. mm. Minimum rating of bus bars shall be equal to the incoming breaker rating. Phase to Earth Gap & Phase to Neutral/ Earth Gap shall be 32mm and 26mm respectively. Starters of the panel shall be manual as well as PLC operated.

3.00 Technical Details :

Qty.	Description	RATING	Quantity (Nos. /Set)
A.	INCOMER - 1 NO. Comprising of:		
1	4P MCCB TMD RELEASE WITH O/C,S/C	100A/36KA	1
2	ROM FOR ABOVE MCCB		1
3	DIGITAL AMMETER 96 SQ MM	0-60A	1
4	DIGITAL VOLTMETER 96 SQ MM	0-500V	1
5	ASS	10A	1
6	VSS	10A	1
7	CT,15VA, CL.1 TOPE WOUND	60/5A	3
8	INDICATION LAMPS LED TYPE (RED, YELLOW	230V AC	2
9	INDICATION LAMPS LED TYPE (BLUE)	230V AC	1
10	3P MCB FOR METERING	6A	1
11	POWER TERMINAL 4WAY	150A	1
12	SURGE PROTECTION DEVICE	40KA	1
13	MCB, 4P FOR SURGE PROTECTION DEVICE	25A	1
B.	AUTO PHASE CORRECTOR		
1	SIVMR7 SPP RELAY	415V AC	1
2	3P POWER CONTACTOR 230V AC COIL	32A	2
3	SP MCB FOR CONTROL	6A	1
4	ON DELAY TIMER	230V AC	1
5	2NO+2NC AUX. CONTACTOR 230V AC	4A	1
6	INDICATION LAMPS LED TYPE (RED,YELLOW)	230V AC	2
7	INDICATION LAMPS LED TYPE (BLUE)	230V AC	1

Qty.	Description	RATING	Quantity (Nos. /Set)
OUTGOING FEEDERS			
C.	7.5-12.5 HP SDS-1NO.COMPRISING OF:		
1	3P MPCB	16-20A	1
2	DIGITAL MOTOR PROTECTION RELAY (BOCR-3DE)	0.5-60A	1
3	3P POWER CONTACTOR 230V AC COIL	32A	1
4	1NO/1NC AUXILARY CONTACT BLOCK FOR ABOVE CONTACTOR		2
5	3P POWER CONTACTOR 230V AC COIL (FOR CAPACITOR)	12A	1
6	CAPACITOR 440V NORMAL DUTY	4 KVAR	1
7	3P MCB FOR CAPACITOR	25A	1
8	SP MCB FOR CONTROL	6A	1
9	ON DELAY TIMER (FOR CAPACITOR)	230V AC	1
10	STAR DELTA TIMER	230V AC	1
11	ILLUMINATED PUSH BUTTON (GREEN)	10A	1
12	ILLUMINATED PUSH BUTTON (RED)	10A	1
13	EMERGENCY PUSH BUTTON (RED)	10A	1
14	INDICATION LAMPS LED TYPE (AMBER)	230V AC	2
15	A/M SELECTOR SWITCH	10A	1
16	U/V, O/V & SPP RELAY	415V AC	1
17	POWER TERMINAL 3WAY	150A	2
D.	YARD LIGHT -1 NO. COMPRESSING OF :		
1	3P MCB	25A	1
2	3P POWER CONTACTOR 230V AC COIL	18A	1
3	1NC CONTACT BLOCK FOR ABOVE CONTACTOR		1
4	A/M SELECTOR SWITCH	10A	1
5	INDICATION LAMPS LED TYPE (GREEN)	230V AC	1
6	24 Hr TIME SWITCH (DIGITAL)	230V AC	1
7	POWER TERMINAL 4WAY	150A	1
E.	VALVE ACTUATOR STARTER -1 NO. COMPRESSING OF :		
1	3P MCB	16A	1
2	3P POWER CONTACTOR 230V AC COIL	9A	2
3	1NC CONTACT BLOCK FOR ABOVE CONTACTOR		2
4	THERMAL OVERLOAD RELAY	1-1.4A	1
5	MOUNTING KIT FOR ABOVE OVERLOAD RELAY		1
6	INDICATION LAMPS LED TYPE (AMBER)	230V AC	1
7	SP MCB FOR CONTROL	6A	1
8	ILLUMINATED PUSH BUTTON (GREEN)	10A	1
9	ILLUMINATED PUSH BUTTON (RED)	10A	1
10	PUSH BUTTON (RED]	10A	1
11	2NO+2NC AUX. CONTACTOR 230V AC	4A	2
12	POWER TFRMINAL 3 WAY	150A	1
F.	CHLORINATOR STARTER-1 NO. COMPRISING OF :		
1	3P MCB	16A	1
2	3P POWER CONTACTOR 230V AC COIL	9A	1
3	1NC CONTACT BLOCK FOR ABOVE CONTACTOR		1
4	THERMAL OVERLOAD RELAY	1-1.4A	1
5	MOUNTING KIT FOR ABOVE OVERLOAD RELAY		1
6	INDICATION LAMPS LED TYPE (AMBER)	230V AC	1
7	ILLUMINATED PUSH BUTTON (GREEN)	10A	1
8	ILLUMINATED PUSH BUTTON (RED]	10A	1
9	2NO+2NC AUX. CONTACTOR 230V AC	4A	1
10	ON DELAY TIMER	230V AC	1
11	WATER LEVEL CONTROLLER	230V AC	1
G.	32A MCCB FDR. FOR IEP/MISC. PURPOSE - 1 NO. COMPRISING OF:		
1	TP MCCB TMD RELEASE WITH O/C, S/C	32A/25KA	1
	ROM FOR ABOVE MCCB		1
2	POWER TERMINAL 3WAY	150A	2

Qty.	Description	RATING	Quantity (Nos. /Set)
H.	32A MCCB FOR IN HOUSE LIGHT-1 NO. COMPRISING OF:		
1	TP MCCB TMD RELEASE WITH O/C, S/C	32A/25KA	1
	ROM FOR ABOVE MCCB		1
2	POWER TERMINAL 3WAY	150A	2
I.	PLC FEEDER -1 NO. COMPRISING OF :		
1	PLC DI/DO 8/4	24V DC	1
2	4 CHANNEL RELAY BOARD	24V DC	1
3	SMPS	2.5A	1
4	UPS	600VA	1
5	PUSH BUTTON (YELLOW)	10A	1
6	CONTROL TERMINAL	2.5SQ. MM.	15

N.B. Test Certificate (Routine and Type) should be submitted at the time of Delivery.

Make: As per Vendor list.

Technical specifications and feeder details of PDB cum MCC wall mounted Panel (15-25 HP SDS)

- 1.01 The 415V MCC cum PDB shall comprise of factory assembled switch board for indoor installation. The board shall be totally enclosed, metal clad, dead front, cubicle type. Sheet metal thickness shall be minimum 2mm and degree of protection shall be IP-54. Front door of the panel shall be hinged type with neoprene rubber gasket. All cubicle doors shall be interlocked with switch handle so that doors cannot be opened without putting the switch in the off position. All hinged doors shall be earthed by means of flexible copper wires. All outgoing feeders will be designed for receiving cables from bottom of the MCC. All bare current carrying parts at 415V in accessible location shall be properly shrouded to avoid any accidental contact. The panel shall conform to IS-8623.
- 1.02 The panel shall be suitable for wall mounting. Feeder/ board labels shall be made out of black anodized Aluminium plate with engraved letters.
- 1.03 All meters shall be digital type and all indicating lamps cluster LED type. All meters will have class 1.0 accuracy.
- 1.04 All control, CT circuit and instrumentation wiring shall be of 1.1KV grade, PVC insulated 2.5sq. Mm. stranded flexible copper wires (FRLSH).
- 1.05 Both inside and outside of the panel shall be painted by means of synthetic enamel paint using powder coating method. Paint shade shall be RAL-7032.
- 1.06 Starters of pumps and actuators shall be suitable for both in manual and auto mode through PLC.

2.00 Bus Bars :

The bus bars of the 415V PDB cum MCC will be air insulated and made of E91F grade Aluminium of adequate cross-section so that temperature rise is limited to 35°C over an ambient temperature of 50°C and shall be PVC sleeved (1.1KV Grade) with proper phase marking. The main bus bars are suitably braced with non-hygroscopic Glass Fibre Reinforced Polyester (FRP) supports/ SMC supports to provide a through fault withstand capacity of 50KA RMS symmetrical for 1 sec. Bus bar supports shall be spaced not more than 250mm. Even neutral bus bars and earth bars shall have to be designed for 50KA RMS as per requirements to IS: 8623 on factory built assemblies. Adequate numbers of floating sturdy supports are to be provided to brace the bus bars against fault conditions. Maximum current density of bus bar shall be 1A/ sq. mm. Minimum rating of bus bars shall be equal to the incoming breaker rating. Phase to Earth Gap & Phase to Neutral/ Earth Gap shall be 32mm and 26mm respectively. Starters of the panel shall be manual as well as PLC operated.

3.00 Technical Details :

Qty.	Description	RATING	Quantity (Nos./Set)
A.	INCOMER - 1 NO. Comprising of:		
1	4P MCCB TMD RELEASE WITH O/C,S/C	100A/36KA	1
2	ROM FOR ABOVE MCCB		1
3	DIGITAL AMMETER 96 SQ MM	0-60A	1
4	DIGITAL VOLTMETER 96 SQ MM	0-500V	1
5	ASS	10A	1
6	VSS	10A	1
7	CT,15VA, CL.I TOPE WOUND	60/5A	3
8	INDICATION LAMPS LED TYPE (RED, YELLOW)	230V AC	2
9	INDICATION LAMPS LED TYPE (BLUE)	230V AC	1
10	3P MCB FOR METERING	6A	1
11	POWER TERMINAL 4WAY	150A	1
12	SURGE PROTECTION DEVICE	40KA	1
13	MCB, 4P FOR SURGE PROTECTION DEVICE	25A	1
B.	AUTO PHASE CORRECTOR		
1	SIVMR7 SPP RELAY	415V AC	1
2	3P POWER CONTACTOR 230V AC COIL	32A	2
3	SP MCB FOR CONTROL	6A	1
4	ON DELAY TIMER	230V AC	1
5	2N0+2NC AUX. CONTACTOR 230V AC	4A	1
6	INDICATION LAMPS LED TYPE (RED,YELLOW)	230V AC	2
7	INDICATION LAMPS LED TYPE (BLUE)	230V AC	1

Qty.	Description	RATING	Quantity (Nos. /Set)
OUTGOING FEEDERS			
C.	15-25 HP SDS-1NO.COMPRNSING OF:		
1	3P MPCB	30-42A	1
2	DIGITAL MOTOR PROTECTION RELAY (BOCR-3DE)	0.5-60A	1
3	3P POWER CONTACTOR 230V AC COIL	40A	1
4	1NO/ 1NC AUXILARY CONTACT BLOCK FOR ABOVE CONTACTOR		2
5	3P POWER CONTACTOR 230V AC COIL (FOR CAPACITOR)	18A	1
6	CAPACITOR 440V NORMAL DUTY	8 KVAR	1
7	3P MCB FOR CAPACITOR	25A	1
8	SP MCB FOR CONTROL	6A	1
9	ON DELAY TIMER (FOR CAPACITOR)	230V AC	1
10	STAR DELTA TIMER	230V AC	1
11	ILLUMINATED PUSH BUTTON (GREEN)	10A	1
12	ILLUMINATED PUSH BUTTON (RED)	10A	1
13	EMERGENCY PUSH BUTTON (RED)	10A	1
14	INDICATION LAMPS LED TYPE (AMBER)	230V AC	2
15	A/M SELECTOR SWITCH	10A	1
16	U/V, O/V & SPP RELAY	415V AC	1
17	POWER TERMINAL 3WAY	150A	2
D.	YARD LIGHT -1 NO. COMPRESSING OF :		
1	3P MCB	25A	1
2	3P POWER CONTACTOR 230V AC COIL	18A	1
3	1NC CONTACT BLOCK FOR ABOVE CONTACTOR		1
4	A/M SELECTOR SWITCH	10A	1
5	INDICATION LAMPS LED TYPE (GREEN)	230V AC	1
6	24 Hr TIME SWITCH (DIGITAL)	230V AC	1
7	POWER TERMINAL 4WAY	150A	1
E.	VALVE ACTUATOR STARTER -1 NO. COMPRESSING OF :		
1	3P MCB	16A	1
2	3P POWER CONTACTOR 230V AC COIL	9A	2
3	1NC CONTACT BLOCK FOR ABOVE CONTACTOR		2
4	THERMAL OVERLOAD RELAY	1-1.4A	1
5	MOUNTING KIT FOR ABOVE OVERLOAD RELAY		1
6	INDICATION LAMPS LED TYPE (AMBER)	230V AC	1
7	SP MCB FOR CONTROL	6A	1
8	ILLUMINATED PUSH BUTTON (GREEN)	10A	1
9	ILLUMINATED PUSH BUTTON (RED)	10A	1
10	PUSH BUTTON (RED]	10A	1
11	2NO+2NC AUX. CONTACTOR 230V AC	4A	2
12	POWER TFRMINAL 3 WAY	150A	1
F.	CHLORINATOR STARTER-1 NO. COMPRISING OF :		
1	3P MCB	16A	1
2	3P POWER CONTACTOR 230V AC COIL	9A	1
3	1NC CONTACT BLOCK FOR ABOVE CONTACTOR		1
4	THERMAL OVERLOAD RELAY	1-1.4A	1
5	MOUNTING KIT FOR ABOVE OVERLOAD RELAY		1
6	INDICATION LAMPS LED TYPE (AMBER)	230V AC	1
7	ILLUMINATED PUSH BUTTON (GREEN)	10A	1
8	ILLUMINATED PUSH BUTTON (RED]	10A	1
9	2NO+2NC AUX. CONTACTOR 230V AC	4A	1
10	ON DELAY TIMER	230V AC	1
11	WATER LEVEL CONTROLLER	230V AC	1
12	POWER TERMINAL 3 WAY	150A	1
G.	32A MCCB FDR. FOR IEP/MISC. PURPOSE - 1 NO. COMPRISING OF:		
1	TP MCCB TMD RELEASE WITH O/C, S/C	32A/25KA	1
	ROM FOR ABOVE MCCB		1
2	POWER TERMINAL 3WAY	150A	2

Qty.	Description	RATING	Quantity (Nos. /Set)
H.	32A MCCB FOR IN HOUSE LIGHT-1 NO. COMPRISING OF:		
1	TP MCCB TMD RELEASE WITH O/C, S/C	32A/25KA	1
	ROM FOR ABOVE MCCB		1
2	POWER TERMINAL 3WAY	150A	2
I.	PLC FEEDER -1 NO. COMPRISING OF :		
1	PLC DI/DO 8/4	24V DC	1
2	4 CHANNEL RELAY BOARD	24V DC	1
3	SMPS	2.5A	1
4	UPS	600VA	1
5	PUSH BUTTON (YELLOW)	10A	1
6	CONTROL TERMINAL	2.5SQ. MM.	15

N.B. Test Certificate (Routine and Type) should be submitted at the time of Delivery.

Make:-As per Vendor list.

Voltage Stabilizers (Oil Cooled)**for output voltage of 415V \pm 1%**

Sl. No.	Capacity	Input Voltage Range	Approved Rate
1	10 KVA	300-500V	88635.00
		250-500V	114942.00
		225-500V	120844.00
		200-500V	131602.00
2	15 KVA	300-500V	102726.00
		250-500V	140239.00
		225-500V	146215.00
		200-500V	161113.00
3	20 KVA	300-500V	146235.00
		250-500V	161113.00
		225-500V	183508.00
		200-500V	190516.00
4	25 KVA	300-500V	167965.00
		250-500V	193952.00
		225-500V	207381.00
		200-500V	222289.00
5	30 KVA	300-500V	184898.00
		250-500V	214091.00
		225-500V	243182.00
		200-500V	280479.00

Voltage Stabilizers (Air Cooled)**for output voltage of 415V \pm 1%**

Sl. No.	Capacity	Voltage Range (Input)	Approved Rate
1	10 KVA	300-500V	108575.00
		250-500V	117947.00
		225-500V	125386.00
		200-500V	134293.00
2	15 KVA	300-500V	121911.00
		250-500V	132781.00
		225-500V	147899.00
		200-500V	156708.00
3	20 KVA	300-500V	138307.00
		250-500V	158147.00
		225-500V	170103.00
		200-500V	183513.00
4	25 KVA	300-500V	162875.00
		250-500V	184995.00
		225-500V	198474.00
		200-500V	216318.00
5	30 KVA	300-500V	197490.00
		250-500V	214091.00
		225-500V	226772.00
		200-500V	258103.00

Model Estimate

For

Supply, delivery & installation of 15 KVA, Servo Motor operated Copper wound line voltage stabilizer.

Sl. No.	Description of Items	Qty.	Rate	Unit	Amount
1)	Supply and delivery at site of 15KVA, 3phase, oil cooled type Servo Motor operated copper wound line voltage corrector conforming to IS-9815 (Pt.-1)-1994 suitable for un-balanced input voltage with following specification including first filling oil as per IS-335 where applicable.(Make : Approve make of P.H.E. Dte.)				
a)	Input Voltage:- 3 phase, Main supply may or may not be balanced with respect to Phase to Phase-250V-500V Phase to Neutral-144V-290V.				
b)	Output voltage:-3 phase balanced output voltage. Phase to Phase- 400Vor 415V \pm 1%, Phase to Neutral-230V-240V \pm 1% (Provision should be made to adjust the Variation of output voltage per phase by a variable pot oil within \pm 5% of output).				
c)	Line regulation:- Out put voltage should remain well with \pm 1% of set voltage (From Minimum to Maximum i.e. either 400V. or 415V. supply variation).				
d)	Load regulation : Output voltage should remain neutral well within \pm 1% of set voltage be (From no load to full load) i.e. either 400V. or 415V.				
e)	Correction speed:- Better than 35 Volt / Second.				
f)	Efficiency:- Better than 95% on full load.				
g)	Cut off limit (minimum &maximum) by limit switch with Audio & Visual.				
h)	Metering Indication:- By Selector switch provision should be made available to measure input mains supply and output voltage other stabilizer for load current measurement an Ammeter with selector switch should be available.				
i)	Lamp Indication :- For Input & Output should be provided. (3 lamps per side).				
j)	MCB Protection: For Input side.				
k)	Load protection : HRC Fuse on each output phase should be available				
l)	Output over shoot:- Beyond 210V to . 255V /phase in case of " MANUAL MODE" & voltage protection :AUTO MODE" operation.				
m)	VISUAL Indication for under voltage & over voltage of output.				
n)	Manual Mode:- Up & Down correction with O / P voltage over shoot protection. Beyond 210 V-255 V. per phase.				

o)	Nature of cooling:- Oil cooled system.				
P)	Electric current over load protection .				
q)	Circuit for delay output .				
r)	Input high voltage cut-off above 500 V.				
s)	Mode of Operation:- AUTO/MANUAL with a provision to restore the normal working of the unit "STANDBY OPERATION" should be available in case of any Electronic failure in auto mode.				
t)	Auto Mode:- Normal * Standby.(Manufacturing test certificate should be Provided at the time of delivery).	1 set		/set	
2)	Supply and delivery of following materialsa) 100 Amp. 4 pole on load change over switch (Make: Approve make of P.H.E. Dte.)	1 No.		Each	
	b) 100 Amp. Re-wireable type TPN main switch (Make: Approve make of P.H.E. Dte.)	1 No.		Each	
	c) 100 Amp. 4 way Copper busbar chamber box by 16 SWG sheet steel enclosure including porcelain Chair etc. with painting complete as per direction of the EIC. (Approved make)	1 No.		Each	
	d) 25 sqmm. 3 ½ core PVC insulated 1.1KV, Al., Ar. cable(Make: Approve make of P.H.E. Dte.)	20 Mts.		/mts.	
3)	Making brick built foundation with supplying of all required materials suitable for the above Voltage stabilizer by (4:1) cement mortar including holding down foundation bolts(If required) and plaster with neat cement finish as per direction of E.I.C.	1 Item		L.S.	
4)	Fitting, Fixing and connection of above supplied changeover switch, bus-bar and Main Switch as in item no 2(a) to (c) on the wall by supplying all necessary materials to complete the job.	1 Item		L.S.	
5)	Installation of the above voltage stabilizer of item no. 1 on the foundation including all connection complete as per direction of E.I.C.	1 Item		L.S.	
6)	Drawing and connection of cable on wall as in item no. 2(d) and all connection complete with all equipment as per requirement and as per direction.	20 Mts.		/mts.	
7)	Making joints of the cable by supplying compression type gland thimble, socket etc.as per requirement and as per direction of EIC.	10 Sets		/Set	
8)	Double earthing the whole installation complying with IE rule including supplying of all necessary earthing materials to complete the job as per direction of EIC.(inside P/H)	1 Item		L.S.	
Total Rs.					
Add:- GST@12%					
Total Rs.					
Add:- Cess@1%					
Total Rs.					
Add: Contingency @ 3%					
Grand Total Rs.					

Rates For Column Pipe**1) MS Seamless as per IS: 1161:-**

Nominal Bore (In m.m.)	Thickness (In m.m.)	Length Of Socket(In m.m.)	Rates	
			3.0 Mtr.	1.5 Mtr.
50	5.5	125	3061.00	1836.00
65	7.11	150	4505.00	2703.00
80	7.11	150	5198.00	3119.00
100	7.11	150	6699.00	4019.00
125	7.11	150	8316.00	4990.00
150	7.11	125	9818.00	5891.00

2) MS E.R.W. as per IS: 1239 (part I & II):-

Nominal Bore (In m.m.)	Thickness (In m.m.)	Length Of Socket(In m.m.)	Rates	
			3.0 Mtr.	1.5 Mtr.
50	4.2	75	2079.00	1247.00
65	4.85	100	2657.00	1594.00
80	4.85	100	3234.00	1940.00
100	5.4	100	4851.00	2911.00
125	5.4	125	5891.00	3534.00
150	5.4	125	6815.00	4089.00

Sluice Valve (Rising)

Cast iron double flanged Rising Spindle Sluice Valve generally confirming to IS 14846 having body door /dome/Bonnet and cover of cast Iron Gr FG 260, outside screen rising Spindle of IS 6603 Gr-12 cr-13, spindle nut & seat rings are Gunmetal as per IS:318 LTB 2. Flanges flat faced and drilled to IS:1538 Part IV & VI, Valves are suitable for maximum working pressure of 10/16 kg/sqcm (seat test) and body tested to 15/24 kg/sqcm 350 NB and above valves should be provided with enclosed gear box and antifriction device for ease of operation. All the valves should be tested by closed end method only.

Size (mm)	Rate for PN 1.0 ratings (Rs)	Rate for PN 1.6 ratings (Rs)
50	7906.00	8691.00
80	10412.00	11452.00
100	14928.00	16430.00
125	17227.00	19179.00
150	19537.00	21489.00
200	32034.00	35245.00
250	44000.00	48400.00
300	54857.00	60343.00
350	122355.00	134586.00
400	132149.00	145363.00
450	165725.00	182299.00
500	191112.00	210227.00
600	270853.00	297938.00

Sluice Valve (Non-Rising)

Cast iron double flanged Non- Rising Spindle Sluice Valve generally confirming to IS 14846 having body door /dome/Bonnet and cover of cast Iron Gr FG 260, Spindle of IS 6603, Gr-12 cr-13, spindle nut & seat rings are of Gunmetal as per IS:318 LTB 2. Flanges flat faced and drilled to IS:1538 Part IV & VI, Valves are suitable for maximum working pressure of 10/16 kg/sqcm (seat test) and body tested to 15/24 kg/sqcm 350 NB and above valves should be provided with enclosed gear box and antifriction device for ease of operation. All the valves should be tested by closed end method only.

Size (mm)	Rate for PN 1.0 ratings (Rs)	Rate for PN 1.6 ratings (Rs)
50	4453.00	4903.00
80	6566.00	7225.00
100	8772.00	9650.00
125	12168.00	13496.00
150	13323.00	14651.00
200	22182.00	24399.00
250	31526.00	34679.00
300	41516.00	45663.00
350	97257.00	109407.00
400	108530.00	122089.00
450	137451.00	154626.00
500	172413.00	193965.00
600	260204.00	292729.00

Single Door Non-Return Valve

Cast iron double flanged single door swing non-return valve generally conforming to IS:5312 Part I, having body, door, cover in graded cast iron to IS:210 Gr.FG200, body and door rings & bearing block of leaded tin bronze to IS:318 Gr.LTB 2 (350mm & above), hinge pin of st.st.AISI410, valve suitable for a maximum working pressure of 10/16 kg/cm² (Seat test) & body tested to 15/24 kg/Sqcm.

Size (mm)	Rate for PN 1.0 ratings (Rs)	Rate for PN 1.6 ratings (Rs)
50	3875.00	4268.00
80	5596.00	6150.00
100	7594.00	8356.00
125	13207.00	14640.00
150	14362.00	15795.00
200	24434.00	26883.00
250	34263.00	37693.00
300	49567.00	54522.00
350	82126.00	90338.00
400	95651.00	105226.00
450	119490.00	131445.00
500	156578.00	203748.00
600	241262.00	313634.00

Butterfly Valve (Wafer type three phase Motorised)

Cast Iron wafer type Butterfly Valve generally as per BS-5155, having body of cast iron as per IS:210 gr. FG-260, disc of SS Gr CF-8, Shaft of St. steel AISI-410, 'O' ring for shaft seal of Nitrile rubber, valves are suitable for PN 1.0 rating. Valves are operated by suitable Rotork K.range (three phase 415 V) multi turn electrical actuator without starter.

Size (mm)	Rate for PN 1.0 ratings (Rs)	Rate for PN 1.6 ratings (Rs)
80	83720.00	93021.00
100	84390.00	93766.00
150	88086.00	97872.00
200	91563.00	101736.00

Butterfly Valve (Flanged)

Cone sphere design , double flanged manually gear operated Cast Iron Butterfly Valve having body disc and end cover in graded cast Iron to IS 210 Gr. FG 200 . synthetic rubber face ring secured on disc by a SS retaining ring with stainless steel screws , the rubber ring seating on a corresponding SS seat in body, stub shaft of AISI 431 riding in teflon bearings , valves suitable for a working pressure of 10/16 kg/sq cm (seat test) and body tested to 15/24 kg/sqcm. Flanges drilled to IS 1538 Table 4 & 6.

Size (mm)	Rate for PN 1.0 ratings (Rs)	Rate for PN 1.6 ratings (Rs)
250	29599.00	31820.00
300	36209.00	38929.00
350	47155.00	50698.00
400	58333.00	64148.00
450	68073.00	74992.00
500	69052.00	75959.00
600	115494.00	124561.00

Dismantling Joint (MS)

MS dismantling joints with Rubber Compression Ring and adjustable follower flanged complete assembled unit with galvanized stud and nuts.

Size (mm)	Rate for PN 1.0 ratings (Rs)	Rate for PN 1.6 ratings (Rs)
150	9702.00	10626.00
200	12128.00	13398.00
250	14784.00	14957.00
300	19520.00	21137.00
350	25988.00	28760.00
400	33380.00	36498.00
450	35574.00	37422.00
500	39848.00	42562.00
600	48741.00	52899.00

Model Estimate

For

Supply, delivery installation, commissioning and trial run of submersible pumping machinery including auto cum manual control panel and other related accessories

Sl. No.	Item Description	Quantity	Rate	Units	Amount
1	Supply and delivery at site of the following submersible pumping machinery and electrical accessories:				
1.01	Submersible pumping machinery directly coupled with water proof suitable size motor having following specification and as per NIT specification: Pump Duty condition-667LPM Head- 57 Mtr Shaft-stainless steel Impeller- S.S/ GM Outlet Size: 80 mm. Motor submersible type 3 Ph , 50Hz, 415 Volt \pm 10% 2900 RPM Motor must be suitable for operation with star delta starter. Test certificate along with characteristic curve should be submitted at the time of delivery.	1 Set		/Set	
1.02	1.1 KV grade 6 sq.mm x 3 Core water proof flat submersible cable for above motor	70 Mtrs		/Mtr	
1.03	1.1 kv GRADE 35 sq.mm 3.5core XLPE insulated Al. Ar. armoured cable conforming to IS 7098 (Part-I) 1988, with upto date amendments	20 Mtrs		/Mtr	
2	Supply, delivery and storage at site of Wall mounted 2 mm. thick epoxy painted sheet steel enclosed front open fully automatic cum manual control motor control center for operation of the pump motor in star/delta mode ranging from 7.5 HP TO 15 HP. , actuator with RDOL starter, Chlorinator with DOL starter and timer operated outdoor and indoor lighting and also spares feeder as per approved drawing and NIT specification:	1 Set		/Set	
3	Supply and delivery of the following valves, pipes and gauges etc at site:				
3.01	3 mtr long 80mm dia UPVC standard type column pipe [cream color] with both side threaded and one end side socketed with registered KPMG.	7 Nos		Each	
3.02	1.5 mtr long 80mm dia UPVC standard type column pipe [cream color] with both side threaded and one end side socketed with registered KPMG.	2 Nos		Each	
3.03	80mm dia CI top & bottom adopter	1 Set		/Set	
3.04	Heavy type suitable dia MS suspension clamp along with nuts bolts and washer	2 Set		/Set	
3.05	Cast Iron wafer type 3 phase actuator operated wafer type butterfly valve of 80 mm. dia [PN-1.0] as per IS; 13095, IP-68	1 Set		/Set	
3.06	80mm dia CIDF sluice valve-1 no., Non Return Valve-1 no., CIDF 90° bend-1no., CI flanged tee-1no. blank flange-1no., CI/ MS flanged short piece 0.50 mtr.-1no, CI/ MS flanged pipe 1 mtr. 1 no. etc as per IS specification and certification for construction of delivery pipe line and wash out line.	1 Item		I.S.	

3.07	Heavy type 250mm dia split type tube well cover with 12 mm thick clamping arrangement including holes of column pipe, air pipe and cable entry with 2 sets heavy type suspension clump, nuts, bolts and washer as per departmental design	1 No		Each	
3.08	Depth gauge 100mm dia with steel air pipe of required length with all accessories for the above work including supply of good quality hand pump[This cost includes 15 mm. dia G.I. pipes and specials]	1 Set		/Set	
3.09	Pressure gauge [H.Guru/Febig] 150mm dia [0-7Kg/Sq.cm] brass cock and fitting complete[This cost includes 15 mm. dia G.I. pipes and specials]	1 Set		/Set	
3.10	g) 50 mm. dia. non metallic pipes (IS:14930) and specials for protection of submersible cable	3. 5 Mtr		/Mtr	
3.11	h) Anti snapping safety device for pump set by supplying suitable size MS clamps two sets and nylon rope of required length including supplying of nuts, bolts and all other materials.	1 Set		/Set	
3.12	Supply and delivery of 100 Amps male female kit Kat fuse unit	3 Sets		/Set	
4	Laying of 35 sq. mm. 3.5 core AL. ar. Cable in wall/ floor by supplying of all necessary materials as per IE Rules and as per direction.	20 Mtr		/Mtr	
5	Installation of above pump motor, panel, valves and specials as in sl. NO. 1, 2 & 3 including supply of cable gland, sockets etc including brick, sand, cement rod stc as required to complete the job as per direction and up to the entire satisfaction of the EIC.	1 Item		I.S.	
6	Making brick pillar 0.25 mtr x0.25 mtr. for supporting of valves and pipes with 12 mm thick plaster and net cement finish complete	1 Item		I.S.	
7	Making suitable size pump foundation with supplying of necessary cement, sand and stone chips including plastering and net cement finish complete	1 Item		I.S.	
8	Making double earthing arrangement in compliance with IE rules by G.I. pipe electrode of 50 mm. dia 3 mtr. Long 2 Nos for panel and pumping machinery 25 mm. x 6 mm. G.I. earth strips from earth pit to panel and all other accessories required to complete the work.	1 Item		I.S.	
9	Making internal electrification of pump house consisting of two bracket point, one tube light point, two bulk head point, one fan point and 1 NO. 74 watt LED fixture with arm bracket at outside and one three pin plug point including supply of all necessary materials to complete the work as per IE rules and as per direction [All the fittings and lamp should be LED type as per choice of EIC]	1 Item		I.S.	
10	Commissioning of the installation with full satisfaction of EIC and trial run as per departmental operation & guarding by engaging skilled staff for 3 months.	1 Item		I.S.	
Total Rs.					
Add GST @ 12 %					
Total Rs.					
Add Cess @ 1%					
Total Rs.					
Add Contingency @3 %					
Grand Total Rs.					

Rate for :- Supply & delivery of chlorine tablet and granules at store / at any sites of PHE. Dte.

Sl. No.	Item	Qty	Rate	Unit
1.	Supply and delivery at site of calcium hypochlorite granule minimum Cl content 60%-65% in air tight plastic jar (3 Kg Each) as per direction of E.I.C. (Make:- PHE approved)	/Kg	319/-	/Kg
2.	Supply delivery at site of calcium hypochlorite Ca(OCL) ₂ Chlorine tablet with minimum 60-65% chlorine content in air tight plastic jar (3 Kg Each) as per direction of E.I.C. (Make:- PHE approved) Test certificate, containing toxic element will be submitted at the time of delivery with showing chlorine percentage of the above materials for all above mentioned materials in 1 & 2.	/Kg	357/-	/Kg

N.B. Rates are inclusive of 18% G.S.T. for this page only.

Government of West Bengal
Office of the Chief Engineer, P.H.E. Directorate
N. S. Building (7th Floor), 1 K S Roy Road, Kolkata – 700001

Memo No. 14010/80/A/2013

Dated, Kolkata, the 09/09/2021

Schedule of Rates for preparation of DPR for augmentation of existing piped water supply schemes

Item No.	Description of Items	Rate (in Rs.)	Qty.
1	Preparation and Supply of Geo reference drawing (CAD-GIS) / Layout of Plan of the zone-wise Command area of Water distribution and transmission network (WD & TN) showing all requisite design (physical) features like different types of roads and it's crossing with railway line and water bodies, habitations, others landmark like educational institutions, market/ commercial/ industrial places, religious places, boundary of WDN Zone, mouza, block, district etc in ".dwg" format using requisite Licensed software like Auto CAD, Arc GIS etc in soft copy in pendrive and hard copy. This job includes e-stitching of mouza sheets, superimposing of combined mouza sheets as per Zonal Command area of the PWSS & clearly indicating Geo-referenced landmarks within the scheme command area in different layers, with different colours, showing each road network (Concrete, bituminous earthen, morrum etc.) & other PWSS related structures within the zonal command area. [Mode of measurement:- Each Distribution Zone wise]	31217.00	Each
2	Route Survey & all related field work for technical data and JJM compliant data collection and showing it on the Geo referenced Lay out of Plan (LOP) drawing of the command area and supplying it in a comprehensive report format for preparation of Augmentation DPR. This includes field verification and collection of all the technical data including GIS location with respect to the all components of existing PWSS infrastructures like WDN, OHR, Pump House etc. and related physical features like landmark details, House hold information alongwith verification of field level habitation records with IMIS. Collection of water source data with water quality data, checking the adequacy of the source for sustainability, etc. all complete. Checking the physical status of Distribution system and feasibility assessment of implementation, last mile connectivity through FHTC and necessary modification to achieve it. The item also includes visual assessment & data collection of existing OHR, pump house, boundary wall etc to asses structural and hydraulic condition of those structures by competent technical person for Augmentation purpose. (Soil test & OHR Health check up by performing different types of NDT Tests is not within the scope of this work) NB:- All the technical data wrt the infrastructure of existing PWSS scheme should be certified by a technical officer in the rank of AE and above in charge of the O&M works of the respective PWSS		
	a) Without level survey only Geo tagging & other all related works (Mode of measurement:- Per km)	Rs. 61264 + Rs. 1162/- per km	Per Km
	b) With Level survey along with geo-tagging of household information. (Level Survey to be done at the interval of 50 mtr.) - DGPS/ Drone (Mode of measurement:- Per km)	Rs. 61264 + Rs. 2650/- per km	Per Km
3	Preparation of piped network & design of pipe network, including preparation of colour drawing in layers With necessary incorporation of field data, all relevant information for PWSS all complete	39410.00	Each

Page - 1 of 2

[Signature]
Superintending Engineer
Planning Circle-I, PHE Dto.
Govt. of West Bengal
Convenor Schedule Committee

[Signature]
CHIEF ENGINEER
Planning & Water Quality Management
PHE Dto.
Govt. Of West Bengal
Chairman Schedule Committee

Government of West Bengal
Office of the Chief Engineer, P.H.E. Directorate
N. S. Building (7th Floor), 1 K S Roy Road, Kolkata – 700001

Item No.	Description of Items	Rate (in Rs.)	Qty.
4	Preparation & Submission of DPR booklet (Draft followed by Final in 05 (five) set alongwith soft copy in pendrive) of PWSS all complete in consultation with PHED containing necessary land details., all necessary documents for compliance of JJM, estimation of source, designing of rising main system, detail drawing and estimate of different components of PWSS as per prevailing SOR of PWD, PHED, including necessary modification in treatment units, if necessary.	65330.00	Each

Note:- List of deliverables are enclosed in annexure-I

Annexure – I


LIST OF DELIVERABLES BY THE AGENCY AT THE TIME OF SUBMISSION OF DPR

SOFTCOPY:-

1. CAD-GIS drawing (soft-Copy) in 32 GB Pen Drive – 1 copy
2. Complete distribution design (soft copy of water-gems file) – 1 copy
3. Complete Auto CAD Drawing of Distribution system (Soft Copy) in ".dwg" format – 1 copy
4. DPR containing all design & estimates in pdf format – 1 copy


HARDCOPY:-

1. Spiral binded Draft DPR booklet with plastic front & back Cover (200 GSM with colour print) along with provision of pockets to keep drawings within the booklet – 1 copy
2. Spiral binded Final DPR booklet with plastic front & back Cover (200 GSM with colour print) along with provision of pockets to keep drawings within the booklet – 5 copies
3. Complete colour Auto CAD Drawing of Distribution system (Hard Copy - 1 for Draft and 5 for Final DPR) in A0 size – 6 copies


Superintending Engineer
Planning Circle-I, PHE Dte.
Govt. of West Bengal

2 Convenor Schedule
Committee

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CHIEF ENGINEER
Planning & Water Quality Management
PHE Dte.
Govt. Of West Bengal

2 chairman Schedule
Committee



Government of West Bengal

Office of the Chief Engineer
Public Health Engineering Directorate
New Secretariat Buildings, 7th Floor
Kolkata - 700 001 {Phone & Fax-033-22488264}
e-mail: ce_pwqm@wbphed.gov.in

Memo. No: 5813-5839/80/A/2013

dated, Kolkata, the 02-07-2020

To
The Chief Engineer

_____ (All)

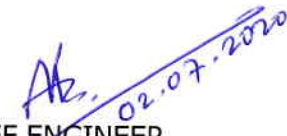
The Superintending Engineer

_____ (All) Circle

Sub: Publication of PHE Schedule of Rates

Corrigendum No.-I & Addendum No.-I along with general specifications of materials to be used for house connection of the schedule of rates of P.H.E. Dte. (Both Civil & Mechanical) has been given in the departmental web site (with effect from 02/07/2020).

This is for information and necessary action please.


CHIEF ENGINEER
Planning & Water Quality Management
PHE Dte.

Memo No:- 5813-5839/80/A/2013

Date:- 02-07-2020

CORRIGENDUM No.-1

TO

OHR ITEMS, W.B.P.H.E.D. SCHEDULE OF RATES (CIVIL WORKS), JULY 2019

Item No.	Description of item	Unit	Rate (Rs.)				
			ZONE - I	ZONE - II	ZONE - III	ZONE - IV	ZONE - V
57	Construction of different dia Sluice valve /Air valve /Mashout chamber in different sizes for village road where light traffic run and for main road where heavy traffic run as depts. approved drawing with 25cm thick brick work (1:6) over cement concrete (4:2:1) over a single B/F soling over 150mm. thick sand filling in foundation including earth work in excavation and disposal of excess earth from work site with RCC (1:1.5:3) cover slab 100mm / 150mm thick slab on top of chamber with 1% reinforcement in RCC cover slab with necessary opening for operation of valve all complete including cost of labour & materials as per Departmental Dwg. [Reinforcement type:- Other manufacturers not specified]						
e)	100mm.dia.	Each	₹ 12,649.00	₹ 11,804.00	₹ 12,055.00	₹ 11,990.00	₹ 11,835.00

Order 30/06/2020

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Monday 30/06/2020

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30-06-2020
CHIEF ENGINEER
Planning & Water Quality Management
PHE Dte.
Govt. Of West Bengal

Memo No.: 5813-5839/80/A/2013

Date: 02-07-2020

CORRIGENDUM No.-1		
TO		
MAINTENANCE RELATED WORKS OF WATER SUPPLY SCHEME, W.B.P.H.E.D. SCHEDULE OF RATES (CIVIL WORKS), JULY 2019		
Sl. No.	Description Of Item	Rate

PART - B

10	Withdrawing and relaying of DI/CI pipes / AC pipe after excavation of earth and with the help of chain pully derrick etc. by dismantling & joining by rubber gasket joint or lead joint or flange joint and stacking the withdrawn pipes and specials at site store /road flank godown etc. all complete in the excavated same trench & as per direction of EIC. The item includes the cost of earthwork in excavation & re-filling the trenches with the excavated earth in layers to ensure adequate compaction.		
	a) 80 mm dia to 125 mm dia	210.00	/Mtr.
	b) 150 mm dia to 200 mm dia	213.00	/Mtr.
	c) 250 mm dia to 350 mm dia	281.00	/Mtr.
11	Withdrawing of DI/CI pipes / AC pipe after excavation of earth and with the help of chain pully derrick etc. by dismantling of joining of rubber gasket joint or lead joint or flange joint and stacking the withdrawn pipes and specials at site store /road flank godown etc. all complete as per direction of EIC. The item includes the cost of earthwork in excavation & re-filling the trenches with the excavated earth in layers to ensure adequate compaction.		
	a) 80 mm to 125 mm AC/DI/CI Pipe	144.00	/Mtr.
	b) 150 mm dia to 200 mm AC/DI/CI Pipe	147.00	/Mtr.
	c) 250 mm dia to 350 mm dia DI/CI Pipe	191.00	/Mtr.

3228 30/06/2020

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 Govt. Of West Bengal

GENERAL SPECIFICATIONS OF MATERIALS TO BE USED FOR HOUSE CONNECTIONS

Ferrule

Gun Metal Confirming to IS 2692/1994(reaffirmed 2005) ISI Marked.

Non Return Valve (NRV) for connection of meter.

Gun Metal Horizontal Non Return Valve Confirming to IS 779 ISI Marked

PVC Pipe & Fittings for house connection:-

15 mm dia nominal bore PVC pipes for underground work 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).

HDPE Pipe for House Service Connection:

Pipes shall be made out of HDPE raw materials, the pipes shall be conforming to IS:4984-2016, 20mm dia OD, PE-100, PN 16. (Average 15 mtrs.)

COMPRESSION FITTINGS FOR HDPE PIPES

90 DEG COMPRESSION ELBOW WITH METAL INSERT (Male/Female)

90 DEG COMP ELBOW with COMPRESSION JOINT BOTH ENDS

FEMALE / MALE THREADED ADAPTER with METAL OFFTAKE

The compression fittings shall be tested as per below

Type test	Standard
Dimensions of the threads	ISO 7/1
Tightness of the joints	ISO 3458
Tightness of the joints when subjected to bending	ISO 3503
Resistance to pull-out	ISO 3501
Internal under-pressure test	ISO 3459
Long term pressure test	ISO/DIS 14236

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Govt. Of West Bengal

ADDENDUM No.-1

Section - B.6 : SMALL TUBE WELL USING WATER-JET METHOD, SCHEDULE OF RATES
(CIVIL WORKS), JULY 2019

Item No.	Description of Items	Unit	Rate (Rs.)
1	Labour for boring tube well of required diameter by water jet system through any type of soil strata including hire and labour charges for boring pipes, scaffolding, tools and plants as necessary and taking out them and lowering pipes, strainers, blank pipe etc. and fitting and fixing the same complete including other incidental works as per direction of Engineer-in-charge. The tube well should have a minimum 50mm gap in between the outside of the tube well pipe and the bore.		
	A) 100mm x 40mm dia TW for Mark-II hand Pump		
	i) boring for 100 mm diameter top enlargement	Mtr	₹ 424.00
	ii) boring for 40 mm diameter TW		
	a) upto 150m depth	Mtr	₹ 219.00
	b) above 150m depth	Mtr	₹ 285.00
	B) 100mm x 50mm dia TW for dual use/stand-alone community supply with solar pump set		
	i) boring for 100 mm diameter top enlargement	Mtr	₹ 424.00
	ii) boring for 50 mm diameter TW		
	a) upto 150m depth	Mtr	₹ 285.00
	b) above 150m depth	Mtr	₹ 351.00
2	Mobilisation and transportation of all machinery/boring set and its accessories and others materials, etc. to the site.	LS	₹ 2,000.00
3	Cost of Development of Tubewells	LS	₹ 1,600.00
4	Supply and packing of Coarse sand	Bags	₹ 25.00
5	Installation of India Mark-II hand pump assembly completed with cylinder, connecting rod, riser pipes etc. (departmentally supply) upto on an average depth of 25 metre as per direction of EIC including carriage of materials & all other incidental charges during installation of work. Rates are inclusive of complete labour and other charges, testing the yield of TW and submission of report complete.	LS	₹ 1,195.00
6	Construction of tube well platform (Size 1.20m x 1.20m) with 75mm. thick cement concrete (6:3:1) using 20mm down jhama chips over a layer of brick flat soling including necessary earth work and ramming, 125mm x 75mm (thick) band set in cement mortar (4:1) on all sides keeping outlet for drainage, 12mm thick cement plaster (4:1) with neat cement finishing to the exposed surface including the concrete surface below ground level in the periphery of the land including 1.2 m length surface drain with necessary shuttering & curing complete in all respect with all labours & materials .	Each	₹ 3,805.00

(CIVIL WORKS), JULY 2019

Item No.	Description of Items	Unit	Rate (Rs.)
7	Supply of PVC pipes & fittings Schedule 80 (medium duty) conforming to ASTM D - 1785 and threaded to match with GI Pipes as per IS : 1239 (Part - I). A) PVC pipes a) 40mm dia b) 50mm dia c) 100mm dia B) Reducing Socket (mm X mm) a) 100 x 40 b) 100 x 50	Mtr Mtr Mtr Each Each	₹ 207.00 ₹ 282.00 ₹ 874.00 ₹ 202.00 ₹ 171.00
8	Supplying high density polythene strainer of approved make with adapter conforming to I.S. specifications. a) 40mm dia b) 50mm dia	Mtr Mtr	₹ 376.00 ₹ 532.00
9	Supplying PVC strainer of approved make with adapter conforming to I.S.12818 specifications. a) 40mm dia b) 50mm dia	Mtr Mtr	₹ 293.00 ₹ 367.00
10	Supplying, fitting and fixing steel cutter piece upto 450 mm long with sockets. a) 40mm dia b) 50mm dia	Mtr Mtr	₹ 124.00 ₹ 189.00
11	Supply and delivery of MS TW Specials (Clamp, Cap, Bail plug, Lugs, Ring etc.)	LS	₹ 1,200.00
12	Supply and delivery of India Mark-II hand pump set	Set	₹ 13,624.00

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At.
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CHIEF ENGINEER
Planning & Water Quality Management
PHE Dte.
Govt. Of West Bengal

Memo No.:- 5813-5839/80/A/2013

Date:- 02-07-2020

ADDENDUM No.-1**TO****DIFFERENT CATEGORY PIPELINE WORKS, W.B.P.H.E.D. SCHEDULE OF RATES (CIVIL WORKS), JULY 2019**

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE - I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
2	Supplying, laying, fitting, fixing and jointing of UPVC pipes conforming to IS:4985-2000 with latest revision and amendments, if any, with necessary UPVC/CI specials, CIDF sluice valves, as per relevant I.S. specification including labour charges for earth work in excavation in any kind of soil including mixed soil with boulder, road sub-grade and its flanks but excluding moorum and laterite or sand stonehard a rock including cutting of brick payment without damaging the existing telephone/electrical cable line etc.(in case of damage of any type of cable line during excavation, necessary damaged charges as applicable by the respective authority will be borne by the agency in his own cost. Loading, unloading, carrying of pipes, specials, valves from the local store to work site and lowering laying of pipes specials valves carefully in trenches maintaining proper levels and alignment, jointing the pipe and specials including supplying of good quality/approved brand solvent cement (as per IS:14182-1994 including cost of all fabricated PVC fitting i.e. tees,bend, reducers, adapter etc.as per IS:101-1988 and making flange joints including supplying required quantity of nuts, bolts and rubber insertion (CIDF sluice valves will be supplied by the department free of cost) as required at site by adopting suitable method so as to facilitate the maintenance of pipe line locally as per conventional method including back filling the trenches with good earth obtained from excavation of trenches including consolidation with watering in layer not exceeding 150mm thk. with maintaining an average depth of cushion of 1.10mtr. from the top of pipe line including making interconnection with distribution pipes etc. all complete as per drawing direction and satisfaction of the E.I.C. N.B. i) Manufacturer's test certificate for UPVC pipe & specials to be produced before laying of pipe line.							

Item No.	Description of items	Unit	Rate (Rs.)					
			ZONE - I	ZONE - II	ZONE-III	ZONE-IV	ZONE-V	ZONE-VI
	ii) 3 rd party inspection of UPVC pipe & specials to be done by CEPET or (India) SGS/NTH Kolkata or as per direction of EIC as per approved vendor list. iii) No part payment at any stage on account of supply of materials shall be entertained. iv) Payment will be made on actual consumption of materials. v) UPVC pipes for the works to be supplied as per approved vendor list and as per direction & satisfaction of EIC. No pipes will be allowed beyond recommended vendor list. vi) Submission of drawing of pipe line with statement of materials consumed between node to node points against each R.A. & final bill. if so. vii) Any deviation from required clear cover of 1.10mtr. due to site adverse condition, prior permission is to be obtained from EIC and payment for such work will be made on prorata basis over the rate of entire item. viii) All pipe connection shall be completed in all respect and as per direction of EIC. Decision of EIC in this respect is final & binding. In case of any deviation or any left out pipe connections an amount of Rs.10,000.00 for each pipe connection will be realized/recovered from the bill.							
	(A) Pressure Rating : Class - III							
	(i) Laying of pipe line including cost of pipe only excluding cost of specials/fittings & valves.							
	m) 63 mm(OD)	Mtr.	₹ 143.00	₹ 143.00	₹ 143.00	₹ 143.00	₹ 143.00	₹ 143.00
	n) 50 mm(OD)	Mtr.	₹ 107.00	₹ 107.00	₹ 107.00	₹ 107.00	₹ 107.00	₹ 107.00
	(ii) Laying of pipe line including cost of pipe & fittings/specials but excluding cost of valves.							
	m) 63 mm(OD)	Mtr.	₹ 148.00	₹ 148.00	₹ 148.00	₹ 148.00	₹ 148.00	₹ 148.00
	n) 50mm dia. (OD)	Mtr.	₹ 110.00	₹ 110.00	₹ 110.00	₹ 110.00	₹ 110.00	₹ 110.00

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Study 30/6/2020
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CHIEF ENGINEER
 Planning & Water Quality Management
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 Govt. Of West Bengal

Memo No. 12429/ 80/A/2013

Date 17/12/2020

ADDENDUM NO. - 2

WBPHED SCHEDULE OF RATES (CIVIL WORKS), JULY, 2019

SOR OF PP-RC PIPES AND FLOW CONTROL VALVES

Item No.	Description of item	Unit	Rate (Rs.)
1	Providing and fixing 3 layer PP-R (Poly propylene Random copolymer) pipes confirming to IS:15801 UV stabilized & anti - microbial fusion welded, having thermal stability for hot & cold water supply, including all PP - R plain & brass threaded polypropylene random fittings, including trenching, refilling & testing of joints complete as per direction of Engineer-in-Charge.		
	A) External work (Class - SDR7.4 / PN16)		
	a) 20mm dia OD	mtr	117.00
	b) 25mm dia OD	mtr	151.00
	c) 32mm dia OD	mtr	205.00
	d) 40mm dia OD	mtr	295.00
	B) External work (Class - SDR11 / PN10)		
	a) 50mm dia OD	mtr	409.00
	b) 63mm dia OD	mtr	480.00
	c) 75mm dia OD	mtr	672.00
	d) 90mm dia OD	mtr	942.00
	e) 110mm dia OD	mtr	1349.00
	f) 160mm dia OD	mtr	3660.00
2	Supply of tamper proof Flow Control Valve (FCV) cum Non Return Valve (NRV), made with solid steel bar (hexagonal and round) body & SS ball for float option, materials grade of Stainless Steel finished with CNC machining of size not less than 71 mm with connection size: 15mm Dia BSP thread, design and working in float principle (as per CPHEEO manual) including cost of materials, manufacturing, Loading, unloading, transit insurance and transportation.		
	Manufactures must provide third party inspection report from PHE authorised Laboratory.		
	Materials grade of stainless steel made with SS316		
	a) 5 LPM discharge @ 0.5 bar pressure.	Each	157.00
	b) 10 LPM discharge @ 0.5 bar pressure.	Each	166.00

Convenor, Schedule Committee
& Superintending Engineer
Planning Circle-I, PHE Dte.

17/12/2020

Chairman, Schedule Committee
& Chief Engineer
Planning & WQM, PHE Dte.

17-12-2020

Memo No. 12428/80/A/2013

Date 17/12/2020

CORRIGENDUM NO. - 1

WBPHED SCHEDULE OF RATES (CIVIL WORKS), JULY, 2019

SOR OF FHTC (FUNCTIONAL HOUSEHOLD TAP CONNECTION)

Item No.	Description of item	Unit	Rate (Rs.)
1	For New FHTC		
1.1	<p>Providing FHTC from the existing CI/DI/uPVC/HDPE/GI/AC distribution pipeline by installing 10 mm NB Gun-metal Ferrule conforming to IS 2692:1989 with latest amendments on the said pipeline with supply, fitting & fixing of all other accessories like saddle piece of required size to fit the existing distribution pipeline, specials, nut & bolts, rubber sheet, washers etc and supply & laying of 15mm NB PVC (schedule 80)/20mm OD HDPE (PE100, PN16)/20mm OD PPR-C (Class - SDR7.4 / PN16) pipe (average 15m length) with all necessary specials 1.0 metre below the ground connecting the ferrule/flow control valve including cutting trenches in all sorts of soil and filling up trenches as per direction of the Engineer-in-charge and upto a point just inside the premises of the household or as directed by EIC. Supply and installation of a 15mm dia. alloy iron Bib Cock (tested to 21 Kg/cm²) above 1.0 Mtr. from ground, an alloy Stop Cock of 15 mm dia. with brass spindle (tested to 21 Kg/cm²) to be fitted in a position as directed by E.I.C. G.I pipe of TATA make (medium duty) of 2 metre length with all necessary specials to continue from the end of the PVC/HDPE/PPR-C pipe and upto 1.0 m above ground within the premises of household.</p> <p>Note :</p> <p>1. PVC pipe shall of Schedule 80 (medium duty) conforming to ASTM D-1785 and threaded to match with GI Pipes as per IS : 1239 (Part - I).</p> <p>2. PPR-C (Poly propylene Random copolymer) pipes shall be 3-layer confirming to IS:15801 UV stabilized & anti - microbial fusion welded, having thermal stability for hot & cold water supply, including all PP - R plain & brass threaded polypropylene random fittings.</p> <p>3. Rate is exclusive of supply and delivery of 10mm NB gun-metal Ferrule/flow control valve.</p> <p>4. Payment of supply & laying of 15mm NB PVC (schedule 80)/20mm OD HDPE (PE100, PN16)/20mm OD PPR-C (Class - SDR7.4 / PN16) pipe with all necessary specials 1.0 metre below the ground will be made on actual measurement basis. The rate of this item is Rs. 117/- per metre.</p>	Each	3044.00

Convenor, Schedule Committee
& Superintending Engineer
Planning Circle-I, PHE Dte.

Chairman, Schedule Committee
& Chief Engineer
Planning & WQM, PHE Dte.