OFFICE OF THE PANCHAYAT SAMITI, SADAR, BALASORE

E-mail- ori-bbalasore@gramsat.nic.in Ph-06782-262147

No- 995 Date- 14.03.2021

DETAIL TENDER CALL NOTICE NO. 01/2020-21

1. The Block Development Officer, Sadar, Balasore on behalf of Governer of Odisha invites sealed **percentage rate** bids for the following work as detailed in table below **in double cover system** from the intending **"B Class & A Class"** registered Civil Contractors of PWD/MI/Irrigation/RW of the State Govt. and Contractor of equivalent Grade/Class registered with other State Govt./CPWD/ Railways or other licensing Authority for execution of civil works on production of definite proof from the appropriate authority. The adopted format for percentage rate is same as that of the form adopted for item rate tenders but the word **"Item Rate"** shall be replaced by **"Percentage Rate"** and the contract will be named asP-1.

2. The bidders may submit bids for the following work.

Sl. No.	Name of work	Approx. estimated cost put to tender (In Lakhs)	Place of sale of tender paper	Class of contracto r eligible	Bid security/ EMD (In Rupees)	Cost of bid documents (Non-refundable)	Period of completi on in months
1	2	3	4	5	6	7	8
1.	**Construction Of Double Storyed Office Building Of District Panchayat Resource Centre Under RGPSA For Balasore District At Rajabagicha By Sadar Block, Balasore**	Rs.1,18,89,015/-	Office of the Panchayat Samiti, Sadar, Balasorer	"B" &"A"	**Rs.**118900/-	**Rs.**10,000/-	**9(NINE)** Calender months

3. Bid documents consisting of Plans, specifications, the schedule of quantities and the set of terms and conditions of contract and other necessary documents can be seen and purchased from the office of the under signed on payment of cash/D.D. as mentioned in column 7 in favour of B.D.O., Sadar, Balasore during office hours on all working days except Sunday and public holidays till last date & hour of sale of tender papers. Interested bidders may obtain further information at the same address.

4. Last date for sale of the Bid documents is **06.04.2021 up to 5:00P.M.**

5. Last date of receipt of Bid documents is **:07.04.2021 up to 5.00 P.M.** which must be delivered through Registered Post/Speed Post only over which the detailed Tender Notice No. & Date is written. The authority will not be held responsible for any type of Postal delay in delivering of the bid documents or non receipt of the same.

6. Bids documents will be opened on **Dt.08.04.2021 at 11:00 A.M.** in the Office of the undersigned in presence of the tender committee of Panchayat Samiti, , Sadar, Balasore and the bidders or their authorised representatives. If any of the date of sale, receipt or opening will be declared as Government Holidays, then the next working day shall be considered for sale of tender paper, receipt and opening respectively at the same time and venue.

7. Engineer Contractor desirous for availing the facility of exemption of E.M.D. shall submit an affidavit to the effect that he/she has not availed this facilities for more than two works during the current financial year. The name of the work and authority to whom he has submitted the tender shall be specified in the affidavit. If the same not enclosed with the tender it shall be treated as normal and no claim for E.M.D. exemption shall be entertained.

8. The Scheduled Caste and Scheduled Tribe Tenderers will be given concession in finalisation of their tender as per the norms admissible.

9. No relation certificate in shape of affidavit in original shall be produced with the tender paper without which the tender will be liable for rejection.

10. The tenderer while submitting tender shall furnish an affidavit along with the tender about the authenticity of the tender documents including E.M.D. The conditional tender will not be accepted on any circumstances by the authority.

11. Any amendment to code provisions by the Government during the period from sale of Tender till acceptance by the competent authority shall be binding upon the Tender.

12. The Authority reserves the right to increase / reduce the scope of work, accept/reject any or all the Tenders without assigning any reason thereof.

14/03/2021

Block Development Officer,
Sadar, Balasore

BLOCK DEVELOPMENT OFFICER
SADAR BLOCK, BALASORE

Memo No. 996 /Dev/ Dt. 14.03.2021

Copy to the D.I.P.R.O, Balasore for information and necessary action for information and necessary action, He is requested to get the tender notice published consuming size 8 cm x 8 cm space paper on or before 16.03.2021 in one Leading English daily and

COVER-I

TENDER CALL NOTICE NO- (01) of 2020-21.

GOVERNMENT OF ODISHA

PANCHAYATIRAJ AND DRINKING WATER DEPARTMENT

INVITITATION FOR BIDS

FOR THE WORK: - " CONSTRUCTION OF DOUBLE STORYED OFFICE BUILDING OF DISTRICT PANCHAYAT RESOURCE CENTRE UNDER RGPSA FOR BALASORE DISTRICT AT RAJABAGICHA BY SADAR BLOCK, BALASORE "

ESTIMATED COST PUT TO TENDER : -Rs.1,18,89,015/-

(RUPEES ONE CRORE EIGHTEEN LAKH EIGHTY NINE THOUSAND AND FIFTEEN ONLY)

OFFICE OF THE PANCHAYAT SAMITI, SADAR, BALASORE

COVER-I

TECHNICAL BID DOCUMENTS

OFFICE OF THE PANCHAYAT SAMITI, SADAR, BALASORE

E-mail- ori-bbalasore@gramsat.nic.in Ph-06782-262147

No- 995 **Date- 14.03.2021**

DETAIL TENDER CALL NOTICE NO. 01/2020-21

1. The Block Development Officer, Sadar, Balasore on behalf of Governer of Odisha invites sealed **percentage rate** bids for the following work as detailed in table below **in double cover system** from the intending **"B Class & A Class"** registered Civil Contractors of PWD/MI/Irrigation/RW of the State Govt. and Contractor of equivalent Grade/Class registered with other State Govt./CPWD/ Railways or other licensing Authority for execution of civil works on production of definite proof from the appropriate authority. The adopted format for percentage rate is same as that of the form adopted for item rate tenders but the word **"Item Rate"** shall be replaced by **"Percentage Rate"** and the contract will be named as P-1.

2. The bidders may submit bids for the following work.

Sl. No.	Name of work	Approx. estimated cost put to tender (In Lakhs)	Place of sale of tender paper	Class of contractor eligible	Bid security/ EMD (In Rupees)	Cost of bid documents (Non-refundable)	Period of completion in months
1	2	3	4	5	6	7	8
1.	**Construction Of Double Storyed Office Building Of District Panchayat Resource Centre Under RGPSA For Balasore District At Rajabagicha By Sadar Block, Balasore**	Rs.1,18,89,015/-	Office of the Panchayat Samiti, Sadar, Balasorer	"B" &"A"	Rs.118900/-	Rs.10,000/-	**9(NINE)** Calender months

3. Bid documents consisting of Plans, specifications, the schedule of quantities and the set of terms and conditions of contract and other necessary documents can be seen and purchased from the office of the under signed on payment of cash/D.D. as mentioned in column 7 in favour of B.D.O., Sadar, Balasore during office hours on all working days except Sunday and public holidays till last date & hour of sale of tender papers. Interested bidders may obtain further information at the same address.
4. Last date for sale of the Bid documents is **06.04.2021 up to 5:00P.M.**
5. Last date of receipt of Bid documents is **:07.04.2021 up to 5.00 P.M**. which must be delivered through Registered Post/Speed Post only over which the detailed Tender Notice No. & Date is written. The authority will not be held responsible for any type of Postal delay in delivering of the bid documents or non receipt of the same.
6. Bids documents will be opened on **Dt.08.04.2021 at 11:00 A.M.** in the Office of the undersigned in presence of the tender committee of Panchayat Samiti, , Sadar, Balasore and the bidders or their authorised representatives. If any of the date of sale, receipt or opening will be declared as Government Holidays, then the next working day shall be considered for sale of tender paper, receipt and opening respectively at the same time and venue.
7. Engineer Contractor desirous for availing the facility of exemption of E.M.D. shall submit an affidavit to the effect that he/she has not availed this facilities for more than two works during the current financial year. The name of the work and authority to whom he has submitted the tender shall be specified in the affidavit. If the same not enclosed with the tender it shall be treated as normal and no claim for E.M.D. exemption shall be entertained.
8. The Scheduled Caste and Scheduled Tribe Tenderers will be given concession in finalisation of their tender as per the norms admissible.
9. No relation certificate in shape of affidavit in original shall be produced with the tender paper without which the tender will be liable for rejection.
10. The tenderer while submitting tender shall furnish an affidavit along with the tender about the authenticity of the tender documents including E.M.D. The conditional tender will not be accepted on any circumstances by the authority.
11. Any amendment to code provisions by the Government during the period from sale of Tender till acceptance by the competent authority shall be binding upon the Tender.
12. The Authority reserves the right to increase / reduce the scope of work, accept/reject any or all the Tenders without assigning any reason thereof.

Sd/-
Block Development Officer, Sadar, Balasore

Memo No. 996 / Dev/ Dt. 14.03.2021

Copy to the D.I.P.R.O, Balasore for information and necessary action for information and necessary action. He is requested to get the tender notice published consuming size 8 cm x 8 cm space paper on or before 16.03.2021 in one Leading English daily and

two Local Odia Leading news paper for wide publication in one issue only. The complementary copies of the same may please be sent to this office for reference and record.

Sd/-
Block Development Officer,
SADAR BLOCK, BALASORE

Memo No. 997 / Dev/ Dt. 14.03.2021

Copy along with soft copy of the notice submitted to the D.I.O., NIC, Balasore with a request to display the Tender call Notice and Tender document in the Web-site till 05.00 P.M hours of 06.04.2021.

Sd/-
Block Development Officer,
SADAR BLOCK, BALASORE

Memo No. 998 / Dev/ Dt. 14.03.2021

Copy submitted to the Collector & District Magistrate ,Balasore / Superintendent of Police, Balasore/ President, Zilla Parishad, Balasore and Project Director, DRDA, Balasore for information and necessary action.

Sd/-
Block Development Officer,
SADAR BLOCK, BALASORE

Memo No. 999 / Dev/ Dt. *14.03.2021*

Copy to the Executive Engineer R&B Division, Balasore/ R.W.S.S. Division, Balasore/P.W.D, Balasore/Rural Works(Electrical), Balasore/ R.W. Division, Balasore/ P.H. Division, Balasore/ Balasore Irrigation Division / Minor Irrigation Division, Balasore/ L.I. Division, Balasore for information and wide circulation.

Sd/-
Block Development Officer,
SADAR BLOCK, BALASORE

Memo No 1000 Dev/ Dt. 14.03.2021

Copy to the Block Development Officers of Balasore District/Notice Board of Block Office for information and wide circulation.

Sd/-
Block Development Officer,
SADAR BLOCK, BALASORE

CHECK LIST TO BE FILLED UP BY THE BIDDER

1	Contractor's registration certificate (attested photo copy)	: Furnished/Not furnished Valid Up to……..		
2	Pancard (attested photo copy)	: Furnished/Not furnished PAN:		
3	GST Clearance Certificate (attested photocopy)	: Furnished/Not Furnished TIN: Validity up to-----------		
4	EMD 1% of the estimated cost.	Furnished/Not furnished. Rs----------in shape of N.S.C/K.V.P/P.O.T.D/P.O.S.P duly pledged or T.D.R of a nationlised bank duly pledged in favour of **Block Development Officer, Panchayat Samiti, Sadar, Balasorer**		
5	Tender Paper Cost(In Shape of D.D/cash)	Furnished/Not furnished Rs ..... in shape of(cash/DD) (DD pledged favour of Block Development Officer , Panchayat Samiti**, Sadar,Balasore**)		
6	Financial turnover of an amount not less than the amount put to tender during any three financial year of the last proceeding five financial years duly certified by chartered accountant(the year means, the financial year).	:	Year	Amount at per (Rs. in lakhs)
7	Work experience certificate of similar nature of works worth at least 40% of value of work put to tender during any three financial year of last 5 years issued not below the rank of Executive Engineer and information in the prescribed format. Refer table in Annexure-II		Year 1 2 3 4 5	Amount (Rs. in lakhs)
8.	Affidavit regarding correctness of the information	: Furnished/Not furnished		
9.	No Relation Certificate	: Furnished/Not furnished		

10. Details of machinery possessed either owned/on leased/on hire.

Sl. No	Type of Equipments	No. of machines required	Marks
1	Concrete mixer	4 Nos	20
2	Concrete Vibrator : Plate type	2No	10
3	Concrete Vibrator : Needle type	2 No	10
4	Water Tanker	2 No	10
5	Water pump	2 No	05
6	Truck/ Tipper	2No	10
7	Tractor	2No	10
8	Generator 10 HP	01 Nos	05
9.	Rigid Centering and Shuttering Plates (Steel/Iron)	4000 Sqft	20
		Total	100

11.	Certificate showing details of work in hand and information as per prescribed format. Refer Table Annexure-III	: Furnished/Not furnished. Value of existing commitments and on going works which are likely to continue beyond March, 2019.	Rs----------	
12	Copies of reports on the financial standing of the Bidders such as balance sheet, profit & loss statement & auditor's reports for the last 5 years(the year means, the financial year).	Furnished/Not furnished	Year	Amount (Rs. in lakhs)
13	Information regarding any litigation or arbitration during the last 5 years in which the bidder is involved as per prescribed format. Refer Annexure-V	Furnished/Not furnished.		

Note:

1. The Bidders are advised to verify that all required informations/Documents as per the DTCN are furnished. The check list is mean to verify some of such documents by the scrutinizing officers.
2. The Bidders are to fill in all the points of the check list and duly signed and to submit along with the Technical Bid.
3. Strike out from the Check List which are not applicable.

Signature of Tenderer

CONTRACT DATA

A. GENERAL INFORMATIONS

Sl	Particulars	Details
1	Bid Identification No.	
2	Name of the Work	**Construction Of Double Storyed Office Building Of District Panchayat Resource Centre Under RGPSA For Balasore District At Rajabagicha By Sadar Block, Balasore**
3	Officer inviting tender	Block Development Officer, Sadar, Balasore
4	Accepting Authority	Block Development Officer, Sadar, Balasore
5	Estimated Cost (amount put to tender)	1,18,89,015/-)

B. BID INFORMATION

6	Intended completion period/Time period assigned for Completion		**09(Nine)** Calendar Months
7	Last Date & time of submission of Technical Bid and Financial Bid		**Time: 5.00P.M.**
			Date: 07.04.2021
8	Cost of Bid Document (		
	i	Cash./DD	Rs.10,000/-
	ii		
9	Bid Security		
	i	Amount	Rs.118900/-
	ii	Pledged in favour of	Block Development Officer, Panchayat Samiti, Sadar, Balasore
	iii	payable at	Balasore
	iv	Type of instrument	As specified in the Bid document
10	Bid validity period		90 days
11	Currency of Contract		Indian Rupees
12	Language of Contract		English

Block Development Officer
Sadar, Balasore

OFFICE OF THE PANCHAYAT SAMITI, SADAR, BALASORE

DIST:-BALASORE,PIN-756001

E-mail- ori-bbalasore@nic.in

INVITATIONS FOR BIDS (IFB)

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(As the work is time bound and there is no chance of spill over of funds to next year, ordinarily no time extension shall be granted other than exceptional condition like natural calamities (Flood, cyclone etc) and of serious nature. The bidders expecting time extension on ordinary grounds need not apply.)

Sealed **percentage rate** bids are invited **in double cover system** from **"B" & "A' Class and above** contractors registered with the State Governments and contractors of equivalent Grade / class registered with Central Government / MES / Railways having registration for Civil works on production of definite proof from the appropriate authority in prescribed form to be eventually drawn in P.W.D. **FORM P-1** for the work **"Construction Of Double Storyed Office Building Of District Panchayat Resource Centre Under RGPSA For Balasore District At Rajabagicha By Sadar Block, Balasore**". Composite Works(Civil +EI+PH) with an approximate cost of Rs 11889015/- only.The adopted format for percentage rate is same as that of the form adopted for **item rate** tenders but the word **"Item rate"** shall be replaced by **"Percentage rate"** and the contract will be named as **P-1.**
This tender is on turnkey basis and only tenderers with sound financial background capable of investing required amount for advance procurement of all materials required for the work need apply. Department shall not supply any material at all for the work.

a. This detailed Tender Call Notice along with the clauses mentioned herein shall form a part of the contract / agreement.

PURCHASE OF BID DOCUMENTS

1. Non-transferable bid documents will be available in the office of Office of the Panchayat Samiti, Sadar, Balasore **from 16.03.2021 to 06.04.2021 in Office working hours.**

2. The Bid documents as described at Clause-2 above shall be purchased from the office of Panchayat Samiti, Sadar, Balasore by paying the tender paper cost in shape of DD drawn on any natiolized bank in favour of Block Development Officer,Sadar, Balasore of Rs.10,000/-. It can also be downloaded from the website https://baleswar.nic.in and the cost of bid document shall be furnished in shape of DD drawn on any natiolized bank in favour of Block Development Officer, Sadar, Balasore of Rs.10,000/-payble at Balasorre.

3. The tender is to be submitted in double cover supported with EMD ,signed DTCN, attested photo copies of registration certificate, PAN card, valid GST clearance certificate, certificates in DTCN duly filled in and any other documents required as per the relevant clauses of this DTCN along with the price bid for the Composite Works(Civil +EI+PH)duly quoting the Percentage Rate at specified position. The Tenderer shall write the name of the tenderer/firm alongwith his/her corresponding address with cell/telephone no on the cover-I and II and also on top of the each cover, the name of the work should be mentioned for which he/she is submitting the tender.Both the cover-I & II should be inserted one cover for each work separately and same writing must be mentioned as in cover-I & II before submission of their tender/offer to Panchayat Samiti, Sadar, Balasore.

OPENING OF BID DOCUMENTS

4. The tender i.e. the cover –I (Technical Bid) will be opened by the Tender Committee in the office of the Block Development Officer, Sadar, Balasore at **11.00AM** on dt. **08.04.2021** in the presence of the tenderers or their duly authorised representative who wish to attend .The financial bid of the qualified bidders may be opened on the same day or in a separate day with

due intimation to the qualified bidders as per decision of the Tender Committee. If any of the date of sale, receipt or opening will be declared as Government Holidays, then the next working day shall be considered for sale of tender paper, receipt and opening respectively at the same time and venue.

5. The financial instruments like Bid cost and Bid security will be retained in the office of the tender inviting authority and the E.M.D. of unsuccessful bidders will be refunded from the office of the Block Development Officer, Sadar, Balasore on receipt of request from the concerned Bidder only after drawal of the agreement for the tendered work.

6. The Bidders are required to produce original documents like (i) Contractor Registration Certificate (ii) Valid GST Clearance Certificate, (iii) PAN Card, (iv) evidence of owner ship proof of machineries and plants, Joint Venture agreement and required affidavit in case of hire/lease,(v) affidavit and any other documents as per relevant clauses of D.T.C.N. at the time of opening of the technical Bid for verification in the office of the tender inviting authority.

7. Throughout these documents, the term 'Bid' and 'Tender' and their derivatives (bidder / tenderer, bid / tender, bidding / tendering, etc.) are synonymous.

8. Before the dateline for submission of bids, the tender inviting authority may modify the bidding documents by issuing corrigendum.
9. To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the tender inviting authority shall extend, as necessary, the dateline for submission of bids.

10. The Bid comprising of documents **of the tenderer** must **reached** the office of the under signed through Registered Post/Speed Post only **by 5.00 P.M. on 07.04.2021** over which the detailed Tender Notice No. & Date is written. The authority will not be held responsible for any type of Postal delay in delivering of the bid documents or non receipt of the same.

11. If one tenderer submits more than one bid , then all his / her bids for that work will be rejected.

EARNEST MONEY DEPOSIT / BID SECURITY-

12. The Technical bid must be accompanied with financial instrument towards bid security @1% (one percent) of the estimated cost put to tender and rounded to the nearest hundred rupees i.e. Rs 118900/- (Rupees One lakh eighteen Thousand nine hundred Only). This bid security should be in shape of N.S.C./K.V.P./Postal Savings Bank Accounts/Post Office Term Deposit Account/TDR of any Nationalised Bank duly pledged in favour of the **Block Development Officer, Panchayat Samiti, Sadar, Balasore, payble at Balasore,,** as per the terms and condition laid down in O.G.F.R. and **in no other form.** The E.M.D. so deposited by the participating contractor / firm / company should exhibit evidence to the effect that the EMD amount belongs to the firm/company. Bidders desirous to hire machineries or equipments from out side the State are required to furnish 2% (two percent) of the amount put to tender, in the same shape as above and as per the above terms and conditions. **Tenders received without EMD as specified above shall be summarily rejected.** Request for transfer of EMD from any other work to the tendered work will not be entertained. However, the bidder claiming for exemption of EMD amount must submit application separately in Cover-I for such purpose along with the documentary proof for his such cause.

The term EMD, ISD and APS should not be confused with each other. These have their distinctness as regards to their meaning and necessity.

a) **EMD (Earnest Money Deposit)** amount is equal to (i) 1% of the value put to tender and is to be furnished by the tenderer in the Cover-I (Technical Bids) in the shape and manner as clearly depicted above.

Again EMD amount is equal to (ii) 2% of the value put to tender and is to be furnished by the tenderer in Cover in shape and manner depicted above only in the event of hiring machinery / equipments by the tenderer from outside the State. In other words in such instant case when the tenderer plans to engage machineries and equipments as asked in this DTCN, whether owned or hired but deployed outside the state then he / she is required to furnish additional 1% EMD.

b) **ISD (Initial Security Deposit)** value is 2% of the accepted tender amount i.e. "contract price" and is to be deposited by the contractor before drawal / signing of the agreement in the shape and manner as detailed of the DTCN. This amount at 2% of the contract price will naturally exclude the amount of 1% already deposited towards hiring of machineries / equipments from outside the State if any, at the time of furnishing bid documents in Cover-I. The ISD amount including the above stated 1% additional bid security shall stand forfeited in case the contractor fails to mobilise the machineries within 30 days from the date of execution of agreement.

c) **APS (Additional Performance Security)** which is distinct in its meaning is explained in terms of its amount and manner of deposit in favour of Block Development Officer before drawal of agreement only as detailed in **this DTCN.**

FACTORS TO BE CONSIDERED WHILE BIDDING

13. All the bidders must note that the earlier **F2 Agreement Form** has been rechristened by the name **P1 Agreement Form** and this new version of the agreement form will be used and referred for all purposes in case of percentage rate tender.

14. The work is to be completed in all respects within **09 (Nine)** calendar months as mentioned in the DTCN.

15. The Civil Contractor in order to take part in the turn-key tender like in the instant case should enter into a joint venture agreement with the eligible registered P.H. and Electrical Contractors who will be the associates in the joint venture and the agreement in original for the work after due registration under the appropriate legal authority/forum must be submitted along with other requisites in the Cover-I. **This joint venture document will form a part of the agreement. If the Civil Contractor possesses registration for P.H. and Electrical works under the same name and style, then this above concept of joint venture may not be applicable to him. Also, the tenderer having registration for civil works may not co-opt any associate in the joint venture for P.H. works. However, it is binding on his part to enter joint venture agreement for the E.I. component of the work. It may be specially noted in clear terms that the joint venture should be done with the other associates as stated above for the particular work as mentioned in this DTCN.** No generalized or common agreement document will be entertained which will mean works other than the composite work as in DTCN. Such generalized joint venture will render the bid for rejection. The civil contractor who has put the tender or his duly authorized representative only will be responsible to the Engineer-in-Charge for all contractual obligations for execution of work for Civil, P.H. and Electrical Items of work. He alone and not the EI associate in the joint venture will sign the agreement.

16. The tenderer should furnish along with their tender a list of works executed during the last five years duly certified by the concerned Engineer-in-charge(not below the rank of Executive Engineer/Equivalent) indicating the satisfactory completion for composite work(Civil+PH+EI) works as per the proforma enclosed in a separate sheet of **Annexure-II**

17. The Bidders are required to furnish evidence of its ownership of principal machineries / equipments mentioned in **Annexure-I** failing which the tender may be liable for rejection subject to final decision of the Tender Committee.

18. The bidder intending to hire / lease machineries & equipments is required to produce for verification the original documents in proof of ownership from the company / person providing such machineries. The original agreement or lease-deed between the tenderer and the agency intending to give him/her machineries on hire / lease should also be furnished clearly stating therein the duration of such agreement. The duration of the lease-deed should be on long-term

basis for a minimum period of **11 months** from the last date of receipt of bid documents or at least up to the completion period of the tendered work.

19. An applicant or any of its constituent partners whose contract for any work has been rescinded or who has abandoned any work in the last five years, prior to the date of inviting the present bid, shall be debarred from qualification. The tenderer is required to furnish an **affidavit** in original along with other documents under Cover at the time of submission of tender papers about the **Authentication of Tender Documents** including **E.M.D.** to this effect is to be furnished separately as per format in **Annexure-IV** of this DTCN. Non-furnishing of the information in **Annexure-V** and required affidavit in **Annexure-IV** of the DTCN, will render the bid for rejection**.**

20. The bidder / tenderer should fill in the columns in **Annexure-II & III** mentioned in this DTCN or may furnish the information called for therein in the above Schedule separately if space is not sufficient **.**

21. The bidder shall furnish a certificate along with the tender documents to the effect that he / she is not related to any officer in the rank of an Assistant Engineer & above in the state Panchayatiraj Department or Assistant **/** Under Secretary & above in the Panchayatiraj Department. If the declaration of the contractor awarded with the work subsequently proved to be false, the contract will be rescinded. The earnest money & the total security will be forfeited & he/she shall be liable to make good the loss or damages resulting for such cancellation. The proforma for **No Relationship Certificate** is exhibited vide **Annexure-VI**.

22. i) When an individual makes the application for the tender, the individual should sign above his full type written name and current address.

(ii) If the tender is put on behalf of any proprietary firm, it shall be signed by the proprietor above his full type written name and the full name of his firm with its current address.

(iii) If the tender is put by a firm in partnership, it shall be signed by all the partners of the firm above their full type written names and current address or alternatively, by a partner holding power of attorney for the firm, a certified copy of the power of attorney shall accompany the application. A certified copy of the partnership deed and current address of all partners of the firm shall also accompany the application in Cover-I.

(iv) If the application is made by a Private Limited Company or a Corporation, it shall be signed by the duly authorised person holding power of attorney for signing the application, in which case a certified copy of the power of attorney shall accompany the application. Such Limited company or corporation will be required to furnish satisfactory evidence of its existence along with the bid documents.

(v) If the rate quoted by the Bidder is less than 15% of the estimated amount put to tender, then such a bid shall be rejected and the tender shall be finalized basing on the merits of the rest Bids. But if more than one bid is quoted @14.99% (decimal upto two nos will be taken for all practical purpose) less than the estimated cost put to tender accepting authority will finalise, the tender through a transparent lottery system where all Bidders/their authorized representatives, the Tender Committee members will remain present as per office memorandum No-12366 dt.08.11.203 of Works Deptt.Govt.of Odisha.

23. No tenderer will be permitted to submit his tender in his own manuscript papers. All information should be written in English and strictly in accordance with the provision as mentioned in the Tender Schedule. The tender containing extraneous conditions by any bidder not covered in the Tender Call Notice are liable for rejection. Any change in the wording by the tenderer will not be accepted. The name and signature of the applicant or his authorised representative should appear at the bottom of each page of the DTCN and BOQ etc. comprising the Bid documents and any other documents / papers contained under Cover-I and Cover-II.

24. The signature of the tenderer on the documents as envisaged in the concluding line of Clause-22 above should in view of the authority-inviting tender, fairly tally with his specimen signature contained in the contractor's Registration Certificate Book. And, in case of authorised

representative / Power of Attorney holder, his signature in the legal document duly conferring on him the authority to act so, should in view of the above authority, tally with his signatures on all the above aforesaid documents. The authority inviting the tender reserves the right to reject the tender if he genuinely feels the difference in the two signatures of the tenderer / power of attorney holder as described above.

25. After evaluation of technical bids by the duly constituted Tender Committee, the responsive / qualified bidders will only be intimated for negotiation/acceptance of the tender.

26. To be **eligible for qualification**, applicants shall furnish the followings.

a. Required E.M.D as per the Clause No.-12.

b. Information regarding evidence of ownership of principal machineries equipments in as per **Annexure-I** in this DTCN.

c. Information regarding current litigation, debarring / expelling of the applicant or abandonment of work by the applicant in **Annexure-V** and affidavit to that effect including authentication of tender documents and E.M.D. in **Annexure-IV**

d. Annual turn over certificate from Chartered account for last five financial years forms with break up of civil works and total works each financial years.
e. Similar nature of works executed not less than 40% of the estimated cost put to tender during any three financial years of last preceding five years.
f. Valid registration certificate as on date of required class, up to date valid GST clearance certificate and PAN.

27. Even if qualifying criteria are met, the bidders can be disqualified for the following reasons, if enquired and convinced by the Department as to
(a) Making a false statement or declaration.
(b) Past record of poor performance.

(c) Past record of abandoning the work half way/ recession of contract.

(d) Past record of in-ordinate delay in completion of the work.

(e) Past history of litigation.

28. In case of any discrepancy in printing or omissions of statutory specifications / clauses or any other part of this approved documents as in this DTCN during process of submission of the Bid documents, then the decision of the authority inviting the Bid / Tender will be binding on the tenderer.

29. The authority reserves the right to reject any or all the tenders received without assigning any reasons thereof what-so-ever.

30. In this case of percentage rate tenders, only percentage at par / excess / less of the total value put to tender for the whole work shall be written by the tenderer in Cover showing the total value put to tender.

a) The tenderer must quote the percentage rate only.

b) The contractor will write percentage excess or less up to one decimal point only. If he / she write the percentage excess or less up to two or more decimal point, the first decimal point shall only be considered without rounding off.

31. While preparing the bills for this percentage rate tender work, each item of work will be evaluated at the estimated rate and the gross amount will be derived from there by adding each individual item value. Then the percentage excess or less as quoted by the contractor will be added or subtracted from that gross amount of the bill.

32. Tenders received within due date and time as in Clause-14.1 (ITB) will remain valid for a period of **90 (Ninety)** days from the last date of receipt of tenders. The validity of the tenders can be extended if agreed to by the tenderer.

33. Every tenderer is expected to inspect the site of the proposed work before quoting his percentage rate for the work. He should also inspect the quarries, approach roads to quarries and satisfy himself about the quality and availability of materials. In every case, the materials must comply with the relevant specifications. Complaints by the tenderers at a future date regarding wrong assessment as to the availability of materials at quarries will not be entertained.

34. i) Bid documents consisting of plans, specifications, the Schedule of Quantities and the set of terms and conditions of contract and other necessary documents can be seen in all the offices issuing the documents, during office hours everyday except on Sundays and Public Holidays till last date of sale and receipt of tender papers. Interested bidders may obtain further information at the same address.

(ii) The tenderer shall carefully study the tentative drawings and specifications applicable to the contract and all other documents, which will form a part of the agreement before tendering for the work. Complaint at a future date that plans and specifications have not been seen by the tenderer can not be entertained.

(iii) These tentative drawings are subject to revision or modification during the execution as per actual necessity and test conducted. But, the tendered rate for the total work quoted by the tenderer will hold good in case of such modification of drawings during the time of execution and shall in no way invalidate the contract and no extra monetary compensation will be entertained. The work shall however, be executed as per final approved drawing to be issued by the Engineer-in-Charge as and when required.

35. Tenderers are required to go through each clause of P.W.D. Form P1 carefully in addition to the clauses mentioned herein before tendering.

36. Only the Schedule of Quantities showing the items of work, its quantity, its rate as per Estimate and the total value of the items i.e. work are contained in Cover. It shall definitely be understood that the Government does not accept any responsibility for the correctness or completeness of this schedule and that this schedule is liable for alteration or omissions, set forth in the conditions of the contract and such omissions, deductions, additions or alterations shall no way invalidate the contract.

37. The earnest money deposited by the tenderer will be retained and dealt with as per the terms and conditions of the O.P.W.D. code.

38. By admission of a tender for the work, a contractor will be deemed to have satisfied himself by actual inspection of the site and locality of the work, about the quality and availability of the required quantity of material including the medical aid, labour and food stuff etc. and that rate quoted by him in the tender will be adequate to complete the work according to the specifications attached there to and that he had taken in to account all conditions and difficulties that may be encountered during its progress and to have quoted rate including labour and materials with taxes, octroi, other duties, lead, lifts, loading and unloading, freight for all materials and all other charges necessary for the completion of the work, to the entire satisfaction of the Engineer-in-Charge of the work and his authorised subordinates. After acceptance of the contract rate, Government will not pay any extra charges for any reason in case the contractor claims later on to have misjudged as regards to availability of materials, labour and other factors.

39. In case the 1st lowest tenderer or even the next lowest tenderers withdraw in series one by one, thereby facilitating a particular tenderer for award, then they shall be penalized with adequate disincentives with forfeiture of EMD unless adequate justification for such back-out is furnished. Appropriate action for blacklisting such tenderers shall also be taken apart from disincentivising the tenderer.

DRAWAL OF AGREEMENT.

40. (i)The bidder / tenderer whose bid has been accepted will be intimated by Regd. Letter by the Engineer-in-charge prior to expiry of the validity period. This letter (hereinafter and in the conditions of Contract called the "**Letter of Acceptance**") will state the sum that the Engineer-in-charge will pay the contractor in consideration of the execution, completion and maintenance of the works by the contractor as prescribed in the contract (here-in-after and in the contract called the **"Contract Price**").

The notification of award will constitute the formation of the contract, subject only to the furnishing of a performance security (**Initial Security Deposit**) in shape of Fixed Deposit Receipt of any Nationalised Bank / Kissan Vikash Patra / Post Office Savings Bank Account / National Savings Certificate / Postal Office Time Deposit Account duly pledged in favour of the **Block Development Officer, Panchayat samiti, Sadar, Balasore** and in no other form. The ISD shall be 2% of the value of the accepted tendered amount (excluding 1% deposited towards hiring of equipments/machineries from out side the State, if any) and sign the agreement in the P.W.D. form No. P1 (Schedule XLV No. 61) for the fulfilment of the contract in the office of the **Panchayat Samiti, Sadar, Balasore**.
The security deposit together with the earnest money and the amount withheld according to the provision of P1 agreement shall be retained as security for the due fulfillment of this contract and additional performance security in accordance with the provisions of the agreement.
(ii) The successful bidder will sign the agreement in conformity with Standard P.W.D. Form P1 with latest amendments within 15 (Fifteen) days following the notification of award i.e. "**Letter of Acceptance**" by the Engineer-in-Charge.
(iii) Failure to enter in to the required agreement and to make the security deposit as above shall entail forfeiture of the **Bid Security** (earnest money). No contract (tender) shall be finally accepted until the required amount of initial security money is deposited. The security will be refunded after Twelve months of completion of the work and payment of the final bill and will not carry any interest. As concurred by Law Department & Finance Department In their U.O.R. No 848, dtd.21-05-1997 J.O.R.No.202 W.F.D. dtd.06.03.98 respectively the E.M.D. will be forfeited in case where tenderers back out from the offer before acceptance of tender by the competent authority.

41. If the bid of the successful bidder is seriously unbalanced i.e. less than the estimated cost by more than 10 %,the agreement drawl authority i.e. Block Development Officer before drawl of agreement will ask the successful bidder to deposit Additional Performance Security (APS).The Additional performance security shall be deposited by the successful bidder when the bid amount is seriously unbalanced i.e. less than the estimated cost by more than 10%,in such an event, the successful Bidder shall deposit the additional Performance Security to the extent of 1.5 times of the differential cost of the bid amount and 90 % of the estimated cost.In other words additional Performance Security-1.5x(90% of the Estimated Cost-Bid Amount).

The Additional Performance Security shall be furnished by the bidder in shape of Fixed Deposit Receipt from any scheduled Natiolalized Bank/NSC/KVP/POTD etc. in the manner as specified in Clause 12 duly pledged in favour of Block development Officer, Sadar, Balasore, which will be over and above the initial security deposit.

If the contractor fails to complete the work, the amount so furnished as **APS** will be forfeited in addition to other penal clauses if imposed by any of the two concerned Block Development Officer.

42. The agreement will be drawn in P.W.D. P1 contract form and will constitute for (Civil+ PH+ EI) works.The contract for Composite work shall be drawn and signed **by Block Develoment Officer , Panchayat Samiti, Sadar, Balasore**.

EXECUTION OF ITEMS.

43. Any deviation in execution will be dealt in as per relevant clauses of P1 Agreement and DTCN.
44. Similarly, extension of time if applied by the contractor will be dealt with by concerned Block Development Officer as per relevant clause of P1 agreement & DTCN / Code.

45. In case of necessity felt by the Block Development Officer regarding slow progress of work or otherwise, asking the contractor for a revised work programme and to remove the bottlenecks of any sort on the way to completion of the work.

RECESSION OF WORK/CONTRACT

46. The Civil Contractor who has put the tender for the work in DTCN will alone be responsible and answerable to the Block authority as regards to defects in the work, slow progress in the work, or any other recessional parameters that may crop up during execution of the work as a whole comprising of Civil, P.H. & E.I. works.

RESPOSIBILITIES & OBLIGATIONS OF THE CONTRACTOR

47. Under section 12 of contractors labour (Regulation and Abolition) Act. 1970, the contractor who undertakes execution of work through labour should produce valid license from licensing authorities of labour Department.

48. The contractor should be liable to fully indemnify the department for payment of compensation under Workman Compensation Act. VIII of 1923 on any account of the workman employed by the contractor and full amount of compensation paid will be recovered from the contractor.

49. Tenderers are required to abide by the fair wages clause as introduced by Govt. of Orissa, Works Department Letter No.-VIII-R 8/5225 Dtd.26.02.55 and No.IIM-56/628842(5) Dtd.27.09.61 as amended from time to time.
50. In case of any complaint by the labour working about the non payment or less payment of his wages as per latest minimum Wages Act, the Block development Officer will have the right to investigate and if the contractor is found to be in default, he may recover such amount due from the contractor and pay such amount to the labour directly under intimation to the local labour office of the Govt. The contractor shall not employ child labour. The decision of the Block development Officer is final and binding on the contractor in such cases.

51. Super class contractor shall employ under himself two Graduate Engineers and two Diploma holders belonging to the State of Orissa. Special class contractor shall employ under him one graduate Engineer and two Diploma Holder belonging to the state of Orissa. Like wise 'A' class contractor shall employ under him one Graduate Engineer or two Diploma Holders belonging to state of Orissa. The contractor shall pay to the Engineering personnel monthly emoluments, which shall not be less than the emoluments of the personnel of equivalent qualification employed under the State Govt. of Orissa. The Deparment may supply the names of such unemployed Graduate Engineers and Diploma Holders if requested by the contractor. The names of such Engineering personnel appointed by the Contractors should be intimated to the tender receiving authority along with the tender as to who would be supervising the work. Each bill of the Super Class, Special Class or 'A' Class Contractor shall be accompanied by an employment Roll of the Engineering personnel together with a Certificate of the Graduate Engineer or Diploma Holder so employed by the contractor to the effect that he has supervised the work executed as per the bill. (Vide Works Department No. Codes M-22/91-15384 dated 9.7.91). The required certificate is to be furnished in the proforma contained in a separate sheet vide **Annexure-VII** in this DTCN.

52. The contractor shall bear cost of various incidentals, sundries and contingencies in full necessitated in the work within the following or similar category.

a. Rent, royalties and other charges of materials, octrai duty, all other taxes including sales tax, ferry, tolls conveyance charge and other cost on account of land and building including temporary building and temporary electric connection to work site as well as construction of service road and diversion road and its maintenance till completion of work, collection of materials, storage, housing of staff or other purposes as required will be borne by the contractor for the work. No contractor will however be liable to pay rent / revenue of Govt. for temporary occupation of land owned by Govt. at the site of the work.

b. Labour camps or huts necessary to a suitable scale including conservancy and sanitary arrangements therein at the look out of the contractor to the satisfaction of the local health authorities.

c. Suitable water supply including pipe water supply wherever available for the staff and labour as well as for the work is to be arranged by the contractor at his cost.

d. Fees and duties levied by the Municipality, canal or water supply authorities are to be borne by the contractor.

e. The contractor at his cost will arrange suitable equipments and wearing apparatus for the labour engaged in risky operations.

f. Suitable fencing barriers, signals including paraffin and electric signal where necessary at works and approaches in order to protect the public and employees from accidents are the look out of contractor.

g. Compensation including the cost of any suit for injury to persons or property due to neglect of any major precaution also become payable due to operation of the workers compensation act will be borne by the contractor.

h. The contractor has to arrange adequate lighting arrangement for the work wherever necessary at his own cost.

53. The contractor shall have to abide by the C.P.W.D. safety code rules introduced by the Government of India, Ministry of work Housing and Supply in their standing order No-44150 dtd.25.11.57.

54. The contractor should arrange the materials like steel, cement, paint and bitumen etc. of approved quality and specification and get it tested in the departmental laboratory and approved by the Engineer-in-charge before use at his own cost for completion of the work within the time schedule. No extension of time will be granted on the application of the contractor due to delay in procurement of materials.

55. (a) The Department will have the right to supply any departmental materials to be used in the work at any time in the interest of work and the contractor shall use such materials without any controversy or dispute on that account. The rate of issue of such materials will be at the stock issue rates inclusive of storage charges or rates fixed by the Department or current market rate whichever is higher.

a) All the materials which are to be supplied from store will be as per availability of stock and the contractor will have to bear the charges of straightening, cutting, jointing, welding etc. to required sizes in case of M.S. Rods or Tor steel / M.S. Angles, Tees and Joists etc. Cut pieces of steel more than one metre in length will be returned by the contractor at the stores issuing it without conveyance charges. TOR rods, plates and structural members will be supplied in the scale / unit of length and size available in the stock. For payment purpose, steel reinforcement shall be measured in length of different diameter, and the steel plates etc. in terms of size and specification as actually

used in the work. And, their weight calculated as per sectional weight prescribed by the Indian Standard Specification or as directed by the Engineer-in-Charge (Wastage of bars and unnecessary lapping will not be considered for measurement and payment).

b) The selected contractor may take delivery of the available departmental materials according to his need for the work as issued by the Sub-Divisional officer in-charge. The contractor shall make all arrangement for proper storages of materials and their watch and ward at his own cost and responsibility. Under any such plea of theft or so, if the contractor stops the work, he shall have to pay the full penalty as per relevant clause of P1 agreement.

c) The contractor will be responsible for the loss or damage of any departmental materials if issued / supplied during transit and in the execution of the work due to reasons what – so-ever and the cost of such materials will be recovered from the bills at stock issue rates or market rates whichever is higher.

d) If the contractor removes Government materials supplied to him from the site of work with a view to dispose of the same dishonestly, he shall be liable for civil or criminal prosecution arising out of his contract. Besides, he will be liable to pay a penalty equivalent to five times of the price of such materials according to the stock issue rate or market rate whichever is higher. The penalty so imposed shall be recovered from any sum that may become due to the contractor or from his security deposit or from the proceeds of sale thereof.

56. No payment will be made for benchmarks, level pillars, profiles and benching and levelling the ground where required.

57. After the work is completed, all surplus materials should be removed from the site of work. Preliminary work such as vats, mixing platforms etc. should be dismantled and all materials be removed from the site and the premises should be left neat and clean. These should be taken care of while quoting the percentage rate for the complete work.

58. For diversion road or approach road, the contractor will have to make his own arrangement to make the same in private land if necessary for which agreement for such land by the side of C.D. works and the rental charges for such private land shall be borne by the contractor including its proper maintenance with lighting arrangements during the night time and signaling during day time and barricading etc. till the C.D. works are opened to the traffic. No extra amount will be paid to the contractor for the above rental charges etc. His rate in the tender shall include this arrangement, rental charges for the land and maintenance, lighting and removal of such temporary road crust from the private land to bring the land to its original condition etc. complete.

59. Form work including complete false work shall be designed by the Contractor without any extra cost to employer and the Department will have the right to inspect the scaffolding, centring and shuttering made for the work an d can reject partly of fully such structures, if found defective in their opinion. Any eventually such as loss of lives or properly due to failure of centring and shuttering shall be the responsibility of the Contractor regarding compensation of all claims thereof..

60 Where the Department will feel it necessary, the Officer-in-Charge of the work shall issue a Site Order Book to the contractor to be kept at the site of the work with pages serially numbered. Orders regarding the work whenever necessary are to be entered in this book by the. Officer-in-Charge with their dated signatures and duly noted by the contractor or his authorized agents with their dated signature. Orders entered in this book and noted by the contractor's agent shall be considered to have been duly preached to the contractor for following the instructions of the Department. The Site Order Book shall be the property of the Block. and shall not be removed from the site of work without written permission of the
Engineer-in-charge .

61. The contractor shall properly co-ordinate with the execution of Electrical works and takes care of the safety of workers.

62. Engineering personnel of the executing agency should be present at work site at the time of visit of high level inspecting officers in the rank of Executive Engineer and above.

63. Income Tax at the prevailing rate / percentage calculated on the gross amount will be deducted from the contractor's bill.

64. Prevailing rate of GST on the gross amount of the bill will be deducted from the contractor's bill, where Agreement Value is one lack and above.

65. The contractor is required to pay royalty to Govt. as fixed from time of time and produce such documents in support of their payment to the concerned Block Development Officer with their bills, failing which the amount towards royalties of different materials as utilized by the contractor in the work will be recovered from his bills and deposited in the revenue of concerned department.

66. CESS @1% of the amount of estimated cost as per Tender Notification read with latest corrigendum if any will be proportionately deducted from the contractor bill at the time of making payment of each bill.

67. Under no circumstances, interest is chargeable on the dues or additional dues if any payable to the contractor for the work.

68. Also, no claim shall be entertained for loss due to earthquake, flood, cyclone, epidemic, riot or any other calamity whether natural or incidental. Damages if caused by fire or other causes to persons and structures etc., will have to be made good by the contractor at his own cost.

69. No part of the contract shall be sublet without written permission of the concerned **Block Development Officer** or transfer be made by power of Attorney authorizing others to receive payment on the contractor's behalf.

70. The contractor should attach the certificate in token of payment deposit with the registration authority as per recent circular of the Government relating to his registration.

71. The quantity mentioned in the Schedule of Quantities can be increased or decreased to the extent of 10% for individual items subject to a financial implication of maximum 5% over the estimated cost. If it exceeds the limit stated above, prior approval of competent authority is mandatory before making any payment.

ARRANGEMENT OF T&P MATERIALS

72. The contractor should at his own cost arrange necessary tools & plants and machineries etc. required for the efficient execution of work and must take into account its cost of conveyance, running charges etc. while quoting his single percentage rate for the whole work.

MATERIALS AND THEIR TECHNICAL SPECIFICATIONS

73. The contractor shall supply sample of all materials for testing and acceptance by the concerned Executive Engineer before their procurement for the work.

74. The coarse and fine aggregate shall satisfy the grade requirement as per the latest provision of relevant I.S. Code / I.R.C. code / M o R T & H specifications.

75. Number of tests as specified in I.R.C./ MORT&H / I.S.I specification required for the construction of roads /bridges / buildings or any other structural works will be conducted in any Govt. Test House / Departmental laboratories/reputed material testing laboratory as to be decided by the Engineer-in-charge. Testing charges including expenditure for collection / transportation of samples /specimens etc. will be borne by the contractor. The collection of samples and testing are to be conducted for both prior to execution and during execution as may be directed by the Engineer-in-charge and on both the accounts the cost shall be borne by the contractor.

a. Besides, the firm / contractor shall install full-fledged field laboratory at work site for conducting required tests as per IRC / MoRT&H / ISI requirements at his own cost for providing sufficient opportunity for checking from time to time.

b. It should be clearly understood that the lapping of the bars when necessary are to be made by welding or bolts nuts as directed by the Engineer-in-charge.

c. Concrete cube test specimens 150mm × 150mm × 150mm in size (whether plain or reinforced concrete) for the testing shall be taken for each structural member by a representative of the contractor in the presence of a responsible officer of the rank not lower than that of an Assistant Engineer or Sub-Divisional Officer. The contractor shall bear the cost so involved in testing. The test specimen of the concrete cube should be done in the Departmental Control and Research Laboratory at Cuttack or Bhubaneswar.

76. <u>SPECIAL CONDITIONS (PART OF THE CONTRACT)</u>

a) All materials before they are being used in the items of works as per this Schedule of Quantities and also the finished items of work where tests are applicable shall have to be tested through the Engineer-in-Charge of the respective wing at appropriate Laboratories according to the relevant I.S. specifications of the materials and the said items of works and the cost of all such rests shall have to be borne by the contractor and the rates of the items of works should be inclusive of cost of such tests.

b) The tests have to be planned and carried out such that the progress of work is not hampered.

c) The tests are mandatory as per the prescribed frequencies and I.S. specifications. However, these are not exhaustive and the Engineer-in-Charge has the right to prescribed other required test if any as will be considered from time to time.

77. The K.B. bricks should be well burnt and of good qualities. The bricks should be approved by the Engineer-in-Charge before its use in the work and should conform to the minimum strength as per National Building Code. Vol.

78. All reinforced cement concrete work should conform to Odisha Detailed Standard specifications, IRC Code and Bridge code section I, II, III, IV and VII & latest design criteria for prestressed concrete bridges specifically for road and bridges issued by MORT & H, Govt. of India.

79. All reinforced cement should conform to Orissa Detailed Standard specification, and should be of proportion 1:2:4 or 1:1 ½:3 or M20 having a minimum compressive strength (in work test) 150Kg /200Kg Per Cm2 in 15cm cubes at 28 days, after mixing and test conducted in accordance with IS 450 and IS 516 using 12mm size hard black crusher broken granite ships (20mm size not be exceed 25%).

80. All reinforced cement concrete works should be finished smooth. If plastering to any RCC structures like roof slab, columns, chajjas, fins, parapets, shelves etc. will be necessary because of poor workmanship on the part of the contractor, then the extra cost for that will not be paid to the contractor.

81. Cement Concrete should be machine mixed by weight by means of concrete mixture/ batching plant unless otherwise ordered in writing by the Executive Engineer, confirming to relevant grade and approved by the Engineer-in-Charge for all type of concrete works. The contractor should arrange his own concrete mixer, vibrator, pumps etc, for this purpose at his own cost. Departmental machinery may be utilized on payment of necessary hire charges as detailed in clause of recovery sheet if only requisitioned by the contractor.

82. Each Cement bag to be used in the work must weigh 50(fifty) Kg net and the Engineer-in-charge or his authorized representative shall have the right to test the weight & quality of cement from time to time.

83. Any defects, shrinkage or other faults due to use of improper materials or workmanship etc. noticed within 12 (twelve) months from the completion of the work, are to be rectified and made good by the contractor at his own cost unless the Engineer records reasons & decides that they ought to be paid. Department may recover from the contractor the cost of making good the defects in work. The contractor is also required to maintain the building for 12 (twelve) months from the date of successful completion of the work.

84. i) The contractor shall have no claim what so ever for the extra quantity of work to be executed in view of above possible changes and payments is to be made as per clause11 of the P1 contract.

ii) Over and above these conditions, the terms and condition, rules and regulations and specifications as laid down in Orissa Detailed Standard Specification, Orissa PWD Code, Bridge code and MoRT&H specifications with latest revision amendment are also binding on the part of the contractor.

85. After completion of the work, the contractor shall arrange at his own cost all requisite equipments for testing of electrical installations in the building, If felt necessary and the entire cost of such test, including the inspection by the Electrical Inspectorate group will be borne by the Contractor.

86. The safety certificate of the E.I. work will be furnished by the agencies after getting necessary verification from the Electrical inspector/equally Component authority responsible for the work prior to Energisation of the building.

87. The depth of foundation indicated on the drawing are provisional but these may be altered if necessary in the light of the nature of strata encountered during soil test at field which must be taken in advance of actual execution of the foundation.

88. Wherever dewatering is imperatively necessary, the term dewatering shall mean the execution or operation of the items due to standing water as well as due to percolation of water. The contractor has to do dewatering by bailing out water from the foundation, pipe line trenches, septic tank / soak pits / sumps / manhole etc. either rain water or sub soil water if necessary within his quoted percentage rate.

89. No claim for carriage of water what-so-ever will be entertained.

90. Steel shuttering & centering along with suitable sheeting as required shall be used and these must be made leak-proof and water-tight.

91. The Department will have the right to inspect the scaffolding, centering and shuttering made for the work and can reject partly or fully such structures if found defective and inadequate in their opinion.

92. It is the sole responsibility of the contractor to procure and store explosives required for blasting operation at his own risk. Department may render necessary possible help for procuring license only.

93. **Payment for variation in price -** (Vide Works Department Memorandum No-12073 /W dt. 7.4.1986, No-14379 dt. 22.6.91 & No-22874 dt. 24.10.92) and No.8310 dated,17/5/2006

31 (a) (i) "If during the progress of the work, the price of any material (excluding the cost of steel, cement & Bitumen) utilized in the work (not being materials supplied from the Engineer-in-Charge's store in accordance with Clause thereof) increases or decreases due to increase or decrease in the average wholesale price index (all commodities), and the contractor thereupon necessarily and properly pays in respect of all these materials, (utilized in the work) then such increased or decreased price, shall be reimbursed or liable to be refunded, quarterly as the case may be. Such amount shall be equivalent to the loss or minus difference of 75% in between the average wholesale price index (all commodities) which is operational for the quarter under consideration and that operated for the quarter in which the tender was opened, as per the formula indicated below provided that the work has been carried out within the stipulated time or extension thereof and are not attributable to him.

Formula to calculate the increase or decrease in the price of materials.

$$Vm = 0.75 \times \frac{Pm}{100} \times R \times \frac{(i - io)}{io}$$

Vm = Increase or decrease in the cost of work during the quarter under consideration due to change in the price of the materials.
R = The value of work done in Rupees during the quarter under consideration.
io = The average Wholesale Price Index (all commodities) for the quarter in which the tender was opened (as published in R.B.I. bulletin from time to time.)
i = The Average Wholesale Price Index (all commodities) for the quarter under consideration.
PM = Percentage of materials component as per sub-clause of this clause.

(ii) Clause 31(a) (ii) of P1 Contract. Where original contract period is one year and above, increase/decrease of cost of Steel, Cement and Bitumen are to be paid / recovered. When the total claim to be paid to the contractor is more than Rs.50, 000/- , prior approval of Government is to be obtained. Prior approval of the E.I.C./Chief Engineer (as the case may be) is to be obtained when such claim is up to Rs.50,000/-. Concerned Executive Engineer shall make recovery in case of decrease from the Contractor, immediately. The cost shall be determined as follows:-

1. Steel……. Rate as fixed by Steel Authority of India Limited (SAIL)
2. Cement …… Average factory price of three manufacture of cement inside the State.
3. Bitumen… Rate as fixed by Indian Oil Corporation (I.O.C.)

(iii) Clause-31(a) (iii) of P1 Contract :- Where original period of is more than Nine months and below one year increase/decrease of cost of Steel Cement & Bitumen are to be paid / recovered. Payment in case of increase are to be made with prior approval of Government when the total claim is more than Rs.50,000/- and with prior approval of the Department (as the case may be) when the claim is up to Rs.50,000/- subject to the fulfillment of the conditions mentioned below:-

(I) Cost shall be determined as follows:-

1. Steel……. Rate as fixed by Steel Authority of India Limited (SAIL)
2. Cement …… Average factory price of three manufacture of cement inside the State.
3. Bitumen… Rate as fixed by Indian Oil Corporation (I.O.C.)

(ii) Cost of the project should be more than Rs.50.00 lack. However, the differential cost of such materials may be paid to the contractor after deducting the hiked percentage amount in the tender for those materials from the calculated amount of differential cost.

(iii) Contractor has to submit the vouchers showing procurement of Steel, Cement and Bitumen for the work from authorized dealers within 28 days before their utilization.

(iv) Differential cost will be allowed only for the original agreement period, but not for the extended period even though it might have been validly extended.

(v) Differential cost will be allowed only after successful completion of the work as per the approved work programme.

(vi) Stipulations contained in existing clause 31(f).

(iv) Clause 31(e) of P1 contract. :- Recovery in case of decrease shall be made by concerned Executive Engineer from the contractor immediately. The reimbursement/refund on variation in period of materials (except steel, cement & bitumen which will be governed as per clause-31 (c-ii) & (a-iii)), labour and POL as per sub-clauses (a-i), (b) and (c) respectively of this clause-31 shall be applicable in the following manner as per Works Department letter No.21369 dated,25/9/91.

"Where the period for completion of the work as stipulated in the agreement is less than one year no escalation is admissible. In case of work where the stipulated period of completion is one year and more, escalation on account of price variation would be admissible only for the remaining period after excluding the first one-year period thereof provided the work has been carried out by the contractor in terms of the relevant provision of the agreement. In the situation, where the period of completion in the agreement is less than one year and subsequently the completion period has been validly extended the delay of the work being not attributable to the contractor and ultimately the total period including the extended period stands at one year or more, escalation is admissible only for the remaining period after excluding the first one year period there from."

(b) Similarly, if during the progress of work, the minimum wages prescribed by Government for labour increase or decrease and the contractor thereupon necessarily and properly pays to labourers engaged in the work, such increased or decreased wages paid shall be entitled to reimbursed or liable to be refunded quarterly, as the case may be. Such amount shall be equivalent to the 75% plus or minus difference in between the minimum wages for labour which is operating for the quarter under consideration and that operated for the quarter in which the tender was opened as per the formula indicated below.

Formula to calculate the increase or decrease in the price of Labour is.

$VI = 0.75 \times \frac{PL}{} \times R \times \frac{(I - I_0)}{}$

100 I0

VI= Increase or decrease in the cost of work during the quarter under consideration due to changes in the minimum wages rate of labour.

R = The value of work done in Rupees during the quarter under consideration.

Io = The minimum wages for labour as prevailed during the quarter under consideration in which the tender was opened.

I = The minimum wages for labour prevailed during the quarter under consideration.

PL= Percentage of labour component (as per sub-clause).

c) Similarly, if during the progress of work, the price of Petrol, Oil and Lubricants (Diesel oil being the representative item for the price adjustment) increases or decreases due to price fixed by the Government of India and the Contractor there upon necessarily and properly pays, then such increased or decreased price towards Petrol, Oil and Lubricants used for execution of the work, shall be reimbursed or liable to be refunded, quarterly as the case may be. Such amount, shall be equivalent to the 75% plus or minus difference in between the price of P.O.L. which is operating for the quarter under consideration and that operated for the quarter in which the tender was opened as per the formula indicated below :

$$Kl = \frac{0.75 \times K_2}{100} \times \frac{R\,(D_2 - D_1)}{D_1}$$

Kl = Increase or decrease in the cost of work during the quarter under consideration due to changes in the price of P.O.L.

R = The value of work done in Rupees during the quarter under consideration.

D_1 = Average Price per liter of diesel oil which was fixed by the Government of India during the quarter in which the tender was opened.

D_2 = Average Price per liter of diesel oil which is fixed during the quarter under consideration.

K_2 = Percentage of P.O.L. component as per sub-clause.

d) The following shall be the percentage of materials, labour and P. O. L. component for reimbursement / refund on variation in price of material, labour and P. O. L. as per sub-classes (a), (b) and (c) of this Clause

Category of Works.	Contractor' Supply			Departmental Supply of materials.
	% Materials.	% Labour	% of P.O.L.	
(Civil) Works				
a) Bridge works	20%	30%	5%	45%
b) Road work	45%	40%	5%	10%
c) Building works	*30%	30%	5%	35%

(* Where brick is supplied by the Department, it should be 20 % instead of 30%)

e.Vide Works Department letter No-21369 dated-22.09.91, the reimbursement / refund on variation in price of materials, labour and P.O.L. as per sub-clauses (a), (b) and (c) of this clause shall be applicable in the following manner.

"In term of aforesaid escalation clause, where the period for completion of the work as stipulated in the agreement is les than one year, no escalation is admissible at all. In case of work where the stipulated period of completion is one year, and more
escalation on account of price variations is admissible, provided that the work has been carried out by the contractor within the stipulated time or extension there-of, the reason being not attributable to the contractor in terms of the relevant provisions of the agreement. In the situation, where the period of completion initially stipulated in the agreement is less than one

year and subsequently the completion period has been validly extended on the ground that the delay in completion of the work is not attributable to the contractor and ultimately the total period including the extended period stands at one year or more, escalation is admissible only for the balance portion of work executed beyond one year."

f) The contractor shall for the purpose of sub-clauses (a), (b) & (c) of this clause keep such books of account and other documents as are necessary to show that the amount of increase claimed or reduction available and shall allow inspection of the same by a duly authorised representatives of Govt. and further, shall at the request of the Engineer-in-Charge furnish, verified in such a manner as the Engineer-in-Charge may require any document kept and such other information as the Engineer-in-Charge may require . The contractor shall within a reasonable time of his becoming aware of any alteration in the price of such material, wages of labour and/ or price of P.O.L. give notice thereof to the Engineer-in-Charge stating that the same is given pursuant to this condition together with an information relating there to which he may be in a position to supply.

94. The contractor shall make requisition for Claim Book from the department from the date of commencement of the work and shall maintain in proper P.W.D. form with pages serially numbered in order to record items of works, which are not covered by his contract and claimable as extra. Claims shall be entered regularly in this book under the dated signature of the contractor or his duly authorised agents and at the end of each month, a certificate should be furnished along with the claim to the effect that he has no other claim beyond this claim up-to-date. If in any month there are no claims to record, a certificate to that effect should be furnished by the contractor in the claim book. Each claim must be defined and should be given as far as possible regarding the quantities as well as the total amount claimed. The claim book must be submitted by the contractor regularly by 10th and 16th days of each month for orders of the Engineer-in-Charge or competent authority. Claims not made in this manner in the claim book from the date of commencement of the work, are liable to be dishonored. The claim book is the property of the P.W.D. and shall be surrendered by the contractor to the Engineer-in-charge after completion of the work or before recession of the contract by the Department which ever is earlier for record.

95. It should be understood clearly that no claim what-so-ever will be entertained for executing extra items of works or extra quantity of any item in the agreement unless written order is obtained from the Engineer-in-charge and rate settled before the extra items of work or extra quantity of any items of work is taken up.

96 Orissa Bridge & Construction Corporation Ltd. will be allowed price preference up to 3% over the lowest quotation or tender as laid down in works and Transport Department Resolution No- 285 date-17.04.1974.The Orissa Construction Corporation will be allowed a price preference to the extent of up to 3% over the lowest tender amount (where their tender is not the lowest) provided they express willingness to execute the work after reduction of rates by negotiation.

97. In view of the modifications effected by the competent authority in Government from time to time, the following addendums to the existing conditions of **F2** contract are accommodated as follows in the present **P1** contract:

Clause-2(a) of P1 Contract:-TIME CONTROL:-

<u>Progress of work and Re-scheduling programme</u>.

The Executive Engineer / Engineer- in- Charge shall issue the letter of acceptance to the successful contractor. The issue of the letter of acceptance shall be treated as closure of the Bid process and commencement of the contract.

With in 15 days of issue of the letter of acceptance, the contractor shall submit to the Engineer- in-Charge a work Programme for approval commensurate **to Clause no. 2.1.3** showing the general methods, arrangements, and timing for all the activities in the Works along with monthly cash flow forecast.

To ensure good progress during the execution of the work the contractors shall be bound in all th

cases in which the time allowed for any work exceeds one month to complete, 1/4 of the whole time allowed under the contract has elapsed, ½ of the whole of the work before ½ of the whole time allowed under the contract has elapsed, 3/4 th of the whole of the work before 3/4 th of the whole time allowed under the contract has elapsed.

If at any time it appears to the Engineer-in-Charge that the actual process of the work does not conform to the work programme, the Contractor shall produce, at the request of the Engineer- in-Charge, a revised programme showing the modifications to ensure completion of the works within the time for completion. If the contractor does not submit an updated Programme within this period, the Engineer-in-Charge may withhold the amount of 1% of the contract value from the next payment certificate and continue to withhold this amount until the next payment after the date on which the revised Programme has been submitted.

The Engineer-in-Charge's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Engineer-in-Charge again at any time. A revised Programme is to show the effect of Variations and Compensation Events.

Extension of the Completion Date

The time allowed for execution of the work as specified in the Contract shall be the essence of the Contract. The execution of the works shall commence from the 15 th day or such time period as mentioned in letter of Award after the date on which the Engineer-in-Charge issues written orders to commence the work or from the date of handing over of the site whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid, Government shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the Earnest Money & Performance Guarantee / Security Deposit absolutely.

As soon as possible after the Agreement is executed, the Contractor shall submit the Time & Progress Chart for each milestone and get it approved by the Department. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per milestone given in contract data.

In case of delay occurred due to any of the reasons mentioned below, the Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

i) Force measures

ii) Abnormally bad weather

iii) Serious loss or damage by fire

iv) Civil commotion, local commotion of workmen, strike or lockout affecting any of the trades employed on the work.

v) Delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract.

vi) In case a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.

and vii) Any other cause, which, in the absolute discretion of the authority mentioned, in Contract data is beyond the Contractors control.

Request for reschedule and extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

In any such case a fair and reasonable extension of time for completion of work may be given. Such extension shall be communicated to the Contractor by the Engineer-in-Charge in writing, within 3 months of the date of receipt of such request. Non-application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Engineer- in-Charge and this shall be binding on the contractor.

Compensation for Delay.

If the contractor fails to maintain the required progress in terms of clause 2 or to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the Government on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the Superintending Engineer (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day / month (as applicable) that the progress remains below that specified in Clause 2 or that the work remains incomplete.

This will also apply to items or group of items for which a separate period of completion has been specified. Compensation @ 1.5% per month of for delay of work, delay to be completed on per Day basis.

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the Tendered Value of work or to the Tendered Value of the item or group of items of work for which a separate period of completion is originally given.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Government. In case, the contractor does not achieve a particular milestone mentioned in contract data, or the rescheduled milestone(s) in terms of Clause 2.5, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of extension of time. Withholding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However no interest whatsoever shall be payable on such withheld amount.

Management Meetings.

Either the Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

The Engineer shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

Clause-2 (b) of Percentage Rate P1 Agreement:- Rescission of Contract (Amendment as per letter No.10639 dated, 27.05.2005 of Works Department, Orissa) :-

To rescind the contract (of which rescission notice in writing to the contractor under the hand of the Executive Engineer shall be conclusive evidence), 20% of the value of left over work will be realised from the contractor as penalty.

2.1. BONOUS FOR EARLY COMPLETION Applicable for work costing more than 03 (Three) Crores for road and bridge works).Amendment to Para 3.5.5 (v) Note – iii of OPWD Code Vol.-I by inclusion

98 In case, the contractor completes the work with work value more than Rs.40.00 lakhs, ahead of scheduled completion time, a bonus @ 1% (one percent) of the tendered value per month computed on per day basis (0nly after one month) shall be payable to the contractor, subject to a maximum limit of 2% (two percent) of the tendered value, The amount of bonus, if payable shall be paid along with final bill after completion of work.

RESERVATIONS OF THE TENDER INVITING AUTHORITY

99 If any bonafide mistake or omission in the wording & description of any clause in DTCN is left unnoticed & inadvertently & the same is detected after sale of the bid document, then the Tender inviting authority Works reserves every right to correct that and all purchasers will abide by that correction as per Clauses-6 to 8.

100. Similarly, if any bonafied arithmetical error or mistake / omission in wording of any item or Unit of item etc. is left in the Bill of Quantity (Price Bid) unnoticedly & inadvertently & the same is detected after sale of the bid document, then the Tender inviting authority reserves every right to correct that and all purchasers will abide by that correction as per Clauses-6 to 8.

101. (i) In case of doubt / confusion / ambiguity regarding qualification or disqualification of any tenderer for the bid and which is not specifically covered in the above clauses of the DTCN, then the decision of the authority inviting the tender will be final & binding to all concerned for all purposes.

Similarly, after the drawl of the agreement with the contractor, in case of any controversy during execution of the work, then the decision by the Engineer-in-charge of the work within his limitations / power, will be final & abiding to the contractor, if not categorically specified in the clauses of DTCN or Agreement.

102. In case of ambiguity between clauses of this **DTCN** and the **P1** contract form, the relevant clauses of the P1 contract form shall prevail over the DTCN. The clauses not covered under P1 contract form shall be governed by the clauses of the DTCN.

103. That, for the purpose of determining the jurisdiction in the event of any dispute in the contract, it would be deemed to have been entered in to within the State of Orissa and it is agreed that neither party to the contract will be competent to bring a suit with regard to the matter by this contract at any place outside the State of Orissa.

Total: - 103 (One Hundred three) clauses of D.T.C.N.only.

Submitted By

Deputy Executive Engineer
Sadar Block, Balasore

Approved

Block Development Officer
Sadar, Balasore

TECHNICAL SPECIFICATION OF CIVIL WORK

Materials of following specification are to be used in work. The Tenderer are expected to possess and be well conversant with the following IS standard and code of practice.

1.	Cement	Will be as per I.S. 269/255 (However the grade of cement to be selected by the Engineer-in-Charge of work and complex cube test before commencement of work in each batch).
2.	Steel	I.S. 432 (Plain) and 1785 (Tor)
3.	Vibrator	I.S. 7246
4.	Aggregate	I.S. 383, I.S. 515
5.	Water for mixing and curing	Shall be clean, free from injurious amount of oil, salt, acid, vegetable materials and other substances and harmful to concrete in conformity to I.S. 456 and I.S. 2025.
6.	Sand / Fine Aggregate	I.S. 2116, 383
7.	Binding wire	I.S. 280 (galvanised minimum 1 mm)
8.	Rain water pipe	I.S. 2527
9.	Construction joints	I.S. 3414
10.	Steel Window Frame	I.S. 1038/83
11.	Steel Door Frame	I.S. 4351/75
12.	Fitting & Fixtures for journey works	Conforming to I.S. 7452/82 strictly conform to I.S. specification and as per direction of Engineer-in-Charge.

Note : For road work (Approach Road) specification as per road and bridges (latest edition) published by I.R.C & M.O.S.T. shall be followed. In case of any doubt and absence of provision, regarding specification I.S. shall be referred (Indian standard).

ITEM OF WORK

1. Concrete shall be with conformity to I.S.456.
2. Foundation shall be with conformity to I.S.1080.
3. Stone masonry (R.R.) shall be with conformity to I.S.1597 (Part-I)
4. C.R. Masonry shall be with conformity to I.S.1597.
5. Brick masonry shall be with conformity to I.S.2212.
6. Cement plastering shall be with conformity to I.S.9103 & 6925.
7. Mortar shall be with conformity to I.S.2250
8. White and colour washing shall be with conformity to I.S.6278.
9. CC in foundation shall be with conformity to I.S.2571.
10. Anti-Termite Treatment shall be with conformity to I.S.6813. (Part – I & Part – II)
11. Painting to all surfaces shall be with conformity to I.S.2395 (Part – I & Part – II)
12. DPC shall be with conformity to I.S.3067
13. Tarfelt treatment shall be with conformity to I.S.1346
14. Mosaic flooring with conformity to I.S.2114
15. Steel painting shall be with conformity to I.S.1477 (Part – I & Part – II) I.S.1661

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30. Steel painting shall be with conformity to I.S.1477 (Part – I & Part – II) I.S.1661

HIRE & RUNNING CHARGES OF PLANTS & MACHENERIES

The hire charges of Plant & Machineries shall be recovered at the prescribed rates as fixed by the Chief Engineer (D.P.I & Roads), Odisha, Bhubaneswar from time to time.

TECHNICAL SPECIFICATIONS OF P.H. PORTION OF WORK

(A) WATER SUPPLY & SANITARY INSTALLATIONS :

Materials of following standard manufacturers are to be used in the work. The contractor shall indicate, in the offer, the brand or make of the materials, for which the rates are quoted.

(a) Sanitary fixtures :

To be of best quality vitreous ware of porcelain.

(i)Indian water closet
(ii)Foot Rests
(iii)Wash Hand Basin
(iv)Kitchen Sink
(v)Urinals
(vi)Drain Board
(vii)Orissa Closet
(viii)European Water Closet &
Low Level Flushing Cistern.

(b) C.I. High Level Flushing Cisterns	Shushila Industries Prabhat Iron Foundry/East India Steel/ISI marked
(c) H.C.I. Soil Waste Pipes:	Confirming ISI 1729-1954, havingISI mark
(d) C.P. Bath Room Fittings:	Plazza/Mark/ Jaquar I.S.I Marked & confirming to latest ISS.
(e) Brass Fittings:	Laxmi/Leader/Shakti ISI Marked
(f) Gunmetal Valves:	Laxmi/Leader/Shakti ISI Marked
(g) G.I.Pipes (Medium Class) :	Manufactured by TATA/ JINDAL/B.ST having ISI Mark.
(h) Gaivanished iron fittings:	ISI Marked C/R brand
(i) Paints:	Asian/Berger/Jonson/Confirming to ISS
(j) Cast iron Manhole cover frame:	Sushila Industries/Prabhat Iron Foundry /East India Steel make confirming to ISS 7.26
(k) Stone Ware Pipes & Fittings:	Manufactured by Orissa Ceramic Industries/Orissa Industries/ Keshab Caramic confirming to ISS Specification No.651/1980 (Grade-A)
(l) PVC (SWR) & PVC (Rigid) Pipe/Fittings.	Manufactured by the Supreme Industries Ltd. Bombay/Oriplast, Balasore Duroplast. Confirming to IS specification No (Class-IV) 4985/81.

(B) Building Materials

(a) Bricks

Bricks shall be of locally available best quality clean burnt. Bricks shall be well burnt, uniform deep red, cherry or copper coloured, free from cracks and flows, well shaped, uniform in size, homogeneous in textures and shall omit a clear metallic sound when struck, bricks shall have a minimum crushing strength 75 Kg/Cm^2 and shall not absorb water more than 20% by weight.

(b) Cement Mortar:

Mortar shall be well mixed to a uniform colour and consisting in the proportion as specified in the items of work. Sand shall be measured on the basis of its dry volume and the quantity shall be adjusted for bulking of damp sand. Cement shall be mixed, taking 50 kg. or 0.035 Cum. In volume only required quantity that can be consumed within 30 minutes of adding water shall be mixed at one time.

©Cement:

Cement should confirm to IS-269/IS-455.

(d) Sand:

Locally available best river sand medium size.

(e) Course Aggregates:

The course aggregate shall be of hard granite stone and shall generally confirm to I.S. 389. Porous Course aggregate shall not be used. The aggregate shall be free from clay films and other adherent coatings. Aggregate containing clay films over the stone materials shall be thoroughly washed. The aggregate shall be from approved quarry and crusher broken. Course aggregates shall be composed of particles ranging between the sizes 2.36 to the maximum size as may be specified in the relevant item of work. Within the range, the aggregates shall be well graded so as to produce a dense concrete.

(f) Reinforcements:

Mild steel Round Bars, cold twisted and deformed bars of steel of medium tensile strength will be used as reinforcement as per drawing and design and directions.

Mild steel bars shall confirm to I.S.;226/1962 standard quality or IS:432/1966 - Grade-I.

Black annealed wire (Not thinner than 24 gauge for tying the reinforcements shall be used

TECHNICAL SPECIFICATION FOR SANITARY & PLUMBING WORKS

(A) Sanitary ware & allied fittings :

1. General:

All Sanitary fixtures and their allied fittings, should be of first quality, manufactured by Hindustan Sanitary Ware / Parryware / Nycer, These should be approved by the Engineer-in-charge of the G.P.H. Wing before use.

2. Squatting Pattern W.C. (pan) (Or I see Pattern Closets):

The water closet shall be of vitreous China of specified size and pattern, with an integral flushing rim. It shall have the flushing inlet at the back. The Orissa closet should be of approved quality confirming to I.S.S.-2656 (Part-Ill).

The squatting type Indian Water Closet (Orissa Closet) shall be sunk in floor sloped towards the pan in a workmanship like manner. The closet shall be fixed on a proper cement concrete base of 1.3.6 proportion, taking care that the cushion is uniform and even, without closet, to receive the specified thickness of the floor finishing. The joint between the Closet and the P.V.C. (S.W.R) trap shall be made with W.C. ring and rubber lubricant and shall be leak proof.

3. Flushing Cistern :

The flushing of the Indian water closet (Orissa Closet) shall be done by C.I. or Polyaterine High Level / Low-Level porcelain valve-less syphonic flushing cistern of approved brand and quality I.S.I. Marked and capacity as specified. The connection between the cistern and water closet shall be made by 32 die O.l. flush pipe, made from G.I. Pipe (Light Quality) or 32 dia P.V.C, Pipe as specified in the tender schedule. The flush pipe with an offset should be fixed to wall by using

(C) I. Holder Bat Clamps. The capacity of the cistern should be 10 Ltrs. as per I.S.S. 15 Ltrs. In case of low-level cisterns. The Cistern shall be fixed on cast Iron or Rolled Steel Cantiliver Brakets (Bulltin type), which shall be firmly embedded in the wall, with C.C. 1.2.4. The Cistern shall be provided with 20mm dla P.V.C. Overflow Pipe with fittings, which shall terminate into mosquito proof coupling secured in a manner that will permit it to be readily cleaned or renewed.

The 32mm dia Flush Pipe shall be connected to the Water Closet by means of approved type joint. The Flush Pipe shall be fixed to wall by using C.I. Holder Bat Clamps. The bend and the Offset as required in the Flush pipe shall be made cold. The inside of the Cistern shall be painted with two coats of approved black bitumen paint. The Outer face of the Cistern, Brackets Overflow pipe and Flush Pipe etc., shall be painted with two coats of any synthetic enamel paint of approved shade and make, over a coat of priming. The cost of the rate quoted for the flushing cistern.

The inlet connection to the Cistern shall be made with 450 mm 1 cmg 15 mm dia P.V.C. Heavy type connection Pipe.

4. Wash Hand Basin:

The Wash Hand Basins' hall be of the White Vitreous China of approved quality, make and brand I.S.I, marked. It shall be one-piece construction with an integral combined overflow. The size of the basin shall be as specified. Each basin shall be provided with one 15 mm dia C.R Brass Pillar Tap, 32mm dia C.R Waste, C.R. Chain and Rubber Plug, Unions, Joints, C.R Bottletrap cast complete in all respects of approved quality.

The Basin shall be supported on a pair of R.S. or C.I. Cantilever brackets (built in type) embedded and fixed in wall with cement concrete, 1.2.4. These brackets shall be painted to the required shade with two coats of approved synthetic enamel paint over a coat of priming.

The waste of the Basin shall discharge into a floor trap or Channel through bottle traps as specified. One 32 dia C.P. Bottle Trap is to be fixed to the Waste of the Basin & the outlet of the bottle trap is to be connected to the waste pipe to discharge the waste to the Pipe, to discharge the waste to the aforesaid floor trap. The inlet connection to the Basin shall be made with 450mm Long 15mm dia Heavy type P.V.C. connection pipe.

5. Kitchen Sink:

Unless otherwise mentioned the Kitchen Sink and drain board {if used) shall be of white Vitreous China or tire clay as specified and approved quality, make a brand, confirming to T.S.S, It shall be of one piece construction with integral combined overflow. The size of the sink and Drain Board shall be as specified.

Each Sink shall be provided with one 15mm dia C.P. bras, Bib Cock, long body, 40mm C.P. Waste with overflow C.R. Chain & Rubber Plug, unions etc., complete in all respects as specified and of approved quality.

The sink shall be supported on a pair of M.S. or C.I. Cantilever Brackets (Built in type) embedded or fixed in position in the wall by Cement Concrete 1.2.4. The brackets shall be painted to required shade with two coats of approved synthetic enamel paint over a coat of priming. The waste should discharge into a floor Trap or Channel. The waste pipe should be 40mm dia P.V.C. Pipe jointed to the waste of the Sink with a Brass union nut.

6. Standing Urinals:

The Urinals shall be flat pattern lipped front basin of required dimension of White Vitreous China and one piece construction with internal flushing box rim of an approved make and brand as specified, it shall be fixed in the position by*using wooden plug embedded in the wall with screws of proper size. Each Urinal shall be connected to a 40mm dia R.V.C. Waste Pipe, which shall discharge into a channel of floor trap. The lip of Urinals shall be kept at 525mm from floor level, while fixing the Urinal on wail.

Where no. of Urinals are fixed in a line, the distance between the centre to centre of each Urinal shall be kept 750mm. and each Urinal should be separated from one to other by a partition plate. The centre to centre of partition plates shall be kept 750mm apart. The partition plate shall be of one-piece 25mm thick marble plates, cut to size and front corners rounded. The partition plates shall be embedded in wall with cement concrete and finished smooth. The bottom of the partition plate should be kept 350mm above floor level and top should be kept at 1250mm above floor level. The plates should project 600mm from wall surface. The width of the plates to be embedded inside the wall should not be less than 100mm. The thickness of the plates shall be minimum 25mm.

For flushing the Urinals each Urinals shall be connected with one 20mm dia G.I. Pipe (Medium Class), One of this pipe shall be inserted into the inlet of the Urinal and jointed with Jute and putty where as the other end is connected either with a Tee or Bend with the 25mm dia size Water Pipe Line fixed on the wall horizontal above the Urinals. In each 20mm dia flush pipe one 20mm dia cum-metal Gate value, the water will flow to thermal of Urinal through the inlet pipe and flush the Urinal. After flush, the valve can be closed to avoid wastage of water. One 40mm dia P.V.C. Waste Pipe shall be connected to the waste of each Urinal, to discharge the Waste into the Channel of Trap. One end of this Waste pipe shall be made a cup size to fit into the projected waste and tightened with screws.

7. Squatting Urinal Plates :

The Urinal Plates shall be of White Glazed Vitreous China with integral flushing rim of size 450 X 350mm of approved make and brand as specified. There shall be white vitreous channel with stop and outlet pieces in front. These plates shall be fixed on C.C. at 75mm to 100mm above floor level.

For flushing arrangement, one 25mm dia G.I. Common Water Pipeline (minimum size) shall be fixed on the wall parallel to floor. For each urinal one 20mm dia G.I. Branch Pipe shall be taken down up to t200mm from floor level just at the centre of each plate, in which one 20mm dia Gate Valves is fixed at 350mm above floor level. At 1200mm height, the 20mm dia flush pipe shall be divided into two branches shall be taken downward and connected to the inlets of the urinals plate at floor level. By operating the valve as above, the water will rush into the rims of the urinal plate and flush it.

Where there are number of urinals fixed in a line, each urinal should be separated by a partition plate fixed in the centre of two urinal plates. The centre-to-centre distance of the partition plates shall be kept 750mm.

The partition plates shall be of one-piece marble plate, 25mm thick, cut to sizes and front corners rounded. The plates are to be embedded in wall with cement concrete and finished smooth. The bottom of the partition plates shall be kept flushed to urinal top level and the top level of partition plate shall be kept at 1200mm from the urinal plate top and the projection from the wall shall be 600mm. The width of the plate to be embedded inside the wall should not be less than 100mm.

(B) Soil and waste pipes and fittings

1. **H.C.I. Plpe Fittings**

The Cast iron Soil, Waste and design pipes (spigot & socket joints) shall be of make and brand as specified (under specification of materials), confirming to I.S.S. 3989-1970 and IS) marked with approved clamps are to be used. The pipes and fittings shall be free from cracks, laps, pinholes, and other imperfection and carefully cited.

The access door fittings shall be designed and made so as to avoid dead space in which filth may accumulate and door shall be provided with 3mm thick rubber insertion packing when closed and bolted.

WEIGHT OF HCI PIPES

2.	**Dia of Pipe in mm**	**Thickness in mm**	**Length of pipe & width piece**	
	1.8mtr. D/s	1.8mtr		
	50 mm5 mm	16.00kg.	15.00kg.	
	75 mm5 mm	13.83kg.	16.52kg.100 mm	8 mm.
	24.00kg.22.00kg.	150 mm	8mm. 26.70 kg.	31.82kg.

Tolerance 10%

3. The jointing should be done with pig lead confirming to I.S. 782-1966 - grade 99.94.The spigot and of Pipes and Fittings should enter into the socket end. The annular space shall be packed with spun yarn gasket, compacted so as to leave a depth for receiving required quantity of lead in a continuous pouring from ladder. After pouring lead in the joints in full, caulking is to be done three times round with the caulking chisels, so that the joints may be sealed with lead. The depth of lead in a point should be 35mm and the rest depth of the joint should be packed with spun yarn Gasket.
4. Requirement of lead and Gasket cement for jointing H.C.I. Pipes (Each Joint)

Dia of pipe in mm.	**Lead in kg.**	**Gasket in kg. (same for lead & cement joint)**	**Cement kg.**
100	kg.	0.13kg.	0.12kg.
50	0.36 kg.	0.06 kg.	0.06 kg.

5. The inside of the pipes and fittings shall be well coated with special tar or bitumen solution of approved quality. Where the pipe and fittings are laid below the ground, the outer surface of the pipes and fittings shall also to be painted with two coats of black anticorrosive paint of approved quality.

   On completion of the work the exposed pipes and fittings are to be painted with two coats of synthetic enamel paint of approved colour & quality over a coat of red oxide primer. The cost of paint should include in the rates.
6. Soil pipes for ventilation Is to be connected to the sewer at its floor and without a trap and be carried to such an eight, at least above roof level, to prevent damage to health by commission of foul air, The pipe shall terminate as open and protected by a cowl.
7. The waste water pipe shall be connected with the nearest yard gully or a surface drain.
8. The traps should be of hard cast iron and should have water seal at least 50mm deep.
9. All the soil and waste pipes and fittings, after laid and fixed shall be smoke tested, to the entire, satisfaction of the Engineer-in-charge. The Cost of testing is to be included in the offer. For smoke-test the materials usually burat greases cotton waste, which gives out a clear pungent smoke, which is easily detected by sight and small. Smoke shall be pumped to the drains from the lower end from a smoke machine, which consists of lower, and burner.

(c) P.V.C (S.W.R.) & P.V.C. (Rigid) Pipes & Fittings

The P.V.C. (S.W.R.) and P.V.C. (Rigid), soil Waste & Vant Pipes (Spigot & Socket, & couples joints), shall be of make & brand as specified (Under Specification of materials) confirming to I.S.S., B.S.S. & DIN are tube used.

The main specification of P.V.C. Soil & Waste pipes and fitting are as below.

a) Materials - Un-plasticised Poly Vinyl-Chloride (UPVC).

b)	Colour	- Grey
c)	Dismensions	-
	(i) Diameter	- Fittings - 75mm/110mm/63mm & 63mm.
	Pipes	- 75mm, 110mm, on lengths of 3.or 6 mtr.
d)	Wall thickness	- Fittings - Minimum 3.2mm at any port.
	Pipes	- As per application
	For Rainwater	- 75mrn-1.8. to 2.2.mm, 11 Omm-2.5. to 3mm
	Waste & Soil	- 75mm -1.8 to 2.2mm, 110mm -2.5 to 3 mm, 63mm -
	Underground drainage with light/NILTrafflcs	- 110mm - 2.5 to 3mm
	Light/Nil in Heavy traffic	- 110mm 3.7 to 4.3mm

e) Standard Confirming to Attributes Confirms to Standard No.

i)	Fittings & Wall B.S.4514, DIN 10531	
	Thickness	- DIN 19534 I.S.7834 - PVC (Rigid)
ii)	Pipe Wall thickness	- IS 4905
iii)	Rubber ring	- IS 5382
iv)	Fitting dimensions	- DIN 19531 - P.V.C., DIN 19534-S.W.R. IS - 7834 V.C. (Rigid)
v)	Pipe Dimensions	- IS 4985

(a) Laying instructions & Jointing Procedure

a-1 Jointing of P.V.C. (S.W.R.) Pipes & Fittings

Clean the outside of the pipes spigot and the inside of the sealing groove of the fitting. Apply the rubber lubricant, to the spigot end, sealing ring and pass the spigot end into the socket, containing sealing ring, until fully homed. Mark and position of the Socket edge with pencil on the pipe, then withdraw the pipe from the socket by approx. 10mm towards thermal expansion gap.

a-2 Fixing of the Pipes and fittings on wall surface.

P.V.C. pipes both (S.W.R.) & (Rigid), fixed on wall surface, are to be supported by P.V.C. pipe clips, specially made for these pipes, with horizontal runs, the pipe clips should be spaced at intervals of more than 10 times the outside diameter of the pines. In vertical lines the clips are to be spaced at intervals of one meter to a maximum of two metres according to pipe diameter. •

a-3 Jointing of P.V.C. (Right) Pipe Fittings

Clean the Outside of the pipes and inside of the socket of 9 fitting of the inside of the couplers (where 2 plain ended pipes are jointed) of. Apply solvent cement solution, evenly and smoothly on the outer surface of the pipe end and inside surface of either the coupler of the socket and pass the pipe end into the socket of the fittings. Up to full depth of socket. In case of jointing 2 plain-ended pipes 1st. push the coupler up to half depth on the end of one pipe and the outer half of the coupler should be pushed to the end of other pipe and thus, both pipes are jointed.

a.4 Fixing of P.V.C. pipes and Fittings through holes of Walls or Chajja of roofs etc.

The Walt/concrete slots should allow for a stress free installation, Pipes and fittings to be inserted into the slots, without a cement base, have to be applied first with a thin coat of P.V.C. Solvent cement, followed by sprinkling of dry sand (medium size). Allow it to dry. This process gives a sound base for cement concrete fixation, around the pipes/fittings while mending the damages.

a-5 Antisyphonage Pipes

All the antisyphonage pipes and fittings to be used are of 63mm. If these are not available under the items ot P.V.C. (S.W.R.) materials, 63mm pipes and fittings, manufactured under P.V.C.(right) materials can be used, since the raw materials for both is same.

a-6 All traps should have a minimum water sea) of 50mm as per I.S. 5329 and IS 2556 (Part XIII). Where antisyphonage connection is required, the traps to be supplied and used should have a 50mm antisyphonage gent horn on the outlet side. All the Traps used with the closets, should be

of the size 125mm X 110mm i.e. Inlet (Socket end) of 125mm & outlet (spirot end) of 110mm only.

a-7 Installation of Water Closet

Determine the correct Location of the P/S Trap & set on a firm base, relative to the floor finish by pouring concrete on a slab. Bedding can be carried out by pouring concrete around the trap, ensuring that the traps outlet is left clear of concrete. Place the W.C. Connector ring to the socketed end of 125/110mm R/S trap. Apply rubber lubricant on W.C. Connector ring as well as outer side of water closet (connection point) and now complete the joint by pushing the W.C. to home of 125rnm socket of the trap.

a-8 P.V.C. (Rigid) Pipes and Fittings

63mm (O.D.) P.V.C. Pipes to be used for these work either in antisyphonage system or else where, should be of "Quick Fit" Pipes Class 2 (4kg. F/Cm 2), Quick Fit, Pipes have one and socketted.

The P.V.C. (Rigid) fittings, such as 63mm elbow, 63mm equal Tees 110mm x 63mm reducer etc. used in the work, should be of injection-moulded fittings.

a-9 One -'jointing rubber ring will be available, with each P.V.C. (S.W.R.) pipe and fitting and hence, the cost of therein will not be added in the joint.

10. Measurement

All pipes shall be measured not/length as laid or fixed and shall be measured over all fittings such as bends, junctions, traps etc. The length shall be taken along the counter line of the pipes and fittings. Fittings will be counted extra over.

11. Before fixing and painting, the pipe shall be tested hydraulically to pressure Q.4Kg/Cm^2 for pipes under I.S.-1729/1964 and at a pressure 0.7 Kg/Cm^2 for pipes under I.S. 3989-1970 without showing any sign of leakage, sweating of or her defect of any kind. The pressure should be applied internally and shall be maintained for not less than 15 seconds.

(d) Water Supply Pipes and Fittings :

1. Materials.

All galvanised Iron Pipes are to be of mild steel continuous welded, screwed tubes, medium quality confirming to I.S.S. and bearing IS! Marks manufactured by reputed Firms and approved brands as specified. The pipes shall confirm to LS.1239 (Part-!) -1975.

All G.I. Fittings shall be of 'R' Brand manufactured by M/s. R.M. Engineering Ltd., Ahemadabad and 'C' brand manufactured by Present Engineering works or equivalent best quality.

2. Laying of Pipes

The lay out of the mains and service pipe set etc., will be done in accordance with the drawings. The contractor is to mark out the exact position of the pipes and fittings at site and take approval of the Engineer In-charge, before taking up the work.

3. Where the Pipes are laid, underground these must not be laid less than 450mm below ground level and coated with one coat of approved black bituminous paint. For laying the G.I. pipes and fittings below ground level, the width and the depth of the trenches for different dimensions for the pipes shall be given as below :

Dla of Pipe	Width of Trench	Depth of Trench
15mm to 50 mm	300 mm	600 mm
65mm to 100mm	450 mm	750 mm

The pipes shall be laid on a layer of 75mm thick sand and filled up with sand up to 75mm above pipes and the remaining portion of the trench shall then be filled up with proper ramming as described in "Excavation and refilling". The surplus earth shall be disposed of as directed.

Thrust or anchor blocks of cement concrete 1.2.4 in hard granite chips shall be constructed on all bends or branches to transmit the hydraulic pressure without impairing the ground and spreading it over a sufficient area. Pipes shall not be laid to pass through manholes, catchpit, drain, where, it is unavoidable the pipes shall be carried in sleeve pipe of M.S./G.I., as approved by the Engineer-in-charge. The rate should include such a situation.

4. Where Pipes run along walls, the same are to be fixed to the wall with holder bat clamps /M.S. Hooks as below:

Dia of pipe in mm	15	20	25	32	40	50
Horizontal line	2m	2.50m	2.50m	2.50m	3m	3m
Vertical line	2.5m	3m	3m	3m	3.5m	3.5m

Where the pipes are passing through the R.C.C. / Masonry wall / Volumn / beam or pillars, these must pass through the appropriate higher sizes of C.I/G.I Sleeve Pipes and are to be included in the rates.

In case the pipes are embedded in wails and floors it should be painted with one coat of anticorrosive paint of approved quality. ,

All pipes should be fixed horizontal and vertical. For taking the pipes through the walls and floors & roof slabs etc. the holes shall be made by filling with chisels or jumper and not by dlsmentling the brickwork or concrete. After fixing, the holes shall be made good with cement concrete 1:2:4 and properly finished with C. Plaster 1.4 to match the adjacent surface.

Union Nuts are to be provided in each of the vertical riser or drop on and from G.I. Tank and near the Valve and as and where necessary.

The long screw fittings of 3 mtrs. for long horizontal lines and inside the lavatory / Kitchen etc.

5. After laying and jointing the pipes and fittings shall be inspected under working condition of pressure and flow. Any joint found leaking pipes should be removed and replaced without extra cost. The pipes and fittings after they are laid shall be tested to hydraulic pressure of 6 Kg/Cm^2. The test pressure should maintain without loss of for at least half an hour.

6. Painting

On completion of the test, the exposed pipes and fittings are to be painted with two costs of synthetic enamel paint of approved colour and brand over a coat of priming.

7. Measurement

The length shall be measured in running meter. Correct to centimetre for the finished work, which shall include the pipes and fittings such as Bends, Tees, Elbows, etc., but excludes brass or Gun-metal fixture like tap, Cooks, Valves, PVC connection pipes etc.

8. Ball Valve

The ball valve shall be high or low pressure class as stipulated in the Tender Schedule and shall confirm to I.S. 1703-1968, The nominal size of ball valve shall be that corresponding to the size of Pipe for which it is used. The Bal valve shall be of brass or gun-metal and the float for low pressure polyethylene and for high pressure in copper.

Each and every ball valve while in closed position shall withstand and internally applied hydraulic pressure of 20 Kg/Cm^2 for a minimum period of two minutes without leakage or sweating.

Every high pressure ball valve when assemble in working condition, with the float immersed to not more than half its volume shall remain closed against a test' pressure of 10.5Kg/Cm^2 and a low pressure ball valve against a test pressure of 5.3 Kg/Cm^2.

Polyethylene floats shall be watertight and non-absorbent and shall not contaminate water and with do jointing adhesive jointing parts.

The minimum thickness of the copper sheet used for making copper floats shall be of 0.45 mm. The thickness of materials of the float shall be uniform throughout.

9. Ferrule

The ferrules for connection with C.I. main shall generally confirm to I.S. 2692-1964 and shall be of nominal bore as specified. The ferrule shall be fitted with 3 screw and 1 plug or valve capable of complete cutting off the supply to the connected pipe as and when required. For fixing the ferrule, the C.I. main shall be drilled and tapped during non-supply hour at 45 to the connected Pipe as that when required. The ferrule must be so fitted, that no portion of the sunk shall be left projecting within the main on which it is fitted. After the ferrule is connected, one C.I. bell mouth cover or with bricks (as specified) shall be kept over the ferrule to cover the ferrule to protect it and the cost thereof is to be included in the item, even if there is no mention.

10. Non-return Valve (Check Valves)

The non-return valve shall be of Brass or Gunmetal and shall be of horizontal or vertical flow type and of the size as specified and confirm to I.S. 7810-1959 and I.S. 778-1957. The

approximate weights of the valves are given below.

Dia in mm	Horizontal type (in kg)	Vertical type (in kg)
15	0.30	0.25
20	0.55	0.25
25	0.90	0.75
32	1.25	0.90
40	1.70	1.20
50	2.90	1 .45
65	5.25	2.15
80	7.70	4.10
	±Tolerance 5%	

11. Foot Valve

Foot valve is generally placed at the lower end of the suction pipe of the centrifugal pump to prevent the suction pipe from empting. On vertical non-return valve may also be fixed in place of foot-valve.

The foot valve shall confirm to I.S.038-1967.

12. Water meters (Domestic types)

Water meter up to 50m nominal size shall confirm to I.S.-779-1968.The meter body shall be of bronze/ Gun-metal and marked to read in liters complete with registration box and lid. The water meters shall be provided with Strainers. Strainers shall be of material, which is not susceptible to electrolyte, clean and shall be fitted on the inlet side of water meter. It shall be possible to remove and clean the strainer and not permit disturbing the registration box. The offer should include the same. The water meters shall bear ISI Mark.

13. Bibcock & Stopcock

These shall confirm to I.S.781-1967 and bear ISI Mark. The bibcock is a draw off tap with a horizontal inlet and free outlet and stopcock is a valve with a suitable means of connection for Insertion in a pipeline for controlling or stopping the flow. This shall be of screw down type. The cock shall open in anti-clockwise direction. The stopcocks should be of C.R open type/concealed type/angle valves type as specified in tender schedule. Bibcock should be also C.R Brass bibcock.

14. Full way Valve (Brass)

Full way valve is a valve with suitable means of connection for insertion in a pipeline for controlling or stepping the flow. The valve shall be of brass fitted with a cast-iron wheel and shall be of gate valve type confirming to I.S, 780-1960, opening Full way and of the size as specified.

Dia in mm	Flenged End Valves in kg	Screwed End Valve in kg
15	1.021	0.567
20	1.503	0.680
25	2.498	1.077
32	5.232	1.559
40	6.082	2.268
50	6.691	3.232
65	10.149	6.840
80	13.281	8.845

15. Gun Metal Full way Valve

This shall be of the Gun-Metal fitted with wheel and shall be of Gate-Valve type opening full way. This shall confirm to I.S, 778-1971. Class I. The Valves should bear ISI Mark.

TECHNICAL SPECIFICATION FOR STONEWARE PIPE ETC.

1. Stoneware Pipes (Materials)

The S.W. pipes & fitting should be of Grade 'A' confirming to I.S 651/1965.The pipes shall be sound, free from visible defects such as fire crack or hair crack and flow or blister. The pipes shall give a sharp clear line when struk with a light hammer and should be perfectly salt glazed.

Internal dia of Pipe in m.m.	Thickness of the Barrel in m.m.	Weight of each pipe in kg.
100	12	14
150	16	23
200	17	33
230	19	44
250	20	52
300	25	79
350	30	100
400	35	125
450	38	147

The length of pipes is 600mm exclusive of the internal depth of socket.

2. Excavation of Trench for laying Sewer Pipes

The trenches for the pipes shall be excavated to the lines & level as directed. The bed of the trench shall have to be evenly dressed throughout from one change of grade to the next. The gradient is to stout by means of sight rails and boning rods and required depth be excavated at any point. The depth of the trench shall not less than one metre, measured from top of the pipe to the surface of the ground under roads and not less than 0.75mm elsewhere. The width of the trench shall be the nominal diameter of the pipe plus 350m. The bed of the trench if in soft or made up earth, shall be well watered and rammed before laying the pipes and the depressions if any shall be properly filled with sand and consolidated in 200mm layers. Depending on soil condition, piling may even be necessary if so desired by the Engineer In-charge. If rock is met with, it shall be removed 150 mm below the level of the pipe and the trench will be refilled with sand and consolidated.

The excavated materials shall not be placed within One Mtr. or half of the depth of the trench whichever is greater from the edge of the trench.

The trench shall be kept free from water. Shoring and shuttering shall be provided wherever required. Excavation below water label shall be done after dewatering the trenches.

After the excavation of the trench is completed, foundation of cement concrete 1.4.8 in hard granite metal (size 40mm) shall be laid with proper level all along under the length of the pipe with launching on all around concrete as per drawing.

3. Laying, Jointing, launching of the Pipes and fittings.

Drain Pipes (S.W. pipe & other pipes used for drain and Sewer) shall be laid in straight lines and to the even gradients as shown in the layout drawings.

The socket and of the pipes shall face stream. Adequate care shall be exercised in setting out and determining the level of the pipes and the contractor shall provide suitable instruments, templates, sight rails, boning rods and other equipments necessary for the purpose. In the case of pipes with joints to be made with loose collars, the collars shall be slipped on before the next pipe is laid. In those joints, a tight ring of twisted tarred jute soaked in cement mortar filling to ensure proper alignment and prevent. Cement entering the pipes, Cement compound joints is to be finished with proportion 1.1 with 45 bevelling. The joints are to be kept wet with wet bag until the same are properly set with. The cement mortar joints shall be cured at least for 7 (Seven) days.

In the case of S.W. Pipe joints (socket & spigot), they should be caulked first with tarred jute (Spun) of required diameter, almost quarter depth of the socket, after which cement mortar 1:1 is pushed in with wooden chissel and finishing bevelled at outside at 45 degree. Instead of jute of hump rubber gasket of proper size may also be used. The whole joint must be cured for not less than three days. In case of pipes less than 250m dia, joints should be made at ground level with three pipes at a time and for larger ones two pipes at a time and after curing they should be soiled in foundation with the help of the ropes. All pipes should be properly launched with cement concrete 1.3.6 with washed gravel where the pipes are crossing the drain or all round concrete 1.3.6 with washed gravel is to be done to 150 mm thick over the barrel of the pipe.

The whole of the drain work shall be tested when laid, and at the completion of the contract, to the satisfaction of the Engineer-in-charge and shall be retested if necessary until found satisfactory. The test shall be made by means of water under pressure at the highest point of the Section under test and providing an air pipe at the lower and of the line. Maximum head of 5 (five) fact (1.5m) must be maintained.

4. Excavation and Hilling.

Excavation for drain and pipe trenches shall be straight and to correct depth and gradient. The trench bottom shall be of required width as per specification to allow working space for pipe jointing.

Excavated materials shall be dumped away from the site as directed by Engineer-in-charge. Suitable precautions are to be taken to prevent in flow of water into the excavated area, during construction.

The contractor at his own expense shall pump out or otherwise remove any or all water which during the continuance of contract may be found in the excavated trenches to keep the trench clear of water during the work under progress.

The pipeline shall not be refilled and covered, until the line therein has been passed and tested.

5. Burried Services

All pipes, cable mains and other services exposed by the excavations shall be effectively supported by timbering or other means for which no extra payment will be allowed. The contractor shall be responsible for any damage occurring to burried services and make good the same at his own cost to the satisfaction of the Engineer-in-charge.

6. Trench condition :

Where a trench is excavated and refilled after laying the pipe, settlement of the earth in the refilled trench take place. The filling above the top of pipe, settles relatively, more than the sides of the trench, thereby developing frictional resistance. The contractor is required to take special precaution against this, while refilling the trenches. Procedure for backfilling as stipulated earlier should be strictly followed.

7. Inspection Chambers/Manholes

At every change of alignment, gradient or diameter of a drain there shall be a manhole or Inspection Chamber. The maximum distance between man hole chamber shall be 30 metres for the linelald straight.

All manhole and inspection chamber shall have internal dimension as shown in drawing and B.O.Q. The depth of invert shall be fixed to the gradient.

The foundation for Manhole shall be 175mm thick & with cement concrete 1.3.6 in hard stone metal / granite metal of 40mm size. The concrete shall project 150mm beyond the external faces of the brickwork.

The brick masonary shall be done in cement mortar in the proportion of 1:4 and thickness of the brick wall should be 250mm thick up to 1200mm depth from Ground Level and beyond that the wall thickness shall be maintained 375mm.The inside surface of the walls of the chamber, shall be finished with cement plaster 1.3 and out side with cement pointing 1.3. In addition to this, the inside surface should also be provided with cement punning.

On the top of base concrete channelling on C.C. 1.2.4 with granite chips is to be done keeping the diameter equal to the dia of drain pipe and depth equal to half of the dia of pipe. The channel, 'should 1 be done longitudinally at the centre, connecting both the ends of the pipe. The channel is to be hunched up with concrete 1.2.4 with hard granite chips of size 12mm sloping upwards from the edge of channel to meet the side of chamber at gradient of 1.6. The channel and benching are to be finished smooth and cement mortar 1.3 and punning unless it is

unavoidable. The branch should deliver sewerage in the Manhole in the direction of main flow and the junction must be made with care so that the flow in the main is not impeded. Channels for drains coming from the side of the Manhole Chamber, shall be curved to meet the main drainage channels.

The Manhole and Inspection Chambers shall be covered with R.C.C. cover slab of thickness 100mm to 150mm according to the requirement at site. One C.I. Manhole cover of diameter and weight as stipulated in the tender schedule shall be fixed, on the cover slab. Unless otherwise mentioned the C.I. Cover and Frames and shall confirm to I.S. 1726/1960. Heavy duty covers etc., urider heavy vehicular traffic condition and capable of bearing wheel loads up to 11.25 tons, are to be used and medium duty under light type wheel traffic loads and light duty for domestic premises are to be used. Covers and Frames shall be clearly cast, double water seal type and they shall be free from all and sand holes. The cover shall be gas tight and water tight with

proper water-seal. The C.I. Cover and frame shall be coated with two coats of black bituminous paint. The frame of Manhole cover shall be fixed on the slab while the slab is cast. R.C.C.M.H. covers of 50cm dia and 100mm thickness shall be fitted ki line of C.I.M.H. cover if stipulated in the bill of quantity of the tender schedule.

8. Gully Trap Chamber

The size of chamber for 100mm HCI yard gully shall be of 300mm X 300mm (Inside). Foundation with 100mm thick cement concrete 1.3.6 with hard granite metal of size 40mm from outer surface of wall and Brick work in cement mortar 1.4,125rnm thick, depth up to 600mm

maximum. The finishing of masonry wall both inside and outside should be done in cement mortar 1.4 cement punning should be provided on the inner surface the trap should be burried in cement concrete 1.2.4 in H.G. chips up to the mouth and one hinged C.I. Grating of size 300mm x 300mm are to be fixed on the top of mouth of Gully trap to arrest rubbishes shall be provided. The foundation, should project 75mm from outer.

9. Kota/Chequred/Marble Stone flooring

The Kota/Marble stones shall be of thickness specified but not less than 20mm and of uniform with edges absolutely square & straight. They shall be laid in Cement Mortar (1.4) over masonry or concrete base. The sides of the stones shall be arranged to butt against each other truly so as to came the joints practically invisible and certainly not more than 0.8mm in width any where. The joints shall not be filled with mortar but may afterwards be grouted with neat white cement mixed with matching colour pigment. When the floor has completely set, it, should be polished with pumice stone and finally with pads of felt.

10. Glazed tile dado

The glazed porcelain tiles shall be of approved size and thickness 5mm to 6mm with edges absolutely straight & surface accurately plain. They shall be fixed in 6mm. thick cement mortar using cement slurry over pre-cement plastered base. The sides of the tiles shall be arranged to but against each other truly so as to make the joints practically invisible. However, the joints may be granted with white cement mixed with colouring materials to match the tiles and neatly cleaned leaving no trace of excess grouting materials. The tiled surface and edges should be perfectly vertical and straight. The corner points must be normally right angled unless the site condition demands otherwise,

TECHNICAL SPECIFICATION OF INTERNAL ELECTRICATION WORKS

The details of internal wiring, the position of fittings, fans, switches and plug sockets etc. are indicated in the layout drawings. The position of light fittings, fans, switchboards etc. indicated n these drawings are only for the guidance of the supplier and the actual position of these shall be mutually decided between the supplier and the purchaser. The supplier shall submit the purchaser of his consideration and approval all runs of wiring and the exact position of all the points and the switch
boxes first marked on the points buildings.

All internal wiring shall be done in conformity to the latest Indian standard specification/Rules, code of practice adopted by CPWD and other standard practices prevalent in the part of the country. For the purpose of the specification the terminology used shall be as defined in IS:732 and IS:1356 ofr the definition of points wiring. The installation shall be carried out in conformity to all requirements of IE Act,1910 and IE Rules 1956.

a) CEILING ROSE IN (IN CASE OF CEILING AND EXHAUST FAN).

b) CEILING ROSE OR CONNECTOR (IN CASE OF PENDANTS EXCEPT STIFF PENDANT POINTS)

c) BANK PLATE (IN CASE OF STIFF PENDANT).

d) SOCKET OUTLET (IN CASE OF SOCKET OUTLET POINTS)

e) LAMPS HOLDER (IN CASE OF WALL BRACKET, BATTEN HOLDER BULK HEAD FITTING AND SIMILAR OTHER FITTINGS)

f)CALL BELL / BUZZER (IN CASE WORDS 'VIA' THE SWITCH SHALL BE READ 'VIA' THE CEILING ROSE / SOCket
outlet for bell push, where no ceiling rose / socket outlet its provided.

The following shall be deemed to be included in the point wiring

a) Switch and ceiling rose are required

b) In case of wall brackets, bulk head fittings, cables as required up to the lamp holders]

c) Bushed conduit for porcelain tubing where cables pass through walls.

d) All wood or metal blocks, boards and boxes, R.J. Boxes sunks or surface type including those required for fan regulator but excluding those under the distribution board and main control switch.

e) Earth wire from 3 pin socket point to the common earth including connection to the earth dolley.

f) Earth wire of 16SWG/14 SWG/I.G. wire for loop earthing of the fixture

g) All fixing accessories such as clips, nails, screw, plug, rawl plug, wooden plug, round blocks etc. as required

h) Joint for junction boxes and connecting the same as required

i) Connections to ceiling rose or connection socket outlet, lamp holders, switch , fan regulators etc

The point wiring in case of fan and light points shall mean the distance between the control switch and ceiling rose, connect or back plate, socket outlet or lamp holder depending upon the fittings measured along the runs of wiring irrespective of the number of wires in run. In the case of socket outlet points, the length shall mean the distance between the socket outlet and the tapping point of live wire on the nearest switchboard or junction box, as the case may be.

In the case of exclusive socket outlet circuits wired on 'Joint Box' system of wiring, any junction provided for extending the wiring beyond the point referred to, shall be treated as the nearest tapping point. In case of call bell / buzzer points the length shall mean the distance between the call bell and the ceiling rose / socket outlet or the bell push (when the ceiling rose / socket outlet is not used).

Sub main shall include the earth wire of adequate size main distribution Board up to sub distribution board B.B. such wiring has been classified on the basis of length. For the internal lighting, either surface conduct wiring system or recessed conduit or batten wiring system shall be provided as specific in the bill of quantities and working drawings.

Conduit wiring

For recessed conduit wiring system the conduit shall be placed in the ceiling / columns etc. before the casting of the slab or column. The conduit pipes shall be properly positioned and fixed so that it will not be displaced at the time of concreting. The junction boxes provided shall be so arranged that its cover will be flushed with the finished surface of the ceiling or column.

For placing the conduits in the walls, chases of ample dimension shall be made neatly to fix the conduit in a desired manner. The conduit pipe shall be fixed by means of staple or saddles not more than 600mm apart. Fixing of standard bends or elbows shall be avoided and all curves maintained by bending the conduit itself with a long radius will permit easy drawing of the conductors. Suitable inspection boxes shall be provided to permit periodical inspection and removal or replacement of wires if necessary. There shall be mounted flush with the wall with holes in the cover of the box.

The switch or regulator box shall be made of metal on all sides except on the front where backlight sheet or Perspex cover painted to match the colours of the wall shall be used I case of surface wiring system. For recessed wiring system, these boxes shall be made flush with the conduit of each conduit or section shall be completed before conductors are drawn in. The entire system of conduit after installation shall be tested or mechanical strength and electrical continuity throughout the earthing of the entire installation shall be carried out in accordance with I.E. Rules and standards.

The number of wires drawn in the conduits shall not exceed the numbers those specified in Indian standard specification No.732.

Main and Sub distribution Boards:

The position of main boards for lighting and sub distribution board for different buildings are approximate and the exact location shall be given to the successful tenderer at the time of installation.

The scope of this specification includes installation of the panel boards and distribution boards and making necessary connections. The installation of the boards shall be done strictly in accordance with the details supplied with the specifications; the instructions supplied by the switchgear manufacturer, Indian standard specifications and H.E. rules.

The supplier shall submit the details of installations to the purchaser for his consideration and approval, prior to installation.

When the switchboards are wall / column mounted top, they shall, be mounted on a suitable angle iron framework. All the metal supports etc. shall be protected against corrosion. The mounting height for such switchboards shall be such that it can be conveniently operated.

Earthing

Earthing shall generally be carried out in accordance with the requirements of Indian Electricity Rules and the relevant rules and regulations of electrical supply authorities. The complete earthing work for the installation covered by this specifications shall also be provided taking into account Indian Standard Specification No.IS:732 and IS:3043. The earthing system adopted shall also have adequate mechanical strength.

The work shall include earthing of non current carrying metallic parts of all the equipment, light fittings, conduit pipes, cable and cable supports and earth strips (the design to be approved by the purchaser) and all the inter connection between the earthing system to a value mutually agreed upon between the purchasers and the supplier.

Installation, testing and Commissioning:

The supplier shall be responsible for the installation testing the commissioning of all the equipment and materials supplied by him against this specification. This shall also include the provision of miscellaneous wiring and supports and earthing in compliance with Indian Electricity rules

and to he full satisfaction of the Government Electrical Inspector. All small items such as clamps, bolts, nuts, racks, supports, miscellaneous wiring etc. required to make the installation complete, shall constitute the part of major items specified in the bill of quantities and the tenderer should quote for each item taking these into consideration.

The responsibility of the supplier shall include receiving all the equipment and materials at site, storage for required period, handling the same at the site of erection, final execution , erections, revisions of equipment, if any, testing and commissioning and handing over the installation complete in all respect to the entire satisfaction of the purchaser's authorized representative. The supplier shall make good of all the damaged equipment and materials during this period at his own expense.

The supplier shall submit sample of each and every equipment and materials for the final approval of the purchaser's representatives immediately after the acceptance of offer. All the equipments and materials shall be supplied exactly as per to the approved samples. If at any stage the purchaser brings to the notice of the supplier any discrepancy or defect the supplier shall replace the same at his own expense.

The supplier shall render all reasonable assistance to the purchaser in getting the installation approved by the Government Electrical Inspector prior to the energisation and supply necessary drawings, test certificates and both for tests carried out at the factory and site as well as the tests which the inspector may demand. In case any addition of alternations are required, to be made in the installation or in the equipment as per he directive of the Government Electrical Inspector / Local Authorities, he same will have to be carried out by the supplier, at his own expense.

The position of light fittings, main board, switches, sockets and routes of pipes and cables shown in the drawings are only indicative. The actual position of these shall be decided at site at the time of execution joints by the supplier and the purchaser's authorized representative. The position of light fittings, pipes and board if required, to be changed / shifted due to the change in the building design etc by the purchaser's authorized representative, the same shall be carried out at no extra cost.

All the materials supplied to the contractor according to the Contract condition will be subject to inspection and approval of the officer or his representative from time to time. The contractor will provide all facilities of such inspections free of cost. At the time of inspection, the owner of his representative will have full liberty to reject any such materials, which does not conform to the specification / requirement. No claim fo any rejected materials will be entertained by the owner. The contractor will remove all rejected materials from site at his own cost.

No surplus materials procured by the contractor will be accepted by the owner.

The contractor will be responsible to get the Electric installations cleared by the Electrical Inspector of Orissa Government.

Only the inspection fee will be reimbursed by Department on production of challan copy.

Installation and Maintenance Tools:

The supplier along with the tender shall furnish a complete list of tools, appliances and accessories required for the installations of switch grass, light fittings, pipes cables and wires.

Drawings:

All drawings, test certificates, instructions manuals etc. shall be in English Language and all dimensioins and weights shall be in metric units.

The tenderer shall submit with the tender general arrangement drawings for the installations work, typical methods and cabling and cables supports pipe work and pipe supports, typical methods of earthing and fixing of light fittings earthing etc. as offered by him in the tender.

The contractor shall submit for he purchaser's approval all layout, the general arrangement drawings as well as the typical details of all types of installation work in three sets before commencing the manufacture and the site installations work well in advance so that the site work shall not sufer.

After obtaining approval of the above drawings the contractor shall supply three sets of the following drawings:

(a) The arrangement and support of conduit pipe

(b) The position of light fittings, switches / plug socket and switch boards

(c) Earthing installations

(d) Layout plan showing the entire cable network

On completion of work, the successful tenderer shall supply one set of tracing in transparent linen and five sets of prints of all drawings incorporating all the changes / modifications affected during the execution of the contact. All wiring diagrams shall indicate clearly, the switch board, the runs of main and sub main wiring and the position of all the points with their controls. All the circuits shall be clearly indicated and numbered in a accordance with IS:375.

The technical literatures and operating instructions and the maintenance manuals shall also be supplied in triplicate to the purchasers after the completion of the installations work.

Test:

Manufactures standard tests in accordance with Indian Standard and other standards, adopted shall be carried out on all the equipment and accessories covered by this specification so as to ensure efficient and satisfactory performances of all the components and also the equipment as a whole under working conditions at site. The tenderer shall submit a complete list of all such tests. If the purchaser, if so desired for special tests, to be carried out, under certain conditions the same shall be made by the successful tenderer at his own expenses.

All equipment shall be tested at site before the commissioning in accordance with the adopted standard and Indian Electricity Rules. Voltage test shall be carried out on each circuit on completion of wiring and cabling.

Technical Data:

The tederers shall submit with their tender all such technical data, which are required for complete evaluation of the equipment offered. The suppliers shall give complete technical information of the equipment as detailed in Annexure and relevant Indian standards. The tenderer should supply such details of all equipment and materials offered specially with regard to the following.

a) Fuse switch board and distribution boards

b) Light fittings

c) Conduits and the accessories for them

d) Switches / plug sockets

e) Cable and wires

The tender shall give along with his tender the following details:

a) Complete details of earthing electrodes, earthing station and earthing conductors

b) Details of conduit supports

c) Details of all the equipment and accessories to be supplied

Exception to Specifications:

The object of this specification is to have all tenderers quote for equivalent materials and workmanship. It is, however, understood the certain manufacturers may not be able to offer as specified in every case, where the tenderer may find it necessary to deviate from the exact letter and not the intent of the specification, he must specifically state what these deviations may be at the time he submits the tender. All deviations must be grouped in one statement.

No deviations other than those includes in the tender will be permitted. These deviations should be listed as per Annexure.

PVC insulated Cables and Wires:

For 415V Distribution system, cables of voltage grade not less than 1000V shall be used. These cables shall be heavy-duty class, PVC insulated and PVC sheathed with aluminium conductors. The wires used in the lighting installation shall be PVC insulated n sheathed in case of conduits wiring and of 660V grade. Wires of different colours shall be made use of for quick identification of phase

wire / neutral wire etc. All cable of wires shall comply with the requirements regarding the manufacture and testing etc as specified in India Standard Specification IS: 1554 and IS:694.

The length of cables indicated in the bill of quantities and drawings are only indicative and the successful tenderer will be paid for the exact length of cables laid at site. No joint shall be allowed in a run of cables, which can be covered by a possible drum length of cables.

Fuse switch / switch fuse shall be metal clad dust and vermin proof suitable for use under climatic conditions prevailing at site. Switch fuse / fuse switch units shall comply in general to IS:1567/4064 with regard to design and constructional / features.

The 'ON' and 'OFF' position of the switch handles shall be distinctly indicated and interlocks shall be provided to ensure that the switch cover cannot be opened unless the switch is in the 'OFF' position. Means shall, however, be provided for releasing the interlock to permit closing of switch with cover open for testing purposes. Designs with normal conventional position of switch handles, i.e. with switch handle up in the 'ON' position and down I the 'OFF' position shall be preferred. All live parts
inside the switch shall be properly surrounded and inter phase barrier shall be provided.

Switch fuse / fuse switch units, distribution boards shall be provided with necessary metal fame work so that they can be mounted on wall / columns structure etc. as desired. The panel boards, shall be wall mounted type or floor mounted type as specified in the bill of quantities or drawings. Necessary supporting metal frame of approved design shall be provided for all panel boards.

The arrangements of work boards shall be such that the operational handle of the top mounted switches are within the convenient of operators (about 1.2 M from the finished floor level) and proper space shall be provided for the termination of the cable in the switches provided below the bus-bars.

The bus-bars within the bus-bar chamber shall be liberally spaced for taking the riser connection. The bus bars with aluminium conductors shall be provided and PVC sleeves of different colour shall be mounted on them for easy identification, Clamped joints for taking the riser connections, instead of bolted type shall be preferred.

Two bolted type earthing terminals shall be provided on the switch boards. All individual switches shall be connected with suitable size earth wire to the main earthing terminals of the switchboard.

Hanger Board and shock treatment / charts shall be supplied wherever required.

At the incoming side of each pen phase, 3-neon type indicating lamps should be provided at the main board.

Switches and Plug Sockets

Switches provided for control of light points shall conform to IS:1087 and shall be rated for 5A/15A 250V

Ceiling Fans and Exhaust Fans:

Ceiling fans shall conform to Indian standard specification IS: 374-1960. The fans shall be supplied with all standard accessories like regulator and capacitors etc.

The performances rating of the propeller fans shall in accordance with stipulations of IS:2312. All fans shall be robust in design and construction and shall be supplied complete with wall brackets / clamps etc.

Fluorescent Fittings:

All fluorescent fittings supplied shall confirm in general to IS:1913 and shall be complete with all standard accessories like choke, starter and capacitor etc

The type of enclosure provided for the fittings shall be of that specified in the bill of quantities and the working drawings. The materials of construction for fittings used for outdoor installations and for use in the work anodes shall be such that they shall withstand the atmospheric condition in that area.

Lamp holders used shall be fully shock proof, spring-loaded rotary type to ensure positive

lamp locking. It should also be not possible to touch live parts of the lamp holder both after the lamp has been taken out and during the insertion or removal of the lamp. The starters shall be designed to give designed starting characterstics that shall promote full lamp life. Starter shall have high mechanical strength and topic proof construction. It should be incorporated with radio suppression capacitor o adequate rating and capacity. Power factor improvement capacitors are provided with hermetically sealed housing to ensure long and trouble fee service. Terminal soldering tango shall be provided for easy electrical connections. The capacitors in general shall confirm to IS:1569-1963 and P.F improvement up to 0.95 for twin fluorescent light fittings and 0.9 for single fluorescent light fittings is to be maintained.

The ballast provided in the fluorescent fittings shall generally be in accordance to IS:1534.

The ballast should incorporate the following design features.

i) Low working temperature
ii) Correct pre heating current for the electrodes
iii) Proper wave foam
iv) Small in dimensions
v) Correct power supply to the lamp
vi) No hum.
vii) Easy connection leads.

All the metal construction of the fittings shall be such that they shall:

1) Withstand the atmospheric condition prevailing in the area
2) Provide maximum mechanical protection to the tubes and fittings accessories. Assists in maximum and uniform light distribution.

All fittings shall be provided complete with florescent lamps. All lamps shall confirm to IS:2418.

Incandescent Fittings:

The incandescent fittings shall be supplied strictly as per the details given in the enclosed annexure and bill of quantities, deviation if any regarding design, construction of materials should be specified clearly.

All the metal parts used in construction of the fittings shall have no effect due to dust / fumes / gases likely to exist in the atmosphere. All the bolts , clamps, nuts and guard wire etc shall be galvanized.

The wall fittings shall be provided with necessary hooks / clamps / supports etc for fixing the light fittings on wall / ceiling etc as detailed in the bill of quantities and the working drawings.

Light fittings shall be suitable for connection with 19mm dia. Conduit pipe as required. If fittings are to be connected through PVC cables, glands of adequate size and capacity shall be provided.

The lamp holders provided in the fittings shall confirm to IS:1528.

C O D E S

Codes shall mean the following including the latest ascendants and / or replacement if any.

a) Indian Boiler Act, 1923 and Rules and Regulations made their under
b) Indian Electricity Act, 1923 and Rules and Regulations made there under
c) Indian Factories Act, 1948 and Rules and Regulations made thereunder
d) The minimum wages Act
e) The Women's Compensation Act

f) The Payment of Wages Act
g) The Fatal Accident Act
h) The Industrial Employment Act
i) The Employment provident Fund Act
j) Indian Explosive Act 1984 the Rules and Regulations made there under
k) Indian Petroleum Act 1934, and Rules and Regulations made there under
l) A.S.M.E. Test Codes
m) AIRE Test, Codes
n) American Society of Materials Testing Codes
o) Standards of the Indian Standards Institution

1) Low Tension Circuit Breakers :	IS 2516-1955 Part I Sec.1 IS
2) Switchgear Bus Bars	375-1963
3) HRC fuse links	IS 2208-1962
4) Distribution fuse boards	IS2675-1966
5) Enclosure for Low Voltage switchgear	IS214701962
6) PVC Cables	IS1554-1975
7) Tabular fluorescent lamps for Cameral lighting service	IS2418-1963
8) Tungsten Filament Lamps for cameral service	IS415-1963
9) Ceiling Fans	IS274-1966
10) Flood lights	IS1947-1961
11) Wall Glass flame-proof electric light fittings	IS2206-1962 (Part 1)
12) Water Tight Electric Light Fittings	IS3553-1956
13) Steel Boxes for Enclosure of Electrical Accessories	IS5133-1969
14) Fittings for Rigid Steel conduit	IS2667-1979
15) Rigid steel circuits for electrical wiring	IS3837-1966
16) Accessories for Rigid Steel Conduits for Electrical Wiring	IS3837-1966
17) Switch Socket Outlets	IS3837-1966
18) PVC Wiring	IS694-1977
19) Switches for domestic and similar purpose	IS3854-1966
20) PVC wiring	IS694-1977
21) Call Bell and Buzzers	IS2268-1966
22) Straight through joint boxes and leads sleeves or paper insulated cables-	EID-0032-1964 IS3043-1966 IS732-1963
23) Earthing	IS3072-1965 (Part I)
24) Electrical Wiring installations	IS2309 -1969 IS1882-
25) Switchgear	1962 IS4064-1978
26) Lighting protection	IS2189-1970 IS2175-
27) Public Address system	1977 IS5216-1969
28) Low Tension switch use units	IS5424-1969
29) Code of Practice for Automatic FIRE ALAM system	
30) Specification for Heat Sensitive Fire Detectors	
31) Guide for Safety procedure in Electric work	
32) Rubber Mats for Electric works	

p) Other internationally approved standards and / or Rules and Regulations touching the subject matter of the contract

GENERAL CONDITIONS

1. Drawings & Specifications

The Contractor, after the award of the contract and on signing the agreement shall be furnished free of cost two copies of each of the drawings specifications, descriptive schedules and other details necessary for execution of the work. All further drawings and details as may be prepared by the department from time to time for reasonable development of the work described in the contract documents and reasonably necessary to explain and amplify the contract drawings and to enable the contractor to execute and complete the work shall also be supplied in duplicate to contractor free of cost. Any further copies of such drawings, required by the contractor shall be paid for by him. The contractor shall keep one copy of all the drawings specifications, price schedule of items and quantities at work site and the Engineer-in-charge or his authorised representative shall at all reasonable times have access to the same.

2. Contractor's Responsibility.

a) The contractor shall provide at his cost everything necessary for the proper execution of the works according to the intend and meaning of the drawings, schedule of items and quantities and specifications taken together, if the same is not particularly shown or described therein, provided that the same can reasonably be inferred there from, tf the Contractor finds any discrepancy in the drawings or between the drawing and schedule of quantities and specifications, he shall immediately in writing refer the same to the Engineer-in-charge whose decision shall be final & binding.

b) Any work done at any time or even before receipt of such details shall be removed/replaced by the contractor without any expense to the department If the work is not in order and if so directed by the Engineer-in-charge error inconsistencies in drawings and local conditions affecting the works shall be brought to the notice of the Engineer-in-charge immediately for his decision. All drawings, bill of quantities and specifications and copies therefore furnished by the department, are their property. They shall not be used on any other work and shall be returned to the Department on request on completion and before issue of final certificate or termination of the contract.

c) All materials and workmanship shall be of the respect kinds described in the specification. B.O.Q, contract and in accordance with the instruction of the Engineer-in-charge. The contractor must satisfy himself about the same while furnishing samples for approval of the Engineer-in-charge before incorporation in the works.

d) The Engineer-in-charge may from time to time cause at his discretion such tests on samples of materials or workmanship of all/any materials and work, as he may consider necessary at places of manufacture, fabrication, on the site or at such other places. The expenditure incurred for all such tests shall be borne by the contractor.

e) All approved samples are to be preserved by the contractor in a regular manner in the site office for inspection and verification of the Engineer-in-charge or his representative from time to time.

f) Alteration / Addition & Omissions

The Engineer-in-charge shall make any variation of the form, quality or quantity of the works or any part thereof that may be in his opinion be necessary and for that purpose or if for any, other reason it shall, in his opinion be desirable, he shall have power to order the Contractor to do so and the Contractor shall do any or allot followings : .

a) Increase or decrease the quantity of any work included in the contract.

b) Omit any such work.

c) Change the levels, lines, position and dimensions of any part of the works, and

d) Execute additional works of any kind necessary for the completion of the work.

No such variation shall in any way ratidate or invalidate the contract, but the value of all such variations shall be taken into account and shall be added to or deducted from the contract sum accordingly, but no such variation shall be made by the contractor without prior written instruction from the Engineer-in-charge.

e) The Schedule of quantities/rates shall be deemed to have been prepared and included in accordance with the method of measurement of work set out and as per the relevant specifications or in its absence relevant I.S. code of practice.

Any error in the specification or in quantity or omission of any item from the schedule of quantities/ rates shall not vitiate the contract, but he adjusted by adding to or deduction from the contract sum provided that no rectification of errors, if any, shall be allowed in the contract schedule of rates.

4. Valuation of variations

a) All extra or additional work done or work omitted shall be valued at the rates and price set out in the prices schedule of quantities, and/or derived there-from, if in-arriving at the contract sum, the Contractor have added to or deducted from the total of the items in the tender any sum either as a percentage or proportion, then the same percentage of proportion shall apply to all. items or works in the prices schedule as also for valuation of variation.

b) If the contract does not contain any rate or price applicable to the extra or additional work, or the rate or price in the priced schedule of quantities has become inapplicable in the opinion of the Engineer-in-charge by virtues of such addition or omission, then suitable rates or price shall be agreed such rates shall be derived by analysis based on standard schedule of rates of State P.W.D. / P.H.D or in case such is not available therein, form any approved schedule with the various elements valued at local market price plus 15 (fifteen) percent towards over-heads.

5. The Offers are also to include

a) To supply all materials, labour, supervision, services, supports, scaffoldings, approach road, construction equipments, tools and plants etc., as required for proper execution of all the items of the work as per drawing and specification.

b) To provide all incidental items not shown or specified in particular, but reasonable or necessary for successful completion of the work in accordance with the drawings, specifications and schedule of quantities.

c) Cleaning, Uprooting the stumps, vegetation and old masonry etc., met in the trenches and excavations.

d) Providing shoring and shuttering to avoid sliding of the soils and removal of the same or completion.

e) De-watering as required and directed.

f) Excavation at all depths (Unless otherwise mentioned in schedule), stacking separately usable and disposal of surface earth and materials from site as directed.

g) Curing of ail concrete and cement works as per specification and direction,

h) Centering, shuttering as required for all concrete work.

i) Bending, binding, tying the grill & placing in position, including supply of all materials & labour etc.

|) To provide water and power required for construction testing and commissioning,

k) Testing of materials and works as per specification and direction

ANNEXURE – I

LIST OF PLANT AND EQUIPMENTS TO BE DEPLOYED ON THE CONTACRT WORK

List of plants and equipments	Requirement
Water Tanker	2 No
Truck/ Tipper	2 No
Centering & Shuttering Materials	4037 Sqft
Concrete Mixture Machine	04 No
Plate Vibrator	2 No
Needle Vibrator	2 No
Tractor	2 Nos
Generator 10 HP	1 Nos
Water Pump	2 Nos

NOTE :

1. Capacity of each plant and equipment should be as per specification attached separately.
2. The above equipment should either be owned or availed on long-term lease extended beyond the duration of the work, the authority of which in either case is to be substantiated before award of the work.
3. The equipment mentioned above must be clearly indicated as “Owned / Leased.”
4. The above list is not exhaustive. All other machinery/equipments as will be required for satisfactory completion of the work shall have to be deployed by the agency.
5. For deploying additional sophisticated machinery by the agency for completion of the work, no claim shall be entertained.

CAPACITY OF PLANTS AND EQUIPMENTS

1.a) Tractor The tractor should have a minimum capacity of 22 to 50 H.P.
b) Water Tanker The water tanker should be a truck mounted one or as a trailing unit having minimum capacity of 5000 liters.
c) Smooth wheeled Weight from 8 tonnes to 10 tonnes
Roller Unballasted : 8 tonnes Approx.
Water Ballasted : 9 tonnes approx.
Sand Ballasted : 10 tonnes Approx.

2.a) Compressor Having capacity of 450 CFM
b) Water Pump Having capacity of 5H.P. to 27 H.P.
c) Jack Hammer Having capacity of 2 tonnes.
d) Winch with grab Winch having capacity of 5 tonne and grab having 1 tonne capacity.

3. a) Concrete Mixer Batch type Concrete Mixer as per IS-1791 / 1985 for capacity of 15 Cum / hour (Tilting drum type) with power operated side loaded revolution counter, automatic shaker, Gear mounted on steel chassis with 4 MS wheels complete with suitable prime mover.
b) Welding generator Having Capacity of 8-15 KW. Immersion type with vibrating Needle of 40 mm/ 50mm / 60mm & 4 meter length.

4. a) Diesel Generator Having capacity of 32 K.W.
b) Truck Having capacity of 12 tonnes.
c) Jeep Diesel jeep having capacity of 16 H.P. with trailer.

Signature of the Tenderer

ANNEXURE-II

WORKING EXPERIENCE
LIST OF SIMILAR NATURE OF PROJECTS EXECUTED

Name of Employer	Name of location and name of work	Contract price in Indian Rupees	Items of works	Date of starting the work as per Agreement	Stipulated date of completion of the work as per Agreement	Actual date of completion of the work	Reasons for delay in starting/ completion, if any
1	2	3	4	5	6	7	8

Signature of the Tenderer

ANNEXURE – III

WORKING EXPERIENCE

LIST OF SIMILAR NATURE OF PROJECTS IN PROGRESS

Name of Employer	Name of location and name of work	Contract price in Indian Rupees	Items of works	Date of starting the work as per Agreement	Stipulated date of completion of the work as per Agreement	Revised target date of completion of the work, if any	Reasons for slow progress, if any, with the updated billing amount
1	2	3	4	5	6	7	8

Signature of the Tenderer

ANNEXURE – IV

AFFIDAVIT

1. The undersigned do hereby certify that all the statements made in the required attachments including E.M.D. are true and correct.

2. The undersigned also hereby certifies that neither **I** / **our** firm M/s_____nor any of its constituent partners have abandoned any road/ bridge/Irrigation /Buildings or other project work in India nor any contract awarded to us for such works have been rescinded during the last five years prior to the date of this bid.

3. The undersigned hereby authorised and request (s) any bank, person, firm or Corporation to furnish pertinent information as deemed necessary and as requested by the Department to verify this statement or regarding my (our) competency and general reputation.
4. The undersigned understands and agrees that further qualifying information may be requested and agree to furnish any such information at the request of the Department.

Signature of the Tenderer

ANNEXURE – V

INFORMATION REGARDING CURRENT LITIGATION, DEBARRING EXPELLING OF TENDERED OR ABANDONMENT OF WORK BY THE TENDERER

1.	a) Is the tenderer currently involved in any litigation relating to the works. b) If yes: give details:	Yes / No
2.	a) Has the tenderer or any of its constituent partners been debarred/ expelled by any agency in India during the last 5 years.	Yes / No
3.	a) Has the tenderer or any of its constituent partners failed to perform on any contract work in India during the last 5 years. b) If yes, give details:	Yes / No

Note:

If any information in this schedule is found to be incorrect or concealed, qualification application will be summarily be rejected.

Signature of the Tenderer

Annexure-VI

CERTIFICATE OF NO RELATIONSHIP

I/We hereby certify that I/We* am/are* **related/not related*** to any officer of P.W.D of the rank of Assistant Engineer & above and any officer of the rank of Assistant **/** Under Secretary and above of the Works Department, Govt. of Orissa I/We* am/are* aware that, if the facts subsequently proved to be false, my/our* contract will be rescinded with forfeiture of E.M.D and security deposit and I/We* shall be liable to make good the loss or damage resulting from such cancellation.
I/We also note that, non-submission of this certificate will render my / our tender liable for rejection.

(*) - Strike out which is not applicable

Signature of the Tenderer
Date:-

Annexure-VII

CERTIFICATE OF EMPLOYMENT OF UNEMPLOYED GRADUATE

ENGINEER / DIPLOMA HOLDERS

(for Super class / special class / A class contractors only)

I / We hereby certify that at present the following Engineering personnel are working with me / in our firm / company and their bio-data are furnished below.

Sl. No.	Name of Engineering personnel appointed for supervising contractor's work with address.	Qualification	Date of Appointment	Monthly emolument	Whether full time engagement and continuous.	If they are superannuated / retired / dismissed or removed personnel from state Govt./ Central Govt ./ Public Sector Undertaking / private Companies and s or any one ineligible for Government service.
1	2	3	4	5	6	7

I / We also note that, non-submission of this certificate will render my / our tender liable for rejection .

Signature of the tenderer .

Approved for 56 (Fifty Six) pages

Block Development Officer
Sadar, Balasore

COVER-II

FINANCIAL BID DOCUMENT

	BILL OF QUANTITY				
NAME OF THE WORK : CONSTRUCTION OF DISTRICTPANCHAYAT RESOURCE CENTER (D.P.R.C.) BUILDING UNDER RGPSA AT RAJABAGICHA BALASORE BLOCK					
Sl.No.	**Items**	**Unit**	**Quantity**	**Rate in Rs.**	**Amount in Rs.**
	GROUP -(A) CIVIL				
1	Earth work excavation of foundation trench in hard soil including dressing and levelling the bed with initial lead of 50m. and 1.5 m. initial lift including all costs of labour materials required for the work etc. complete and as per direction of Engineer in charge.	Cum	236.49	184.60	43656.00
	Plinth Protection	Cum	36.89	184.60	6810.00
2	Filling foundation and plinth with sand well watered and rammed including cost, conveyance, royalty, taxes of all materials, labours and T & P required for the work etc. complete and as per direction of Engineer-in charge.	Cum	387.11	327.20	126662.00
	Plinth Protection	Cum	14.54	327.20	4757.00
3	Cement concrete (1:4:8) with 4 cm. Crusher Broken hard granite metal including laying in layers not exceeding 300 mm in depth, ramming, compacting to proper thickness, watering, curing for seven days with cost conveyance, royalty,taxes of all materials, labour and T&P required for the work etc. complete and as per direction of Engineer-in charge.	Cum	34.08	4166.10	141981.00
4	Cement concrete (1:3:6) using 40mm size hard granite crusher broken metal with cost conveyance, royalty,taxes of all materials, labour and T&P required for the work etc. complete and as per direction of Engineer-in charge. **Plinth Protection**	Cum	6.13	4507.80	27643.00
5	Brick work with Flyash Bricks foundation and plinth in cement mortar (1:6) having crushing strength not less than 75.00 Kg/cm2 immerging the bricks in water not less than six hours with cost conveyance, royalty,taxes of all materials, labour and T&P required for the work etc. complete and as per direction of Engineer-in charge.	Cum	39.79	4188.63	166666.00
6	Brick work with Flyash Bricks in superstructure in cement mortar (1:6) having crushing strength not less than 75.00 Kg/cm2 immerging the bricks in water not less than six hours with cost conveyance, royalty,taxes of all materials, labour and T&P required for the work etc. complete and as per direction of Engineer-in charge.				
	Ground Floor	Cum	108.74	4263.80	463646.00
	Plinth Protection	Cum	12.92	4263.80	55089.00
	First Floor	Cum	67.34	4523.37	304604.00

	Second Floor(Head Room)	Cum	12.48	4821.88	60164.00
7	Reinforced cement concrete work of M-20 grade with 20mm & down grade size black hard crusher broken granite chips including hoisting and laying in position compacting to specified design section and curing for proper period with cost conveyance, royalty,taxes of all materials, labour and T&P required for the work etc. complete and as per direction of Engineer-in charge.				
(a)	**Footing**	Cum	15.41	4857.55	74855.00
(b)	**Plinth beam**	Cum	14.81	5218.40	77285.00
(c)	**Column**				
	Ground Floor	Cum	16.64	10530.10	175221.00
	First Floor	Cum	11.32	11777.50	133321.00
	Second Floor	Cum	0.88	13270.28	11697.00
(d)	**Beam**				
	Ground Floor	Cum	17.72	10530.10	186593.00
	First Floor	Cum	17.72	11777.50	208697.00
	Second Floor	Cum	0.60	13270.28	7914.00
(e)	**Stair case**				
	Ground Floor	Cum	1.42	10044.40	14263.00
	First Floor	Cum	1.42	11194.59	15896.00
(f)	**Lintel**				
	Ground Floor	Cum	6.40	8415.70	53860.00
	First Floor	Cum	6.37	9240.22	58860.00
(g)	**Chajja**				
	Ground Floor	Cum	0.62	8820.90	5469.00
	First Floor	Cum	0.45	9726.56	4377.00
	Parapet Top F.F.	Cum	1.49	9726.46	14492.00
	Cornish, Second Floor	Cum	0.28	10809.03	3079.00
(h)	**Roof slab**				
	Ground Floor	Cum	36.76	8820.90	324256.00
	First Floor	Cum	35.20	9726.46	342371.00
	Second Floor	Cum	0.71	10809.03	7673.00
8	Labour charges for cutting, bending, binding and tying the grills and placing in position including cost of binding wire 18 to 20 gauge with cost of TATA TISCON/SAIL steel rod and as per drawing, design and direction of Engineer-in-charge.				
	Ground Floor	Qntl	109.78	7403.20	812723.00
	First Floor	Qntl	73.97	7426.38	549329.00
	Second Floor	Qntl	2.47	7450.72	18423.00

9	Providing, fitting,fixing up window (sliding type) made up aluminium section 9728 as windows frame section no 4095 & 4096 and 9777,3994 as shutter frame with 5mm thick glass as panel fitted with rubber beading including all fitting, cost of all material, labour, T&P, etc. complete as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	34.29	3648.83	125118.00
	First Floor	Sqm	25.09	3703.83	92929.00
10	Providing, fitting,fixing of Al.door with anodised Al.door section of 9202 as vertical member, 9201 as top member and 9200 as bottom and middle member with frame section no.9221 and 6mm black glass in top portion with 12 mm thick prelaminated board in bottom portion fixed on door framed by means of tappered clip No-4660 and the frame to be completed by means of jointing angle No-1855 including all cost of labour,T&P ,hire charges of drilling machine,labour charges etc. complete and as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	17.57	5863.60	103023.00
	First Floor	Sqm	20.81	5946.55	123748.00
11	Neat Cement punning to plastered surface with all cost conveyance etc. complete.	Sqm	47.24	30.90	1460.00
12	6mm thick cement Plaster in CM (1:4) over R.C.C. surfaces including chipping with proper level and line, curing for proper period with cost conveyance, royalty, taxes of all materials, labour and T & P required for the work etc comp.and as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	514.95	150.00	77243.00
	First Floor	Sqm	447.35	156.28	69910.00
	Second Floor	Sqm	16.00	162.87	2607.00
13	12mm thick cement plster (1:6) over Brick work including racking out joints finishing smooth with proper plumb and line curing for proper period with cost conveyance, royality, taxes of all materials, labour and T & P required for the work etc. comp.and as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	210.74	133.40	28113.00
	First Floor	Sqm	328.84	138.78	45637.00
	Second Floor	Sqm	30.33	144.43	4381.00
14	16mm thick cement Plaster in CM (1:6) over brick work including racking out joints finishing smooth with proper plumb and line, curing for proper period with cost conveyance, royalty, taxes of all materials, labour and T & P required for the work etc comp.and as per direction of Engineer-in-charge.				

	Ground Floor	Sqm	871.33	190.80	166250.00
	First Floor	Sqm	821.77	198.79	163361.00
	Second Floor	Sqm	11.15	207.18	2311.00
15	Supplying,fitting & fixing Glazed Granite tile in floors of size 600mm x600 mm of approved make conforming IS:13755 laid on 20 mm thick cement mortar (1:4) and filling joints with white cement of approved quality including cost of all work all materials,taxes,labour, T&P ,etc. complete as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	290.53	1813.70	526934.00
	First Floor	Sqm	383.13	1834.42	702823.00
16	Supplying & Fixing Glazed Granite tile in dados skirting on 12mm thick cement plaster (1:3) jointed with neat cement slurry mixed with pigments to match the shade of the tiles including rubbing and polishing complete excluding cost of precast tiles,etc. complete as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	27.38	1769.90	48460.00
	First Floor	Sqm	25.83	1799.72	46487.00
17	Supplying & Fixing Vitrified wall tiles in Toilet on 12mm thick cement plaster (1:3) jointed with neat cement slurry mixed with pigments to match the shade of the tiles including rubbing and polishing complete excluding cost of precast tiles and as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	197.20	989.50	195129.00
	First Floor	Sqm	322.54	1003.96	323817.00
18	A.S. Flooring in Floor with finishing & punning including cost of all materials & labour complete.				
	Ground Floor (Plinth Protection)	Sqm	16.84	298.60	5028.00
19	Supplying & Fixing Chequred tile in Flooring on 12mm thick cement plaster (1:3) jointed with neat cement slurry mixed with pigments to match the shade of the tiles including rubbing and polishing complete excluding cost of precast tiles,etc. complete as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	51.16	794.90	40667.00
20	Finishing surface of wall with acrylic wall putty (water based) two coats over a coat of primer on wall out side+in side+ Roof including cost of all materials and labour complete.				
	Ground Floor	Sqm	1597.02	156.20	249455.00
	First Floor	Sqm	1555.84	157.51	245053.00
	Second Floor	Sqm	57.49	158.85	9132.00

21	Painting two coats of enamel paint over a coat of Priming including all costs of labour, Paint, Primer, brushes and putty required for the work etc. complete and as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	19.75	186.40	3681.00
	First Floor	Sqm	15.15	194.48	2946.00
	Second Floor	Sqm	2.60	202.97	528.00
22	Finishing wall Two Coats with distemper over a coat of oil bnound cement primer including all costs of labour, Paint, Primer, Brushes and putty required for the work etc. complete and as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	1386.28	118.70	164551.00
	First Floor	Sqm	1269.12	122.59	155578.00
	Second Floor	Sqm	27.16	126.64	3439.00
23	Finishing wall Two Coats with weather coat over a coat of oil bnound cement primer including all costs of labour, Paint, Primer, Brushes and putty required for the work etc. complete and as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	210.74	126.40	26638.00
	First Floor	Sqm	328.84	131.37	43201.00
	Second Floor	Sqm	30.33	136.59	4143.00
24	25mm thick grading concrete(1:2:2) on roof slab with 4.7 mm size hard broken granite chips on new works with proper plumb and line watering curing for proper period with cost, conveyance, royality, taxes of all materials, labour and T & P required for the work, etc. complete as per direction of Engineer-in-charge.				
	Second Floor	Sqm	327.10	344.49	112683.00
25	Supplying, fitting and fixing of stainless steel of 304 grade in hand railing using 50 mm dia of 2 mm thick circular pipe with Balustrade of size 32 mm x 32 mm x 2 mm @ 0.9 mt C/C and stainless square pipe bracing of size 32 mm x 32 mm x 2 mm in 3 rows in stair case as per approved design specification buffing, polishing etc with cost, conveyance & taxes of all materials,etc. complete as per direction of Engineer-in-charge.				
	Ground Floor	Rmt	4.99	3497.50	17453.00
	First Floor	Rmt	4.99	3505.17	17491.00
26	Providing fitting and fixing of false ceilling with Aluminium anodised T Section No.3215 with 2'-0" center to center, L section No. 1705 upto 15 micron on 4 walls to be fixed by means of steel screw and P.V.C plug and the Aluminium grid 2'-0"x2'-0" suspended from ceiling ,etc. complete as per direction of Engineer-in-charge.				
	Ground Floor	Sqm	375.66	1326.10	498163.00
	First Floor	Sqm	317.10	1337.49	424118.00

	TOTAL :			**Rs**	**9376021.00**
	GROUP A Civil Cost				**9376021.00**
	GROUP -(B) PH WORKS				
Sl.No.	**Items**	**Unit**	**Quantity**	**Rate in Rs.**	**Amount in Rs.**
27	Supplying all materials, labour T&P and constructing **Man Hole chambe**r of the following sizes with c.c (1:3:6) using 40mm size h.g. metal on bed, Ist class **K.B. brickwork** in c.m (1:6), moulding and shaping the channel inside and benching with c.c. (1:1/2:3) using 12mm size h.g. chips 12mm thick c.p. (1:3) with punning to inside cement flush pointing (1:3) to outside R.C.C. cover slab in c.c. (1:1/2:3) using 12 mm size h.g. chips with R.C.C. m.h. cover, e.w. in excavation in **all kinds of Soil** and refilling the cavity arround the chamber including watering, curing, conveyance of all materials to site payment of royalty, taxes etc. all complete as per approved specification and direction of the E.I.C.				
	a) Inside size 910mm x 910mm x 750mm	Each	1	13,478.20	13478.20
	b) Inside size 910mm x 910mm x 600mm	Each	1	12,424.00	12424.00
	c) Inside size 910mm x 910mm x 910mm	Each	1	14,532.42	14532.42
	d) Inside size 910mm x 910mm x 1200mm	Each	2	15,586.60	31173.20
28	Supplying all materials, labour T&P and constructing **Inspection chambe**r of the following sizes with c.c (1:3:6) using 40mm size h.g. metal on bed, Ist class **Fly Ash brickwork** in c.m (1:6), moulding and shaping the channel inside and benching with c.c. (1:11/2:3) using 12mm size h.g. chips 12mm thick c.p. (1:3) with punning to inside cement flush pointing (1:3) to outside R.C.C. cover slab in c.c. (1:11/2:3) using 12 mm size h.g. chips with R.C.C. m.h. cover, e.w. in excavation in **all kinds of Soil** and refilling the cavity arround the chamber including watering, curing, conveyance of all materials to site payment of royalty, taxes etc. all complete as per approved specification and direction of the E.I.C.				
	a) Inside size 760mm x 760mm x 460mm I.C.	Each	2	7,756.23	15,512.46

29	Supplying all materials, labour T&P and constructing **soak way pit** of the following sizes with dry brick walling form bottom up to invert of inlet pipe and 1st class **F.A. brickwork** in c.m(1:6) for the remaining height at top, 12 mm thick c.p(1:4) inside and outside over masonary brickwork gravel packing in the rear of well steining R.C.C. cover slab in c.c (1:11/2:3) using 12mm size h.g. chips fitted with iron lifting handles including e.w. in open well excavation in **all kinds of soil** and refilling the cavity around the pit & painting the iron works, watering , curing, conveyance of all materials to worksite, payment of royalty, taxes etc. all complete as per approved drawing, specification and direction of E.I.C.				
	a)1.2mtrs.dia x 2.0mtr.deep soak way pit	Each	3	15,532.35	46,597.05
30	Supplying all labour, T&P and materials & providing,fitting & fixing of **S.I.fittings** as following confirming to specification and direction of E.I.C.				
	a) 22"x 16"mm WHB with all fittings(Hindware-Viking)	Each	17	2,333.20	39,664.40
	b) C.P.Soap Holder.	Each	56	270.23	15,132.88
	c) 600mm x 450mm B.E. Mirror (fixed type Super Glass)	Each	19	680.41	12,927.79
	d) 600 x 125mm Glass Shelf with al.guard Rail	Each	35	545.42	19,089.70
	e) 25 mm x 600 mm long C.P Towel rail	Each	35	466.60	16,331.00
	f) C.P Towel ring	Each	21	391.68	8,225.28
	g) Stainless steel sink-610 mm x 460 mm Bowl depth 200	Each	2	3,515.37	7,030.74
	h) 20" Orissa Pan(Hindware)	Each	16	2,087.15	33,394.40
	i) 10 litre capacity PVC L.L.Cistern(Hindware)	Each	27	1,239.91	33,477.57
	j) E.W.C. with 'S' Trap Plain & Plastic Seat & Cover(Hindware-Slick)	Each	11	2,599.66	28,596.26
	k) Large Standing Urinal[Hindware]	Each	6	4,043.90	24,263.40
	l) Squating Urinal(Ladies)(Hindware)	Each	5	2,359.16	11,795.80
	m) 400 x 400 Corner WHB	Each	2	1,891.80	3,783.60

	n) Padestrial for WHB	Each	14	2,253.65	31,551.10
31	Supplying all materials, labour T&P and **cutting holes** through brick/stone masonary walls for taking PVC pipes and fittings including making good the damages etc. all complete as per P.H. specification and direction of E.I.C. a) 250 mm thick wall	Each	20	185.92	3,718.40
32	Supplying all materials, labour, T&P and providing and fixing to wall or ceiling and floor **PVC Pipes** conforming to ASTM-D-1785/89(sch-80) and pipe fittings of the following nominal bore with clamps including making good the wall, ceiling and floor testing all complete as per specification and direction of E.I.C				
	a) 25 mm dia ASTM Pipe(Sch-80)(External)	Mtr	60.00	111.07	6,664.20
	b) 32 mm dia ASTM Pipe(Sch-80)(External)	Mtr	60.00	147.89	8,873.40
	c) 50 mm dia ASTM Pipe(Sch-80)(External)	Mtr	175.00	243.60	42,630.00
	d) 20 mm dia ASTM Pipe(Sch-80)(Internal)	Mtr	70.00	134.97	9,447.90
	e) 25 mm dia HDPE Pipe(External)	Mtr	30.00	36.90	1,107.00
33	Supplying all materials, labour, T&P and **cutting grooves** in pucca floors and walls for taking G.I./P.V.C. pipes and making good the damages as per direction of the E.I.C.	Mtr	70.00	161.50	11,305.00
34	Supplying all materials, labour, T&P and **cutting holes** through brick/stone masonary works including making good the damages in c.m. (1:4) for taking P.V.C. pipes & fittings etc. all complete as per P.H. specification and direction of E.I.C.	Each	30	44.16	1,324.80
35	Supplying all materials, labour, T&P and fitting & fixing **Brass /C.P. fittings** of the following nominal bore with supply of all jointing materials etc. complete as per P.H. specification and direction of E.I.C.				
	a) 15 mm dia C .P S.B. Bib Cock(Jaquar)	Each	35	709.70	24,839.50
	b) 15 mm dia C .P L.B. Bib Cock(Jaquar)	Each	21	779.48	16,369.08
	c) 15 mm dia C .P Angle Stop Cock(Jaquar)	Each	61	712.98	43,491.78
	d) 15 mm dia C .P Pillar Cock(Jaquar)	Each	19		

				698.55	13,272.45
	e) 15 mm dia C .P Extension Piece	Each	160	128.13	20,500.80
	f) 25 mm dia PVC Ball cock with rod & ball	Each	4	756.19	3,024.76
	g) C .P revolving shower with Arm	Each	19	485.57	9,225.83
	h) Health forcef with PVC flexible tube(Jaquar)	Each	11	1,022.88	11,251.68
	i) 20 mm dia C .P (c) Stop Cock(Jaquar)	Each	24	1,026.24	24,629.76
	j) Urinal Spreader	Each	6	293.69	1,762.14
	k) 50mm dia N.R.V.	Each	1	3,429.00	3,429.00
	l) 25 mm dia Brass F.W.V.	Each	10	522.74	5,227.40
	m) 32 mm dia Brass F.W.V.	Each	4	716.00	2,864.00
	n) 50 mm dia Brass F.W.V.	Each	6	522.74	3,136.44
36	Supplying all materials, labour, T&P and fixing rotational moulded polyethylene cylindrical vertical **Waterstorage tank** confirming to IS 12701- 1996 including cutting hole through the tank and fixing MS tubes and fittings and providing extra sockets and jam nuts, fixing ball valve etc. including hoisting the tank and placing the tank to the required position including all complete as per specification and direction of EIC.(including cost of FG Over Head Tank)				
	a) 2000 Ltrs. Capacity Sintex F.G.Over Head DL Tank(2nd Floor).	Each	4	17,085.20	68,340.80
37	Supplying all materials, labour, T&P and Construction of **masonary stagging** with providing 1st class **Fly Ash brick work** in c.m, (1:6) of 0.46m. height in staging and in circular protection wall to support the tank in roof of ground floor using 25cm x 12cm x 8cm size KB. bricks having crushing strength not less than 75 kg/cm2 12mm thick c.p.(1:4) over brick work, R.C.C. Slab of size 1.60mtr x l.60mtr x 0.l0mtr thick, R.C.C. beam of size 0.25m x 0.30m and 2.60m average length in c.c.(1:1.5:3) using 12mm size h.g. chips including centering and shuttering, watering, curing conveyance of all materials to work site etc. all complete as per specification and direction of E.I.C				

	a) For 2000 Ltr. Capacity Over Head Tank(2nd Floor).	Each	4	18,343.90	73,375.60
38	**Earth work** in **all kinds of Soil** in excavation of foundation trenches within 50 m initial lead including rough dressing and breaking clods to maximum 5cm to 7cm and laying in layers not exceeding 0.30 in depth and as per direction of E.I.C .				
	a) Initial lift up to 1.50m	Cum	57.27	199.68	11,435.67
	b) From 1.50 Mtr to 3.00 Mtr.	Cum	32.49	214.35	6,964.23
39	Supplying all materials, labour T&P and filling in F&P with **river sand** well watered and rammed including conveyance of all materials to worksite payment of royalty, taxes etc. all complete as per direction of E.I.C.	Cum	5.45	309.40	1,686.23
40	Supplying all materials, labour T&P and providing **c.c (1:3:6)** using 4cm c.b.h.g. metal including watering, curing, coveyance of all materials to worksite payment of royalty, taxes etc. all complete as per specification and direction of E.I.C.	Cum	5.45	4,463.30	24,324.99
41	Supplying all materials, labour, T&P and providing brick work with **Fly Ash bricks** 25cmx12cmx8cm size having c.s. not less than 75kg/cm2 with dimensional tolerance ± 8% in c.m. (1:4) including watering,curing conveyance of all materials to worksite, payment of royalty, taxes etc. all complete as per specification and direction of E.I.C.				
	a) In F & P (1:4)	Cum	19.61	4,423.20	86,738.95
42	Supplying all materials, labour, T&P and providing **cement plaster** on brick/stone work including watering, curing, conveyance of all materials to worksite, payment of royalty, taxes etc. all complete as per specification and direction of E.I.C.				
	a) 20mm thick C.P with C.M. (1:4)	Sqm	33.77	211.30	7,135.60
	b) 12mm thick C.P with C.M. (1:4)	Sqm	46.93	145.10	6,809.54
	c) 12mm thick C.P with C.M. (1:6)	Sqm	43.34	133.70	5,794.56

43	Supplying all materials, labour, T&P and providing **cement punning** including watering, curing, conveyance of all materials to worksite, payment of royality, taxes etc. all complete as per specification and direction of E.I.C.	Sqm	75.41	31.00	2,337.71
44	Supplying all materials, labour, T &P and providing **C.C (1:1.5:3)** using 12mm h.g. chips for **R.C.C.** works including hoisting, laying, watering, curing, conveyance of all materials to worksite, curing, conveyance of all materials to worksite, payment of royalty, taxes etc, all complete as per specification and direction of E.I.C.	Cum	6.74	6,443.10	43,426.49
45	Supplying all materials, labour, T&P and providing **M.S. reinforcement** for R.C.C. works including cutting, bending, binding and tying the grills and placing in position including cost of binding wire 18 to 20 gauge, conveyance of all materials to worksite, payment of royalty, taxes etc. all complete as per specification and direction of E.I.C.				
	6.74Cum x 0.85 Qntl.=	Qntl	5.73	8,064.10	46,207.29
46	Supplying all materials, labour, T&P and providing **rigid & smooth centering & shuttering** for R.C.C.works including false work and dismantling them after casting including conveyance of all material, to worksite, payment of royalty, taxes etc. all complete as per specification and direction of E.I.C.				
	a) RCC Slab	Sqm	24.33	429.80	10,457.03
47	Supplying all labour, materials T&P and fixing of **R.C.C. Baffle wall** pre-cast with C.C. (1:1.5:3) using 12 mm b.h.g. chips and fitted to septic tank as per P.H. Specification and direction of E.I.C.	Sqm	0.84	745.98	626.62
48	Supplying all materials, labour, T&P Providing and fixing **PVC Tee** in all including filling the necessary with cement concrete(1:3:6)with 12mm size h.g. chips all complete materials to as per specification and direction of E.I.C. a) 160mm x160mm x160mm PVC Tee	Each	2	504.66	1,009.32
49	Supplying all materials, labour, T&P and providing pre-cast **R.C.C. Manhole cover** with C.C. (1:1.5:3) of 12 MM h. g. chips including conveyance of all materials to site after payment of royality and taxes etc.all complete as per PH.Specification and direction of EIC	Each	4	253.79	1,015.16

50	**Filling F&P** with excavated materials, including watering and ramming as per direction of E.I.C. Earth Work in Septic Tank-	Cum	12	110.94	1,331.28
51	Supplying all materials, labour T&P and **fitting & fixing U-PVC ventilating pipes and fittings** of the following O.D conforming to ISI No. 4985/2000 to walls with nails, bobbins and wooden plugs or laying in trenches including jointing with supply of approved rubber lubricant by non-heat application method as per manufacturer's specification, testing, e.w. in excavation in all kinds of soil and refilling of trenches as per direction of E.I.C.				
	a) 110 mm dia U-PVC Pipes (4 Kgf/Cm^2)(Stack Line)	Mtr	181.00	278.64	50,433.84
	b) 110 mm dia U-PVC Door Bend	Each	40	199.60	7,984.00
	c) 110 mm dia U-PVC Plain Bend	Each	40	139.10	5,564.00
	d) 110 mm dia U-PVC Cowl	Each	12	44.60	535.20
	e) 110 mm dia U-PVC Offset	Each	12	227.10	2,725.20
	f) 125mm dia round C.P grating with hole	Each	25	63.00	1,575.00
	g) 110 mm dia U-PVC P' Trap	Each	30	308.00	9,240.00
	h) 110 mm dia U-PVC S/J/D	Each	12	199.60	2,395.20
	i) 110 mm dia U-PVC D/J/D	Each	6	199.60	1,197.60
	j) 110 mm dia U-PVC HR Bend	Each	20	139.10	2,782.00
	k) 160 x 160 x 110 Tee	Each	20	1,018.00	20,360.00
	l) 200 mm dia U-PVC Pipes (4 Kgf/Cm^2)	Mtr	40.00	1,044.00	41,760.00
	m) 160 mm dia U-PVC Pipes (4 Kgf/Cm^2)	Mtr	30.00	515.40	15,462.00
52	Supplying all materials, labour T&P and **laying U-PVC pipes and fittings** of the following O.D conforming to ISI No. 4985/2000 to floors e.w. in excavation in all kinds of soil and refilling of trenches as per direction of E.I.C.				
	a) 1600mm dia U-PVC Pipes (4kgf/Cm2)(SEWER Line)	Mtr	45.00	730.50	32,872.50

53	Supplying all materials, labour T&P and constructing **Gully Trap chambe**r of the following sizes with c.c (1:3:6) using 40mm size h.g. metal on bed, Ist class **Fly Ash brickwork** in c.m (1:6)with punning to inside cement flush pointing (1:3) to outside R.C.C. cover slab in c.c. (1:1.5:3) using 12 mm size h.g. chips with R.C.C. m.h. cover, e.w. in excavation in **all kinds of Soil** and refilling the cavity arround the chamber including watering, curing, conveyance of all materials to site payment of royalty, taxes etc. all complete as per approved specification and direction of the E.I.C. a) Inside size 250mm x250mmx300mm	Each	10	1,243.60	12,436.00
	Sinking of 200 mm dia Production Well through Rotary Rig Method.				
54	**Labour for drilling a perfectly vertical bore hole** to specified diameter for a specified depth below G.I in alluvial soil strata by mud rotary rig drilling as required to suit the site condition as per the direction of E.I.C including supply of rig with all accessories, T&P and all consamble etc. for afinished bore suitable for lowering of 200mm dia M.S/ PVC pipe for housing fited with sockets and with or without well screen as per the necessary for soft medium hard and boulder formation (M.S./PVC casing pipe if required to be provided by the contractor to prevent collapse of over burden portion). including lowing and with drawing of casing pipe after drilling 200mm dia to 400mm dia in over burden portion. Lowering for 200mm dia pipefrom 0.0Mtr to 100.0Mtr and for	Mtr	80.00	1,365.00	109,200.00
55	**Labour for Lowering the following size M.S./PVC casing pipes** with or without slotted pipes as per the necessary from ground level upto 250 mtr depth and fitted and fixed up in perfectly vertical position, including cutting and threading blank pipes and slotted pipes and supplying and fixing all jointing materials , extra socket and top etc.all complete and plugging the tube well to prevent entry og forign materials (a) 200mmdis PVC pipe (Cost+Labour) From 0.00mtr to 100.00Mtr and For	Mtr	80.00	91.00	7,280.00

56	Supplying all labour, T&P & packing the bore with washed **gravel of river singles** of required size & specification around the well screen and pipe etc. all complete as per the direction of E.I.C.	Cum	8.00	2,250.90	18,007.20
57	Supplying all labour, T&P materials and providing **sanitary sealing** by cement slurry grouting around the uppermost 3.00 mtrs. of 125 mm dia PVC casing pipe . including cost of cement all complete as per direction of E.I.C (including cost of 3 bags of Cement)	Each	1	3,030.20	3,030.20
58	**Cleaning the developing the tube well using their own compressor** continuously worked till clear and adequate discharge is obtained from the tube well including the supply and use of all necessary equipment and labour as per direction of E.I.C(Labour Charges)	Each	1	23,946.20	23,946.20
59	**Cost of materials**				
	8" dia PVC pipe (Sch-80) including cost of threading	Mtr	36.00	1384.50	49,842.00
	6" dia PVC pipe (Sch-80) including cost of threading	Mtr	24.00	911.40	21,873.60
	6" dia PVC strainer (slotted pipe) with all fittings.	Mtr	20.00	743.00	14,860.00
	8" x 6" PVC R/S	Each	1	1102.20	1,102.20
	8" dia PVC cone	Each	1	788.65	788.65
	8" dia 300mm long PVC short piece	Each	1	734.10	734.10
	8" dia PVC End cap	Each	1	795.60	795.60
60	Supplying all labour T&P for **fitting and fixing of Im-II/IM-III hand pumps** with 32/65mm dia G.I pipe 24mtr and C.I cylinders and 12mm B.S connecting rod including lowering with fitting of extra socket etc. as per the direction of the Engineer-in-charge.	Each	1	1,052.00	1,052.00
61	Supplying all labour, T &P and materials for **repair & const. of CC Platform with drain for I M II deep well H P TW** etc. all complete as per direction of Engineer-in-charge.(Detailed Attached)	Each	1	5,488.00	5,488.00

62	Supplying ,fitting & fixing of **1.5H.P. Single phase 3 stage Vertical/Horizintal submersible pump se**t at head range of 20 to 35 mtr with discharge capacity 145 to 110 L.P.M. with outlet dia 25mm as direction of Engineer in charge	Each Set	1	20,000.00	20,000.00
63	Supplying ,fitting & fixing of 1.50 HP Starter L&T make	Each	1	3,060.00	3,060.00
64	Supplying ,fitting & fixing of $1.5mm^2$ x 3core flat cable(Havells)	Mtr	60.00	50.00	3,000.00
65	Supplying ,fitting & fixing of Garware rope	Mtr	66.00	5.00	330.00
66	Supplying ,fitting & fixing of MS Clamp	Each	1	300.00	300.00
67	Supplying ,fitting & fixing of Well Cover	Each	1	450.00	450.00
68	Supplying ,fitting & fixing of 16Amp 240v Havells Main Switch	Each	1	805.85	805.85
69	Supplying all labour, T&P and **lowering the 1.50HP vertical submersible Pump set** incl. Installation of Pannel board & necessary power supply incl. testing etc. complete as per P.H. specification and direction of E.I.C.	L,S.			2,000.00
				Total-Rs.	1,581,361.80
	GROUP B (P.H. COST)			**Say-Rs.**	**1,581,362.00**

	GROUP -(C) ELECTRICAL INSTALATION				
Sl. No.	**Description of items**	**Unit**	**Qnty.**	**Rate in Rupees**	**Amount in Rupees**
70	Recessed wiring to light point with 1.5sqmm FR PVC insulatd single core multistand copper conductor of ISI marked with 20mm dia non-metalic PVC flexible conduit with 5Amp , 250V piano type switch ISI marked and ceiling rose ISI Marked mounted on MS box having front bakelite cover of suitable size, MS box with 1.5 sq mm FR PVC insulated single core multistrand copper conductor and earth wire including all accessorie and connection as per direction of engineer in charge (Make of wire = Finollex/L & T/ Anchor/Havels/ V-Guard) (deducting the cost of S/F of 100mmx 100mmx60mm M.S.Box with bakelite cover - 1 no)				
a	-do- .... Light point **Group A** (1.1.2-1.24.2)	Point	42	293.28	12317.76
b	-do- .... Light point **Group B** (1.1.2-1.24.2)	Point	65	515.03	33476.95
c	-do- ....Light point **Group C** (1.1.3-1.24.2)	Point	52	793.04	41238.08
71	-do- .... Fan point **Group B** (1.1.2-1.24.2)	Point	52	515.03	26781.56

72	-do- .... Call bell point **Group C** (1.1.3-1.24.2)	Point	2	793.04	1586.08
73	-do- .... Ex-Fan point **Group C** (1.1.3-1.24.2)	Point	31	793.04	24584.24
74	SIFof 16/18 SWG metal box of following sizes (Nominal size) in recess with suitable size of phenolic laminated sheet cover in front including cutting the wall and making good the same in case of Recessed conduit as required.				
c	-do-180mmx100mmx60mm deep(1.24.5)	Each	15	136.92	2053.80
e	-do-200mmx150mmx60mm deep(1.24.7)	Each	65	171.54	11150.10
75	S/F of metal box of 150mm x 75mmx 60mm deep (Nominal size) in recess with suitable size of phenolic laminated sheet cover in front including providing and fixing 3pin 5/6 amp. socket out let 5/6 amp. piano type switch, connection, painting etc as required (1.26)	Each	15	201.00	3015.00
76	S/F of 5 amp swith and 5A.socket out let of ISI marked on existing board (1.25.1 & 1.25.4)	Each	67	86.40	5788.80
77	S/F of metal box of 180mm x 100mmx 60mm deep (Nominal size) in recess with suitable size of phenolic laminated sheet cover in front including providing and fixing 5pin 15/16 amp. socket out let & 15/16 amp. piano type switch, connection, painting etc as required (1.27)	Each	13	272.03	3536.39
78	Wiring for circuit / sub main wiring alongwith earth wire with following sizes of PVC insulated single core multistrand copper conductor with ISI marked conforming to IS- 694/1990 in 20mm dia non metalic heavy duty flexible conduit 1.6mm in recessed PVC conduit as required (Make of wire- Finolex/ L & T /Anchor/ Havels/V-guard).				
a	-do- 2x1.5sqmm +1x1.5sqmm (1.8.1)	Mtr.	230	125.09	28770.70
b	-do-2x2.5sqmm +1x1.5sqmm (1.8.2)	Mtr.	870	139.05	120973.50
c	-do- 2x4sqmm +1x1.5sqmm (1.8.3)	Mtr.	380	156.43	59443.40
79	S/Fof 'B' series SP MCB of 5A to 32 Amp rating 240Volt "B" series MCB for lighting and other loads in the existing MCB Distribution board ISI marked complete with connection, testing and commissioning etc. as required single pole (SP)(2.6.1) (make: Legrand/Anchor/Havels/HPL)	Each	36	129.74	4670.64
80	S/F of 32A C series D.P. MCB (make: Legrand/Anchor/Havels/HPL)	Each	8	573.00	4584.00
81	S/F of following 4way single pole and neutral sheet steel MCB DISTRIBUTION BOARD 250v on surface /recess complete with tinned copper bus bar, neutral bar, earth bar, din bar ,detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required (except MCB) 2.3.1.	Each	1	859.77	859.77

82	S/F of following 8way single pole and neutral sheet steel MCB DISTRIBUTION BOARD 250v on surface /recess complete with tinned copper bus bar, neutral bar, earth bar, din bar ,detachable gland plate, interconnections, phosphatized and powder painted including earthing etc. as required (except MCB) 2.3.1.	Each	8	1067.10	8536.80
83	S/F of Call bell/ Buzzer ISI marked sutiable for DC/AC single Phase 230 volts complete as required.(1.30)	Each	2	119.44	238.88
84	Supply, Instaliatiion,Testing and commissioning of **Bulkhead** fittings including fixing of 8watt CFL Lamp(Make: Havels Model-RUGBY)with die cast aluminium housing and frosted glass cover).	Each	2	606.05	1212.10
85	S/F of batten holder BK angle holder ISI marked including connection etc instead of ceiling rose (1.29-1.28)	Each	59	15.77	930.43
86	Earthing with G.I. earth pipe 3 metre long 40 mm dia ISI marked including accessories and providing masonary enclosure with cover plate having locking arragement and watering pipe etc. with charcoal and salt as required.(3.2)	Each	2	2435.31	4870.62
87	Supply and laying 6 SWG G.I wire in recess for loop earthing as required (3.18)	Mtr.	30	50.27	1508.10
88	Supply & Fixing of 48" A.C. ceiling fan with resistance type regulator incudig numbering of reputed mark including all connections (USHA Striker / Crompton-Jura / Havell's Velocity/Spark, Anchor XL/ Orient Summer Pride)	Each	52	2108.54	109644.08
89	S/F of electric step ceiling fan regulater in existing switch box including connection with 1.5sqmm FR PVC insulated single core multistrand copper conductor earthing the regulator as required.(1.38)	Each	52	284.17	14776.84
90	S/F of Fan hok S'type made of 16mm MS rod as per specificationn	Each	52	246.10	12797.20
91	Supply, Installation,Testing and Commissioning of **Exhaust fan** of 225mm sweep in the existing opening,including making the hole to suit the size of the above fan making good the damaged complete, connection, etc as required. (Make- USHA Turbojet)	Each	31	2078.61	64436.91
92	S/F of 60 watt LED street light fitting complete with all connection.\ including fixing of bracket and all accessories as per direction of Engineer-In-charge (Make: Havels /Phillps /Crompton/Polycab/PAC/HPL)	Each	7	7798.00	54586.00
93	S/F of 18-25 watt LED Tube light fitting compoete with all connection.\ including fixing and all accessories as per direction of Engineer-In-charge (Make: Havels /Phillps /Crompton/Polycab/PAC/HPL)	Each	43	681.33	29297.19
94	S/F of Computer board consisting of 3 Nos. of 5 amp. Plug and switch and Indicator complete with wiring on (200 mm x 250 mm x 75 mm) deep M.S. box with B.K. cover (1.24.9 +1.25.1 + 1.25.4+2.6.1)	Each	7	601.94	4213.58
95	wiring to sub main with 1*1.5 mm2 single core multi strand copper wire for inverter wiring (1x1.5mm)	Each	300	45.41	13623.00

96	Supply ,installation,commising of pannle board with following arrangement incoming 250 A TPN SFU- 1 no(L&T/Hvells) 300 amp copper Bus bar-1 no, Outgoing 100 A TPN SFU 1 no 250 amp Busbar 1 no (VMAM)(RYB) indicator as directed by Engineer incharge	Each	1	43614.00	43614.00
97	S/F of 15A socket on 100mm*100mm*60mm MS board for A.C	Each	7	160.60	1124.20
98	S/F of 32A D.P. Switch for A.C (Make: Cona/ Anchor) (1.25* + 1.24.5)	Each	7	270.88	1896.16
99	S/F of 32A C series D.P. MCB for A.C (make: Legrand/Anchor/Havels/HPL)	Each	7	573.00	4011.00
100	cost of 24V 2000VA Sine wave UPS(LUMINOUS) model Zelio+1100) with MCB protection as per price list after deducting 18%GST	Each	1	13589.00	Rs. 13,589.00
101	cost of 12v150AHTall Tubular Battery UPS(LUMINOUS) modelllTT*)$*N))with MCB protection as per price list after deducting 28%GST	Each	2	19354.00	Rs. 38,708.00
102	S/F of Mirron optical Ceiling light(2x18W PLC) C.C.Work	Each	50	2266.00	Rs. 113,300.00
103	S/F of 9W LED bulb (Make: Havels /Phillps /Crompton/Polycab/PAC/HPL)	Each	59	167.58	9887.22
				Total Rs.	**931632.08**
	GROUP C (E.I. COST)			**Or say to Rs.**	**931632.00**
	Total : 103 items only			**GROUP A+B+C = Total**	**11889015.00**

Total estimated Amount : (One Crore Eighteen Lakhs Eighty nine Thousands Fifteen only)

Quoted Amount :-	
Quoted Amount in Words :-	

My rate quoted is % (in words percentage)
Excess / Less / Equal to the estimated tender amount.

Signature of Tenderer

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1 Total no of corrections:

2 Total no of overwritings:

3 Total no of insertions:

4 E.M.D. Rs *Duly pledged/unpledged*

5 Clearance of GST furnished / not furnished

6 PAN furnished/not furnished

7 Others.