BID IDENTIFICATION NO-B.D.O, P.S, GURUNDIA- 04/2020-2021

GOVERNMENT OF ODISHA

PANCHAYATI RAJ & DRINKING WATER DEPARTMENT

OFFICE OF THE PANCHAYAT SAMITI, GURUNDIA

DOCUMENTS FOR COVER - I

TECHNICAL BID DOCUMENTS / DETAILED TENDER CALL NOTICE

FOR THE WORK

"CONSTRUCTION AND RENOVATION OMBADC SCHOOL NO. 71 AT KUCHEITA UG HIGH SCHOOL, KUCHEITA, GURUNDIA BLOCK IN SUNDARGARH DISTRICT OF ODISHA"

ESTIMATED COST: - Rs18075400/-
(Rupees One Crore Eighty Lakhs Seventy five thousand four hundred)**only**

PANCHAYAT SAMITI, GURUNDIA, SUNDARGARH

DETAILED TENDER CALL NOTICE

Sealed percentage rate bids are invited in single cover system from A Class / B Class of eligible contractors registered with the State Government and contractors of equivalent Grade / class registered with Central Government / MES / Railways having registration for Civil, Electrical and P.H. works for execution of Civil / E.I. / P.H. works on production of definite proof from the appropriate authority in prescribed firm to be eventually drawn in P.W.D. FORM P-1 for the work **"Construction And Renovation OMBADC School No. 71 At Kucheita UG High School, Kucheita, Gurundia Block In Sundargarh District Of Odisha"** at an estimated cost of Rs. 180.754 Lakh (Rupees One Crore Eighty Lakhs Seventy five thousand four hundred) only.

a) This tender is of composite nature and consisting of Civil works, Electrical and PH works.

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

1. The Bid documents are available on official website of District: *https://www.sunderharh.nic.in* from Dtd. **09.12.2021** 10.00 hours to 17:00 hours of Dtd. **15.12.2021** The last date and time of submission of Bid is as per contract data.

2. The Bid documents will be opened by the assigned officer in the office of the Block Development Officer, Gurundia Sundargarh at 10.00 Hours on Dtd. **16.12.2021** in the presence of the bidders or their authorized representatives who wish to attend.

3. The bid documents can be downloaded from district website: *http://:www.sundergarh.nic.in* on payment of the cost of bid documents of Rs.10,000/- in demand draft issued from any Nationalized Scheduled Bank may be prepared in the name of Block Development Officer, Gurundia payable at SBI, Gurundia towards bid cost and submit the demand draft in separate envelope marked "COST OF THE BIDDING DOCUMENT DOWNLOADED FROM THE INTERNET" along with the bid documents.

4. The bid is to be submitted in one cover.-

Cover is to contain photo copy of Contractor Registration Certificate, GST Registration Certificate, GSTIN, PAN, Profit Loss statement, M.O.U. (Memorandum of Understanding duly notarized) with eligible registered contractor having valid license, List of similar nature of works, work in hand, list of machineries, affidavit, and all other documents required as per the relevant clauses of this DTCN. The contractor belonging to outside state of Odisha and not started business should submit an undertaking in the form of an Affidavit indicating therein that they are not registered under Odisha GSTIN as they have not started any business in the state and they have no liability under the Act. But before award of final contract, such bidders will have to produce the Odisha GSTIN and the PRICE BID duly filled in and signed by the bidder.

6. Furnishing photo legible copy of Original Contractor Registration certificate, valid GSTIN, PAN card along with the Technical Bid is mandatory otherwise his/ her bid shall be declared as non responsive and thus liable for rejection.

7. (i) The Contractors are required to furnish photo copy of evidence of ownership showing the possession of principal machineries/equipments as per Annexure-I in Schedule-C for which contractor shall have to secure minimum 80% of marks failing which the tender shall be liable for rejection.

(ii) Incase the contractor proposes to engage machineries and equipments as asked for in the tender document, owned or hired but deployed outside the State, he/she is required to furnish additional 2% EMD / Bid Security. The entire bid security including the additional bid security shall stand forfeited in case the contractor fails to mobilize the machineries within a period as to be able to execute an item of work as per original programme which will be part of the agreement.

(iii) The contractor intending to hire/lease equipments/machineries are required to furnish proof of ownership from the company/ person providing equipments/ machineries on hire/lease along with contracts/ agreements/lease deed and duration of such contract. The contracts/agreements/lease deed should be on long term basis for a minimum period of 18 (Eighteen) months as mentioned in contract data from the last date of receipt of Bid documents.

8. The civil contractor in order to take part in the composite tender should enter into an M.O.U. (Memorandum of Understanding duly notarized) with eligible registered contractor having valid license; for execution of electrical installation and other electrical works and a copy of such M.O.U. should be attached with the tender as per the proforma at Schedule- J which shall form a part of tender.

9. (i) The contract will be drawn in P.W.D. P-1 contract form and will constitute 3 parts as follows.

a. Part - I : For Civil items of works

b. Part - II : For Electrical items of works

c. Part - III : For PH items of works

The contract shall be drawn & signed by Block Development Officer, Gurundia, Sundargarh on behalf of the Governor of Odisha.

(ii) The Civil items of works as per Part-I of Schedule of quantities, Electrical items of works (both internal &external) as per part-II of Schedules of quantities and P.H. items of works (both internal & external) as per Part-III of the Scheduled of quantities of the Agreement shall be supervised measured and check measured by the Assistant Executive Engineer, Gurundia.

10. If an individual makes the application, the individual should sign above his full type written name and current address.

11. If the application is made by proprietary firm, it shall be signed by the proprietor & furnish full type written name and the full name of his firm with its current address in a forwarding letter.

12. If the application is made by a firm in partnership, it shall be signed by a partner holding power of attorney for the firm in which case 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.

13. If the application is made by a limited company or a corporation, it shall be signed by a duly authorized 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 technical bid.

14. The tender should be strictly in accordance with the provisions as mentioned in the tender schedule. Any change in the wordings will not be accepted.

15. The work is to be completed in all respects within Six (06) calendar months from the date of issue of work order. Before acceptance of tender, the successful bidder will be required to submit a work programme and milestone basing on the financial achievement so as to complete the work within the stipulated time and in case of failure on the part of the agency to achieve the milestone liquidated damage will be imposed

(Amendment to Para-3.5.18 Note-VIII of OPWD Code Vol.-I).

16. All tenders received will remain valid for a period of 90 days from the last date prescribed for receipt of tenders and validity of tenders can also be extended if agreed by the tenderers and the Department.

17. The tenderer shall carefully study the tentative drawings and specifications applicable to the contract and all the documents, which will form a part of the agreement to be entered in to, by the accepted tenderer and detailed specifications for Odisha, and other relevant specifications and drawings, which are available. Complaint at a future date that the tenderers have not seen plans and specifications cannot be entertained.

18. The drawings furnished with the tender are tentative and subject to revision or modification as tendered during the execution as per actual necessity and detail test conducted. But the tendered rates 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.

19. By admission of a tender for the work, a tenderer 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 wheat/ rice referred to above, medical aid, labour and food stuff etc., and that rates 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 rates 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 authorized 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 regard availability of materials, labour and other factors.

For the purpose of estimate, the approved quarry lead is to be provided judiciously. Engineers in charge would be responsible for ensuring the quality of the materials supplied. The contractors would, however, be responsible for procurement of material from authorized sources and voluntarily disclose the source of procurement for the purpose of billing. Besides, the bidder would be required to submit the details of quarry for procurement while submitting the bids.

(Amendment to Para-3.4.16 (a) (vii) of OPWD Code Vol.-I by substitution).

20. The bidders shall remit the EMD / Bid Security amount @ 1% (One percent) of the estimated cost put to tender of Rs. 180.754 LAKH rounded to thousand rupees i.e. Rs. 18075400 (Rupees One Crore Eighty Lakhs Seventy five thousand four hundred) only . Bidders desirous to hire machineries or equipments from outside the state or owned but deployed outside the state are required to remit additional one percent (1%) EMD / Bid Security.

21. The tender should be accompanied with the *photo copies of the valid Contractor Registration certificate, GST Registration Certificate*, *GSTIN and PAN card* which are mandatory, otherwise his/her bid shall be declared as non-responsive and thus liable for rejection. The contractor belonging to outside state of Odisha and not started business should submit an undertaking in the form of an Affidavit indicating therein that they are not registered under Odisha GSTIN as they have not started any business in the state and they have no liability under the Act. But before award of final contract, such bidders will have to produce the Odisha GSTIN.

22. The tender containing extraneous conditions not covered by the tender notice are liable for rejection and quotations should be strictly in accordance with the items mentioned in the Tender Call Notices. Any change in the wording will not be accepted.

23. The department reserves the right of authority to reject any or all tenders received without assigning any reason whatsoever.

24. The earnest money of the L-1 bidder will be retained and will be dealt with as per terms and condition of O.P.W.D. Code. The retention of E.M.D. with the Department will carry no interest.

25. The Block Development Officer will notify the bidder / tenderer whose bid has been accepted of the award prior to expiration of the validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the conditions of Contract called the "Letter of Acceptance") will state the sum that the Block Development Officer will pay the contractor in consideration of the execution, completion and maintenance of the Works by the contractor as prescribed by the contract (Hereinafter 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 form of Deposit receipt of Schedule Bank / Kissan Vikash Patra / Post Office Savings Bank Account/National Savings Certificate / Post Office Time Deposit Account duly pledged in favour of the Block Development Officer,Gurundia,Sundargarh & payable at Gurundia and in no other form, which including the amount already deposited as bid security (earnest money) shall be 2% of the value of the tendered amount(excluding 1% deposited towards hiring of equipments / machineries from outside the state if any) and sign the agreement in the P.W.D. form No. P-1 (Schedule XLV No. 61) for the fulfillment of the contract in the office of the Block Development Officer ,Gurundia, Sundargarh and payable at Sundargarh or as directed. The security deposit together with the earnest money and the amount withheld according to the provision of P-1 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.

The agreement will incorporate all agreements between the officer inviting the bid/ Engineer-in Charge and the successful bidder within 15 days following the notification of award along with the Letter of Acceptance. The successful bidder will sign the agreement and deliver it to the Engineer-in Charge. Following documents shall form part of the agreement.

a) The notice-inviting bid, all the documents including additional conditions, specifications and drawings, if any, forming the bid as issued at the time of invitation of bid and acceptance thereof together with any correspondence leading thereto & required amount of performance security including additional performance security.

b) Standard P.W.D. Form P-1 with latest amendments. 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 12 (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, dt.21.05.97 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.

26. The contractor should be liable to fully indemnify the Department for payment of compensation under workmen compensation act. VIII of 1923 on account of the workmen employed by the contractor and full amount of compensation paid will be recovered from the contractor.

27. Tenderers are required to liable by fair wages clause as introduced by Govt. of Odisha, Works Department letter No.VII (R&B) 5225, dt.26.2.55 and No. II, M-56/61-28842 (5), dt.27.9.61.

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

a) Rent, royalties, cess and other charges of materials and all other taxes including GST from time to time, Ferry tolls, conveyance charges and other cost on account of land buildings including temporary building required by the tenderer for collection of materials, storage, housing of staff or other purpose of the work are to be borne by the contractor at his own cost. No rent will be payable to Govt. for temporary occupation of land owned by govt. at the site of the work for bonafide use of the land for work and all such construction of temporary nature by the contractor shall be done after obtaining written permission from the Engineer-in-Charge of the work and all such construction shall have to be demolished and debris removed and ground made good and cleared after completion of the work at no extra cost.

b) Royalty will be recovered from each bill as notified by Govt. from time to time unless K Forms are enclosed. Refund of royalty at later date after passing of the bills cannot be entertained as the recovery of royalty is being credited to revenue.

c) Labour camps or huts necessary to a suitable scale including conservancy and sanitary arrangements therein to the satisfaction of the local labour laws and health authorities shall have to be provided by the Contractor.

d) Arrangement of suitable water supply including pipe water supply where available for the staff and labour as well as for the execution of the work is sole responsibility of the Contractor and no extra cost for carriage of water will be entertained. e) All fees and dues levied by Municipal, Canal or Water Supply Authorities are to be borne by the Contractor.

f) Suitable safety equipments and dresses, gloves, life belts etc. for the labour engaged in risky operations are to be supplied by the contractor at his own cost.

g) Suitable fencing barriers, signals including paraffin and electric signals where necessary at work and approaches in order in project the public and employees from accident has to be provided by the Contractor at his own cost.

h) Compensation including cost of any legal suit for injury to persons or property arising out of execution of the work and also any sum, which may become payable due to operation of the workmen compensation act, shall have to be borne by the contractor.

i) The contractor has to arrange adequate lighting arrangements for the work wherever necessary at his own cost.

29. No payment will be made for layout, benchmark, level pillars, profiles and benching and leveling the ground required, which has to be carried out by the contractor at his own cost. The rates to be quoted should be for finished items of work inclusive of carriage of all materials and all incidental items of work.

30. After the work is finished 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 removed from the site and premises left neat and his should be inclusive in the rates. No extra payment will be made to the Contractor in this account.

31. It should be understood clearly that no claim what-so-ever will be entertained to extra items of works quantity of any item besides estimate amount unless written order is obtained from the competent authority and rate settled before the extra items of work or extra quantity of any items of work is taken up.

32. The tenderers shall have to abide by the C.P.W.D. safety code rules introduced by the Govt.of India, Ministry of Works and Housing & Supply in their standing order No.44150, dt.25.11.57.

33. No part of the contract shall be sublet without written permission to the concerned Executive Engineer or transfer to be made by the power of attorney authorizing others to receive payment on contractor's behalf.

34. 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 and office of the under signed during office hours every day 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. But it must be clearly understood that tenders must be received in order and according to instructions in complete shape. Incomplete tender is liable for rejection.

35. No Relation certificate.

The contractor shall furnish a certificate along with the tender to the effect that he is not related to any officer in the rank of an Assistant Engineer & above in the state P.W.D. or Assistant/Under Secretary & above in the Panchayatiraj and Drinking Water Department. If the fact subsequently proved to be false, the contract is liable to be rescinded. The earnest money & the total security will be forfeited & he shall be liable of make good to damages the loss or damages resulting for such cancellations. The proforma for no relationship certificate is contained in a separate sheet vide Schedule-A.

36. Price Adjustment in works contract :

Price Adjustment clauses due to increase or decrease in rate and price of labour, materiasl, fuels & lubricants and Plant & machineries spare component in accordance with the following principles and procedures as per formula Vide Works Department Memorandum No-15847 /W dt.19.11.2019 as given below :

ANNEXURE-A

Clause 31 :- Price Adjustment

31.1 : Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants in accordance with the following principles and procedures and as per formula given in following Paras.

(a) The price adjustment shall apply for the work done from the start date given in the contract data up to end of the initial intended completion date or extensions granted by the Engineer and shall not apply to the work carried out beyond the stipulated time for reasons attributable to the contractor.

(b) The price adjustment shall be determined during each month from the formula given in following Pares

(c) Following expressions and meanings are assigned to the work done during each month:

R= Total value of work done during the month. It would include the amount of secured advance granted, if any, during the month, less the amount of secured advance recovered, if any during the month. It will exclude value for works executed for extra items under variations.

31.2 : To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs

The formula (e) for adjustment of prices are:

31(a) (i): Adjustment of Other Materials Component

Price adjustment for increase or decrease in cost of local materials other than cement, steel, bitumen, pipe and POL procured by the contractor shall be paid in accordance with the following formula:

$V_M = 0.85 \times P_m/100 \times R \times (M_1 - M_o)/M_o$

V_M = Increase or decrease in the cost of work during the month under consideration due to changes in rates for local materials other than cement, steel, bitumen and POL.

M_o = The all India wholesale price index (aII commodities) on 28 days preceding the date of opening of Bids, as published by the Ministry of Commerce and Industry ,Government of India, New Delhi.

M1 = The all India wholesale price index (all commodities) for the month under consideration as published by the Ministry of Commerce and Industry , Government of India, New Delhi.

Pm = Percentage of local material component (other than cement, steel, bitumen and POL) of the work.

31(a)(ii): Adjustment for Cement Component

Price adjustment for increase or decrease it the cost of cement procured by the contractor shall be paid in accordance with the following formula:

$V_c = 0.85 \times P_c/100 \times R \times (C_1 - Co)/Co$

V_c = Increase or decrease in the cost of work during the month under consideration due to changes in the rates for cement

C_o = The all India wholesale price index for Ordinary Portland Cement (OPC) on 28 days preceding the date of opening of Bids as published by the Ministry of Commerce and Industry , Government of India, New Delhi.

The all India wholesale price index for Ordinary Portland Cement (OPC) for the month under consideration as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

P_c = Percentage of Cement Component of the work

31(a)(iii): Adjustment for Steel Component

Price adjustment for increase or decrease in the cost of steel procured by the contractor shall be paid in accordance with the following formula:

$V_S = 0.85 \times P_s/100 \times R \times (S_1 - So)/So$

V_s = Increase or decrease in the cost of work during the month under consideration due to changes in the rates for steel

So = The all India wholesale price index for steel (Mild Steel long products) on 28 days preceding the date of opening of Bids as published by the Ministry of Commerce and Industry Government of India, New Delhi

S_1 = The all India wholesale price index fix steel (Mild Steel long products) for the month under consideration as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

P_5 .= Percentage of steel component of the work

Note: For the application of this clause, index of (Mild Steel long products) *has been chosen to represent steel group.*

31(a)(iv): Adjustment of Bitumen Component

Price adjustment for increase or decrease in the cost of bitumen shall be paid in accordance with the following formula:

$V_b = 0.85 \times P_b/100 \times R \times (B_1 - B_o)/B_o$

V_b = Increase or decrease in the cost of work during the month under consideration due to changes in the rate for bitumen.

B_o = The official retail price of bulk bitumen at the IOC / BPCL depot at nearest center on the day 28 days prior to date of opening of Bids.

B_1 = The official retail price of bulk bitumen at IOC / BPCL depot at nearest center for the 15th day of the month under consideration.

P_b = Percentage of bitumen component of the work

31(a)(v): Adjustment towards differential cost of Pipes.

Price adjustment for increase or decrease in the cost of pipe shall be paid in accordance with the following formula:

$V_{pi} = 0.85 \times Ppi/100 \times R \times (P_{i1} - P_{io})/P_{io}$

V_{pi} = Differential cost of pipe i.e. amount of increase or decrease in rupees to be paid or recovered during the month under consideration.

P_{pi} = Percentage of pipe component of the work

P_{i1} = All India Whole sale price index of pipe for the period under consideration as published by the Ministry of Commerce and Industry , Government of India, New Delhi

P_{io} = All India Whole sale price index of pipe on 28 days preceding the date of opening of Bids as published by the Ministry of Commerce and Industry , Government of India, New Delhi.

31(b):Adjustment of Labour Component

Price adjustment for increase or decrease in the cost due to labour shall be paid in accordance with the following formula

$VL = 0.85 \times P_l /100 \times R \times (L_1 - L_o)/L_o$

V_L =Increase or decrease in the cost of work during the month under consideration due to changes in rates for local labour.

Lo= The minimum wages for unskilled labour as Notified by Government of Odisha as prevailed on the last stipulated date of receipt of tender including extension, if any.

L_1= The minimum wages for unskilled labour as Notified by Government of Odisha as prevailed on the last date of the

Month previous to the one under consideration.

P_l = Percentage of labour component of the work.

31(c) : Adjustment of POL(fuel and lubricant) Component

(v) Price adjustment for increase or decrease cost POL(fuel and lubricant) shall be paid in accordance with the following formula.

$V_f = 0.85 \times P_f/100 \times R \times (F_1 - F_o)/F_o$

V_f = Increase or decrease in the cost of work during the month under consideration due to changes in the rates for fuel and lubricants.

Fo = The official retail price of High Speed Diesel (HSD) at the existing consumer pumps of IOC / BPCL/ HPCL at nearest center on the day 28 days prior to the date of opening of Bids.

F_1= The official retail price of HSD at the existing consumer pumps of I0C / BPCL/ HPCL at nearest center for the 15th day of the month under consideration.

P_f = Percentage of fuel and lubricants component of the work

Note For the application of this clause, the price of High Speed Diesel

oil *has been chosen to represent fuel and lubricants group*

31(d): Adjustment for Plant and Machinery Spares Component

(vi) Price adjustment for increase or decrease in the cost of plant and machinery spares procured by the Contractor shall be paid in accordance with the following formula:

$V_p = 0.85 \times P_p/100 \times R \times (P_1 - P_0)/P_0$

V_p = Increase or decrease in the cost of work during the month under consideration due to changes in the rates for plant and machinery spares

P_0 = The all India wholesale price index for manufacture of machinery for mining, quarrying and construction on 28 days preceding the date of opening of Bids as published by the Ministry of Commerce and Industry , Government of India, New Delhi.

P_1 = The all India wholesale price index for manufacture of machinery for mining, quarrying and construction for the month under consideration as published by the Ministry of Commerce and Industry , Government of India, New Delhi.

P_p = Percentage of plant and machinery spares component of the work

Note : For the application of this clause, index of manufacturing of machinery for mining, quarrying and construction *has been chosen to represent the Plant and machinery Spares group.*

Regarding wholesale price Index (WPI) for appropriate commodity for payment of price adjustment, due to change of base year of WPI from 1993-94 to 2004-05 & 2011-12, it is observed that, the commodity 'Bars and Rod', 'Cement', 'Heavy machinery and parts' included in the list of WPI 1993-94 series are not mentioned as such in the WPI 2004-05 & 2011-12 series. Therefore, the following items in the WPI 2004-05 & 2011-12 series shall be considered corresponding to items in WPI 1993-94 series:

Sl No.	Item in WPI 1993-94 series	Item in WPI 2004-05 series	Item in WPI 2011-12 series
1	Cement	Grey Cement	Ordinary Port land cement
2	Bars & rods	Rebars	Mild steel long products
3	Heavy Machinery and parts	Construction Machinery	Manufacture of machinery for mining quarrying and construction.

31(e): APPLICATION OF ESCALATION CLAUSE:

The contractor shall for the purpose of availing reimbursement / refund of differential cost of steel, bitumen, cement, pipe, POL and wages, 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 authorized representative of Government and further, shall at the request of the Engineer-in-Charge, furnish documents to be verified in such a manner as the Engineer-in-Charge may require any document and information kept The contractor shall within a reasonable time of 15 days 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 along with information relating to there to which he may be in a position to supply.

Percentage Table

S.I. No.	Category of works		% Component (Cost wise)		
			Labour (Pl)	POL (Pf)	Steel (Ps) + Cement (Pc) + Bitumen (Pb) + Pipes (Ppi) + Plant & Machinery Spare & Component (Pp) + Other Materials *
1	R&B works (%) of Component)	Road Works	5	5	90
		Bridge Works	5	5	90
		Building Works	5	5	90
2		Structural work	5	5	90
		Earth, Canal & Embankment work	5	5	90
3	P.H Work	Structural Work	5	5	90
		Pipeline Work	5	5	Pipe - 70% Machinery + Other Material - 20%
		Sewer Line	5	5	Pipe - 70% Machinery + Other Material - 20%

** Note : -Further break up may be worked out considering the consumption of Cement, Steel, Bitumen ,pipe and Plant & Machinery Spare Component in the concerned works and shall be provided in the bid document in shape of "**Schedule of Adjustment Data** " as an "**Appendix to Bid**". (enclosed herewith)*

Appendix to Bid
Schedule of Adjustment Data

[For all works, adjustment factor for Labour and POL shall be considered @ 5% each. Steel, Cement, Pipes, other Materials and Machinery shall contribute to 90% of Price Adjustment and shall be calculated for each work separately during preparation of estimate, shall be approved by the authority during technical sanction as a "Schedule of Adjustment Data" and shall form part of the Bid Document]

Cl. No- 31 of F2/P1 Contracts Sl No.	Index description	Source of index	Base value*	Base Date*	Weightage of item **
31 (a) (i)	Other Materials	All India Whole sale price index (all commodities) as published by the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry.			
31 (a) (ii)	Cement	Whole sale price index for Cement (Ordinary Portland Cement) as published by the office the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry.			
31 (a) (iii)	Steel	Whole sale price index for Steel (Mild Steel-Long Products) as published by the office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry.			
31 (a) (iv)	Bitumen(VG-30)	Official retail price of bulk bitumen at the nearest IOC/ HPCL depot			
31 (a) (v)	Pipes	Whole sale price index for the type of Pipe under consideration, as published by the office the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry.			
31 (b)	Labour	Minimum Wage notified by the Labour and Employee's State Insurance Department of Government of Odisha, India			5%
31 (c)	POL	Official retail price of HSD at nearest IOCU HPCU BPCL Consumer pump depot.			5%
31 (d)	Plant and Machinery	Whole sale price index for Manufacture of Machinery for Mining, Quarrying and Construction as published by the office the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry			
				Total	100 %

(%) of Component) Irrigation Works

*Value to be filled up at the time of drawl of contract

**Values to be filled up in the bid document

37. If any advance / Secured advance is granted by the Department the same will bear interest at the rate of 18% P.A.

38. All items of work as per schedule of quantities of this tender should confirm to Odisha Detailed Standard Specification. I.R.C. & I.S.I. Codes & Bridge code section I,II,III,IV&VII & latest design criteria for pre-stressed concrete bridge specially for Roads & Bridges issued by MoRT&H, Government of India, Compacting shall have to be carried out with help of mechanical vibrators from the range of I.S.:2505, I.S.:2006, I.S.:2514. I.S.:4656.

39. Centering & Shuttering shall be with suitable steel shutters in side of which shall be lined with suitable sheeting and made leak proof and watertight. All joints in formwork shall be properly sealed preferably with P.V.C. joints sealing tapes & compounds.

40. 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, centering and shuttering made for the work and 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 centering and shuttering shall be the responsibility of the Contractor regarding compensation of all claims thereof.

41. Cement shall be used by bags and weight of one bag of Cement should be 50 (fifty) Kg. net & the Engineer-in-Charge or his representative shall have the right to test the weight & quality from time to time.

42. The tenderers shall make all arrangements for proper storage of materials but no cost for raising shed for store and pay of security guard etc. will be borne by the Department. The department is not responsible for any theft or loss of materials at site. It is contractor's risk. Under any such plea, if the tenderer stops the work he shall have to pay the full penalty as per clauses of the contract.

43. Approach road to site of work for transport of materials to site of work is sole responsibility of the Contractor. Statutory traffic restriction in the town area for Transport of construction material to site of work is to be taken in to consideration before tendering and no consideration for extra time or compensation thereof shall be considered.

44. The contractor should at his own cost arrange necessary tools and plants required for efficient execution of work and the rates quoted should be inclusive of transportation, hire and running charges of such plant and cost of consumables.

45. The contractor shall properly co-ordinate with the execution of P.H. and Electrical works and take care of the safety of workers.

46. The machineries if available, with the department may be supplied on hire as per charges noted in the enclosed statement and may be changed from time to time subject to the condition that the contractor will execute in advance an agreement with the Engineer-in-Charge.

47. No claim whatsoever will be entertained for supply of machineries. No extension of time will be granted to the contractor under this ground under any circumstances

48. 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 indicating the satisfactory completion for Civil, P.H. & Electrical works as per the proforma enclosed in a separate sheet of Schedule-D.

49. The tenderer or any of its constituent partners of whose contract for any work has been rescinded or who has abandoned any work in the last five years prior to the date of Bid shall be debarred from qualification. The tenderer is to furnish an affidavit at the time of submission of tender paper about the authentication of tender documents. An affidavit to this effect is to be furnished in Schedule-F and information in Schedule-E

50. It should be clearly understood that :

a) The joints of the bars are to be provided with lapping, welds or bolts nuts as well be directed by the Engineer-in-charge.

b) Concrete 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 responsible officer of the rank not lower than that of an Assistant Executive Engineer or sub-Divisional Officer. The contractor shall bear the cost so involved in testing. The test specimen in cube should be carried out in the Departmental Control and Research Laboratory of Rourkela. Test should be carried out in accordance with the stipulation in Bridges code section-III.

c) Test specimens shall be formed carefully in accordance with the standard method of taking test specimen and no plea shall be entertained later on the grounds that the casting of the test specimen was faulty and that the result of the specimen did not give a correct indication of the actual quality of concrete.

d) Plain concrete and reinforced concrete specimens will be tested in *Quality Control and Research Laboratory as per direction of Engineer-in-charge.* Cost of testing of all specimens and samples will be borne by the Contractor.

51. The rates quoted should be inclusive of carriage of water required in connection with execution of the work. No claim for carriage of water whatsoever will be entertained.

52. The contractor shall employ one or more Engineering Graduate or Diploma holders as apprentice at his cost if the work as shown in the tender exceeds Rs. 2,50,000.00. The apprentices will be selected by the Chief Engineer. The period of employment will commence within one month after the date of work order and would last till the date, when 90% of the work is completed. The fair wage to be paid to the apprentices should not be less than the emolument of personnel of equivalent qualification employed under Government. The number of apprentices to be employed should be

fixed by the Chief Engineer in the manner so that the total expenditure does not exceed one percent of the tendered cost of the work.

53. List of tool & plants in running condition in possession of contractor is to be furnished in a separate sheet of Schedule-C.

54. It is the responsibility of the contractor to procure and store explosive required for blasting operation. Department may render necessary possible help for procuring license.

55. For submission of a tender for the work, the tenderer 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 materials, Medical aid, labour and Flood stuff etc. and that the rates quoted by him in the tender will be adequate to complete the work according to the specifications attached thereto and that he had taken in to account all conditions and difficulties that may be encountered during its progress and to have quoted labour rates and materials with taxes, Octoroi and other duties lead, lifts, loading and unloading freight for 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 authorized subordinates. After acceptance of the contract rates Government will not pay any extra charges for any reason in case the contractor finds later on to have misjudged the conditions as regards the availability of materials, labour and other factors. The contractor will be responsible for any misuse, loss or damages due to any reasons whatsoever of any departmental material during the execution of work. In case of loss, damage or misuse, recovery at the rate at 5 times the cost of the materials will be deducted from the bills or his other dues.

56. The prevailing percentage of I.T. Department of the gross amount of the bill towards income tax will be deducted from the contractor's bill.

57. GST at source will be deducted as per the Government rule in force.

58. Prevailing rate of cess i.e. @ 1% on estimated cost put to tender as per the Building and Other Constructed Workers (RE&CS) Act. 1996 and Buildings and Other Construction Workers Welfare Cess Act. 1996 (vide resolution No.-12653, dt.15.12.2008 of Labour and Employment Department, Govt. of Odisha) will be deducted from each running bill of the contractor.

59. It must be clearly understood that under no circumstances any interest is chargeable for the dues or additional dues if any payable for the work executed and final bill pending disposal due to any reason whatsoever.

60. No extra payment will be made for removing spreading and consolidating salvaged metals and materials.

61. 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.

62. Performance Security / Additional Performance Security :

1. Additional Performance Security (APS) is being obtained from the Successful Bidder when the Bid amount is less than estimated cost put to tender to the extent of exact amount of differential cost i.e. estimated cost put to tender minus the quoted amount in shape of Term Deposit Receipt pledged in favour of Block Development Officer ,Gurundia from any Nationalized /Scheduled Bank in India counter guaranteed by its local branch within seven days of issue of Letter of Acceptance (LoA) by the Block Development Officer to the successful bidder otherwise the bid of the successful bidder shall be cancelled and the Earnest Money Deposit/ Bid Security shall be forfeited. Further, proceeding for Blacklisting shall be initiated against the bidder as per amendment to Para 3.5.5
(v) of OPWD Code, Volume-I vide Works Department Office Memorandum No.14459/W dated 20.09.2018.

2. The State Government is in receipt of many representations that on account of slowdown in economy due to the pandemic COVID-19, there is acute financial crunch among many contractors, which in turn is affecting timely execution of the contracts. It has also been represented that this may affect the ability of the contractors to bid in tenders and hence reduce competition. Requests are being received for reduction in quantum of Additional Performance Security in the Government Contracts.

3. In view of the above, the State Government is pleased to fix. the following rate of Additional Performance Security;

	Range of Difference between the estimated cost put to tender and Bid amount	Additional Performance Security to be deposited by the successful bidder
	Below 5%	No Additional Performance Security
	From 5% and above and below 10%	50% of (Difference between estimated cost put to tender and Bid Amount)
	From 10% and above	150% of (Difference between estimated cost put to tender and Bid Amount)

4.This shall take effect from the date of issue of this Office Memorandum.

5. The codal provision exists in Works Department Office Memorandum No.14459/W dated 20.09.2018 stands modified to the above extent with effect from the date of issue of this Office Memorandum.

If the Contractor fails to complete the work, the amount so furnished as additional performance security will be forfeited in addition to the other penal clauses, if any to be imposed.

63. Sample of all material - The contractor shall supply sample of all materials fully before procurement for the work for testing and acceptance as may be requiring by the concerned Executive Engineer.

64. Super class contractor shall employ under himself two Graduate Engineer and two Diploma holders belonging to the State of Odisha. Special class contractor shall employ under him one graduate Engineer and two Diploma Holders belonging to the state of Odisha. Likewise 'A' class contractor shall employ under him one Graduate Engineer or two Diploma Holders belonging to state of Odisha. 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 Odisha. The Engineer-in Chief (Civil), Odisha may however assist the contractor with names of such unemployed Graduate engineers and Diploma Holders if such help is sought for 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 the work executed as per the bill has been supervised by him. (Vide Works Department No. Codes M-22/91-15384 dated 9.7.91). The required certificate is to be furnished in the tender documents vide Schedule-G.

65. An 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.

66. All reinforced cement work should conform to Odisha Detailed specification and should be of proportion as per Contract Agreement having desired compressive strength (in work test) in 15 Cm cubes at 28days, after mixing and test conducted in accordance with IS 456 and IS 516.

67. Bailing out of water from the foundation, pipeline trenches S. Tanks/ Soak pits/ Sumps/ M.H. etc. either rainwater or sub-soil water if necessary should be borne by the contractor. No payment will be made for benchmarks. Level pillars, profiles and benching and leveling the ground wherever required. The rates quoted should be for finished items of works inclusive of these incidental items of work. It should be understood clearly that no claims whatsoever would be entertained.

68. The tenderer 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.

69. The Contractor will have to submit to the Block Development Officer, Gurundia, Sundargarh.

70. monthly return of labour both skilled and unskilled employed by him on the work.

71. All fittings for doors and windows P.H. & Electrical works as supplied by the Contractor should be of best quality and conform to relevant I.S. specification and should be got approved by the Engineer-in-charge of the respective wing before they are used on the work.

72. After completion of the work the contractor shall arrange at his own cost all requisite equipments for testing buildings, if found necessary and bear the entire cost of such test, including the inspection of Electrical Inspectorate.

73. The Tenderer should furnish along with their tender 1. A list of works, which are at present in their hand (Schedule-B) in case where the BID Value is equal & above 300 Lakh 2. List of T&P (Schedule-C) and 3. List of work executed (Schedule-D) in the prescribed proforma(s) enclosed herewith in appropriate place of bid document.

74. All reinforced cement concrete works should be finished smooth.

75. The tenderer may at his option quote reasonable rate for each item of work carefully so that the rate for one item should not be unworkable low and for others too high.

76. The contractor has to arrange the samples of materials required for execution to be got tested and approved by the Department before taking up the work and during course of execution required from time to time. All such samples will be tested at any of the *Departmental Control and Research Laboratories*, at the cost of the Contractor with no extra cost to the Department.

77. If there is any damage to the work due to natural calamities like flood or cyclone or any other cause during the course of execution of work or up to 6 months after completion of work or if any, imperfection becomes apparent to the work within 6 months from the date of final certificate of completion of work the contractor shall make good of all such damages at his own cost with no extra cost to the Department. No claims, whatsoever, in this regard will be entertained.

78. The Fly Ash Bricks should be of good qualities. The bricks should be approved by the Engineer-in-Charge before use in the work and should confirm to the minimum strength and other criteria as per National Building Code.

79. Under Section 1 of contract labour Regulation and Abolition Act 1970 the contractor who undertakes execution of work through labour should produce valid license from the licensing authority of labour Department.

80. Standard co-efficient for linear measurement will be adopted while calculating consumption of steel and no claim whatsoever regarding difference in co-efficient of steel will be entertained. The rates quoted shall be inclusive of any eventuality of difference for co-efficient for linear measurements.

81. Engineer Contractor desirous to avail the facility of exemption of E.M.D is required to submit an affidavit to the effect that he has not yet availed the facility / participated in the tender for more than two works (Excluding this work) during the current financial year. The name of work for which participated and the authority to whom the tender was submitted must be mentioned in the affidavit, failing which the tender will be rejected.

82. That for the purpose of jurisdiction in the event of disputes if any of the contract would be deemed to have been entered in to within the State of Odisha and it is agreed that neither party to the contract will be competent to bring a suit in regard to the matter by this contract at any place outside the State of Odisha.

83. SPECIAL CONDITIONS (PART OF THE CONTRACT)

(I) 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 tests shall have to be borne by the Contractor and the rates of the items of works should be inclusive of cost of such tests.

(II) The tests have to be planned & carried out such that the progress of work is not hampered

(III) 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 prescribe other required test if any as will be considered from time to time.

84. In case of ambiguity between clauses of this D.T.C.N. and the P-1 contract form, the relevant Clauses of the P-1 contract form shall prevail over the D.T.C.N. The clauses not covered under P-1 contract form shall be governed by the clauses of the D.T.C.N.

85. It must be definitely understood that the Government does not accept any responsibility for the correctness and completeness of the trial borings shown in the Cross Section.

86. Schedule of quantities is accompanied in BOQ. It shall be definitely understood that the Government does not accept any responsibility for the correctness or completeness of this schedule and that this schedule is liable for alternation or omissions, deductions or alternations set forth in the conditions of the contract and such omissions, deductions, additions or alternations shall no way invalidate the contract and no extra monetary compensation, will be entertained.

87. 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.

88. The contractor should arrange the materials like Steel, Cement, paint and bitumen etc. of approved quality and specification at his own cost for completion of the work with the time schedule. No extension of time will be granted on the application of the contractor due to delay in procurement of materials.

89. The bidder will be responsible for the loss or damage of any departmental materials 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.

90. If the contractor removes Government materials supplied to him from the site of work with a view to dispose of the same dishonesty, he shall be in addition to any other liability civil or criminal arising out of his contract be liable to pay a penalty equivalent to five times of the price of the materials according to the stock issue rate or market rate whichever is higher. The penalty so imposed shall be recovered at any time from any sum that may then or at any time thereafter become due to the contractor or from his security deposit or from the proceeds of sale thereof.

91. The selected contractor may take delivery of departmental supply according to his need for the work issued by the *Block Development Officer* subject to the availability of the materials. The tenderer shall make all arrangement for proper storages of materials but no cost for raising shed for storage, pay of security guard etc. will be borne by the Department. The Department is not responsible for considering the theft of materials at site. It is the contractor's risk. Under any such plea if the tenderer stops the work, he shall have to pay the full penalty as per clause of P1 agreement.

92. The Department will have the right to supply at any time in the interest of work any departmental materials to be used in the 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.

93. All the materials which are to be supplied from P.W.D. 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. After the issue from the P.W.D. store, the materials may be under the custody of the contractor and the contractor will be responsible for its safety and storage. Cut pieces of steel more than one meter in length will be returned by the contractor at the issuing stores without conveyance charges.

94. Though Departmental issue of cement and steel has indicated, it may not be taken as binding. The contractor must have to arrange by themselves cement, steel, bitumen and every sort of materials from approved manufacturer, get it tested in the Departmental Laboratory and approved by the Department before use. No extension of time or escalation of price on such account shall be entertained in future.

95. TOR rods, plates and structural members will be supplied in quantity, length and size available in the stock. For payment of reinforcement, the steel including plates etc. shall be measured in length of different diameter, size and specification as actually used (including hooks and cranks) in the work correct to an inch or cm. 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).

96. Odisha 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 Odisha 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. 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, falling which the amount towards royalties of different
materials as utilised by them in the work will be recovered from their bills and deposited in the revenue of concerned department.

98. Trial Boring - The foundation level as indicated in the body of the departmental drawing is purely tentative and for the general guidance only. The Department has no responsibility for the suitability of actual strata at the foundation level. The contractor has to conduct his own boring before starting the work and get the samples tested at his own cost to ascertain the S.B.C. and credibility of the strata at founding level while quoting his rates for tender the contractor shall take in to account of the above aspects.

99. Any defects, shrinkage or other faults which may be noticed within 12 (Twelve) months from the completion of the work arising out of defective or improper materials or workmanship timing are upon the direction of the Engineer-in-Charge to be amended and made good by the contractor at his own cost unless the Engineer for reasons to be recorded in writing shall be decided that they ought to be paid for and in case of default Department may recover from the contractor the cost of making good the works. The contractor is also required to maintain the road/ building for 12 (Twelve) months from the date of successful completion of the work.

100. From the commencement of the works to the completion of the same, they are to be under the contractors charge. The contractor is to be held responsible to make good all injuries, damages and repairs occasioned or rendered necessary to the same by fire or other causes and they hold the Govt. of Odisha harmless for any claims for injuries to person or structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the contractor or any one in his employment during the execution of the work. Also no claim shall be entertained for loss due to earthquake, flood, cyclone, epidemic, riot or any other calamity whether natural or incidental damages so caused will have to be made good by the contractor at his own cost.

101. Gradation of ingredients: The coarse and fine aggregate shall meet the grade requirement as per the latest provision of relevant. I.S. Code / I.R.C. code / MoRT&H specifications.

102. Where it will be found necessary by the Department, the Officer-in-Charge of the work shall issue an 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 PR& DW 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 given to the contractor for following the instructions of the Department. The order Book shall be the property of the P.R & DW. and shall not be removed from the site of work without
written permission of the Engineer (Executive Engineer) and to be submitted to the Engineer-in charge every month.

103. 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.

104. In case of any discrepancy in printing or omissions of statutory specifications or any other part or portion of the approved document during download of the bid document, the decision of the officer inviting the bid will be binding on the bidder.

105. The rates quoted by the contractor shall cover the latest approved rates of Labours, Materials, P.O.L. and Royalties. Arrangement of borrow areas i.e. Land, Approach Road to the building site etc. are the responsibility of the contractor.

106. The rate for each work of concrete items 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 quoted rates will be inclusive of this.

107. The contractor shall make requisition of claim book from the date of commencement of the work from the Department and shall maintain in proper P.W.D. form with pages serially numbered in order to record items of works 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 authorized agents 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 for 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 or the claim book not maintained from the commencement of the work is liable to be summarily rejected. The claim book is the property of the PR & DW. 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 whichever is earlier for record.

108. 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.

109. Even qualified criteria are met, the bidders can be disqualified for the following reasons, if enquired by the Department

(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.

110. In case the 1st lowest tenderer or even the next lowest tenderers withdraw in series one by one, thereby facilitating a particular tender 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 black listing the tenderers shall also be taken apart from disincentives against the tenderer.

111. The following documents which are not submitted with the Bid, will be deemed to be part of the Bid:

Sl. No	Particulars
1	Notice Inviting tender
2	Instruction to the Bidders
3	Conditions of Contract.
4	Contract data
5	Specifications
6	Drawings

112. Condition for issue of plant & machinery to contractor on hire: - Tools & plants will be issued to the contractor only if it is desirable in the interest of Govt. works and if these can be spared without inconvenience to the Department. The Sanction of the Chief Engineer shall be necessary in each case. The contractor shall arrange his programme of work according to the availability of the plant & machinery & no claim will be entertained for any delay in supply by the Department.

An agreement shall be entered in to by the contractor to the effect that these hire charges are recoverable from the bills of the contractor regularly and the final payment for the work including refund of security deposit will not be made until the total amount due to the Government on account of hire of machinery etc. is recoverable in full. Full amount of hire charges due from the contractor at any contract at any time shall be recovered from his next subsequent bill. All transit and incidental charges in connection with the despatch of tools and plants and machineries from workshop shed/ deposit return there to, will be borne by the contractor. The hire charge shall be recovered at the prescribed rates from and inclusive of the date, the plant and machinery is made over up to and inclusive of the date of its return, even though the same day it may not have been utilized for any reason except for a major break down which may take more than 72 hours for repairs. The contractor shall immediately intimate in writing to the Engineer-in-charge when any plant or machinery goes out of order requiring major repairs. The hire charges are for clock hours. In case of tar boilers, hot mix plant and any other machinery requiring similar preparation the working hour will include the time required to make up the boiler temperature and bring plant to the operating conditions before the actual start of work. The machine will work in shifts of 8 hours each. Extra charges towards overtime wages of any of the operating and maintenance staff will be leviable. These charges will be fixed by the Engineer-in-charge from time of time. In no case, the tools and plants shall be operated beyond 8 hours in any shift without prior written permission of the Engineer-in-charge.

The contractor shall release the plant and machinery as and when required for periodical servicing and maintenance. He shall also provide for any labour and water source for washing the plants. In the case of Concrete mixtures, pavers and similar such type of equipments, the contractor shall arrange to get the hopper cleaned and the drums etc. washed at the close of work each day. The plant and machinery once issued to a contractor shall not be returned by him on account of lack of arrangement of labour and material etc. on his part. The same will be returned only when they do not require or when in the option of Engineer-in-charge the work or a portion of work for which issued is completed.

The tools and plants shall while in transit and in the custody of contractor be at his sole risk and responsibility for damages and / or loss except fair wear and tear. The damage or loss as assessed by Engineer-in-charge shall be made good by the contractor. In the event of a disagreement as to the extent of damage or the value of article lost, the decision of Chief Engineer shall be final. The contractor shall on or before the supply of plant and machinery sign an agreement in indemnifying the Govt. against loss or damage to the machine. The Contractor shall also be responsible for any claim for compensation for loss of life, injury or damages to property etc. arising from any cause what-so-ever. The contractor shall provide full time choukidar for guarding the plant and machinery at site.

If the articles are not returned within the date originally specified or extended by the Engineer in Charge, in addition to the normal hire charge, a surcharge equal to 10% of the hire charges will be levied for the period that the machinery is not returned. Such period will be treated as working time. In the event of the non-return of the machinery, the full value of

the articles at the current market price will be recovered from the contractor's outstanding bills or any bills that may become due in respect of his other work under the state public works Department. The decision of the Chief Engineer shall be final in case of dispute.

FORM OF AGREEMENT - The contractor shall, before taking the possession of the machinery, enter in to an agreement with the Engineer-in-charge or his nominees in the form attached. Log Books for recording the hours of daily works for each of the plant and machinery supplied to the contractor will be maintained by the Department will be attested by the contractor or his authorized agent daily. In case of contractor contests the correctness of the entries and / or fails to sign the logbook, the decision of the Engineer-in-charge shall be final and binding on him. Hire charges will be calculated according to the entries in the logbook and will be binding on the contractor.

AGREEMENT FOR LOANS OF GOVERNMENT TOOLS & PLANTS

This agreement made on the …… Two Thousand between (herein-after referred to as "the hirer" which expression shall unless excluded by or repugnant to the context include his heirs, executors, administrators and assigns) of the one part and the Govt. of Odisha (here in after referred to as the Governor which expression shall unless excluded by or repugnant to the context include his successors in office as assigns) of the other part. Whereas the hirer desirous of hiring the tools and plants of the P.W. Department of the Odisha Govt. and more particularly specified in the schedule here under between here in after referred to as "the tools and plants". And whereas Government has agreed to let in hire the tools and plants to the hirer on the terms and conditions here in after mentioned. Now it is here by and between the parties here to as follows :-

a) In consideration of agreement that hire charges be recovered from their bill for work executed on which this machinery will be used or any other than standing in the names of contractors in the book of the Department or any other Government Department. The Govt. agrees to let the hirer tools and plants for the period to be computed from the date of delivery of the tools and plant to the hirer at the PR & DW Department workshop / store at Gurundia.

b) The rate of higher charges will be as mentioned in the schedule attached.

c) The hirer shall not transfer, assign or sublet or in any way part with the tools and plants or any part there-of without the previous written approval of the Engineer-in-charge

d) On the expiry of the period of the hire, the hirer shall return the tools and plants to the PR& DW Department. & Workshop / store at Gurundia in the same good condition in which they were received by him.

e) In the event of the tools and plants not being returned on the expiry of the above-mentioned period, the hirer shall without prejudice and any other liability pay to the Government on account equivalent to the rate of hire specified for the working period and an increase of ten percent.

f) The tools and plants shall be open for inspection at all times to the officers of the Government.

g) The hirer shall not operate the tools and plants so hired for more than one shift / two shifts of 8 hours each per day without the prior sanction of the Engineer-in-charge. If the hirer operates the tools and plants beyond the aforesaid limit without the prior sanction of the Assistant Engineer, he shall pay to Government additional hire charges as well as over time charges for staff for such excess operation at the rate approved by the Engineer-in-charge from time to time.

h) In case of breakdown, repairable at the site within a period of three days hire charges as specified in the schedule will be levied except in case of major repairs.

i) Normally the tools and plants will be supplied with operating staff.

j) The hirer shall be responsible for any claims for compensation for loss of life, injury or damage to property etc. arising due to any causes what-so-ever during the period of the machinery is in his charge.

k) All municipal or other dues and taxes payable on account of the use or operation of the tools and plants for the period of hire shall be defrayed by the hirer.

l) The hirer shall make good any loss or damages arising out of causes other than fair wear and tear to the tools and plants during the period of hire. The cost recoverable from the hirer shall be the full replacement value as determined by the Engineer-in-charge .In the event of any loss or damage not being made good by the hirer to the satisfaction of the said Engineer-in-charge the office shall be at liberty to make good himself such loss or damage and recover the cost thereof from the hirer. The hirer shall pay to the Engineer-in-charge such an amount as shall be necessary to make good the loss or damage failing which the same will be recovered from his dues as in case of hire charges.

m) On the breach of any terms or conditions of this agreement by the hirer the Engineer-in-charge shall be entitled to demand the return of tools and plants and the hirer shall return the tools and plants within 72 hours from the date of

receipt of such order in writing .In case of failure on the part of the hirer to comply with such order he shall be liable to pay such penalty as may be imposed by the Engineer-in-charge for the period the tools and plant are detained provided that the maximum penalty shall not exceed the cost replacement of the tools and plants .

n) In case of any disputes between the hirer and the Government, the decision of the Chief Engineer shall be final.

o) This agreement shall be operated by the Engineer-in-charge on behalf of the Government and the term Engineer-in-charge shall include all officers duly authorized by him to exercise powers on his behalf.

THE SCHEDULE

Serial No.	Description and Name of the articles	No.	Amount of hire per hour	Remarks

In witness where of the hirer and the Engineer-in-Charge has for and on behalf of the Governor of the State has set their respective hand, the day and the year here in above written.

Signed by:

1. 2.

2.

Signed sealed and delivered in the presence of

ELIGIBILITY CRITERIA:

To be eligible for qualification, applicants shall furnish the followings. Non-furnishing of the following particulars shall be treated as ineligible.

a. Required E.M.D (Bid Security) as per the Clause No.20 of DTCN

b. Cost of bid document towards Cost of tender paper as per Clause No.4 of DTCN.

c. Photo copy of valid Contractor Registration Certificate, GST Registration Certificate, GSTIN, PAN card along with the tender documents and the L-I bidder has to furnish the Original Registration certificate, GSTIN and Pan card for verification within 05 (Five) days of opening of the tender before Block Development Officer, Gurundia , Sundargarh as per Clause No-1, 5(i) and 21 of DTCN. The contractor belonging to outside state of Odisha and not started business should submit an undertaking in the form of an Affidavit indicating therein that they are not registered under Odisha GST as they have not started any business in the state and they have no liability under the Act. But before award of final contract, such bidders will have to produce the GST Registration certificate.

d. License criteria as per Clause No.8 of DTCN and Schedule-J need to be furnished.

e. Evidence of ownerships of machineries/ equipments as per Clause No.7 of DTCN and need to be furnished by the bidder in Schedule-C.

f. Joint Ventures are not accepted.

g. The bidder should have satisfactorily executed similar works in Govt., or Govt. undertaking organization during Current / last five years. Experience detailing completed similar nature of works during Current / last five years, with Certificates from the concerned Officer not below the rank of Executive Engineer or Equivalent need to be furnished by the bidder as per Schedule D. *(*Similar nature of works means construction of building (Civil).

h. BID CAPACITY FOR AMOUNT EQUAL & ABOVE 300 LAKH (Vide Works Department Office Memorandum No.6300 dtd.16.6.2011)

Applicants who meet the minimum qualification criteria will be qualified only if their available bid capacity at the expected time of bidding is more than the total estimated cost of the works. The available bid capacity will be calculated as under. Assessed Available Bid Capacity = (A*N*2-B), where

A = Maximum value of works executed in any one year during the last five years (updated to the current price level) rate of inflation may be taken as 10% per year (escalation factor) which will taken into account the completed as well as works in progress.

B = Value of current price level of the existing commitments and ongoing works to be completed during the next years (period of completion of works for which Bids are invited).

N = Number of years prescribed for completion of the work for which the Bids are invited.

Note : In case of a Joint Venture the available Bid capacity will be applied for each partner to the extend of his proposed participation in the execution of the works.

The Statement showing the value of existing commitments and ongoing works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer-in-Charge not below the rank of an Executive Engineer.

Escalation Factor : Following enhancement factors will be used for the cost of works executed and the financial figures to a common base value for works completed in India.

Year before	multiplying factor
One	1.10
Two	1.21
Three	1.33
Four	1.46
Five	1.61

(Applicant should indicate actual figures of costs and amounts for the works executed by them without accounting for the above mentioned factors)

In case the financial figures and value of completed works are in foreign currency the above enhanced multiplying factors will be applied. Instead, current market exchange rate (State Bank of India BC selling rate as on the last date of submission of the bid) will be applied for the purpose of conversion of amount in foreign currency into Indian rupees.

The information on Bid Capacity as on the date of this bid is to be furnished as per the format in Schedule-B.

Total value of Civil Engineering construction work performed in the last five years are to be furnished for which certificate from Chartered Accountant is to be furnished.

2015-2016 ---------- 2017-2018---------- 2019-2020 ----------
2016-2017---------- 2018-2019 ----------

i. Non submission of required information in schedule B, D, E and F shall be treated as non-responsive and the bid shall be summarily rejected.

113. Time Control :- (Vide Works Department Office Memorandum No.24716 dtd.24.12.2005 and No.8310 dtd.17.05.2006)

a) Progress of work and Re-scheduling programme.

i) 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.

ii) Within 15 days of issue of the letter of acceptance, the contractor shall submit to the Engineer-in- Charge for approval a Programme showing the general methods, arrangements, and timing for all the activities in the Works along with monthly cash flow forecast.

iii) To ensure good progress during the execution of the work the contractors shall be bound in all cases in which the time allowed for any work exceeds one month to complete, 1/4th 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, 3/4th of the whole of the work before 3/4th of the whole time allowed under the contract has elapsed.

iv) If at any time it should appear to the Engineer-in-Charge that the actual process of the work does not conform to the programme to which consent has been given the Contractor shall produce, at the request of the Engineer-in-Charge, a revised programme showing the modifications to such programme necessary 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 overdue Programme has been submitted.

v) An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.

vi) 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

vii) show the effect of Variations and Compensation Events.

b) Extension of the Completion Date.

i) The time allowed for execution of the works as specified in the Contract data shall be the essence of the Contract. The execution of the works shall commence from the 15th 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.

ii) The Contractor shall submit the Time & Progress Chart for each milestone Quarter wise indicating each month 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.

iii) 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.

(1) Force majeure, or
(2) Abnormally bad weather, or
(3) Serious loss or damage by fire, or

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

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

(6) 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, or

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

iv) Request for reschedule and extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen (14) 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.

v) 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.

c) Compensation for Delay.

If the contractor fails to maintain the required progress in terms of clause-2 of P-1 Contract 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 of P-1 Contract 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.

d) Bonus for early completion

For availing incentive clause in any project which is completed before the stipulated date of completion, subject to other stipulations it is mandatory on the part of the concerned Executive Engineer to report the actual date of completion of the project as soon as possible through fax or e-mail so that the report is received within 7 days of such completion by the concerned Superintending Engineer, Chief Engineer & the Administrative Department. The incentive for timely, completion should be on a graduated scale of one percent to 05 percent of the contract value. Assessment of incentives may be worked out for earlier completion of work in all respect in the following scale.

Before 30 % of contract period = 5 % of Contract Value
Before 20 to 30 % of contract period = 4 % of Contract Value
Before 10 to 20 % of contract period = 3 % of Contract Value
Before 5 to 10 % of contract period = 2 % of Contract Value
Before 5% of contract period = 1 % of Contract Value
(Amendment to Para-3.5.5 (V) of Note-III of OPWD Code Vol.-I by inclusion vide O.M. No.5288 dt.04.05.2016)

e) Management Meetings

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

ii) 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.

Rescission of Contract (Amendment as per letter No.10639 dt.27.05.2005 of Works Department, Odisha):- 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 realized from the contractor as penalty.

114. Building and other Construction Workers Welfare Cess @ 1% of the estimated cost as per tender notification read with latest corrigendum if any will be proportionately deducted from the contractor's bill at the time of making payment of each bill.

115. The tenderers are required to go through each clause of P.W.D. Form P-1 carefully in addition to the clauses mentioned here in before tendering.

116. A Contractor may be black listed as per amendment made to Appendix XXXIV to OPWD Code Vol.-II on rules for black listing of Contractors vide letter no.3365 dt.01.03.2007 of Works Department, Odisha.

As per said amendment a Contractor may be blacklisted

a) Misbehavior/threatening of Departmental & supervisory officers during execution of work/tendering process.
b) Involvement in any sort of tender fixing.
c) Constant non-achievement of milestones on insufficient and imaginary grounds and non-adherence to quality specifications despite being pointed out.
d) Persistent and intentional violation of important conditions of contract.
e) Security consideration of the State i.e. any action that jeopardizes the security of the State.
f) Submission of false/ fabricated / forged documents for consideration of a tender.

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

118. Percentage rate contract (vide Works Department letter no.8310 dt.17.05.2006) In case of percentage rate tender:-

i) The Contractor has to mention percentage excess or less over the estimated cost (In figures as well as words) in the prescribed format appended to the tender document.
ii) Contractors participated in the tender for more than one work may offer conditional rebate. Rebate offer submitted in separate sealed envelope shall be opened, declared and recorded first. The rebate so offered shall be considered after opening of all packages called in the same Tender Notice. The Contractors who wish to tender for two or more works shall submit separate tender for each. Each tender shall have the Bid Identification No., Name & Sl. No. of the work (as per IFB) to which they refer, written on the envelope.
iii) Only percentage quoted shall be considered. Percentage quoted by the Contractor should be accurately filled-in figures and words, so that there is no discrepancy.
    (1) If any discrepancy is found in the percentage quoted in words and figures, then the percentage quoted by the Contractor in words shall be taken as correct
    (2) If any discrepancy is found in the percentage quoted in percentage excess/ less and the total amount quoted by the Contractor, then percentage will be taken as correct.
    (3) The percentage quoted in the tender without mentioning excess or less and not supported with the corresponding amount will be treated as excess.
    (4) The percentage quoted in the tender without mentioning excess / less supported with corresponding amount does not tally with either to percentage excess or less then it will be treated as percentage excess.
    (5) The percentage quoted in the tender without mentioning excess / less supported with corresponding amount if tallied with the percentage then it will be treated as to which side the amount tallies.
    (6) The Contractor will write percentage excess/ less up to two decimal points only.
    (7) The tender shall be written legibly and free from erasures, over writings or corrections of figures. Corrections, over writings & interpolations where unavoidable should be made by making out, initialing, dating and rewriting.

iv) In the contract P1 time is the essence. The contractor is required to maintain a certain rate of progress specify in the contract.

v) The quantity mentioned can be increased or reduced to the extent of 10% for individual items subject to a maximum of 5% over the estimated cost. If it exceeds the limit stated above prior approval of competent authority is mandatory before making any payment.

vi) The period of completion is fixed and cannot be altered except in case of exceptional circumstances with due approval of next higher authority.

vii) Bills for percentage rate tenders shall be prepared at the estimated rates for individual items only and the percentage excess or less shall be added or subtracted from the gross amount of the bill.

(Total 118 Clauses)

TECHNICAL SPECIFICATION OF CIVIL PORTION OF WORK

Materials of following specification are to be used in work. The Tenderers 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 compressive cube test before commencement of work in each batch).
2.	Steel	I.S. 432 (Plain) and 1786 (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 (galvanized 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 joinery 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

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 — Hindware/Parry Ware / Neycer/ ISI marked
(v) Urinals
(vi) Drain Board
(vii) Odisha Closet
(viii) European Water Closet & Low Level Flushing Cistern.

(b)	C.I. High Level Flushing Cisterns :	Sushila Industries Prabhat Iron Foundry/ East India Steel / I.S.I. marked. "
(c)	H.C.I. Soil Waste Pipes:	Confirming to I.S.I. 1729-1954, having I.S.I.Mark.
(d)	C.P. Bath Room Fittings:	Plaza/ Jaquar I.S.I. marked & confirming to-latest ISS
(e)	Brass Fittings :	Shakti/Anupama /Luster/1.S.I.Marked.
(f)	Gunmetal Valves :	Anupama / Leader / B.S.I.S.l. marked.
(g)	G.I. Pipes (Medium Class):	Manufactured by TATA / JINDAL / B.ST. having I.S.I. Mark.
(h)	Galvanised Iron fittings :	I.S.I. marked C/R brand.
(i)	Paints:	Asian / Berger / Jonson/Confirming to I.S.S
(j)	Cast Iron Manhole cover frame:	Sushila Industries / Prabhat Iron Foundry / East India Steel make confirming to lSS 7.26
(k)	Stone Ware Pipes & Fittings :	Manufactured by Odisha Ceramic Industries / Odisha industries / Keshab Ceramic confirming to I.S.S. Specification No.651 / 1980 {Grade A)
(l)	P.V.C. (S.W.R.) & P.V.C (Rigid.) Pipe/Fittings:	Manufactured by the Supreme Industries Ltd., Bombay / Oriplast, Balasore Duroplast confirming to I.S. Specification No. 4985/81 (Class IV)

(B) BUILDING MATERIALS :

(a) Bricks :

Bricks shall be of locally available best quality kiln burnt. Bricks shall be well burnt, uniform deep red, cherry or copper colored, 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.

(c) Cement :

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

(d) Sand :

Locally available best river sand medium size.

(e) Coarse 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, coiled 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-l. 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) (Odisha 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 Odisha closet should be of approved quality confirming to I.S.S.-2656 (Part-Ill).

The squatting type Indian Water Closet (Odisha 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 (Odisha 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 dia 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 dia 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 Basin shall 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.P 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 32mm 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 fire 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. brass, Bib Cock, long body, 40mm C.P. Waste with overflow C.P. 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 RV.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 wall.

Where no. of Urinals are fixed in a line, the distance between the centres 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. Pipe 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 ISI 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 mm	5mm	16.00kg.	15.00 kg.
75 mm	5mm.	13.83kg.	16.52kg.
100 mm	8mm	24.00kg.	22.00kg.
150mm	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. (same for lead & cement joint)	Gasket in kg.	Cement kg.
100	1.2kg.	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 a height, 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 a 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.

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

9.01. 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-plasticized Poly Vinyl-Chloride (UPVC).

b) Color - Grey

c) Dimensions -

(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/NIL Traffics - 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

b) Laying instructions & Jointing Procedure

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.

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 meters according to pipe diameter. •

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

Clean the Outside of the pipes and inside of the socket of a 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.

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.

5 Anti-syphonage 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.

6 All traps should have a minimum water seal 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 (spirit end) of 110mm only.

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.

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 elsewhere, should be of “Quick Fit” Pipes Class 2 (4kg. F/Cm2), Quick Fit, Pipes have one end socketed. 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-molded fittings.

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.

31. 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.

c) Water Supply Pipes and Fittings:

1. Materials.

All galvanized Iron Pipes are to be of mild steel continuous welded, screwed tubes, medium quality confirming to I.S.S. and bearing ISI 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 layout 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 :

Dia 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, catch pit, 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 / Column / 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 walls 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 dismantling 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 color and brand over a coat of priming.

7. Measurement

The length shall be measured in running meter. Correct to centimeter 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.P open type/concealed

type/angle valves type as specified in tender schedule. Bibcock should be also C.P 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	Flanged 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 meter, 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, haunching 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 beveling. 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 chisel and finishing beveled 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 refilling.

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 linelaid 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 masonry 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 outside 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 channeling 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., under 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 in 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 250mm X 250mm (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. Vitrified tile flooring

Vitrified tiles shall be of thickness specified in IS : 13755. They shall be laid in Cement Mortar (1.4) over masonry or concrete base. The sides of the tiles 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 anywhere. The joints shall not be filled with mortar but may afterwards be grouted with neat white cement mixed with matching colour pigment.

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 1.3 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 coloring 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,

ADDITIONAL APPENDIX TO BILL OF QUANTITY:

(For P.H. Items of Work)

1. The quantities of items mentioned in the tender schedule may increase or decrease during execution of works but the contractor will complete the work as per his tendered rates in accordance with the instruction of Engineer in charge of G.P.H. wing.
2. Specification: The standard PHD and PWD specification will be followed for execution of work. During the course of execution of work, the instructions of the Engineer in charge shall be final and binding.
3. The Sales Tax element should not be added to the analysis of rates and the previous practice should be followed as per the Works Department letter No.IIT.22-89-18170 dt.18.7.1989
4. There should be no clause either in the tender or in agreement for payment of any additional claim on account of Sales Tax on completed works which will be deemed to be recovered by existing omnibus stipulation as per the works Department letter No.TIT 22/89-18170 dt.18.7.89.
5. It is the responsibility of the Contractor to arrange watch and ward to the installations until testing commissioning and handing over for which no extra payment towards watch and ward will be paid,
6. The contractor shall maintain a separate site order book for P.H. portion of work.
7. The P.H. portion of work shall be open for inspection by the authorities of P.H. Circle (R&B) Odisha, Bhubaneswar and the higher authorities and instructions imparted during the course of Inspection should be binding on the contractor.
8. Materials not covered by any of the above categories of items in the bill of quantity have to be approved by the competent authorities before utilizing the ‘same in works. In such event, the payment of such item will be made as per actual on due approval by the competent authority.

11. All materials required for the work shall be supplied by the contractor as per standard specifications appended with due approval by the Engineer in charge of G.P.H. Wing. In case the materials as per make specified are not available, the materials of equivalent make and as per I.S. Specifications or of best quality when not covered by I.S. Specifications can be utilized on prior approval of concerned S.E./ E.E., GPHD (R&B) Circle/Division or the officers duly authorized. It is binding on the part of the contractor to use such items of materials which are available in the Departmental store and in such case the deduction from the bills will be made at stock issue rates.

TECHNICAL SPECIFICATION OF INTERNAL ELECTRIFICATION 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 of 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.

LED LIGHTS

1. LED light distribution pattern, illuminance, Luminous fles, chromaticity, color temperature, color rendering Index to applicable standard Lm79 & Lm80.

2. LED lights should be as per standards IEC EN 60598 and IEC61547.

3. LED luminaries should in function in a temperature raise -30°C + 60°C under 95% relative humidity condition to simulate adverse operating environment.
4. The LED produces should meet safety standards as per EN60598, EMCIEMI standard as per EN611547/EN 55015 and EN61000-3-2 and 61000-3-3 for Harmonics.
5. The electronic driver should work in the short circuit and open circuit conditions and should work in the voltage range 90V to 3000 volts.
6. LED lighting fixtures should be manufactures with LEDs of on only reputed makes such as Cree, Samsung, Lumiled osram and other equivalent.
7. The officer-in-change has reserve the right to inspect and tested the quality in Govt. laboratory to ensure technical qualifications to meet the requirements.
8. LED lights no toxic materials U V and IR spectrum protects insect life.
9. It should be manufacture with dia-cast aluminium with required colour as per manufacture for released months.
10. The LED lights Should function 90 to 380V, 50/60 Hz, PF-Z0.9 (230V AC), Copper temp-3000K/4000K/ 6000K/ operation temperature - 20°C + 50°C in-gross protection-IP 20, lifespan 30000hrs.

Annexure - I

(List of Plants & Equipments to be deployed on contract work)

Sl. No	Type of Equipments	No. of machines required	Marks
01.	Concrete mixer	1 Nos.	30
02.	Concrete Vibrator : Plate type	1 Nos.	10
03.	Concrete Vibrator : Needle type	1 Nos.	10
04.	Water Tanker	1 Nos.	10
05.	Water pump	1 No.	10
06	Truck/ Tipper	1 No.	10
07	Centering & Shuttering (Steel or Iron)	1000 Sft.	20
	Minimum Qualifying marks - 80	Total	100 Marks

Tenderer(s) is/are required to submit the information in the following Schedules

SCHEDULE - A

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 Odisha 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.

(*) - Strike out which is not applicable.

Signature of the Tenderer

Date:-

SCHEDULE - B

EXISTING COMMITMENTS AND ON-GOING WORKS :

Description of works	Place & State	Contract No.	Name & Address of Employer	Value of Contract (`. In lakh)	Stipulated Period of Completion	Value of works* remaining to be completed (`. In lakh)	Anticipated date of completion
1	2	3	4	5	6	7	8

* The above information is to be certified by the Engineer in Charge / Employer not below the rank of Executive Engineer or equivalent. In case of there is no existing commitment and ongoing works, the bidder shall declare as nil in schedule B.

This information is only required if the Bid value is Equal & Above 300 Lakh

Signature of the Tenderer

Date……..

SCHEUDLE - C

CERTIFICATE OF TOOLS AND PLANTS

I/We hereby certify that the following tools and plants, machineries and vehicles are in my /our possession and in working order.

Sl. No	Type of Equipments	No. of machines required	No. of machines owned / leased/hired
01.	Concrete mixer	1 Nos.	
02.	Concrete Vibrator : Plate type	1 Nos.	
03.	Concrete Vibrator : Needle type	1 Nos.	
04.	Water Tanker	1 Nos.	
05.	Water pump	1 No.	
06.	Truck/ Tipper	1 No.	
07.	Centering & Shuttering (Steel or Iron)	1000 Sft	

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

Signature of the Tenderer
Date.

SCHEUDLE - D

WORK EXPERIENCE

LIST OF SIMILAR NATURE OF PROJECTS EXECUTED

Name of Employer	Name of location and name of work	Contract price in Indian Rupees/ Agreement no.	Major Items of works	Stipulated date of commencement / completion of the work as per Agreement	Actual date of completion of the work	Value of work actually executed during last 5 financial years		Reasons for delay in starting/ completion, if any
						Financial year	Value	
1	2	3	4	5	6	7	8	9

Note: The above information is to be certified by the Engineer in Charge / Employer not below the rank of Executive Engineer.

Signature of the Tenderer
Date.

SCHEDULE - E

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

1.	a)	Is the tenderer currently involved in any litigation relating to the works.	Yes / No
	b)	If yes: give details:	
2.		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.	Yes / No
	b)	If yes, give details:	

Note:

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

Signature of Tenderer

SCHEDULE - F

AFFIDAVIT

1. The undersigned do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that neither my / our firm / company / individuals _____ 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 authorize(s) 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 Tenderer)
Title of Officer
Name of Firm
Date:

SCHEDULE - G

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

Signature of the Tenderer.

Date :

SCHEDULE - H

SAMPLE FORMATS

UNDER TAKING

This is to certify that

1. My firm has neither been associated, directly or indirectly, with the Consultant or with any other entity that has prepared the design, specifications, and other documents for the Project nor has any person associated with been proposed as Project Manager for the Contract.

2. My firm has not engaged any agency and any of its affiliates engaged by the Engineer-in-Charge to provide consulting services for the preparation or supervision of this work.

3. My firm has not engaged any Engineer of gazetted rank employed in Engineering or Administrative duties in an Engineering Department of the Government of Odisha or other gazetted officer retired from Government service during last two years without prior permission of the Government of Odisha in writing on or before submission of this tender. I am aware that my contract is liable to be cancelled if either I or any of my employees is found any time to be such a person who had not obtained the permission of the Government of Odisha as aforesaid.

Signature of the Tenderer.

Date :

Note: i. Strike out whichever is not applicable
ii. In case any person is under his employment with due permission from Government, the same may be cited in a separate letter.

SCHEDULE - I

RELATIONSHIP DECLARATION

To,

The Tender Inviting Officer,

Subject: (Name of the Work)

Reference : (Bid reference number)

Sir,

Pursuant to clause 2 of the ITB, it is to inform that I have relative(s) employed as an Officer in the rank of an Assistant Engineer/Under Secretary under the _____ Department. His (Their) details are as follows.

Relationship:

Name:

Designation

Office

Address

Pursuant to clause 2 of the ITB, I am to submit herewith the names of persons who are working under my firm having near relatives to any gazetted officer in the rank of an Assistant Engineer/Under Secretary in the _____ Department.

Sl No.	Name of the my employee and his designation in the firm	Presently working at	Details of his relatives working in the Department
			Relationship Name: Designation Office Address
			Relationship Name: Designation Office Address

I am also duty bound to inform the relationship of any subsequent employment with any gazetted officer in the rank of an Assistant Engineer/Under Secretary in the _____ Department. I am aware that any breach of this condition would render my firm liable for penal action for suppression of facts.

Yours Sincerely

Signature of the Tenderer.
Date :

SCHEDULE - J

MEMORANDUM OF UNDERSTANDING

First Party I Sri/Smt……., Aged …. years, S/O- ……., At / P.O. / Dist-…….
(hereinafter called the First Part)

AND

Second Party I Sri/Smt……., Aged …. years, S/O- ……., At / P.O. / Dist-…….
(hereinafter called the Second Part) having H.T. / L.T. license registration No……. valid upto ……..

AND WHEREAS the First Party of 1st part is the managing partner of …….

AND WHEREAS the First Party willing to appoint the Second Party to execute the E.I. portion for the tender work, "……"

AND WHEREAS the Second Party accepted the offer of First Party.

NOW THIS DEED OF AGREEMENT WITNESSES AS FOLLOWS;

1) That, the Second Party shall do all E.I. works, if the tender is awarded to First Party.
2) That, the Second Party shall fulfill all the E.I. works as per the tender schedule by instruction of Engineer-in-Charge.
3) That, the First Party shall receive payment, signing the bill the document for the concerned work.
4) That, the Second Party shall abide the rules, regulations and specification of E.I. works of above said matter.

In witness where of Both the party have signed in presence of

WITNESS

W_1 -

W_2 –

Name of the work: **"Construction And Renovation OMBADC School No. 71 At Kucheita UG High School, Kucheita, Gurundia Block In Sundargarh District Of Odisha,**

Block in

Sl. No	Particulars	Reference to DTCN Clause No.	Whether furnished		Reference to Page no.
			Yes	No	
01.	Cost of tender paper : Rs.10000.00	No.4			
02.	E.M.D for @1% : Rs.180754	No. 20			
	Or				
	E.M.D @1% : Rs .180754 in case of deploying machineries outside the State	No. 20			
03	Additional Performance Security in case the bid price/rate is less than the estimated cost put to tender	No.62.2			
04.	Copy of valid Contractor Registration Certificate	No.5 (i) & 21			
05.	Copy of valid GSTIN	No.5 (i) & 21			
06.	Copy of PAN Card	No.5 (i) & 21			
07.	No Relationship Certificate in Schedule - A	No.35			
08 (A)	Information regarding current litigation, debarring / expelling of the tender or abandonment of the work by the tenderer (Schedule-E)	No.49			
(B)	Affidavit (Schedule-F)	No.49			
9	a) M.O.U. (Memorandum of Understanding duly notarized) with eligible registered electrical contractor having valid H.T. / L.T. license	No. 8 & Schedule - J			
10	Assessed Available Bid Capacity amount above 300.00 Lakh	No. 112 (h)			
11	Qualification of Key personnel engaged. (Schedule (G)	(Schedule (G)			
12)	List of projects executed that are similar in nature to the work (Schedule-D)	No.112(g)			
13.	Tools & Plants and machineries as per the requirement in Schedule-C (Minimum 80% marks to be obtained). (Proof of ownership of Tools & Plants and machineries is to be furnished in shape of copy of invoices / required sale deed in case of 2nd purchase / required lease deed with owner ship documents of the leaser duly attested. In case of centering & shuttering materials certificate of the Executive Engineer Or equivalent and higher rank officer of Govt. / Govt. under taking / PSU within 90 days of last date of receipt of tender is allowed.	No.7 & 112(e) & Schedule-C			
	List of plants and equipments	Requirement			
1	Concrete mixer	1 Nos.			
2	Concrete Vibrator : Plate type	1 Nos.			
3	Concrete Vibrator : Needle type	1 Nos.			
4	Water Tanker	1 Nos.			
5	Water pump	1 No.			
6	Truck/ Tipper	1 No.			
7	Centering & Shuttering (Steel or Iron)	1000 Sft.			
14.	e-mail ID &				
	Contact no.				

CONTRACT DATA

A. GENERAL INFORMATIONS

Sl No	Item	Details
1	Bid Identification No.	**BDO,PS. GURUNDIA-03/2020-2021**
2.	Name of the Work	"Construction And Renovation OMBADC School No. 71 At Kucheita UG High School, Kucheita, Gurundia Block In Sundargarh District Of Odisha, Gurundia Block"
3.	Officer Inviting Tender	Block Development Officer, Gurundia, Sundargarh
4	Project Director	District Rural Development Agency, Sundargarh
6	Estimated Cost (Civil+EI+PH) (Excluding GST)	Rs.**15656512.00/-**

B. BID INFORMATION

7	Intended completion period/Time period assigned for Completion		06 (Six) Calendar Months
8	Last Date & time of submission of Bid		Date: **15.12.2021**
			Time 17.00 hours
9	Cost of Bid Document		
	i	Amount as per Clause-4	Rs.10,000/-
10	Bid Security		
	i	Amount as per Clause-5	Rs. Rs.180754 Rs . Rs.180754 (1% In case of deploying machineries outside the State)
	ii	In favour of	Block Development Officer, Gurundia, Sundargarh
	iii	Type of instrument	As specified in the bid document.
11	Additional Performance Security		
	i	Amount	As specified in the bid document.
	ii	In favour of	Block Development Officer, Gurundia, Sundargarh
	iii	Type of instrument	As specified in the bid document.
11	The Financial years of last five years		2015-16 to 2019-20
12	Bid validity period		90 days
13	Currency of Contract		Indian Rupee
14	Language of Contract		English

NAME OF PROJECT: CONSTRUCTION AND RENOVATION OMBADC SCHOOL NO. 71 AT KUCHEITA IN SUNDARGARH DISTRICT OF ODISHA

BILL OF QUANTITIES (For Existing Blocks)

SL. No.	Reference to DSR 2018 No.	DESCRIPTION OF ITEMS	QUANTITY	UNIT	RATE	AMOUNT
1	(A.R.-2006, Page No - 221, Item No. - 24)	Dismantling and removing Cement Concrete and R.C.C. in all locations including stacking the useful materials for reuse and removing the debris within 50m lead as suggested by School Management Committee.	48.92	Cum	1167.31	57104.81
2	A/R-2007/P-218/item-16	Dismantling G.C.I. or A.C. sheet roofing after carefully removing the bolts and nuts including stacking of he materials for reuse and removing the debris within 50m lead per 1 sqm	158.10	Sqm	71.66	11329.45
3	(A.R.-2006, Page No - 219, Item No. - 18)	Dismantling and removing doors, windows and ventilators including removal of frame, hinges, fastening and stacking the same for reuse and removing the debris within 50m lead as suggested by School Management Committee.	36.66	Sqm	820.60	30083.20
4	A/R-2007/P-214/item-3	Dismantling brick masonry in cement mortar 3m. Height including stacking the useful materials for reuse and removing the debris within 50m. Lead as suggested by School Management Committee.	81.33	Cum	1098.91	89374.23
5	A/R-2007/P-218/item-13	Removing old lime or cement plaster from walls including raking out joints 12 mm deep and removing the debris within 50m lead etc. all complete	888.31	Sqm	39.34	34946.12
6	A/R-2007/P-43/item-4	Cement Concrete (1:4:8) using 4cm size hard granite C.B. metal approved quality from approved quarry including cost, carriage, royalty, cost of all labour, etc complete.	2.21	Cum	4072.19	8999.54
7	A/R-2007/P-50/item-5	R.C.C. work of M-25 grade with 20mm and down grade black hard granite (crusherbroken) stone chips including hoisting and laying				
7.1		R.C.C Staircase				
		Ground Floor	1.40	Cum	10394.40	14552.16
8	A/R-2007/P-52/item-9	Supplying, fitting and placing uncoated HYSD bar reinforcement complete as per drawing and technical specification. Per 1 MT. (Taking out put = 1MT)				
		Ground Floor	1.40	Qtl.	8893.00	12450.20
9	A/R-2007/P-71/item-2	Brick work with Fly ash Bricks 23cm x 11cm x 8cm size having crushing strength not less than 75Kg/cm2 with dimensional tolerance ±2 percent in cement mortar (1:6) above plinth including watering curing, cost of carriage and royalty of all materials, cost of all labour, etc complete.				
		Ground Floor Qty.	0.36	Cum	3898.40	1403.42
10	A/R-2007/ P-109/ item-28	16mm thick C.P. (1:6) over brick masonary to the smooth surface including watering, curing cost, carriage, royalty, and taxes of all materials, cost of all labour, etc complete as per the direction of E.I.C.				
		Ground Floor Qty.	533.53	Sqm	207.80	110867.53

11	A/R-2007/P-103/item-4	12mm thick C.P.(1:6) on brick masonary to the smooth surface including watering, curing, cost, carriage, royalty of all materials, cost of all labour, etc complete as per the direction of E.I.C.				
		Ground Floor Qty.	1137.97	Sqm	134.40	152943.17
12	A/R-2007/ P-109/ item-27	6 mm thick C.P. (1:4) to RCC surfaces finished smooth including closed deep chiping and slury treatment , watering, curing cost, carriage & royalty of all materials, cost of all labour, etc complete as per the direction of E.I.C.				
		Ground Floor Qty.	753.39	Sqm	151.40	114063.25
13	(Ref.:-A/R-2006,P-103,Item no -6)	12mm thick cement plaster (1 : 4) over brick work with cement punning for skirting etc. all complete under instruction of EIC				
		Ground Floor Qty.	7.54	Sqm	147.09	1109.03
14	(Ref.:-A/R-2006,P-235,Item no -1)	Supplying, fitting and fixing tile in floors of approved make conformaing to IS:13755 laid on 20 mm thick cement mortar (1:4) and filling joints with white cement of approved quality including cost of all materials, etc. required for the work all complete as per direction of E.I.C.				
14.1		Kota Tiles				
		Ground Floor Qty.	187.74	Sqm	949.44	178248.79
14.2		Vitrified Tiles				
		Ground Floor Qty.	245.59	Sqm	1162.99	285619.52
14.3		Anti-Skid / Matte Finish Tile (600x600) mm				
		Ground Floor Qty.	279.48	Sqm	1115.44	311743.58
14.4		Anti Skid Ceramic Tiles (300x300) mm				
		Ground Floor Qty.	81.19	Sqm	897.78	72890.46
15	A/R-2007/P-90 / item-17	Fixing tiles in skirting and risers of steps on 12mm thick CP (1:3) jointed with neat cement slurry mixed with pigments to match the shade of the tiles including cost, carriage, cost of all labour etc. complete.				
15.1		Vitrified Tiles				
		Ground Floor Qty.	10.32	Sqm	1359.80	14033.14
15.2		Anti-Skid / Matte Finish Tile (600x600) mm				
		Ground Floor Qty.	16.16	Sqm	1312.30	21206.77
16	A/R-2007/P-90 / item-17	Fixing tiles in dados on 12mm thick CP (1:3) jointed with neat cement slurry mixed with pigments to match the shade of the tiles including cost, carriage, cost of all labour etc. complete.				
16.1		Ceramic Tiles				
		Ground Floor Qty.	201.21	Sqm	1095.10	220345.07
17	A/R-2007/P-93/item-1	Priming one coat with any approved primmer including cost of primmer & labour to give an even shade excluding cost of primer.				
		Ground Floor Qty.	280.44	Sqm	54.03	15152.17
18	(As per A.R. P-93 / item-3)	Painting two coats with approved paint on old wood work with approved enamel paints of approved colour, shade over a coat of primer including sand papering, polishing the surface, cost, conveyances of all materials and cost of all labour etc, complete as per specification & direction of Engineer-in-charge.				

		Ground Floor Qty.	280.44	Sqm	135.06	37876.23
19	(As per A.R. P-93 / Item-3)	Painting two coats with approved paint on old iron work with approved enamel paints of approved colour, shade over a coat of primer including sand papering, polishing the surface, cost, conveyances of all materials and cost of all labour etc, complete as per specification & direction of Engineer-in-charge.				
		Ground Floor Qty.	280.44	Sqm	135.06	37876.23
20	Ref.:-A/R-2006, P-236/ Item-2	Finishing wall surface with one coat of Cement based wall putty (water based) of approved make and finished smooth & even surface to receive painting including cost of scaffolding etc. with cost of all materials, labour etc. complete.				
		Ground Floor Qty.	1891.36	Sqm	48.80	92298.37
21	A/R-2007/P-93/item-1	Priming 1 coat with wall primer water bond cement primer including all labour, materials etc. complete.				
		Ground Floor Qty.	1891.36	Sqm	54.90	103835.66
22	A/R-2007/P-99/item-22	Wall painting 1 coat with plastic emulsion paint of approved shade on old work to give an even shade exculding cost of paint.				
		Ground Floor Qty.	1891.36	Sqm	84.70	160198.19
23	A/R-2007/P-99/item-22	Wall painting two coat with any approved weather coat paint including cost of all materials, labour and T&P require for the work etc. complete as directed by the E.I.C.				
		Ground Floor Qty.	533.53	Sqm	74.10	39534.57
24	Ref.:-A/R-2006, P-48/ Item-18	4 cm thick grading concrete (1:2:4) on roof slab with 12mm & down grade size black hard granite chips for old & New work.				
		Ground Floor Qty.	758.21	Sqm	1257.23	953247.13
		TOTAL AMOUNT				**3183331.99**

NAME OF PROJECT: CONSTRUCTION AND RENOVATION OMBADC SCHOOL NO. 71 AT KUCHEITA IN SUNDARGARH DISTRICT OF ODISHA						
BILL OF QUANTITIES (For New Work)						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	A/R-2007/P-2/Item-1(a)	Earth Work in exavation of foundation in oridinary soil within initial leads of 50m & lifts of 1.5m including dressing and levelling of bed etc. and adding contractor's profit and over head charges, etc. complete in all respect	774.56	Cum	119.42	92498.56
2	A/R-2007/P-218/item-13	Filling in F & P with excavated materials including watering and ramming as directed by the Engineer-n-charge. For 100cum	683.71	Cum	105.00	71789.55
3	A/R-2007/P-8/item-14	Filling in F & P with sand watered and rammed. Per 1 cum (Data for 100cum)	42.29	Cum	311.54	13174.97
4	A/R-2007/P-43/item-4	Cement Concrete (1:4:8) using 4cm size hard granite C.B. metal approved quality from approved quarry including cost, carriage, royalty, cost of all labour. etc complete.	69.62	Cum	4072.19	283505.87
5	A/R-2007/P-45/item-9	Cement Concrete (1:3:6) using 12mm size hard granite H.B. chip approved quality from approved quarry including cost, carriage, royalty, cost of all labour. etc complete and as directed by E.I.C.	3.36	Cum	5110.41	17170.98
6	A/R-2007/P-50/item-5	R.C.C. work of M-25 grade with 20mm and down grade black hard granite (crusherbroken) stone chips including hoisting and laying				
6.1		Foundation	40.04	Cum	5170.50	207026.82
6.2		Columns Base & Footings	8.61	Cum	5525.13	47571.37
6.3		R.C.C. Column / Beam				
		Ground Floor	49.74	Cum	10866.90	540496.73
		1st Floor Qty.	36.41	Cum	12119.90	441285.56
6.4		R.C.C Roof Slab				
		Ground Floor	58.03	Cum	9285.80	538854.97
6.5		R.C.C Chajja				
		Ground Floor	1.48	Cum	5018.60	7407.45
6.6		Staricase				
		Ground Floor	3.63	Cum	10394.40	37781.64
7	A/R-2007/P-53/item-10	Rigid smooth centering shuttering for R.C.C.work including all cost etc complete				
7.1	A/R-2007/P-53/item-10-(i)	(C)Chajja				
		Ground Floor	19.98	Sqm	422.50	8441.55
8	A/R-2007/P-52/item-9	Supplying, fitting and placing uncoated HYSD bar reinforcement complete as per drawing and technical specification. Per 1 MT. (Taking out put = 1MT)				
		Ground Floor	159.59	Qtl.	8893.00	1419233.87
		1st Floor Qty.	45.51	Qtl.	8916.60	405794.47
9	A/R-2007/P-71/item-3	Brick work with Fly ash Bricks 23cm x 11cm x 8cm size having crushing strength not less than 75Kg/cm2 with dimensional tolerance ±2 percent in cement mortar (1:6) in Foundation and Plinth including watering curing, cost of carriage and royalty of all materials, cost of all labour, etc complete.				
		Foundation	85.39	Cum	3865.10	330040.89

10	A/R-2007/P-71/item-3	Brick work with Fly ash Bricks 23cm x 11cm x 8cm size having crushing strength not less than 75Kg/cm2 with dimensional tolerance ±2 percent in cement mortar (1:6) above plinth including watering curing, cost of carriage and royalty of all materials, cost of all labour, etc complete.				
		Ground Floor	123.83	Cum	3898.40	482738.87
11	A/R-2007/P-71/item-2	Brick work with Fly ash Bricks 23cm x 11cm x 8cm size having crushing strength not less than 75Kg/cm2 with dimensional tolerance ±2 percent in cement mortar (1:4) above Plinth including watering curing, cost of carriage and royalty of all materials, cost of all labour, etc complete.				
		Ground Floor Qty.	4.28	Cum	4085.70	17486.80
12	A/R-2007/P-103/item-4	12mm thick C.P.(1:6) on brick masonary to the smooth surface including watering, curing, cost, carriage, royalty of all materials, cost of all labour, etc complete as per the direction of E.I.C.				
		Ground Floor Qty.	865.47	Sqm	134.40	116319.17
13	A/R-2007/ P-109/ item-28	16mm thick C.P. (1:6) over brick masonary to the smooth surface including watering, curing cost, carriage, royalty, and taxes of all materials, cost of all labour, etc complete as per the direction of E.I.C.				
		Ground Floor Qty.	712.49	Sqm	207.80	148055.42
14	A/R-2007/ P-109/ item-27	6 mm thick C.P. (1:4) to RCC surfaces finished smooth including closed deep chiping and slury treatment , watering, curing cost, carriage & royalty of all materials, cost of all labour, etc complete as per the direction of E.I.C.				
		Ground Floor Qty.	523.36	Sqm	151.40	79236.70
15	(Ref.:-A/R-2006,P-103,Item no -6)	12mm thick cement plaster (1 : 4) over brick work with cement punning for skirting etc. all complete under instruction of EIC				
		Ground Floor Qty.	12.92	Sqm	147.09	1900.35
16	(Ref.:-A/R-2006,P-235,Item no -1)	Supplying, fitting and fixing tile in floors of approved make conformaing to IS:13755 laid on 20 mm thick cement mortar (1:4) and filling joints with white cement of approved quality including cost of all materials, etc. required for the work all complete as per direction of E.I.C.				
16.1		Anti Skid Ceramic Tiles (300x300) mm				
		Ground Floor Qty.	55.73	Sqm	897.78	50033.08
16.2		Kota Tiles				
		Ground Floor Qty.	227.16	Sqm	949.44	215675.91
16.3		Anti-Skid / Matte Finish Tile (600x600) mm				
		Ground Floor Qty.	8.68	Sqm	1115.44	9682.03
17	A/R-2007/P-90 / item-17	Fixing tiles in dados on 12mm thick CP (1:3) jointed with neat cement slurry mixed with pigments to match the shade of the tiles including cost, carriage, cost of all labour etc. complete.				
17.1		Ceramic Tiles				
		Ground Floor Qty.	130.08	Sqm	1095.10	142450.61
18	A/R-2007/P-93/item-1	Priming one coat with any approved primmer including cost of primmer & labour to give an even shade excluding cost of primer.				
		Ground Floor Qty.	157.51	Sqm	56.70	8930.82

19	(As per A.R. P-93 / Item-3)	Painting two coats with approved enamel paints of approved colour, shade over a coat of primer including sand papering, polishing the surface, cost, conveyances of all materials and cost of all labour etc, complete as per specification & direction of Engineer-in-charge.				
		Ground Floor Qty.	157.51	Sqm	135.06	21273.30
20	Ref.:-A/R-2006, P-236/ Item-2	Finishing wall surface with two coat of Cement based wall putty (water based) of approved make and finished smooth & even surface to receive painting including cost of scaffolding etc. with cost of all materials, labour etc. complete.				
		Ground Floor Qty.	1388.83	Sqm	78.00	108328.74
21	A/R-2007/P-93/item-1	Priming 1 coat with wall primer water bond cement primer including all labour, materials etc. complete.				
		Ground Floor Qty.	1388.83	Sqm	54.90	76246.77
22	A/R-2007/P-99/item-22	Wall painting 2 coats with plastic emulsion paint of approved shade on new work to give an even shade exculding cost of paint (For 10 Sqm.)				
		Ground Floor Qty.	1388.83	Sqm	102.10	141799.64
23	A/R-2007/P-99/item-22	Wall painting two coat with any approved weather coat paint including cost of all materials, labour and T&P require for the work etc. complete as directed by the E.I.C.				
		Ground Floor Qty.	712.49	Sqm	74.10	52795.51
24	(Ref.:-A/R-2006 Page No. 238/Item-4)	Providing and laying water proofs with polymeric bituminous membrane (Plastic felt) of 2.25Kg/Sqm and 1.5mm thickness consisting of layers having center core of 20 microns thermoplastic high molecular high density polyethylene H.M.H.D.P.E. film of grade 2504 including priming the surface with bituminous primer @ 0.3 Kg/Sqm providing a coat of hot blown bitumen of 1.32 kg / Sqm, applying and laying plastic felt membrane with 10 c.m overlap adhered to blown bitumen of 85/25 or 90/15 grade and covered with a layer of hot blown bitumen @ 1.2Kg/Sqm etc complete.				
		Ground Floor Qty.	52.73	Sqm	222.96	11756.75
25	DAR 2018, P-760, Item-11.24	Extra for pre finished nosing in treads of steps of Kota stone slab.	66.32	Rmt.	66.32	4398.34
26	Ref.:-A/R-2006, P-48/ Item-18	4 cm thick grading concrete (1:2:4) on roof slab with 12mm & down grade size black hard granite chips for old & New work.				
		Terrace Qty.	555.52	Sqm	1244.79	691503.41

27	Market Rate	Providing and fixing TATA Pravesh Plain wooden finish Doors (Termite-Resistant, Weather proof, Environment friendly, Longevity, Strength) with shutter of approved size constucted from 0.8mm (22SWG) thick skin pass Galvanised Iron Sheet (Conform to IS 277), thickness of flush doors shall be 30mm and In-Fill Honeycomb Kraft Paper. Door frames conform to IS 4351: 2003 constructed from 1.2mm (18SWG) thick skin pass galvanised iron sheet (conform to IS 277) formed to single rebate profile of size 100mmx58mm. The door frames and door shutters are coated with Zinc Phosphate primer to recieve any paint on site or finished with thermosetting polyutethane paint of Aliphatic Grade including fixing of accessories of SS Ball bearing butt hinges of 102mm x 76mm x3mm-4No., Lever handle with lock HLIP 06SS-1 No., SS Tower Bolt 200mm long-1No. including T&P, material, hire charges and fixing at location etc. all complete under instruction of EIC.				
		D(1200X2100)	15.00	Nos	23259.00	348885.00
		D1(1000X2100)	2.00	Nos	23259.00	46518.00
		D2(750X2100)	8.00	Nos	23259.00	186072.00
		D3(1200X2100)	1.00	Nos	23259.00	23259.00
30	Market Rate	Providing and fixing of TATA Pravesh (Oyster window) base varient double shutter window with grill & glass (Termite-Resistant, Weather proof, Environment friendly, Longevity, Strength), window frames and leaves of skin Pass Galvanised Iron sheet (as per IS513 "D" Quality, Galvanised as per IS 277 with Hot Zinc Coating of 120grams /Sq. Mtr & thickness of 0.6mm), Window shutter of 0.6mm (24SWG) thick skin pass Galvanised Iron sheet, Window Frames 8mm (22SWG) thick skin pass Galvanised Iron Sheet of Size 80mmx45mm, Mullion should be 8mm (22SWG) thick skin pass Galvanised Iron Sheet of size 80mmx60mm, Vision Glass 4mm clear float glass in rectangular shape. Height & width at least 8.8mm less than that of the shutter height & width, Finished of window with coated zinc phosphate primer or Thermosetting Polyurethene paint of Aliphatic Grade providing high levels of scratch resistance and durability. Window grill shall be made by 10mm Square MS bright bars. Windows accessories : SS Pin type Hinges -6No., Polypropelyne handle -2No., Friction stay Powder coated-1No., MS Powder coated Tower Bolt -2 No. 150mm long, EPDM should be used all around glass in shutter for fixing of glass, Corner brackets 4 (made of Polypropylene each per shutter and				
		W(1200X1300)	18		20998.32	377969.76
		V(600X450)	6		12287.88	73727.28
		TOTAL AMOUNT				**7899118.42**

NAME OF PROJECT: CONSTRUCTION AND RENOVATION OMBADC SCHOOL NO. 71 AT KUCHEITA IN SUNDARGARH DISTRICT OF ODISHA

BILL OF QUANTITIES (FOR BOUNDARY WALL)

Item No.	Item Code (DSR 2018) No.	DESCRIPTION OF ITEM	Quantity	Unit	Rate	Amount
1	A/R-2007/P-2/Item-2(a)	Earth Work in exavation of foundation in hard soil within initial leads of 50m & lifts of 1.5m including dressing and levelling of bed etc. and adding contractor's profit and over head charges, etc. complete in all respect	332.21	Cum	188.80	62721.25
2	A/R-2007/P-218/item-13	Filling in F & P with excavated materials including watering and ramming as directed by the Engineer-n-charge. For 100cum	236.92	Cum	105.00	24876.60
3	A/R-2007/P-43/item-4	Cement Concrete (1:4:8) using 4cm size hard granite C.B. metal approved quality from approved quarry including cost, carriage, royalty, cost of all labour. etc complete.	12.99	Cum	4072.19	52897.75
4	A/R-2007/P-50/item-5	R.C.C. work of M-25 grade with 20mm and down grade black hard granite (crusherbroken) stone chips including hoisting and laying				
5.1		Foundation	44.06	Cum	5170.50	227812.23
5.2		Columns Base & Footings	13.67	Cum	5525.13	75528.53
5.3		R.C.C. Column / Beam				
		Ground Floor	59.00	Cum	10866.90	641147.10
5	A/R-2007/P-52/item-9	Supplying, fitting and placing uncoated HYSD bar reinforcement complete as per drawing and technical specification. Per 1 MT. (Taking out put = 1MT)				
		Ground Floor	122.52	Qtl.	8893.00	1089570.36
6	A/R-2007/P-71/item-3	Brick work with Fly ash Bricks 23cm x 11cm x 8cm size having crushing strength not less than 75Kg/cm2 with dimensional tolerance ±2 percent in cement mortar (1:6) above plinth including watering curing, cost of carriage and royalty of all materials, cost of all labour, etc complete.				
		Ground Floor	98.26	Cum	3898.40	383056.78
7	A/R-2007/ P-109/ item-28	16mm thick C.P. (1:6) over brick masonary to the smooth surface including watering, curing cost, carriage, royalty, and taxes of all materials, cost of all labour, etc complete as per the direction of E.I.C.				
		Ground Floor Qty.	892.36	Sqm	207.80	185432.41
8	A/R-2007/P-99/item-22	Wall painting two coat with any approved weather coat paint including cost of all materials, labour and T&P require for the work etc. complete as directed by the E.I.C.				
		Ground Floor Qty.	892.36	Sqm	74.10	66123.88
9	(Page No.273, DSR No. 16.19)	Supplying at site Angle iron post & strut of required size including bottom to be split and bent at right angle in opposite direction for 10 cm length and drilling holes upto 10 mm dia. etc. complete.	623.70	Kg	92.40	57629.88

10	(Page No.273, DSR No. 16.18.1)	Fencing with angle iron post placed at required distance embedded in cement concrete blocks, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with horizontal lines and two diagonals interwoven with horizontal wires, of barbed wire weighing 9.38 kg per 100 m (minimum), between the two posts fitted and fixed with G.I. staples, turn buckles etc. complete. With G.I. barbed wire.	495.75	mt	19.00	9419.25
11	(A.R.-2006, Page No - 8, Item No. - 15)	Cement Concrete (1:2:4) in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc. using 12mm size hard granite C.B. chips approved quality from approved quarry including cost, carriage, royalty, cost of all labour. etc complete and as directed by E.I.C.	2.85	cum	5849.27	16670.42
		TOTAL AMOUNT				**2892886.44**

NAME OF PROJECT: CONSTRUCTION AND RENOVATION OMBADC SCHOOL NO. 71 AT KUCHEITA IN SUNDARGARH DISTRICT OF ODISHA						
BILL OF QUANTITIES (For Site Development)						
No.	Reference	Description of Item	Quantity	Unit	Rate	Amount
1	A/R-2007/P-218/item-13	Removing old lime or cement plaster from walls including raking out joints 12 mm deep and removing the debris within 50m lead etc. all complete	10.02	Sqm	39.34	394.19
2	A/R-2007/P-43/item-4	Cement Concrete (1:4:8) using 4cm size hard granite C.B. metal approved quality from approved quarry including cost, carriage, royalty, cost of all labour. etc complete.				
		Ground Floor	2.05	Cum	4072.19	8347.99
3	A/R-2007/P-71/item-3	Brick work with Fly ash Bricks 23cm x 11cm x 8cm size having crushing strength not less than 75Kg/cm2 with dimensional tolerance ±2 percent in cement mortar (1:6) above plinth including watering curing, cost of carriage and royalty of all materials, cost of all labour, etc complete.				
		Ground Floor	2.66	Cum	3898.40	10369.74
4	(Ref.:-A/R-2006,P-103,Item no -6)	12mm thick cement plaster (1 : 4) over brick work with cement punning for skirting etc. all complete under instruction of EIC				
		Ground Floor Qty.	3.26	Sqm	147.09	479.50
5	(Ref.:-A/R-2006,P-235,Item no -1)	Supplying, fitting and fixing tile in floors of approved make conformaing to IS:13755 laid on 20 mm thick cement mortar (1:4) and filling joints with white cement of approved quality including cost of all materials, etc. required for the work all complete as per direction of E.I.C.				
5.1		Kota Tiles				
		Ground Floor Qty.	21.98	Sqm	940.27	20667.13
6	DSR No. 16.68, P-238	Providing & laying of 80mm thick factory made cement concrete interlocking paver block of M35 grade and approved make variety colour and size made by Block making machin with strong vibratory compaction of approved design and shape, laid in required colour and pattern over 50mm thick compacted bed of coarse sand ,filling the joints with fine sand etc. all compelte including cost, conveyance, royalty, taxes of all materials,labour,T & P etc.Complete as per direction of EIC.				
		Ground Floor Qty.	173.30	Sqm	783.98	135863.73
		TOTAL AMOUNT				**176122.28**

NAME OF PROJECT: CONSTRUCTION AND RENOVATION OMBADC SCHOOL NO. 71 AT KUCHEITA IN SUNDARGARH DISTRICT OF ODISHA

BILL OF QUANTITIES (FOR GATE)

S.No.						
1	A/R-2007/ P-2/Item-2(a)	Earth Work in exavation of foundation in hard soil within initial leads of 50m & lifts of 1.5m including dressing and levelling of bed etc. and adding contractor's profit and over head charges, etc. complete in all respect	19.44	Cum	188.80	3670.27
2	A/R-2007/P-218/item-13	Filling in F & P with excavated materials including watering and ramming as directed by the Engineer-n-charge. For 100cum	17.71	Cum	105.00	1859.55
3	A/R-2007/P-43/item-4	Cement Concrete (1:4:8) using 4cm size hard granite C.B. metal approved quality from approved quarry including cost, carriage, royalty, cost of all labour. etc complete.	0.36	Cum	4072.19	1465.99
4	A/R-2007/P-50/item-5	R.C.C. work of M-25 grade with 20mm and down grade black hard granite (crusherbroken) stone chips including hoisting and laying				
4.1		Foundation	1.08	Cum	5170.50	5584.14
4.2		Columns Base & Footings	0.29	Cum	5525.13	1602.29
4.3		R.C.C. Column / Beam				
		Ground Floor	0.77	Cum	10866.90	8367.51
4.4		R.C.C Chajja				
		Ground Floor	0.52	Cum	5006.50	2603.38
4.5		R.C.C Walls				
		Ground Floor	0.55	Cum	5830.70	3206.89
5	A/R-2007/P-52/item-9	Supplying, fitting and placing uncoated HYSD bar reinforcement complete as per drawing and technical specification. Per 1 MT. (Taking out put = 1MT)				
		Ground Floor	3.21	Qtl.	8893.00	28546.53
6	A/R-2007/ P-109/ item-28	16mm thick C.P. (1:6) over brick masonary to the smooth surface including watering, curing cost, carriage, royalty, and taxes of all materials, cost of all labour, etc complete as per the direction of E.I.C.				
		Ground Floor Qty.	18.45	Sqm	207.80	3833.91
7	(As per A.R. P-93 / Item-1)	Priming one coat with any approved primmer including cost of primmer & labour to give an even shade excluding cost of primer.				
		Ground Floor Qty.	4.88	Sqm	53.16	259.42
8	(As per A.R. P-93 / Item-3)	Painting two coats with approved enamel paints of approved colour, shade over a coat of primer including sand papering, polishing the surface, cost, conveyances of all materials and cost of all labour etc, complete as per specification & direction of Engineer-in-charge.				
		Ground Floor Qty.	4.88	Sqm	133.00	649.04

9	Ref.:-A/R-2006, P-236/ Item-2	Finishing wall surface with two coat of Cement based wall putty (water based) of approved make and finished smooth & even surface to receive painting including cost of scaffolding etc. with cost of all materials, labour etc. complete.				
		Ground Floor Qty.	18.74	Sqm	77.20	1446.73
10	A/R-2007/P-93/item-1	Priming 1 coat with wall primer water bond cement primer including all labour, materials etc. complete.				
		Ground Floor Qty.	18.74	Sqm	54.00	1011.96
11	A/R-2007/P-99/item-22	Wall painting two coat with any approved weather coat paint including cost of all materials, labour and T&P require for the work etc. complete as directed by the E.I.C.				
		Ground Floor Qty.	18.74	Sqm	73.60	1379.26
12	As per S/R-2006,P-225,Item No.4	Supplying of M.S. Door, Window with grills, Grills made out of M.S. Angle frame, M.S. Flat, Sheet etc of approved section & design, electrically welded properly with all necessary locking arrengement, and 1 coat red oxide primer including cost of all materials, labour charges, carriage of materials to site etc. complete.				
		Ground Floor Qty.	203.38	Kg	134.82	27419.69
		TOTAL AMOUNT				**92906.56**

NAME OF PROJECT: CONSTRUCTION AND RENOVATION OMBADC SCHOOL NO. 71 AT KUCHEITA IN SUNDARGARH DISTRICT OF ODISHA

BILL OF QUANTITIES (FOR SEPTIC TANK)

1	A/R-2007/ P-2/Item-1(a)	Earth Work in exavation of foundation in oridinary soil within initial leads of 50m & lifts of 1.5m including dressing and levelling of bed etc. and adding contractor's profit and over head charges, etc. complete in all respect	42.58	Cum	119.42	5085.16
2	A/R-2007/P-218/item-13	Filling in F & P with excavated materials including watering and ramming as directed by the Engineer-n-charge. For 100cum	13.85	Cum	103.00	1426.56
3	A/R-2007/P-43/item-4	Cement Concrete (1:4:8) using 4cm size hard granite C.B. metal approved quality from approved quarry including cost, carriage, royalty, cost of all labour. etc complete.	1.34	Cum	4039.01	5421.60
4	A/R-2007/P-50/item-5	R.C.C. work of M-25 grade with 20mm and down grade black hard granite (crusherbroken) stone chips including hoisting and laying				
4.1		Foundation	2.77	Cum	5170.50	14301.09
4.2		R.C.C Roof Slab				
		Ground Floor	1.45	Cum	9285.80	13436.53
5	A/R-2007/P-52/item-9(a)	Supplying, fitting and placing uncoated HYSD bar reinforcement complete as per drawing and technical specification. Per 1 MT. (Taking out put = 1MT)				
		Ground Floor	3.38	Qtl.	8893.00	30058.34
6	A/R-2007/P-71/item-3	Brick work with Fly ash Bricks 23cm x 11cm x 8cm size having crushing strength not less than 75Kg/cm2 with dimensional tolerance ±2 percent in cement mortar (1:6) in Foundation and Plinth including watering curing, cost of carriage and royalty of all materials, cost of all labour, etc complete.				
		Foundation	8.84	Cum	3865.10	34175.60
7	DSR No. 11.7	Cement Concrete (1:2:4) using 12mm size hard granite C.B. chips approved quality from approved quarry including cost, carriage, royalty, cost of all labour. etc complete and as directed by E.I.C.	1.12	Cum	5827.82	6527.80
8	DSR No. 11.2	Dry brick on edge flooring in required pattern with bricks of class designation 7.5 on a bed of 12 mm mud mortar, including filling joints with sand, with common burnt clay non modular bricks.	1.56	Sqm	516.00	806.90

9	DSR No. 19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	22.00	Each	327.90	7213.80
10	DSR No. 19.18	Supplying and fixing C.I. cover without frame for manholes :				
10.1	DSR No. 19.18.3	560 mm diameter C.I. cover (heavy duty) the weight of the cover to be not less than 108 kg	2.00	Each	5891.20	11782.40
11	DSR No. 19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
11.1	DSR No. 19.6.3	250 mm dia. R.C.C. pipe	12.00	Mt.	482.05	5784.60
12.0	Non Schedule item	Supply and filling of brick ballast for soak pit of approved size as shown in the drawing etc. all complete under instruction of Engineer in charge.				
12.1.1	Non Schedule item	40mm thick Brick Ballast Aggregate	2.51	Cum	3933.00	9889.73
12.1.2	Non Schedule item	50 to 80mm Brick Ballast Aggregate	0.78	Cum	3933.00	3079.69
13.0	Ref. DAR 2018, P-292, Item-6.23	Honey-comb brick work 10 / 11.4 cm thick with common burnt clay bricks of class designation 7.5 in substructure upto plinth level with cement mortar 1:4 (1 cement : 4 coarse sand).	3.09	Sqm	304.10	941.15
14	Non Schedule item	Supply and filling of brick bats for soak pit of approved size as shown in the drawing etc. all complete under instruction of Engineer in charge.	0.27	Cum	1291.00	352.39

NAME OF PROJECT: CONSTRUCTION AND RENOVATION OMBADC SCHOOL NO. 71 AT KUCHEITA IN SUNDARGARH DISTRICT OF ODISHA

BILL OF QUANTITIES (FOR WATER TANK)

1	A/R-2007/ P-2/Item-1(a)	Earth Work in exavation of foundation in oridinary soil within initial leads of 50m & lifts of 1.5m including dressing and levelling of bed etc. and adding contractor's profit and over head charges, etc. complete in all respect	14.98	Cum	119.42	1788.73
2	A/R-2007/P-218/item-13	Filling in F & P with excavated materials including watering and ramming as directed by the Engineer-n-charge. For 100cum	12.25	Cum	103.00	1261.81
3	A/R-2007/P-43/item-4	Cement Concrete (1:4:8) using 4cm size hard granite C.B. metal approved quality from approved quarry including cost, carriage, royalty, cost of all labour. etc complete.	0.76	Cum	4039.01	3076.76
4	A/R-2007/P-50/item-5	R.C.C. work of M-25 grade with 20mm and down grade black hard granite (crusherbroken) stone chips including hoisting and laying				
4.1		Foundation	1.97	Cum	5170.50	10165.62
4.2		Columns Base & Footings	0.48	Cum	5525.13	2652.06
4.3		R.C.C. Column / Beam				
		Ground Floor	1.32	Cum	10866.90	14344.31
4.4		R.C.C Roof Slab				
		Ground Floor	0.98	Cum	9285.80	9100.08
4.5		R.C.C Walls				
		Ground Floor Qty.	1.93	Cum	5646.30	10881.55
5	A/R-2007/P-52/item-9(a)	Supplying, fitting and placing uncoated HYSD bar reinforcement complete as per drawing and technical specification. Per 1 MT. (Taking out put = 1MT)				
		Ground Floor	5.93	Qtl.	8893.00	52735.49
7	A/R-2007/ P-109/ item-28	16mm thick C.P. (1:6) over brick masonary to the smooth surface including watering, curing cost, carriage, royalty, and taxes of all materials, cost of all labour, etc complete as per the direction of E.I.C.				
		Ground Floor Qty.	16.90	Sqm	207.80	3511.82
8	A/R-2007/P-99/item-22	Wall painting two coat with any approved weather coat paint including cost of all materials, labour and T&P require for the work etc. complete as directed by the E.I.C.				
		Ground Floor Qty.	16.90	Sqm	74.10	1252.29

6	22.23	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels / subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-incharge. The proe handle -2No., Friction stay Powder coated-1No., MS Powder coated Tower				
	22.23.1	For vertical surface two coats @ 0.70 kg per sqm	9.00	Sqm	424.80	3823.20
	22.23.2	For horizontal surface one coat @1.10 kg per sqm.	2.25	Sqm	327.40	736.65
7	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS: 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design	3.00	Each	342.42	1027.26

	(Ref.:-A/R-2006,P-235,Item no -1)	Supplying, fitting and fixing tile in floors of approved make conformaing to IS:13755 laid on 20 mm thick cement mortar (1:4) and filling joints with white cement of approved quality including cost of all materials, etc. required for the work all complete as per direction of E.I.C.				
		Anti Skid Ceramic Tiles (300x300) mm				
		Ground Floor Qty.	2.25	Sqm	889.80	2002.04
8	A/R-2007/P-90 / item-17	Fixing tiles in dados on 12mm thick CP (1:3) jointed with neat cement slurry mixed with pigments to match the shade of the tiles including cost, carriage, cost of all labour etc. complete.				
		Ceramic Tiles				
		Ground Floor Qty.	9.00	Sqm	1083.60	9752.40
		Total Amount				[illegible]

BILL OF QUANTITIES

S.No.	REF.NO.NSR,DSR 2019 & PHE.AOR.ODISHA 2013	DESCRIPTION	UNIT	QTY.	RATE (Rs.)	AMOUNT AS PER NSR	AMOUNT AS PER DSR	AMOUNT AS PER SOR
1		**SANITARY FIXTURES**						
1.1	SH-17-17.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:						
	17.1.1	White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests	Each	3	5421.50		16,265	
1.2	SH-17-17.2	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :						
	17.2.1	W.C. pan with ISI marked white solid plastic seat and lid	Each	2	5260.95		10,522	
1.3	SH-17-17.16A	Providing and fixing 8 mm dia C.P. / S.S. Jet with flexible tube upto1 metre long with S S. triangular plate to Eureopean type W.C. of quality and make as approved by Engineer - in - charge.	Each	2	297.55		595	
1.4	SH-17-17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:						
	17.7.3	White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	Each	5	2846.90		14,235	
1.5	SH-17-17.4	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350 mm and 340x410x265 mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :						
	17.4.1	One urinal basin with 5 litre white P.V.C. automatic flushing cistern	Each	0	4982.25		-	
1.6	SH-18-18.15	Providing and fixing brass bib cock of approved quality :						
	18.15.1	15 MM Nominal Bore	Each	6	302.55		1,815	
1.7	SH-18-18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931						
	18.53.1	15 MM Nominal Bore	Each	10	532.00		5,320	
1.8	SH-18-18.58	Providing and fixing PTMT grating of approved quality and colour.						
	18.58.1.2	125 mm nominal dia with 25 mm waste hole	Each	6	51.25		308	
1.9	SH-18-17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm including painting of fittings and brackets, cutting and making good the walls wherever required :						
	17.10.1	Kitchen sink with drain board						
	17.10.1.1	510x1040 mm bowl depth 250 mm	Each	1	5155.95		5,156	
1.10	NSR*	Providing and fixing adjustable type wash basin for handicap toilet complete with brackets, tracks , waste pipes and other accessories complete as required.	Each	1	8500.00	8,500		
1.11	NSR*	Providing and fixing 2 Nos. support arms and backrest to mounted on the track (vertically and laterally) for handicap toilet complete as required.	Each	1	4500.00	4,500		
1.12	NSR*	Providing and fixing raised toilet seat with cover for handicap toilet.	Each	1	15500.00	15,500		
1.13	NSR*	Providing & fixing of 450mm long stainless steel grab bar as per directions of Engineer-Incharge.	Each	1	1800.00	1,800		
2		**SOIL, WASTE, VENT AND RAIN WATER PIPES & FITTINGS**						
2.1	PHE.AOR.3.3.2	Providing and fixing on wall face unplasticised Rigid PVC soil, waste and rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS: 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes						
	II	110mm diameter	Metre	120	184.70			22164
2.2	NSR*	Providing , fixing testing and commissioning of SWR TYPE -B soil, waste and vent pipes (IS:13592-1992) including all fittings confirming to IS 14735-99,rubber ring confirms to IS 5382 including all required fittings e.g. bends, junctions, cowls, offsets, access pieces,clamps etc. jointing with ring Joints as per recommendation of manufacturer specifications including cutting, chasing of brick/RCC structure and making good the same as required complete in all respects as per direction of Project -In- Charge.						
		b) 160 mm dia	Metre	60	1150.00	69,000		

S.No.	REF.NO.NSR,DSR 2019 & PHE.AOR.ODISHA 2013	DESCRIPTION	UNIT	QTY.	RATE (Rs.)	AMOUNT AS PER NSR	AMOUNT AS PER DSR	AMOUNT AS PER SOR
2.3	PHE.AOR.3.1.3	Providing and fixing to wall or ceiling and floor rigid UPVC pipes class IV (8 kgf/cm²)/class III (6kgf/cm²) conforming to IS:4985/2000 and pipe fittings of the following nominal bore with clamps including making good the wall, ceiling and floor all complete as per specification						
	V	40 mm diameter	Metre	30	88.06			2641.8
2.4	PHE.AOR.3.4.3	Fixing 100mm size 'P' or 'S' trap (with horn or without horn) for water closet squatting pan including jointing the trap with pan in cement mortar (1:1) as per specification.						
		100mm dia SCI 'P' trap	Each	6	335.00			2010
2.5	PHE.AOR.3.3.3	Providing and fixing on wall face unplasticised-PVC moulded fittings / accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion						
		Bend 87.5°	Each	0	103.50			0
2.6	NSR*	Providing and fixing UPVC Clean Out plug (FCO & COP) with end cap for opening, complete in all respects.						
		100mm dia	Each	0	1050.00	-		
		150mm dia	Each	2	1370.00	2,740		
2.7	NSR*	Providing and making Khurras with average minimum thickness of 5cm Cement Concrete 1:2:4 (1 Cement : 2 Coarse Sand : 4 Graded Stone Aggregate 20 mm nominal size) over PVC sheet 1 m x 1 m (PVC 400 microns min. thickness), finished with 12mm Cement Plaster 1:3 (1 Cement : 3 Coarse Sand, admixed with waterproofing compound) and a coat of neat cement, rounding the edges and making & finishing the outlet complete.						
		Khurra Size 200 x 200mm, for 100mm dia outlet with 5mm thick circular/square vertical C.I grating.	Each	0	410.11	-		
		Khurra Size 450 x 450mm, for 150mm dia outlet with 5mm thick circular/square vertical C.I grating.	Each	4	592.38	2,370		
		[illegible]				74,110		26,816
3		WATER SUPPLY SYSTEM (Internal & External)						
3.1	PHE.AOR.3.1.1	Providing and fixing to wall or ceiling and floor galvanized mild steel tubes (medium grade) conforming to IS: 1239/2004, Part-1 of the following nominal bore, tube fittings and clamps including making good the wall, ceiling and floor, testing all complete as per specification						
	i	15mm diameter	Metre	0	110.90			0
	ii	20mm diameter	Metre	15	136.20			2043
	iii	25mm diameter	Metre	20	193.30			3866
	iv	32mm diameter	Metre	30	245.80			7374
	v	40mm diameter	Metre	25	281.10			7027.5
	vi	50mm diameter	Metre	0	386.70			0
3.2	PHE.AOR.3.1.5	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes conforming to IS:15778,having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer-in-Charge						
	i	15mm diameter	Metre	120	111.30			13356
	ii	20mm diameter	Metre	90	132.40			11916
	iii	25mm diameter	Metre	50	172.80			8640
	iv	32mm diameter	Metre	20	223.40			4468
	v	40mm diameter	Metre	0	310.50			0
	vi	50mm diameter	Metre	0	474.90			0
3.3	PHE.AOR.3.2.18	Fixing of Brass Ball Valve (Horizontal plunger type) conforming to IS 1703-1977 as per specification complete						
	A	High pressure/Low pressure with copper or PVC floats of the following nominal bore						
	i	15mm diameter	Each	0	328.80			0
	ii	20mm diameter	Each	1	360.00			360
	iii	25mm diameter	Each	1	480.00			480
	iv	32mm diameter	Each	1	1048.60			1048.6
	v	40mm diameter	Each	0	1040.00			0
	vi	50mm diameter	Each	0	1620.00			0
3.4	SH-18-18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete						
	18.18.2	20 mm dia nominal bore	Each	2	386.40		773	
3.5	PHE.AOR.3.1.8	Fixing Rotational moulded polyethylene cylindrical vertical water storage tanks conforming to IS : 12701–1996 including cutting holes through the tank and fixing mild steel tubes and fittings and providing extra sockets and jam nuts, fixing ball valve etc, including hoisting upto a height of 5 metres above ground level and placing the tank to the required position etc all complete as per specification and direction of the Engineer in charge						
	ii	1000 litre capacity Double Layer Cylinderical Vertical water storage tanks On the roof of ground floor Details of cost for one Tank	Each	1	6013.50			6013.5

S.No.	REF.NO.NSR,DSR 2019 & PHE.AOR.ODISHA 2013	DESCRIPTION	UNIT	QTY.	RATE (Rs.)	AMOUNT AS PER NSR	AMOUNT AS PER DSR	AMOUNT AS PER SOR
4		**SEWERAGE & DRAINAGE SYSTEM**						
4.1	NSR*	Excavation of trenches of required width for pipes, including dressing of sides, ramming of bottom, depth upto 1.5m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cms depth including consolidating each deposited layers by ramming, watering, etc. and disposing of surplus excavated soil as directed outside the site to the approved dumping ground.						
		In all kind of soils						
	1	Pipes exceeding 100mm dia but not exceeding 300mm dia.	Metre	120	227.84	27,341		
	2	Pipes exceeding 300mm dia but not exceeding 600mm dia.	Metre		318.97	-		
4.2	PHE.AOR.4.3.4	Laying (to level or slopes) and jointing with rubber rings pre-cast reinforced socket and spigot concrete pipes Class NP-2 conforming to IS:458 - 2003 suitable for rubber ring roll on joint of the following internal diameter as per specification complete.(Earthwork in trenches to be measured and paid for separately)						
	ii	150mm diameter	Metre	110	440.90			48499
	iii	200mm diameter	Metre	10	527.50			5275
4.3	PHE.AOR.3.6.1	Providing and fixing square-mouth **S.W. gully trap** class SP-1 complete with C.I.grating brick masonry chamber with water tight C.I. cover with frame of 300x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design						
	iii	180x150 mm size P type	Each	3	1317.9			3953.7
4.4	SH-19-19.28	Constructing brick masonry **Road gully chamber 45x45x77.5 cm** with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) with precast R.C.C. vertical grating complete as per standard design :						
	19.28.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	5	5794.85		28,974	
4.5	PHE.AOR.4.2.1	Constructing manholes with R.C.C top slab in (1:2:4) mix, foundation concrete (1:4:8), inside plaster 12mm thick with cement mortar (1:3) finished with neat cement punning, 12mm thick outside cement plaster (1:3), brick work with K.B bricks having crushing strength not less than 75kg/cm² with dimensional tolerance ± 8 percent in cement mortar (1:5), cement concrete (1:2:4) finished smooth using 12mm size h.g chips, earthwork in excavation in all kinds of soil and refilling the cavity around the chamber complete as per specification.						
	A	**Plain Manholes inside size 900mm x 800mm and 450mm deep - Type A**	Each	3	8410.90			25232.7
		NSR* (NON SCHEDULE RATES)						

SEWERAGE SCHEME (SEPTIC TANK)						
S.no	REF. NO.	Description	Qty		Rate	Amount as per NSR
1	NSR*	Provision for making Septic Tank & Soak Pit	1	@	400000	Rs4,00,000.00
	NSR*	NON SCHEDULE RATES				

	SCHEDULE OF QUANTITIES / BUDGETARY COST ESTIMATE							
	School-71, KUCHEITA UG HIGH SCHOOL							
S.No.	REF.NO.	DESCRIPTION	UNIT	TOTAL QTY.	RATE (Rs.)	SOR AMOUNT (Rs.)	DSR AMOUNT (Rs.)	NSR AMOUNT (Rs.)
		Design, supply, installation, testing & commissioning of Electrical installation:						
1.0		**SUB HEAD- I :- CIRCUIT CUM POINT WIRING WITH PVC/MS CONDUITING**						
		Item Description for point wiring						
1		All wiring shall be of 1100 volts grade.						
2		All wiring shall be **HR FRLS PVC insulated** unsheathed, flexible, copper conductor, single or multi core as called for.						
3		Earth wiring shall also be **HR FRLS PVC insulated** unsheathed, flexible, copper conductor, single core as called for.						
4		Size of earth wire shall be the same as of the phase conductor or as specified otherwise.						
5		All Switches & Sockets shall be of modular design complete with modular plate and suitable sized GI/ moulded boxes as called for and shall be suitable upto 250V, AC supply.						
6		The recessed Switches and Socket outlet boxes shall be of 16G GI and of the same make / manufacturer as of the switches and sockets. Local make boxes are not to be used.						
7		The surface mounted Switches & Sockets outlet boxes shall be moulded and of the same make / manufacturer as of the Switches & Sockets.						
8		Flexible conduits, where ever required, shall be of heavy duty and complete with couplers.						
10		Conduiting may be concealed or surface mounted (Exposed) as the case may be.						
11		Wiring terminations shall be made using proper sized thimbles/ lugs.						
12		All circuit & point wiring shall be colour coded & shall have ferruling on either end for circuit identification.						
13		The rates shall include material & labour for necessary length of circuit and point wiring, earth wiring, rigid and flexible conduiting, bends, junction boxes, pull boxes, screws, washers, check nuts, couplers, saddles, hangers supports, GI pull wire, civil work comprising chipping, cutting chases, fixing conduits & making good or surface clamping of conduit work as the case may be, modular switches, socket outlets, Electronic fan regulators surface or recessed outlet boxes as the case may be, ceiling rose, rigid and flexible conduit (GI/ MS) as may be required, connectors and terminal blocks of proper rating etc. & sleeves etc. **including lugs/ thimbles for terminations**. Fan points wiring shall include switch as well as electronic speed regulator, and fan hook box with fan hook.Wiring shall include conduiting and wiring (Phase, Neutral, Earth) of light points/ fan points/ UPS and raw sockets outlets of required length from the distribution board via switch to the point						
14		Cost of circuit cum point wiring shall include everything and all items and accessories to make the job complete in all respects.						
15		For Light Points, Ceiling Fan Points, Exhaust Fan Points, chandelier point & 6A Socket Outlet Points:						
i)		For switch Controlled light points.						
ii)		For switch Controlled Exhaust Fan points.						
iii)		For 6A switched socket outlets.						
iv)		For MCB Controlled Light points.						
v)		Wiring with 2x1.5 sqmm + 1x1.5 sqmm (earth wire).						
vi)		Wiring of required length from DB to point via switch for switch controlled points.						
vii)		Modular switch & plate for light points						
viii)		Modular switch and plate for Exhaust Fan point and modular switched socket near Exhaust Fan						
ix)		Modular 6A, 5 pin switched socket outlets						
x)		Suitable sizes of GI outlet boxes.						
xi)		MS/PVC conduiting of required length complete with bends, junction boxes and pull boxes.						
xii)		Surface or recessed conduiting including civil work like chase cutting and making good as required .						

S.No.	REF.NO.	DESCRIPTION	UNIT	TOTAL QTY.	RATE (Rs.)	SOR AMOUNT (Rs.)	DSR AMOUNT (Rs.)	NSR AMOUNT (Rs.)
		Item Described as above						
1.1	SOR Item No. 1.2	**Recessed wiring to Light Point / Fan Point / Exhaust Fan Point / Call Bell Point** with 1.50 sq. mm FR PVC insulated Single Core Multi standard Copper Conductor of ISI marked with 20 mm dia non-metallic PVC flexible conduit with 5 Amp, 250 Volt piano type swich ISI marked and ceiling rose ISI marked mounted on MS box having front bakelite cover of suitable size, MS box with 1.0 sq. mm FR PVC insulated Single Core Multi standard Copper Conductor of ISI marked as earth wire including all accesories and connection as per direction of engineer in charge. (Make of wire Finolex / L&T / Anchor / Hevels / V Guard)						
	1.2.2	a)Light Point						
		Midium	Point	70	607.10	42496.71		
	1.2.2	b) Celling fan point						
		Midium	Point	22	824.15	18131.21		
1.2	NSR*	Supply and wiring of MCB controlled light point with FRLS PVC insulated copper conductor cable in PVC conduit with surface / recessed with all accessories .						
i)		Primary (first) light point with 2X2.5sq.mm+1X2.5 sq.mm FRLS PVC insulated copper conductor cable controlled by a 6A MCB (MCB cost not to be included here).	Nos	1	1500			1500
ii)		Secondary (loop) light point with 2X1.5sq.mm+1X1.5 sq.mm FRLS PVC insulated copper conductor cable looped to first point and so on.	Nos	9	750			6750
1.3	SOR Item No. 1.7	**Recessed wiring for 5 / 6 Amp socket outlet with 2 X 1.50 sq. mm** FR PVC insulated Single Core Multi standard Copper Conductor of ISI marked with 20 mm dia non-metallic PVC flexible conduit with 5 Amp, 250 Volt piano type swich ISI marked, Phenolic laminated sheet of suitable size ISI marked MS box and earthing point with 1 X 1.50 sq. mm FR PVC insulated Single Core Multi standard Copper Conductor for loop earthing etc. as required, as per direction of engineer in charge. (Make of wire Finolex / L&T / Anchor / Hevels / V Guard)						
		Short	Each	30	394.07	11822.19		
1.4	SOR Item No. 1.5	**Recessed wiring for 15 / 16 Amp socket outlet with 2 X 4.00 sq. mm** FR PVC insulated Single Core Multi standard Copper Conductor of ISI marked with 20 mm dia non-metallic PVC flexible conduit with 5 Amp, 250 Volt piano type swich ISI marked, Phenolic laminated sheet of suitable size ISI marked MS box and earthing point with 1 X 2.50 sq. mm FR PVC insulated Single Core Multi standard Copper Conductor for loop earthing etc. as required, as per direction of engineer in charge. (Make of wire Finolex / L&T / Anchor / Hevels / V Guard)						
		Long	Each	6	543.31	3259.84		
2		**SUB-HEAD II :- CONDUITING FOR TELEPHONE, INTERCOM & DATA**						
		CONDUITING FOR TELEPHONE, INTERCOM & DATA						
2.1	DSR (E&M) - 2018 Item No. 1.21	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
i.	1.21.2	25 mm	RM	150	90		13,500	
		TELEPHONE/ INTERCOM WIRING						
2.2	DSR (E&M) - 2018 Item No. 1.18	Supplying and drawing following pair 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.						
i.	1.18.2	2 Pair	RM	90	20		1,800	
		TELEPHONE TAG BLOCK						
2.3	NSR*	Supply, installation, testing & commissioning of telephone tag blocks with "KRONE" terminal connectors fixed in 16G powder coated, hinged, lockable door, sheet steel enclosure including civil work such as chase cutting, fixing/ concealing the box and making good as required including terminations:						
i.		10 pair tele tag block	No.	2	2000			4,000

S.No.	REF.NO.	DESCRIPTION	UNIT	TOTAL QTY.	RATE (Rs.)	SOR AMOUNT (Rs.)	DSR AMOUNT (Rs.)	NSR AMOUNT (Rs.)

S.No.	REF.NO.	DESCRIPTION	UNIT	TOTAL QTY.	RATE (Rs.)	SOR AMOUNT (Rs.)	DSR AMOUNT (Rs.)	NSR AMOUNT (Rs.)
		TELEPHONE / INTERCOM OUTLET - MODULAR TYPE						
2.4	SOR Item No. 1.25	Supplying and fixing telephone socket outlet plano type ISI marked on the existing switch board / cover including connections etc as requird.						
I.	1.25.6	Telephone socket outlet	Nos.	1	62.14	62.14		
		OUTLET BOXES FOR TELEPHONE / INTERCOM OUTLET						
2.5	DSR (E&M) - 2018 Item No. 1.27	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.						
I.	1.27.1	1 or 2 Module	each	1	175		175	
		DATA POINT						
2.6	NSR*	Supply, Installation testing and commissioning RJ - 45 Computer Jack cat 6 with shutter Modular (1Module)	each	8	442			3,536
2.7	DSR (E&M) - 2018 Item No. 1.53	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed Steel/ PVC conduit as required						
I.	DSR-2016 - item no-1.53.1	1 run of cable	meter	175	34		5,950	
3		**SUB-HEAD III :- FINAL DISTRIBUTION BOARDS**						
		Design, fabrication, assembling, wiring, supply, installation, testing & commissioning of Final Distribution boards made out of pre-treated and powder coated 1.2mm sheet steel and glazed steel door in double door enclosure with MCB's / RCCB's mounted on din channel, insulated prong bus bars rated for 100A and with separate neutral and earth terminals and in 1,2,3 & 4 pole versions as asked for or as required along with the cable end boxes on all sides of the DB's as per the requirement or Cup-board layout suggested by Architect/ Consultant.						
		GENERAL NOTES FOR MCB's & DB's:						

S.No.	REF.NO.	DESCRIPTION	UNIT	TOTAL QTY.	RATE (Rs.)	SOR AMOUNT (Rs.)	DSR AMOUNT (Rs.)	NSR AMOUNT (Rs.)
	a.	MCB's shall be of minimum 10kA breaking capacity for 1 sec, unless specified otherwise i.e. of capacity higher than 10KA.						
	b.	Use 'B' curve MCB's for lighting & small power circuits, 'C' curve for motor duty i.e. for window and split AC's etc. & 'D' curve for UPS DB's i.e. for computers/ PC's circuit. Main Incomer & outgoing circuit MCB's shall be selected accordingly i.e. type B,C & D. as per the nature of the circuit/ load.						
	c.	Each DB shall have separate neutral links of rating not less than 100A for each phase. The main incoming neutral link shall be in addition to three outgoing neutral links and shall be of 100A.						
	d.	UPS DB's shall have a dedicated Earthing link fixed on insulated supports, which will be in addition to body earth link.						
	e.	All internal inter connecting wiring with in the DB's shall be PVC insulated flexible copper conductor wires of adequate capacity as per the current rating.						
	f.	30mA DP ELCB's shall be used for each phase.						
	g.	Inside each DB, a DB chart is to be fixed.						
	h.	Exact MCB rating & category is to be calculated by the electrical contractor based on the load of the circuit, its nature and fault current.						
3.1		L+PDB - [12WAY SPN -DB) DOUBLE DOOR						
I.	SOR Item No. 2.3	Supply and fixing of single pole MCB with sheet steel enclosure, distribution board, on surface / recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, detachable gland plate, interconnection, phosphate and powder painted including earthing etc. as required (But with out MCB/ RCCB/ ISOLATOR)						
	2.3.7	12 way , Double door	EACH	2	4570.93	9141.86		
	2.10	Supplying and fixing 5 amps. to 32 amps. rating, 240 volts `C' series, miniature circuit breaker (MCB)suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
	2.10.1	single pole	EACH	16	199.00	3184.00		
	2.10.4	Triple pole	EACH		826.00			
28.60	2.14	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
28.06.01	2.14.1	25 amps.	Each		1927.00			
28.06.02	2.14.2	40 amps.	Each	2	2095.00		4190.00	
28.61	MR	Supplying and fixing following rating, Single/ double/ three pole, 230/ 415 volts, MCB "C" curve in the existing MCB DB complete with connections, testing and commissioning etc. as required.						
28.09.01	MR1	40 amps FP MCB	Each	2	1475.00			2950.00
28.09.02	MR2	63 amps FP MCB	Each		1475.00			
4		SUB-HEAD IV :- CIRCUIT/ SUBMAIN WIRING						
4.1	SOR Item No. 1.8.2	Recessed wiring to Sub-Main in 2 X 2.50 sq. mm FR PVC insulated Single Core Multi standard Copper Conductor of ISI marked with 20 mm dia non-metallic PVC heavy duty flexible conduit with 1.60 mm thick, along with 1 X 1.50 sq. mm FR PVC insulated Single Core Multi standard Copper Conductor as earth wire as required as per direction of Engineer-in-Charge. (Make of wire Finolex / L&T / Anchor / Hevels / V Guard)						
		2 X 2.5 sq. mm + 1 X 1.5 sq. mm earth wire	RM	245	133.17	32627.0988		
4.2	SOR Item No. 1.8.4	Recessed wiring to Sub-Main in 2 X 6.00 sq. mm FR PVC insulated Single Core Multi standard Copper Conductor of ISI marked with 25 mm dia non-metallic PVC heavy duty flexible conduit with 1.60 mm thick, along with 1 X 2.50 sq. mm FR PVC insulated Single Core Multi standard Copper Conductor as earth wire as required as per direction of Engineer-in-Charge. (Make of wire Finolex / L&T / Anchor / Hevels / V Guard)						
		2 X 6 sq. mm + 1 X 2.5 sq. mm earth wire	RM	160	173.75	27800.54		

S.No.	REF.NO.	DESCRIPTION	UNIT	TOTAL QTY.	RATE (Rs.)	SOR AMOUNT (Rs.)	DSR AMOUNT (Rs.)	NSR AMOUNT (Rs.)
4.3	DSR (E&M) - 2018 Item No. 1.21	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.						
	1.21.3	32 mm	RM	150	92		13800	
4.4	SOR Item No. 38	**4 X 10.00 sq. mm PVC INSULATED ALUMINUM CONDUCTOR** insulated 4 Core Multi standard AL. Conductor of ISI marked with 32 mm dia non-metallic PVC heavy duty conduit with 1.60 mm thick, along with 1 X 4 sq. mm FR PVC insulated Single Core Multi standard copper Conductor as earth wire as required as per direction of Engineer-in-Charge. (Make of wire Finolex / L&T / Anchor / Hevels / V Guard)	RM	95	408.08	38767.6		
4.5	SOR Item No. 2.15	Supply, installation, testing and commissoning of 63amp TPN main switch of following capacity (IS 13940 part-3/19930 on existing surface / wall mounting and complete with HRC fuse links inter connections, earthing etc as per direction of Engineer-in-charge.(SEIMENS/HPL/ANCHOR/L&T/HAVELS/C&S/RK)	Nos.	0	2272.50	0		

S.No.	REF.NO.	DESCRIPTION	UNIT	TOTAL QTY.	RATE (Rs.)	SOR AMOUNT (Rs.)	DSR AMOUNT (Rs.)	NSR AMOUNT (Rs.)
5		**SUB HEAD V :- LIGHT FIXTURE & FAN**						
5.1	NSR*	Supply and fixing of recess/ Surface/ Pendent mounting round 10 to 12 Watt LED Down Lighter having Powder coated diecast aluminium housing with heat sink, diffuser/ Reflector and driver set complete in all respect.	Nos	27	1050			28350
5.2	NSR*	Supply and fixing of LED Tube Light with batten suitable for up to 1 X 22 watt LED tube light complete including tube etc on surface complete in all respect.	Nos.	23	543			12489
5.3	NSR*	Supply and Fixing of 10W LED Bulb & fixture with all interconnections of approved makes and fixing arrangements as required	Nos.	22	250			5500
5.4	NSR*	Supply, Erection and testing of exhaust fan on the existing hole with suitable size of rag bolts, nuts and washers etc., complete in all respect.	Nos.	8	1350			10800
5.5	NSR*	Supply, Installation, Testing & Commissioning of 1200mm Ceiling Fan	Nos.	22	2500			55000
6		**SUB HEAD VI :- ELECTRICAL PANEL**						
	NSR*	**Incoming :**						
		1No. 63A 10KA, 4P MCB ,MCB shall have 1NO + 1NC auxiliary contacts + a trip contact.						
		4 Pole 100 Amp 25KA Aluminium bus bars with heat shrinkable sleeves.						
		LED type R,Y,B Phase Indication lamps						
		Outgoings:						
		1 Nos. 40A 10KA, 4P, MCB's						
		6 Nos. 40A 10KA, DP, MCB's						
		Panel as described above.	Set	1	25000			25,000

NAME OF THE PROJECT: CONSTRUCTION AND RENOVATION OMBADC SCHOOL NO. 71 AT KUCHEITA UG HIGH SCHOOL, KUCHEITA, GURUNDIA BLOCK IN SUNDARGARH DISTRICT OF ODISHA		
BILL OFF QUANTITIES		
1	Blackboard	₹ 30,000.00
2	Notice Board	₹ 14,000.00
3	BaLA Painting	₹ 43,200.00
	Grand Total	₹ 1,56,56,512.95

(Rupees One Crore Eighty Lakhs Seventy five thousand four hundred) only

My / Our Quoted rate is …… % (both figure & words) excess over / less then /equal to the above Estimate Cost.

Notes:

1. Stike out are not acceptable.
2. The Contractor should not write any thing except quoting of percentage.
3. The tender Committee may negotiate to execute the work @ Schedule of Rate as quoted above when the % is much higher then the above Rates.

Signature of the Contractor

Block Development Officer
Gurundia